

W

OFFICIAL YEAR BOOK
OF
WESTERN AUSTRALIA

1960

No. 2 (NEW SERIES)



This page was added on 11 January 2013 to include the Disclaimer below.

No other amendments were made to this product.

DISCLAIMER

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

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS
WESTERN AUSTRALIAN OFFICE

OFFICIAL YEAR BOOK
OF
WESTERN AUSTRALIA
1960

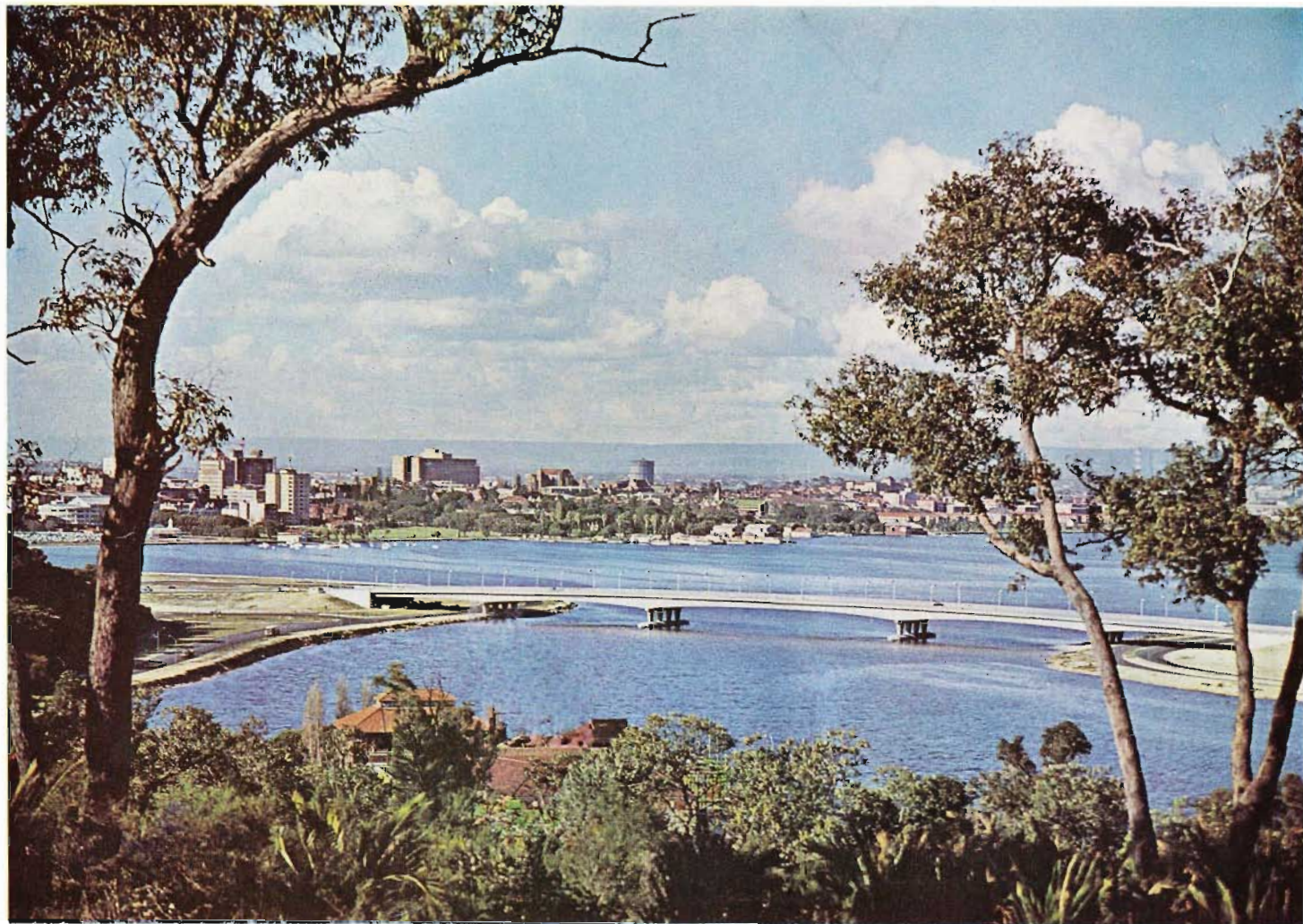
No. 2 (NEW SERIES)



PERIODICALS SECTION,
DARWIN COMMUNITY
COLLEGE L.R.C.
21 JUL 1978

R. J. LITTLE
Deputy Commonwealth Statistician
and
Government Statistician

DARWIN COMMUNITY COLLEGE L.R.C.



CITY OF PERTH
seen from King's
Park showing Swan
River and Narrows
Bridge

The Narrows Bridge
and Kwinana Free-
way linking Perth
with areas south of
the River were offi-
cially opened to
traffic on the 13th
November, 1959.

PREFACE

This issue of the *Official Year Book of Western Australia* is the second 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 Year Book is now produced by the Commonwealth Bureau of Census and Statistics with which the Government Statistician's Office was integrated in July, 1957, so becoming part of a combined statistical organization for the service of both State and Commonwealth Governments and the community generally.

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, 1958, but much of the descriptive matter incorporates the effect of later Commonwealth and State legislation or administrative decisions, and some recent developments are dealt with in the *Appendix*. Statistics up to the 31st December, 1959 are given in the *Statistical Summary* following the main chapters. A wide range of current statistics is available in the periodical publications which are produced by this Office in printed or mimeographed form and are listed at the back of the Book.

I gratefully acknowledge the valuable help and advice given by Dr. F. K. Crowley, Senior Lecturer in History in the University of Western Australia, and Miss M. Lukis, State Archivist, in the course of an extensive revision of the *Chronological Notes* in Chapter I. 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.

My thanks are again expressed to the many Government officials and others who willingly collaborated in the preparation of letterpress or the review of existing matter, to the University of Western Australia Press, the Royal Society of Western Australia, the Western Australian Government Tourist Bureau, the Department of Agriculture and the Main Roads Department for the loan of blocks or photographs 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.

It is fitting that I refer particularly to the outstanding contribution made by Mr. J. T. Wieland, Assistant Statistician, in revising the text and writing new material, in editing the work and co-ordinating the printing arrangements. Mr. Wieland's very efficient handling of these operations is gratefully acknowledged.

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

R. J. LITTLE,
Deputy Commonwealth Statistician
and
Government Statistician

Commonwealth Bureau of Census and Statistics
Western Australian Office
PERTH, W.A.
2nd June, 1961

CONTENTS

CHAPTER	SUBJECT	PAGE
	LIST OF MAPS, GRAPHS AND PLATES	vii
	SYNOPSIS	viii
I	HISTORICAL REVIEW	1
II	PHYSICAL FEATURES, CLIMATE, FLORA AND FAUNA	23
III	CONSTITUTION AND GOVERNMENT	80
IV	POPULATION AND VITAL STATISTICS	93
V	SOCIAL CONDITION	120
VI	FINANCE	173
VII	LAND SETTLEMENT AND TENURE, WATER CONSERVATION AND SUPPLY	198
VIII	PRODUCTION	217
IX	TRADE, TRANSPORT AND COMMUNICATION	295
X	EMPLOYMENT, WAGES AND PRICES	343
	STATISTICAL SUMMARY FROM 1829	376
	APPENDIX	394
	NOTE ON STATISTICAL DISTRICTS AND DIVISIONS	397
	LIST OF STATISTICAL DIVISIONS AND DISTRICTS	398
	GENERAL MAP OF WESTERN AUSTRALIA	<i>preceding Index</i>
	INDEX	401
	LIST OF STATISTICAL PUBLICATIONS	413

LIST OF MAPS, GRAPHS AND PLATES

	Page
City of Perth seen from King's Park	<i>Frontispiece</i>
Whaling Station at Frenchman Bay, near Albany	<i>facing</i> 16
Whale on Flensing Deck	<i>facing</i> 16
Geological Map	26
Cockatoo Island in Yampi Sound	<i>facing</i> 32
Wettest Six-Monthly Period of Year (Map)	37
Evaporation (Map)	41
Agricultural Area—Rainfall (Map)	42
Pitcher Plant (<i>Cephalotus follicularis</i>)	49
Vegetation Provinces (Map)	52
Natural Regions (Map)	77
Kangaroo Paw (<i>Anigosanthos Manglesii</i>)	<i>facing</i> 80
Population at the Census, 1901 to 1954 (Graph)	95
Source of Population Increase or Decrease, 1881 to 1958 (Graph)	103
Births, Deaths and Marriages, 1881 to 1958 (Graph)	111
Rates of Birth, Death and Marriage, 1881 to 1958 (Graph)	117
University Enrolments, 1954 to 1958 (Graph)	129
Houses Completed, 1953 to 1958 (Graph)	152
Bank Deposits and Advances, 1948-49 to 1957-58 (Graph)	191
Blue Leschenaultia (<i>Leschenaultia biloba</i>)	<i>facing</i> 208
Comprehensive Water Supply Scheme (Map)	213
Irrigation Districts in South-West Division (Map)	215
Net Value of Production, 1948-49 to 1957-58 (Graph)	218
Harvesting a Wheat Crop	<i>facing</i> 224
Wool and Wheat—Annual Production, 1901 to 1957-58 (Graph)	227
Sheep Shearing	<i>facing</i> 240
Wool Prepared for Buyers' Inspection	<i>facing</i> 240
Wool and Wheat Production—Annual Values, 1901 to 1957-58 (Graph)	242
State Forests (Map)	255
Karri Forest in the South-West	<i>facing</i> 256
Vineyards in the Middle Swan Area	<i>facing</i> 288
Imports and Exports, 1948-49 to 1957-58 (Graph)	297
Beef Cattle Herd	<i>facing</i> 304
Port of Fremantle—Inner Harbour at mouth of Swan River	<i>facing</i> 320
Loading Facilities at Cockatoo Island in Yampi Sound	<i>facing</i> 336
Ship loading Iron Ore at Cockatoo Island	<i>facing</i> 336
Industry of the Work Force—Census, 30th June, 1954 (Graph)	354
State Basic Wage—Metropolitan Area, 1926 to 1958 (Graph)	361
General Map of Western Australia	<i>preceding Index</i>

SYNOPSIS

CHAPTER I – HISTORICAL REVIEW

	Page		Page
Discoveries and History up to 1829	1	Chronological Notes from 1829	2

CHAPTER II – PHYSICAL FEATURES, CLIMATE, FLORA AND FAUNA

PART 1—PHYSICAL FEATURES AND GEOLOGY		PART 3—VEGETATION— <i>continued</i>	
General	23	Vegetation Formations—	
Physical Features—		Forest Formations	54
The Great Plateau	23	Woodland Formations	55
The Coastal Plains	25	Shrub Formations	56
Geology—		Savannah Formations and Steppe	57
The Pre-Cambrian Basement	25	Species of Economic Value	58
The Sedimentary Basins	28		
The Superficial Deposits	31		
Conclusion	33		
PART 2—CLIMATE AND METEOROLOGY		PART 4—FAUNA	
General	34	Zoogeography—	
History of Meteorological Services	34	Terrestrial Vertebrates	59
Pressure Systems	36	Coastal Marine Fauna	59
Rainfall	36	Fauna of Inland Waters	60
Evaporation	40	Composition of the Fauna—	
Growing Season	40	Birds	61
Temperature	43, 44	Mammals	64
Thunderstorms	43	Reptiles	65
Interstate Comparisons	43, 47	Amphibia	66
Snow	46	Freshwater Fishes	67
Metropolitan Climate	46, 47	Marine Fishes	67
		Echinodermata	68
		Mollusca	68
		Coelenterata	69
		Spiders	69
		Insects	69
		Further Sources of Information	69
		PART 5—ENTOMOLOGY	
		<i>(With Particular Reference to Agriculture)</i>	
		General	71
		Class Insecta (Insects)	71
		Class Arachnida (Spiders, Mites, Ticks, etc.)	75
		Further Sources of Information	76
		PART 6—NATURAL REGIONS	
			77

CHAPTER III – CONSTITUTION AND GOVERNMENT

General	80	The Judicature—	
Outline of Constitutional Development	80	Commonwealth Courts	90
Vice-Regal Representation	81	State Courts of Western Australia	90
The Federal Parliament—		State Representation Overseas and in other States	90
The Senate	82		
The House of Representatives	83	Local Government—	
The State Parliament	83	General	91
The Legislative Council	85	Functions of Local Authorities	91
The Legislative Assembly	86	Municipalities	91
Legislation during 1957 and 1958	87	Road Boards	92

CHAPTER IV – POPULATION AND VITAL STATISTICS

PART 1—POPULATION		PART 1—POPULATION— <i>continued</i>	
General	93	Censuses— <i>continued</i>	
Censuses—		Birthplace	97
General	94	Nationality	97
Masculinity	94	Religion	97
Age Composition	94	Conjugal Condition	98

CHAPTER IV – POPULATION AND VITAL STATISTICS – continued

	<i>Page</i>
PART 1—POPULATION—<i>continued</i>	
Estimates of Population	100
Sources of Increase	101
Geographical Distribution	105
Aboriginals	107
PART 2—BIRTHS, DEATHS AND MARRIAGES	
Registration System	108
Births—	
Numbers	108
Birth Rates	109
Gross and Net Reproduction Rates	109

	<i>Page</i>
PART 2—BIRTHS, DEATHS AND MARRIAGES	
<i>—continued</i>	
Deaths—	
Numbers	110
Death Rates	112
Infant Mortality Rates	112
Causes of Infant Deaths	113
Stillbirths	113
Standardized Death Rates	114
Causes of Death	115
Expectation of Life	115
Marriages—	
Numbers	119
Marriage Rates	119

CHAPTER V – SOCIAL CONDITION

PART 1—EDUCATION	
Primary and Secondary Education—	
General	120
School Attendance	120
The Education Department—	
General	120
Primary and Secondary Schools	121
Primary and Secondary Curriculum	122
Radio and Film Aids	122
Student Counselling and Vocational Guidance	122
Government Scholarships and Bursaries	122
Special Schools and Classes	122
Correspondence Tuition	123
Itinerant Teacher Service	123
Native Education	123
Agricultural Education	123
Technical Education	123
Teacher Training	125
Other Government Education—	
Muresk Agricultural College	125
School of Mines	125
Non-Government Schools	125
University Education—	
General	126
Degrees	127
University Government	128
Principal Benefactions	128
Student Fees and Scholarships	130
Tuition	130
Residential Colleges	130
Public Examinations Board	130
Adult Education Board	130
Finance	131

PART 2—PUBLIC LIBRARIES, MUSEUM, ART GALLERY, AND SCIENTIFIC INSTITUTIONS	
Public Libraries—	
Library Board of Western Australia	133
State Library of Western Australia	133
Local Public Libraries	134
Museum	134
Art Gallery	134

PART 2—PUBLIC LIBRARIES, MUSEUM, ART GALLERY, AND SCIENTIFIC INSTITUTIONS—<i>continued</i>	
Scientific Institutions—	
State Government Observatory	135
State Government Chemical Laboratories	135
The Institute of Agriculture, University of Western Australia	136
Commonwealth Scientific and Industrial Research Organization	136

PART 3—HEALTH SERVICES, HOSPITALS AND HOMES FOR THE AGED	
Health Services—	
General	138
Infectious Diseases	138
Special Health Services for Children	139
Hospitals other than Mental Hospitals—	
Commonwealth Government Hospitals	140
State Government and Government-Assisted Hospitals	140
Private Hospitals	142
Mental Institutions	142
Homes for the Aged and Infirm	144

PART 4—HOUSING	
Housing and the Census—	
General	145
Dwellings—	
Class of Dwelling	145
Number of Inmates	146
Number of Rooms	146
Material of Outer Walls	147
Nature of Occupancy	147
Weekly Rent (Unfurnished)	148
Government and Government-Sponsored Housing—	
State Housing Commission	148
War Service Homes	150
Control of Building	150
Building Operations	150
Dwellings Completed and Population Increase	153

CHAPTER V – SOCIAL CONDITION – continued

	<i>Page</i>
PART 5—SOCIAL BENEFITS, RELIEF PAYMENTS AND CHILD WELFARE	
General	154
Social Services Benefits—	
Age and Invalid Pensions	154
Widows' Pensions.....	155
Unemployment and Sickness Benefits.....	156
Maternity Allowances	157
Child Endowment	157
Reciprocal Arrangements with Other Countries	157
War and Service Pensions—	
War Pensions	158
Service Pensions	158
National Health Services—	
Hospital Benefits	159
Medical Benefits	160
Pharmaceutical Benefits	160
Free Milk for School Children	160
Financial Summary	160
Tuberculosis Campaign	161
Mental Institutions	161

	<i>Page</i>
PART 5—SOCIAL BENEFITS, RELIEF PAYMENTS AND CHILD WELFARE	
<i>—continued</i>	
State Relief Payments	161
Child Welfare	162
PART 6—LAW COURTS, POLICE AND PRISONS	
Law Courts—	
High Court of Australia	165
Supreme Court of Western Australia	165
Session Courts of the State	165
Magistrates' and Coroners' Courts	165
Civil Proceedings	166
Commonwealth Industrial Court	167
Western Australian Court of Arbitration	166
Commonwealth Conciliation and Arbitration Commission	167
Licensing Court	167
Crime Statistics	167
Police	170
Prisons	171

CHAPTER VI – FINANCE

PART 1—PUBLIC FINANCE	
Commonwealth-State Financial Relations	173
Financial Assistance to Western Australia	174
Commonwealth Taxation Collections in West- ern Australia	176
State Government Finance—	
Consolidated Revenue Fund	176
General Loan Fund and Public Debt.....	180
Trust Funds	182
Local Government Finance—	
General	184
General Revenue	184
General Expenditure	185
Loan Transactions	187

PART 2—PRIVATE FINANCE	
Currency	189
Banking—	
Commonwealth Banking Institutions	189
The Rural and Industries Bank	189
Private Trading Banks	190
Cheque-Paying Banks	190
Savings Banks	192
Insurance—	
Life Assurance	193
General Insurance	193
Motor Vehicle Third Party Insurance.....	194
Health Insurance Organizations	195
Building Societies	196
Bankruptcy	196

CHAPTER VII – LAND SETTLEMENT AND TENURE, WATER CONSERVATION AND SUPPLY

PART 1—LAND SETTLEMENT AND TENURE	
History	198
Administration	199
Methods of Land Alienation—	
Conditional Purchase	199
Sale by Public Auction	200
Sale by Private Tender	200
Selections under the Agricultural Lands Purchase Acts	200
Endowment of Land and Reservation for Public Purposes	200
State Forests and Timber Reserves	201
Methods of Leasing—	
Lands Department	201
Mines Department	202
Forests Department	204
Progress of Land Utilization	205

PART 1—LAND SETTLEMENT AND TENURE	
<i>—continued</i>	
Government Land Settlement Schemes—	
Soldiers' Settlement Scheme	206
Group Settlement Scheme	207
War Service Land Settlement Scheme	207
Other Schemes of Settlement	208
Land Classification	208
Public Parks and Reserves	208
PART 2—WATER CONSERVATION AND SUPPLY	
General	210
Metropolitan Water Supply	210
Country Water Supplies—	
Comprehensive Water Supply Scheme	211
Other Schemes	212
South-West Irrigation Schemes	214
Northern Irrigation Schemes	216

CHAPTER VIII – PRODUCTION

	<i>Page</i>
General	217
Geographical Distribution of Industry	219

PART 1—PRIMARY PRODUCTION

Land Utilization on Rural Holdings	220
Employment and Population	221
Value of Production	221
Seasonal Calendar	223
Bushel Weights	224
Agriculture—	
Wheat	224
Oats	229
Barley	229
Other Grain and Pulse Crops	230
Hay	230
Green Feed	231
Pastures	231
Tobacco	231
Flax	232
Potatoes	232
Onions	233
Tomatoes	233
Other Vegetables	234
Orchards	234
Apples	235
Pears	235
Citrus Fruit	236
Stone Fruits	236
Bananas	237
Vineyards	237
Pastoral—	
General	238
Sheep	238
Wool	241
Beef Cattle	243
Slaughtering	243
Dairying	245
Pig Raising	247
Livestock in Australia	249
Poultry Farming	249
Bee Keeping	250
The Department of Agriculture—	
General	251
State Farms and Research Stations	251
Advisory Services	252
Research Activities	252
Other Services	253
Administration of Acts	253

Page

PART 1—PRIMARY PRODUCTION—

continued

Trapping	253
Forestry—	
The Prime Indigenous Forests	254
The Inland Forests	254
Forestry Administration	254
Principal Forest Products	256
Fisheries—	
General Fisheries	257
Whaling	258
Pearl-Shell Fishing	259
Pearl Culture	259
Mining—	
General	260
Gold	261
Silver	263
Asbestos	263
Beryllium Ore	264
Coal	264
Copper Ore	265
Ilmenite	265
Iron	265
Lead Ore	266
Manganese Ore	266
Pyrites	266
Tin Ore	267
Other Minerals	260, 267
Quarrying	267

PART 2—SECONDARY INDUSTRY

Explanatory Notes and Definitions	268
Historical Review	268
General Summary, 1948-49 to 1957-58—	
Location of Secondary Industry	270
Employment and Wages	272
Capital Employed	275
Motive Power and Fuel Consumed	275
Value of Output and Net Production	276
Summary according to Industry	276
Government Factories	282
Articles Produced and Materials Used	282
Individual Industries	283
Electricity and Town Gas Undertakings—	
Electricity Generation and Transmission	292
Town Gas Production	294
Summary of Operations	294
Department of Industrial Development	294

CHAPTER IX – TRADE, TRANSPORT AND COMMUNICATION

PART 1—TRADE

Trade from 1829 to Federation in 1901	295
Trade from 1901 to 1947-48	295
Classification and Valuation of Imports and Exports	296
General Summary of Trade, 1948-49 to 1957-58	296
Imports	298
Exports—	
General	301
Wool	301

PART 1—TRADE—*continued*

Exports—<i>continued</i>	
Wheat and Wheat Flour	302
Gold	303
Timber	303
Skins and Hides	304
Fruit and Vegetables	304
Meats	305
Crayfish	306
Oats	306
Barley	307

CHAPTER IX — TRADE, TRANSPORT AND COMMUNICATION — continued

	Page		Page
PART 1—TRADE—continued		PART 2—TRANSPORT—continued	
Exports—continued		Metropolitan (Perth) Passenger Transport	
Whale Oil	307	Trust	328
Eggs	308	Tram, Trolley-Bus and Ferry Services—	
Minerals other than Gold	308	General	329
Petroleum Products	309	Tramways	329
Exports during 1956-57 and 1957-58	310	Trolley-Buses	329
Oversea and Interstate Trade of Ports	311	Passenger Ferries	330
Direction of Trade	312	Motor Omnibus Services—	
Customs and Excise	312	State Government Omnibus Services	330
		Municipal Omnibus Services	330
PART 2—TRANSPORT		Private Omnibus Services	331
General	316	Statistical Summary of Rail, Road and Ferry	
Shipping	316	Services	332
Harbour Administration	319	Road Traffic Accidents	332
Railways—		Motor Vehicle Third Party Insurance....	335
Origin and Development	319	Air Transport	335
Western Australian Government Railways	320	Transport Co-Ordination	335
Commonwealth Government Railways	322		
Private Railways	322		
Railways Road Services	322		
Timber Railways	323		
Railway Gauges	324		
Operations of Government Railways in			
Australia....	324		
Roads and Road Traffic—		PART 3—COMMUNICATION	
General	325	Posts, Telegraphs and Telephones—	
Vehicle Registration, Licences and		General	337
Traffic Control	326	Posts	338
Finance for Roads	327	Telegraphs and Telephones	339
		Radio Communication	340
		Broadcasting and Television	341

CHAPTER X — EMPLOYMENT, WAGES AND PRICES

PART 1—EMPLOYMENT		PART 2—WAGES—continued	
General	343	Minimum Rates of Wage	363
The Work Force	343	Wage and Salary Payments	367
Industry of the Population—			
The Census	345	PART 3—RETAIL PRICES	
Estimates of Employment	349	General	368
		Retail Price Index Numbers	369
PART 2—WAGES		The "C" Series Index	371
The Basic Wage—		The Interim Retail Price Index—	
General	355	Origin of the Index	373
Commonwealth Basic Wage	355	Definition of the Index	374
State Basic Wage	359	General	374

STATISTICAL SUMMARY FROM 1829 (p. 376)

APPENDIX (p. 394)

CHAPTER III—CONSTITUTION AND GOVERNMENT

The Governor-General of Australia
The Legislative Council
The Legislative Assembly
The Supreme Court of Western Australia

CHAPTER V—SOCIAL CONDITION

Part 5—Social Benefits, Relief Payments and Child Welfare

Commonwealth Benefits
Aboriginal Natives
Pharmaceutical Benefits
State Relief Payments

APPENDIX – continued

CHAPTER X—EMPLOYMENT, WAGES AND PRICES

Part 3—Retail Prices

Retail Price Index Numbers

STATISTICAL DISTRICTS AND DIVISIONS (p. 397)

GENERAL MAP OF WESTERN AUSTRALIA (preceding Index)

Including : STATISTICAL DISTRICTS
STATISTICAL DIVISIONS
AIR ROUTES
ISOHYETS

INDEX (p. 401)

LIST OF STATISTICAL PUBLICATIONS (following Index)

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 preceding Index). Hartogs landed on part of its western arm, since named in his honour Dirk Hartogs Island. In July, 1618, the Dutch vessel "Mauritius" touched near North West Cape; in 1619 Frederik de Houtman discovered the group of reefs and islands, now known as Houtman Abrolhos, lying some fifty miles off shore from the present port of Geraldton, and in 1622 the Dutch ship "Leeuwin" rounded the cape (now Cape Leeuwin) at the south-western extremity of the Australian continent. Early in 1627, Thyssen in the Dutch vessel "Gulden Zeepaard" made a close examination of the southern coastline for a distance of about a thousand miles eastward from Cape Leeuwin.

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

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

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

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

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

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

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

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

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

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

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

A scientific expedition, comprising the vessels "Geographe" commanded by Commodore Nicolas Baudin and "Naturaliste" by Captain Hamelin with Lieutenant Louis de Freycinet, was dispatched by the French Government from Le Havre in October, 1800. They reached the south-west coast in 1801. Becoming separated in a storm they made their way independently to Timor, the "Geographe" by way of Shark Bay and Cape Leveque, the "Naturaliste" calling at 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 Kelmscott proclaimed. Sites of towns of York and Beverley explored by Ensign R. Dale. Arrival of Rev. J. B. Wittenoom, first Colonial Chaplain. Postmasters appointed at Perth and Fremantle. First school and first hotels opened.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1867—Corner-stone of Perth Town Hall laid. Opening of new causeway over Swan River at Perth and of bridge over Helena River at Guildford. Legislative Council enlarged to comprise six officials and six colonists nominated by the Governor. Total area under pastoral leases in the North-West 5·8 million acres.

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

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

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

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

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

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

1874—John and Alexander Forrest led a successful expedition from Geraldton to the overland telegraph line in Central Australia. Legislative Council increased to 21, of whom 14 were elected members. Work commenced on the Geraldton-Northampton railway. Export of timber, 4·1 million superficial feet valued at £24,192.

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

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

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

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

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

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

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

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

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

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

1884—Opening of second section of Eastern Railway between Guildford and 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. Pearl fishing 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. "Koomana" 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. for males and £2 5s. 11d. for females. State Government first undertook workers' compensation insurance business. Unusually heavy winter rains, resulting in flooding of parts of metropolitan area and partial destruction of railway bridge at North Fremantle. Opening of Muresk Agricultural College. Congress of the Australian and New Zealand Association for the Advancement of Science held in Perth for the first time. Introduction of the "Pater-son Plan," a voluntary scheme designed to stabilize the price of butter. Metropolitan Market Trust established.

1927—Wheat harvest 36.4 million bushels, the highest in the Commonwealth. Amalgamation of Western Australian Bank with Bank of New South Wales. Completion of rail link between Kalgoorlie and Esperance. Timber exports 157.4 million superficial feet, the greatest since 1913. Large increase in output of butter from factories in the South-West. Introduction of bulk handling of fuel oil at the Port of Fremantle. Visit of T.R.H. the Duke and Duchess of York.

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

1929—Celebration of Western Australia's centenary. City of Perth declared a Lord Mayoralty and Fremantle given city status. Wheat harvest, 39.1 million bushels, again the highest in Australia. Gold production amounted to only 377,176 fine ounces, the lowest level in a continuous decline since 1903. Inauguration of regular interstate air service, by W.A. Airways Ltd., between Perth and Adelaide (South Australia). End of large-scale railway construction in the wheat-growing areas. Last year of substantial intake of assisted immigrants since the War; in all, 43,693 had arrived in the ten-year period 1920-1929. First "talkie" films shown in Perth.

1930—Onset of world economic recession and marked fall in wheat and wool prices. Rapid growth in unemployment. Some improvement in gold-mining industry. Wheat harvest, 53.5 million bushels, the largest up to that time. Extension of northern air mail route to Wyndham. Establishment of interstate telephone trunk line between Perth and Adelaide. Defeat of Labour Government at elections in April; Nationalist-Country Party Government assumed office with Sir James Mitchell as Premier.

1931—Further deterioration in economic conditions. The Premiers' Plan proposed a reduction of adjustable government spending by 20 per cent. and interest rates by 22½ per cent.; proposals subsequently ratified by State Parliament. Depreciation of Australian currency; in terms of sterling, exchange rate fixed at £A125 = £100 stg. Substantial increase in price of gold. Wheat and wool prices at lowest level; average f.o.b. values for 1930-31 export year, wheat 2s. 3½d. per bushel, wool 8.04 pence per lb. Transfer of State Savings Bank to Commonwealth Bank. First quarterly adjustment made to State basic wage. Wiluna gold mines in production. Discovery at Larkinvile of Golden Eagle nugget (1,135 ounces), the largest found in Western Australia. Systematic drainage and irrigation scheme inaugurated in the Harvey and Waroona districts; relief work provided for the unemployed. Introduction of bulk handling of wheat.

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

1933—Third Commonwealth census. Western Australian population 438,852; males 233,937, females 204,915. State basic wage at lowest level, £3 8s. for males in metropolitan area, since Arbitration Court's original declaration in 1926. Some reduction in unemployment although still at high level of 25 per cent. of trade union membership. Levy by Federal Government of a tax on flour at £4 5s. per ton to assist the wheat industry, depressed by consistently low market prices. Commencement of work on Canning Dam, to have ultimate capacity of over 20,550 million gallons, as source of water supply for metropolitan area. 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. Completion of Wellington Dam, on Collie River, with capacity of 8,000 million gallons, to serve the Collie River Irrigation District. 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. to £4 per week for males in the metropolitan area, following presentation of special evidence at Arbitration Court's annual inquiry. Institute of Agriculture established at University as centre of agricultural and pastoral research. Legislation authorized the establishment of the State Government Insurance Office and validated its transactions since 1926.

1939—Outbreak of war in Europe, 3rd September; recruiting begun for the second A.I.F. and the Empire Air Training Scheme. Acquisition by British Government of entire woolclip at guaranteed price of 13.4375 pence per lb. Gold production 1,214,238 fine ounces, the highest since 1915. National Register of Manpower and Wealth Census undertaken by Commonwealth Government. Legislation passed to amalgamate Financial Emergency Tax and income tax. Passage of other State Acts to control prices, rents and patriotic funds. Completion of new traffic bridge over Swan River at Fremantle. Cyclonic disturbance at Port Hedland; severe storm damage at Kalgoorlie and interruption of gold-fields rail services.

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

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

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

1942—Rural output generally well maintained, following good season in agricultural districts and pastoral areas. Area sown to wheat restricted under a Commonwealth wheat stabilization scheme; but area actually cropped, 1·75 million acres, significantly below maximum permissible area. Contraction of gold-mining industry included among measures taken by Commonwealth to secure release of manpower for essential services. Growing threat to Australia following Japanese invasion of Malaya and Netherlands East Indies; creation of special State Ministry of Civil Defence. Civilian registration of all persons aged 16 years and over. Munition factory at Welshpool commenced production. Rationing of clothing, tea and sugar. Introduction of daylight-saving scheme. Attacks by Japanese aircraft on Broome, Wyndham and Port Hedland. Floods in areas adjacent to Gascoyne River. Station properties in Port Hedland and Marble Bar district, and railway linking these towns, damaged by cyclone. Luggers wrecked with loss of life at Port Hedland. Introduction of Uniform Tax Scheme, the Commonwealth Government becoming sole taxing authority in income tax field, the State Treasuries being reimbursed by the Commonwealth. Widows' pensions paid for the first time. Establishment of State Public Trust Office under Public Trustee Act of 1941. Basic wage increased by 4s. 6d. to £4 14s. 11d. by the Premier, in exercise of powers conferred by National Security (Economic Organization) Regulations.

1943—Wool production, 105·2 million lb., the highest recorded up to that time. 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. Defeat of Commonwealth referendum seeking extension of Commonwealth powers; Western Australia one of two States in favour. Strike of waterside workers against introduction of roster system.

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. Development of Yampi Sound iron-ore deposits proceeding. 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 appraisement scheme. The Milk Act established the Milk Board of Western Australia with State-wide powers to regulate the production, sale and distribution of milk. Application by State Government for Commonwealth financial assistance in development of water supplies to agricultural areas and towns. Interruptions of electricity supply due to suspension of coal production at Collie caused by strike of railway workers. Resumption of pearling industry at Broome. Interim basic wage adjustment by Commonwealth Arbitration Court, increasing federal weekly basic wage rate in Western Australia by 7s. All States in favour at referendum

to authorize Commonwealth Government to legislate with respect to social services. Hospital benefits scheme introduced by Commonwealth Government.

1947—Fourth Commonwealth census. Western Australian population 502,480; males 258,076, females 244,404. Continued expansion in factory activity. Building operations increased, with more labour and materials available. Establishment of State Housing Commission replacing Workers' Homes Board. Arrival of first British migrants under the Free and Assisted Passage Agreement between the Commonwealth and United Kingdom Governments; first arrivals of displaced persons following Commonwealth Agreement with International Refugee Organization. Stimulation in mining generally; gold production, 703,886 fine ounces, the highest since 1942. World shortage of lead and high prices resulted in reopening of lead mines in Northampton area; a deposit inland from Derby also producing high-grade ore. Expansion in fishing industry; first overseas exports of crayfish tails. Interim increase of 5s. in State basic wage. Granting by Arbitration Court of 40-hour week in industry to operate from 1st January, 1948. Appointment of Royal Commissions—Wheat Industry, Workers' Compensation, Western Australian Government Railways, State Charcoal-Iron project at Wundowie and Management of Government Railway Workshops. Work commenced on construction of new causeway over Swan River at Perth. 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—Substantial rise in dairy production; factory output of butter for year ended 30th June, 15.6 million lb. and of cheese, 2.3 million lb. and increases in condensed and dried milk manufactured. Average f.o.b. value of wheat for 1947-48 export year, 17s. 6d. per bushel, the highest ever recorded. Federal aid to maintain production of "marginal" gold mines threatened with closure on account of rising costs of operation. Construction of new State timber mill at Shannon River commenced, with rail link from Northcliffe. Integrated wood-distillation and charcoal-iron industry in production at Wundowie in Darling Range near Perth; first output of pig-iron. Commonwealth Parliament passed the Western Australia Grant (Water Supply) Act approving payment to the State of an amount of £2.15 million, being half the estimated cost of the Comprehensive Water Supply Scheme to supply certain agricultural areas and country towns. Completion of Stirling Irrigation Dam, on Harvey River, with capacity 12,000 million gallons. Surveys of rivers of North-West commenced to determine storage and irrigation possibilities. Serious outbreak of poliomyelitis; 311 cases reported. First section of new Royal Perth Hospital opened. Inauguration of Commonwealth Rehabilitation Service providing treatment and vocational training of disabled persons. Abolition of rationing of meat and clothing. Redistribution of seats for Legislative Assembly. Publication of boundaries of three new Federal electorates—Curtin, Canning and Moore. City of Perth electricity and gas undertaking purchased by State Government for £3 million. Publication of reports of Royal Commissions on Management, Workings and Control of State Railways; Railway Workshops; Supply of Local Coal to Railways; State Housing Commission; Betting; Workers' Compensation; Milk Industry; and presentation of results of a survey of Native Affairs. Legislation included the Prices Control Act, a measure necessitated by the Commonwealth Government's vacating of the prices control field; the Wheat Industry Stabilisation Act, authorizing operation in Western Australia of the Commonwealth Wheat Stabilization Plan following a plebiscite among wheat growers which rejected a State plan; the Western Australian Marine Act; the Matrimonial Causes and Personal Status Code and important amendments to the Industrial Arbitration, Workers' Compensation and Mining Acts. His Excellency Sir James Mitchell, G.C.M.G., Lieutenant-Governor from 1933, elevated to status of Governor.

1949—Whaling resumed after a lapse of over 20 years with reopening by Nor-West Whaling Co. Ltd. of the Point Cloates station; preparations for establishment of a treatment plant at Carnarvon by Australian Whaling Commission. Substantial increase in crayfish production; total catch exceeded 5 million lb., more than 80 per cent. greater than in previous year. First output of merchantable timber from mills at Shannon River and at Quinlinup. Commencement of operations of Air Beef Pty. Ltd. at Glenroy Station in the Kimberley; beef carcasses transported by air to Wyndham for shipment overseas. Plans to increase annual output of beef by 10,000 tons as part of an agreement between the Commonwealth and British Governments for a long-term meat contract. Preliminary work in hand on the necessary developmental projects in the Kimberley, costs to be shared by the Commonwealth and the State. Major works proposed included 500 miles of all-weather roads, construction of a high-level bridge over Ord River, rehabilitation of stock routes, provision of water supplies on stations, transfer of the

town of Wyndham to a new site and improvement of berthing facilities at the port. In September, rise in gold price from £10 15s. 3d. to £15 9s. 10d. per fine ounce, following the British Government's devaluation of sterling. First agricultural tractors produced in the State. Rejection by Privy Council of Federal Government's appeal against the High Court's ruling that the Government's proposals for nationalization of banking were invalid. High Court declared invalid the Commonwealth Government's rationing of petrol; as a result, the States invited to assume authority. The necessary enabling legislation, the Liquid Fuel (Emergency Provisions) Act, was the major measure brought before the State Parliament in a short session concluding early to allow members to contest seats at the federal election in December or to participate in the election campaign. Defeat of the Chifley Labour Government; Rt. Hon. R. G. Menzies became Prime Minister as leader of a Liberal-Country Party coalition. Western Australia's representation in enlarged Federal Parliament increased from five to eight in the House of Representatives and from six to ten in the Senate. Presentation of report of Royal Commission on bran, pollard and stock-food concentrates and of the Tydeman report on proposed harbour development at Fremantle.

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. Australian Whaling Commission commenced operations at Carnarvon. Decline in gold won to 610,333 ounces, but value increased to £9·5 million on account of enhanced price. New timber mill in production at Northcliffe. By an amendment to the Industrial Arbitration Act, the Court empowered in fixing the basic wage to have regard for economic capacity of industry as well as workers' "needs"; in exercise of this power, Court declared an increase of 20s. in the basic rate for males and 15s. for females. Abolition of rationing of petrol, tea and butter and lifting of ban on sale of fresh cream. Federal Government extended child endowment to include the first, or only, child of a family at the rate of 5s. per week. Introduction of pharmaceutical benefits scheme financed by the Commonwealth. Prohibition poll, the first since 1925, conducted under provisions of Licensing Act; proposals rejected by overwhelming majority. Appointment of Royal Commission to inquire into allegations of brutality at Claremont Mental Hospital. Royal Commission appointed to report upon the Local Government Bill of 1949. Legislation passed to increase membership of State Cabinet from eight to ten. Other legislation included an amendment to the Increase of Rent (War Restrictions) Act permitting increases of 20 and 30 per cent. respectively in rents of tenanted dwellings and business premises; Acts providing for control, prevention and eradication of noxious weeds and of vermin, and for establishment of an Agriculture Protection Board to co-ordinate administration of these Acts; and amendments to the Bush Fires Act enabling stricter preventive measures and better control of bush fires, and to the Health Act, authorizing compulsory X-ray examination for tuberculosis of specified classes of persons over the age of 14 years.

1951—Average f.o.b. value of wool for 1950-51 export year, 143·43 pence per lb., the highest ever recorded. First shipment of oats and barley in bulk successfully handled. Experimental injections of myxomatosis in rabbits conducted by Department of Agriculture. Shipment to New South Wales of first load of iron ore mined at Cockatoo Island, Yampi Sound. Port Hedland-Marble Bar railway closed. Mining activity caused revival of goldfields town of Bullfinch. First section of new power house at South Fremantle began operating. South-West Power Scheme inaugurated with opening of new power station at Collie. Completion of raising of wall of Mundaring Weir to augment storage for northern section of Comprehensive Water Supply Scheme; capacity increased from 4,655 to 15,154 million gallons. Free Milk Scheme for school children commenced, with financial aid from Commonwealth Government. Total increase during the year of £1 19s. 2d. in State basic wage for males in metropolitan area, the largest rise during any year since inception in 1926. Female basic wage increased on 1st December to 65 per cent. of male rates. Sir James Mitchell, G.C.M.G., retired as Governor and died shortly afterwards. Lieutenant-General Sir Charles Gairdner, K.C.M.G., C.B., C.B.E., arrived to take up appointment as Governor. Royal Commission appointed to inquire into forestry and timber matters. Two sessions of Parliament during the year. Second session of Twentieth Parliament commenced 2nd August, terminated 10th October, following failure of Government's proposed rent legislation; third session began 16th October, concluded 15th December. Amendments made to the Licensing Act, providing for Sunday trading within restricted hours by hotels, and variations of conditions for serving *bona fide* travellers. Rents and Tenancies Emergency Provisions Act passed, repealing Increase of Rent (War Restrictions) Act but continuing rent control, with provision for increases of up to 10 per cent. in rents of dwellings and business premises. Workers' compensation benefits increased by an average of 20

per cent. 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 via Cocos Island 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. Further substantial increases aggregating £1 12s. 10d. in State basic wage for males in metropolitan area. Removal of price control on clothing and textiles. Appointment of Royal Commission to inquire into kindergarten administration and pre-school education. Legislation included an amendment to the Industrial Arbitration Act, giving the Court additional power to deal with strikes and to regulate elections in industrial unions; an amendment to the Bulk Handling Act enabling the construction and control at ports of bulk-handling facilities to be financed from a toll levied on wheat growers; a continuance measure extending for three years the pooled marketing of barley; an amendment to the Margarine Act authorizing increases, within prescribed limits, in local manufacture of margarine; and a Winning Bets Tax Act providing for a tax of 2½ per cent. on winning bets made with bookmakers on horse-racing and trotting courses. 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. Work at Gascoyne Research Station extended to include trial cultivation of tropical crops. Encouraging results from rice-growing experiments at Fitzroy and Ord Rivers. Inauguration of three-year research programme in Exmouth Gulf and Shark Bay areas by Commonwealth Scientific and Industrial Research Organization and State Fisheries Department to determine prospects for expansion of commercial fishing. 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; abolition of all prices control in December following Parliament's rejection of the Prices Control Act Amendment 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. Commissioner appointed to examine and report on boundaries of metropolitan local government authorities. Legislation passed authorizing a new local government authority at Kwinana. Other legislation included an amendment to the Rents and Tenancies Emergency Provisions Act declaring inoperative the sections of the Act dealing with the pegging of rents and the determining of rents of premises and providing for annual rentals of not less than 2 per cent. nor more than 8 per cent. of the capital value; an amendment to the Town Planning and Development Act designed to effect immediate control of building and traffic developments; an amendment to the Traffic Act to provide heavier penalties for drunken and negligent driving; and the Wheat Marketing Act, a measure complementary to a Commonwealth Act and varying the home consumption price of wheat.

1954—Commonwealth census, 30th June. 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. Serious outbreak of poliomyelitis; 436 cases reported. Opening at York of first public library established by the Library Board in association with local government authorities. Rents and Tenancies Emergency Provisions Act Amendment Act of 1953 operative from 1st May; Fair Rents Court constituted. Wheat Industry Stabilisation Act passed enabling the State to participate in a new Commonwealth Wheat Stabilization Plan. Betting Control Act provided for the regulation and control of betting and book-making on horse racing; Winning Bets Tax Act repealed. Other legislation included an Act designed to give greater assistance to those of limited income wishing to build their own homes and an Act to enable the State Government Insurance Office to engage in insurance of school children against accident.



Above—Whaling station at Frenchman Bay, near Albany

Below—Whale on flensing deck



Among Bills which failed were the Industrial Arbitration Act Amendment Bill to provide for automatic quarterly adjustments to the basic wage, and the Prices Control Bill designed to reintroduce prices control. Visit of Her Majesty Queen Elizabeth II and His Royal Highness the Duke of Edinburgh.

1955—Wool production, 156·5 million lb., more than 20 per cent. greater than in previous year. 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. Big Bell gold mine closed; Cue-Big Bell rail service discontinued. 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 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. An amendment to the Western Australia Grant (Water Supply) Act raised the Commonwealth Government's contribution towards the increased cost of the Comprehensive Water Supply Scheme from £2·15 million to £4 million. Appeal for funds launched 1st September with target of £400,000 to supplement State Government grant for establishment of a medical school within the University. Free library opened at Claremont, the first metropolitan library sponsored jointly by the Library Board and a local government authority. Completion of operations of North Kimberley Survey and Mapping Expedition organized by Department of Lands and Surveys; 420 miles of road opened up and 15,000 square miles of country examined. Release for publication of Professor Gordon Stephenson's report and recommendations relating to the planning of the Metropolitan Region. Legislation included an Act relating to the establishment of a medical school within the University of Western Australia and an Act to provide facilities in certain hospitals for the teaching of medical students; an Act to amend the Town Planning and Development Act, designed to enable planning for proposed zoned areas and to assist in the implementation of approved parts of the Stephenson Plan; an Act relating to the provision of libraries and library services for the public; an Act for the purpose of sponsoring and encouraging the study of agriculture and farming and an Act to amend the Traffic Act to provide for the "fine-by-post" system for traffic offences. Among Bills which failed were the Prices Control Bill, to provide for the control of prices and rates of certain goods and services and a Bill to consolidate Acts relating to local government. 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; net population gain from this source, 2,741 persons, little more than one-quarter of that of previous year. Four new savings banks established, three by private trading banks and one by the Rural and Industries Bank. Wheat-growing areas experienced the driest August on record but rains in October brought improved conditions and wheat harvest reached 31·6 million bushels. Whaling Industry Act Repeal Act passed by Commonwealth Parliament; termination of Australian Whaling Commission's activities at Carnarvon and disposal of its assets to private interests. 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. Announcement of decision to enlarge Kwinana oil refinery. Employment in factories for year ended 30th June exceeded 50,000 for the first time. Decline in building industry. Extension of water conservation works for supplies to metropolitan area by operations at Serpentine River upstream from Falls; work on first stage, a pipehead dam, well advanced. At Carnarvon, experimental strip of clay laid down transversely under surface in bed of Gascoyne River, from bank to bank, to impede downstream seepage in river sands and thus conserve supplies for irrigation. Further epidemic of poliomyelitis, cases recorded during year numbering 401, of which 399 were reported in the six months to 30th June; immunization project, using Salk vaccine, commenced 2nd July. Concession fares granted to pensioners using government trains, trams, buses and ferries. State Library reopened after extensive programme of reorganization. Nedlands and South Perth Road Districts granted municipal status. Increased railway charges and closure of some branch lines recommended by Railways Commission to offset continued losses. Legislation included the Unfair Trading and Profit Control Act; the Commonwealth and State Housing Agreement Act ratifying an agreement with the Commonwealth, under its Housing Agreement Act of 1956, for the provision of finance for housing purposes; the City of Perth Parking Facilities Act empowering the Perth City Council to establish and operate parking areas and to instal meters; the Corneal and Tissue Grafting Act to make provision with respect to the use of eyes and other tissues of deceased persons for therapeutic purposes; and the Liquid Petroleum Gas Act

designed to regulate the standard, sale and delivery of liquid petroleum gas. Among Bills which failed was the Motor Spirits Retail Control Bill, intended to control the retailing of motor spirits by a system of registration.

1957

Demography—Number of births, 16,924, and natural increase, 11,627, the highest ever recorded. Crude death rate of 7·66 per thousand of mean population and infant mortality rate of 21·09 per thousand live births the lowest ever experienced. Net gain by migration, 3,752, although still at low level, showed some improvement on previous year.

Public Finance—State deficit for year ended 30th June, £1·9 million (expenditure £56·2 million, revenue £54·3 million). Budget for 1957-58 presented 12th September; estimated deficit £2·7 million (expenditure £58·6 million, revenue £55·9 million). Provision in Federal Budget for increased subsidy to gold producers, small increases in certain social service benefits and some concessions in estate duty and in income, sales and pay-roll taxes. Commonwealth grant for 1956-57 under section 96 of the Constitution, £9·2 million. Announcement by Commonwealth Government of grant of £2·5 million for development of the North of the State. In August, the High Court declared the uniform tax system valid, following challenge by New South Wales and Victoria.

Private Finance—Personal income for year ended 30th June, £289·4 million (wages, salaries, etc. £173·6 million; income of farmers, unincorporated businesses, professions, etc., property income £94·3 million; cash social service benefits £21·5 million) or £423 per head of mean population. Increase of £3·9 million in savings bank deposits to £64·9 million, of which £11·2 million held by the four savings banks established in previous year. Total balances outstanding at end of year on retail hire purchase agreements with finance companies £17·5 million, an advance of £1·6 million on previous year. Value of retail sales of goods, £215·2 million. Fourth Census of Retail Establishments, for year 1956-57, taken by Commonwealth Statistician. Under the Commonwealth and State Housing Agreement Act of 1956, an amount of £600,000, the first annual allocation, made available during the year ended 30th June through building societies and the Rural and Industries Bank for private home building.

External Trade—Improvement in external trade; exports for year ended 30th June valued at £156·0 million and imports at £134·6 million, resulting in favourable balance of £21·5 million compared with unfavourable balance of £19·8 million in previous year. Trade with other Australian States showed a small improvement but interstate trade deficit, £53·1 million (imports £94·3 million, exports £41·2 million), again high. Large interstate shipments of wheat late in year, particularly to New South Wales and Queensland, following drought in those States. Relaxation of import restrictions made progressively during year by Commonwealth Government.

Transport and Communication—Substantial increases from February in freight rates charged by State Shipping Service between Fremantle and northern ports, the first made since 1952. Increase in interstate air fares in December. Sale by State Shipping Service of vessels "Koolinda" and "Kybra"; the 2,354-ton freighter "Delamere" added to its fleet. 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. Work begun on bridge across Swan River at the Narrows and further progress made in associated river reclamation works. Origin and destination traffic survey conducted in Perth by Main Roads Department to determine direction and purpose of road journeys to and from city, as guide to provision and location of parking facilities and to measure other future traffic requirements.

Rural Industry—Improvement in average selling prices of wheat and wool. Opening of season in agricultural areas later than usual with some rains towards the end of May but above-average falls in June. In spite of subsequent dry weather, reasonably satisfactory finish to season with rains in October. Wheat harvest maintained at about the level of previous year. Enactment by Federal Parliament of legislation imposing levy of ¼d. per bushel on wheat growers to finance further wheat research. Wool production, 158·3 million lb. In September, wool auctions held at Albany for the first time. Plans made for commercial production of rice at Liveringa Station in the Kimberley following satisfactory experimental plantings and agreement with Government on provision of 20,000 acres of land. New pastoral leases included eight in the Kimberley aggregating more than 5 million acres.

Fisheries—Pearl-shell production 990 tons, valued at £605,000, the highest since 1938. Small initial harvest of culture pearls from Brecknock Harbour, north-east of Derby. Discovery of potential scallop-fishing grounds at Shark Bay in course of survey by Fisheries Department.

Mining—Gold production 896,681 fine ounces, valued at £14.5 million, the highest since 1941. Production of blue asbestos at Wittenoom Gorge increased to 11,105 tons valued at £1.2 million; plans for further development announced. Shipments of ilmenite from newly-developed deposits at Bunbury and Capel. Extensive programme of exploration and drilling maintained in search for oil in the North.

Manufacturing—Despite fall of 2.7 per cent. in factory employment, value of output for year ended 30th June increased by 7.1 per cent. to £187.6 million and net production by 5.3 per cent. to £73.4 million. Decrease in production of building materials. First oversea export of steel products from rolling mill at Kwinana. Generation of electricity at Bunbury power station commenced in May.

Water Supplies—Completion of first stage of £9 million Serpentine Dam project with opening in November of 850 million gallon pipehead dam. Work begun on main reservoir, to have ultimate capacity of 39,000 million gallons, designed to augment water supply to the metropolitan area and adjacent districts. Continuation of work on Comprehensive Water Supply Scheme; developments in the northern section, supplied from Mundaring Weir, included progress on the Cunderdin-Minnivale-Kokardine main and in the southern section, supplied from Wellington Dam, extension of mains continued northward and southward from Narrogin, pipelines reaching Pingelly in June and Wagin in December. Provision by Commonwealth, under the Western Australia Grant (Water Supply) Act, of £1 million additional financial aid for the Scheme.

Health—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.

Education—Following presentation in November of report of Committee on Australian Universities (the "Murray Committee"), announcement of grant by Commonwealth Government of £22 million to universities, to be spread over three years. Clinical teaching begun at University's School of Medicine after successful public appeal for funds which raised more than £500,000 to supplement a grant from the State Government. Work begun on new engineering school at University estimated to cost £495,000. Acquisition by Perth City Council of the Perth Literary Institute; City Library established 1st July.

Prices, Wages and Employment—"C" Series retail price index numbers for the metropolitan area and for the five principal towns as a whole showed a small decline in September quarter, the first decrease in any quarter since September, 1955. Increase of 10s. in Commonwealth basic wage granted by Commonwealth Conciliation and Arbitration Commission to operate from 15th May. Number of wage and salary earners in civilian employment generally lower, but recovery during last quarter to level of previous year. Average weekly number receiving unemployment benefit 2,119, compared with 1,324 during previous year.

Legislation and Administration—Legislation included the Metropolitan (Perth) Passenger Transport Trust Act to establish a Trust to provide efficient metropolitan passenger transport facilities; an amendment to the Government Railways Act by which control of railways reverted to a single Commissioner in place of the three-member Commission established in 1949; the Housing Loan Guarantee Act designed to encourage building and purchase of new houses; and the Juries Act providing, among other things, for jury service by women. Among the Bills which failed were the Long Service Leave Bill designed to extend long service leave privileges to employees not otherwise provided for; the King's Park Aquatic Centre Bill seeking to authorize the King's Park Board to lease to the City of Perth 20 acres of land for an aquatic centre; the Swan River Conservation Bill aiming to provide for maintenance and improvement of waters and foreshores of Swan River; and the Natives Status as Citizens Bill seeking to confer on aborigines citizenship rights by birth and to repeal the Natives (Citizenship Rights) Act of 1944.

Appointment of Royal Commissions to inquire into restrictive trade practices, and to investigate the control, administration, operation and workings of the Railways Commission. Parliamentary approval of appointment of a Special Committee on Native Matters, with particular reference to adequate finance. Following a Cabinet decision in October, a committee appointed to inquire into and report on a proposal to establish a Botanic Garden for Perth.

Integration in July of Commonwealth and State statistical services after legislation by Federal and State Parliaments, the combined Office operating as a branch of the Commonwealth Bureau of Census and Statistics but continuing the functions of the State Government Statistician's Office, the Deputy Commonwealth Statistician being also Government Statistician.

Death in London of Hon. J. A. Dimmitt, Agent-General since 1953, and appointment of Hon. E. K. Hoar, formerly Minister for Lands and Agriculture, to succeed him.

1958

Demography—Decline in crude birth rate to 23·71 per thousand of mean population, the lowest in any post-war year. Reduction in net gain by migration to 2,192. Population increase 13,369, the lowest for ten years.

Public Finance—Deficit in State Public Accounts for year ended 30th June, £1·1 million (expenditure £58·2 million, revenue £57·1 million). Budget for 1958–59 presented 25th September; estimated deficit £2 million (expenditure £61·8 million, revenue £59·8 million). The Federal Budget provided for increases in some pension rates and for liberalization of the means test, increases in living allowances for holders of Commonwealth Scholarships and an extension of the Scholarship Scheme to provide post-graduate awards, increases in the zone allowance for income tax purposes and the inclusion as allowable deductions of the full amount of calls paid on shares in oil-prospecting companies. Commonwealth grant of £10·2 million for 1957–58 under section 96 of the Constitution. Western Australia Grant (Northern Development) Act passed by Commonwealth Government, authorizing payment of £2·5 million, to be spread over five years, for development of the part of the State north of 20°S. latitude.

Private Finance—Personal income for year ended 30th June, £293·6 million (wages, salaries, etc. £179·5 million; income of farmers, unincorporated businesses, professions, etc., property income £90·2 million; cash social service benefits £23·9 million) or £420 per head of mean population. Savings bank deposits at 31st December, £68·2 million; interest rate on balances up to £2,000 increased to 3 per cent., 1st November. Value of retail sales of goods, £216·7 million, higher by £1·5 million than in previous year. Increase in value of goods sold under new hire purchase agreements made with finance companies during year; balances outstanding at 31st December, £21·2 million, were £3·7 million greater than at end of 1957.

External Trade—Unfavourable external trade balance of £8·5 million for year ended 30th June. Value of exports, £135 million, was £21·1 million less and value of imports, £143·4 million, was £8·9 million greater than in previous year. Oversea exports declined by £20·1 million, smaller returns from shipments of wool, wheat, oats and barley accounting mainly for the decrease. Deterioration of trade position in relation to the other Australian States, the interstate trade deficit of £57·3 million (imports £97·6 million, exports £40·3 million) being £4·1 million more than in previous year. Visit to Great Britain, Europe, the United States and Canada of a trade mission sponsored by the State Government and led by the Deputy Premier.

Transport and Communication—The Metropolitan Transport Trust began passenger transport operations on 31st August by assuming control of two private omnibus services; three more such services transferred to the Trust by 31st December. Last tram service in Perth on 19th July, with substitution of trolley-buses and omnibuses. Perth City Council's parking meters and off-street parking areas began operating in July. New traffic bridge over Canning River opened and plans announced for a new railway bridge over Swan River at Fremantle. Programme of works commenced at Perth Airport; improvements to include better passenger facilities, pilot aids and lengthening of main runway. Work begun at Fremantle on oversea passenger terminal at Victoria Quay. Construction of new administrative building and broadcasting studios in Perth for the Australian Broadcasting Commission commenced; Commission announced plans for its television service and building of transmission station begun at Bickley in the Darling Range. A television company, TVW Ltd. with capital of £1 million, registered in June.

Rural Industry—Exceptionally favourable weather conditions throughout the agricultural areas resulted in an excellent season, beginning well with widespread rainfall in May and ending with unusually good finishing rains. Record harvests of wheat 57·7 million bushels, of oats 22·6 million bushels and of barley 5·4 million bushels. Wool production, 166·5 million lb., also a record. Dry weather in dairy-farming districts during first four months of the year; decline in production of whole milk. Rice first produced in significant quantity at Camballin on Fitzroy River 65 miles south-east of Derby. Two cyclones in March brought beneficial rain to wide areas of pastoral country in the North but caused extensive damage to the town of Onslow. In May, the Department of Lands and Surveys began a project to survey and map, with the aid of aerial photography, more than 25,000 square miles of country in the Warburton and Rawlinson Ranges area and to investigate water supplies and the possibility of pastoral development. In July, the Commonwealth Scientific Industrial and Research Organization began a survey of 25,000 square miles of grazing country in the Wiluna-Meekatharra area to provide information

on pasture management and land utilization ; the Department of Lands and Surveys collaborated in the work by undertaking the aerial photography, necessary ground control and mapping.

Fisheries—Crayfish take for year ended 30th June rose by 24 per cent. compared with previous year to 13.3 million lb. live weight, and exports of crayfish tails by 32 per cent. to 4.7 million lb. A small fleet of fishing boats sailed in May to trawl commercially for the first time for scallops and prawns in the Shark Bay area. To prevent overfishing of beds, Japanese pearling vessels excluded from Western Australian waters for the 1958 season by decision of the Commonwealth Government.

Mining—Closure of lead mines in Northampton district as a result of loss of oversea markets and fall in price. State Government's application to the Commonwealth for a licence to export one million tons of iron ore to Japan rejected 13th May. A new £350,000 asbestos mill at Wittenoom Gorge began operating in June. Large shipments of ilmenite to Tasmania for use in manufacture of paint. 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.

Manufacturing—Number of factories and factory employment for year ended 30th June at about the same level as in previous year. Value of output increased by 4.6 per cent. to £196.3 million and net production by 2.5 per cent. to £75.3 million. Improvement in production of some items of building materials but decline in output of sawn timber from 204.5 to 201.6 million superficial feet. Decrease of almost 9 per cent. in production of factory butter, from 16.7 to 15.2 million lb.

Water Supplies—Further progress on Comprehensive Water Supply Scheme ; in the northern section, Koorda connected in December and, in the southern section, Katanning connected in March and Brookton in December. Serpentine pipehead dam linked with service reservoir at Mount Yokine. Installation begun at Mundaring Weir of steel crest gates four feet in height, to increase capacity from 15,154 to 16,954 million gallons.

Health—Modern building to house the blood-transfusion service of the Australian Red Cross Society opened in Perth in May. Foundation stone of Ngal-a, a mothercraft centre at South Perth, laid in May. New Chest Hospital at Hollywood officially opened in September. Government dental clinics opened at North Perth and Victoria Park. Work begun at Albany on regional hospital to serve the Great Southern district. Only two cases of poliomyelitis recorded during year ; campaign started in May for voluntary immunization injection of adults.

Education—Saint Thomas More University College officially opened 30th March. University School of Medicine formally opened 10th April. States Grants (Universities) Act passed by Commonwealth Government to give effect to the financial recommendations of the Committee on Australian Universities. Last stage of work completed at John Curtin High School at Fremantle, the largest and most modern in the State ; school officially opened in October.

Prices, Wages and Employment—Metropolitan " C " Series retail price index number, 2743, only 0.5 per cent. higher than that for previous year, the smallest annual increase during the post-war period ; combined index for the five principal towns, 2741, also showed its lowest rise, 0.6 per cent., since 1945. In February, State basic wage for adult males in metropolitan area fell by 4s. 3d. from £13 12s. 9d. to £13 8s. 6d., the first decrease since 1944 ; wage increase of 8d. during year, from £13 12s. 9d. to £13 13s. 5d., the smallest in any year since restoration of quarterly adjustments in 1955. In May, increase of 5s. in Commonwealth basic wage from £12 16s. to £13 1s. for adult males in Perth. Number of wage and salary earners in civilian employment higher throughout the year than in 1957 ; at the end of the year, employees (excluding those in rural industry and household domestic service) numbered 186,100 compared with 184,700 in December, 1957. Further increase in number of persons receiving unemployment benefits ; average weekly number on benefit 2,634, an increase of almost 25 per cent. on previous year. 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.

Legislation and Administration—Among Acts passed during the session were the Wheat Industry Stabilisation Act, enabling the State to participate in a new Commonwealth Wheat Stabilization Plan ; the Unfair Trading and Profit Control Act Amendment Act, extending the interpretation of unfair trading to include collusive tendering and amending the title of the principal Act to the " Monopolies and Restrict-

ive Trade Practices Control Act"; an Act to constitute the Health Education Council of Western Australia with the object of promoting and improving health standards by means of health education; the Tuberculosis (Commonwealth and State Arrangement) Act to authorize the State to renew an arrangement made with the Commonwealth in 1949 for a campaign to reduce the incidence of tuberculosis; an Act to constitute the Cancer Council of Western Australia with the functions, among others, of promoting and subsidizing research into the cause and treatment of cancer; the Hire-Purchase Act for the regulation of hire purchase business and the protection of hirers; the Swan River Conservation Act to make provision for maintaining and improving the waters and foreshores of the Swan River; the Long Service Leave Act to provide for long service leave to employees whose employment is not regulated under the Industrial Arbitration Act; and the Natives (Citizenship Rights) Act Amendment Act, following the failure of a second Natives (Status as Citizens) Bill. Among other Bills which failed was the Land Tax Assessment Act Amendment Bill, proposing to continue a tax originally imposed in 1956 on improved rural lands.

Following the death in November of Hon. Gilbert Fraser, M.L.C., Chief Secretary and Minister for Local Government and Town Planning, Hon. F. J. S. Wise, M.L.C. joined the Cabinet as Minister for Industrial Development, Local Government and Town Planning.

At federal elections held on 22nd November, Liberal-Country Party Government returned to office with a record majority of 32 seats in the House of Representatives and an immediate majority of two in the Senate and of four from 1st July, 1959.

Death in February of Sir Harold Seddon, a former President of the Legislative Council, in March of Mr. A. J. Rodoreda, M.L.A. for Pilbara, in May of Sir John Northmore, a former Chief Justice, in June of Professor J. W. Paterson, the University's first Professor of Agriculture, in July of Senator H. S. Seward and of Mr. J. H. Ackland, M.L.A. for Moore.

Miscellaneous—In July, rainfall of 1,673 points registered at Perth, compared with a norm of 679 points; Perth's wettest July on record. Plans made to develop for public inspection an extensive limestone cave-system near Augusta. Perth selected as host city for the British Empire and Commonwealth Games to be held in 1962. Visit in March of Her Majesty Queen Elizabeth the Queen Mother.

CHAPTER II—PHYSICAL FEATURES, CLIMATE, FLORA AND FAUNA

PART 1—PHYSICAL FEATURES AND GEOLOGY

Contributed by

Rex T. Prider, B.Sc., Ph.D., F.G.S., M.Aust.I.M.M.

(Professor of Geology, University of Western Australia)

The development of any country depends on its natural resources and the industry of its people, and there can be few more important investigations for any country than those dealing with the productive capacity of its territory. Natural resources—be they power, mineral, or soil resources—are dependent entirely on the climate, physical features and geology. Looking at the pattern of development of Western Australia we see that for nearly seventy years after the foundation of the Swan River Colony in 1829 agricultural production barely kept pace with the requirements of the small population. The discovery of gold in the 1890's, however, led to a period of rapid expansion, and Western Australia became one of the major gold-producing areas of the world, and with this increase in mining production there was a corresponding expansion of the agricultural and pastoral industries. We are now experiencing an expansion of our secondary industries. 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 connection 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 connection 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 (monadnocks, which are remnants of a previous cycle of erosion) rise above the general surface of the plateau.

The Great Plateau may be conveniently subdivided into an area of exterior drainage (where there are definite rivers which flow to the sea), an area of interior drainage (where such water as flows passes into inland basins), and two areas of no surface drainage but which, if they had drainage, would belong to the exterior drainage system. The area of exterior drainage can be marked out by connecting the source of the streams which flow to the sea and if this is done it will be seen that the width of the exterior drainage belt varies considerably. Thus in the Kimberley and North-West Divisions some of the rivers are hundreds of miles long, but in the south-west part of the State many of them are comparatively short. The areas of no surface drainage are in the north North-West along the 80-Mile Beach from the mouth of the De Grey River to the north of Broome, and on the Nullarbor Plain in the south-eastern corner of the State. The remainder of the country forms the interior drainage area.

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

The area of interior drainage is arid and practically riverless. Small creeks run from the higher parts of the country but they either disappear on the extensive flats or reach the shallow basins which are termed salt or "dry" lakes, the term "dry" being used since these so-called lakes are free from water except after fairly heavy or long-continued rain. These "lakes" are generally elongated, narrow, and often winding salt-encrusted flats arranged in long, more or less connected streams. After heavy rain they are covered with a thin layer of water and, after unusually heavy rain, water has been known to flow southwards from one to another of the "lakes" of a string, except towards the western margin of the plateau where the drainage is to the west. It is evident that these elongated "lakes" are the remnants of an old river system developed during a more humid period. The salt lakes are of some economic significance since, on the evaporation of the water, common salt and other substances such as gypsum are deposited on the floor of the lake. The gypsum, which crystallizes earlier than the common salt, is 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 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 in width 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 Pre-Cambrian shield which is composed of a complex of igneous, metamorphic and sedimentary rocks formed more than 500 million years ago. Most of our mineral deposits of economic importance, except coal and water, occur in these Pre-Cambrian 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 and oil 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 Pre-Cambrian basement.
- (b) The sedimentary basins.
- (c) The superficial deposits.

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

The Pre-Cambrian 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 Pre-Cambrian 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 Pre-Cambrian 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. Indeed this is the only area in Western Australia where the Pre-Cambrian age of the rocks of this crystalline complex can definitely be proved. 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 of Pre-Cambrian age 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 Pre-Cambrian age of these rocks has been confirmed by actual age determinations based on the decay of radioactive elements which occur in them. This work indicates that the granitic intrusions of the southern part of the State crystallized from a molten state some 2,800 million years ago.

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

The *Warrawoona System*, which consists mainly of greenstones and green schists which were, prior to the intense folding and metamorphism to which they were subjected after deposition, basaltic lavas and tuffs with interbedded chemically deposited secondary rocks (ferruginous cherts) in the upper part of the sequence. The Warrawoona System is unconformably overlain by a System (the *Mosquito Creek System*) of sedimentary rocks which have also been intensely folded and metamorphosed to various types of platy-structured schists, slates and quartzites. Both the Warrawoona and Mosquito Creek Systems are invaded by granitic igneous rocks and both carry auriferous orebodies. A still younger System (the *Nullagine System*, of Proterozoic age) consisting of sedimentary rocks such as conglomerates, sandstones and shales, with interbedded basic igneous rocks, was deposited unconformably on the highly-folded, granite-intruded Mosquito Creek and Warrawoona Systems. The rocks of the Nullagine System have not suffered the intense folding that affected the older rocks and consequently are present as flat-dipping to horizontally bedded un-metamorphosed sediments. Such sediments cover very extensive areas in the North-West (see Geological Map of Western Australia on page 26) and they are similar in all respects to the flat-dipping Upper Proterozoic sediments which cover the plateau country of the North Kimberley. The final episode in the Pre-Cambrian 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 Pre-Cambrian 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 26). These greenstones, which are for the most part metamorphosed basaltic lavas, 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 the most important System in the State, since the auriferous ore deposits of the main mining fields are confined to it. It appears to be the equivalent of the Warrawoona System of the North-West. After the formation of the Kalgoorlie-Yilgarn rocks they were intensely compressed into tightly closed folds with N.N.W.-trending axes. During this period of intense earth-movement alkaline solutions permeated the older rocks, converting them into granitic gneisses which occupy the bulk of 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 Pre-Cambrian rocks are intruded by dolerite dykes.

Putting together the information available throughout the State, we conclude that the oldest system of rocks found in Western Australia belongs to the older part of the Archaean Era. It is a great succession of rocks, generally much metamorphosed, which is called the Kalgoorlie-Yilgarn System in the southern part of the State and the Warrawoona System in the North-West region. In the early part

of Kalgoorlie-Yilgarn times there was much volcanic activity which took the form of eruptions of 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 granite-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.

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

All the Archaeozoic rocks described above were invaded by the "Younger" Granite, which, unlike the "Older" Granite, formed well-defined intrusions many of which are bosses, 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 Archaeozoic 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 2,800 million years ago.

Finally, in late Proterozoic (Nullagine times) we had the deposition, under shallow-water conditions, of sandstones, shales and conglomerates 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 un-metamorphosed. Although they 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 Pre-Cambrian 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 Pre-Cambrian 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 Pre-Cambrian 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 and oil. 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*. Up to the present the coal deposits of the lacustrine Permian beds of the Collie Basin constitute the only power source in Western Australia, since no oil of commercial significance has yet been proved and the 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 disappointing, but the fact that flow oil does occur indicates the presence of suitable source material and conditions for oil formation and preservation. The possibilities, therefore, of locating commercial oilfields in the Carnarvon, Canning and Perth Basins are by no means exhausted.

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 26). 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 Pre-Cambrian 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 26), 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 regional westerly 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. The Cretaceous rocks outcrop in a north-south belt averaging 50 miles wide between the Palaeozoic and Pre-Cambrian 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 regional westerly dip of the Palaeozoic sediments of the eastern half of the basin and the gentle domal 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 Pre-Cambrian 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 sunland between Busselton and Augusta. At this southern end it is again flanked both to the east and west by Pre-Cambrian 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. Apart from the evidence provided by water bores up to 2,400 feet deep in the metropolitan area little is known regarding the thickness and age of the sediments in the basin. 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*), along the Darling Scarp, to the Recent sands. Other than the Proterozoic (or maybe early Palaeozoic rocks) 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 occur 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. 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 monoclinial fold and the small amount of evidence available seems to indicate that the main structural character is a gentle regional dip to the east.

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 which lie on sandstones and shales of probable Cretaceous age, which in turn overlie the Pre-Cambrian 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-Continental Railway. The Madura bore is artesian but bores along the Trans-Continental 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 Pre-Cambrian 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 Pre-Cambrian 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 Pre-Cambrian granitic rocks. This suggests that the Collie Basin, formerly considered to be a block of the Permian downfaulted into the Pre-Cambrian basement, is actually a glacially-gouged trough formed by terrestrial glaciation in the Permian and since filled with Permian lacustrine sediments. Coal occurs at three horizons and the seams, which average six feet in thickness, persist over fairly long distances. From the associated plant fossils these coal measures appear to be comparable in age with those of the upper part of the Permian sequence at the Irwin River near the northern end of the Perth Basin.

The Superficial Deposits

Over a great part of the State fresh rock outcrops are comparatively sparse 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 just prior to the formation of the Darling Plateau when it was

a gently undulating peneplain lying close to sea-level. Subsequently, probably in Pliocene times, this laterite-covered peneplain was uplifted to form the *Darling Plateau*. This uplift, judged by the elevation of the laterite-capped hills and the 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, but it has been formerly considered that the Western Australian deposits are too variable in composition to warrant their exploitation as aluminium ores, even if sufficient power was available on the spot for their treatment. However, a closer investigation of these potential aluminium ore deposits is now being made.

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, but closer examination of grain shape indicates that the sands forming much of the sandplain country have been transported for great distances either by wind or water. The youngest of the drift sand deposits are the coastal sand dunes.

Coastal sand deposits have recently assumed 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 dunes 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



COCKATOO ISLAND IN YAMPI SOUND
Cockatoo Island is the site of rich iron-ore deposits
(Reproduced by courtesy of West Australian Newspapers Ltd.)

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. 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 Divisional 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.

HISTORY OF METEOROLOGICAL SERVICES

Meteorological observations have been made at Perth since shortly after the first settlement in 1829. Original weather journals are available which contain entries from the 16th April, 1830.

Growth of the Service—When the Meteorological Branch was first established in 1876, the stated policy was the expansion of the observing network with the object of obtaining a complete picture of the climate of Western Australia. The first outstation in the Colony was established in 1879 at Rottnest Island and the first north of the Tropic of Capricorn in 1881 at Cossack on the north-west coast. Continued adherence to the original policy on networks resulted in there being, by 1895, fifteen stations supplying full reports and 129 recording rainfall only. Reports from Cocos Island were procured in 1901 as soon as the telegraph cable between Western Australia and South Africa had been laid. By the end of 1958 the reporting network had been expanded to include 86 locations at which temperature, rainfall and other records were maintained and some thirteen hundred where rainfall alone was observed.

Not only have additional stations been established but through the years new techniques in observing practice have been introduced, so that now there are also 11 stations at which the winds blowing in the upper atmosphere are measured several times daily and at six of these the observers make temperature and humidity soundings to above 50,000 feet.

Administrative Development—The first observations were made at Perth by the staff of the Survey Office. Some records were also kept at the Colonial Dispensary.

When established in 1876, the Meteorological Branch was under the direction of the Surveyor-General, Mr. (later Sir) Malcolm Fraser. The first appointment for purely meteorological work was that of Mr. M. A. C. Fraser (later Registrar-General), as Observer. The Postmaster-General, Mr. A. Helmich, assisted by procuring reports from country telegraph stations. 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 Astronomer, Mr. W. E. Cooke.

On the 1st January, 1908 the Commonwealth Government assumed responsibility for the meteorological service in Western Australia. The first Commonwealth Meteorologist was Mr. H. A. Hunt. The first Divisional Meteorologist for Western Australia was Mr. E. B. Curlew, a former member of the Observatory staff, and an office was maintained at 105 Saint George's Terrace until July, 1930, when the Divisional headquarters were transferred to the Observatory site.

Observation Sites at Perth—The precise location of the instruments during the first 55 years of observations is not known. The early records always refer to the site as being adjacent to the Survey Office. It appears certain that this was in the block bounded by Saint George's Terrace, Barrack Street, Hay Street and Pier Street, while the Colonial Dispensary seems to have been near Irwin Street. In August, 1885, the equipment was moved to the public gardens, now known as Stirling Gardens, on the south side of Saint George's Terrace, and observations were continued there until about 1924, when the

thermometers were moved to a location south of the Supreme Court building, where they remained until October, 1930. With the transfer of the meteorological functions to the control of the Government Astronomer, a set of instruments was installed in the Observatory grounds and recordings commenced on the 1st January, 1897.

Exposure of Instruments at Perth—The method of exposing the thermometers prior to 1877 is not reported anywhere in the early records. The meteorological report for that year states that the thermometers were exposed "in a revolving stand of Mr. Glaisher's pattern." This was essentially a white backboard, on which the thermometers hung, with a canopy to protect them. It could be revolved to ensure that no direct rays from the sun could strike the bulbs. When the instruments were removed to the Gardens in 1885, the thermometers were still exposed on the Glaisher stand, but this was erected in an octagonal, double-roofed, louvred shelter. A Stevenson screen was used in place of the Glaisher stand after the move to the location south of the Supreme Court. A Stevenson screen was installed at the Observatory site in 1897 and this type of thermometer shelter, now standard throughout Australia, is still in use.

Elements Measured at 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. Earth temperature recordings at various depths were added in 1886 and since that time no variation in the elements recorded has been made except that ozone measurements have long been discontinued.

Elements Measured at Outstations—The more important outstations have been supplied with instruments to record pressure, temperature and humidity, wind and rainfall. At the lesser ones rainfall only is observed. Evaporation measurements were commenced at Coolgardie in 1898 and at Carnarvon, Wiluna, Cue and Laverton in 1904.

Continuity of Records—The change of exposure at Perth in 1885 and of site in 1897 resulted in definite breaks in the records which appeared as quite marked changes in the average values of the elements.

Until 1889, at the Public Gardens site and at some outstations, evaporation measurements were made with shallow dishes filled each day with water to a depth of two inches. At Coolgardie, a water-jacketed tank, sunk in the ground, was used. The records so obtained are not fully comparable with those resulting from the use of later tanks. Three series of earth temperature measurements have been made at Perth, using different equipment and at different depths. Probably changes of site and instrumentation have been made at outstations, resulting in similar breaks in the records, but they have not been noted.

Times of Observations—The early recordings were made twice daily, in the morning and in the afternoon. The hours selected were 8 a.m., 9 a.m. or 10 a.m. and 2 p.m., 3 p.m. or 4 p.m. The majority were taken at 10 a.m. and 4 p.m. After 1876 the readings were made at 9 a.m. only, until 1881, when the time was changed to 7 a.m.

Following a recommendation of the Intercolonial Meteorological Conference in 1881 the times of standard observations were fixed at 9 a.m. and 3 p.m. as from the 1st January, 1885. All Western Australian stations make observations at these times, but at Perth, since 1952, seven observations per day have been made at three-hourly intervals commencing at midnight, and at certain outstations, since 1941, up to seven observations per day have been made at one or more of the three-hourly intervals. In addition to the trained permanent personnel of the Meteorological Bureau, observers are recruited from postmasters, pastoralists, farmers and the staff at isolated mission stations.

Interchange of Observations—From the 1st January, 1880, the outstations began to telegraph their daily observations to Perth and, in the same year, the first intercolonial exchanges commenced with the daily transmission of Perth and Albany observations to Adelaide. An extensive interchange of station reports is now effected daily throughout Australia by teleprinter circuits leased from the Postmaster-General's Department.

Forecasts and Warnings—Daily forecasts for Perth and for country districts have been prepared and distributed for public information since the 1st January, 1898. The earliest warnings issued were in respect of cyclones and commenced in 1902.

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 to the tropics clear skies with fine sunny days and easterly winds. As the anticyclonic belt moves northward, the westerly winds on its southern side extend over the southern part of the State, bringing with them cool cloudy weather and rain. In midwinter 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.

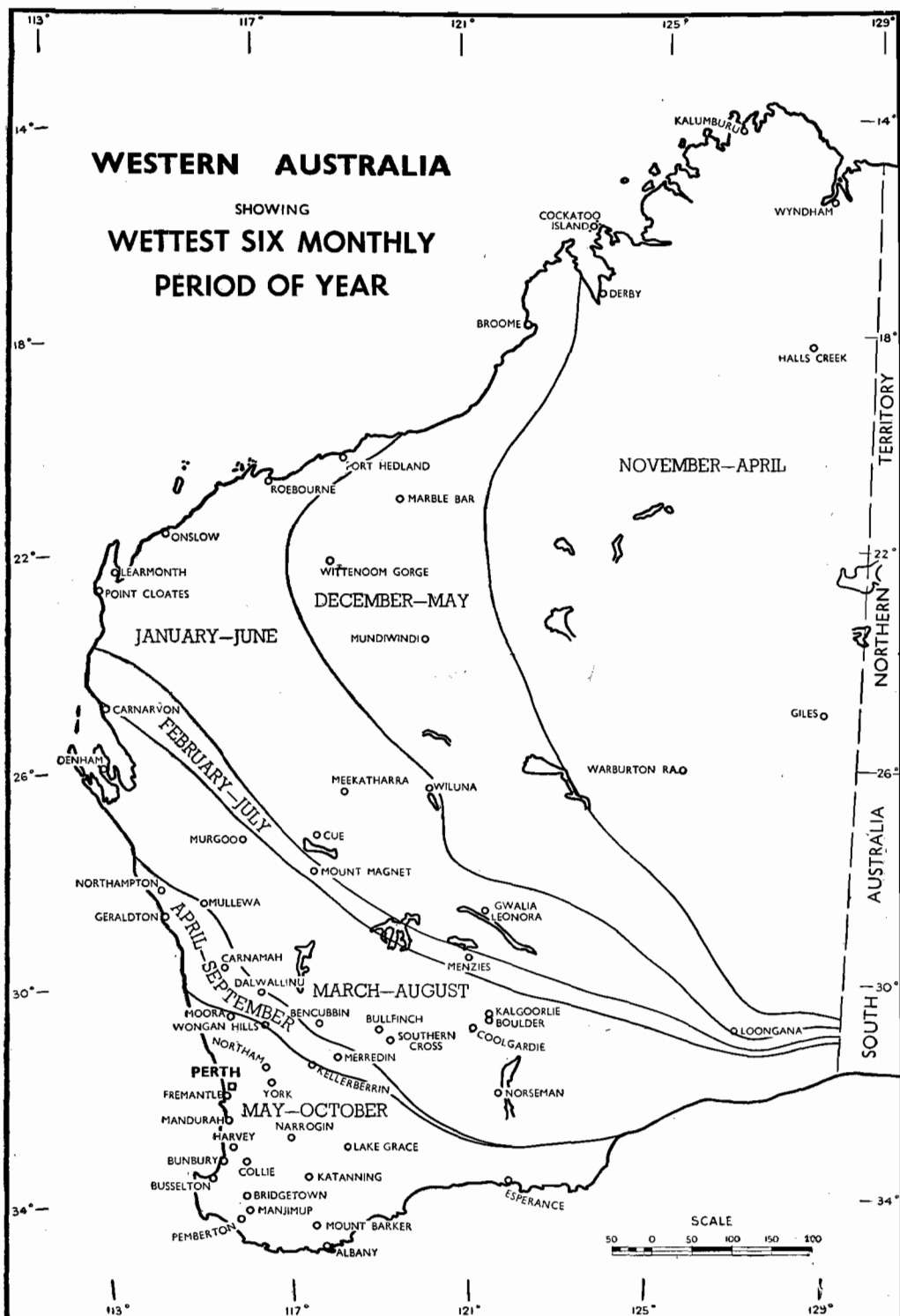
Because of this the highest rainfall occurs in the winter months in the south of the State, and in the summer months in the north. In between these areas there is a gradual change from one rainfall regime to the other.

From the map on page 37, which shows the wettest six-monthly period of the year, it can be seen that summer rains extend southward from the Kimberley to the transcontinental railway line, 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,

WESTERN AUSTRALIA

SHOWING
WETTEST SIX MONTHLY
PERIOD OF YEAR



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 preceding 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													
Wyndham (23 feet†)—													
Rainfall—Average (points)	763	632	467	81	24	17	16	3	9	44	190	418	2,664
Highest (points)	2,824	2,058	1,758	2,027	302	473	524	54	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	11	9	3	1	0	0	0	0	2	6	10	51
Broome (37 feet†)—													
Rainfall—Average (points)	648	568	393	115	61	96	20	11	5	3	56	325	2,307
Highest (points)	3,256	2,358	1,151	1,019	700	973	232	374	86	48	1,095	1,449	4,307
Lowest (points)	11	42	4	0	0	0	0	0	0	0	0	3	56
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	8	7	2	2	1	1	0	0	0	1	6	30
Port Hedland (25 feet†)—													
Rainfall—Average (points)	217	216	344	103	115	129	40	38	5	6	10	33	1,250
Highest (points)	1,969	1,432	1,716	728	873	696	384	584	99	129	336	1,023	4,012
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	12
Highest one day (points)	600	955	1,113	469	638	560	185	364	85	127	304	900	1,113
Wet days—Average number	4	4	4	1	2	2	1	1	0	0	0	1	20
Onslow (14 feet†)—													
Rainfall—Average (points)	96	106	169	98	162	157	76	44	4	2	4	15	933
Highest (points)	1,028	961	1,476	1,100	998	908	872	594	49	61	237	241	2,822
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	8
Highest one day (points)	623	581	1,114	617	937	436	355	251	27	29	117	198	1,114
Wet days—Average number	3	3	4	2	3	3	2	2	0	0	0	1	21
Carnarvon (15 feet†)—													
Rainfall—Average (points)	41	70	66	64	149	240	156	68	23	12	3	16	908
Highest (points)	614	719	520	647	800	865	570	365	91	198	75	483	2,533
Lowest (points)	0	0	0	0	0	5	6	0	0	0	0	0	27
Highest one day (points)	358	441	470	197	410	475	322	193	63	104	28	469	473
Wet days—Average number	2	2	2	1	5	6	6	5	2	2	0	1	30
Geraldton (13 feet†)—													
Rainfall—Average (points)	22	28	56	92	274	474	379	279	128	70	26	15	1,841
Highest (points)	379	517	666	457	1,292	1,292	958	952	412	335	157	230	3,366
Lowest (points)	0	0	0	0	0	121	70	33	0	0	0	0	1,133
Highest one day (points)	310	324	369	270	307	430	201	365	169	289	140	202	430
Wet days—Average number	2	2	3	4	10	13	14	13	9	6	3	1	8
Perth—Observatory (197 ft.†)—													
Rainfall—Average (points)	31	46	80	180	501	725	678	571	329	220	83	60	3,500
Highest (points)	217	655	571	585	1,213	1,875	1,228	1,253	784	787	278	317	5,266
Lowest (points)	0	0	0	0	98	216	242	46	34	15	0	0	2,000
Highest one day (points)	174	353	303	262	300	390	300	291	182	173	140	184	391
Wet days—Average number	3	3	4	7	14	17	18	18	14	12	7	4	12
Pinjarra (32 feet†)—													
Rainfall—Average (points)	34	41	82	187	542	760	729	619	389	253	89	59	3,788
Highest (points)	167	862	331	730	998	2,104	1,571	1,494	916	1,017	368	291	5,877
Lowest (points)	0	0	0	0	127	265	330	47	33	11	4	0	2,033
Highest one day (points)	145	443	197	560	337	367	400	350	189	211	159	160	441
Wet days—Average number	3	2	4	6	14	17	18	18	15	11	6	4	11
Bunbury (17 feet†)—													
Rainfall—Average (points)	39	49	95	172	513	710	676	516	350	231	93	53	3,499
Highest (points)	340	411	330	690	1,047	1,620	1,640	1,193	793	769	261	316	5,377
Lowest (points)	0	0	0	0	38	287	194	82	0	26	0	0	19
Highest one day (points)	222	338	258	240	317	472	372	263	227	154	205	104	471
Wet days—Average number	3	3	4	7	15	18	20	18	15	12	6	4	12

† 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>													
Emberton (565 feet)†—													
Rainfall—Average (points)	146	55	190	350	700	868	804	920	546	468	201	116	5,364
Highest (points)	579	347	519	761	1,101	1,469	1,563	1,572	860	764	577	379	6,897
Lowest (points)	24	5	11	42	141	497	571	416	139	97	74	19	4,338
Highest one day (points)	252	133	250	284	310	248	280	181	163	210	222	137	310
Wet days—Average number	8	5	10	13	18	21	22	21	18	15	11	10	172
Mount Barker (829 feet)†—													
Rainfall—Average (points)	90	87	149	209	342	387	418	372	334	289	143	109	2,929
Highest (points)	579	709	505	920	957	824	1,027	683	618	630	532	343	4,326
Lowest (points)	4	3	14	15	64	183	88	131	72	64	22	5	1,688
Highest one day (points)	412	284	192	548	270	236	285	259	175	214	251	165	548
Wet days—Average number	8	7	11	13	18	20	22	21	18	17	11	10	176
Urbany (41 feet)†—													
Rainfall—Average (points)	100	87	161	275	502	547	559	532	410	325	146	118	3,762
Highest (points)	854	635	653	789	1,140	1,152	1,060	1,124	796	736	671	459	5,483
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	8	7	11	13	18	20	21	20	18	16	11	9	172
Esperance (14 feet)†—													
Rainfall—Average (points)	69	69	117	175	326	406	404	384	271	220	102	89	2,632
Highest (points)	524	471	491	691	705	1,076	945	727	564	574	453	320	3,625
Lowest (points)	0	0	0	8	80	109	122	75	42	52	1	0	1,724
Highest one day (points)	274	154	175	496	171	416	218	232	455	179	197	279	496
Wet days—Average number	5	4	7	9	15	15	16	15	13	12	7	6	124
WHEAT BELT													
Tarnamah (879 feet)†—													
Rainfall—Average (points)	45	53	85	85	207	320	277	228	125	73	42	39	1,579
Highest (points)	404	405	539	409	551	910	742	757	332	262	357	222	3,078
Lowest (points)	0	0	0	0	6	83	53	51	2	0	0	0	917
Highest one day (points)	380	226	299	232	290	241	170	260	129	157	280	197	380
Wet days—Average number	2	1	3	4	9	11	13	11	7	5	2	2	70
Dalwallinu (1,099 feet)†—													
Rainfall—Average (points)	55	72	96	83	157	274	231	188	104	73	51	38	1,422
Highest (points)	267	409	361	353	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	161	217	373	158	234	79	112	206	158	373
Wet days—Average number	2	1	3	4	8	11	12	10	7	6	3	2	69
Northam (490 feet)†—													
Rainfall—Average (points)	33	39	83	83	225	322	340	257	151	100	39	39	1,711
Highest (points)	212	747	744	304	555	916	871	669	506	395	162	259	2,798
Lowest (points)	0	0	0	0	4	40	77	26	10	0	0	0	830
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	11	14	16	14	10	8	4	3	92
Merredin (1,046 feet)†—													
Rainfall—Average (points)	40	46	93	95	155	202	212	156	105	88	45	63	1,300
Highest (points)	220	315	472	447	462	516	484	340	337	296	233	265	1,964
Lowest (points)	0	0	0	0	5	23	46	24	0	7	0	0	512
Highest one day (points)	118	260	325	235	194	160	181	132	176	105	144	191	325
Wet days—Average number	2	3	3	6	8	12	15	11	8	5	3	3	79
Narrogin (1,114 feet)†—													
Rainfall—Average (points)	38	55	91	111	265	343	369	292	209	140	54	48	2,015
Highest (points)	167	934	502	318	599	1,182	957	729	478	483	212	271	2,917
Lowest (points)	0	0	0	0	38	99	142	68	26	6	0	0	1,056
Highest one day (points)	167	454	450	158	269	280	320	165	144	139	81	196	454
Wet days—Average number	2	3	4	5	11	13	15	14	11	9	4	3	94
Lake Grace (946 feet)†—													
Rainfall—Average (points)	67	52	131	100	193	208	208	180	122	112	55	55	1,483
Highest (points)	401	843	467	236	456	587	504	411	303	307	386	189	2,348
Lowest (points)	0	0	0	2	8	67	50	36	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	2	2	3	6	9	15	16	13	10	6	4	4	90
Kalanning (1,016 feet)†—													
Rainfall—Average (points)	43	51	105	118	246	297	306	248	187	153	64	64	1,882
Highest (points)	341	884	525	638	583	721	685	1,199	384	450	355	293	3,077
Lowest (points)	0	0	0	2	28	100	86	71	14	17	0	0	1,072
Highest one day (points)	253	495	271	417	233	276	182	117	127	198	165	216	495
Wet days—Average number	4	3	5	6	13	16	18	16	13	10	5	4	113

† 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
OTHER INLAND													
<i>Halls Creek</i> (1,225 feet)—													
Rainfall—Average (points)	554	433	292	69	37	26	25	9	16	52	137	316	1,966
Highest (points)	2,274	1,467	1,451	646	255	343	316	221	207	408	789	905	4,204
Lowest (points)	54	11	0	0	0	0	0	0	0	0	0	29	854
Highest one day (points)	650	510	685	578	241	143	129	205	123	142	198	264	685
Wet days—Average number	12	10	7	2	1	1	1	1	1	3	6	9	54
<i>Marble Bar</i> (595 feet)—													
Rainfall—Average (points)	299	267	226	94	71	110	49	20	3	21	38	143	1,341
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	297
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	5	2	2	2	1	1	0	0	1	4	31
<i>Mundivindi</i> (1,840 feet)—													
Rainfall—Average (points)	183	162	235	79	77	78	25	30	16	48	44	125	1,102
Highest (points)	814	592	836	543	477	445	276	209	240	368	280	628	3,211
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	103
Highest one day (points)	274	278	688	223	219	159	168	152	135	210	227	450	688
Wet days—Average number	6	6	5	2	4	2	3	1	1	1	2	3	36
<i>Meekatharra</i> (1,676 feet)—													
Rainfall—Average (points)	146	90	156	94	112	95	64	59	16	17	29	57	935
Highest (points)	841	526	608	542	514	615	168	304	143	101	371	411	2,084
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	191
Highest one day (points)	335	330	405	431	303	220	134	153	132	84	322	270	431
Wet days—Average number	4	3	5	3	4	4	4	3	1	1	2	2	36
<i>Kalgoorlie</i> (1,247 feet)—													
Rainfall—Average (points)	63	68	114	86	111	110	85	95	44	71	55	67	969
Highest (points)	802	1,238	655	404	341	467	241	318	386	314	276	257	1,804
Lowest (points)	0	0	0	0	0	0	8	0	0	0	0	0	507
Highest one day (points)	379	700	279	282	315	225	147	137	174	246	254	199	700
Wet days—Average number	2	2	3	3	5	6	8	6	3	3	3	2	46
<i>Loongana</i> (603 feet)—													
Rainfall—Average (points)	58	48	68	53	76	57	35	66	25	59	40	66	651
Highest (points)	553	409	228	334	366	611	137	186	165	247	159	340	1,563
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	232
Highest one day (points)	277	288	154	103	127	260	90	170	154	137	103	265	288
Wet days—Average number	2	2	2	2	3	3	3	2	2	2	3	2	28

†Height above mean sea-level.

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 41 shows total annual evaporation throughout the State.

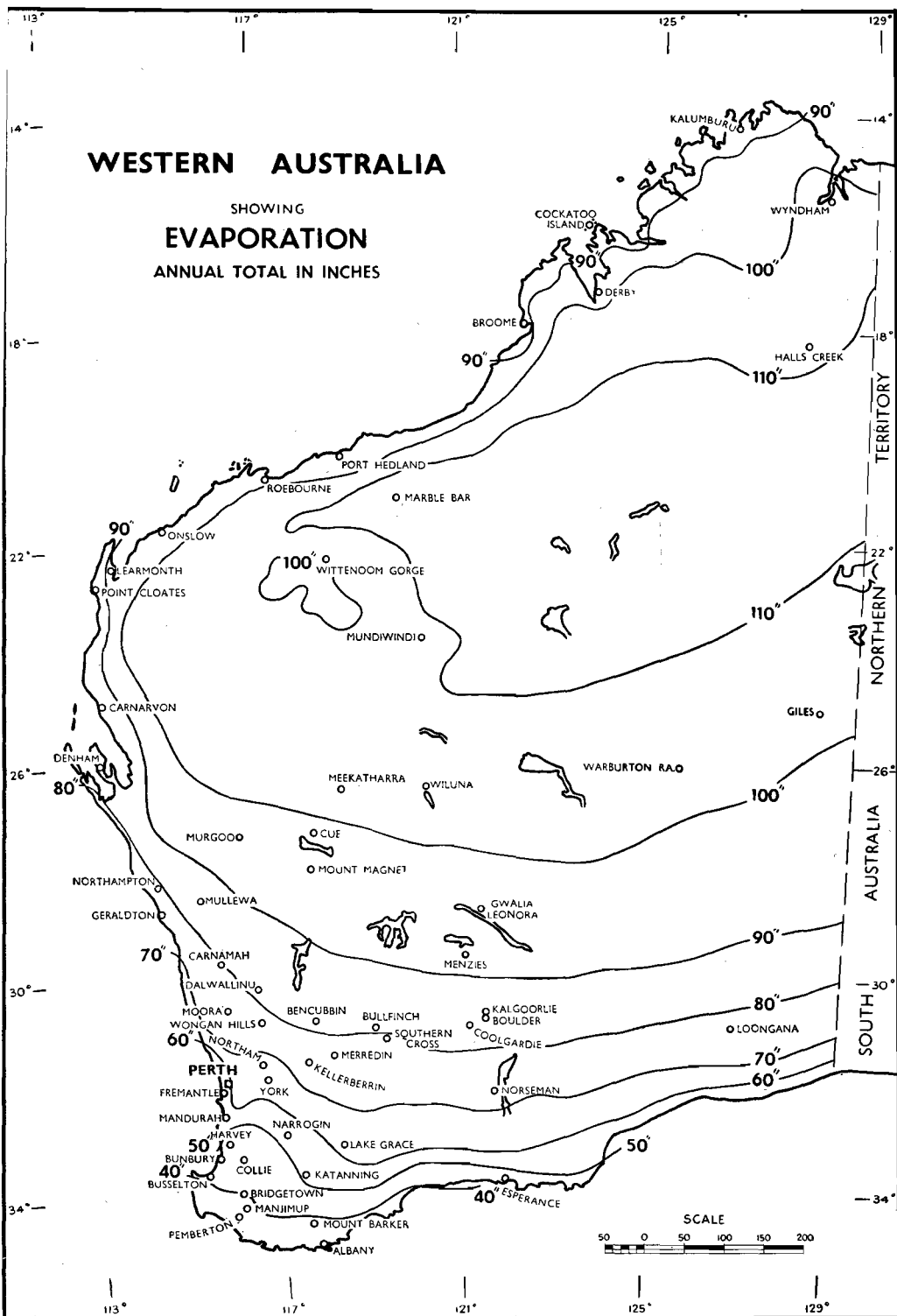
GROWING SEASON

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.

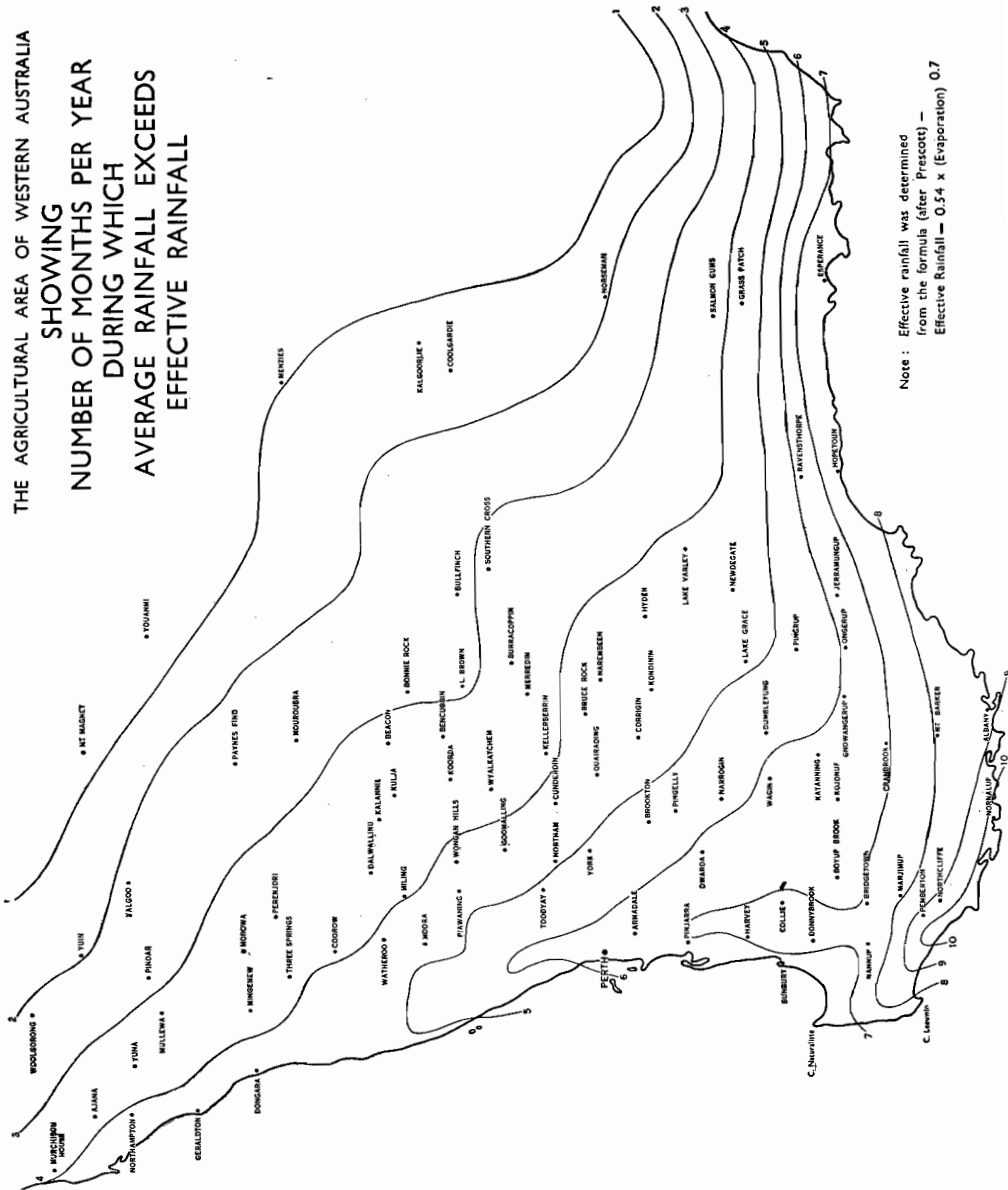
That part of the year during which rainfall is greater than this minimum amount (the "effective rainfall"), may be taken as the *growing season*. The map on page 42 shows the length of this season in the agricultural area of the State. It is based on average monthly rainfall and effective rainfall, the 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).

WESTERN AUSTRALIA

SHOWING
EVAPORATION
ANNUAL TOTAL IN INCHES



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



TEMPERATURE

The hottest month in Western Australia is November in the Kimberley, December a little 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 44-46 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 47 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													
Wyndham—													
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	111.6	112.0	113.5
Lowest min., °F.	67.0	62.0	65.0	63.0	52.0	50.0	48.0	47.0	60.1	65.0	62.0	65.0	47.0
Number of days 90° and over	29.2	25.6	29.1	26.3	26.2	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
Broome—													
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	111.2	112.7	112.7
Lowest min., °F.	65.8	59.0	55.0	54.0	45.1	43.4	40.2	40.6	49.0	52.8	58.5	63.0	40.2
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
Port Hedland—													
Temperature :													
Mean max., °F.	94.3	94.6	95.3	93.3	86.1	80.2	79.3	82.3	86.9	89.7	93.2	94.2	89.1
Mean min., °F.	79.4	79.1	77.6	71.2	63.7	57.9	55.6	58.4	62.5	68.1	73.5	77.5	68.7
Highest max., °F.	117.0	115.7	112.1	113.0	101.0	94.0	93.7	96.2	102.0	110.0	114.0	118.2	118.2
Lowest min., °F.	60.0	61.4	63.3	51.2	44.6	40.4	39.4	38.7	45.0	53.0	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	8.8	6.1	13.7	4.4	0.0	0.0	0.0	0.0	0.3	4.3	7.4	10.7	55.7
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
Onslow—													
Temperature :													
Mean max., °F.	96.4	96.4	95.4	91.9	84.3	78.0	77.3	80.0	85.1	88.9	93.5	95.4	88.5
Mean min., °F.	74.2	74.7	73.5	67.1	60.3	54.5	51.5	53.5	56.8	61.0	66.3	70.5	63.7
Highest max., °F.	117.8	119.0	115.6	110.9	101.0	90.0	90.2	95.6	101.0	112.2	115.0	117.5	119.0
Lowest min., °F.	60.5	61.9	58.4	50.0	42.0	37.3	37.5	40.0	41.9	45.4	50.0	49.0	37.3
Number of days 90° and over	25.8	24.1	27.8	16.7	2.8	0.1	0.0	0.8	5.2	13.3	19.1	25.2	160.9
Number of days 100° and over	9.1	7.0	8.8	1.5	0.0	0.0	0.0	0.0	0.2	2.0	5.7	9.8	44.1
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carnarvon—													
Temperature :													
Mean max., °F.	87.2	88.1	86.9	84.4	78.3	73.7	71.7	73.1	75.4	77.4	81.4	84.2	80.2
Mean min., °F.	72.1	72.4	71.6	65.8	58.8	54.0	51.6	53.4	57.2	61.1	65.8	69.2	62.7
Highest max., °F.	117.8	115.2	112.8	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
Geraldton—													
Temperature :													
Mean max., °F.	84.5	85.2	83.6	80.5	74.2	69.7	67.7	68.8	71.4	73.6	78.5	82.0	76.6
Mean min., °F.	66.3	66.5	65.0	60.9	56.9	53.8	51.7	52.1	53.0	55.4	60.0	63.4	58.7
Highest max., °F.	117.9	115.5	110.8	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	38.6	33.5	33.4	35.1	35.3	37.9	42.0	45.8	33.4
Number of days 90° and over	8.2	9.8	9.8	3.9	1.1	0.0	0.0	0.0	0.1	1.3	4.9	5.0	44.1
Number of days 100° and over	3.4	3.5	2.1	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.9	1.8	12.1
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.4
Perth (Observatory)—													
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	95.3	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	47.6	34.2
Number of days 90° and over	8.8	8.2	5.5	1.2	0.0	0.0	0.0	0.0	0.0	0.3	2.2	5.6	31.8
Number of days 100° and over	1.6	1.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8	5.0
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Bunbury—													
Temperature :													
Mean max., °F.	82.1	81.9	78.9	74.4	68.1	64.1	62.5	63.1	65.5	68.1	74.4	78.9	71.8
Mean min., °F.	59.1	59.1	57.1	53.6	50.8	48.6	47.1	47.4	48.8	50.4	54.0	56.8	52.7
Highest max., °F.	106.2	104.2	99.0	93.0	83.7	77.2	72.2	75.5	83.8	92.5	99.8	101.5	106.2
Lowest min., °F.	43.2	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	0.8
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

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>													
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
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.	114.0	114.0	111.0	102.0	91.0	82.0	82.0	85.0	95.1	104.0	106.4	111.0	114.0
Lowest min., °F.	41.1	48.0	44.0	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	13.7	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	75.7
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	87.8	99.1	101.4	111.6	112.0
Lowest min., °F.	47.9	49.3	45.4	37.1	35.5	33.0	32.2	31.5	32.3	37.3	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	86.4	76.0	82.6	93.1	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
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.	111.5	110.8	107.5	97.0	87.0	77.0	71.8	79.0	86.0	98.5	103.5	109.0	111.5
Lowest min., °F.	38.0	37.0	30.9	28.0	26.0	25.0	24.0	25.0	27.0	28.0	30.5	35.0	24.0
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
Katanning—													
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													
Halls Creek—													
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	68.5	74.2	75.5	64.0
Highest max., °F.	111.8	110.8	107.6	103.8	99.0	95.0	93.2	100.0	104.3	110.8	110.8	111.6	111.8
Lowest min., °F.	60.6	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
Marble Bar—													
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	113.9	117.0	119.0	120.5
Lowest min., °F.	46.0	57.9	59.6	52.0	42.0	34.0	37.5	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

TEMPERATURES AT REPRESENTATIVE CLIMATOLOGICAL STATIONS—*continued*

Reporting Station and Characteristic	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
OTHER INLAND—<i>continued</i>													
<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	99.2	99.0	105.2	110.0	112.0	112.2
Lowest min., °F.	57.0	55.0	49.0	39.0	28.9	24.0	22.4	26.0	29.0	37.9	46.0	53.0	22.4
Number of days 90° and over	29.3	25.3	25.4	11.6	0.6	0.0	0.0	0.4	5.6	15.9	25.3	29.1	168.5
Number of days 100° and over	20.3	15.7	10.2	0.2	0.0	0.0	0.0	0.0	0.0	1.3	9.8	19.9	77.4
Number of days 36° and under	0.0	0.0	0.0	0.0	0.6	5.6	7.3	3.7	0.2	0.0	0.0	0.0	17.4
<i>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	46.0	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>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.	111.0	110.2	105.4	98.0	86.8	76.0	73.0	79.0	86.6	96.4	101.8	106.2	111.0
Lowest min., °F.	37.7	35.2	32.3	29.6	28.0	24.8	25.0	26.2	28.0	31.0	32.6	35.0	24.8
Number of days 90° and over	13.0	11.3	8.0	1.2	0.0	0.0	0.0	0.0	0.0	0.3	2.1	5.7	41.6
Number of days 100° and over	2.2	1.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.1	5.5
Number of days 36° and under	0.0	0.0	0.1	0.8	5.3	7.8	7.9	6.6	5.9	1.8	0.3	0.1	36.6
<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.	106.0	105.0	102.0	92.0	81.0	72.0	71.0	76.4	82.0	88.0	98.2	100.0	106.0
Lowest min., °F.	42.0	40.0	40.0	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
<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	35.7	32.0	29.5	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	84.0	85.0	93.0	102.7	107.0	112.2	114.3	118.0
Lowest min., °F.	42.0	41.0	42.9	37.0	32.0	29.2	27.8	29.6	31.6	33.2	36.4	41.2	27.8
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

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 47.

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
	feet	inches	inches	%	%	°F.	°F.
Bunbury	17	29.96	5.01	77	70	57.0	67.5
Sydney, New South Wales	138	21.53	23.27	66	69	58.2	69.3
Perth	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
Mundiwindi	1,840	2.74	8.28	39	30	63.0	82.4
Longreach, Queensland	612	3.92	11.62	50	50	65.7	82.3
Onslow	14	4.45	4.88	55	56	69.3	82.9
Mackay, Queensland	35	11.49	51.67	78	80	66.8	77.7
Port Hedland	25	3.33	9.23	50	59	72.6	85.3
Townsville, Queensland	73	5.49	37.57	66	73	71.7	80.3
Derby	53	1.67	23.78	51	65	76.9	86.5
Innisfail, Queensland	22	35.88	103.27	85	85	69.7	78.1
Wyndham	23	1.13	25.51	43	59	80.9	88.0
Cooktown, Queensland	17	8.08	59.79	76	78	75.1	81.1
Albany	41	28.75	8.87	76	73	55.8	64.3
Adelaide, South Australia	140	14.42	6.67	64	45	56.5	69.6
Swan Hill, Victoria	230	7.88	5.21	70	54	53.4	69.8
Canberra, Australian Capital Territory	1,837	11.85	11.45	72	61	47.5	64.0

(a) Saturation = 100%.

CLIMATOLOGICAL DATA—PERTH OBSERVATORY

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

Month	Wind				Temperature		Relative Humidity (Saturation = 100%)		Sun- shine	Cloud. (Proportion of Sky Covered)	Evapora- tion		
	Prevalling Direction		Speed		Highest in Sun	Lowest Terrestrial	Mean	At 3 p.m.	Mean Daily Amount	Mean of readings at 9 a.m., 3 p.m. and 9 p.m.	Mean Amount		
			Average	High- est									
Number of years of observations	30 (a)		30 (a)	45	59	59	30 (a)		30 (a)	30 (a)	30 (a)		
January	E.	S.S.W.	m.p.h.	m.p.h.	°F.	Date	°F.	Date	%	%	hours	%	inches
February	E.N.E.	S.S.W.	10.9	48	177.3	22/1914	39.5	20/1925	53	43	10.4	29	10.37
March	E.	S.S.W.	10.7	54	173.7	4/1934	39.8	1/1913	52	43	9.8	31	8.63
April	E.N.E.	S.S.W.	10.1	66	167.0	19/1918	36.7	8/1903	57	46	8.8	35	7.52
May	N.E.	S.S.W.	8.5	63	157.0	8/1916	31.0	20/1914	60	48	7.5	42	4.62
June	N.	W.S.W.	8.4	68	146.0	4/1925	25.3	11/1914	68	58	5.7	54	2.80
July	N.	N.W.	8.4	80	135.5	9/1914	25.9	27/1946	72	63	4.8	59	1.82
August	N.N.E.	W.	8.8	77	133.2	13/1915	25.1	30/1920	73	63	5.4	56	1.76
September	N.	W.N.W.	9.4	78	145.1	29/1921	26.7	24/1935	71	60	6.0	56	2.37
October	E.N.E.	S.S.W.	9.4	68	153.6	29/1916	27.2	(b)	64	57	7.2	49	3.44
November	S.E.	S.W.	10.0	65	157.5	31/1936	29.8	16/1931	64	54	8.1	48	5.38
December	E.	S.W.	10.7	63	167.0	30/1925	35.0	3/1947	57	47	9.6	39	7.65
Year—	E.	S.S.W.	11.0	64	168.8	11/1927	38.0	29/1957	54	46	10.4	32	9.69
Average	E.	S.S.W.	9.7	.....	.....	.....	.....	.....	62	52	7.8	44	.....
Extremes .....	.....	.....	.....	80	177.3	22/1/14	25.1	30/7/20	.....	.....	.....	.....	.....
Total .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	66.05

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

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

CHAPTER II—continued

PART 3—THE VEGETATION OF WESTERN AUSTRALIA

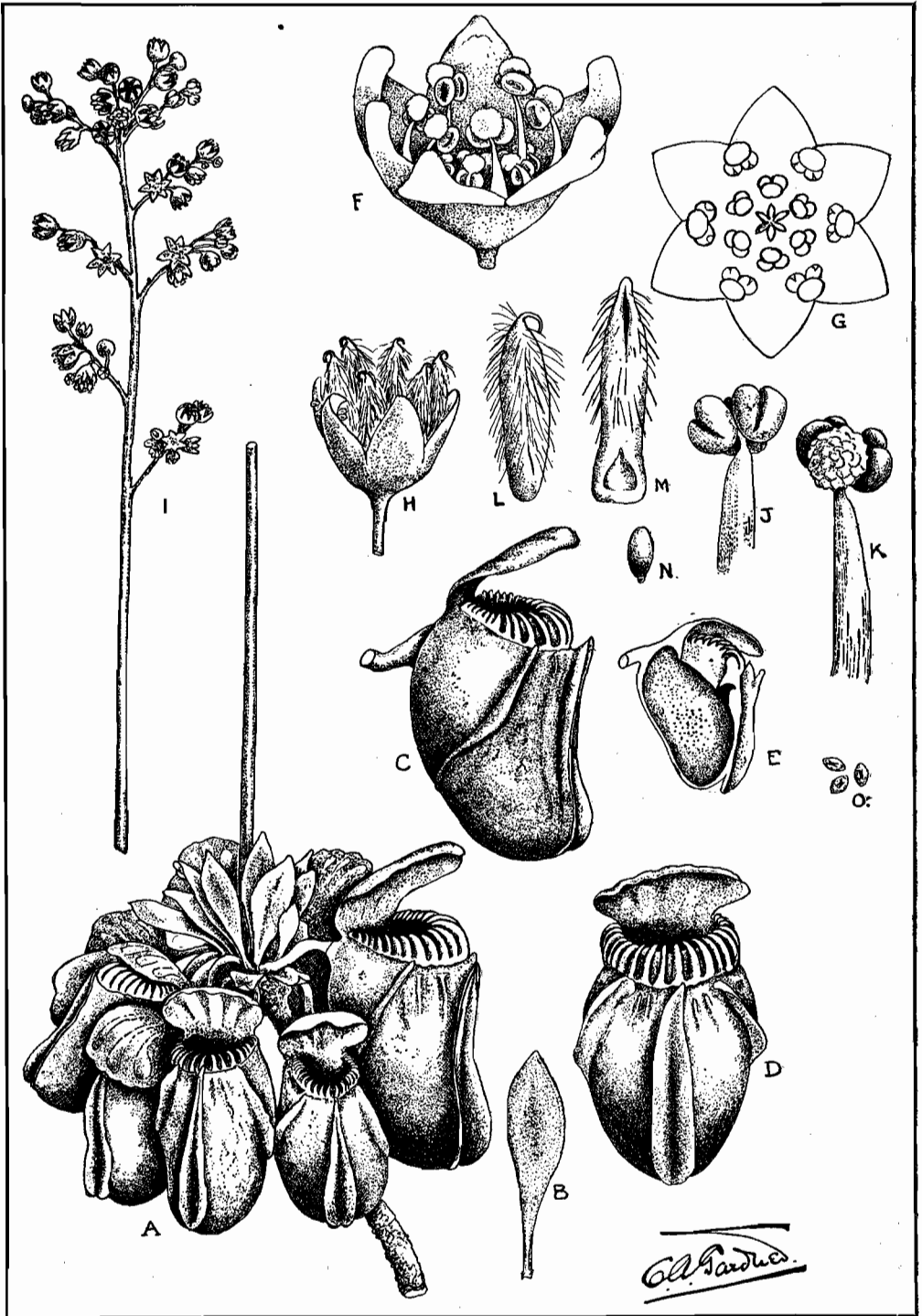
(Contributed by C. A. Gardner, Government Botanist)

The flora of Western Australia comprises some 6,800 species, excluding the Cryptogams (seaweeds, mosses, lichens and liverworts) for which figures are not available, although the seaweeds number over 400 species.

As a floral entity, one of the chief features of interest in the vegetation is the high degree of endemism, that is, of plants which are entirely restricted to the area. The percentage is remarkably high and is perhaps the highest in the world, or exceeded only by that of the Cape Province of South Africa. It is most highly developed in what we call the South-West Province, an area extending from Shark Bay in the north to Israelite Bay in the south. In this area the endemic plants number over seventy per cent. of the total within its boundaries. The South-West Province, which we may describe as the "cradle of the Australian flora", is perhaps the oldest portion of the continent or, shall we say, that part which has been for the longest period without inundation. As such it has enjoyed an immeasurably long period of isolation, separated on the one hand from South America and South Africa by a vast oceanic expanse and on the other hand from eastern Australia by what was formerly a water barrier but is now an arid tract of broad extent serving as a deterrent, if not as a complete barrier, to plant migration. It has thus undergone a very long period of separation from outside influences during which it has, unaffected by external contacts and consequent invasions, developed in accordance with a peaceful evolution and has become highly specialized in relation to its own peculiar environment. In speaking of this endemism it is important to remember that this peculiarity is not to be found expressed in the larger groups, such as families, but rather in the smaller groups, such as tribes, or sections of families, and in genera. In fact there is only one truly endemic family, that of the pitcher plant (*Cephalotus*). On the other hand, certain tribes, such as those including the grass trees, the kangaroo paws and their relatives the bugle and cotton flowers, the featherflowers and wax plants and their kind, to mention a few, are entirely or almost entirely Western Australian. Again, among other groups we find a particularly rich development in Western Australia, which suggests an origin in this part of the world. Some of them have migrated to the north as far as the Kimberley district, but with gaps in their continuity, while others are to be found in eastern Australia, examples being many of the pea-flowered family, and the sheoaks (*Casuarina*).

When we consider external relationships we are led as far afield as the American, African and Asian continents. In general we find a very close link with South (Andine or Antarctic) America in the Proteaceae, in the Trigger plant family (Stylidiaceae), the heaths (Epacridaceae) and a few smaller but not less important groups, while relationships with Africa are expressed principally in another group of the Proteaceae (nut-fruited), in the Restionaceae, the Sterculiaceae, and the Bombacaceae, especially in the genus *Adansonia*, to which the Baobab belongs. The Asian links are, as one would expect, most common in the north, where the flora takes on an aspect which is rich in Malayan forms, and many species are common to both countries. Looking further back in space of time, we find certain less well-defined links which, because of subsequent development in this country, are not so well marked. I would refer here to the Myrtle family (Myrtaceae) which is so abundantly developed here, but which I have little doubt in attributing to an Asian or Euro-Asian origin. This large family, so richly developed in Australia, is divided into three sections. Those with succulent fruits, such as *Eugenia*, are better represented abroad. Those with dry fruits, such as *Eucalyptus* and the tea trees, have reached a high degree of development in Australia, particularly in south-western Australia. In the featherflower and wax plant tribe (Chamaelaucieae) we have the completely Australian ultimate development of a tribe which has reached its peak in south-western Australia. Again in the genus *Acacia*, which is so widely spread over the warmer regions of the Earth, we have in Australia a development in which the adult foliage, normally pinnate (or feathery), is reduced to a simple leaf-stalk which has developed into a leaflike organ. Here again, the greatest diversity in such forms is found in south-western Australia.

In Western Australia the families represented by the largest numbers of species are the Myrtaceae (Tea tree, *Eucalyptus*, etc.), the Proteaceae (*Banksia*, etc.), with several endemic genera, the Papilionaceae (pea-flowered plants), the Mimosaceae (*Acacia*, etc.), the Goodeniaceae (Leschenaultia family) and the Compositae (daisy family). On the other hand, there are families which although not restricted to the territory have attained a high degree of development and in which by far the greatest number



THE PITCHER PLANT (*Cephalotus follicularis*)

A, B, C, D and E — Plant and details of Leaves (pitchers)
 F to M — Details of Floral Structure. N and O — Seeds.

of species occur here and thus may be regarded as essentially Australian. Such are the Trigger plants (Stylidiaceae), the fibre rushes (Restionaceae), the Myoporaceae or desert pride plants with some particularly showy species, and the Pittosporaceae, as well as certain sections or tribes of the Lily and Amaryllis families, especially the primitive grass trees and the Kangaroo paws and their relatives, those woolly members of the Verbenaceae family which we call lambs' tails, and distinctive sections of the Proteaceae and Myrtaceae which have reached a high stage of development here.

Of species claiming special attention we have, in the first place, the Pitcher plant (*Cephalotus follicularis*), placed now by itself in its own family (Cephalotaceae) related to the house leeks, but with leaves simulating those of the Asian and tropical *Nepenthes*. This remarkable plant grows on the edges of swamps near the south coast. It has tufts of stalked modified leaves which resemble jugs with permanently open lids, external girders which with their hairs act as ladders for the ascent of small animals and insects, a remarkable palisade of incurved marginal spikes and an internal cornice, all of which form effective barriers against the escape of the victim. Inside there are glands which secrete a digestive fluid powerful enough to dissolve all but the most hardened parts of such insects as ants and beetles. The translucent lid, while serving as a skylight, also prevents rain from entering and diluting the lethal fluid. Then there are the bladderworts belonging to *Polypompholyx* and *Utricularia*, which have minute modified leaves below the soil level, which catch minute organisms that swim between the soil particles. These act in a similar manner, but have traps with inward opening lids which close when a visitor enters them. Plants which imprison insects on leaves covered with sticky gland-bearing hairs are the sundews of the genus *Drosera*, in which Western Australia is particularly rich. These plants may be dwarfs with a rosette of leaves on the ground, or they may climb to a height of over three feet. Some have large coloured blooms of delicate texture, but the common colour is white. *Rhizanthella* is the name given to a genus of the Orchid family with one species, *R. Gardneri*. This remarkable plant has its flowers clustered in a small head and surrounded by large petal-like bracts, somewhat resembling a daisy with long rays. It is leafless and lives entirely below the soil, there being no superficial evidence of the plant whatever until it blooms, when the rim of the large cup comes to the surface leaving the flowers below the soil level in the base of this cup or funnel. No mention of the more peculiar plants of Western Australia would be complete without reference to that remarkable tree which comes into bloom at the Christmas season, often so heavily laden with rich orange flowers that the foliage is obscured. It is known as the "Christmas tree" (*Nuytsia floribunda*), and belongs to the Mistletoe family (Loranthaceae). Among its peculiarities we may mention its habit of growth with branches turning outwards and downwards, its parasitism, its anomalous fruit and its wood structure. Like its relatives it is a parasite, feeding from other trees and shrubs, the roots of which it surrounds with a fleshy white ring, drawing the necessary nutriment from them. Unlike normal trees it possesses several rings of cambial tissue. It differs from all other members of the mistletoe family in its fruit which, instead of being a berry, is a dry three-winged fruit and the seeds possess six seed-leaves in place of the normal number of two. The plant seems to grow very rarely from seed under natural conditions but occurs in groups of individuals which are, at least when young, connected to older trees by means of underground stems or roots, some of very considerable length. The tree does not normally flower every year except to a very limited extent, but after a fire it blossoms profusely.

Is the tree pyrophilous? What part does fire play in the native flora? When we consider the wealth of hard-seeded legumes that appear after a fire; when we consider those large and woody-fruited trees that only shed their seeds after dying, or after fire; when we consider the immense age of some of the woody-stocked mallee Eucalypts most of which grow in thicket or scrubby country subject periodically to fires and which so readily respond to burning, a feature not exhibited by trees proper, and then realize that many of these also have tree forms in more open formations, we might well ask the questions.

SPECIAL FEATURES OF THE FLORA

The first European to observe Western Australian plants, William Dampier, remarked upon the prevalence of blue as a floral pigment. This observation may be generally true, for every shade of this colour is represented in the flora, varying from the intense ultramarine of *Dampiera* to the rich gentian blue of *Leschenaultia biloba*. It is found commonly in the family Goodeniaceae, in *Lobelia*, the Pittosporaceae, Boraginaceae and Iridaceae, but is entirely absent in some families, such as the Myrtaceae. Sometimes in one genus alone we get all the primary colours and, in this connexion, mention should be made of *Leschenaultia*, which has the following:—species of rich shades of blue, typified by the common blue *Leschenaultia biloba*; the intense shades of scarlet and crimson as typified by the prostrate

L. formosa, or that amazingly vivid blood-red *Gilia*-like species, *L. hirsuta*, confined to the Hill River ; yellow species such as the coastal *L. linarioides*, or that largest flowered of all *Leschenaultias*, *L. macrantha* which inhabits the districts between Mullewa and Pindar on the one hand, and Morawa on the other, and has blooms so compactly arranged that the whole plant resembles a yellow cushion. But, just as the blue forms tend to produce white forms in sandy soil, so do the yellow forms tend to produce reddish flowers in soils in which laterite occurs. Finally in the genus we have the intense orange-flowered *L. superba* from Mount Barren and the blue and green *L. acutiloba* from the moist places of the south coastal districts.

What is true of *Leschenaultia* is also true of many other genera, but nowhere do these colours occur as richly as in *Leschenaultia*, although in both Myrtaceae and Papilionaceae we have many charmingly coloured blossoms, in the former family mainly scarlet, orange and yellow, and in the latter, yellow, blue and violet.

While it is true to say that our flowers are notable for their colours, it is also true that they are in general small in size. Exceptions are members of the Hibiscus family (Bombacaceae), typified by *Hibiscus*, the northern Baobab, the tropical Cotton trees and a few others. Otherwise size is achieved by condensed inflorescence (clusters or spikes of flowers in close proximity) while in a number of species, especially in Myrtaceae, the coloured and attractive features are not the petals, but the stamens as, for example, in the tea trees and bottlebrushes. The daisy family (Compositae) is generally regarded as the most highly developed family of flowering plants amongst the Dicotyledons. In this family a characteristic is that a cluster of flowers is so arranged as to simulate a single flower. For example, the sunflower consists of numerous central bisexual florets and a number of petal-like female florets external to these. In the everlasting the "petals" are not florets but modified leaves, or "bracts." This type of inflorescence constitutes a marked floral economy, and we find in the Western Australian flora numerous examples of this exhibited by plants much lower in the scale than the daisy. What is more remarkable, these often conform to a general plan, sometimes so closely that plants of widely separated families are thus brought together. Examples are the Qualup Bell with its related species known as Banjine or Rice-flowers, belonging to the Daphne family ; the strange *Siegfreidia* of the Boxthorn family from Starvation Boat Harbour ; the handsome Mountain Bells of the Stirling Range and Mount Barren, together with the "Swamp daisy" of the south coast, all of the Myrtle family, and the Native roses (*Diplolaena*) of the Boronia family. These are all typical examples of "flowers" in which the coloured bracts (modified leaves) resemble petals, while the relatively inconspicuous flowers themselves are crowded into a central cluster more or less concealed by the bracts, and possess very small corollas or petals but often prominent stamens. This is, as I have said, a highly developed economy and illustrates but one feature of a much specialized flora. It reaches its climax, as one would expect, in the most highly specialized family, the Compositae, or daisy family. Here indeed, in addition to the aggregation of flowers into a single daisy-like flower-head, we find several small flower-heads closely compacted into larger composite heads with or without external petal-like rays or bracts. This type is almost entirely restricted to south-western Australia and illustrates once again a highly specialized flora in complete harmony with its environment.

There are many other peculiarities which are beyond the scope of this article, but mention may be made of a general design in plant architecture whereby the drying action of wind is reduced to a minimum. This is achieved by a reduction in leaf-form, the leaf being reduced to a slender or needle-like organ, or by the modification of stems to function as leaves or, typically in many Wattles (*Acacia* spp.) where true leaves are only found on seedlings in their early stages, by the adult foliage being reduced to a flattened leaf-stalk as in the Black Wattle and the Jam tree. These are all expressions of one important fact, namely, that everywhere in Western Australia, with the exception of the lower South-West (the karri forest and the southern portions of the jarrah forest), the vegetation has to endure about eight months of the year which are entirely, or almost entirely, without rain and it is this very fact that accounts for what people call the "spike" type of growth and leaf-rigidity. It is also probably the reason for the brilliance of blossoms, and it does account for the prevalence of shrubs and trees rather than herbaceous perennials. Moreover, it probably accounts for the poor development of natural grasses and complete absence of natural grasslands in south-western Australia.

VEGETATION PROVINCES

The vegetation of Western Australia conforms to three natural regions which are termed "provinces." They are governed by temperature and the amounts and incidence of the seasonal rainfall, and have been termed respectively, the *Northern*, the *Eremean* and the *South-West* Provinces.

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 mean maximum temperature of 90° F. or over, although during the growing season temperatures may be even higher. The season from the commencement of April until the end of October is relatively rainless.

The *South-West Province* extends from the southern end of Shark Bay in the north to Israelite Bay in the south. On the 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 Grasspatch. It is pre-eminently the winter rainfall province which receives its maximum rainfall from May to August inclusive and, with the exception of the southern portion, experiences a seasonal drought extending from November to March or April. The average maximum temperature is less than 80°F. with much lower temperatures during the growing season.

The *Ereman Province* lies between the Northern and the South-West Provinces, and occupies approximately two-thirds of the total area of the State of Western Australia. It is intermediate in character between the other two; its rainfall is received either from extensions of summer rainfall 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 scrub land, with extensive tracts of sand heath. Mulga and spinifex are absent and the various salt bushes either exist as inhabitants of the physiologically dry salt pans, or occur only marginally. There is a distinctive plant architecture among the woody plants in which the effect of the dry season is apparent.

The *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

Eremea) while the species of the granite rocks owe their existence to an improvement in the water content of the soil in addition to the shelter and shade provided by declivities. In the northern portions of the Province we find, where watercourses provide permanent pools and moister conditions than elsewhere, an intrusion of the Northern Element, especially in the grasses and the herbaceous flora generally. Savannah and steppe occur in the north, Mulga and spinifex steppe occupy the middle areas, while in the south we have woodland formations, with some degree of heath development. The salt soils carry distinctive associations of salt-tolerant plants in which salt bushes are predominant, and this same formation occurs on the limestone soils of the Nullarbor Plain. Forests are absent.

VEGETATION FORMATIONS

PREDOMINANTLY WOODY FORMATIONS

Forest formations

The Karri forest

The karri forest occurs in the hilly country of the extreme South-West where the annual rainfall is in excess of 40 inches, but of greater importance is the fact that summer precipitations are not infrequent, even if light, and usually in excess of 12 inches. The forest occurs in certain light types of soil, mostly on the hillsides. The karri tree (*Eucalyptus diversicolor*) attains a height of nearly 300 feet. It has a clean smooth bark which in adult trees covers a trunk of over 150 feet in height and the branches are widely spreading and somewhat open, with leaves more horizontally placed than is the case with other southern *Eucalyptus* trees. The undergrowth is characterized by the possession of a storied series of smaller trees, shrubs and undershrubs. The understorey of trees is comprised mainly of the Karri Sheoak (*Casuarina decussata*), the "Bull Banksia" (*Banksia grandis*) together with Peppermint (*Agonis flexuosa*), Warren River Cedar (*Agonis juniperina*) and *Banksia verticillata*, known as "River Banksia." Among the taller shrubs the commonest are the Karri Wattle (*Acacia pentadenia*), Hazel (*Trymalium spathulatum*), *Chorilaena hirsuta*, the violet-flowered *Hovea elliptica*, *Crowea* and species of *Boronia*. Bracken is not uncommon. The undergrowth consists mainly of small shrubs and undershrubs, principally *Tremandra*, *Boronia* and *Dampiera*, while the wetter localities carry dense groves of willow (*Callistachys lanceolata*) or impenetrable masses of rushes and sedges of considerable size. Around the lower reaches of the Frankland River occur the two species of Tingle trees, the red tingle (*Eucalyptus Jacksonii*) and the yellow tingle (*Eucalyptus Guilfoylei*), both tall trees, the former with a comparatively stout-based trunk with a basal girth of up to 60 feet or more, but soon tapering to a much smaller girth. Within its climatic area the karri forest receives its soil requirements from granitoid and gneissic rocks. Marri (*Eucalyptus calophylla*) enters into the forest composition in the sandy soil, while the presence of lateritic soils gives rise to jarrah, which also occurs on the sandy low-lying plains of this area, sometimes associated with blackbutt (*Eucalyptus patens*) and *Eucalyptus Staeri*, all of them rough-barked trees. The only other *Eucalyptus* tree of the area is the bullich (*Eucalyptus megacarpa*) superficially not unlike the karri, but with dull leaves, and usually occurring in swampy places.

The Jarrah forest

Just as the karri forest stands as the most highly developed of the forest formations of the South-West Province, so does the jarrah forest stand by contrast as a dry forest, not so much because of its climatic environment, but rather because of the poor nature of the porous lateritic soil which supplies its requirements in this direction. At the same time it is climatically demarcated, its limitations conforming so exactly to the 30 inch winter isohyet as to be worthy of comment. In considering the forest area, however, it must always be remembered that laterite remains essentially its dominant requirement for, apart from the presence of these trees in certain sandy areas within its boundaries, jarrah (*Eucalyptus marginata*) is noticeably absent from the clay and granitic soils, especially those richer soils of the eroded valleys where wandoo (*Eucalyptus redunca* var. *elata*) becomes important. Jarrah also grows on the sandy coastal plain, sometimes attaining considerable size, but not in sufficient density to be termed a forest. Its actual northern limit, where it is reduced to a shrub, is on Mount Lesueur, near the Hill River. The trees and shrubs of the jarrah forest are all hard-leaved, or at least leathery in texture, but softer-leaved plants often occur under the shelter of the larger shrubs. Like the karri forest, the jarrah forest is largely poor in tree species apart from the jarrah itself, but Blackbutt (*Eucalyptus patens*) may be common on the banks of streams, and Marri (*Eucalyptus calophylla*) is almost always present where deep free sandy soils occur. The powder-barked wandoo (*Eucalyptus accedens*) and the true wandoo occur in clay soils, the former usually associated with stony outcrops. The canopy of the jarrah forest is

relatively light. The smaller species of the understorey are principally *Banksia grandis*, *Persoonia* spp., *Casuarina Fraseriana*, native pear (*Xylomelum occidentale*), *Hakea*, *Dryandra*, *Xanthorrhoea* (Blackboy) and the *Zamia* (*Macrozamia Reidlei*), with numerous smaller shrubs which vary in species according to soil and locality.

The Wandoo forest

There are few stands of pure forest of the wandoo tree (*Eucalyptus redunca* var. *elata*), but under forest conditions it develops into a tree of over 100 feet in height and always requires more open spacing than the other forest trees, except perhaps the tuart. As previously indicated, the wandoo formation dovetails into the jarrah forest wherever a clay soil occurs, especially when overlying granite. The undergrowth differs little from that of the jarrah forest in its essentials, but *Casuarina Fraseriana* and *Persoonia*, for example, are never found here, and there are many more proteaceous plants. The wandoo tree becomes of importance to the east of the jarrah forest where, associated with the Jam tree (*Acacia acuminata*), and with a much reduced shrubby undergrowth, it forms a type of savannah woodland. In this area, too, is the mallet country where on the lateritic hillsides we find two species in association which are much valued for their bark. These are *Eucalyptus astringens* and *Eucalyptus Gardneri*, respectively the brown and blue mallets, which tend to form dense associations with an equally dense thicket-like undergrowth where light is admitted. This environment is also the home of many of the more toxic species of the genera *Gastrolobium* and *Oxylobium*. In this area also, but on low-lying country to the south of Wagin and Dumbleyung, *Eucalyptus occidentalis* occurs. This tree, the swamp yate or Moitch of the natives, shows a preference for low-lying land subject to winter inundation. Like the wandoo formation of the area it is poor in shrubby undergrowth, and has characteristically "cushion" shrubs.

The Tuart forest

The Tuart (*Eucalyptus gomphocephala*) extends southwards from near the Hill River to the Vasse district. It is naturally entirely restricted to the limestone formations of the coastal plain, and in the northern part of its range it occurs as a forest or woodland mixed with jarrah and marri, and with a shrubby undergrowth, but always with a number of herbaceous species which increase as the woody plants are removed. To the south it becomes a forest type in which there is little shrubby undergrowth, but a fairly rich development of understorey trees, principally the peppermint (*Agonis flexuosa*), and a number of other plants, notably *Banksia* spp., with an increase in the herbaceous species.

The Woodland formations

While each of the forest formations of the South-West Province possesses its dominant species so that the formation can be called by such trees, the woodland formations are not so distinctively uniform. It is true that a number of trees are associated with certain types of soil as, for example, the salmon gum and gimlet, which seem to be restricted to the heavy clay soils, just as the wandoo here thrives in grey or yellow clays derived from laterite, or the york gum is restricted to the granitic and dioritic soils, but such is the intricate pattern in the mosaic of the general woodland picture that we cannot subdivide it and hence it is known as the sclerophyllous woodland. The principal trees are the salmon gum (*Eucalyptus salmonophloia*), the gimlet (*Eucalyptus salubris*), the red morrel (*Eucalyptus oleosa* var. *longicornis*) and the yorrel (*Eucalyptus gracilis*), the last two showing a preference for soils with limestone nodules, and incidentally soils that tend to become saline after the timber is removed. Other trees of more local distribution however come into the picture, according to district and soils, and the undergrowth also changes. In general, the floor of the sclerophyllous woodland is covered lightly with small shrubs in which *Acacia* and *Grevillea* are common, and shrubby *Eucalyptus* species, known as mallees, occupy smaller areas. These often give way to mallee thickets which in turn lead outwards to thicket associations of *Melaleuca* and ultimately to heath formations. In general, the woodland occupies the depressions or lower levels, the heath occupying the higher levels, and many are the types of gradation between the two.

Such is a very brief description of the sclerophyllous woodland of the South-West Province. The same formation extends into the Ereman Province, and the main differences there are not the tree constituents which remain, and which may even become enriched by the addition of many other tree *Eucalypti*, but rather the undergrowth, which undergoes a gradual change at the boundary between the two Provinces. Important changes are the substitution of species of *Eremophila* for the commoner

Proteaceae, and the presence of a number of plants which are generally regarded as being salt-tolerant, for example, salt bush (*Atriplex* spp.) and blue bush (*Kochia* spp.). The low-lying grey soils carry the salt-enduring vegetation, while the higher levels of the forest floor are relatively deficient in these, and it is principally in the latter that one notices the broom-like effect of the species of *Eremophila* which become more important as the eastern limits of the woodland are reached. Certain species common in the South-West Province persist throughout, while others like the wandoo become smaller and less numerous and still more restricted to the lateritic clays.

Shrub formations

Mallee and Thicket formations

Mallees are those species or forms of *Eucalyptus* which do not develop a single trunk or stem, but possess a large woody stock from which arise a number of stems. The stock may persist for a great number of years, sending up fresh stems from time to time, as, for example, after fires have burned the existing stems. It is a type of growth eminently suited to country which is periodically burned by bush fires. Sometimes the mallee associations assume a pure formation composed of a mixture of species. At other times the *Eucalyptus* species are intermixed with other shrubs, such as tea trees, and form thicket formations. These occur in many types of soils, but usually the formation is best developed on the alluvial soils, while the principal tea tree thickets attain their best development on low-lying sandy soils where water may lie in the winter months.

The inland species of *Acacia* in the main prefer the sandy or lateritic soils for thicket formation. There are, in fact, a number of associations of *Acacia* which form such thickets, among which the "wodjil" is perhaps the best known, principally on account of its shallow lateritic soil. These thickets are mainly developed in the drier marginal areas of the South-West Province and portions of the Ereman Province. Sometimes they are associated with "tamma" (*Casuarina campestris*), but in such cases there is usually an association with granite, and these in turn may lead into the Jam country (*Acacia acuminata*).

The Mulga bush

The Mulga bush is perhaps the largest of all the formations in Western Australia. It extends almost uninterruptedly from the western coast between Onslow and the Wooramel River eastwards into western New South Wales with a southerly bulge about as far as a line through Boolardy, Paynes Find, Mount Jackson and north of Menzies, maintaining its identity, even though few species extend throughout its entire range. The true mulga is *Acacia aneura*, but this is perhaps not the commonest species of the formation, and seems to be restricted to shallow soils. Many species of *Acacia* are included in the general term Mulga, and in addition two other types of *Acacia* have received common names, the "Minniritchie" type with reddish curled bark, and the green-foliaged, needle-leaved species collectively known as "Curara." All of them are of value to the pastoralist, either in their foliage or in their seeds and pods. The true mulgas have a greyish resinous foliage, a colour that dominates the entire formation. The shrubs are rather widely spaced, with smaller shrubs or tussocky grasses between, and a characteristic of the formation is the immediate response following adequate rains, when a rich herbaceous growth appears as if by magic, the plants completing their life cycle in a few weeks. Summer rains call forth a growth of annual grasses. The winter rains, on the other hand, promote a growth of herbage almost entirely deficient in grass, but rich in blue geranium (*Erodium cygnorum*), *Velleia rosea* and a wealth of everlasting. The formation lies entirely within the Ereman Province and occupies the greater part of it.

Sand Heaths

The sand heath formations occur almost anywhere in the South-West Province where free deep sand occurs, and often in gravelly-sandy country also. It varies from an association of dwarf heath-like shrubs to shrubs two or three feet in height, and frequently with a few dwarfed mallees or other larger shrubs. It is relatively poor in annual species. It exhibits such variations that any general attempt to describe it is impossible. The principal areas lie on the country near the coast at both ends of the South-West Province, where the low heath formations are many miles in extent as, for example, between Esperance and Israelite Bay, and between Northampton and the Murchison River. There is also a more or less definite belt of sand heath country to the east of the jarrah forest and extending from near Geraldton to, and far to the east of, the Stirling Range. The sand heath country probably contains more than half the total flora of Western Australia in the South-West Province alone. It extends into

the Ereman Province too, but is there less richly endowed, and may be seen as far inland as Anketell and Comet Vale. The flora of Western Australia exhibits its greatest diversity, its greatest numbers, and its most interesting and colourful endemic species in the sand heath formations, which are thus one of the best "gardens" of the State's famous wildflowers.

Riverain formations

In the Kimberley Division, which lies in the Northern Province, we find along the larger permanent streams a dense if often narrow forest or jungle formation of great diversity which owes its existence to the presence of water in the soil, and is thus more or less independent of rainfall. It is, in fact, a vestige of the tropical rain forest and is rich in species both woody and herbaceous. Apart from a few species of *Eucalyptus*, of which the River Gums (*Eucalyptus camaldulensis* and *Eucalyptus Houseana*) are the principal, the trees are large-leaved and soft-wooded, examples being the large fig trees, and the Leichhardt tree (*Nauclea coadunata*). Pandanus is a common feature, growing in impenetrable thickets, together with ferns, some of which climb to considerable heights. Epiphytic orchids also occur and there is a very rich development of herbaceous species. The formation is indeed particularly rich in species entirely restricted to this type of country. The swamplands of the Northern Province are not as a rule extensive and are of somewhat open character. Few trees are characteristic, perhaps the commonest being *Banksia dentata* and the swamp oak (*Grevillea chrysodendron*) closely related to, but more attractive than, the silky oak of Queensland. The formations of the swamps are poor in grasses but very rich in sedges, bladderworts and sundews.

The Mangrove formations

Although mangroves are found as far south as the Leschenault Inlet at Bunbury, and again on the estuary of the Gascoyne River, no real formations are to be found to the south of the Fortescue River estuary, which is the southern limit of the white, black and red mangroves. These occur on muddy flats between the high and low tidal levels. Extensive formations, sometimes miles in extent and composed of trees attaining a height of forty or more feet, are to be found in the lower reaches of the Prince Regent River. They have much in common with the mangrove formations of the Indo-Malayan region, and all the species here have been originally derived from this region.

SAVANNAH FORMATIONS AND STEPPE

These are formations in which grasses assume great importance, or become entirely dominant. With the exception of the Jam and York Gum country of the South-West (associated with the granitic soils to the east of the forest region and extending from the Murchison River to the Stirling Range and as far east as Merredin), the savannah formations are restricted to the Northern Province and the northern parts of the Ereman Province. Their physiognomy changes from place to place, and varies from the savannah woodlands of Kimberley to the Spinifex ("steppe") country of the Ereman Province. The true savannah formations are essentially connected with tropical or warm temperate regions in which summer rains occur alternating with dry cool (winter) weather. Hence we find their richest development in Western Australia in the Northern Province, or that portion of it which receives a seasonal rainfall in excess of thirty inches. It is thus seen in its best development in the Fitzroy and Ord regions of Kimberley and on the Hann Plateau to the north. Here three principal types may be discussed, the first being the alluvial formations, characterized by coolabah (*Eucalyptus microtheca*), where the grasses are in the main species of *Sorghum* and golden-beard grasses (*Cymbopogon*) with occasional areas of spinifex (*Triodia*) on the red or brown clay soil. Where friable dark-coloured soils occur we find entirely treeless areas carrying other grasses, especially the Flinders and Mitchell grasses. Spinifex favours the sandy and stony country, associated with bloodwoods or with Micum (*Eucalyptus brevifolia*) or other sand-loving trees. The second type of savannah formation is that found on the basalt country, of which extensive areas occur on the Hann Plateau. These are characterized by the predominance of the Grey Box tree (*Eucalyptus tectifica*) and certain cabbage gums, while the grass is largely Kangaroo grass (*Themeda*). The third type is again determined by the nature of the soil, and is found on the sandstone and quartzite areas. This type differs from the other two in the richer development of deciduous trees including the Baobab, and in the much richer development of annual grasses, of which the principal are species of *Sorghum*, some of which attain a height of fifteen feet. In this type the higher sandstone country is largely dominated by species of "spinifex" (*Triodia*).

There exists, on the country of the lower De Grey River and in the Roebourne district, another type of open savannah country in which the trees are not deciduous and in which *Acacia* takes a prominent

part. The principal grass is the small tussocky *Eragrostis*, but here again, especially in the stony country of the Hamersley Range, the spinifex dominates the landscape.

Southwards from the Fitzroy River and eastwards from the Fortescue is a large area of steppe country almost entirely covered with the harsh prickly tussocks of the spinifex, with but few scattered shrubs, which becomes more open in pattern until further inland the desert is encountered. Comparatively few persons have entered the desert region and we know very little concerning it, except that completely denuded areas are rare but its vegetation is small and coarse as befitting plants which live in a hostile environment.

SPECIES OF ECONOMIC VALUE

With so large a flora, it is surprising that so little is known concerning the species of economic value. Comparatively few have been exploited. In the first place we have the rich timber areas of the South-West Province providing, besides jarrah and karri, a number of valuable hardwoods and some cabinet woods. The possibilities of utilizing *Casuarina* for paper making have yet to be explored, but there may be a field for development of an industry here, especially with the faster growing species. The early settlers used the bark of certain species of *Acacia* for tanning, and also the kino of the Marri tree (*Eucalyptus calophylla*), but these passed out of use when the Brown Mallet was found to possess a very desirable bark rich in tannins. The manna wattle (*Acacia microbotrya*) yields a gum which has all the properties of gum arabic, but does not yield heavily and the tears are frequently discoloured by the tannins of the bark. Notwithstanding this, the gum is valuable and, by using improved methods of collecting, a purer gum could be harvested. One of the best barks for tannin content and quality is the Micum tree (*Eucalyptus brevifolia*) which is found on the Hamersley Range, and again in East Kimberley, extending from the upper reaches of the Margaret River almost to Wyndham, the principal cattle port of Western Australia. Tanning materials are also extracted on a commercial scale from the timber of the Wandoo tree. The mangrove species also offer opportunities in this connexion.

The principal cabinet woods are found in the Kimberley district, especially the ebony (*Maba humilis*), the Leichhardt tree, and the Red Ash, to mention a few, but these are likely to be developed only when the country is settled. The same applies to the Kimberley Cypress pine (*Callitris intratropica*), which is perhaps our most termite-resistant timber, this quality being doubtless due to the presence of sandarac in the timber. Large trees exist, but suffer from the effects of fire and sometimes entire areas of this species are thus destroyed. It is, however, a timber of exceptional qualities, especially in a district where termite-resistant qualities are very important.

Among the drug plants, special mention should be made of Eucalyptus oil. No industry exists here today, despite the fact that we possess a variety, *Eucalyptus oleosa* var. *plenissima*, which gives the highest yield of any species known. But here again, there remains the difficulty of securing adequate areas of a valued species discovered only after large areas had been destroyed in farming operations.

In the Northern Province is a strychnine tree (*Strychnos lucida*) which may have a value in the production of either strychnine or brucine. The small shrub, *Grewia polygama*, also found in the North, has singular virtues as a remedy for dysentery and inquiries concerning supplies have been received from abroad. The Pituri (*Duboisia Hopwoodii*) contains nicotine in very appreciable quantities, and should prove of value for the production of insecticides. There remains a field of investigation in this connexion with the various fish poisons of the north, especially the species of *Tephrosia*. The toxic principle of the many species of *Gastrolobium* and *Oxylobium* remains as yet unknown, and there are certain plants containing alkaloids remaining either uninvestigated or only partially investigated.

Sandalwood oil is obtained from two species, *Santalum spicatum* and *Santalum lanceolatum*. The collection of sandalwood was formerly a profitable industry but the more accessible regions have largely been depleted.

These are a few aspects of the economic value of the Western Australian flora. In the future fresh materials will doubtless be brought to light, but the true value of this rich and highly diversified flora means much more than this. One has to consider its importance in maintaining the balance between soil formation and soil destruction, either from salinity or denudation with its consequent erosion. It is important that the flora be reserved in certain areas, not in small reserves but in large tracts where it will suffer less from the activities of man and the animals he has introduced, so that in the future, however remote, such areas can be used as a measure of the radical changes which always result when the activities of man disturb or alter the face of the earth.

PART 4 — THE FAUNA OF WESTERN AUSTRALIA

Contributed by

W. D. L. Ride (Director of the Western Australian Museum)
and

D. L. Serventy (Officer-in-Charge, Western Australian Station, C.S.I.R.O. Wildlife Survey Section)

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), the arid and semi-arid interior and North-West (Eyrean) and the Kimberley Division (Torresian). Several elements of these faunas 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 Little Northern Native Cat (*Satanellus hallucatus*), 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), many lorikeets (*Trichoglossus* and *Psittaculodes*), 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 (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. Possibly 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 (*Anthochaera carunculata*). 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, 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 are essentially Bassian in character) and such Eyrean birds as the Purple-crowned Lorikeet, the Rufous Tree-creeper, the Western Warbler, the Banded Blue-wren and the Red-tipped Diamond-bird occur in them.

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.

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

Two principal elements in this fauna have been recognized ; a northern " Dampierian " and a southern " Flindersian " fauna. The Dampierian 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 (*Ravitriona 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 Rottnest Island.

The Flindersian 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 Dampierian and Flindersian 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 *Melagrapha 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 Rottnest Island. *Turbinaria* occurs also in the Recherche Archipelago.

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 Abrolhos Islands there are extensive coral reefs and other northern marine animals are much more numerous than on the adjacent mainland coast. At Rottnest 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.

Fauna of Inland Waters ⁽²⁾

The inland waters are of many types and possess very varied faunas. The permanent hill streams of the South-West all have a diverse insect fauna. 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. 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.

Except in the South-West and the extreme north (Kimberley) permanent fresh water is confined to man-made dams and large, widely scattered, spring-fed pools in river beds. The latter, often of striking beauty, are oases to which are confined species dependent on permanent water. These and the dams also serve as reservoirs from which many temporary pools that appear after heavy rain are restocked with their restricted insect fauna, mainly dragonflies, beetles, and waterbugs. The pools also often have vast numbers of small, quick-growing, phyllopod crustaceans such as *Apus* which lay eggs resistant to desiccation and high temperatures. The smaller pools provide breeding places for mosquitoes, especially species of *Aedes*, and these may appear in immense numbers within a week of a heavy downpour.

Much inland water south of the mulga-eucalypt line is saline, both in temporary pools and semi-permanent lakes. Heavy rain freshens these waters and then, with increasing salinity consequent upon evaporation, the fauna changes. In the early stages there may be an abundance of the pool-living insects and small crustaceans. Few insect species however survive more saline conditions and the crustaceans too become limited to a few species which may be present in great abundance until the water dries out.

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

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

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 outnumber 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 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

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 Australia	Australia	Western Australia	Australia
Land birds	279	427	4	8
Inland water birds	66	69	30	33
Sea birds	26	39	32	46
Total	371	535	66	87

(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 (*Casuarus casuarus*), Brush Turkey (*Alectura lathamii*), several of the fruit-pigeons, the Crimson Rosella (*Platycercus elegans*), Lyre-bird (*Menura novae-hollandiae*), several honeyeaters including the Regent (*Zanthorniza phrygia*) and the Blue-faced (*Entomyzon cyanotis*), 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 Gnow (*Leipoa ocellata*) is still plentiful and, after a period of decline during which its disappearance was feared, it is now increasing in abundance. All of the widespread species of Australian quails occur but owing probably to the scarcity of natural grasses in the south are not individually very numerous. Among the pigeons two species have shown notable recoveries in population strength. After a long period of scarcity the Common Bronzewing (*Phaps chalcoptera*) began a cycle of increase about 1936 and is still very abundant. The rare Flock Pigeon (*Histriophaps histrionica*) of the more arid country of the North-West and the far North has declined all over Australia and had not been recorded in this State since 1927 until 1958 when considerable flocks were observed in the Hamersley Range and the Fortescue River country. It has also reappeared in parts of the Kimberley Division.

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

In the petrel group there are four breeding species in local waters. The most numerous is one of the mutton-birds, the Wedge-tailed Shearwater (*Puffinus pacificus*) which nests on most islands between Carnac in the south and Sable Island, in the Dampier Archipelago, in the north. A second mutton-bird, the Fleishy-footed Shearwater (*P. carneipes*) nests between Cape Leeuwin and the Archipelago of the Recherche; it is a migratory species and in the winter months migrates to the north-western sector of the Indian Ocean. The White-faced Storm-petrel (*Pelagodroma marina*), a diminutive form rarely observed at sea, nests often in vast aggregations on islands off the south coast and as far north as the Abrolhos. All of these species nest in the spring and summer months. The remaining two breed in the winter. The Great-winged Petrel (*Pterodroma macroptera*) shares the nesting islands off the south coast with the Fleishy-footed Shearwater in a sort of "Box and Cox" relationship. The black and white Little Shearwater (*Puffinus assimilis*) has a wider nesting range, from the Recherche to as far north as the Abrolhos; in former times it nested at Parrakeet Island off Rottnest Island. In the winter months some 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. The nearest breeding place to Perth, and presumably the origin of most of the Swan River Pelicans, is Pelican Island, Shark Bay.

Fourteen species of terns are recorded for the southern parts of the State and two more for the Kimberley Division. Two of the sixteen are migrants from the Northern Hemisphere and ringed individuals of the European Common Tern (*Sterna hirundo*) and the Arctic Tern (*S. macrura*), marked respectively in Sweden and Soviet Russia (near Archangel), 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, one part of the gull population lays eggs in the autumn and the other 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 61. 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

Rottneet Snipe (*Cladorhynchus leucocephalus*), which is an attractive inhabitant of the salt-lakes of Rottneet 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 ("Bush 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.

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 (*Uroaetus audax*) and in 1958–59 a vermin bounty was paid on 3,392 of them.

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 South-West forests, is not a Western Australian native, but was introduced from eastern Australia by the Acclimatisation Board at some time prior to 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 of 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, and the only Australian bird which has almost certainly become extinct since white settlement. The last known specimen was collected by the ornithologist A. J. Campbell at Torbay in 1889. It was first discovered in 1843 by John Gilbert (John Gould's famous collector) and James Drummond at Drakes Brook near Waroona, where a memorial seat overlooking the weir was erected in 1948. 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 thickets, 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 grass-finches 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.

Mammals

Unlike the birds, mammals are not nearly such conspicuous members of the Western Australian fauna. This is because most of the species are small and secretive and appear only at night. However, there are exceptions to this and, as any traveller in inland and northern parts of the State can attest, kangaroos can often be seen in large numbers during daylight hours.

Most species of mammals can, like the birds, be distinguished as belonging to one or other of the three main faunal groups which occur in the State. For example, in the kangaroo family, the Western Grey Kangaroo (*Macropus ocydromus*), the Tammar Wallaby (*Protemnodon eugenii*), the Quokka (*Setonix brachyurus*), and the Brush Wallaby (*Protemnodon irma*) are found only in the South-West or on certain isolated islands off the coast. These species may be said to be Bassian and, of these, the Grey Kangaroo is very closely related to the South Australian form and the Tammar to the Flinders Island Wallaby and the now extinct St. Peter's Island Wallaby of South Australia. The Brush Wallaby is related to the extinct Tolache Wallaby (*Protemnodon greyi*) of South Australia. The most familiar kangaroo of the dry country of the Eyrean fauna is, of course, the Red Kangaroo or Marloo (*Macropus rufus*), 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 (*Peradoreas concinna*) and the Organ-grinder Wallaby (*Onychogale unguifer*). In addition to these species, which sort out in this convenient way, there are other species of this family which are widely distributed and in fact occur as members of all three faunal assemblages. The most familiar members of the family that do this are the Euro or Biggada (*Macropus robustus*), and the Rock Wallaby (*Petrogale lateralis*) which may be found anywhere from the Kimberley to the South-West, and inland to the South Australian border in the vicinity of the Warburton and Rawlinson Ranges.

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 are particularly noticeable in such details as the physiology and shape of the stomach and other organs of digestion. The reproductive systems of marsupials have also long been of great interest to biologists. For example, in animals studied in the Zoology Department of the University of Western Australia it has been shown that the gestation period is shorter than the normal female cycle. 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 Phalangiers, are few in number as compared with other parts of Australia. The Brush Possums (*Trichosurus*), the Pigmy Possums (*Cercaetus* and *Eudromicia*) and the Ring-tails (*Pseudochirus*) have Western Australian representatives, but the Koalas (*Phascolarctos*)^(*) and the striped Possums (*Dactylopsila*) 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

(*) Although the Koala, as well as several other Bassian species now confined to Tasmania (e.g. *Thylacinus*, the Tasmanian Wolf, and *Sarcophilus*, the Tasmanian Devil) no longer occur here, their fossil remains are known from Western Australia. See various papers by Glauret in the *Records of the Western Australian Museum* and in the *Western Australian Naturalist*, Vol. 1, pp. 101-104 (1948).

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 apparently-rare Honey Possum (*Tarsipes*) of the South-West.

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 (*Satanellus hallucatus*) as well as many species of smaller carnivorous and insectivorous forms. Two of these are also of great interest; one, the little kangaroo-like *Antechinomys* lives in association with jumping mice in the sandhills of the interior, and the other, the Dibbler (*Parantechinus 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 (*Isodon obesulus*), is one of the commonest of marsupials. Its scratchings are common in country gardens and the little animal is often run over and found dead on roads. It lives largely on insects, and being nocturnal it is seldom seen but it is nevertheless very common in many areas in the South-West.

The third main group of mammals is that of the higher mammals, or placentals. Animals of this group occur in Western Australia in addition to the marsupials and the monotremes. Many of these are true native mammals and have been in Western Australia for many millions of years. Among the native mammals are the native-rodents (all of which belong to the mouse family), a number of species of bats, of seals, of whales (which include the commercially important Humpback, *Megaptera nodosa*, upon which is based an extensive Western Australian fishery) and the Dugong (*Halicore australis*). The Dingo (*Canis familiaris dingo*) has probably not been in Australia for as long as the other native mammals and may well have entered Australia with the first of the Australoid people who were ancestral to our present aborigines. As is well known, the Dingo constitutes a major pastoral problem in some parts of the State.

As well as native placental mammals, there are a large number of introduced species which also occur in the wild in Western Australia. Some of these species also constitute agricultural and pastoral problems 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. Mention may be made of some. Red Deer (*Cervus elephus*) occur spasmodically in the South-West around Pinjarra, Waroona and Harvey. Camels (*Camelus dromedarius*) occur and have been declared vermin around Laverton, Nullagine, Port Hedland and Halls Creek; their distribution is through the Eastern Goldfields up through the Pilbara and into the Kimberley. Donkeys (*Equus asinus*) have a distribution very much like that of the camel and they are also distributed generally through the Kimberley. Wild goats (*Capra hircus*) occur mainly on the lower Murchison and in the North-West and have also been reported from Fitzroy Crossing. Foxes (*Vulpes vulpes*) are also widespread and it is suspected that much of the decline in numbers of native mammals is due to their activity. Foxes do not occur commonly north of the De Grey River but have been reported spasmodically from the Kimberley Division. Rabbits (*Oryctolagus cuniculus*) still occur in Western Australia, but they are by no means the menace that they used to be, due largely to the persecution which they have suffered by programmes of intensive rabbit extermination.

Reptiles

In Western Australia the reptiles are represented by three major zoological groups or Orders. These are the Chelonia (the turtles and the tortoises), Crocodilia (the crocodiles) and the Squamata (snakes and 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*. It is not yet known whether *E. australis* is a distinct species. 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 latter 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 relatively harmless fish-eating Fresh-water Crocodile (*Crocodilus 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, Bobtailed Lizards (*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 Racehorse Goanna (*Varanus gouldii*). 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 (*Rhinophlocephalus bicolor*), the Little Brown Snake (*Elapognathus minor*), the Black Striped Snake (*Vermicella calonota*) and the Slender Snake Lizard (*Pletholax gracilis*) which is also one of our rarest species of lizard. An Eyrean species which never ceases to surprise the visitor is the terrible-looking Mountain Devil (*Moloch horridus*). This lizard is actually one of the most gentle and harmless of animals and lives exclusively on ants.

The snake fauna of the State is diverse and, like that of other parts of Australia, contains many venomous species, the best known being the Western Tiger Snake (*Notechis scutatus occidentalis*), the Dugite (*Demansia affinis*), the Gwardar (*D. nuchalis*), the Death Adders (*Acanthophis antarcticus* and *A. pyrrhus*) and the Mulga Snake (*Pseudechis australis*). These and other snakes are well described in Glauret's *Handbook of the Snakes of Western Australia* (see bibliography on page 70).

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 (e.g. *Ablepharus wootjulum*) 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 or Dragon Lizard (*Chlamydosaurus kingi*), are commonly illustrated in journals because of their bizarre appearance and are familiar to the public.

Amphibia⁽⁴⁾

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

The frogs of Western Australia fall into the same grouping (Bassian, Eyrean and Torresian) which was mentioned in the sections on birds and 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

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

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*), and the King River Perchlet (*Nannatherina balstoni*). 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 Greenough. A large catfish, reaching 5 lb. in weight, occurs in the systems south to the Fortescue. The Rainbow Fish (*Melanotaenia nigrans*), popular with aquarists, occurs in the river systems of the Pilbara area. The remarkable Blind Gudgeon (*Milyeringa veritas*) occurs 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 (*Fluvialosa*), various perch-like fishes (*Therapon*, *Acanthopercas*), Gudgeons (*Carrassioptis*) and two freshwater saw-fishes (*Pristis clavata* and *Pristiopsis leichhardti*). There is also a freshwater eel (*Anguilla bicolor*) in these 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 fish, published in 1948, enumerates 740 species, but since that time collecting has revealed about a hundred 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. However, at present it seems that most of the fish fauna from 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 Houtman Abrolhos. In addition, this region contains a number of species which have not been found elsewhere; some of these are the coral fish (*Chaetodon assarius*), the sweep (*Neatypus obliquus*), and the reef blenny (*Dipulus caecus*), to name but a few of the more remarkable. Later, we may find that some of these have wider ranges but the fact that they are common here and have not yet been found elsewhere suggests that their apparently endemic nature is a reality.

Further information about the fishes in Western Australian waters is given in the Fisheries section of Chapter VIII, Part I—*Primary Production*, on pages 257–8.

(5) Written in collaboration with Dr. G. F. Mees.

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 longipes*) 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.

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 (Ophuroidea), sea urchins (Echinoidea), and sea cucumbers (Holothuroidea) are well represented. Eighty-five species of sea star 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 *Helicodaris 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 on page 70) 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.

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

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.

Coelenterata (7)

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.

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.

Insects

The more important insect species occurring in Western Australia are dealt with in Part 5 of this Chapter.

FURTHER SOURCES OF INFORMATION ON THE WESTERN AUSTRALIAN FAUNA

Zoogeography

A Handbook of the Birds of Western Australia. D. L. Serventy and H. M. Whittell, Perth, 1951.

Report on the Work of the Horn Expedition to Central Australia. Part II, Zoology. Ed. Baldwin Spencer, Melbourne, 1896.

"Biogeography and Ecology in Australia". Ed. A. Keast, R. L. Crocker, and C. S. Christian. *Monographiae Biologicae*. Vol. 8, ed. F. S. Bodenheimer and W. W. Weisbach, The Hague, 1959.

Die Fauna Südwest-Australiens. W. Michaelsen and R. Hartmeyer, Jena, 1910-1911.

Australian Seashores. W. J. Dakin, Sydney, 1952.

"Evolution in Three Genera of Australian Frogs". A. R. Main, A. K. Lee and M. J. Littlejohn. *Evolution*, Vol. 12, 1958, pp. 224-233.

"Rottnest Island: The Rottnest Biological Station and Recent Scientific Research". Ed. E. P. Hodgkin and K. Sheard. *J. Roy. Soc. W. Aust.*, Vol. 42, pt. III, 1959.

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

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

Birds

A Handbook of the Birds of Western Australia. D. L. Serventy and H. M. Whittell, Perth, 1951.

"A Systematic List of the Birds of Western Australia". D. L. Serventy and H. M. Whittell. *Special Publ. W. Aust. Mus.*, No. 1, Perth, 1948.

"The Number of Australian Bird Species". E. Mayr and D. L. Serventy. *Emu*, Vol. 44, 1944, pp. 33-40.

Mammals

Furred Animals of Australia. E. Troughton, Sydney, 1954 (5th ed.).

The Mammals of South Australia. F. Wood Jones, 1923 (Handbook of the Flora and Fauna of South Australia).

"Rottnest Island: The Rottnest Biological Station and Recent Scientific Research". Ed. E. P. Hodgkin and K. Sheard, *J. Roy. Soc. W. Aust.*, Vol. 42, pt. III, 1959.

"The Distribution of the Marsupials in Western Australia". L. Glauert, *J. Roy. Soc. W. Aust.*, Vol. 19, 1933, pp. 17-32.

"The Development of our Knowledge of the Marsupials of Western Australia". L. Glauert, *J. Roy. Soc. W. Aust.*, Vol. 34, 1950, pp. 115-134.

Reptiles

A Handbook of the Snakes of Western Australia. L. Glauert, Perth, 1950. (Published by the Western Australian Naturalists' Club.)

Amphibia

"Key to the Frogs of South-Western Australia". A. R. Main, *Handbook No. 3 of the Western Australian Naturalists' Club*, Perth, 1954.

"Evolution in Three Genera of Australian Frogs". A. R. Main, A. K. Lee and M. J. Littlejohn. *Evolution*, Vol. 12, 1958, pp. 224-233.

Fish

"A List of the Fishes of Western Australia". Fisheries Department, Western Australia. G. P. Whitley. *Fisheries Bull. W. Aust.*, No. 2, 1948.

"Additions to the Fish Fauna of Western Australia". G. F. Mees. *Fisheries Bull. W. Aust.*, No. 9, pt. 1 (1959), pt. 2 (1960).

Echinoderms

"Echinoderms from Australia". H. L. Clark. *Mem. Mus. Comp. Zool. Harvard*, Vol. 55, 1938.

"The Echinoderms of Australia". H. L. Clark. Carnegie Institution of Washington, publication 556, Washington D.C., 1946.

Spiders

"The Biology of Aganippine Trapdoor Spiders (Mygalomorphae Cterizidae)". B. Y. Main. *Australian Journal of Zoology*, Vol. V, 1957, pp. 402-473.

General

Records of the Western Australian Museum and Art Gallery, Vol. 1, pts. 1 (1910), 2 (1912), 3 (1914) and Vol. 2, pt. 1 (1939).

The Western Australian Naturalist, Vol. 1 (1947)—Vol. 7 (1959).

The Journal of the Royal Society of Western Australia, Vol. I (1915)—Vol. 42 (1959).

PART 5 — ENTOMOLOGY IN WESTERN AUSTRALIA

WITH PARTICULAR REFERENCE TO AGRICULTURE

(Contributed by C. F. H. Jenkins, M.A., Government Entomologist)

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.

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 Orthoptera (Grasshoppers, Locusts, Cockroaches, Mantids, 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.

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 Thysanura (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 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.

One native aphid (*Anomalaphis comperei*) has been recorded. The only district from which it has so far been collected is Albany where it has been found infesting native peppermint (*Agonis flexuosa*). A point of interest about this occurrence 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, cauliflower, 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.

African 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.

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 until recently 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 *Stigmodera gratiosa*, and one of the largest is *Julodimorpha bakewelli*, measuring almost three inches in length. Although the beetle larvae are wood borers, closely resembling the "bardee" in appearance and habits, they are of little economic importance.

The Cockchafer or Scarabs (Scarabaeidae) are represented by a great diversity of forms. Several species may swarm on to flowering fruit trees and roses in the early summer and are popularly known as Spring Beetles. The 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 recently caused damage to cereal crops and clover pastures and is apparently increasing in certain clover districts in the southern portions of the State.

The 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 spreading 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.

A common pest species in eastern Australia is the Pumpkin Beetle, *Ceratia hilaris*. This beetle is found in the north of the State but does 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 *Baryopodus* (*Leptops*) 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 (*Calandra oryzae*) is our principal pest of stored grain, but the Granary Weevil (*C. granaria*) also occurs.

Order Hymenoptera (Bees, Wasps, Ants)

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 limazina*) 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 *Campanotus inflatus*, the Honey-pot Ant of the interior, and *Myrmecia regularis* of the karri forest area which has the frog *Metacrinia nichollsi* as a tolerated guest in its nest. The Honey-pot Ant derives its name from the fact that certain individuals in the nest store honey until their abdomens become inflated to the size of grapes. This honey is then regurgitated to other ants as required. These ants were once prized by the natives as a food delicacy.

Two important introduced ant pests are the Argentine Ant (*Iridomyrmex humilis*) and the Singapore Ant (*Monomorium destructor*). The Argentine Ant was once widespread in the metropolitan area, Albany and Bunbury, with several other country outbreaks. The insect has been reduced in recent years, however, as a result of a large-scale control campaign. A five-year control scheme against the Ant, with provision for an annual expenditure of £105,000 per annum was inaugurated in 1954. The scheme involved the spraying with Dieldrin of all known infested areas, which were originally estimated to cover approximately 40 square miles. During the course of the campaign further outbreaks were discovered, giving an estimated total of over 50 square miles and, in consequence, a year's extension of the campaign was authorized by Parliament. All known country infestations have now been treated and the Ant menace has been removed from the city and suburbs. Between 3,000 and 4,000 acres of almost impenetrable swamp country north of Perth still harbour the Ants, and to prevent spread from these areas and to

deal with any survivals or later introductions a "continuance scheme", which will be financed from Consolidated Revenue, has been approved.

The Social Wasps (*Vespidae*) were, until recently, known only from the northern portion of the State. About 10 years ago, however, colonies of *Polistes variabilis* were located in various parts of the 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 (*Psammocharidae*), the Flower Wasps (*Thynnidae*), the Hairy Flower Wasps (*Scoliidae*) and Solitary Ants (*Mutillidae*) are well represented. The latter are, of course, not true ants but the wingless females bear a superficial resemblance to ants which is further accentuated by their ability to inflict a painful sting. The Flower Wasps are particularly numerous and winged males carrying wingless females are common around flowering plants in the early summer. Of the "Solitary Ants" the black and white *Ephutomorpha cribricollis* is the best known. Most of the wasps mentioned are beneficial, for they store caterpillars and other insects in mud nests and underground burrows to serve as food for the wasp grubs.

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

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

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

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 sorbens*). 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 small native moth belonging to the family Crambidae and commonly known as the Webworm Moth (*Talis pedionoma*) is a serious pest of cereal crops (excepting oats) and grass pastures. It is controlled by planting on clean fallow, but the recent trend towards ley farming has greatly favoured the pest.

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 Common Cutworm (*Agrotis munda*) and the Army Worm (*Persectania ewingii*). 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 Orange Piercing 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 Orange Piercing 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 (*Gnori-moschema 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.

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.

The spiders constitute a large group, most of which are useful on account of their insectivorous habits. The only local spider known to be really dangerous 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 are few, if any, records however of serious results following a scorpion "bite" and, generally speaking, the group is of little local importance.

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 fifty 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 Sudwest-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.
- McKEOWN, K. C. (1945)—*Australian Insects*. An Introductory Handbook. Published by R.Z.S. of N.S.W., Sydney. 303 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.

Contributed by

(Professor of Geology, University of Western Australia)

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 Pre-Cambrian	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 Pre-Cambrian	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 Pre-Cambrian	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 Pre-Cambrian. 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 breakaways. Rivers in shallow beds. Salt "lakes"	Older Pre-Cambrian. Economic minerals especially gold	Summer or winter, unreliable, 10 in. or less	Wells (potable groundwater)	"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 Pre-Cambrian, 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 cuirass of laterite	Winter, reliable, 25 in. to 40 in.	Streams and springs	Forest of Jarrah (<i>E. marginata</i>), Wandoo (<i>E. re-dunca</i>), Karri (<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 Pre-Cambrian	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 Municipal Councils and Road Boards.

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 no change in these numbers has since been made.

On the 1st January, 1901, Western Australia and the five other Australian Colonies were federated under the name of the "Commonwealth of Australia," authority for the union having been given by the Commonwealth of Australia Constitution Act which was passed by the British Parliament in 1900. By 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



KANGAROO PAW
Anigosanthos Manglesii D. Don

By a proclamation published in the *Government Gazette* of the 18th November, 1960, *Anigosanthos Manglesii* was declared to be Western Australia's floral emblem. A description of the plant, its habit and distribution is given overleaf.

Mangles' Kangaroo Paw was first collected in the Swan River Colony in the early years of its settlement, and was described by D. Don in 1836.

It is a low sub-shrub, with leaves 1-2 feet in length, sometimes more, rather broad and tapering to an acute apex.

The flowering stem may reach 3-4 feet in height and bears a number of large flowers at its summit. Occasionally it may fork. The stem is clothed with woolly hairs of a deep red or purple colour, while the hairs on the flowers are of a metallic green with the exception of the swollen base where they are of the same red or purple as the stem. Occasionally the base of the flower may be yellowish in colour.

Mangles' Kangaroo Paw occurs naturally from the Murchison River in the north to the vicinity of Busselton in the south, and eastwards to Lake Muir, occurring on sandy soil. In the Darling Range it is common on lateritic soils while in a small form it extends eastwards as far as Merredin. The species is common in King's Park, Perth, and in the surrounding bushland.

Flowering usually commences in August and extends through to early October, although in some years and in some localities it may commence before August and extend into late October.

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 William Shepherd, Viscount Dunrossil, P.C., G.C.M.G., M.C., K.St.J., Q.C. ⁽¹⁾ 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 Governor of Western Australia is His Excellency Lieutenant-General Sir Charles Henry Gairdner, K.C.M.G., K.C.V.O., K.B.E., C.B. In the event of the Governor's absence from Western Australia the Lieutenant-Governor of the State is appointed Administrator. The present Lieutenant-Governor is the Honourable Sir John Patrick Dwyer, K.C.M.G. If there is no Lieutenant-Governor it is customary for the Chief Justice to be appointed Administrator.

The last Governor of Western Australia as a Colony was Lieutenant-Colonel Sir Gerard Smith, K.C.M.G., whose term of office expired on the 29th June, 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 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*, 1957, No. 1—*New Series*.)

GOVERNORS, LIEUTENANT-GOVERNORS AND ADMINISTRATORS FROM 1901

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
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 Wolff, 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., C.B., C.B.E., Governor	1951—6th November
Hon. Sir John Dwyer, K.C.M.G., Lieutenant-Governor and Administrator	1956—11th July
Lieutenant-General Sir Charles Gairdner, K.C.M.G., K.C.V.O., C.B., C.B.E., Governor	1956—15th November
Hon. Sir John Dwyer, K.C.M.G., Lieutenant-Governor and Administrator	1958—24th July
Lieutenant-General Sir Charles Gairdner, K.C.M.G., K.C.V.O., K.B.E., C.B., Governor	1959—3rd January

(1) See *Appendix*.

THE FEDERAL PARLIAMENT

The legislative power of the Commonwealth is vested in a Federal Parliament which consists of Her Majesty the Queen (represented by the Governor-General), a Senate and a House of Representatives. Subject to the Constitution, the Commonwealth Parliament is empowered to make laws concerning, among other things, defence, external affairs, customs and excise, trade and commerce with other countries and among the States, taxation, borrowing of money on public credit, currency and coinage, banking, insurance, navigation, fisheries, quarantine, posts and telegraphs, census and statistics, immigration, naturalization and aliens, copyrights and trade marks, bankruptcy, marriage, divorce and matrimonial causes, social services, and conciliation and arbitration for the prevention and settlement of industrial disputes extending beyond the limits of any one State. The Constitution provides that, when a law of a State is inconsistent with a law of the Commonwealth, the Commonwealth law shall prevail and the State law shall, to the extent of the inconsistency, be invalid.

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

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

The Senate

The Senate consisted originally of 36 members, six Senators being returned from each State. The Parliament is authorized by the Constitution to increase or decrease the number of members. The growth of the population since Federation having been such as to warrant a considerable enlargement of the Parliament, a Representation Act was passed in 1948 to provide for increased membership by raising from six to ten the number of Senators from each State. At the same time the preferential system of counting of votes in elections for the Senate was altered by the Commonwealth Electoral Act to one of proportional representation, a summarized description of which is given in the *Official Year Book of the Commonwealth of Australia*, No. 38, pages 82-83.

Members are elected on the basis of adult suffrage by the people of the State which they represent and enrolment of qualified electors and voting at elections are compulsory. 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.

Federal parliamentary elections were held on the 22nd November, 1958 and the effect on the Western Australian membership of the Senate is shown in the following table.

WESTERN AUSTRALIAN MEMBERS OF THE SENATE

At 21st November, 1958			From 1st July, 1959		
Name	Political Party	Due Date of Retirement	Name	Political Party	Due Date of Retirement
		30th June :			30th June :
Cooke, J. A.	A.L.P.	1959	Branson, G. H.	Lib.	1965
Drake-Brockman, T.C., D.F.C.	C.P.	(a)	Cant, H. G. J.	A.L.P.	1965
Fraser, Hon. J. M.	A.L.P.	1959	Cooke, J. A.	A.L.P.	1965
Harris, J.	A.L.P.	1959	Drake-Brockman, T.C., D.F.C.	C.P.	1965
Scott, M. F.	Lib.	1959	Scott, M. F.	Lib.	1965
Paltridge, Hon. S. D.	Lib.	1962	Paltridge, Hon. S. D.	Lib.	1962
Robertson, Agnes R.	C.P.	1962	Robertson, Agnes R.	C.P.	1962
Tangney, Dorothy M.	A.L.P.	1962	Tangney, Dorothy M.	A.L.P.	1962
Vincent, V. S.	Lib.	1962	Vincent, V. S.	Lib.	1962
Willesee, D. R.	A.L.P.	1962	Willesee, D. R.	A.L.P.	1962

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

(a) Date of retirement, 21st November, 1958 ; filling vacancy caused by death of Senator the Hon. H. S. Seward on 23rd July, 1958 until date of the election.

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 are elected for the duration of the Parliament, which is limited to three years, by the people of the electorate which they represent. Enrolment of qualified persons and voting, which is on the preferential system, are compulsory.

The following table shows the Western Australian membership of the House of Representatives before and after the election of the 22nd November, 1958.

WESTERN AUSTRALIAN MEMBERS OF THE HOUSE OF REPRESENTATIVES

Electorate	At 21st November, 1958		After Election of 22nd November, 1958	
	Name	Political Party	Name	Political Party
Canning	Hamilton, L. W.	C.P.	Hamilton, L. W.	C..P
Curtin	Hasluck, Hon. P. M. C.	Lib.	Hasluck, Hon. P. M. C.	Lib.
Forrest	Freeth, G.	Lib.	Freeth, Hon. G.	Lib.
Fremantle	Beazley, K. E.	A.L.P.	Beazley, K. E.	A.L.P.
Kalgoorlie	Johnson, Hon. H. V.	A.L.P.	Browne, P. G.	Lib.
Moore	Leslie, H. A.	C.P.	Halbert, H. V.	Lib.
Perth	Chaney, F. C.	Lib.	Chaney, F. C.	Lib.
Stirling	Webb, C. H.	A.L.P.	Cash, E. D.	Lib.
Swan	Cleaver, R.	Lib.	Cleaver, R.	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	Labour	1902—1st July	2	1	9
Daglish		1904—10th August	1	—	15
Rason		1905—25th August	—	8	12
Moore		1906—7th May	4	4	9
Wilson		1910—16th September	1	—	21
Scaddan		1911—7th October	4	9	20
Wilson		1916—27th July	—	11	1
Lefroy		1917—28th June	1	9	20
Colebatch		1919—17th April	—	1	—
Mitchell		—17th May	4	10	30
Collier	Labour	1924—16th April	6	—	8
Mitchell		1930—24th April	3	—	—
Collier	Labour	1933—24th April	3	3	27
Willcock		1936—20th August	8	11	11
Wise	L.C.L. and C.P. (coalition)	1945—31st July	1	8	1
McLarty		1947—1st April	5	10	22
Hawke	Labour	1953—23rd February	6	1	10
Brand		1959—2nd April	Still in Office		

(a) No specific party designation. C.P. = Country Party. L.C.L. = Liberal and Country League. Nat. = Nationalist.

The Ministry now in office was constituted on the 2nd April, 1959 and the names of its members and the portfolios held by them are shown in the following list.

THE MINISTRY FROM 2ND APRIL, 1959

Name of Minister	Title of Office
Hon. David Brand, M.L.A.	Premier, Treasurer and Minister for Tourists
Hon. Arthur Frederick Watts, C.M.G., M.L.A.	Deputy Premier, Minister for Education and Electricity, and Attorney-General
Hon. Charles Walter Michael Court, O.B.E., M.L.A.	Minister for Industrial Development, Railways and the North-West
Hon. Crawford David Nalder, M.L.A.	Minister for Agriculture
Hon. Gerald Percy Wild, M.B.E., M.L.A.	Minister for Works and Water Supplies
Hon. Arthur Frederick Griffith, M.L.C.	Minister for Mines and Housing, and Leader of the Government in the Legislative Council
Hon. William Stewart Bovell, M.L.A.	Minister for Lands, Forests and Immigration
Hon. Charles Collier Perkins, M.L.A.	Minister for Transport, Police, Labour and Native Welfare
Hon. Ross Hutchinson, D.F.C, M.L.A.	Chief Secretary and Minister for Health and Fisheries
Hon. Leslie Arthur Logan, M.L.C.	Minister for Local Government, Town Planning and Child Welfare

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 of 1948, which came into operation on the 1st January, 1949.

The Legislative Council

The Legislative Council consists of 30 members, each of the ten Electoral Provinces into which the State is divided being represented by three members. Election is for a term of six years and one-third of the members retire every two years.

The qualifications for a candidate for election to the Legislative Council are that he or she shall be at least 30 years of age and free from legal incapacity, shall have resided in Western Australia for a minimum of two years, be a natural-born British subject or have been naturalized for five years and resident in the State during that period. A member of the Legislative Assembly, a Judge of the Supreme Court, a minister of religion, an undischarged bankrupt or a debtor against whose estate there is a sequestration order may not be elected to the Legislative Council.

To qualify as an elector a person must be at least 21 years of age and not subject to any legal incapacity, be a natural-born or naturalized British subject resident in Western Australia for six months, and possess certain property qualifications relating to freehold, leasehold or householder occupancy.

Preferential voting applies to Council elections and voting is not compulsory.

The following table shows the membership of the Legislative Council at the 30th June, 1959.

MEMBERS OF THE LEGISLATIVE COUNCIL AT 30TH JUNE, 1959

Name	Electoral Province	Political Party
DUE TO RETIRE IN 1960 (a)		
Garrigan, Hon. J. J.	South-East	A.L.P.
Hutchison, Hon. Ruby F.	Suburban	A.L.P.
Latham, Hon. Sir Charles	Central	C.P.
Logan, Hon. L. A.	Midland	C.P.
Mattiske, Hon. R. C.	Metropolitan	L.C.L.
Roche, Hon. H. L.	South	C.P.
Teahan, Hon. J. D.	North-East	A.L.P.
Thompson, Hon. R.	West	A.L.P.
Willesee, Hon. W. F.	North	A.L.P.
Willmott, Hon. F. D.	South-West	L.C.L.
DUE TO RETIRE IN 1962		
Cunningham, Hon. J. M. A.	South-East	L.C.L.
Davies, Hon. E. M.	West	A.L.P.
Diver, Hon. L. C.	Central	C.P.
Heenan, Hon. E. M.	North-East	A.L.P.
Jeffery, Hon. G. E.	Suburban	A.L.P.
Jones, Hon. A. R.	Midland	C.P.
MacKinnon, Hon. G. C.	South-West	L.C.L.
Strickland, Hon. H. C.	North	A.L.P.
Thomson, Hon. J. M.	South	C.P.
Watson, Hon. H. K.	Metropolitan	L.C.L.
DUE TO RETIRE IN 1964		
Abbey, Hon. C. R.	Central	L.C.L.
Bennetts, Hon. G.	South-East	A.L.P.
Griffith, Hon. A. F.	Suburban	L.C.L.
Hall, Hon. W. R.	North-East	A.L.P.
Hislop, Hon. J. G., M.B., Ch.B., F.R.C.P., F.R.A.C.P.	Metropolitan	L.C.L.
Lavery, Hon. F. R. H.	West	A.L.P.
Loton, Hon. A. L.	South	C.P.
Murray, Hon. J.	South-West	L.C.L.
Simpson, Hon. C. H.	Midland	C.P.
Wise, Hon. F. J. S.	North	A.L.P.
SUMMARY		
Australian Labor Party (A.L.P.)	13	
Country Party (C.P.)	8	
Liberal and Country League (L.C.L.)	9	
TOTAL	30	

(a) See Appendix.

The Legislative Assembly

MEMBERS OF THE LEGISLATIVE ASSEMBLY

Electoral District	At 20th March, 1959		After Election of 21st March, 1959	
	Name	Political Party	Name	Political Party
Albany	Hall, J.	A.L.P.	Hall, J.	A.L.P.
Avon Valley	Mann, J. I.	L.C.L.	Mann, J. I.	L.C.L.
Beeloo	Jamieson, C. J.	A.L.P.	Jamieson, C. J.	A.L.P.
Blackwood	Hearman, J. M.	L.C.L.	Hearman, Hon. J. M.	L.C.L.
Boulder	Moir, A. M.	A.L.P.	Moir, A. M.	A.L.P.
Bunbury	Roberts, G. F.	L.C.L.	Roberts, G. F.	L.C.L.
Canning	Gaffy, W. J.	A.L.P.	O'Neil, D. H.	L.C.L.
Claremont....	Crommelin, H. W.	L.C.L.	Crommelin, H. W.	L.C.L.
Collie	May, H.	A.L.P.	May, H.	A.L.P.
Cottesloe	Hutchinson, R., D.F.C.	L.C.L.	Hutchinson, Hon. R., D.F.C.	L.C.L.
Dale	Wild, G. P., M.B.E.	L.C.L.	Wild, Hon. G. P., M.B.E.	L.C.L.
Darling Range	Owen, R. C., B.Sc. (Agric.)	C.P.	Owen, R. C., B.Sc. (Agric.)	C.P.
East Perth	Graham, Hon. H. E.	A.L.P.	Graham, Hon. H. E.	A.L.P.
Eyre	Nulsen, Hon. E.	A.L.P.	Nulsen, Hon. E.	A.L.P.
Fremantle	Sleeman, Hon. J. B.	A.L.P.	Fletcher, H. A.	A.L.P.
Gascoyne	Norton, D.	A.L.P.	Norton, D.	A.L.P.
Geraldton	Sewell, W. H.	A.L.P.	Sewell, W. H.	A.L.P.
Greenough	Brand, Hon. D.	L.C.L.	Brand, Hon. D.	L.C.L.
Guildford-Midland	Brady, Hon. J. J.	A.L.P.	Brady, J. J.	A.L.P.
Harvey	Manning, I. W.	L.C.L.	Manning, I. W.	L.C.L.
Kalgoorlie	Evans, T. D.	A.L.P.	Evans, T. D.	A.L.P.
Katanning	Nalder, C. D.	C.P.	Nalder, Hon. C. D.	C.P.
Kimberley	Rhatigan, J. J.	A.L.P.	Rhatigan, J. J.	A.L.P.
Leederville	Johnson, S. E. I.	A.L.P.	Henn, G. G., M.R.C.S., L.R.C.P.	L.C.L.
Maylands	Toms, J. M.	A.L.P.	Toms, J. M.	A.L.P.
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.
Middle Swan	Hegney, Hon. J.	A.L.P.	Hegney, J.	A.L.P.
Moore	Lewis, E. H. M.	C.P.	Lewis, E. H. M.	C.P.
Mount Hawthorn....	Hegney, Hon. W., A.F.I.A.	A.L.P.	Hegney, Hon. W., A.F.I.A.	A.L.P.
Mount Lawley	Oldfield, E. P.	Ind. Lib.	Oldfield, E. P. (a)	Ind. Lib.
Mount Marshall	Cornell, G. M.	C.P.	Cornell, G. M.	C.P.
Murchison	O'Brien, E. M.	A.L.P.	Burt, R. P. S.	L.C.L.
Murray	McLarty, Hon. Sir Ross, K.B.E., M.M.	L.C.L.	McLarty, Hon. Sir Ross, K.B.E., M.M.	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, 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.
North Perth	Lapham, S. E., A.A.S.A.	A.L.P.	O'Connor, R. J.	L.C.L.
Pilbara	Bickerton, A. W.	A.L.P.	Bickerton, A. W.	A.L.P.
Roe	Perkins, C. C.	C.P.	Perkins, Hon. C. C.	C.P.
South Fremantle....	Lawrence, P. R.	A.L.P.	Lawrence, P. R.	A.L.P.
South Perth	Grayden, W. L.	Ind. Lib.	Grayden, W. L. (a)	Ind. Lib.
Stirling	Watts, Hon. A. F., C.M.G.	C.P.	Watts, Hon. A. F., C.M.G.	C.P.
Subiaco	Potter, P. G. C.	A.L.P.	Guthrie, H. N.	L.C.L.
Toodyay	Thorn, Hon. L.	C.P.	Craig, J. F.	C.P.
Vasse	Bovell, W. S.	L.C.L.	Bovell, Hon. W. S.	L.C.L.
Victoria Park	Andrew, H. D.	A.L.P.	Andrew, H. D.	A.L.P.
Warren	Rowberry, J. N.	A.L.P.	Rowberry, J. N.	A.L.P.
Wembley Beaches	Marshall, F.	A.L.P.	Nimmo, L. C.	L.C.L.
West Perth	Heal, S.	A.L.P.	Heal, S.	A.L.P.
SUMMARY	Australian Labor Party (A.L.P.)	29	Australian Labor Party (A.L.P.)	23 (a)
	Country Party (C.P.)	8	Country Party (C.P.)	8
	Independent Liberal (Ind. Lib.)	2	Independent Liberal (Ind. Lib.)	2 (a)
	Liberal and Country League (L.C.L.)	11	Liberal and Country League (L.C.L.)	17
	TOTAL	50	TOTAL	50

(a) See Appendix.

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, normally three years.

A candidate for election must have resided in Western Australia for twelve months, be at least 21 years of age and free from legal incapacity, be a natural-born British subject or have been naturalized for five years and have resided in the State for two years. A candidate must not be a member of the Legislative Council, a Judge of the Supreme Court, a minister of religion, an undischarged bankrupt or a debtor against whose estate there is a sequestration order.

For enrolment as an elector, a person must be at least 21 years of age, a natural-born or naturalized British subject free from legal incapacity, must have resided in Western Australia for six months continuously and in the Electoral District for which he claims enrolment for a continuous period of three months immediately preceding the date of his claim.

Voting at elections for the Legislative Assembly is on the preferential system and was made compulsory by an amendment to the Electoral Act in 1936, the first elections at which this provision applied being those held on the 18th March, 1939.

The table on page 86 shows the membership of the Legislative Assembly before and after the general elections of the 21st March, 1959. See also *Appendix*.

LEGISLATION DURING 1957 AND 1958

The Federal Parliament

A selection from the legislative enactments of the Commonwealth Parliament in 1957 is given in summarized form on pages 84–88 of the *Official Year Book of the Commonwealth of Australia*, No. 45—1959. The legislation of 1958 is treated similarly on pages 78–86 of the succeeding issue, No. 46—1960.

The State Parliament

During the second session of the twenty-second Parliament, which lasted from the 4th July to the 29th November, 1957, the Western Australian legislature enacted 81 Statutes and, in addition, dealt with 35 Bills which were introduced but not passed. In the third session, between the 7th August and the 6th December, 1958, the Parliament passed 63 Acts and rejected 28 Bills.

The full text of the legislation enacted is contained in the volumes of *The Acts of the Parliament of Western Australia*, to which reference should be made if complete details are required. To provide a brief review of some of the more important Statutes of 1957 and 1958, a short summary of the main provisions is given in this section. Supply, Appropriation and Loan Acts have been excluded 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 1957

Child Welfare Act Amendment Act (No. 2)—Prescribes certain procedure in cases concerning offences of a sexual nature against children. Provides that where a person who has attained the age of 18 years is charged with such an offence he may be tried in a summary manner by a Children's Court. Requires the magistrate to explain to the person so charged that he is entitled to be tried by a jury and is not obliged to make any defence before him. If the accused objects to the magistrate dealing with the charge, the magistrate is required to abstain from doing so, but if the accused elects to be dealt with summarily the magistrate may proceed. If the person is summarily convicted but the magistrate is of the opinion that the sentence which he is empowered to pass is inadequate he may, instead of passing sentence, commit the convicted person for sentence before the Supreme Court.

Chiropodists Act—Provides for the training, qualification and registration of persons as chiropodists. Establishes a Chiropodists Registration Board of five members with the power, among others, to prescribe the course of training and the examinations to be passed in order to qualify for registration. Prohibits the practice of chiropody or the use of the title of chiropodist or foot specialist by persons not licensed by the Board, but specifically exempts registered medical practitioners and physiotherapists from registration under the Act.

Education Act Amendment Act—Enables the progressive raising of the school leaving age from 14 to 15 years. Inserts an offence called truancy and prescribes procedure for dealing with offenders. Increases penalties for employing children of school age during school hours.

Government Railways Act Amendment Act—Provides for the control of the Western Australian Government Railways to revert to a single Commissioner.

Housing Loan Guarantee Act—Authorizes Treasury guarantees to encourage the building and purchase of new houses. Provides that such guarantees may be given to approved institutions lending money for housing purposes.

Juries Act—Provides for jury service by women. In criminal trials, other than those for an offence punishable with death, permits the decision of a minimum of ten jurors to be taken as the verdict. In civil trials, allows the acceptance of a majority decision made by a prescribed minimum number of jurors.

Metropolitan (Perth) Passenger Transport Trust Act—Establishes a Trust consisting of a Chairman and two other members to acquire and operate all road passenger services and ferry services in the metropolitan area. Provides that acquisition may be made by agreement with the operator or compulsorily. Authorizes payment of compensation in money or inscribed stock created by the Trust or debentures issued by the Trust. In the event of compulsory acquisition, prescribes assessment of compensation at the market value of the property and permits the addition of an allowance where loss of goodwill results, or is likely to result, from the compulsory acquisition.

Nollamara Land Vesting Act—Gives the State Housing Commission clear title to certain land in the Nollamara district. Enables completion of an agreement with the Commonwealth Government for the provision of financial assistance in housing development (see letterpress on page 149).

Northern Developments Pty Limited Agreement Act—Ratifies an agreement between the Treasurer and Northern Developments Pty Limited relating to the issue of a licence for the use of certain Crown lands in the north of the State for the cultivation of rice and other agricultural crops.

Occupational Therapists Act—Provides for the training, qualification and registration of persons as occupational therapists. Establishes an Occupational Therapists Registration Board of five members with the power, among others, to prescribe the course of training and the qualifications to be held in order to qualify for registration. Prohibits the use of the title of occupational therapist by persons not registered under the Act, but exempts certain specified classes of persons from registration.

Stamp Act Amendment Act—Increases from twopence to threepence the stamp duty payable on each bank cheque.

Traffic Act Amendment Act (No. 4)—Requires a person dealing in used cars to be licensed for the purpose, to pay an annual licence fee of £5 and to lodge security of up to £3,000 for the due performance of his obligations under the Act. Empowers the Commissioner of Police to apply to a court for an order withholding a licence to drive a motor vehicle where it appears to him that it should not be granted by reason of the number of convictions the applicant has had for offences under the Act. Makes provision for voluntary blood tests in cases where a driver is suspected of being under the influence of intoxicating liquor to such an extent as to be guilty of an offence against the Act.

Unfair Trading and Profit Control Act Amendment Act—Alters the title of the Commissioner from "Commissioner for Prevention of Unfair Trading" to "Unfair Trading Control Commissioner." Creates the office of "Director of Investigation." Confers on the Director certain powers previously held by the Commissioner. Extends the interpretation of unfair trading.

Acts Passed during 1958

Cancer Council of Western Australia Act—Establishes a Cancer Council of 16 members to co-ordinate and promote research into the cause, diagnosis, prevention and treatment of cancer. Provides for the administration by the Council of a fund to be created for this purpose. Empowers the Minister on the recommendation of the Council to establish a Cancer Institute to be under the management of a Board of seven members, of whom four (including the Chairman) are to be nominated by the Council, the functions of the Board being to carry out such of the Council's objects, functions and powers as the Council shall delegate to it.

Health Education Council Act—Constitutes a Health Education Council of 17 members to promote, maintain and improve, by means of health education, the health of the people of Western Australia. Defines health education as "the use of teaching methods and other aids to extend to the people of the State knowledge relating to health, and to the prevention of accidental injuries affecting health." Establishes a fund to be administered by the Council and applied to its objects.

Hire-Purchase Act—Repeals the Hire-Purchase Agreements Act, 1931-1937, but continues its operation in relation to existing agreements. Provides protection for the hirer by such means as prescribing the incorporation in the agreement of details of the cash price and of charges included in the gross purchase price, by entitling the hirer to complete the purchase at any time, by conferring the right of recovery of certain moneys in cases where the owner retakes possession of the goods and by requiring the owner to redeliver the goods to the hirer upon certain conditions having been satisfied. Describes transactions constituting an offence and prescribes penalties.

Long Service Leave Act—Confers entitlement to long service leave with pay on employees for whom such leave is not otherwise provided. Prescribes that entitlement shall accrue only in relation to continuous service with one employer and that leave shall be at the rate of 13 weeks for every 20 years' service and 6½ weeks for each subsequent 10 years, with *pro rata* provisions applying in certain stated circumstances. Sets up a Board of Reference for the determination of questions and disputes in connexion with rights and liabilities under the Act. Provides that appeals against determinations of the Board may be made to the Arbitration Court. Prohibits an employee while on long service leave from engaging in any alternative employment for reward. Names as inspectors under the Act persons holding the office of inspector under the Factories and Shops Act and assigns certain rights and powers to them.

Natives (Citizenship Rights) Act Amendment Act—Removes the requirement that an aboriginal native in order to obtain a certificate of citizenship shall, for two years prior to the date of the application, have dissolved tribal and native association except with respect to lineal descendants or native relations of the first degree.

State Housing Act Amendment Act—Empowers the State Housing Commission to advance money on second mortgage to a worker to enable the completion of a partially-built house, or the purchase of a new house, where the cost does not exceed £3,000, exclusive of the land (see latterpress on page 149).

Swan River Conservation Act—Establishes a Swan River Conservation Board, consisting of a Chairman and sixteen other members, and a Rivers and Waters Technical Advisory Committee of nine members, the chairman being the Chairman of the Board, to formulate and implement schemes for the control of pollution and for the improvement of the foreshores of the Swan River. Defines pollution and prescribes penalties for the offence of causing pollution.

Traffic Act Amendment Act (No. 2)—Limits the number of licences which may be issued in respect of taxi-cars within the Metropolitan Area to one such licence for every 600 of the population. Requires a licensing authority to charge only one-half of the fee in respect of a licence for certain vehicles used in a particular area for specified purposes by a person engaged in farming or grazing, mineral prospecting, sandalwood gathering, kangaroo hunting or bee keeping.

Tuberculosis (Commonwealth and State Arrangement) Act—Renews for a period of five years from the 1st July, 1958 an arrangement between the Commonwealth and the State for reimbursement to the State of capital and maintenance expenditure in relation to the diagnosis, treatment and control of tuberculosis. Provides that "maintenance expenditure" shall not include any payment by the State by way of allowances to, or in respect of, sufferers from tuberculosis or their dependants.

Unfair Trading and Profit Control Act Amendment Act—Alters the title of the principal Act to the "Monopolies and Restrictive Trade Practices Control Act, 1956-1958." Changes the name of the office of "Unfair Trading Control Commissioner" to "Monopolies and Restrictive Trade Practices Control Commissioner." Extends to a "declared trader" the right to appeal to the Full Court and to the High Court of Australia (so far as is permissible) against such declaration. Proscribes the making of collusive tenders and introduces a definition of "collusive tendering scheme."

Wheat Industry Stabilisation Act—Repeals the Wheat Industry Stabilisation Act, 1954 but preserves its operation in relation to wheat harvested before the 1st October, 1958. Continues the existence of the Western Australian Wheat Board and describes its powers.

The purpose of the Act is to enable Western Australian wheat growers to participate in a new plan for the orderly marketing and price stabilization of wheat, as provided for in the Wheat Industry Stabilization Act 1958 (No. 58 of 1958) of the Commonwealth Parliament and applying to wheat harvested between the 1st October, 1958 and the 30th September, 1963.

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 1903-1955, and consists of a Chief Justice and six other Justices. The Principal Registry is at Melbourne, Victoria and there is a District Registry in each of the other State capital cities, where sittings of the Court are held from time to time as required. A Full Court may consist of any two or more Justices sitting together, but the Act specifies cases where a Full Court shall be comprised of not less than three Justices and, in some circumstances, a greater number. The High Court is the ultimate court of appeal in Australian jurisdiction except where leave is given for an appeal to the Privy Council in London.

The Commonwealth Industrial Court was established by an amendment of 1956 to the Conciliation and Arbitration Act which gives the Court power to deal with judicial matters, as distinct from the functions of conciliation and arbitration performed by the Commonwealth Conciliation and Arbitration Commission. The Commonwealth Industrial Court consists of a Chief Judge and not more than two other Judges. 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 1924-1958, 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, 1935-1957, consists of a Chief Justice and such other Judges, not exceeding four in number, as may from time to time be appointed. ⁽¹⁾ 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 1903-1955 (Commonwealth).

The Court of Arbitration is constituted by the Industrial Arbitration Act, 1912-1952 and consists of three members, one of whom is the President of the Court. The President must be a person qualified to be appointed a Judge of the Supreme Court. Of the remaining members, one is appointed on the recommendation of industrial unions of employers and the other on the recommendation of industrial unions of workers.

Reference to the powers and functions of the Court of Arbitration is made on page 166 in Chapter V—*Social Condition* and an account of its work in the field of wage fixation is given on pages 359-60 in Chapter X—*Employment, Wages and Prices*.

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 Savoy House, 115 Strand, London, W.C.2. Its functions include the purchase of government stores and equipment, service to Western Australian commercial and business interests and the provision of various types of assistance to visitors from Western Australia. The Agent-General for Western Australia since 1957 has been the Honourable E. K. Hoar, who was appointed to the office following the death of the Honourable J. A. Dimmitt.

⁽¹⁾ See *Appendix*.

The State Government has a Liaison Office in New South Wales at Room 101, First Floor, 82 Pitt Street, Sydney, where Mr. S. W. M. Stilling is Western Australian Government Representative and in Victoria at 10 Royal Arcade, Melbourne, C.1, the Liaison Officer being Mr. R. H. Miles.

Branches of the Tourist and Publicity Bureau have been established in New South Wales at 28 Martin Place, Sydney, in Victoria at 10 Royal Arcade, Melbourne, C.1, and in South Australia at 62A King William Street, Adelaide.

LOCAL GOVERNMENT

The function of local government in Western Australia is performed by Municipalities and Road Boards 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 Statutes regulating the operations of the local authorities are the Municipal Corporations Act, 1906-1959 and the Road Districts Act, 1919-1959, which are administered through a Department of Local Government by the Minister for Local Government.

At the 31st December, 1958 there were 21 Municipalities and 126 Road Boards in Western Australia. The boundaries of the local government areas are delineated on the map of the State at the back of the Year Book and their names are listed on the pages immediately preceding the map.

Functions of Local Authorities

The functions and powers of local authorities are extremely diverse in character and are prescribed in detail in the Municipal Corporations Act and the Road Districts Act. Reference to local government activity in the fields of road construction and maintenance will be found on pages 184, 186 and 325, the provision of parks, gardens and recreation grounds on page 209, libraries on page 134, public transport facilities on page 330, water supplies on page 214, town planning and building control on page 150 and the licensing of vehicles and road traffic control on page 326. Among the many other powers contained in the Acts are those relating to hospitals and nursing services, kindergartens, community centres, infant and maternal health centres, day nurseries, jetties, swimming baths, swimming pools, sanitation and disposal of refuse, fire prevention, eradication of poisonous plants, electricity generation, abattoirs, quarries, pounds and cemeteries. Under the provisions of the Health Act local authorities are responsible, as Local Boards of Health, for certain aspects of health administration.

The Municipal Corporations Act and the Road Districts Act provide that, if in a particular district there should at any time be no Municipal Council or Road Board or not sufficient councillors or members to form a quorum, a Commissioner may be appointed to exercise all the powers of the local authority.

The revenue and expenditure of local authorities is dealt with in the section *Local Government Finance* in Chapter VI.

Municipalities

The Governor may by Order in Council constitute as a Municipality any portion of the State, including an existing Road District, on the petition of at least 50 ratepayers and provided that the annual revenue from rates in the area shall be at least £750. At the request of the Municipal Council, the Governor may declare a Municipality having a population of 20,000 persons and a gross annual revenue of £20,000 to be a City. The five cities in Western Australia, all of which are in the Metropolitan Statistical Division, are Perth (proclaimed in 1856), Fremantle (1929), Subiaco (1952), Nedlands (1959) and South Perth (1959).

All members of a Municipal Council, including the mayor, are elected by adult owners or occupiers of ratable land in the Municipality, representation (except in the case of the mayor) being on the basis of wards into which the Municipality may be divided. The provisions of the Municipal Corporations Act relating to the composition of the 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 where there are four wards, with three additional councillors for each ward in excess of four. The mayor is elected for a term of two years, and the councillors for three years, one-third of their number retiring each year.

Subject to disqualification on certain grounds, all persons who are natural-born or naturalized British subjects owning or occupying ratable land in the Municipality are eligible for election as mayor or as a councillor. All the electors enrolled in the Municipality are entitled to vote in the election of a mayor but, in the election of a councillor, only those enrolled in the particular ward may vote. 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 mayoral elections or two in elections for councillors.

The office of auditor is also elective, the procedure being the same as for the election of a mayor. No mayor or councillor may be auditor but any other adult person who is a natural-born or naturalized British subject, and who holds a certificate from a recognized institute of accountants or is approved by the Minister, is eligible for election. There are two auditors for each Municipality and one retires each year. The financial year ends on the 31st October.

Road Boards

With the exception of King's Park, a public reserve of one thousand acres in Perth, there are no unincorporated areas in Western Australia, any land which is not comprised in a Municipality being incorporated under the provisions of the Road Districts Act. Every Road District is administered, for local government purposes, by a Road Board consisting of not less than five nor more than thirteen members elected by adult owners or occupiers of ratable land in the District.

Apart from certain specific exclusions, every adult person who is a natural-born or naturalized British subject and is the owner or occupier of ratable land in the District is qualified for election to the Board. Tenure of office is limited to a period of three years and a number of members, varying with the total membership of the Board, retire each year. After every annual election, the members of the Board choose one of their number to be chairman.

Where a District is divided into wards, an elector is entitled to vote only for the ward or wards in which his qualifying land is situated. The number of votes to which he is entitled is proportionate to the ratable value of the property but he may not exercise more than four votes in respect of the whole District.

The financial transactions of each Board are subject to audit by an officer appointed by the Board with the consent of the Minister or by an auditor appointed by the Minister. The financial year ends on the 30th June.

CHAPTER IV—POPULATION AND VITAL STATISTICS

Note.—Reference is made on page 107 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 aboriginals.

PART 1—POPULATION

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

In 1829, the year of establishment of the Colony, there were 1,003 persons in the Swan River Settlement. 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 from the beginning of the century to the end of 1958 has been higher in Western Australia, 2.40 per cent., than in any other State and than that of the Commonwealth as a whole, 1.69 per cent.

The table shows the population at ten-yearly intervals since 1830, the numerical and percentage increase during each decade and the corresponding average annual rate. The population at the end of each of the ten years from 1949 to 1958 is also shown, together with the increase in each year and in the ten-year period.

ESTIMATED POPULATION†—1830-1958

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	13,559	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
1949	280,273	263,911	544,184	22,185	4.25	....
1950	294,758	277,891	572,649	28,465	5.23	....
1951	304,454	285,885	590,339	17,690	3.09	....
1952	316,700	296,235	612,935	22,596	3.83	....
1953	326,372	305,371	631,743	18,808	3.07	....
1954	334,886	314,529	649,415	17,672	2.80	....
1955	345,487	325,263	670,750	21,335	3.29	....
1956	353,082	331,753	684,835	14,085	2.10	....
1957	360,031	340,183	700,214	15,379	2.25	....
1958	366,356	347,227	713,583	13,369	1.91	....
Ten years ended 31st December, 1958				191,584	36.70	3.18

† See letterpress Estimates of Population on page 100.

CENSUSES

The first systematic census of the Colony was taken on the 10th October, 1848. Since then, there have been 11 enumerations, the latest at the 30th June, 1954.

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

POPULATION AT EACH CENSUS DATE—WESTERN AUSTRALIA AND AUSTRALIA

1848-1954

Date of Census	Western Australia			Australia	Western Australia	
	Males	Females	Persons	Persons	Proportion of Australia (per cent.)	Masculinity (a)
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	5,315	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	134.9
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

(a) Number of males to each 100 females.

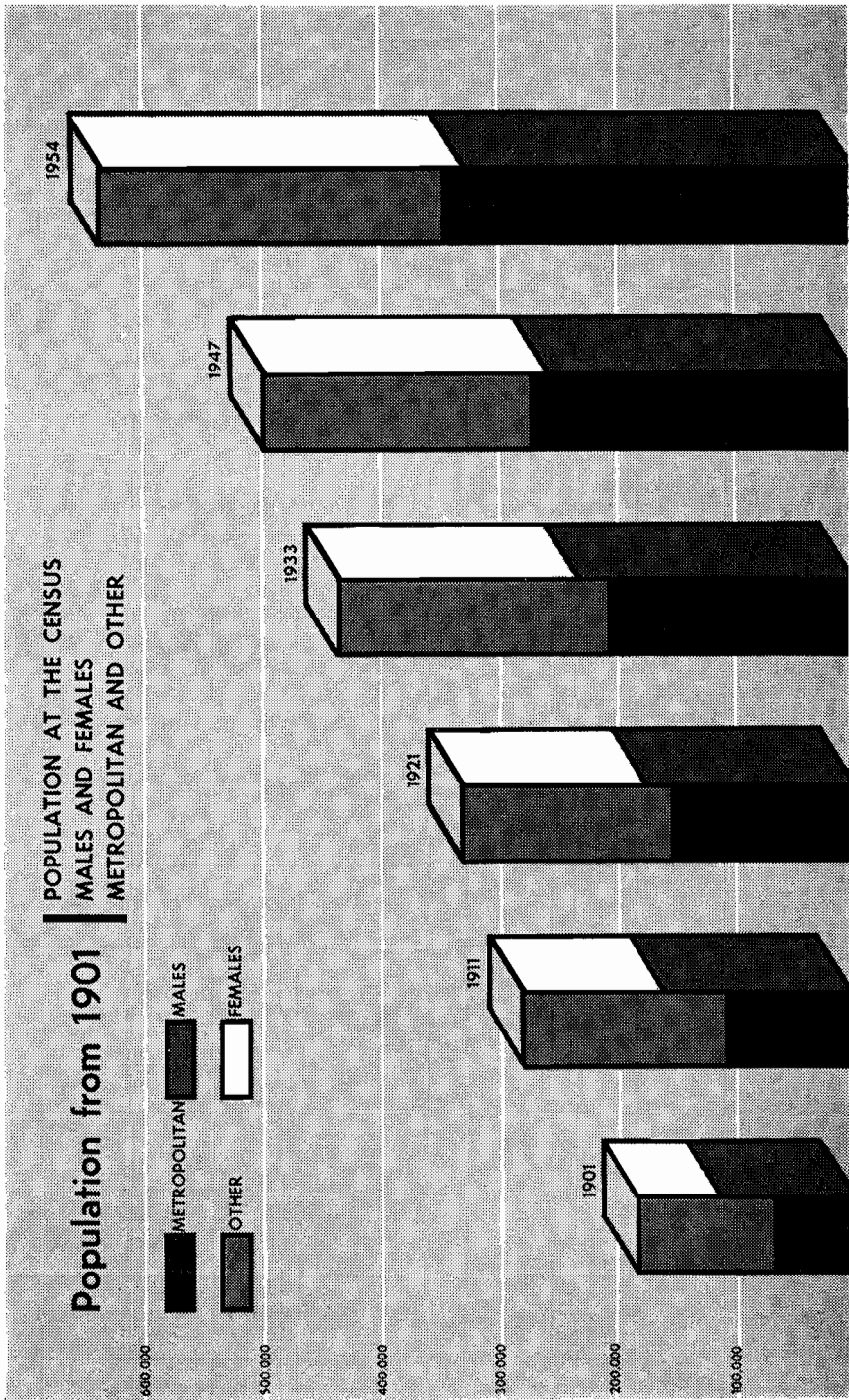
The Census of 1881 was the first taken simultaneously in all the Australian Colonies. For the dates shown in the years 1848, 1854 and 1870, the Australian population totals have been estimated from other sources. However, it is thought that the figures showing the proportion which Western Australian 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 continued to be high and, indeed, showed a slight increase since the 1947 Census. At the 30th June, 1954, it stood at 106.8 and was higher than in any other State and significantly higher than the Commonwealth figure of 102.4.

Age Composition—The following table shows a division of the population into the proportion 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 proportion of minors in the population is 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 substantial measure of recovery shown by the 1954 figure, resulting from the improvement in the birth rate and the introduction of large numbers of migrant children. The decline, to 62.2 per cent., in the proportion of those of working age is another important feature.



PROPORTION OF POPULATION IN CERTAIN AGE GROUPS—CENSUSES, 1881-1954
(per cent.)

Year of Census	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
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
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

AGE DISTRIBUTION OF POPULATION—CENSUS, 30TH JUNE, 1954

Age Last Birthday (years)	Number			Proportion of Total (per cent.)		
	Males	Females	Persons	Males	Females	Persons
0-4	38,092	36,886	74,978	11.53	11.92	11.72
5-9	34,369	32,710	67,079	10.40	10.57	10.49
10-14	26,965	25,728	52,693	8.16	8.32	8.24
15-19	23,048	22,203	45,251	6.98	7.18	7.07
20-24	22,857	20,745	43,602	6.92	6.70	6.82
25-29	26,432	23,047	49,479	8.00	7.45	7.73
30-34	25,484	23,036	48,520	7.72	7.45	7.58
35-39	21,606	21,084	42,690	6.54	6.82	6.67
40-44	23,267	21,139	44,406	7.04	6.83	6.94
45-49	22,176	18,460	40,636	6.71	5.97	6.35
50-54	19,684	15,963	35,647	5.96	5.16	5.57
55-59	13,092	12,142	25,234	3.96	3.92	3.94
60-64	11,024	11,243	22,267	3.34	3.63	3.48
65-69	8,580	8,922	17,502	2.60	2.88	2.74
70-74	6,290	7,050	13,340	1.90	2.28	2.09
75-79	4,158	4,852	9,010	1.26	1.57	1.41
80-84	2,206	2,853	5,059	0.67	0.92	0.79
85-89	824	1,034	1,858	0.25	0.33	0.29
90-94	188	276	464	0.06	0.09	0.07
95-99	15	36	51	0.00	0.01	0.01
100 and over	1	4	5	0.00	0.00	0.00
Total	330,358	309,413	639,771	100.00	100.00	100.00
0-4	38,092	36,886	74,978	11.53	11.92	11.72
5-15	66,286	63,195	129,481	20.06	20.42	20.24
16-20	22,227	21,312	43,539	6.73	6.89	6.80
Under 21	126,605	121,393	247,998	38.32	39.23	38.76
21-44	115,515	105,185	220,700	34.97	34.00	34.50
45-64	65,976	57,808	123,784	19.97	18.68	19.35
65 and over	22,262	25,027	47,289	6.74	8.09	7.39
Total	330,358	309,413	639,771	100.00	100.00	100.00

Birthplace—The following table has been compiled on the basis of total population, which includes the migratory population comprising persons (both passengers and crew) not enumerated elsewhere who, at midnight between the 30th June and the 1st July, were on board ships or were travelling on long-distance trains or aircraft.

BIRTHPLACE OF THE POPULATION—CENSUS, 30TH JUNE, 1954

(Figures revised since previous issue)

Birthplace	Number			Proportion of Total (per cent.)		
	Males	Females	Persons	Males	Females	Persons
Australia	244,513	245,593	490,106	74·01	79·37	76·61
United Kingdom and Republic of Ireland	45,883	37,810	83,693	13·89	12·22	13·08
Italy	11,482	5,560	17,042	3·48	1·80	2·66
Netherlands	4,857	3,624	8,481	1·47	1·17	1·33
Germany	2,698	2,663	5,361	0·82	0·86	0·84
Poland	3,112	2,018	5,130	0·94	0·65	0·80
Yugoslavia	2,957	1,616	4,573	0·89	0·52	0·72
India, Pakistan, Ceylon	1,946	1,785	3,731	0·59	0·58	0·58
Greece	1,981	1,232	3,213	0·60	0·40	0·50
New Zealand	1,091	986	2,077	0·33	0·32	0·32
Latvia	834	669	1,503	0·25	0·22	0·23
Ukraine	688	444	1,132	0·21	0·14	0·18
Total	322,042	304,000	626,042	97·48	98·25	97·85
Other Countries (a)	8,316	5,413	13,729	2·52	1·75	2·15
Grand Total	330,358	309,413	639,771	100·00	100·00	100·00
Summary—						
Australia and New Zealand	245,638	246,603	492,241	74·4	79·7	76·9
Europe	78,936	58,341	137,277	23·9	18·9	21·5
Asia	4,048	3,153	7,201	1·2	1·0	1·1
Africa	823	717	1,540	0·2	0·2	0·3
America	838	525	1,363	0·3	0·2	0·2
Other (a)	75	74	149	0·0	0·0	0·0
Grand Total	330,358	309,413	639,771	100·0	100·0	100·0

(a) Includes persons born at sea.

It will be seen that 76·6 per cent. of Western Australia's population at the 30th June, 1954 were born in Australia. The United Kingdom and the Republic of Ireland together accounted for 13·1 per cent., and other countries in Europe for 8·4 per cent., leaving less than 2·0 per cent. who gave as their birthplace countries outside Australia or Europe.

Of the migratory population, numbering in all 2,267 persons, 1,016 were born in Australia and 30 in New Zealand, 867 in Europe, 328 in Asia, 12 in Africa and 11 in America.

The non-migratory population born outside Australia numbered 148,414. Rather more than 56 per cent. of these (83,229) were born in the United Kingdom or the Republic of Ireland, and almost 36 per cent. (53,187) in other European countries, of which Italy (16,834), the Netherlands (8,388), Germany (5,341) and Poland (5,124) were the largest contributors. Of the remainder, 6,873 were born in Asia, 2,047 in New Zealand, 1,528 in Africa and 1,352 in America.

Nationality—Of the total of 637,504 persons in the non-migratory population, 594,451, or 93·2 per cent., were of British or Irish nationality, the remainder, 43,053, being principally of Italian (12,061), Dutch (8,626), Polish (5,241), Yugoslav (2,626) or German (2,563) nationality.

Religion—At the 1954 Census, as in the enumerations of 1947 and 1933, it was stated on the schedule that there was no legal obligation to reply to the question on religion. The proportion of non-reply in the total population was 9·87 per cent., 63,143 persons refraining from answering the question. Non-reply occurred more frequently among the males than among the females, 10·62 per cent. of males failing to answer compared with 9·06 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 the total number of replies.

RELIGION OF THE POPULATION—CENSUS, 30TH JUNE, 1954

Religion	Males	Females	Persons	Proportion of total replies (per cent.)
Christian—				
Baptist	3,475	3,761	7,236	1·25
Brethren	331	403	734	0·13
Catholic, Roman (a)	48,301	39,710	88,011	15·26
Catholic (a)	27,343	28,135	55,478	9·62
Church of Christ	3,590	4,211	7,801	1·35
Church of England	136,802	131,333	268,135	46·50
Congregational	3,332	3,512	6,844	1·19
Greek Orthodox	4,183	3,030	7,213	1·25
Lutheran	2,046	1,825	3,871	0·67
Methodist	33,697	34,792	68,489	11·88
Presbyterian	19,281	18,378	37,659	6·53
Protestant, undefined	3,209	2,957	6,166	1·07
Salvation Army	1,774	1,958	3,732	0·65
Seventh Day Adventist	1,295	1,637	2,932	0·51
Other Christian (including Christian, undefined)	2,600	2,892	5,492	0·95
Total, Christian	291,259	278,534	569,793	98·81
Non-Christian—				
Hebrew	1,311	1,244	2,555	0·44
Other Non-Christian	297	77	374	0·07
Total, Non-Christian	1,608	1,321	2,929	0·51
Indefinite	941	805	1,746	0·30
No Religion	1,451	709	2,160	0·38
Total Replies	295,259	281,369	576,628	100·00
No Reply	35,099	28,044	63,143	...
Total Population	330,358	309,413	639,771	...

(a) So described on individual census schedules.

Conjugal Condition—The following table shows the conjugal condition of the population at the 30th June, 1954 in certain broad age groups.

CONJUGAL CONDITION IN CONJUNCTION WITH AGE—CENSUS, 30TH JUNE, 1954

Conjugal Condition	Age Last Birthday (years)					
	0-14	15-44	45-59	60-64	65 and over	All Ages
MALES						
Never Married	99,426	60,088	7,264	1,348	2,786	170,912
Married (a) .....	...	78,753	43,419	8,215	13,650	144,037
Married but Permanently Separated .....	...	1,795	1,483	336	706	4,320
Widowed .....	...	407	1,432	870	4,746	7,455
Divorced .....	...	1,177	1,222	224	307	2,930
Not Stated .....	...	474	132	31	67	704
Total	99,426	142,694	54,952	11,024	22,262	330,358
FEMALES						
Never Married	95,324	35,814	4,000	971	1,975	138,084
Married (a) .....	...	90,349	35,275	6,626	8,826	141,076
Married but Permanently Separated .....	...	2,319	1,336	332	480	4,467
Widowed .....	...	1,382	4,883	3,117	13,492	22,874
Divorced .....	...	1,277	1,029	179	205	2,690
Not Stated .....	...	113	42	18	49	222
Total	95,324	131,254	46,565	11,243	25,027	309,413
PERSONS						
Never Married	194,750	95,902	11,264	2,319	4,761	308,996
Married (a) .....	...	169,102	78,694	14,841	22,476	285,113
Married but Permanently Separated .....	...	4,114	2,819	668	1,186	8,787
Widowed .....	...	1,789	6,315	3,987	18,238	30,329
Divorced .....	...	2,454	2,251	403	512	5,620
Not Stated .....	...	587	174	49	116	926
Total	194,750	273,948	101,517	22,267	47,289	639,771

(a) Excludes persons permanently separated (legally or otherwise).

The proportions which the numbers of each conjugal condition bore to the population aged 15 years and over are set out below.

CONJUGAL CONDITION OF POPULATION AGED 15 YEARS AND OVER.
POPULATION IN CERTAIN AGE GROUPS AS PROPORTION OF TOTAL AGED 15 YEARS
AND OVER—CENSUS, 30TH JUNE, 1954
(per cent.)

Conjugal Condition	Age Last Birthday (years)				
	15-44	45-59	60-64	65 and over	15 and over
MALES					
Never Married	26.02	3.15	0.58	1.21	30.96
Married (a)	34.10	18.80	3.56	5.91	62.37
Married but Permanently Separated	0.78	0.64	0.14	0.31	1.87
Widowed	0.18	0.62	0.38	2.05	3.23
Divorced	0.51	0.53	0.10	0.13	1.27
Not Stated	0.20	0.06	0.01	0.03	0.30
Total	61.79	23.80	4.77	9.64	100.00
FEMALES					
Never Married	16.73	1.87	0.45	0.92	19.97
Married (a)	42.20	18.48	3.10	4.12	65.90
Married but Permanently Separated	1.08	0.62	0.16	0.23	2.09
Widowed	0.65	2.28	1.45	6.30	10.68
Divorced	0.60	0.48	0.08	0.10	1.26
Not Stated	0.05	0.02	0.01	0.02	0.10
Total	61.31	21.75	5.25	11.69	100.00
PERSONS					
Never Married	21.55	2.53	0.52	1.07	25.67
Married (a)	38.01	17.68	3.33	5.05	64.07
Married but Permanently Separated	0.92	0.63	0.15	0.27	1.97
Widowed	0.40	1.42	0.90	4.10	6.82
Divorced	0.55	0.51	0.09	0.11	1.26
Not Stated	0.13	0.04	0.01	0.03	0.21
Total	61.56	22.81	5.00	10.63	100.00

(a) Excludes persons permanently separated (legally or otherwise).

A noteworthy feature of the tables is the much greater number of males than females in the "never married" group. Among the males, over 71,000, or about 31 per cent., of those aged 15 years and upwards had never been married. Of the female population at these ages, about 43,000, or less than one-fifth, were classified in this way. This excess of males over females occurred among the "never married" population in each of the age groups shown.

It is interesting to note that widows exceeded widowers throughout the tables. In total, there were over three times as many widowed females as males, the proportions of the respective populations aged 15 years and over being 10.68 and 3.23 per cent.

Of the female population aged 15 years and over, about 90,000, or 42.2 per cent., were married women of child-bearing age.

Industry—Classifications of the population according to industry at the 1954 Census will be found in Chapter X—*Employment, Wages and Prices*.

Occupational Status—An analysis of the work force according to occupational status at each census from 1901 to 1954 appears in Chapter X—*Employment, Wages and Prices*.

Dwellings—Certain particulars of dwellings at the Censuses of 1947 and 1954 are presented in Chapter V—*Social Condition*.

ESTIMATES OF POPULATION

Estimates as at Specific Dates

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

Estimates of the population of Australia and of each of the States and Territories are prepared by the Commonwealth Statistician as at 31st March, 30th June, 30th September and 31st December in each year. Because the available records of interstate movement are incomplete, these intercensal estimates as they apply to States and Territories are approximate and are revised when the results of the next succeeding census become known.

For this reason, all State population statistics for dates or periods subsequent to the 30th June, 1954, when the last census was taken, are to be regarded as subject to revision after the next census.

ESTIMATED POPULATION

Year	At 30th June			At 31st December		
	Males	Females	Persons	Males	Females	Persons
1949	273,421	258,770	532,191	280,273	263,911	544,184
1950	286,540	270,556	557,096	294,758	277,891	572,649
1951	298,714	281,629	580,343	304,454	285,885	590,339
1952	309,749	290,109	599,858	316,700	296,235	612,935
1953	320,352	300,195	620,547	326,372	305,371	631,743
1954	(a) 330,358	(a) 309,413	(a) 639,771	334,886	314,529	649,415
1955	339,171	319,367	658,538	345,487	325,263	670,750
1956	348,967	328,422	677,389	353,082	331,753	684,835
1957	355,720	336,162	691,882	360,031	340,183	700,214
1958	361,802	343,448	705,250	366,356	347,227	713,583

(a) Census figures.

Estimates of Mean Population

It is often useful to relate a given characteristic to population in order to express it in *per capita* terms or as "per head of population." In some cases it is appropriate to relate a characteristic to the population as at a specified date as, for example, savings bank balances per head of population at the 30th June, or motor vehicles per head of population at the 31st December.

Where events, as for instance births or deaths, are taking place continuously throughout a period, it is obviously not appropriate to relate these events to the population as at a specific date. It is necessary, therefore, to devise a measure which takes account of the change in population which occurs continuously throughout any period. This measure is known as the *mean population*.

As stated earlier, estimates of population are prepared as at the end of each quarter of the year. The mean population of a quarter might be taken to be the average, or arithmetic mean, of the populations at the beginning and the end of the quarter. If a represents the population at the beginning of a year and b , c , d and e the populations at the end of the first, second, third and fourth quarters respectively, these quarterly means would then be $\frac{1}{2}(a + b)$ for the first quarter, $\frac{1}{2}(b + c)$ for the second, $\frac{1}{2}(c + d)$ for the third and $\frac{1}{2}(d + e)$ for the fourth quarter. The mean population for the year might then be taken as the arithmetic mean of the four quarterly average populations, or

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

which may be more simply expressed as $\frac{1}{8}(a + 2b + 2c + 2d + e)$. This method of deriving mean population had been in use in Western Australia prior to its general adoption by the 1903 Conference of Australian Statisticians. It was later superseded by the more precise measure

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

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
1949	267,913	254,019	521,932	273,758	258,845	532,603
1950	280,382	264,752	545,134	286,885	270,993	557,878
1951	293,358	276,988	570,346	298,646	281,671	580,317
1952	304,031	285,856	589,887	309,976	290,639	600,615
1953	315,458	295,733	611,191	320,492	300,542	621,034
1954	325,557	305,148	630,705	330,350	309,790	640,140
1955	334,438	314,492	648,930	339,137	319,610	658,747
1956	344,528	324,512	669,040	348,835	328,482	677,317
1957	352,226	332,292	684,518	355,518	336,205	691,723
1958	358,636	339,912	698,548	361,951	343,649	705,600

SOURCES OF INCREASE

The following table shows the population of the State at each census from 1901 to 1954, and the intercensal gains by natural increase and by migration. The annual rates of total increase for each period are also shown.

INTERCENSAL INCREASE IN POPULATION—1901-1954

Intercensal Period	Population at Beginning of Period	Population at End of Period	Increase			
			By Natural Increase (a)	By Migration (b)	Total	Average Annual Rate (per cent.)
1st April, 1901—3rd April, 1911	184,124	282,114	44,246	53,744	97,990	4.36
4th April, 1911—4th April, 1921	282,114	332,732	51,851	— 1,233	50,618	1.66
5th April, 1921—30th June, 1933	332,732	438,852	60,127	45,993	106,120	2.28
1st July, 1933—30th June, 1947	438,852	502,480	72,819	— 9,191	63,628	0.97
1st July, 1947—30th June, 1954	502,480	639,771	65,576	71,715	137,291	3.51
1st April, 1901—30th June, 1954	184,124	639,771	294,619	161,028	455,647	2.37

(a) Excess of births over deaths.

(b) Excess of arrivals over departures. Minus sign (—) denotes decrease.

Natural Increase—The population made considerable gains by natural increase during each intercensal period, particularly between the Censuses of 1901 and 1911, when the total increase was 53.2 per cent., 24.0 per cent. being from this source. Western Australia's rate of natural increase per thousand of mean population was greater than the Australian rate during each period, notably between 1901 and 1911, between 1933 and 1947, and again between 1947 and 1954.

This rate was well maintained in each of the years between the Censuses of 1947 and 1954, being greater than that for any other State except Tasmania and substantially higher than the Commonwealth average. In the post-censal period, the rates for Western Australia have been 17.07 in 1955, 16.75 in 1956, 16.81 in 1957 and 15.84 in 1958 compared with 13.65, 13.37, 14.04 and 14.09 for the whole of Australia.

The absolute gain by natural increase during the period from the 1st July, 1947 to the 30th June, 1954 was over 65,000, an average annual addition of 9,400. Between the 1st July, 1954 and the 31st December, 1958 the gain was 50,666 or 11,259 per annum. The average annual increases in the earlier periods were 4,400 in 1901-1911; 5,200 in 1911-1921; 4,900 in 1921-1933; and 5,200 in 1933-1947.

Migration—The migration experience of the years 1933-1947 shows a startling reversal from that of the earlier periods, this being the first occasion on which a census disclosed a significant net loss. This deficiency of 9,000 contrasted with a gain of 46,000 in the years 1921-1933 and of 54,000 in the period 1901-1911.

The effect of migration between the Censuses of 1911 and 1921 was negligible, the accretion between these dates being due entirely to the natural increase of the population.

In the intercensal period 1947-1954, Western Australia made very large gains by migration. The total increase from this source between July, 1947 and June, 1954 was 71,715, an average of more than 10,200 per year, compared with an average annual loss of about 650 between the censuses of 1933 and 1947. The recorded movement of population during this seven-year period is shown in detail in the table below. In each year Western Australia's rate of net migration was considerably higher than that for the rest of the Commonwealth, and in 1950, and again in 1952 and 1953, was more than twice as great.

ARRIVALS, DEPARTURES AND NET MIGRATION—1947-1954

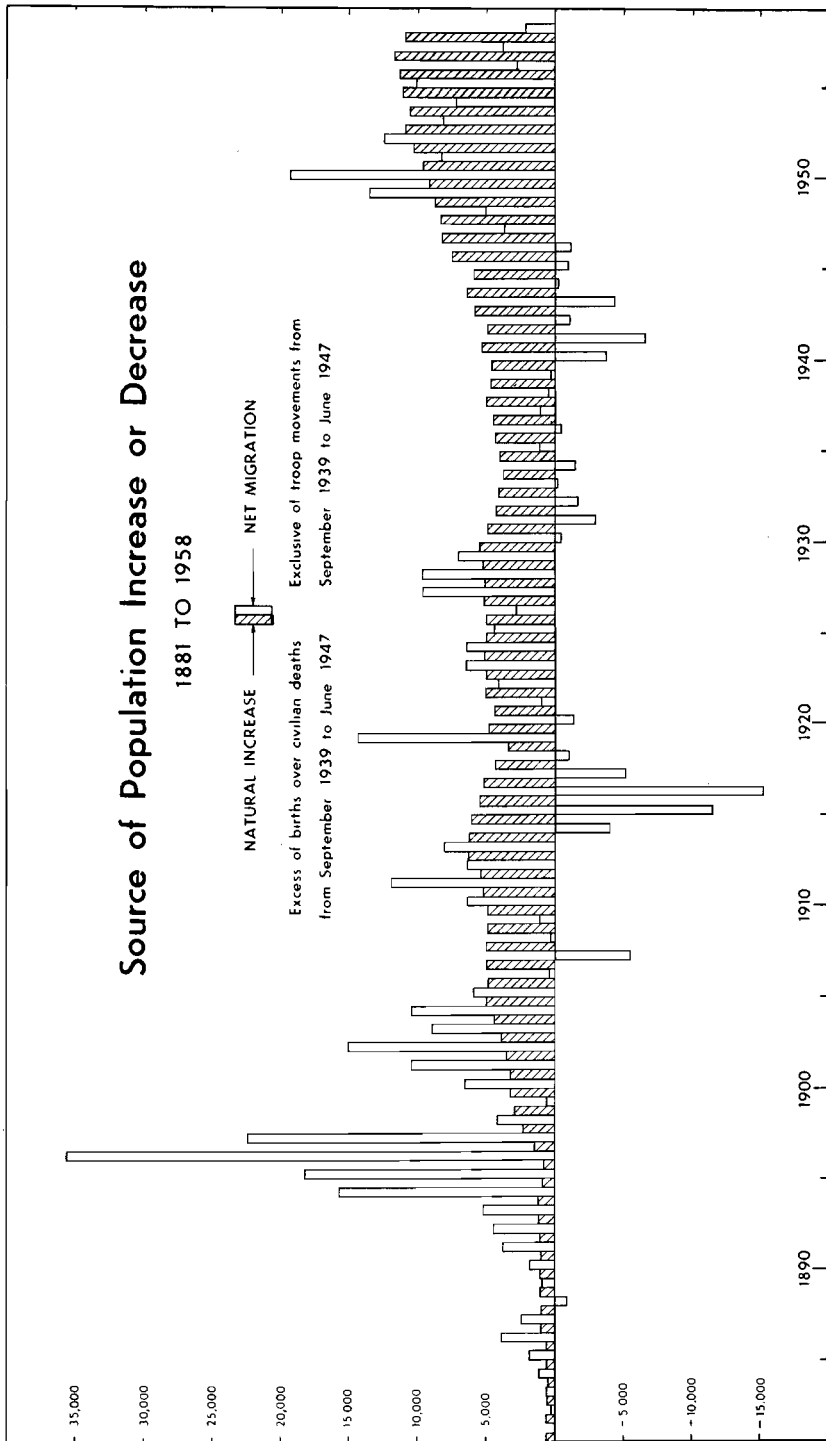
Period	Arrivals			Departures			Excess of Arrivals over Departures (a)		
	Inter-state	Over-sea	Total	Inter-state	Over-sea	Total	Inter-state	Over-sea	Total
Six months ended 31st December, 1947	24,345	6,530	30,875	26,491	1,632	28,123	—2,146	4,898	2,752
Year ended 31st December—									
1948	52,178	11,005	63,183	53,825	4,155	57,980	—1,647	6,850	5,203
1949	52,896	19,231	72,127	53,134	5,229	58,363	—238	14,002	13,764
1950	56,230	27,042	83,272	58,070	5,516	63,586	—1,840	21,526	19,686
1951	66,040	13,214	79,254	65,578	5,251	70,829	462	7,963	8,425
1952	64,966	17,697	82,663	63,389	6,597	69,986	1,577	11,100	12,677
1953	67,792	14,271	82,063	66,628	7,177	73,805	1,164	7,094	8,258
Six months ended 30th June, 1954	34,130	7,913	42,043	34,751	4,434	39,185	—621	3,479	2,858
1st July, 1947, to 30th June, 1954	418,577	116,903	535,480	421,866	39,991	461,857	—3,289	76,912	73,623
Intercensal Adjustment									—1,908
Net Migration—1st July, 1947 to 30th June, 1954									71,715

(a) Minus sign (—) denotes excess of departures over arrivals.

MIGRATION

Year	Arrivals			Departures			Excess of Arrivals over Departures (a)		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
INTERSTATE									
1954	38,537	28,576	67,113	38,770	28,471	67,241	—233	105	—128
1955	40,550	30,466	71,016	40,945	29,839	70,784	—395	627	232
1956	40,767	29,932	70,699	43,338	32,091	75,429	—2,571	2,159	—4,730
1957	40,303	30,340	70,643	41,717	31,270	72,987	—1,414	930	—2,344
1958	42,757	30,772	73,529	43,706	32,277	75,983	—949	1,505	—2,454
OVERSEA									
1954	8,233	7,624	15,857	4,389	4,112	8,501	3,844	3,512	7,356
1955	9,968	8,217	18,185	4,302	4,024	8,326	5,666	4,193	9,859
1956	9,089	7,020	16,109	4,528	4,110	8,638	4,561	2,910	7,471
1957	6,920	6,834	13,754	4,169	3,489	7,658	2,751	3,345	6,096
1958	6,997	6,996	13,993	4,985	4,362	9,347	2,012	2,634	4,646
TOTAL									
1954	46,770	36,200	82,970	43,159	32,583	75,742	3,611	3,617	7,228
1955	50,518	38,683	89,201	45,247	33,863	79,110	5,271	4,820	10,091
1956	49,856	36,952	86,808	47,866	36,201	84,067	1,990	751	2,741
1957	47,223	37,174	84,397	45,886	34,759	80,645	1,337	2,415	3,752
1958	49,754	37,768	87,522	48,691	36,639	85,330	1,063	1,129	2,192

(a) Minus sign (—) denotes excess of departures over arrivals.



In 1956, there was a sharp decline in Western Australia's increase of population from migration, due principally to a net loss during that year of 4,730 persons to other Australian States. A loss to other States of 2,344 occurred in 1957 and of 2,454 in 1958. Western Australia's net gain from migration, overseas and interstate, and the corresponding rate per thousand of mean population were 2,741 and 4.05 in 1956 (compared with 10,091 and 15.32 in 1955), 3,752 and 5.42 in 1957 and 2,192 and 3.11 in 1958.

The following table shows the net population gain by migration for Western Australia, the other States and Territories and for Australia as a whole in each of the years 1954 to 1958. The corresponding rates of net migration per thousand of mean population are also shown.

Western Australia's experience in each year since 1955 has been unfavourable compared with the rest of Australia and consequently with that of Australia as a whole. In 1955, Western Australia showed a gain of 15.32 persons per thousand of mean population and the rest of Australia 10.20 persons. The rates in 1958 were 3.11 and 6.91 persons. In the same period the Australian rate fell from 10.57 to 6.64 per thousand of mean population, a decline from 97,255 persons in 1955 to 65,366 in 1958.

MIGRATION—WESTERN AUSTRALIA AND AUSTRALIA

Year	Net Migration (Excess of Arrivals over Departures)					
	Western Australia		Other States and Territories		Australia	
	Number	Rate (a)	Number	Rate (a)	Number	Rate (a)
1954	7,228	11.29	60,979	7.30	68,207	7.59
1955	10,091	15.32	87,164	10.20	97,255	10.57
1956	2,741	4.05	91,257	10.43	93,998	9.97
1957	3,752	5.42	74,980	8.38	78,732	8.17
1958	2,192	3.11	63,174	6.91	65,366	6.64

(a) Excess of arrivals over departures per 1,000 of mean population.

Total Increase—The buoyant rate of natural increase, combined with migration gains, resulted in high rates of total increase between the Censuses of 1947 and 1954. Western Australia's population increase of 27.3 per cent. (3.51 per cent. per annum) was greater than that of any other State and considerably higher than that of the Commonwealth as a whole, which showed a gain of 18.6 per cent., or 2.46 per cent. per annum. Of Australia's increase in population of 1,407,172, Western Australia accounted for 137,291, or 9.8 per cent., although the State's population is little more than 7 per cent. of the Australian total.

Up to the end of 1958, Australia's population had increased by 965,088 persons since the Census of the 30th June, 1954. In the same period Western Australia had gained 73,812 persons, or 7.6 per cent. of the total increase for Australia.

Western Australia's rate of population growth has been influenced markedly by the fall in migration gains since 1955. In that year, its increase of 3.29 per cent. was greater than that of any other State and significantly higher than the Australian gain of 2.45 per cent. The corresponding rates were 2.10 and 2.36 in 1956, 2.25 and 2.25 in 1957 and 1.91 and 2.09 in 1958.

The following table shows the increase in population during the five years ended 31st December, 1958. The annual rate of total increase is also shown, as well as the gains by natural increase and by migration.

POPULATION INCREASE

Year	Natural Increase			Net Migration (a)			Total Increase			
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Rate (b) (per cent.)
1954	4,933	5,631	10,564	3,611	3,617	7,228	(c) 8,514	(c) 9,158	(c) 17,672	2.80
1955	5,330	5,914	11,244	5,271	4,820	10,091	10,601	10,734	21,335	3.29
1956	5,605	5,739	11,344	1,990	751	2,741	7,595	6,490	14,085	2.10
1957	5,612	6,015	11,627	1,337	2,415	3,752	6,949	8,430	15,379	2.25
1958	5,262	5,915	11,177	1,063	1,129	2,192	6,325	7,044	13,369	1.91

(a) Excess of arrivals over departures. (b) Rate of increase for each year based on the population at the previous 31st December. (c) Figures incorporate adjustment in accordance with the results of the 1954 Census.

GEOGRAPHICAL DISTRIBUTION

Western Australia is divided into 147 Statistical Districts which are identical with the 21 Municipalities and 126 Road Districts constituted for local government purposes. Information presented on this basis is valuable when considering activities in particular local government areas but is often more detailed than is required for a broader geographic assessment. For this reason, the Statistical Districts are combined into eleven Statistical Divisions which provide significant areas for the presentation of data in a convenient summary form. The Statistical Divisions and their component Statistical Districts are shown on the map of the State appearing at the back of the Year Book.

In the period between the Censuses of 1947 and 1954, some changes were made in the number, names and boundaries of the Statistical Divisions. The Divisions as they now exist became operative from the 1st January, 1954. In the table below, the particulars shown for the Census of the 30th June, 1947 refer to population within the present boundaries of the Statistical Divisions and direct comparison between the two sets of data given is therefore possible.

POPULATION IN STATISTICAL DIVISIONS—1947 AND 1954

Statistical Division	Census, 30th June, 1947				Census, 30th June, 1954			
	Males	Females	Persons	Mascu- linity†	Males	Females	Persons	Mascu- linity†
Metropolitan	131,670	140,858	272,528	93·48	171,832	176,815	348,647	97·18
Swan	16,065	14,375	30,440	111·76	24,370	22,032	46,402	110·61
South-West	28,039	23,934	51,973	117·15	36,607	31,946	68,553	114·59
Southern Agricultural	13,005	11,943	24,948	108·89	19,140	16,985	36,125	112·69
Central Agricultural	23,610	20,180	43,790	117·00	30,502	25,422	55,924	119·98
Northern Agricultural	13,594	11,071	24,665	122·79	17,663	14,405	32,068	122·62
Eastern Goldfields	20,839	16,883	37,722	123·43	18,560	16,018	34,578	115·87
Central	3,859	2,511	6,370	153·68	2,930	1,864	4,794	157·19
North-West	1,726	912	2,638	189·25	2,751	1,469	4,220	187·27
Pilbara	1,176	475	1,651	247·58	1,795	855	2,650	209·94
Kimberley	1,841	933	2,774	197·32	2,303	1,240	3,543	185·73
Total—All Divisions	255,424	244,075	499,499	104·65	328,453	309,051	637,504	106·28
Migratory (a)	2,852	329	2,981	806·08	1,905	382	2,287	526·24
Whole State	258,076	244,404	502,480	105·59	330,358	309,413	639,771	106·77

† Number of males to each 100 females. (a) Comprises persons (both passengers and crew) not enumerated elsewhere who, at midnight between the 30th June and the 1st July, were on board ships or were travelling on long-distance trains or aircraft.

The growing urbanization noted in other States is apparent in Western Australia. The population of the Metropolitan Statistical Division at the Census of the 30th June, 1954 was 348,647, or 54·5 per cent. of the State total, compared with 272,528 (54·2 per cent.) seven years earlier, an increase of 76,119 persons, or 27·9 per cent. The State's natural increase between the Censuses was 65,500 of which the Metropolitan Statistical Division contributed 29,000. In addition, this Division experienced a net gain by migration of 47,000. The municipalities and larger towns of the Agricultural and South-West Statistical Divisions also showed substantial population increases, the greatest being those of Bunbury, Albany, Geraldton and Collie.

The non-metropolitan population rose by almost 62,000 or 27·3 per cent., compared with an actual decline in the previous intercensal period. Of this gain 36,500 was due to natural increase and more than 25,000 to migration. The largest numerical increase, 16,580 persons, occurred in the South-West Statistical Division and the greatest proportional increase, 60·5 per cent., in the Pilbara Division which added 999 persons to its population of 1,651 at the 1947 Census. Other Divisions showing an increase were Swan, 15,962 (52·4 per cent.), Central Agricultural, 12,134 (27·7 per cent.), Southern Agricultural, 11,177 (44·8 per cent.), Northern Agricultural, 7,403 (30·0 per cent.), North-West, 1,582 (60·0 per cent.) and Kimberley, 769 (27·7 per cent.). Divisions which experienced a decrease in population were Eastern Goldfields which lost 3,144 persons (—8·3 per cent.) and Central with a decline of 1,576 (—24·7 per cent.).

Outside the Metropolitan Statistical Division, the largest towns are Kalgoorlie and Boulder (gold mining), Bunbury, Geraldton and Albany (seaports), Collie (coal mining) and Northam (agricultural centre). These towns are included in the list below, which shows the names and the population of all towns which had more than 1,000 inhabitants at the Census.

**TOWNS OUTSIDE THE METROPOLITAN AREA WITH A POPULATION OF 1,000 OR MORE
CENSUS, 30th JUNE, 1954**

Town	Population	Town	Population
Kalgoorlie-Boulder--		Manjimup	2,223
Kalgoorlie (M)	9,962	Bridgetown	1,777
Boulder (M)	6,279	York (M)	1,720
Kalgoorlie Suburbs (a) 6,596	22,837	Harvey	1,625
Bunbury (M)	9,869	Mandurah	1,623
Collie	8,667	Gosnells	1,618
Geraldton (M)	8,309	Wagin (M)	1,526
Albany (M)	8,265	Armadale	1,496
Northam (M)	5,725	Carnarvon (M)	1,453
Narrogin (M)	3,768	Kwinana New Town	1,299
Katanning	2,864	Pemberton	1,257
Norseman	2,539	Mount Barker	1,242
Busselton	2,449	Kellerberrin	1,145
Merredin	2,342	Broome	1,095
Kalamunda-Gooseberry Hill 2,282		Safety Bay	1,070
		Rockingham	1,022

(M) indicates Municipality.

(a) The urban portion of Kalgoorlie Road District.

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 contains more than nine-tenths of the population.

The Eastern Goldfields, Central and Pilbara Statistical Divisions together comprised an area of 660,459 square miles (or rather more than two-thirds of the State) and had a population of little more than 42,000 persons at the Census of the 30th June, 1954. 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 the area has an annual rainfall greater than ten inches and a considerable proportion has much less.

Of the total of 42,022 persons enumerated in these three Divisions at the Census, 34,173 were living in or near the towns of Kalgoorlie-Boulder (22,837), Norseman (2,623), Coolgardie (1,137), Bullfinch (1,079), Gwalia-Leonora (959), Esperance (872), Big Bell (854), Southern Cross (764), Meekatharra (694), Mount Magnet (648), Port Hedland (644), Wittenoom (595) and Cue (467). Less 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 than half the entire State, but had a population at the 1954 Census of only 10,700 persons. Of these, more than half were to be found in or near the ports of the north and north-west coasts, and less than 5,000 on the sheep and cattle stations and at the mines of the vast hinterland.

Density—The most densely populated part of the State is the Metropolitan Statistical Division. At the Census of the 30th June, 1954 it had a population of 348,647 and an area of 191 square miles, representing a density of 1,825 persons per square mile. The Pilbara is the most sparsely populated Division with an area of 194,765 square miles (almost one-fifth of the entire State) and a census population of only 2,650 persons, equivalent to an average of one person to every 73 square miles.

AREA, POPULATION AND DENSITY—STATISTICAL DIVISIONS
CENSUS, 30th JUNE, 1954

Statistical Division	Area		Population				Persons per square mile
	Square Miles	Proportion of State (per cent.)	Males	Females	Persons	Proportion of State (per cent.)	
Metropolitan	191	0·02	171,832	176,815	348,647	54·50	1,825·38
Swan	1,870	0·19	24,370	22,032	46,402	7·25	24·81
South-West	11,025	1·13	36,607	31,946	68,553	10·72	6·22
Southern Agricultural	22,050	2·26	19,140	16,985	36,125	5·65	1·64
Central Agricultural	29,398	3·01	30,502	25,422	55,924	8·74	1·90
Northern Agricultural	36,364	3·73	17,663	14,405	32,068	5·01	0·88
Eastern Goldfields	250,225	25·64	18,560	16,018	34,578	5·41	0·14
Central	215,469	22·07	2,930	1,884	4,794	0·75	0·02
North-West	75,503	7·74	2,751	1,469	4,220	0·66	0·06
Pilbara	194,765	19·96	1,795	855	2,650	0·41	0·01
Kimberley	139,060	14·25	2,303	1,240	3,543	0·55	0·03
Total—All Divisions	975,920	100·00	328,453	309,051	637,504	99·65	0·65
Migratory .....	.....	.....	1,905	382	2,267	0·35	.....
Whole State	975,920	100·00	330,358	309,413	639,771	100·00	0·66

Western Australia had a population density at the Census of only 0·66 persons per square mile. It continues to be the most sparsely populated of the Australian States with a density of 0·73 at the 31st December, 1958 compared with 3·35 for Australia as a whole. Victoria is the most densely populated State, having an average of 31·53 persons per square mile.

The table below shows the area of each of the States and Territories together with the estimated population and its density at the 31st December, 1958.

AREA, ESTIMATED POPULATION AND DENSITY—STATES AND TERRITORIES
31st DECEMBER, 1958

State or Territory	Area in square miles	Estimated Population			Persons per square mile
		Males	Females	Persons	
New South Wales	309,433	1,865,917	1,859,769	3,725,686	12·04
Victoria	87,884	1,394,876	1,376,043	2,770,919	31·53
Queensland	667,000	729,148	695,670	1,424,818	2·14
South Australia	380,070	459,522	448,470	907,992	2·39
Western Australia	975,920	366,356	347,227	713,583	0·73
Tasmania	26,215	179,818	166,727	346,545	13·22
Northern Territory	523,620	10,681	8,441	19,122	0·04
Australian Capital Territory	939	22,957	19,996	42,953	45·74
Australia	2,971,081	5,029,275	4,922,343	9,951,618	3·35

ABORIGINALS

Attempts have been made, from time to time, to obtain a reliable indication of the numbers of aboriginals living in the several States. Generally, these inquiries were confined to those in contact with the white population. At the Census of 1921, however, a special effort was made to estimate the number of natives living under tribal conditions. The nomadic habits of the natives and their remoteness from settled areas made this work extremely difficult. The final estimates gave a total for Australia of 60,300 full-bloods, of whom 25,587, or 42·4 per cent., were in Western Australia.

According to estimates made by the Department of Native Welfare, the native population of the State at the 30th June, 1958 was about 20,000, comprising 8,700 full-bloods and 7,200 caste people living within the confines of civilization, and some 4,000 tribal natives beyond such influence. (The term " caste people " is intended to include all those of mixed aboriginal and other blood of whatever degree.) Of the 8,700 full-bloods accounted for by the Department, one-half were in the Kimberley Statistical Division and almost all of the remainder in the Pilbara, Eastern Goldfields, Central and North-West. About one-half of the caste people were in the Agricultural and South-West Statistical Divisions and one-third in the Central, Eastern Goldfields and Pilbara.

CHAPTER IV—continued

PART 2—BIRTHS, DEATHS AND MARRIAGES

Registration System—Compulsory registration of births, deaths and marriages in Western Australia was originally provided for by legislation of the year 1841. The Statute currently in force is the Registration of Births, Deaths and Marriages Act, 1894–1956. For the administration of the Act, the State is divided into 27 Registry Districts, each having a District Registrar. Returns and duplicates of all registrations, together with the original supporting documents, are sent monthly from the district offices to the Registrar-General at Perth, where a Central Registry Office has been maintained since 1841.

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

A stillbirth must be registered both as a birth and a death. (A stillborn child is defined as one of seven months' gestation or over, not born alive.)

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 may be celebrated by duly authorized ministers of religion (registered for this purpose by the Registrar-General) 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, and to furnish to the Registrar-General a monthly return of all marriages celebrated. 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 1954 to 1958 in the Metropolitan Statistical Division, the rest of the State, and in Western Australia as a whole are shown in the table below.

BIRTHS

Year	Births†			Ex-Nuptial Births†	Multiple Births†	Stillbirths
	Males	Females	Total			
METROPOLITAN STATISTICAL DIVISION						
1954	4,029	3,781	7,810	302	181	129
1955	4,200	4,110	8,310	362	216	114
1956	4,591	4,128	8,719	370	184	111
1957	4,454	4,105	8,559	358	209	117
1958	4,398	4,157	8,555	400	182	107
REST OF STATE						
1954	4,107	4,011	8,118	410	171	141
1955	4,236	4,077	8,313	418	200	125
1956	4,279	3,918	8,197	426	207	115
1957	4,284	4,081	8,365	437	182	131
1958	4,134	4,042	8,176	454	211	118
WHOLE STATE						
1954	8,136	7,792	15,928	712	352	270
1955	8,436	8,187	16,623	780	416	239
1956	8,870	8,046	16,916	796	391	226
1957	8,738	8,186	16,924	795	391	248
1958	8,532	8,199	16,731	854	393	225

† Excluding stillbirths.

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 1909 to 1958 and the rates for single years from 1949 to 1958, 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
1909-1913	28.69	27.50	1949	25.37	22.92
1914-1918	26.58	26.55	1950	25.50	23.31
1919-1923	23.19	24.47	1951	25.49	22.90
1924-1928	21.90	22.16	1952	25.66	23.35
1929-1933	19.78	18.36	1953	25.54	22.94
1934-1938	18.63	16.99	1954	24.88	22.50
1939-1943	20.53	18.85	1955	25.23	22.57
1944-1948	23.98	22.71	1956	24.98	22.50
1949-1953	25.52	23.09	1957	24.47	22.86
1954-1958	24.64	22.61	1958	23.71	22.59

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 World War I 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 17.4 was recorded in 1934 (*see Graph—Rates of Birth, Death and Marriage—on page 117*). 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 1958 the rate was 23.71, the lowest since 1945.

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 the age-specific fertility rates, that is 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 1954 were 1.772 and 1.558, and the corresponding net rates 1.704 and 1.497.

The table below 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 years 1947 and 1954.

FERTILITY RATES AND REPRODUCTION RATES—WESTERN AUSTRALIA
AND AUSTRALIA, 1947 AND 1954

Rate	Western Australia		Australia	
	1947	1954	1947	1954
Age-Specific Fertility Rates † Age Group (years)				
15-19	16·87	20·58	15·36	19·12
20-24	89·45	116·12	80·68	96·24
25-29	99·75	106·22	90·08	94·49
30-34	72·12	65·07	63·76	59·91
35-39	42·87	34·72	36·48	31·17
40-44	14·44	11·02	11·44	9·85
45-49	1·17	0·76	0·80	0·71
Gross Reproduction Rate	1·683	1·772	1·493	1·558
Net Reproduction Rate	1·595 (a)	1·704 (b)	1·416 (a)	1·497 (b)

† Number of female births per 1,000 women in each age group.

(a) Based on 1946-1948 mortality experience.

(b) Based on 1953-1955 mortality experience.

DEATHS

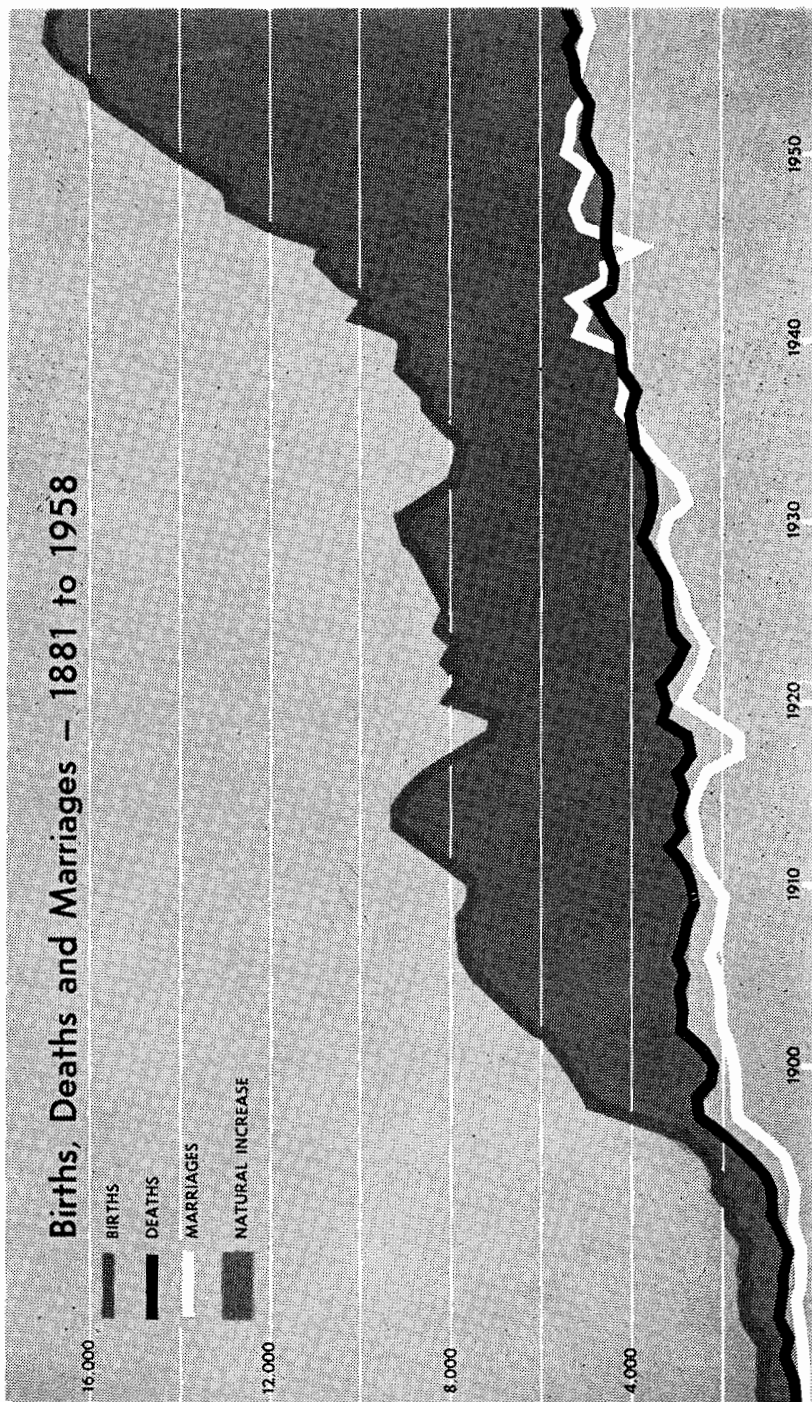
Statistics of deaths in each of the five years 1954 to 1958 in the Metropolitan Statistical Division, the rest of the State, and in Western Australia as a whole appear in the next table. Infant deaths (those which occur in the first year of life) are also shown.

DEATHS

Year	Deaths†			Infant Deaths‡		
	Males	Females	Total	Males	Females	Total
METROPOLITAN STATISTICAL DIVISION						
1954	1,849	1,398	3,247	98	55	153
1955	1,800	1,522	3,322	112	75	187
1956	1,942	1,540	3,482	88	68	156
1957	1,866	1,453	3,319	104	62	166
1958	1,939	1,538	3,477	94	73	167
REST OF STATE						
1954	1,354	763	2,117	127	79	206
1955	1,306	751	2,057	105	81	186
1956	1,323	767	2,090	123	105	228
1957	1,260	718	1,978	109	82	191
1958	1,331	746	2,077	103	90	193
WHOLE STATE						
1954	3,203	2,161	5,364	225	134	359
1955	3,106	2,273	5,379	217	156	373
1956	3,265	2,307	5,572	211	173	384
1957	3,126	2,171	5,297	213	144	357
1958	3,270	2,284	5,554	197	163	360

† Including Infant Deaths.

‡ 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 1909 to 1958 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
1909-1913	9.76	10.68	1949	8.99	9.52
1914-1918	9.37	10.34	1950	9.07	9.56
1919-1923	9.88	10.40	1951	9.11	9.71
1924-1928	8.85	9.38	1952	8.67	9.45
1929-1933	8.76	8.85	1953	8.17	9.09
1934-1938	9.16	9.45	1954	8.38	9.10
1939-1943 (a)	9.81	10.09	1955	8.17	8.91
1944-1948 (a)	9.42	9.74	1956	8.23	9.13
1949-1953	8.79	9.46	1957	7.66	8.81
1954-1958	8.05	8.89	1958	7.87	8.50

(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* on page 117). After that year, the rate increased until it reached 10.65 in 1942. Since then there has been a general decline and in 1957 it fell to 7.66, the lowest level ever recorded in Western Australia. The rate for 1958 remained low at 7.87 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 1909 to 1958 are shown in the table below.

INFANT MORTALITY RATES—WESTERN AUSTRALIA AND AUSTRALIA

Period	Average Annual Rate		Year	Annual Rate	
	Western Australia	Australia		Western Australia	Australia
1909-1913	76.78	71.75	1949	26.42	25.31
1914-1918	63.44	64.91	1950	27.13	24.48
1919-1923	63.45	63.33	1951	28.73	25.24
1924-1928	49.89	54.38	1952	24.91	23.79
1929-1933	45.45	44.53	1953	23.83	23.30
1934-1938	38.79	40.11	1954	22.54	22.48
1939-1943	37.73	38.39	1955	22.44	22.01
1944-1948	29.84	29.13	1956	22.70	21.72
1949-1953	26.15	24.40	1957	21.09	21.41
1954-1958	22.05	21.60	1958	21.52	20.49

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 1958, Western Australia's average annual rate was 22.05 compared with the Australian rate of 21.60 and was greater than that for any other State except New South Wales, 23.48.

Causes of Infant Deaths—The causes of death in the first year of life, in certain broad groups, during the period 1901 to 1958 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†

Year	Cause of Death											
	Diseases of Early Infancy (a)		Congenital Malformation		Diseases of Digestive System		Infective and Parasitic Diseases		All Other Causes		Total	
	Number	Rate (b)	Number	Rate (b)	Number	Rate (b)	Number	Rate (b)	Number	Rate (b)	Number	Rate (b)
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	133	16.44	615	76.01
1921	195	24.98	28	3.59	197	25.23	(c)	(c)	(c)191	(c)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
1954	220	13.81	60	3.77	19	1.19	12	0.75	48	3.01	359	22.54
1955	223	13.42	60	3.61	12	0.72	9	0.54	69	4.15	373	22.44
1956	219	12.95	72	4.26	9	0.53	9	0.53	75	4.43	384	22.70
1957	210	12.41	66	3.90	16	0.95	4	0.24	61	3.60	357	21.09
1958	201	12.01	63	3.77	24	1.43	6	0.36	66	3.94	360	21.62

† Excluding stillbirths. (a) Including premature births.

(b) Rate per 1,000 live births.

(c) "Infective and Parasitic Diseases" included in "All Other Causes."

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 1958, when there were 15 infant deaths from diarrhoea and enteritis, was 0.90.

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 1949 to 1958, the average annual number of stillbirths registered was 257, compared with an average of 376 deaths in the first year of life.

STILLBIRTHS AND INFANT DEATHS

Year	Stillbirths				Deaths under One Year of Age			
	Males	Females	Total	Masculinity†	Males	Females	Total	Masculinity†
1949	153	115	268	133.0	209	148	357	141.2
1950	121	119	240	101.7	217	169	386	128.4
1951	177	120	297	147.5	239	186	425	128.5
1952	156	128	284	121.9	211	173	384	122.0
1953	146	122	268	119.7	218	160	378	136.3
1954	145	125	270	116.0	225	134	359	167.9
1955	126	113	239	111.5	217	156	373	139.1
1956	113	113	226	100.0	211	173	384	122.0
1957	135	113	248	119.5	213	144	357	147.9
1958	136	89	225	152.8	197	163	360	120.9

†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					
1949	268	230	260	357	625
1950	240	234	261	386	626
1951	297	245	297	425	722
1952	284	244	278	384	668
1953	268	216	261	378	646
1954	270	230	256	359	629
1955	239	224	266	373	612
1956	226	223	269	384	610
1957	248	233	256	357	605
1958	225	217	240	360	585
RATE†					
1949	19.45	16.69	18.87	25.91	45.36
1950	16.59	16.17	18.04	26.68	43.27
1951	19.68	16.23	19.68	28.16	47.84
1952	18.09	15.54	17.71	24.46	42.56
1953	16.62	13.39	16.18	23.43	40.05
1954	16.67	14.20	15.80	22.16	38.83
1955	14.17	13.28	15.78	22.12	36.29
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

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

Of the 6,328 failures during the ten years to complete the first year of life, due either to stillbirth or to death in the first year, 2,565 or 40.53 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 on page 115. 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."

The standardized death rates for Western Australia and Australia in each of the census years since 1921 are shown in the following table.

STANDARDIZED DEATH RATES—WESTERN AUSTRALIA AND AUSTRALIA
1921-1954

Year					Western Australia	Australia
1921	....	....	....	....	11·88	10·58
1933	....	....	....	....	8·74	8·62
1947	....	....	....	....	7·28	7·34
1954	....	....	....	....	6·71	6·90

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 make possible 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. An abbreviated table of causes of death, showing the more important features of Western Australian experience, appears on page 116.

While this table presents a useful general view of the data, caution should be used in making year by year comparisons of the figures for individual causes, on account of changes in classification and diagnosis over the years.

Expectation of Life—Life Tables based upon the mortality experience of the Western Australian population have been prepared from time to time, but no such investigation has been undertaken in recent years.

The Australian Life Tables, prepared on the basis of the results of the national population census, form a comprehensive series covering the experience of seven separate periods, 1881-1890, 1891-1900, 1901-1910, 1920-1922, 1932-1934, 1946-1948 and 1953-1955.

The expectation of life of males and females at various ages as revealed by these investigations is shown in the table on page 118.

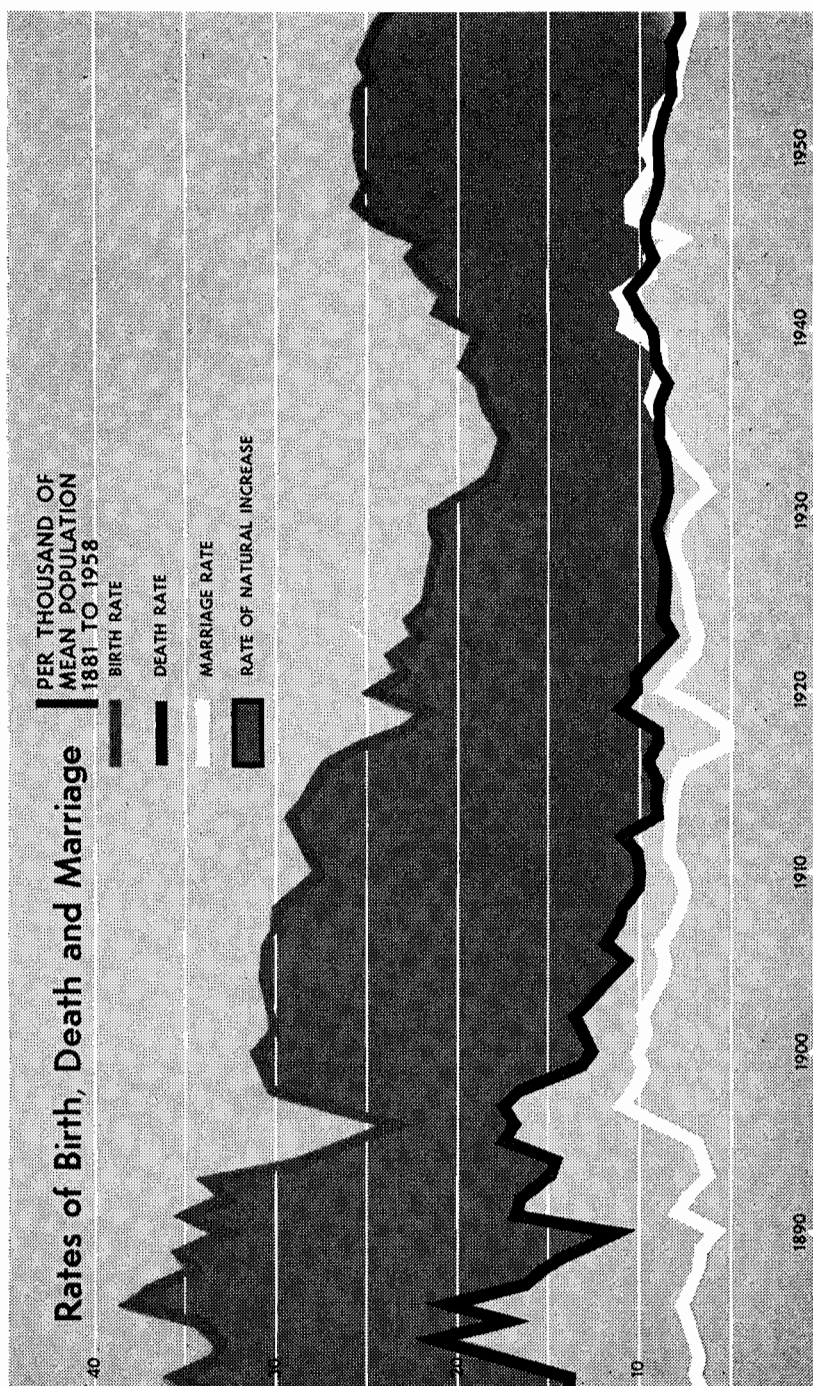
It will be seen that there has been a substantial and consistent increase in the expectation of life of both the Australian male and the Australian female. Thus, while males, according to the experience of the period 1881-1890, had at birth an average expectancy of 47·20 years of life, the latest investigation shows that the expectancy is now 67·14 years. The anticipated life-span of females at birth has increased from 50·84 years to 72·75 years in the same period. This greater expectation of life of females than of males applies, with very few exceptions, at each age and in each period covered by the table.

That the improvement noted above has been even more marked in the case of Western Australia is disclosed in a paper, *Life Tables for the Australian States*, presented to the Actuarial Society of Australasia in 1951 by Messrs. S. J. R. Chatten, F.I.A., and P. C. Wickens, M.A., LL.M., F.I.A. The authors comment that, for the period 1901-1910, Western Australians, both males and females, had the lowest expectancy at birth in the Commonwealth. Their investigation of the data for the 1946-1948 period indicates that variations in the mortality experience among the States are now much less marked than they were 50 years ago. In fact the differences between States, while undoubtedly significant in actuarial application, are so small that generally mortality experience (except possibly at the younger ages) may now be regarded as uniform throughout Australia.

DEATHS CLASSIFIED ACCORDING TO PRINCIPAL CAUSES

Rates are calculated per thousand of mean population.

Cause of Death	1901		1911		1921		1931		1941		1951		1956		1957		1958	
	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
Typhoid fever	120	0.64	84	0.29	43	0.13	8	0.02	1	0.00	...	...	...	...	...	...	...	...
Diphtheria	10	0.05	37	0.13	44	0.13	19	0.04	20	0.04	11	0.02	1	0.00	...	0.00	...	...
Tuberculosis of respiratory system	151	0.80	190	0.66	277	0.83	223	0.52	185	0.39	73	0.13	43	0.06	35	0.05	23	0.03
Other forms of tuberculosis	40	0.21	42	0.15	23	0.07	22	0.05	22	0.05	10	0.02	3	0.00	1	0.00	4	0.01
Cancer	83	0.44	182	0.63	281	0.84	416	0.96	584	1.23	886	1.18	803	1.19	819	1.18	890	1.25
Rheumatic fever	10	0.05	8	0.03	8	0.02	9	0.02	29	0.06	9	0.02	3	0.00	4	0.01	3	0.00
Diabetes mellitus	9	0.05	13	0.05	34	0.10	47	0.11	83	0.18	58	0.10	63	0.09	66	0.10	57	0.08
Anaemia and other diseases of the blood	10	0.05	14	0.05	20	0.06	22	0.05	34	0.07	21	0.04	12	0.02	15	0.02	14	0.02
Cerebral haemorrhage, etc.	41	0.22	105	0.37	162	0.48	196	0.46	417	0.88	594	1.02	669	0.99	594	0.86	601	0.98
Diseases of the heart	134	0.71	204	0.71	199	0.60	572	1.32	1,037	2.19	1,716	2.96	1,896	2.81	1,766	2.55	1,968	2.79
Bronchitis	66	0.35	42	0.15	56	0.17	48	0.11	57	0.12	46	0.08	67	0.10	62	0.09	74	0.10
Pneumonia	166	0.88	195	0.68	223	0.67	239	0.55	331	0.70	188	0.32	225	0.33	208	0.30	204	0.29
Enteritis and diarrhoea	312	1.66	273	0.95	302	0.90	81	0.19	114	0.24	64	0.11	23	0.03	28	0.04	40	0.06
Other diseases of digestive system	143	0.76	135	0.47	156	0.47	174	0.40	186	0.39	166	0.28	158	0.23	164	0.24	169	0.24
Nephritis	49	0.26	98	0.34	104	0.31	176	0.41	203	0.43	88	0.15	78	0.12	71	0.10	64	0.09
Other diseases of genito-urinary system	17	0.09	29	0.10	56	0.17	74	0.17	85	0.18	94	0.16	83	0.12	96	0.14	81	0.11
Maternal causes	19	0.10	39	0.14	24	0.07	35	0.08	24	0.05	16	0.03	9	0.01	11	0.02	8	0.01
Suicide	40	0.21	58	0.20	72	0.22	107	0.25	42	0.09	81	0.14	89	0.13	95	0.14	103	0.15
Homicide	6	0.03	8	0.03	1	0.00	17	0.04	4	0.01	7	0.01	6	0.01	12	0.02	6	0.01
Automobile accidents	236	1.26	265	0.92	227	0.68	187	0.43	97	0.20	174	0.30	192	0.28	155	0.22	191	0.27
Other accidents	857	4.57	903	3.15	1,108	3.50	940	2.17	1,017	2.14	977	1.68	933	1.39	900	1.30	803	1.14
All other causes	2,519	13.39	2,924	10.20	3,480	10.42	3,081	8.51	4,769	10.06	5,288	9.11	5,572	8.23	5,297	7.66	5,554	7.87
Total	2,519	13.39	2,924	10.20	3,480	10.42	3,081	8.51	4,769	10.06	5,288	9.11	5,572	8.23	5,297	7.66	5,554	7.87



EXPECTATION OF LIFE—AUSTRALIA, 1881-1890 TO 1953-1955

(Years)

Age last birthday (years)	1881-1890	1891-1900	1901-1910	1920-1922	1932-1934	1946-1948	1953-1955
MALES							
0	47.20	51.08	55.20	59.15	63.48	66.07	67.14
1	53.34	56.88	59.96	62.67	65.49	67.25	67.86
2	54.28	57.41	60.04	62.60	65.00	66.47	67.05
3	54.01	56.98	59.45	61.99	64.25	65.60	66.17
4	53.49	56.33	58.71	61.25	63.43	64.70	65.26
5	52.86	55.61	57.91	60.43	62.57	63.77	64.32
10	48.86	51.43	53.53	56.01	58.02	59.04	59.53
15	44.45	46.98	49.03	51.44	53.36	54.28	54.72
20	40.58	42.81	44.74	46.99	48.81	49.64	50.10
25	37.10	38.90	40.60	42.70	44.37	45.04	45.54
30	33.64	35.11	36.52	38.44	39.90	40.40	40.90
35	30.06	31.34	32.49	34.20	35.46	35.79	36.25
40	26.50	27.65	28.56	30.05	31.11	31.23	31.65
45	23.04	23.99	24.78	26.03	26.87	26.83	27.18
50	19.74	20.45	21.16	22.20	22.83	22.67	22.92
55	16.65	17.08	17.67	18.51	19.03	18.84	19.00
60	13.77	13.99	14.35	15.08	15.57	15.36	15.47
65	11.06	11.25	11.81	12.01	12.40	12.25	12.33
70	8.82	8.90	8.67	9.26	9.60	9.55	9.59
75	6.72	6.70	6.58	6.87	7.19	7.23	7.33
80	5.11	5.00	4.96	5.00	5.22	5.36	5.47
85	3.86	3.79	3.65	3.62	3.90	3.84	4.01
90	2.91	2.91	2.64	2.60	2.99	2.74	2.93
95	2.16	2.16	1.88	1.86	2.11	1.93	2.10
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
1	56.44	59.89	62.89	66.03	68.67	71.45	73.22
2	57.39	60.40	62.95	65.86	68.12	70.66	72.40
3	57.16	59.98	62.34	65.21	67.34	69.77	71.49
4	56.63	59.35	61.60	64.44	66.50	68.84	70.55
5	56.00	58.64	60.80	63.64	65.64	67.91	69.61
10	51.95	54.46	56.39	59.20	61.02	63.11	64.78
15	47.54	49.97	51.86	54.55	56.29	58.27	59.90
20	43.43	45.72	47.52	50.03	51.67	53.47	55.06
25	39.67	41.69	43.36	45.71	47.19	48.74	50.24
30	36.13	37.86	39.33	41.48	42.77	44.08	45.43
35	32.58	34.14	35.37	37.28	38.37	39.46	40.67
40	29.08	30.49	31.47	33.14	34.04	34.91	36.00
45	25.56	26.69	27.59	28.99	29.74	30.45	31.44
50	22.06	22.93	23.69	24.90	25.58	26.14	27.03
55	18.64	19.29	19.85	20.95	21.58	22.04	22.81
60	15.39	15.86	16.20	17.17	17.74	18.11	18.78
65	12.27	12.75	12.88	13.60	14.15	14.44	15.02
70	9.70	9.89	9.96	10.41	10.98	11.14	11.62
75	7.24	7.37	7.59	7.73	8.23	8.32	8.69
80	5.27	5.49	5.73	5.61	6.01	6.02	6.30
85	3.90	4.12	4.19	4.06	4.30	4.32	4.52
90	2.98	3.07	2.99	2.91	3.05	3.08	3.24
95	2.25	2.18	2.10	2.07	2.00	2.14	2.31
100	1.37	1.23	1.24	1.24	1.02	....	....

MARRIAGES

The number of marriages celebrated in Western Australia in each of the five years 1954 to 1958 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							
1954	2,552	554	3,106	17.8	221	1,035	1,256
1955	2,447	635	3,082	20.6	197	1,058	1,255
1956	2,478	535	3,013	17.8	217	1,002	1,219
1957	2,364	487	2,851	17.1	227	1,029	1,256
1958	2,544	483	3,027	16.0	276	1,053	1,329
REST OF STATE							
1954	1,708	390	2,098	18.6	158	801	959
1955	1,703	360	2,063	17.4	182	871	1,053
1956	1,708	359	2,067	17.4	193	903	1,096
1957	1,709	337	2,046	16.5	177	858	1,035
1958	1,705	306	2,011	15.2	181	899	1,080
WHOLE STATE							
1954	4,260	944	5,204	18.1	379	1,836	2,215
1955	4,150	995	5,145	19.3	379	1,929	2,308
1956	4,186	894	5,080	17.6	410	1,905	2,315
1957	4,073	824	4,897	16.8	404	1,887	2,291
1958	4,249	789	5,038	15.7	457	1,952	2,409

The statistics of minors marrying shown above during the five-year period reveal that 37.49 per cent. of brides were minors, compared with only 8.00 per cent. of bridegrooms.

Marriage Rates—The average annual marriage rates per thousand of mean population for Western Australia and for the Commonwealth in each five-year period from 1909 to 1958, as well as the rates for each of the years from 1949 to 1958, are shown below.

MARRIAGE RATES†—WESTERN AUSTRALIA AND AUSTRALIA

Period	Average Annual Rate		Year	Annual Rate	
	Western Australia	Australia		Western Australia	Australia
1909-1913	8.10	8.56	1949	9.30	9.23
1914-1918	6.90	7.87	1950	9.74	9.24
1919-1923	7.52	8.37	1951	9.29	9.18
1924-1928	7.62	7.86	1952	8.97	8.59
1929-1933	7.23	6.75	1953	8.10	8.01
1934-1938	8.92	8.51	1954	8.13	7.92
1939-1943	10.32	10.44	1955	7.81	7.84
1944-1948	9.65	9.66	1956	7.50	7.61
1949-1953	9.06	8.83	1957	7.08	7.64
1954-1958	7.52	7.70	1958	7.14	7.51

† Number of marriages celebrated per 1,000 of mean population.

CHAPTER V—SOCIAL CONDITION
PART I—EDUCATION

PRIMARY AND SECONDARY 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.

School Attendance

Attendance is compulsory for all children aged six years and upward to the fourteenth birthday who live within reasonable access of a government or approved non-government school but, where transport is not available, children aged from six to eight years may be exempted if they live more than two miles from a school. Amendments made to the Education Act in 1943 and 1957 authorize the raising of the school-leaving age from 14 to 15 years but this provision has not yet been enforced.

SCHOOL CHILDREN CLASSIFIED ACCORDING TO AGE—DECEMBER, 1958

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	188	197	385	2,138	2,163	4,301	2,326	2,360	4,686
6 and under 14	48,989	45,183	94,172	11,276	12,154	23,430	60,265	57,337	117,602
14 and under 16	6,294	5,576	11,870	2,471	2,516	4,987	8,765	8,092	16,857
16 and over	1,750	1,177	2,927	1,193	852	2,045	2,943	2,029	4,972
Total	57,221	52,133	109,354	17,078	17,685	34,763	74,299	69,818	144,117

(a) Excluding Technical Schools and Colleges. (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 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 Divisional Superintendent, 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 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 library service, the Nature Advisory Service, and the Schools Medical and Dental Services conducted in collaboration with the Public Health Department.

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 five-year 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 three-year high school, as the term implies, 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.

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 1954 to 1958. The figures shown under the heading of Special Duties represent teachers engaged in activities associated with the Special Branches of the Department. Scholars in the Post-Primary group comprise children preparing for the Junior Certificate examination or doing work of a comparable standard, while those shown under the heading of Secondary are scholars in the fourth and fifth years of the five-year high school course.

GOVERNMENT SCHOOLS

Particulars	1954	1955	1956	1957	1958
NUMBER OF SCHOOLS (a)					
Primary Schools	437	440	440	448	447
Junior High Schools	27	26	28	29	31
Three-Year High Schools	10	11	9	11	12
Five-Year High Schools	8	10	11	11	13
Schools of Agriculture (b)	1	....	....	....	....
Total	483	487	488	499	503

NUMBER OF TEACHERS (a)					
Head Teachers and Assistants	2,837	3,039	3,232	3,298	3,514
Special Duties	123	88	124	113	149
Total	2,960	3,127	3,356	3,411	3,663
Males	1,421	1,532	1,657	1,744	1,891
Females	1,539	1,595	1,699	1,667	1,772
Total	2,960	3,127	3,356	3,411	3,663

NUMBER OF SCHOLARS (c)					
Grade of Education—					
Primary	74,173	78,554	82,575	85,240	88,948
Post-Primary	14,061	15,325	16,910	18,860	20,387
Secondary	800	1,004	1,249	1,485	1,791
Total	89,034	94,883	100,734	105,585	111,126
Males	46,512	49,468	52,460	55,296	58,181
Females	42,522	45,415	48,274	50,289	52,945
Total	89,034	94,883	100,734	105,585	111,126

(a) At end of year. (b) See letterpress *Agricultural Education* on page 123. (c) At July in each year.

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, home science, woodwork, metalwork and technical drawing are introduced. The teaching of general science, as distinct from the pure sciences, aims at a better understanding of the child's physical environment. In the primary school the elementary science 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 home science, manual training, handicrafts, physical education, art and music.

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 and Film Aids

Extensive use is made of radio and films, most schools having radio receivers and many being equipped also with film projectors and sound-reproduction systems. The Australian Broadcasting Commission co-operates with the Education Department in devising suitable radio programmes and Parents' and Citizens' Associations assist in providing the necessary equipment. The Visual Education Branch of the Department maintains an extensive film library, as well as a mobile film projector for use in schools not having their own apparatus.

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.

Government Scholarships and Bursaries

The Education Department each year awards a number of scholarships for assistance in secondary education. Selection is made on a competitive basis after a qualifying examination taken at the end of the primary school course. The top fifty successful candidates are eligible for scholarships tenable at a government high school or a non-government secondary school. Metropolitan High School Scholarships and Country High School Scholarships are next allotted. There are additional scholarships available to the children of deceased or disabled members of the armed services, some of which, as well as some of the Country High School Scholarships, are awarded on the recommendation of District Superintendents of Education.

Lodging allowances are paid to high school students who are obliged to live away from their homes while attending school. The Department also grants bursaries to selected students who, having passed the Junior Certificate examination, are willing to study for the Leaving Certificate preparatory to entering the teaching service. These bursaries are tenable for two years at either government high schools or non-government secondary schools.

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, to supplement Technical Correspondence School courses with subjects not otherwise available, or to improve their general education. During 1958, instruction was given to 1,612 students of whom 385 were adults.

In 1957, an experimental "School of the Air" was established at the Flying Doctor Base at Carnarvon and consideration is to be given to providing this service in other areas. Tuition given by these Schools will be closely related to Correspondence School papers and procedures.

Itinerant Teacher Service

The Department conducts an itinerant teacher service which operates in the sparsely-settled areas of the State beyond Geraldton northward to the West Kimberley and inland as far as the Wiluna area. Three teachers, following individual itineraries and travelling from homestead to homestead by motor van, supplement the correspondence tuition of the children by personal advice to them and to their supervisors. A strip film projector is carried, together with a film library and a collection of children's books. The aim of the Department is to provide each year three visits, of up to three days' duration, to each family. In 1958 the teachers visited 217 children and travelled 26,640 miles.

Native Education

Aboriginal and part-aboriginal native children may attend government and other schools and the Education Department provides some native schools especially for them. In December, 1958 there were 1,677 of these children at government primary schools and high schools, 698 at government native schools and 777 at non-government schools.

Agricultural Education

Agricultural education was formerly given at institutions known as Schools of Agriculture but is now provided at certain high schools. The Narrogin School of Agriculture was the last to be absorbed into the high school system when, early in 1955, it became a wing of the newly-opened Narrogin Agricultural High School. Boys aged from 14 to 16 years who have successfully completed the general primary course are eligible for enrolment at this School or the junior high schools at Denmark, Harvey, Margaret River and Pinjarra where the two-year agricultural course is also available. 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 1958 a site was acquired at Cunderdin for development as an Agricultural Junior High School.

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 125.

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. The greater part of the senior work of the Division, including the later stages of Technical Diplomas and most Associateship studies, is carried out at the College.

The work of the Leederville Technical School relates mainly to the building industry and associated trades, but the School also accommodates a matriculation group. The Wembley Trades School provides courses for apprentices in the heavy metal trades. Area schools at Fremantle, Midland Junction, Collie and Kalgoorlie aim to give instruction in any subject for which there is sufficient local demand. For this reason, courses at the Midland Junction school are designed primarily to meet the needs of railway

apprentices, while the school at Collie gives emphasis to mining. Technical centres, where evening classes are provided, are located at thirteen of the Department's ordinary country schools and three of its metropolitan schools. Technical extension classes are conducted in smaller towns where a centre is not warranted. The Technical Extension Service gives instruction by correspondence, mainly to residents of country areas who are unable to attend classes.

The Division has a Psychology and Counselling Service which, in addition to its other activities, is available to advise students in selecting a course and to assist them in their studies.

TECHNICAL EDUCATION

Particulars	1954	1955	1956	1957	1958
Number of—					
Colleges	1	1	1	1	1
Schools	5	5	6	6	6
Centres	10	12	17	17	16
Total	16	18	24	24	23
Number of Teachers (a)—					
Perth Technical College	295	320	357	425	445
Schools	124	150	147	211	223
Centres	55	67	114	135	123
Total	474	537	618	771	791
Students Enrolled (b)—					
Perth Technical College	9,415	9,942	9,935	12,366	13,506
Schools	5,178	6,059	6,851	8,084	7,877
Centres	1,025	1,286	2,017	3,305	3,030
Total	15,618	17,287	18,803	23,755	24,413
Males	9,670	10,946	12,100	15,098	15,977
Females	5,948	6,341	6,703	8,657	8,436
Total	15,618	17,287	18,803	23,755	24,413

(a) A teacher may occupy teaching positions at more than one school or centre. The number of individual teachers is not available. Figures for the years 1954 to 1956 represent the average for the year and those for 1957 and 1958, the number at 1st July in each year. (b) Figures for the years 1954 to 1956 represent the average number of individual students during the year and those for 1957 and 1958, the number enrolled for any part of the year.

The highest qualification provided is that of Associateship, which generally entails three years' full-time study, or its equivalent, from matriculation level in such fields as Applied Science, Architecture, Chemistry, Commerce, Engineering and Home Economics. Some Diploma and Certificate courses, of shorter duration and with lower entry requirements, are also offered on a full-time basis.

There are part-time day and evening vocational classes leading to Diplomas and Certificates in Applied Science, Art, Commerce, Engineering, Management, Pharmacy and Public Administration. Part-time tuition, designed to increase occupational efficiency, is given in a great variety of individual subjects. Part-time classes are established at all technical schools and centres where there is a demand for them and teaching staff is available.

Training is given to about 4,500 apprentices in a number of different trades. Where apprentices live within reach of a technical school providing the appropriate instruction they must attend classes for eight hours per fortnight. 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.

A wide variety of correspondence courses is available except in subjects such as those for which laboratory practice is necessary and those at a higher technical level for which there is limited demand outside the metropolitan area.

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 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 a University Matriculation Certificate. Selected students may study in extended fields for three, four or five years and obtain other qualifications such as a University degree. There is also provision for a one-year training course open to University graduates.

TEACHERS' COLLEGES

Particulars	1954	1955	1956	1957	1958
Number of Instructors—					
Males	32	39	37	37	42
Females	17	18	18	21	15
Total	49	57	55	58	57
Number of Students Enrolled—					
Males	380	406	440	469	496
Females	406	456	475	526	576
Total	786	862	915	995	1,072
Number of Students Graduating—					
Males	147	169	159	199	184
Females	164	203	202	220	254
Total	311	372	361	419	438

OTHER GOVERNMENT EDUCATION**Muresk Agricultural College**

The Muresk Agricultural College was established by the Department of Agriculture in 1926 to provide training in a scientific approach to agriculture and farming practice. Students are admitted one year after passing the Junior Certificate examination provided their headmasters give satisfactory reports on their work in specific subjects at the post-Junior level. At the College general education is continued and studies during the two years required for a Diploma include English, farm management and economics, agriculture, animal husbandry, chemistry, agricultural engineering, bookkeeping, veterinary science, farm mechanics, wool classing and surveying. Breeding of pure-bred stock for distribution in the farming areas is another aspect of the work. Instruction in this phase, as well as in the orchard, vineyard, vegetable garden and apiary which form part of the College, is included in the training course. To assist farmers who have not had the advantage of agricultural study, short courses are held in specific subjects at appropriate times.

School of Mines

A School of Mines was established at Kalgoorlie in 1904 and now has branches at Norseman, opened in 1939, and at Bullfinch where class work began in 1953. The School is under the control of the Department of Mines. There are courses leading to Associateship in Mining, in Metallurgy, in Engineering and in Mining Geology, as well as Certificate courses in assaying, surveying, mine management, engineering draughting, electrical engineering and mechanical engineering. Some technicians' courses are also available.

In the third term of the 1958 school year, the total number of students enrolled was 361.

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 five-year government high schools. The curriculum at the primary and secondary levels is substantially the same as that in the government schools.

The following table shows, for each of the years from 1954 to 1958, the numbers of non-government schools, teachers and scholars, classified according to the religious denomination of the school. The grade of education of scholars is also given, the grades corresponding to those used in the table relating to government schools on page 121.

NON-GOVERNMENT SCHOOLS

Particulars	1954	1955	1956	1957	1958
NUMBER OF SCHOOLS (a)					
Denomination—					
Church of England	8	8	8	8	8
Methodist	3	3	3	3	3
Presbyterian	2	2	2	2	2
Roman Catholic	152	156	164	168	170
Other	5	5	5	5	7
Undenominational	82	88	93	105	110
Total	252	262	275	291	300

NUMBER OF TEACHERS (a)					
Denomination of School—					
Church of England	107	108	113	112	135
Methodist	47	46	52	52	57
Presbyterian	51	52	49	50	55
Roman Catholic	614	661	675	690	722
Other	17	17	21	19	27
Undenominational	165	175	184	211	221
Total	1,001	1,059	1,094	1,134	1,217
Males	221	239	252	255	277
Females	780	820	842	879	940
Total	1,001	1,059	1,094	1,134	1,217

NUMBER OF SCHOLARS (b)					
Denomination of School—					
Church of England	2,150	2,162	2,175	2,258	2,427
Methodist	880	931	1,002	1,090	1,148
Presbyterian	1,093	1,081	1,057	1,089	1,093
Roman Catholic	20,800	22,290	23,737	25,202	25,948
Other	314	328	243	313	380
Undenominational	3,170	3,382	3,708	3,790	3,904
Total	28,407	30,174	31,922	33,742	34,900
Grade of Education—					
Kindergarten	3,489	3,515	3,781	4,050	4,078
Primary	18,030	19,318	20,335	21,140	21,731
Post-Primary	5,752	6,168	6,552	7,083	7,418
Secondary	1,136	1,173	1,254	1,469	1,673
Total	28,407	30,174	31,922	33,742	34,900
Males	13,928	14,700	15,650	16,581	17,105
Females	14,479	15,474	16,272	17,161	17,795
Total	28,407	30,174	31,922	33,742	34,900

(a) At end of year.

(b) At July in each year.

The schools shown under the heading of Undenominational consist almost entirely of 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. Some of the staff at kindergartens are teachers who have been trained by the Education Department.

During the year 1958 the number of kindergartens registered with the Education Department was 111, of which 30 were in country areas. Of the total, 47 were affiliated with the Kindergarten Union, 33 were controlled by independent committees, 10 by other organizations and 21 were privately run.

UNIVERSITY EDUCATION

A limited degree of tertiary education became available in Western Australia in 1898 with the formation of the Extension Committee of the University of Adelaide. By this development, facilities were provided for external studies in courses for degrees in Arts and Science conferred by the University of Adelaide. 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) and Medicine (1956).

The following table shows the number of members of the teaching staff, the number of students and the numbers of degrees conferred and diplomas and certificates granted during each of the years 1954 to 1958.

UNIVERSITY OF WESTERN AUSTRALIA

Particulars	1954	1955	1956	1957	1958
NUMBER OF TEACHERS					
Professors	16	16	22	25	27
Readers	17	16	20	23	24
Lecturers, Full-time	70	71	67	82	101
Part-time	25	41	55	57	53
Graduate Assistants, Demonstrators, Tutors, etc.	19	31	37	33	43
Total	147	175	201	220	248
NUMBER OF STUDENTS					
Internal, Full-time	986	1,042	1,076	1,151	1,335
" Part-time	621	640	839	883	962
External	245	260	300	342	358
Total	1,852	1,942	2,215	2,376	2,655
Males	1,432	1,479	1,691	1,835	2,067
Females	420	463	524	541	588
Total	1,852	1,942	2,215	2,376	2,655
DEGREES (†), DIPLOMAS AND CERTIFICATES					
Degrees (†) Conferred—					
Agriculture	10	19	7	11	17
Arts	87	95	74	76	111
Dental Science	13	6	8	7	9
Economics .....	....	....	....	....	1
Education	9	11	10	22	27
Engineering	22	25	33	38	48
Law	9	13	9	10	3
Science	59	64	30	48	71
Total	209	233	171	212	287
Males	160	178	126	174	241
Females	49	55	45	38	46
Total	209	233	171	212	287
Diplomas Granted—					
Education	1	....	....	71	52
Other .....	....	....	....	9	2
Certificates Granted	23	21	19	3	....
Total	24	21	19	83	54
Males	17	12	11	64	40
Females	7	9	8	19	14
Total	24	21	19	83	54

(†) Excluding honorary degrees.

Degrees

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

Courses for the degrees of Bachelor of Arts and Bachelor of Science extend over a period of not less than three years ; those for the degrees of Bachelor of Laws, Bachelor of Education, Bachelor of Economics and Bachelor of Science in Agriculture, over not less than four years ; and those for Bachelor of Dental Science and Bachelor of Engineering, over not less than five years. Honours degrees in Arts and Science are usually of four years' duration. 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 or five years according to the subjects taken.

The degrees of Master of Arts and Doctor of Letters, Master of Laws and Doctor of Laws, Master of Education, Master of Science and Doctor of Science, Master of Engineering and Doctor of Engineering, Master of Science in Agriculture and Doctor of Science in Agriculture, Master of Dental Science and Doctor of Dental Science, and Master of Surgery and Doctor of Medicine, are conferred by the University. The degree of Doctor of Philosophy is also given for research in the various faculties.

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 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

The largest single bequest to the University was that made under the will of its first Chancellor, Sir Winthrop Hackett, who died in 1916. Of the total amount of £425,000, a sum of £200,000 together with accrued interest was allocated to the erection and maintenance of a group of buildings comprising a ceremonial hall (Winthrop Hall), a Senate Chamber, administrative offices, a library, lecture rooms and a students' building (Hackett Hall). A further sum of £200,000 was devoted to the provision of studentships, scholarships, bursaries and other 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 £60,000 to provide two travelling scholarships in "applied science more particularly related to surveying, engineering or mining, or cognate subjects." The bequest has been used to establish the Robert and Maude Gledden Travelling Fellowships and to provide research studentships and fellowships.

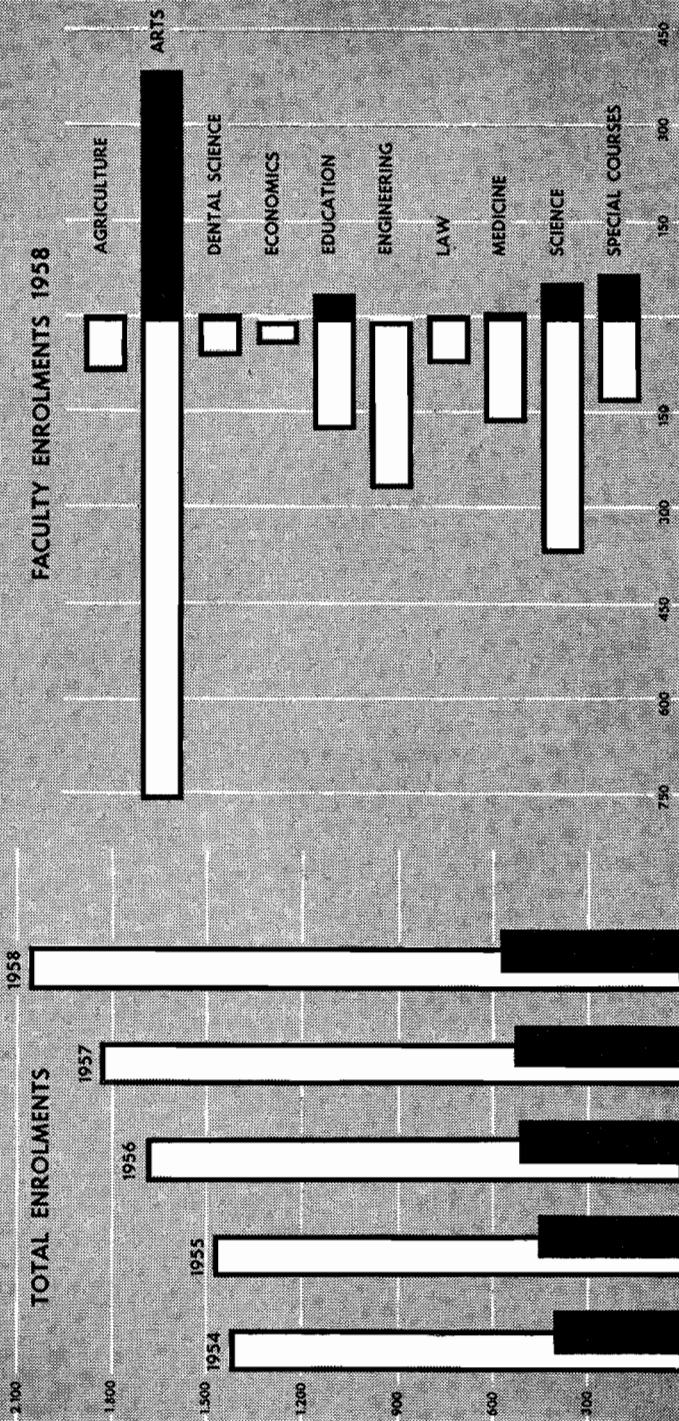
In 1957 Mrs. M. B. Raine made a deed of gift in favour of the University for an amount of £153,900 to be applied to medical research.

The sum of £62,500 was presented to the University in 1958 by the Wellcome Trust to endow the Wellcome Research Chair of Pharmacology.

University Enrolments

UNIVERSITY OF WESTERN AUSTRALIA
TOTAL ENROLMENTS 1954 TO 1958
FACULTY ENROLMENTS 1958

MALES
FEMALES



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." Lecture fees are not charged to students normally resident in Australia, except those in the Faculty of Medicine, where tuition fees are 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 pay lecture fees to the College. In all faculties, students whose normal place of residence is outside Australia are required to pay an annual overseas students' fee. All students pay 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. Subscriptions to the Guild of Undergraduates and to certain faculty associations are payable by all students.

Financial assistance is available to students under the Commonwealth Scholarship Scheme. Awards are made on merit and, in addition to having their 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 Education Department provides a number of University Exhibitions for competition among candidates at the Leaving Certificate examination.

As well as the normal awards under the Commonwealth 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. 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.

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, 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, the School of Mines of Western Australia, the Western Australian College of Dental Science, and the Claremont and Graylands Teachers' Colleges at one of which students proceeding to degrees in Education are required to spend a year. The Kindergarten Training College is also affiliated with the University in connexion with certain part units for the degree of Bachelor of Education and the Diploma in Education.

Students who live within the State but outside the metropolitan area are able to enrol as external students in the Faculties of Arts, Education and Economics.

Residential Colleges

There are three residential colleges within the University. Saint George's College for men students is conducted by the Church of England and Saint Thomas More College, also for men, by the Roman Catholic Church. Saint Catherine's College is an undenominational college for women students. Kingswood College, to be established by the Methodist Church, has been affiliated and has been granted land for the erection of buildings.

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 1954 to 1958. The figures shown under the heading of Special Activities exclude the transactions of the University of Western Australia Press and of the Medical School Appeal Fund. The Medical School Appeal was launched on the 1st September, 1955 to raise funds by public subscription to supplement a State Government

UNIVERSITY OF WESTERN AUSTRALIA—FINANCE

Particulars	1954	1955	1956	1957	1958
GENERAL ACTIVITIES					
Receipts—	£	£	£	£	£
Government Grants—					
State	329,026	401,501	508,312	555,611	632,079
Commonwealth	110,677	133,577	164,398	190,500	310,590
Interest, Rents, Dividends and Donations	8,705	10,592	13,501	17,386	31,347
Students' Fees	21,827	22,848	24,141	36,348	45,896
Engineering and other Testing Fees	3,907	4,792	4,233	3,670	4,137
Other Receipts	1,820	1,597	2,074	7,258	9,502
Total	475,962	574,907	716,659	810,773	1,033,551
Payments—					
Administration :					
Salaries	24,222	29,717	35,760	43,325	53,680
Other	14,150	17,013	21,722	25,665	29,272
Teaching Department :					
Salaries	236,198	314,484	370,517	453,922	589,741
Other	82,670	94,124	94,098	112,286	170,960
Library :					
Salaries	9,754	10,017	10,987	14,248	16,445
Other	13,971	16,053	19,815	25,409	40,736
Maintenance of Premises :					
Salaries and Wages	24,474	25,392	26,883	28,538	29,138
Other	35,451	58,624	48,761	43,411	52,996
Adult Education—Senate Subsidy	10,106	11,683	13,294	17,610	19,040
Other Payments	38,406	28,275	42,226	56,417	56,116
Total	489,402	605,382	684,063	820,831	1,058,124
SPECIAL ACTIVITIES (a)					
Receipts—	£	£	£	£	£
Government Grants :					
State—Adult Education	1,850	1,850	1,850	4,850	4,850
Commonwealth—Research	6,513	9,412	7,611	11,677	25,047
Non-Government Research Grants	24,678	38,075	36,591	43,769	52,707
Interest, Rents, Dividends and Donations	23,879	28,610	30,369	32,040	27,846
Candidates' Fees for Public Examinations	23,989	27,092	32,095	35,802	41,489
Adult Education and Extension Fees	26,566	16,296	13,558	14,985	16,140
Adult Education—Senate Subsidy	10,106	11,683	13,294	17,610	19,040
Other Receipts	2,677	3,679	8,288	12,497	19,697
Total	120,258	136,697	143,656	173,230	206,816
Payments—					
Expenses of Public Examinations	22,335	26,061	28,062	32,750	38,912
Adult Education and Extension	38,461	29,009	26,217	35,611	40,405
Scholarships, Bursaries, Prizes, etc.	11,741	20,469	22,638	23,183	30,968
Special Research Expenses	30,902	39,845	46,087	49,209	61,296
Other Payments	12,776	6,128	4,738	5,292	5,504
Total	116,215	121,512	127,742	146,045	177,085

(a) Figures exclude transactions of University of Western Australia Press and of Medical School Appeal Fund.

grant for the establishment of a Medical School within the University. To the end of 1958, the net amount received by the Fund was £722,011, of which £231,501 had been spent on buildings and equipment.

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 £250,000 and "such additional amounts as may be appropriated by Parliament from time to time." In 1958, State Government assistance accounted for more than three-fifths of the total receipts of £1,033,551 for general activities. By a series of States Grants (Universities) Acts, the first of which was passed in 1951, the Commonwealth Government has also made regular annual contributions, and the amount of £310,590 paid to the University in 1958 represented almost 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, under the provisions of the States Grants (Universities) Act of 1958, to continue grants for recurrent expenditure between the years 1958 and 1960, to make additional recurrent grants, to assist the universities in the provision of buildings and equipment, and to make grants for expenditure on residential college buildings.

PART 2—PUBLIC LIBRARIES, MUSEUM, ART GALLERY, AND SCIENTIFIC INSTITUTIONS

PUBLIC LIBRARIES

Library Board of Western Australia

The Library Board of Western Australia was established under the provisions of the Library Board of Western Australia Act, 1951. The Board, which comprises thirteen members appointed by the State Government, is responsible for all forms of public library services which are financed either wholly or in part from State funds. The Director of Education and the Director of Adult Education are *ex officio* members of the Board which includes in addition five representatives of local governing authorities and associations, a representative of the Library Association of Australia and five other members.

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. Following an amendment to the Act, 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 library service of Western Australia thus consists of the State Library, which functions as the reference division of the service, and a number of independent public libraries which are jointly supported by local authorities and the Board.

The book stock of the Board at the 31st December, 1958 comprised approximately 178,000 bound volumes in the State Library and about 125,000 volumes in lending library services, including local public libraries.

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 six specialist subject units, comprising four libraries and two centres. 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 Bibliographical Centre contains catalogues of the State Library and of all local public libraries, of additions since 1956 to all other major libraries in the State, as well as a wide range of printed bibliographies, indexes to periodicals and subject guides. It is a centre of co-operation between libraries in Western Australia and with those in other Australian States and overseas countries. The Information Centre provides the information services for the State-wide public library system. It is equipped with current Australian and overseas telephone and trade directories, business guides, commercial publications and a wide variety of similar quick reference material. The Centre is designed principally to provide immediate answers to inquiries, mainly in the commercial field. Current newspapers, which include all those published in Western Australia, the main ones from other Australian States and a representative selection from overseas countries, are available for reference in the Information Centre.

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

Local Public Libraries

At the 31st December, 1958, there were 34 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 and does all cataloguing on behalf of the local libraries. The administrative independence of the local libraries is secured under the provisions of the Library Board of Western Australia Act, 1951. Apart from exercising a statutory obligation in respect to 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.

Prior to the establishment of the Library Board, the Government appointed a Country Free Lending Libraries Committee in 1944 to make small grants to local authorities for library purposes. With the more comprehensive service now available through the Library Board, the activities of this Committee are becoming less important and it will cease to function altogether, probably in 1961.

MUSEUM

The Western Australian Museum was established in 1895 following the amalgamation of the collection of the Swan River Mechanics' Institute with that of the former Geological Museum of Fremantle. The Museum is controlled by a Board of five members appointed by the State Government. It is devoted mainly to natural history and includes extensive geological collections and collections of ethnography. Emphasis in both display and scientific research is on the fauna of Western Australia.

The staff comprises a Director, two curators and a number of professional and technical assistants. There is a fairly extensive scientific library and most of the research being done at present is related to the marine fauna of Western Australian waters.

The Museum serves as a centre for associations with interests in natural history. The Royal Society, the Naturalists' Club, the Astronomical Society and the Gould League hold regular meetings at the Museum.

The Education Department has two teachers attached to the Museum. One teacher gives instruction to visiting classes from schools in the metropolitan area and 2,269 children attended the Museum classes during 1958. The other acts in an advisory capacity to teachers in country schools.

ART GALLERY

The Western Australian Art Gallery is under the control of a Board of five members appointed by the State Government. The Gallery occupies part of a building shared with the Museum. The lower gallery has recently been redesigned and is used mainly for lectures and the display of interstate and overseas exhibitions. Works from the permanent collection are exhibited in the upper gallery, while the print room is used to house and exhibit the collection of prints and drawings. Both displays are changed regularly. Selections from the art collection are shown on the upper floor and a special display in the main entrance hall is devoted to the work of a different artist each month.

The Art Gallery's collection at the 30th June, 1958 consisted of 332 oil paintings, 169 water colours, 10 pastels, 776 drawings, 509 prints, 19 sculptures, 9 miniatures and a large number of reproductions, 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 State Government Observatory, which was established in September, 1896, on a site overlooking Perth from the west, carries out time-service, astronomical and seismological functions for Western Australia. Time signals are provided twice daily for transmission to ships and aircraft from the VIP Radio Station at Applecross. Hourly time signals from the Observatory control the time services of radio broadcasting stations, the Post Office and the Railways Department, while time to the nearest half-minute, or to the nearest second, may be obtained by telephone. Tide tables for the northern ports of the State are prepared annually. In research work connected with the Astrographic Catalogue, the Observatory was allotted the section 31° – 41° south declination, and in this section the positions of nearly half a million stars were determined. Besides the observation of astronomical phenomena as these occur, present research work has included the Markowitz Moon Camera Programme, comet observations, and the occultation programme. Planned astrometric research includes fundamental and differential star position observations with the meridian transit circle, and photographic studies of stellar motions with the astrographic telescope. The Perth Observatory Seismological Station makes important contributions to the investigation of earthquakes in this part of the world, and is one of a world-wide network of 15 stations equipped with special long-period instruments. A continuous seismic photographic record is obtained, and tabulations from the records are distributed to 63 reciprocating stations throughout the world. Public interest in astronomy is promoted by the provision of information to radio broadcasting services and newspapers, encouragement of the local Astronomical Society and other educational activities, including organized evening and day visits to the Observatory by the public generally.

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 five Divisions, the separate functions of which are described briefly in the following summary.

The *Agriculture, Forestry and Water Supply Division* does analytical work, on soils, related principally to the experimental work of the Department of Agriculture (*see also* page 253); on waters, for the Metropolitan Water Supply and the Country Water Supply Departments, as well as for primary producers seeking an assessment of the suitability of private supplies for domestic, irrigation and livestock purposes; 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; and on fertilizers and manures generally.

The *Food, Drugs, Toxicology and Industrial Hygiene Division* deals with the analysis of foods, including milk; police work, including human and animal toxicological examinations and analysis of blood and urine for alcohol concentration; industrial hygiene, including determinations relating to the amount of potentially harmful substances in industrial and commercial materials; analytical work in connexion with sewage disposal; 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.

The *Industrial Chemistry Division* is used extensively as a source of information and advice on technical problems relating to industry in Western Australia. Research is also in progress on protective coatings, including paint, and on natural products from native vegetation.

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 Government Geologist 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.

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 comprises 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 programme has been greatly increased and its scope widened to give greater emphasis to agronomic problems, especially those concerned with the maintenance and improvement of fertility in the wheat-growing regions. Fields of research included an extensive programme of plant breeding and genetical research aimed at increasing the productivity and extending the climatic limits of legumes, particularly subterranean clover, medics and lupins; the investigation of the agronomic value of native legumes; and the examination of the factors influencing the gains and losses of nitrogen and organic matter in wheat belt soils, including nitrogen in rainfall, nitrogen and organic matter increments and losses under a range of treatments, and nitrogen fixation by free-living bacteria as well as by root nodule organisms.

In addition, attempts have been made to discover and develop useful salt-tolerant plants. Factors affecting leaching losses of potassium, sulphur and other minerals from soils have also been investigated.

At the same time, investigations into animal, economic and pastoral problems have been further developed. Fundamental studies on factors affecting the microbial population of ruminants and the nutritive value of feeding stuffs, which have already contributed to the better and more economical feeding of sheep and cattle during the dry summer season, have attracted world-wide attention, as have the researches into the nature and cause and control of the oestrogenic effects of subterranean clover.

Further and more detailed economic surveys have been made of the wheat-sheep farming industry, of the dairying industry not using irrigation and of dairy farms producing whole milk for the metropolitan area.

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 C.S.I.R.O. are actively engaged in research work in Western Australia.

Division of Soils—During the post-war years this Division 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 the study of their trace mineral status and clay mineralogy is nearing completion. In 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 been completed. Information obtained during this work provides the basis for study of the pedology and distribution of the soils of the whole Coastal Plain.

In recent years more attention has been given to the principles governing the distribution of soils. Field studies on the development of soils in relation to landscape evolution and past climates are in progress in representative areas at York and Merredin.

Division of Plant Industry—Most of the Division's activities in recent years have been directed to the pasture problems of the sheep areas of the south-west of the State. Perennial grass studies have been intensified and work on some of the annual grasses initiated. A large number of subterranean clover strains are being used to examine the factors influencing long-term adaptation. Ecological studies on the factors affecting seasonal changes in the botanical composition of subterranean clover pastures are proceeding.

The plant nutrition programme embraces both field work and glasshouse studies. Special attention is being given to the elements phosphorus, zinc and nitrogen. A comprehensive examination is being made of the many factors influencing soil fertility build-up in subterranean clover pastures.

A large number of introductions of pasture plants and crop plants are under test by the Plant Introduction Section. The problems of the outer wheat belt are being examined in a series of regional trials.

Studies on pasture utilization with particular reference to the breeding ewe have been initiated recently.

In addition to work at the Regional Laboratory at Perth, the Division is conducting field studies at "Glen Lossie," Kojonup, at the Kelmscott Plant Introduction Station and on several privately-owned properties.

Division of Entomology—Since 1946 this Division has been concerned with developing satisfactory methods of controlling the Red-legged Earth Mite and Lucerne Flea in pastures. The work was completed in 1955.

Attention is now being directed to an intensive study of the population dynamics of these two pests. Detailed observations have been made on density fluctuations in pastures in the Moora and Waroona districts with the object of determining the factors which govern abundance in nature. A special study is being made on the part played by the predatory Bdellid Mites.

Wildlife Survey Section—The Wildlife Survey Section concerns itself with investigations on the higher vertebrates (more particularly mammals and birds) which are of economic importance, and some attention is also paid to studies of various aspects of the State's native fauna which may not have at present a direct economic bearing. In association with the Department of Agriculture and the Zoology Department of the University, the impact of the euro (or hills kangaroo) on the pastures of the Pilbara district is being studied at Woodstock Station. The population dynamics of another marsupial, the quokka, have been investigated at Rottnest Island. The Section also played a part, in association with the Department of Agriculture, in the control of rabbits by introduction of the disease myxomatosis.

Among birds, the ecology of the emu and of several species of the parrot tribe which are agricultural pests is being studied. The factors controlling breeding seasons under Western Australian conditions are also being investigated.

Division of Fisheries and Oceanography—The Division has carried out limited ship and aerial surveys on fish and crayfish resources. It has assisted the State Department of Fisheries in prawn surveys from Cockburn Sound to Dampier Archipelago. The commercial catch and marketing records of the Western Australian crayfishery have been analysed for the period 1944 to 1959, and assistance is being given to the University of Western Australia in carrying out a preliminary review of the economics of the crayfish industry.

Division of Mathematical Statistics—The Division of Mathematical Statistics acts in an advisory capacity to officers of other Divisions of C.S.I.R.O. and also to research workers of the University and other organizations on matters relating to the design of experiments and the analysis and interpretation of data.

In addition, the normal research programme of the Division is carried on in collaboration with the Divisional Headquarters at Adelaide.

Other Divisions—Besides the research work being conducted at the Regional Laboratory, Perth and at the field stations previously mentioned, various co-operative programmes are under way in University departments and in the State Department of Agriculture. Spectrographic chemical work, timber testing, trace element studies on sheep, and also rumen bacteriological studies are included. The C.S.I.R.O. has several officers stationed at the Kimberley Research Station investigating the crop and pasture problems of the northern areas.

CHAPTER V — *continued*

PART 3—HEALTH SERVICES, HOSPITALS AND HOMES FOR THE AGED

HEALTH SERVICES

The Commonwealth and State Government health authorities, together with Boards of Health under local government administration, co-operate in maintaining health services and in the prevention and control of infectious diseases in Western Australia.

The Commonwealth Department of Health administers the National Health Services in this State and is responsible for quarantine, where necessary, of persons, animals and plants entering Western Australia from overseas. It conducts a Health Laboratory at Kalgoorlie where miners undergo periodical X-ray examinations for silicosis and other industrial diseases, and also an Acoustics Laboratory at Perth where children under sixteen years of age and ex-servicemen with defective hearing may obtain specialist advice and hearing aids without charge. Further information relating to the National Health Services appears in Part 5 of this Chapter.

The State Department of Health is concerned primarily with the prevention and control of infectious diseases. It is also responsible for the enforcement of sanitation, building and pure food standards, certain of these activities being undertaken in conjunction with the Local Boards of Health.

The Health Education Council was established as a statutory body under the provisions of the Health Education Council Act, 1958. The Council conducts publicity campaigns and public lectures on matters affecting public health, including home accidents, handling of poisons, poliomyelitis and diphtheria immunization and methods to control the common house fly.

The Cancer Council of Western Australia is constituted under the provisions of the Cancer Council of Western Australia Act, 1958 as a statutory body with the functions of co-ordinating, promoting and subsidizing cancer research. The Council has absorbed the former Anti-Cancer Council established originally for the purpose of raising funds for the purchase of a linear accelerator. A building to house the equipment has been completed near the Perth Chest Hospital at Hollywood and it is expected that treatment will be available early in 1961. The establishment of this cancer treatment and research unit is a further step in the plan for a comprehensive medical centre adjacent to the University, as part of the programme to develop the facilities available to the Medical School.

The Department of Public Health has a central laboratory housed in the Perth Chest Hospital and regional laboratories at Bunbury and Albany. The principal activity of the laboratories is the examination of medical specimens but in recent years there has been increasing emphasis on research, particularly in the field of virology.

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, 1911-1959 (State), all persons in Western Australia who are over the age of fourteen years may be required to undergo X-ray examinations, which are conducted by the mobile units of the Tuberculosis Control Branch and at its Perth and Fremantle Chest Clinics.

Poliomyelitis, diphtheria and trachoma are other notifiable diseases which have received special attention during recent years. Epidemics of poliomyelitis occurred in 1948, 1954 and during the early months of 1956. Immunization of children with Salk vaccine supplied by the Commonwealth Serum Laboratories began in July, 1956 and by the end of 1958 the full course of three injections had been completed by 177,000 children. Mass immunization of adults commenced in May, 1958 and by the end of the year 52,000 had completed the full course. The incidence of poliomyelitis in Western Australia since 1956 has been negligible, as will be seen from the table on page 139.

Although leprosy and trachoma are endemic among the aboriginal natives of the Kimberley Division in the far north of the State, cases are with few exceptions confined to the native population. The State Department of Public Health and the Northern Territory Medical Service co-operate in the control of these diseases.

The incidence of notifiable infectious diseases other than venereal diseases during each year from 1954 to 1958 is shown in the following table.

INFECTIOUS DISEASES NOTIFIABLE IN WESTERN AUSTRALIA—CASES REPORTED

Disease	1954	1955	1956	1957	1958
Ankylostomiasis	2	1	1	....	1
Brucellosis	8	5	3	2	....
Chorea	6	4	1	1	1
Dengue Fever	2	....	....	....	....
Diphtheria	119	480	145	63	24
Dysentery	56	136	87	56	123
Encephalitis, Acute Infectious	....	....	2	2	....
Erythema Nodosum	1	....	1	1	....
Hepatitis, Infective	165	254	181	363	396
Hydatid Disease	....	1	....	....	....
Infantile Diarrhoea	29	30	48	23	12
Lead Poisoning	2	3	13	1	1
Leprosy (a)	47	29	34	33	38
Malaria	29	5	6	2	2
Meningococcal Infection	48	13	13	6	9
Paratyphoid Fever	1	4	....	3	2
Pleural Effusion	4	12	5	5	5
Poliomyelitis, Acute	436	33	401	3	2
Puerperal Fever	2	5	1	2	1
Purulent Ophthalmia	52	35	31	9	30
Rheumatism, Acute	60	39	21	27	21
Rubella	627	227	85	550	3,059
Salmonella Infections	32	58	27	21	45
Scarlet Fever	91	68	57	120	190
Tetanus	4	9	16	4	11
Trachoma (a)	3,686	1,470	280	656	364
Tuberculosis—					
Pulmonary	344	401	419	327	350
Other	34	39	44	32	24
Typhoid Fever	12	13	8	9	22
Typhus Fever (Brill's Disease)	19	22	16	7	5
Total	5,918	3,396	1,946	2,328	4,740

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

Under the Health Act, 1911–1959, the State 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. Clinics for the treatment of venereal diseases are conducted by the Department of Public Health at Royal Perth and Fremantle Hospitals.

The following table shows the number of cases of venereal disease reported to the Department during each year from 1954 to 1958. Since the second World War, new methods of treatment have effected considerable improvement in the control of these diseases.

CASES OF VENEREAL DISEASE NOTIFIED

Disease	1954	1955	1956	1957	1958
Syphilis—					
Primary	3	5	4	4	2
Secondary	9	1	5	6	....
Tertiary	7	8	3	3	3
Congenital	2	....	....	1	....
Total Syphilis	21	14	12	14	5
Gonorrhoea	188	188	188	213	148
Chancroid	2	....	....	....	1
Granuloma (a)	1	1	....	5	....
Grand Total	212	203	200	232	154

(a) Aboriginal cases.

Special Health Services for Children

In addition to measures provided for immunization against poliomyelitis, diphtheria and other infectious diseases, Infant Health Services and Schools 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.

INFANT HEALTH CENTRES AND CORRESPONDENCE NURSING SCHEME

Particulars	1954	1955	1956	1957	1958
Infant Health Centres—					
Number of :					
Centres	46	53	55	61	59
Attendances of Infants	194,980	193,677	214,588	217,728	218,134
Visits to Households	18,924	21,968	21,418	22,762	23,330
Correspondence Nursing Scheme—					
Number of :					
Infants on Roll	856	607	767	628	921
Letters Received	1,926	932	795	903	826
Letters Dispatched	2,068	1,366	1,830	3,015	3,930
	1954-55	1955-56	1956-57	1957-58	1958-59
Receipts and Payments (a)—	£	£	£	£	£
Receipts :					
Government Aid	38,275	56,292	59,646	69,914	71,935
Local Government Aid	2,295	2,227	2,302	2,373	2,709
Lotteries Commission Grants	4,812	2,706	5,350	5,850	5,350
Total	45,382	61,225	67,298	77,637	79,994
Payments :					
Salaries and Wages	34,868	48,652	52,880	60,097	61,320
Travelling Expenses, etc.	10,514	12,573	14,418	17,540	18,674
Total	45,382	61,225	67,298	77,637	79,994

(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.

It is estimated that three out of every four infants in the State are taken to a Centre at least once in the first year of life. Infant Health Sisters also visit remote areas of the State and interview mothers who are normally dependent on advice given by correspondence.

The Schools 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 Schools 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 ay consent to their children being treated without charge by the schools dentists.

HOSPITALS OTHER THAN MENTAL HOSPITALS

Commonwealth Government Hospitals

The Repatriation General Hospital, Hollywood, is established for the purpose of providing free medical treatment for ex-servicemen in respect of disabilities which have been accepted as due to war service. Widows and children of deceased ex-servicemen and widowed mothers of deceased unmarried ex-servicemen whose deaths have 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 Hospital, 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, expenses being paid by the country concerned.

The Edward Millen Home is also a Repatriation Department hospital, which provides treatment for ex-servicemen suffering from tuberculosis.

State Government and Government-Assisted Hospitals

For administrative purposes, a hospital under the direct control of the Medical Department is classified as "departmental" and is financed from State funds. On the other hand, a "Board" hospital has its own board of management and is subsidized by the State Government.

Four large metropolitan hospitals, comprising Royal Perth Hospital, Fremantle Hospital, Princess Margaret Hospital for Children 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, 37 departmental and 51 Board hospitals were located throughout the State at the 30th June, 1958.

DEPARTMENTAL AND BOARD HOSPITALS (a)

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
Number of Hospitals—					
Departmental	37	39	38	38	37
Board	58	57	57	56	56
Total	95	96	95	94	93
Medical Staff—					
Honorary	264	264	309	297	330
Salaried	88	88	107	107	116
Total	352	352	416	404	446
Nursing Staff—					
Matrons	100	103	109	100	97
Nurses	495	494	509	572	569
Trainees	905	1,013	1,031	1,091	1,193
Nursing Assistants	595	647	727	790	879
Total	2,095	2,257	2,376	2,553	2,738
Beds and Cots—					
In Departmental Hospitals	1,774	1,815	1,700	1,691	1,703
In Board Hospitals :					
Metropolitan	1,164	1,219	1,344	1,360	1,552
Country	1,152	1,074	1,097	1,031	1,063
Total	4,090	4,108	4,141	4,082	4,318

(a) Excluding Perth Dental Hospital.

With the increase of population in Western Australia in recent years, there has been a growing demand for hospital accommodation. At the same time some private hospitals have closed, imposing additional pressure on the government hospital services. The following table gives details of the activities of departmental and Board hospitals during the five years ended 30th June, 1958.

PATIENTS TREATED IN DEPARTMENTAL AND BOARD HOSPITALS

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
In-patients—					
Number at beginning of year—					
Males	1,224	1,309	1,350	1,256	1,336
Females	1,280	1,287	1,374	1,314	1,407
Admissions—					
Males	32,863	34,393	35,709	36,207	38,652
Females	37,444	41,145	42,838	42,052	45,200
Discharges—					
Males	31,515	33,018	34,496	34,761	37,148
Females	36,677	40,199	42,041	41,063	44,207
Deaths—					
Males	1,263	1,334	1,307	1,366	1,396
Females	760	859	857	896	913
Number at end of year—					
Males	1,309	1,350	1,256	1,336	1,444
Females	1,287	1,374	1,314	1,407	1,487
Total	2,596	2,724	2,570	2,743	2,931
Average daily number	2,511	2,626	2,648	2,656	2,748
Out-patients—Total attendances	315,002	351,708	363,180	347,482	382,729

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 1953-1959, 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 :				
	1954	1955	1956	1957	1958
	£	£	£	£	£
Receipts—					
From Government Funds	3,785,803	3,909,802	4,508,127	5,156,715	5,918,778
Local Government Aid	564	532	332	261	89
Public Subscriptions, Legacies, etc.	95,382	162,704	245,077	183,534	249,269
Fees	801,780	869,155	902,116	1,155,363	1,358,782
Other	64,795	83,530	91,972	70,788	49,791
Total	4,748,324	5,025,723	5,747,624	6,566,661	7,576,709
Payments—					
Salaries and Wages	2,171,294	2,403,697	2,728,406	3,115,380	3,376,316
Maintenance of Buildings and Grounds	257,388	306,679	271,238	252,742	565,192
Other Maintenance	1,427,798	1,590,175	1,826,848	1,793,918	1,946,556
Capital Expenditure	780,579	772,901	870,789	1,500,921	1,639,529
Total	4,637,059	5,073,452	5,697,281	6,752,961	7,527,593

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 Perth Chest Hospital at Hollywood which was opened in 1958.

There is a leprosarium for the treatment of aboriginal natives at Derby and a small lazaret at Woorlooloo for other patients.

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. The private hospitals form an important part of the hospital services of the State.

Private hospitals collect fees from patients and receive Commonwealth hospital benefit payments provided under Part V of the National Health Act 1953-1959.

MENTAL INSTITUTIONS

Compulsory admission to mental hospitals is provided for under the Lunacy Act, 1903-1950 and the Mental Treatment Act, 1927-1956. Admission is usually made after application to a magistrate supported by the certification of two medical practitioners. Both Acts provide also for voluntary admissions. Adults may submit themselves for treatment in a mental hospital and children may be admitted on the application of parents or guardians. There are special provisions for the committal of persons from courts and prisons to mental hospitals for observation or treatment.

Except in the case of a person committed from a court or a prison, inmates of mental institutions may be released on trial leave or discharged by the medical superintendent or on the recommendation of a Board of Visitors. Voluntary patients may leave an institution after 24 hours' notice.

All mental hospitals in Western Australia are administered by an Inspector-General of Mental Health Services responsible to the Minister for Health. Four hospitals provide for patients certified as insane, the principal institution being the Claremont Mental Hospital. The Heathcote Reception Hospital is for patients who are suffering from nervous or mental disorders but who have not been certi-

fied as insane. A Board of Visitors for each institution makes regular inspections and reports to the Minister on the general welfare of patients and the administration of the institution.

Other institutions of the Mental Health Services authority are the Nathaniel Harper Homes, the Havelock Out-patient Clinic and the Graylands Day Hospital. The Nathaniel Harper Homes are at Guildford and care for mentally afflicted children, the number of inmates at the 31st December, 1958 being 46. Havelock Clinic functions as a preventive psychiatry centre and provides treatment for about 900 out-patients each year. Graylands Day Hospital admits voluntary patients with mental disorders which require hospital treatment, but which permit patients to remain at home at night and during week-ends.

The treatment of inebriates as provided for by the Inebriates Act, 1912-1919 is also a function of the Mental Health Services authority. A magistrate may commit an inebriate to a mental hospital for treatment in accommodation set aside for the purpose. At the 31st December, 1958 there were 17 patients who had been admitted to these institutions under the Act.

The following table shows particulars of the inmates of the four hospitals which admit patients certified as insane. The figures refer mainly to certified patients but include also voluntary patients who, however, represent a small proportion of the total, there being only 53 voluntary patients out of a total of 1,926 under care at the 31st December, 1958. Patients admitted under the Inebriates Act are not included.

PATIENTS OF MENTAL HOSPITALS

Particulars	1954		1955		1956		1957		1958	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Admissions and Readmissions	138	120	117	112	158	108	154	117	192	121
Discharges—										
Recovered .....	...	4	1	3	11	4	...	...	1	1
Relieved	33	20	44	22	34	29	38	30	47	29
Not improved	13	4	17	5	15	4	24	2	14	7
Not insane	3	...	...	...	3	...	3	...	...	...
Deaths	52	52	91	54	76	66	93	50	65	68
Total	101	80	153	84	139	103	158	82	127	105
Number remaining at 31st December—										
In hospital	979	681	943	697	953	681	944	702	998	711
On trial leave	64	74	64	86	73	107	78	121	89	128
Total	1,043	755	1,007	783	1,026	788	1,022	823	1,087	839

Details of patients of the Heathcote Reception Hospital during each year from 1954 to 1958, are shown in the next table.

PATIENTS OF HEATHCOTE RECEPTION HOSPITAL

Particulars	1954		1955		1956		1957		1958	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Admissions and Readmissions	359	295	350	338	474	440	482	456	512	472
Discharges—										
Recovered	155	135	144	154	138	228	68	217	135	236
Relieved	102	94	122	110	205	136	258	157	215	147
Not improved	40	29	36	27	82	33	98	28	82	35
Deaths	14	6	11	4	5	4	4	...	3	2
Transfers to other Mental Hospitals	45	41	38	45	54	34	56	47	79	40
Total	356	305	351	340	484	435	484	449	514	460
Number remaining at 31st December—										
In hospital	55	61	53	50	53	55	56	50	49	56
On leave	63	54	64	63	54	63	49	75	54	81
Total	118	115	117	113	107	118	105	125	103	137

HOMES FOR THE AGED AND INFIRM

The principal homes for the aged and infirm in Western Australia are "Sunset" at Dalkeith, "Mount Henry" near Canning Bridge and "Woodbridge" at Guildford, which are all State Government institutions. There are also several homes for the aged conducted by religious and charitable organizations.

The following table shows particulars of inmates of the State institutions during the five years ended 30th June, 1958.

GOVERNMENT HOMES FOR THE AGED AND INFIRM

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
Inmates at beginning of year—					
Males	461	492	490	497	483
Females	259	263	324	417	427
Admissions—					
Males	217	243	215	172	295
Females	79	163	226	181	164
Discharges—					
Males	99	129	79	86	180
Females	19	28	18	43	53
Deaths—					
Males	87	116	129	100	140
Females	56	74	115	128	107
Inmates at end of year—					
Males	492	490	497	483	458
Females	263	324	417	427	431
Total	755	814	914	910	889

CHAPTER V—continued

PART 4—HOUSING

HOUSING AND THE CENSUS

By referring to the tabulations resulting from the two most recent Censuses of the Commonwealth of Australia it is possible to compare the numbers of dwellings existing at two significant times. Particulars from the 1947 Census show the housing position shortly after the second World War, and those for 1954 after six years of immigration at an unusually high level.

For the purpose of the census, a "dwelling" is any habitation occupied by a household group living together as a domestic unit, whether comprising the whole or 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 occupancy. While these are included, the figures refer mainly 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 awaiting occupancy are also included.

Dwellings occupied solely by full-blood aboriginals are excluded throughout the following tables.

Dwellings According to Class

Occupied dwellings are classified into private and other dwellings. "Private dwellings" comprise mainly private houses (including sheds, huts, garages, etc. used for dwelling purposes), shares of private houses, flats, room(s), apartments, and the like.

In censuses previous to that of 1954, dwellings returned on the Schedules as sheds, huts, garages, etc., were included with private houses. In the Census of 1954 these dwellings were distinguished as a separate group, but are linked with private houses in the tabulations to preserve continuity with past census results.

"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 includes both 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.

"Dwellings other than Private" include such habitations as hotels, boarding houses, lodging houses, hostels, hospitals, educational, religious and charitable institutions, defence and penal establishments.

The following table shows particulars of the classes of dwellings in Western Australia at the 30th June of the years 1947 and 1954. The number of occupied private dwellings increased by 30·7 per cent. between 1947 and 1954. The most significant change occurred in respect of private houses which increased by 34,287 or 31·0 per cent. Shares of private houses increased by 25·4 per cent. and flats by 30·7 per cent.

DWELLINGS ACCORDING TO CLASS

Class of Dwelling	Census of 30th June :—	
	1947	1954
Occupied Private Dwellings—		
Private House—		
House	110,576	140,383
Shed, Hut, etc.		4,480
Total, Private Houses	110,576	144,863
Share of Private House	5,969	7,487
Flat	4,021	5,257
Other	1,512	1,889
Total—Private Dwellings	122,078	159,496
Occupied Dwellings other than Private—		
Hotel	454	445
Boarding House, etc.	1,581	1,594
Other	654	1,288
Total—Other Dwellings	2,689	3,327
GRAND TOTAL—OCCUPIED DWELLINGS	124,767	162,823
Unoccupied Dwellings	2,606	6,614

Dwellings According to Number of Inmates

Occupied private dwellings with two inmates increased by 47 per cent. from 23,441 in 1947 to 34,342 in 1954, these being the largest numerical and proportional increases of any group over the 1947 figures. The proportional increases in dwellings with three, four and five inmates were 28 per cent., 34 per cent., and 35 per cent. respectively. The number of dwellings with nine or more inmates decreased as compared with 1947. At the 30th June, 1954, there were 136,959 occupied private dwellings (86 per cent. of the total) with five inmates or less, compared with 102,435 such dwellings (84 per cent.) in 1947. The average number of inmates per private house decreased from 3.83 in 1947 to 3.74 in 1954.

OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO
NUMBER OF INMATES

Number of Inmates	Census, 30th June, 1947					Census, 30th June, 1954						
	Private House (a)	Share of Private House	Flat	Other	Total Occupied Private Dwellings	Private House			Share of Private House	Flat	Other	Total Occupied Private Dwellings
						House	Shed, Hut, etc.	Total				
1	10,245	854	554	458	12,111	9,152	2,158	11,310	1,307	1,074	601	14,292
2	19,501	1,917	1,483	540	23,441	28,328	766	29,094	2,510	2,064	674	34,342
3	21,990	1,530	1,056	332	24,908	28,305	520	28,825	1,683	1,025	340	31,873
4	23,155	916	589	112	24,772	30,986	439	31,425	1,038	598	153	33,214
5	16,530	406	212	55	17,203	22,042	299	22,341	527	298	72	23,238
6	9,540	201	81	8	9,830	11,916	115	12,031	247	122	20	12,420
7	5,005	75	37	6	5,123	5,432	87	5,519	104	47	13	5,683
8	2,543	50	9	1	2,603	2,486	49	2,535	42	17	12	2,606
9	1,009	15	.....	.....	1,024	969	26	995	15	7	1	1,018
10 and over	1,058	5	.....	.....	1,063	767	21	788	14	5	3	810
Total—Dwellings	110,576	5,969	4,021	1,512	122,078	140,383	4,480	144,863	7,487	5,257	1,889	159,496
Total—Inmates	423,872	17,291	10,921	3,355	455,439	531,389	10,661	542,050	20,991	13,475	4,291	580,807
Average Number of Inmates per Dwelling	3.83	2.90	2.72	2.22	3.73	3.79	2.38	3.74	2.80	2.56	2.27	3.64

(a) Includes Sheds, Huts, etc.

* Revised since previous issue.

Dwellings According to Number of Rooms.

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

Number of Rooms (a) per Dwelling	Census, 30th June, 1947					Census, 30th June, 1954						
	Private House (b)	Share of Private House	Flat	Other	Total Occupied Private Dwellings	Private House			Share of Private House	Flat	Other	Total Occupied Private Dwellings
						House	Shed, Hut, etc.	Total				
1	3,811	913	23	642	5,389	408	2,326	2,734	902	31	673	4,340
2	3,419	1,525	300	505	5,749	3,206	1,360	4,566	1,698	384	620	7,268
3	7,547	1,441	1,336	245	10,569	8,314	422	8,736	1,640	1,561	334	12,271
4	34,365	1,158	1,496	69	37,088	38,079	97	38,176	1,262	1,943	133	41,514
5	33,814	600	594	21	35,029	46,769	12	46,781	898	905	48	48,632
6	18,600	209	173	4	18,986	29,162	.....	29,162	570	296	19	30,047
7	5,384	61	48	.....	5,493	9,262	.....	9,262	191	87	16	9,556
8	1,849	18	22	.....	1,889	3,120	.....	3,120	68	24	12	3,224
9	623	6	1	.....	630	1,071	.....	1,071	32	7	5	1,115
10 and over	606	3	2	.....	611	875	.....	875	6	4	6	891
Not Stated	558	35	26	26	645	117	263	380	220	15	23	638
Total—Dwellings	110,576	5,969	4,021	1,512	122,078	140,383	4,480	144,863	7,487	5,257	1,889	159,496
Average Number of Rooms (a) per Dwelling	4.69	3.01	3.80	1.88	4.55	5.01	1.60	4.91	3.36	3.90	2.21	4.77

(a) Includes kitchen and permanently enclosed sleep-out, but does not include bathroom, pantry, laundry, or storehouse unless generally used for sleeping.

(b) Includes Sheds, Huts, etc.

* Revised since previous issue.

The largest numerical increase in the numbers of occupied private houses since the 1947 Census occurred in five and six roomed private houses which increased by 23,529 or nearly 45 per cent. The greatest proportional gain, 72 per cent., occurred in respect of seven-roomed private houses. The numbers of flats in every group showed considerable increases. At the 30th June, 1954, there were 120,193 occupied private dwellings with four, five or six rooms, representing slightly more than 75 per cent. of all occupied private dwellings, as compared with almost 75 per cent. in 1947. The proportion of dwellings with four rooms and over grew from 82 per cent. in 1947 to 85 per cent. in 1954. The average number of rooms per private house increased from 4.69 to 4.91 between the Censuses.

Dwellings According to Material of Outer Walls

Between the Censuses, occupied private dwellings of brick increased by 26.2 per cent. to 60,781, of concrete by 89.7 per cent. to 4,546, and of fibro-cement by 271 per cent. to 36,727. The 1954 figures for wood, stone and iron private dwellings showed decreases as compared with 1947. Slightly more than 38 per cent. of the private dwellings in 1954 were of brick, 25.5 per cent. of wood, and rather more than 23 per cent. of fibro-cement. In 1947 brick dwellings constituted 39.5 per cent. of the total occupied private dwellings, wood 34.1 per cent. and fibro-cement 8.1 per cent. The proportions of concrete and fibro-cement dwellings in 1954 showed increases over the corresponding 1947 proportions, while all other types of dwellings showed decreases in proportion.

OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO MATERIAL OF OUTER WALLS

Material of Outer Walls	Census, 30th June, 1947					Census, 30th June, 1954						
	Private House (a)	Share of Private House	Flat	Other	Total Occupied Private Dwellings	Private House			Share of Private House	Flat	Other	Total Occupied Private Dwellings
						House	Shed, Hut, etc.	Total				
Brick	40,729	3,305	3,082	1,048	48,164	52,014	169	52,183	3,711	3,637	1,250	60,781
Stone	3,872	367	166	109	4,514	3,671	31	3,702	360	181	154	4,397
Concrete	2,260	73	59	4	2,396	4,127	186	4,313	143	87	3	4,546
Wood	39,610	1,630	310	131	41,681	36,955	1,043	37,998	1,909	564	216	40,687
Iron	9,622	255	169	39	10,085	7,196	1,213	8,409	175	105	99	8,788
Fibro-Cement	9,337	293	198	76	9,904	34,055	723	34,778	1,128	663	158	36,727
Other and Not Stated	5,146	46	37	105	5,334	2,365	1,115	3,480	61	20	9	3,570
Total	110,576	5,969	4,021	1,512	122,078	140,383	4,480	144,863	7,487	5,257	1,889	159,496

(a) Includes Sheds, Huts, etc.

Dwellings According to Nature of Occupancy

OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO NATURE OF OCCUPANCY

Nature of Occupancy	Census, 30th June, 1947					Census, 30th June, 1954						
	Private House (a)	Share of Private House	Flat	Other	Total Occupied Private Dwellings	Private House			Share of Private House	Flat	Other	Total Occupied Private Dwellings
						House	Shed, Hut, etc.	Total				
Owner	56,872	1,268	387	20	58,547	75,470	2,078	77,548	2,083	666	123	80,420
Purchaser by Installments	10,277	218	25	6	10,526	22,495	78	22,573	421	60	22	23,076
Tenant	38,497	4,323	3,563	1,470	47,853	38,370	1,662	40,032	4,792	4,450	1,700	50,974
Caretaker	1,703	56	26	9	1,794	1,721	169	1,890	65	47	27	2,029
Other Methods of Occupancy	544	9	5	4	562	1,817	134	1,951	62	19	8	2,040
Not Stated	2,683	95	15	3	2,796	510	359	869	64	15	9	957
Total	110,576	5,969	4,021	1,512	122,078	140,383	4,480	144,863	7,487	5,257	1,889	159,496

(a) Includes Sheds, Huts, etc.

At the 30th June, 1954, slightly more than 50 per cent. of all occupied private dwellings were occupied by owners, 14 per cent. by purchasers by instalments, and 32 per cent. by tenants. In 1947, 48 per cent. were occupied by owners, 9 per cent. by purchasers by instalments, and 39 per cent. by tenants. The number of owner-occupied dwellings increased by 37 per cent. since 1947, and the number of dwellings being purchased by instalments by 119 per cent.

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, 1947					Census, 30th June, 1954 (a)				
	Private House (b)	Share of Private House	Flat	Other	Total Tenanted Private Dwell- ings	Private House (b)	Share of Private House	Flat	Other	Total
Under 10s.	3,935	196	8	105	4,244	1,579	41	5	31	1,656
10s. and under 15s.	4,642	510	115	121	5,388	1,371	83	12	28	1,494
15s. and under 20s.	6,708	495	188	91	7,482	1,343	86	19	19	1,467
20s. and under 25s.	7,226	585	234	81	8,126	2,503	256	60	36	2,855
25s. and under 30s.	5,664	374	333	59	6,430	2,140	177	86	25	2,428
30s. and under 35s.	2,475	227	432	48	3,182	2,930	313	125	42	3,410
35s. and under 40s.	695	64	266	11	1,036	1,944	124	222	20	2,310
40s. and under 50s.	450	38	207	10	705	3,660	441	212	88	4,401
50s. and under 60s.	162	7	84	....	253	2,384	295	196	70	2,945
60s. and under 70s.	71	....	47	....	118	1,903	244	259	53	2,459
70s. and under 80s.	19	....	31	....	50	712	107	186	26	1,031
80s. and over	22	....	19	....	41	*1,517	187	753	41	*2,498
Not Stated	6,428	1,827	1,599	944	10,798	*8,034	2,364	2,049	1,202	*13,649
Total	38,497	4,323	3,563	1,470	47,853	32,020	4,718	4,184	1,681	42,603
Average per dwelling	19s. 4d.	19s. 3d.	30s. 11d.	17s. 1d.	19s. 11d.	38s. 2d.	42s. 5d.	66s. 8d.	44s. 5d.	40s. 9d.

(a) The figures shown for 1954 exclude dwellings occupied by "Tenants (Government Housing)." (b) Includes Sheds, Huts, etc. * Revised since previous issue.

The average weekly rental (unfurnished) of all occupied tenanted private dwellings more than doubled, from 19s. 11d. to 40s. 9d., between the 30th June, 1947 and the 30th June, 1954. The average rent of private houses increased by 97·4 per cent. from 19s. 4d. to 38s. 2d. per week, and of flats from 30s. 11d. to 66s. 8d., a rise of 115·6 per cent.

GOVERNMENT AND GOVERNMENT-SPONSORED HOUSING

State Housing Commission

The State Housing Commission was established in 1947 under the State Housing Act of 1946 to replace the Workers' Homes Board which had been created in 1913 to "erect and dispose of workers' dwellings and to make advances to people of limited means to provide homes for themselves." The Act conferred on the Commission the legal authority formerly vested in the Board. The legislation was 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 three must be officers of the State Public Service, one a woman, one a returned serviceman, one a registered builder (or a person qualified to be so registered) and one a representative of the building trades unions. 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 in Western Australia of the Commonwealth and State Housing Agreements and the War Service Homes scheme.

Operations under the State Housing Act—Under the authority of the State Housing Act, 1946–1958, the State Housing Commission uses funds provided by the State Government to build houses for letting or sale and to lend money for home building. Eligibility for assistance is restricted to persons with income below a prescribed amount. Loans of up to £2,500 (or more, in some cases) may be made on a minimum deposit of 10 per cent. (or less, at the discretion of the Commission), the maximum period of repayment being 45 years and the interest rate $5\frac{1}{2}$ per cent. per annum.

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

Operations under the Commonwealth and State Housing Agreement—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 8s. 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 £2,000 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 £2,750 and the maximum period of repayment 45 years.

With the expiry of the 1945 Agreement, the Commonwealth Parliament in 1956 passed the Housing Agreement Act providing "financial assistance to the States for the purpose of housing" for a period of five years ending on the 30th June, 1961. The complementary State legislation authorizing the State Government to enter into the new Agreement is the Commonwealth and State Housing Agreement Act of 1956.

The new arrangement relates principally to finance and requires that, for the first two years of the Agreement, 20 per cent. of the money allocated to the State is 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 30 per cent. during the remainder of the period. On the introduction of the new 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 Commission decided early in 1958 to vary its original apportionment of dwellings between the categories "for rental" and "for purchase" to three-fifths and two-fifths respectively. The new Agreement makes no provision for rebates to tenants unable to pay the full rental but the State Government has continued the system and meets the full cost of all rental rebates granted.

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.

War Service Homes

Financial assistance by means of loans for the purchase of homes is provided by the Commonwealth Government, under the War Service Homes Act 1918–1956, to Australian ex-service personnel of the first and second World Wars, the Korean War and the operations in Malaya. Subject to their having resided in Australia prior to enlistment, other British ex-service personnel are eligible for assistance, which may be extended also to the widow or the 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 Commonwealth Department of National Development.

CONTROL OF BUILDING

Local governing authorities are of two types in Western Australia, Municipal Councils and Road Boards. Each of these Councils and Boards, numbering in all 147 at the 31st December, 1958, exercises general control over the erection of buildings within its own area.

The powers of local governing authorities to control building derive from the Town Planning and Development Act, 1928–1958, the Municipal Corporations Act, 1906–1956 and the Road Districts Act, 1919–1956.

The Town Planning and Development Act, 1928–1958, 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 Municipal Corporations Act, 1906–1956, and the Road Districts Act, 1919–1956, contain 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. Neither the erection of new buildings nor the alteration of existing buildings may be begun before the plans have been approved by the local authority. Where plans are not approved, 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.

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 all builders who accept contracts for the construction of new buildings, the building operations of Commonwealth, State, Semi-Government and Local Government authorities, and work undertaken 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. Thus some building in areas not subject to control, as for instance, farms and stations, is not included, but this omission does not materially affect the figures.

Minor alterations and additions as well as renovations and repairs 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, comprises 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 converted military huts, temporary dwellings and dwellings attached to other buildings.

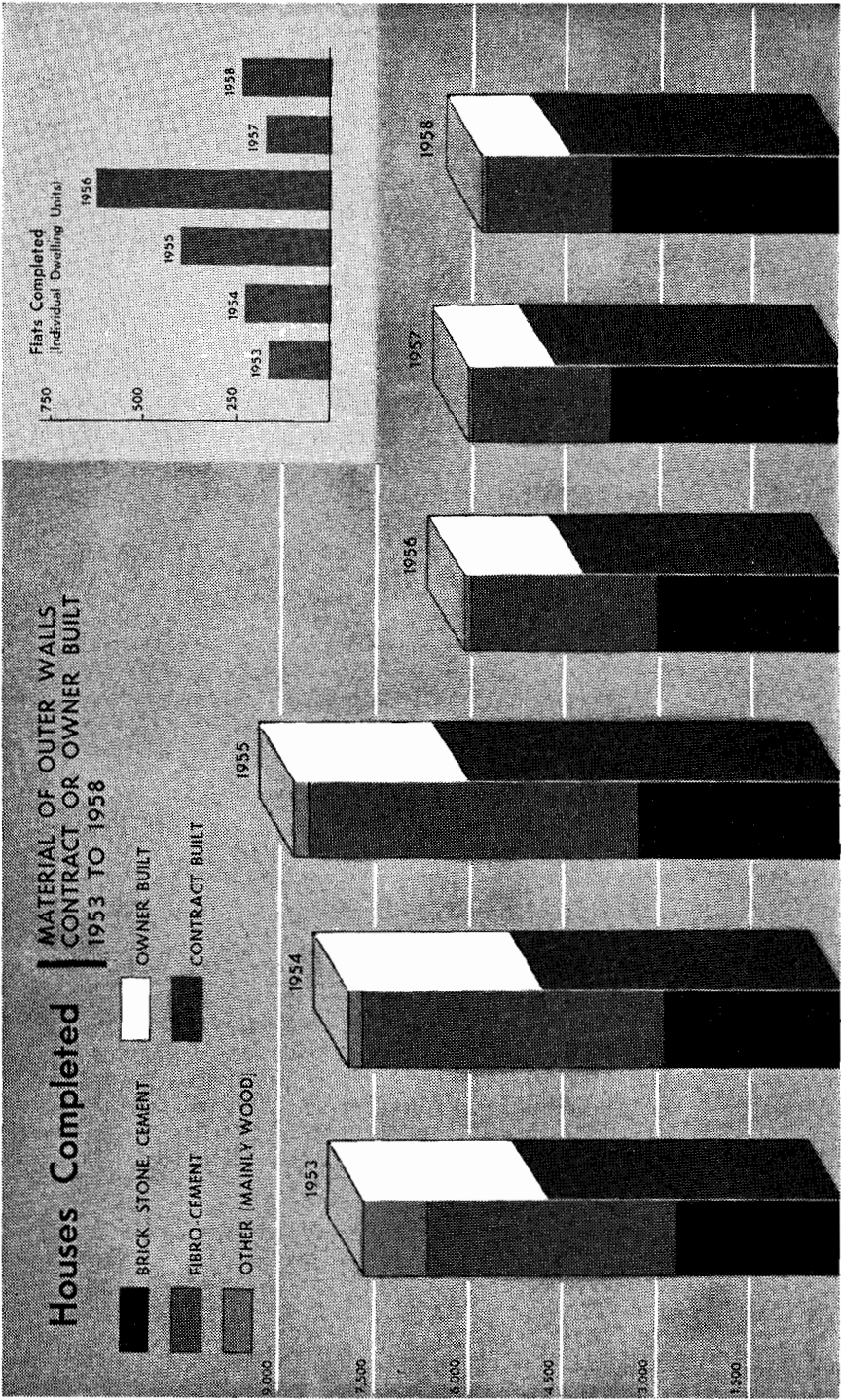
NEW HOUSES COMPLETED—CLASSIFIED ACCORDING TO MATERIAL OF OUTER WALLS

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
1949—Contract	1,247	£'000 1,979	154	£'000 147	1,040	£'000 1,287	24	£'000 32	2,465	£'000 3,425
Owner-Built	202	256	74	44	531	382	18	11	825	693
Total	1,449	2,235	228	191	1,571	1,649	42	43	3,290	4,118
1950—Contract	1,350	2,392	227	223	1,443	1,799	30	34	3,050	4,448
Owner-Built	359	490	110	88	819	773	25	14	1,313	1,365
Total	1,709	2,882	337	311	2,262	2,572	55	48	4,363	5,813
1951—Contract	1,547	3,377	323	384	1,779	2,744	169	204	3,818	6,709
Owner-Built	608	1,183	130	141	1,154	1,497	21	14	1,913	2,835
Total	2,155	4,560	453	525	2,933	4,241	190	218	5,731	9,544
1952—Contract	1,906	5,202	625	1,428	2,189	3,939	127	254	4,847	10,823
Owner-Built	1,100	2,895	120	181	1,655	2,739	8	9	2,883	5,824
Total	3,006	8,097	745	1,609	3,844	6,678	135	263	7,730	16,647
1953—Contract	1,514	4,822	909	2,525	2,214	4,794	17	45	4,654	12,186
Owner-Built	1,162	3,595	67	132	1,752	3,483	7	9	2,988	7,219
Total	2,676	8,417	976	2,657	3,966	8,277	24	54	7,642	19,405
1954—Contract	1,600	5,565	173	442	3,006	6,872	....	....	4,779	12,879
Owner-Built	1,265	4,202	41	88	1,817	3,961	4	4	3,127	8,255
Total	2,865	9,767	214	530	4,823	10,833	4	4	7,906	21,134
1955—Contract	1,977	7,108	194	540	3,838	9,251	3	8	6,012	16,907
Owner-Built	1,291	4,667	31	81	1,433	3,363	5	9	2,760	8,120
Total	3,268	11,775	225	621	5,271	12,614	8	17	8,772	25,027
1956—Contract	2,066	6,987	39	115	2,066	4,854	1	2	4,172	11,958
Owner-Built	951	3,504	23	60	898	2,010	3	7	1,875	5,581
Total	3,017	10,491	62	175	2,964	6,864	4	9	6,047	17,539
1957—Contract	3,097	9,729	10	25	1,470	3,449	....	....	4,577	13,203
Owner-Built	676	2,430	18	42	669	1,441	6	9	1,369	3,922
Total	3,773	12,159	28	67	2,139	4,890	6	9	5,946	17,125
1958—Contract	3,089	10,100	23	71	1,292	3,198	....	....	4,404	13,969
Owner-Built	675	2,401	18	44	643	1,349	3	4	1,339	3,798
Total	3,764	12,501	41	115	1,935	4,547	3	4	5,743	17,167

The following table shows completions of dwellings other than houses. The figures relating to flats refer to individual dwelling-units provided, and those shown under the heading "Other" include such establishments as hotels and boarding-houses, as well as shops with dwellings attached.

OTHER NEW DWELLINGS COMPLETED

Year	Dwellings Other Than Houses			
	Flats		Other	
	Number	Value	Number	Value
1949	10	£'000 11	10	£'000 40
1950	280	277	1	2
1951	315	244	4	16
1952	92	132	7	246
1953	167	323	18	115
1954	229	416	36	196
1955	397	855	41	403
1956	624	1,311	23	366
1957	177	375	26	266
1958	238	496	32	204



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 Census of the 30th June, 1954 and the 31st December, 1958. 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.

POPULATION AND DWELLINGS—STATES AND TERRITORIES

30th JUNE, 1954 TO 31st DECEMBER, 1958

State or Territory	Population (a)				Occupied Private Dwellings Census, 30th June, 1954	New Houses and Flats (†) Completed 1st July, 1954 to 31st December, 1958		
	Census, 30th June, 1954	Estimated 31st December, 1958	Increase			Number	Proportion of Australian Total	Per thousand of Population Increase
			Number	Per cent.				
	persons	persons	persons	%			%	
New South Wales	3,423,529	3,725,686	302,157	8.83	900,159	121,501	35.06	402
Victoria	2,452,341	2,770,919	318,578	12.99	650,873	105,560	30.46	331
Queensland	1,318,259	1,424,818	106,559	8.08	332,883	35,299	10.19	331
South Australia	797,094	907,992	110,898	13.91	212,095	35,079	10.12	316
Western Australia	639,771	713,583	73,812	11.54	159,496	32,414	9.35	439
Tasmania	308,752	346,545	37,793	12.24	77,647	11,978	3.46	317
Northern Territory	16,469	19,122	2,653	16.11	3,237	1,295	0.37	488
Australian Capital Territory	30,315	42,953	12,638	41.69	7,031	3,425	0.99	271
Australia	8,986,530	9,951,618	965,088	10.74	2,343,421	346,551	100.00	359

(a) Exclusive of full-blood aboriginals.

† Individual dwelling-units.

The ratio which Western Australia's population bore to that of Australia was 7.12 per cent. at the 30th June, 1954 and 7.17 per cent. at the 31st December, 1958. Completions of houses and flats in Western Australia during the period numbered 32,414, representing 9.35 per cent. of the Australian total. The rate of completions, 439 per thousand of population increase, was greater than that of any other State and considerably higher than the rate of 359 for Australia as a whole. Western Australia's population increased during the period by 73,812 or 11.54 per cent., compared with a gain of 10.74 per cent. in the Australian population.

CHAPTER V—*continued*

PART 5—SOCIAL BENEFITS, RELIEF PAYMENTS AND CHILD WELFARE

The information given in this Part is intended to serve as a general guide to the main provisions relating to social benefits and relief payments provided by the Commonwealth and State Governments. The rates and the conditions applying to payment of the several benefits are described as they existed at the 31st December, 1958. Where variations have occurred since that date, the effect of the changes is summarized in the Appendix. 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 established for the purpose. The principal revenue of the Fund was formerly the Social Services Contribution which until 1950–51 was levied as a separate tax upon incomes but is now amalgamated with the normal Income Tax. Since 1952–53, the Fund has been financed by the transfer each year from Consolidated Revenue of an amount sufficient to meet the cost of social services and health benefits for the year.

War and service pensions are paid by the Commonwealth from a special appropriation under War and Repatriation Services.

The Social Services Act 1947-1958, provides for the payment of age and invalid pensions, widows' pensions, unemployment and sickness benefits, maternity allowances and child endowment; the Repatriation Act 1920-1958, 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 1953-1958.

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, 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.

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 invalid pensions paid to blind persons.

The age pension is paid to men aged 65 years and over and to women aged 60 years and over who have resided in Australia continuously for any period of 20 years. Invalid pensions are payable to persons aged 16 years or over who have resided continuously in Australia for any period of five years and who are permanently incapacitated for work or are permanently blind.

The maximum rate of pension is £4 7s. 6d. per week. The wife of an invalid pensioner or of an age pensioner who is permanently incapacitated for work or permanently blind may be granted a wife's allowance of not more than £1 15s. per week. Where a pensioner who is an invalid is maintaining children under 16 years of age, a child's allowance of 11s. 6d. per week is paid in respect of the first child and the pension is increased by 10s. per week for each additional child.

If the pensioner pays rent and is deemed to be entirely dependent on his pension, supplementary assistance is payable at the rate of 10s. per week to a single pensioner or to a married pensioner whose spouse does not receive a pension or allowance.

In the application of the means test both income and property are taken into account and where either exceeds a prescribed minimum, the pension is progressively reduced. A pensioner with income from other sources amounting to £3 10s. per week, increasable by 10s. per week for each dependent child, and property to the value of £209 may still receive a full pension. In determining property owned,

a pensioner's home, furniture and personal effects and some other specified assets are disregarded. In the case of a husband and wife, either one or both being pensionable, the income and property of each is taken to be half the income and property of both.

AGE AND INVALID PENSIONS—WESTERN AUSTRALIA

Year ended 30th June :—	Number of pensioners † at 30th June			Number † per 10,000 of population		Average fortnightly pension at 30th June		Pensions paid during year (a)	
	Age	Invalid	Total Age and Invalid	Age	Invalid	Age	Invalid	Total Amount	Per head of population
1954	27,248	4,101	31,349	426	64	£ s. d. 6 14 0	£ s. d. 6 16 7	£'000 5,375	£ s. d. 8 10 5
1955	28,833	4,191	33,024	438	64	6 14 1	6 17 6	5,759	8 17 6
1956	30,244	4,425	34,669	446	65	7 13 1	7 16 8	6,681	9 19 9
1957	32,192	5,039	37,231	465	73	7 12 2	7 15 10	7,254	10 11 11
1958	33,124	5,519	38,643	470	78	8 5 11	8 9 5	8,077	11 11 3

† Excludes pensioners in benevolent homes. (a) Includes amounts paid to benevolent homes for maintenance of pensioners and to pensioner inmates of these homes. Includes also allowances to wives of invalid pensioners.

Rehabilitation Service—Since the 10th December, 1948 a rehabilitation service has been provided for invalid pensioners and others whose disabilities are remediable and who have reasonable prospects of engaging in a suitable vocation within three years. With the aim of restoring disabled persons to independence and usefulness, the service provides the necessary treatment and training together with books, tools and equipment. Rehabilitation and training allowances are paid. Commonwealth expenditure in respect of the Rehabilitation Service in Western Australia was £70,770 in 1956-57 and £79,428 in 1957-58.

Funeral Benefit—From the 1st July, 1943, a funeral benefit of up to £10 has been payable to persons who are required to meet the funeral expenses of an age or invalid pensioner or of a claimant who, but for death, would have been granted an age or invalid pension. Commonwealth payments of funeral benefit in Western Australia amounted to £23,170 in 1956-57 and £23,482 in 1957-58.

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.

WIDOWS' PENSIONS—WESTERN AUSTRALIA

Year ended 30th June :—	Pensions current at 30th June		Average fortnightly rate of pension	Pensions paid during year	
	Number	Per 10,000 of population		Total Amount	Per head of population
1954	2,753	43	£ s. d. 6 4 0	£'000 435	£ s. d. 13 10
1955	2,348	43	6 4 7	451	13 11
1956	3,015	45	7 2 8	531	15 10
1957	3,243	47	7 7 10	612	17 11
1958	3,542	50	8 2 7	708	1 0 3

A widow having the care of one or more children under 16 years of age may receive £4 12s. 6d. per week together with an additional 10s. per week for each child other than the first. Widows aged 50 years and over with no dependent children may be paid £3 15s. per week. Those aged under 50 and having no children under 16 years of age are entitled to a pension if in necessitous circumstances, when a weekly pension of £3 15s. may be paid for not more than 26 weeks after the death of the husband but, where the widow is pregnant, payment may be continued until the birth of her child. Women whose husbands have been imprisoned for at least six months and who are 50 years of age or over, or have in

their care one or more children aged under 16 years, may receive £3 15s. per week. A widow pensioner who pays rent and is considered to be entirely dependent on her pension may receive supplementary assistance of 10s. per week.

When income or property exceeds a prescribed minimum the pension is reducible according to the value of property or the amount of income from other sources.

Unemployment and Sickness 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.

The maximum weekly rate of benefit for an unmarried claimant over 21 years of age is £3 5s. per week. For unmarried juveniles, the rate is £1 15s. for those aged under 18 years and £2 7s. 6d. for those aged 18 and under 21 years. A married claimant with dependent spouse may receive £5 12s. 6d. per week, with an additional 10s. per week if there are dependent children under 16 years of age. In the case of claimants aged over 21 years, income of £2 per week is allowed in addition to the benefit but any income in excess of £2 is deducted from the benefit. Where the claimant is less than 21 years of age, the permissible weekly income is £1 and the rate of benefit is reducible by the amount of any income in excess of £1 per week. For unemployment benefit purposes, the incomes of both husband and wife are taken into account. For sickness benefit purposes, the income of the claimant only is taken into account, while up to £2 per week of any payment received from an approved friendly society or similar body is disregarded.

In general, a married woman may not receive sickness benefit, but provision exists for payment in special circumstances.

There is a waiting period of seven days, during which time neither unemployment nor sickness benefit is payable.

UNEMPLOYMENT AND SICKNESS BENEFITS—WESTERN AUSTRALIA

Period	Average number on benefit at end of each week	Persons on benefit at end of period		Benefits paid during year	
		Number	Per 10,000 of population	Total Amount	Per head of population
UNEMPLOYMENT BENEFITS					
Year ended 30th June :—				£	s. d.
1954	427	225	3·5	75,904	2 5
1955	157	239	3·6	26,709	0 10
1956	473	1,606	23·7	76,888	2 4
1957	1,940	2,441	35·3	336,846	9 10
1958	2,330	3,005	42·6	482,735	13 10
Quarter ended :—					
30th September, 1957	2,580	2,120	30·5	(a)	(a)
31st December, 1957	2,016	2,393	34·2	(a)	(a)
31st March, 1958	2,305	2,018	28·8	(a)	(a)
30th June, 1958	2,422	3,005	42·6	(a)	(a)
SICKNESS BENEFITS					
Year ended 30th June :—				£	s. d.
1954	479	417	6·5	106,836	3 5
1955	459	440	6·7	98,868	3 1
1956	428	410	6·1	93,854	2 10
1957	458	454	6·6	96,907	2 10
1958	508	574	8·1	130,959	3 9
Quarter ended :—					
30th September, 1957	494	514	7·4	(a)	(a)
31st December, 1957	480	411	5·9	(a)	(a)
31st March, 1958	504	533	7·6	(a)	(a)
30th June, 1958	552	574	8·1	(a)	(a)

(a) Not applicable.

Special Benefits—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.

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.

The allowance is £15 where there are no other children, £16 where the mother has one or two other children under 16 years, or £17 10s. where she has three or more such children. These rates have been paid from the 1st July, 1947.

The amount payable is increased by £5 for each additional child of a multiple birth.

MATERNITY ALLOWANCES—WESTERN AUSTRALIA

Year ended 30th June :—	Number of claims paid	Amount paid		
		Total	Average amount per claim	Per head of population
		£	£ s. d.	s. d.
1954	15,803	253,442	16 0 9	8 0
1955	16,261	261,129	16 1 2	8 1
1956	17,180	276,123	16 1 5	8 3
1957	16,853	271,128	16 1 9	7 11
1958	16,829	271,032	16 2 1	7 9

Child Endowment

Child endowment was introduced on the 1st July, 1941. 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 an approved institution of which children are inmates, is qualified to receive endowment in respect of each child. The payment is not subject to a means test.

At the inception of the scheme, the first child of a family was not endowed. Endowment for second and subsequent children and for each child in an approved institution was 5s. per week on introduction, 7s. 6d. per week from the 1st July, 1945 and 10s. per week from the 9th November, 1948. Since the 20th June, 1950 child endowment has been extended to include the first or only child of a family at the rate of 5s. per week.

CHILD ENDOWMENT—WESTERN AUSTRALIA

Year ended 30th June :	Endowed families at 30th June—			Number per 10,000 of population		Amount paid during year	
	Claims in force	Endowed children (a)		Claims	Endowed children (a)	Total	Per head of population
		Total	Average number per claim				
						£'000	£ s. d.
1954	93,117	202,098	2.17	1,455	3,159	3,883	6 3 2
1955	96,621	212,025	2.19	1,467	3,220	4,069	6 5 5
1956	100,047	220,792	2.21	1,477	3,259	4,684	7 0 0
1957	102,157	227,575	2.23	1,477	3,289	4,461	6 10 4
1958	104,472	234,265	2.24	1,481	3,322	4,572	6 10 11

(a) Excludes endowed children in approved institutions. There were 3,467 endowed child inmates in 64 institutions at the 30th June, 1958 and 3,347 endowed children in 63 institutions at the 30th June, 1957.

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 1920-1958 provides for the payment of pensions to ex-servicemen and their dependants in respect of death or disabilities deemed to be due to war service.

For members of the Forces who served outside Australia, or in actual combat against the enemy within Australia, 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 before enlistment is pensionable if it is considered that such condition was aggravated by service. The rate of pension varies according to the pensioner's previous Service rank.

Pensions for Incapacity—Incapacitated members who are able to engage in employment may, according to the degree of incapacity, receive a pension of up to £5 2s. 6d. per week (or higher according to rank) with an additional weekly amount of £1 15s. 6d. for a wife and 13s. 9d. for each child under 16 years of age.

Totally and permanently incapacitated members and the totally blinded receive a pension of £11 10s. per week. An attendant's allowance is also paid where an attendant is necessary. Allowances for wife and children are the same as for other incapacitated members.

Where a member is temporarily incapacitated by his war disability, for a period of not less than three months, to a degree which prevents him from earning more than a negligible percentage of a living wage, an additional payment may be made to bring his total pension up to £11 10s. per week. This payment continues throughout the period of his incapacity.

Pensions for Death—Where the death of a member is deemed to have been due to war service, the widow is pensionable at a rate based on the member's Service rank. The minimum rate is £4 17s. 6d. per week, with a domestic allowance of £2 7s. 6d. per week where there are dependent children or the widow is aged 50 years or over or is permanently unemployable.

The weekly rate of pension for the eldest child under 16 years of age is £1 11s. 6d. and for each younger child, £1 2s. 6d. Where both parents are dead, the rate becomes £3 3s. in respect of each child.

Widowed mothers may receive a war pension ranging from £2 5s. to £4 3s. per week, according to the Service rank of a deceased son who was unmarried, if widowhood occurred either prior to or within three years after his death.

Service Pensions

The payment of service pensions is provided for in the Repatriation Act 1920-1958 and has operated since the 1st January, 1936. A means test is applied in respect of both income and property.

A service pension may be granted to a former member of the Forces, qualified under the Act, 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. An ex-member of the Forces cannot receive a service pension in respect of more than one of the above categories at the same time and cannot receive an age or invalid pension while being paid a service pension granted on the ground of age or of being permanently unemployable.

Where a service pension is granted to an ex-serviceman on the ground that he is permanently unemployable or suffering from pulmonary tuberculosis, a service pension may also be paid to his wife and for eligible children but a service pension cannot be paid to dependants when the ex-serviceman is receiving a service pension on the ground of age.

The maximum rate for a service pensioner is £4 7s. 6d. per week and for his wife, £1 15s. per week. For the first child under 16 years of age an amount of 11s. 6d. per week is payable and for each additional child, up to and including the fourth, an amount of 2s. 6d. per week. If an ex-serviceman has the custody, care and control of children under the age of 16 years and is in receipt of a service pension on the ground that he is permanently unemployable, his service pension may be increased by 10s. per week in respect of each such child other than the first.

An ex-serviceman may receive supplementary assistance to the extent of 10s. per week if he is receiving the maximum rate of service pension, is paying rent or board and is deemed to be entirely dependent on his pension.

WAR PENSIONS—WESTERN AUSTRALIA

Year ended 30th June :—	Number of War Pensions current at 30th June				Average fortnightly pension at 30th June			Expenditure during year	
	Incapacitated members of Forces	Dependants of incapacitated members of Forces	Dependants of deceased members of Forces	Total	Incapacitated members of Forces	Dependants of deceased and incapacitated members of Forces	All War Pensioners	Total	Per head of population
1954	17,878	31,579	3,895	53,352	£ s. d. 3 17 3	£ s. d. 1 7 10	£ s. d. 2 4 5	£'000 3,087	£ s. d. 4 17 11
1955	17,973	32,322	3,822	54,117	4 2 6	1 9 0	2 6 9	(a) 3,800	(a) 5 17 1
1956	17,986	32,630	3,811	54,427	4 8 6	1 10 0	2 9 4	3,451	5 3 2
1957	18,053	33,132	3,802	54,987	4 10 0	1 10 5	2 10 0	3,584	5 4 8
1958	18,076	33,406	3,769	55,251	4 19 6	1 11 9	2 13 11	4,008	5 14 9

(a) Includes Service Pensions.

SERVICE PENSIONS—WESTERN AUSTRALIA

Year ended 30th June :—	Number of Service Pensions at 30th June payable to—						Average fort- nightly pension at 30th June	Expenditure during year	
	Aged members of Forces	Members of the Forces who are—		Dependants of members where the member is—		Total		Total	Per head of popu- lation
		Per- manently unem- ployable	Suffering from pul- monary tuber- culosis	Per- manently unem- ployable	Suffering from pul- monary tuber- culosis				
1954	1,159	661	31	593	24	2,468	£ s. d. 5 2 0	£'000 303	£ s. d. 9 7
1955	1,290	698	38	624	42	2,692	5 6 0	(a)	(a)
1956	1,522	986	101	918	121	3,648	5 13 5	482	14 5
1957	1,726	1,146	139	1,113	186	4,310	5 10 10	547	16 0
1958	1,903	1,252	159	1,159	199	4,672	5 19 8	697	1 0 0

(a) Included with War Pensions.

NATIONAL HEALTH SERVICES

The National Health Act 1953–1958, provides for expenditure from the National Welfare Fund in respect of a free general practitioner service to pensioners and their dependants, and hospital, medical and pharmaceutical benefits to the community generally.

Hospital Benefits

The payment of hospital benefits to the States is authorized under Part V of the National Health Act. This Act continues the agreements entered into with the various States under the Hospital Benefits Act 1945–1951. Under these agreements the Commonwealth pays the States certain sums of money which vary according to the number of occupied beds in public hospitals.

The rates of payment for occupied beds in public hospitals are determined by the category into which patients are grouped. Payment of 12s. per day is made for a patient who is a pensioner or a dependant of a pensioner. The rate of 8s. per day is paid for other patients.

A payment of 8s. per day is made also for patients in approved private hospitals. This payment is made to the proprietor of the private hospital.

An additional benefit is paid in the case of patients who are contributing to an approved hospital benefit fund. A patient contributing for a fund benefit of between 6s. and 16s. per day receives an additional Commonwealth benefit of 4s. per day but where he contributes for a fund benefit of 16s. per day or more the Commonwealth benefit is 12s. per day. This payment is made through the benefit organization and is normally paid to the patient with the amount payable by the organization.

Australian residents and their dependants who receive hospital treatment while temporarily living overseas are eligible for hospital benefits.

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.

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 1953-1958.

Under this scheme, pensioners and their dependants, as defined in the following section describing pharmaceutical benefits, are provided with a free general practitioner service. Specialist services are not provided. A small fee may be charged by practitioners who attend qualified patients outside normal surgery or visiting hours. Practitioners in the scheme are remunerated on a fee-for-service basis by the Commonwealth.

Pharmaceutical Benefits

Since the 4th September, 1950, certain life-saving and disease-preventing drugs have been provided to the general community free of charge if they have been duly prescribed by a medical practitioner registered in Australia.

The number of drugs listed as available as general pharmaceutical benefits has steadily increased and at the 30th June, 1958 the number of separate preparations being supplied was 247. Before a drug is listed as being available it must first be approved by the Pharmaceutical Benefits Advisory Committee.

A service providing pharmaceutical benefits free of charge to pensioners has been in operation since the 2nd July, 1951. The drugs supplied under the scheme include all those listed in the British Pharmacopoeia and other drugs as specified. Persons qualifying for benefit are those who satisfy a means test and are receiving an age, invalid or widow's pension, a service pension or a tuberculosis allowance. The benefits of the scheme apply also to the dependants of persons so qualified.

Free Milk for School Children

The States Grants (Milk for School Children) Act 1950, provides for the distribution of free milk to school children throughout the Commonwealth, with the object of improving their diet. All children under the age of 13 years attending school are eligible to receive this issue. The cost of the milk plus half the capital or incidental costs, including expenses incurred in administering the scheme, is reimbursed by the Commonwealth to the State, which arranges for the distribution.

Financial Summary

NATIONAL HEALTH SERVICES—WESTERN AUSTRALIA

Year ended 30th June :—	Hospital Benefits	Medical Benefits	Pensioner Medical Service	Pharmaceutical Benefits	Pharmaceutical Benefits for Pensioners	Nutrition of Children	Miscellaneous Health Services	Total Amount	Amount per head of population
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£ s. d.
1954	657	158	137	635	63	106	18	1,774	2 16 3
1955	745	413	165	686	82	126	15	2,232	3 8 10
1956	779	533	198	717	96	136	11	2,470	3 13 10
1957	772	601	194	698	114	158	12	2,549	3 14 6
1958	929	657	216	864	139	153	13	2,971	4 5 1

Other health services financed by the Commonwealth Government relate to the tuberculosis campaign and to mental institutions.

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.

A system of tuberculosis allowances to individuals is provided. Payments under the scheme were commenced on the 13th July, 1950. The rate of allowance to a married sufferer with dependent wife is £10 7s. 6d. per week. An amount of 10s. per week, additional to child endowment, is payable for each dependent child under 16 years of age. A sufferer without dependants is eligible to receive £6 10s. per week, reducible to £4 7s. 6d. per week if maintained free of charge in an institution. There is a means test, which applies only to income and not to property. The allowance is reduced by the amount by which income from other sources exceeds £7 per week in the case of a married sufferer and £3 10s. per week in the case of a person without a dependent wife.

The cost to the Commonwealth for the campaign in Western Australia, including allowances and reimbursements to the State of capital expenditure, was £1,065,467 in 1956-57 and £1,203,516 in 1957-58.

Mental Institutions

Under the States Grants (Mental Institutions) Act 1955, the Commonwealth is authorized to make payments to the States for, or in connexion with, the buildings or equipment of mental institutions. Commonwealth expenditure on mental hospitals in Western Australia was £51,855 in 1956-57 and £29,236 in 1957-58. Under the Act the Commonwealth liability in Western Australia is limited to a total of £720,000.

STATE RELIEF PAYMENTS

The State Government, through the Child Welfare Department, makes relief payments which in most cases supplement the social benefits provided by the Commonwealth Government. The payments 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 women with husbands unable to support them owing to 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 Police Court or a Children's Court for an order requiring the husband or the father to provide maintenance. Court orders are enforceable throughout Australia and in certain overseas countries.

State monetary assistance to deserted wives, women with husbands in prison and widows, not in receipt of a Commonwealth widow's pension, is at the rate of £3 7s. 6d. per week, plus £1 10s. per week for the first dependent child and 15s. per week for each other dependent child. To a widow receiving a Commonwealth pension the State pays 12s. 6d. per week for the first dependent child and 15s. per week for each additional child. Where an age or invalid pensioner has dependent children, the State allows £1 per week for the first child, 5s. per week for the second child and 15s. per week for each additional child. 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 £2 6s. 6d. per week by the State. Where Commonwealth unemployment or sickness benefits are payable to married men, the State allows 7s. 6d. per week for the wife, £1 4s. per week for the first dependent child and 15s. per week for each additional child. In addition, Commonwealth child endowment is payable in respect of all dependent children. Details of Commonwealth Social Services benefits are given on pages 154-7. 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. The following table shows the number of women in receipt of State relief payments during each of the years 1954 to 1958.

WOMEN IN RECEIPT OF STATE RELIEF PAYMENTS

Description	Number at 30th June—				
	1954	1955	1956	1957	1958
Widows	127	122	143	155	153
Unmarried Mothers	21	19	28	29	31
Deserted Wives	168	160	209	333	403
Other Married Women—					
Husband Pensioner	43	47	47	60	110
Husband Sick or Unemployed	20	17	158	702	989
Husband Imprisoned	22	29	49	76	62
Divorced Women	10	5	1	8	11
Foster-mothers	36	36	37	56	106
Special Cases	7	9	10	12	16
Total Women	454	444	682	1,431	1,881

CHILD WELFARE

Under the provisions of the Child Welfare Act, 1947–1958 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.

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 injured parties. The public is excluded from Court hearings and names of juvenile offenders are withheld from publication. Adults charged with certain indictable offences against children may forgo the right to trial by jury and agree to be dealt with summarily by Children's Courts. This power to exercise summary jurisdiction is designed to 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, however, exercise discretionary power and commit such offenders for trial in a higher Court.

Children guilty of minor offences may be cautioned, fined, bound over, or dismissed without a conviction being recorded. A Court may declare a child to be neglected, destitute or uncontrollable and may order the child to be committed to the care of the Child Welfare Department, sent to an approved institution, or released on probation. Children found guilty of offences punishable by imprisonment may be committed to the care of the Department, released on security given by parents or after suitable punishment given by a near relative, 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. Supervision and probation cases, other than State wards, numbered 593 at the 30th June, 1958.

Children considered to be in need of closer supervision and discipline may be ordered by a Court to attend compulsory classes conducted by the Child Welfare Department. Courses given by the Department, sometimes in collaboration with the Department of the Army, include such activities as physical training, team sports, group discussions and excursions. Instruction for girls is provided at the Child Welfare Department Reception Home and the classes include dressmaking, hairdressing and hygiene.

Wards of the Child Welfare Department—A child committed to the care of the Child Welfare Department or to an institution becomes a ward of the Department. A ward may be placed in an institution, boarded out with a relative or other approved person, 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, 1958, there were 1,690 wards, of whom 409 were in institutions, 922 were boarded out, 114 were in service or apprenticed and 245 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, 1958 there were 115 such children in institutions and 30 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 cater 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.

The principal reformatory for delinquent and maladjusted boys is the Anglican Farm School at Stoneville but provision has been made for a new maximum security home which is nearing completion at Caversham. This institution will be under the control of the Child Welfare Department and will be staffed by specially selected and trained personnel. It is designed to operate as a reformatory for delinquent boys who require maximum supervision. The Home of the Good Shepherd at Leederville and the Baptist community at Wattle Grove care 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, a haven for children whose parents are temporarily unable to care for them, and a remand home for children awaiting appearance before Children's Courts.

The following table shows details of children in institutions under the supervision of the Child Welfare Department at the 30th June, 1958.

CHILDREN IN INSTITUTIONS AT 30TH JUNE, 1958

(Excluding children at Native Missions)

Institution	State Wards		Migrant Children (a)		Private Children		Total		
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Children
ANGLICAN—									
Parkerville Children's Home, Parkerville	42	44	...	...	24	22	66	66	132
Swanleigh (†), Middle Swan	8	6	33	39	82	37	123	82	205
Anglican Farm School, Stoneville	63	...	...	...	...	...	63	...	63
Total	113	50	33	39	106	59	252	148	400
METHODIST—									
Methodist Children's Home, Victoria Park	...	5	...	...	16	19	16	24	40
Tom Allan Memorial Home for Boys, Werribee	9	...	...	...	10	...	19	...	19
Total	9	5	...	...	26	19	35	24	59
PRESBYTERIAN—									
Benmore Boys' Home, Caversham	4	3	...	...	9	12	13	15	28
Sister Kate's Children's Home, Queens Park	5	8	...	...	25	21	30	29	59
Total	9	11	...	...	34	33	43	44	87
ROMAN CATHOLIC—									
Castledare Boys' Home, Cannington	16	...	33	...	36	...	85	...	85
Clontarf Boys' Town, Victoria Park	31	...	106	...	35	...	172	...	172
Home of the Good Shepherd, Leederville	...	28	...	...	...	43	...	71	71
St. Joseph's Orphanage, Wembley	...	24	...	16	31	40	31	80	111
St. Vincent's Foundling Home, Wembley	18	11	...	...	34	38	52	49	101
St. Mary's Agricultural School, Tardun	2	...	59	...	8	...	69	...	69
St. Joseph's Boys' Town, Bindoon	1	...	54	...	15	...	70	...	70
Nazareth House, Geraldton	...	...	22	...	34	...	56	...	56
Total	68	63	252	38	159	155	479	256	735
SALVATION ARMY—									
Boys' Home, Hollywood	29	...	...	...	61	...	90	...	90
Girls' Home, Cottesloe	...	25	...	...	...	47	...	72	72
Total	29	25	...	...	61	47	90	72	162
UNDENOMINATIONAL—									
Kingsley Fairbridge Farm School, Pinjarra	...	...	118	30	...	...	118	30	148
Shiloh College, Broomehill	14	...	...	...	...	...	14	...	14
Child Welfare Reception Home, Mt. Lawley	8	5	...	...	8	10	16	15	31
Alexandra Home, Highgate	...	...	...	...	8	7	8	7	15
Total	22	5	118	30	16	17	156	52	208
GRAND TOTAL	250	159	403	107	402	330	1,055	596	1,651

(a) Children brought to Western Australia under child migration schemes.

(†) Previously known as the Swan

Boys' Home and the Swan Girls' Home.

Maintenance of Children—Payments by the Child Welfare Department to foster-parents having the care of State wards are at the rate of £2 5s. per week for each child. Institutions are paid subsidies at the rate of £1 15s. 9d. per week for each ward attending school on the premises and £1 14s. 9d. for wards attending outside schools. The British Government pays 12s. 6d. per week for each British migrant child in institutions or boarded out and the State Government pays additional amounts to bring payments to the same scale as for State wards. A further grant of 7s. 6d. 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 near relatives are required to contribute towards the maintenance of wards in institutions or boarded out.

Employment of Children—The Child Welfare Act, 1947–1958 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. The most common form of licence is that permitting 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, 1958, adoption orders numbering 290 were granted.

EXPENDITURE OF CHILD WELFARE DEPARTMENT

Expenditure	1953–54	1954–55	1955–56	1956–57	1957–58
	£	£	£	£	£
Departmental	81,098	93,504	122,034	162,314	187,422
Maintenance of Wards	72,141	79,062	82,596	86,912	96,509
Maintenance of Migrant Children	42,954	51,036	53,906	49,678	47,641
Outdoor Relief for Indigent	57,805	64,956	92,962	199,694	301,839
Total Expenditure	254,598	288,558	351,498	498,598	633,410
Total Revenue	29,587	34,910	34,140	36,917	46,162
Net Expenditure	225,011	253,648	317,358	461,681	587,248
	s. d.	s. d.	s. d.	s. d.	s. d.
Per head of mean population	7 2	7 10	9 6	13 6	16 10

CHAPTER V—*continued*

PART 6—LAW COURTS, POLICE AND PRISONS

LAW COURTS

The principal courts operating in Western Australia are the High Court of Australia, the Supreme Court of Western Australia, the Session Courts, the Magistrates' and Coroners' Courts, the Western Australian Court of Arbitration and the Licensing Court.

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 1903–1955. 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, 1935–1957, consists of a Chief Justice and such other Judges, not exceeding four in number, as may from time to time be appointed.⁽¹⁾ The jurisdiction of the Court in both civil and criminal matters is exercised by a single Judge, sitting alone or with a jury, unless it is provided that an action must be brought before a Full Court. Criminal cases are heard before a jury. Criminal sittings of the Supreme Court are held at Perth each month from February to December and civil sittings each month from March to December.

The Eastern Goldfields Circuit Court sits at Kalgoorlie four times a year. The Stipendiary Magistrate of the Eastern Goldfields Magisterial District usually presides, sitting as a special commissioner of the Supreme Court, but major offences under the Criminal Code are sometimes dealt with by a Judge.

Any two or more Judges together comprise a Full Court except that when sitting as a court of criminal appeal there must be an uneven number of Judges. The Full Court sits at least five times in every year with additional sittings when necessary. Appeals are heard against judgments of the Supreme Court and of the Circuit and Session Courts as well as against decisions of the magistrates in lower courts.

Appeal from a judgment of the Supreme Court of Western Australia lies to the High Court of Australia, subject to the provisions of the Judiciary Act 1903–1955 (Commonwealth). Under the Bankruptcy Act 1924–1958 (Commonwealth) the Supreme Court is invested with federal jurisdiction in bankruptcy.

Session Courts of the State

The Session Courts are held four times a year at the principal court houses of each of the fourteen session divisions. The Stipendiary Magistrate stationed at the centre at which a Court is held usually presides. Only criminal cases are dealt with and a jury is therefore required at all sittings. A case may be reserved for hearing before a Judge of the Supreme Court. Magistrates presiding at Session Courts may sit in association with one or more Justices of the Peace.

Magistrates' and Coroners' Courts

In addition to their usual functions, magistrates act as coroners and mining wardens where required. Two or more Justices of the Peace sitting together in petty sessions may deal with cases which could be decided by a magistrate sitting alone.

Police Courts are held at centres of population throughout the State. Minor offences are dealt with summarily, but a person charged with an indictable offence may be committed to a higher court for trial or sentence if there is sufficient evidence to justify this course.

Children's Courts—Special Children's Courts are established in Perth, and at other centres as required, to deal with offenders under the age of eighteen years and to hear cases of offences against children. A Children's Court has power to deal summarily with most offences concerning children. The public is excluded from Children's Court hearings and names of juvenile offenders are withheld from publication. Further reference to Children's Courts is made on page 162.

(1) See *Appendix*.

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.

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 £500.

Civil Proceedings

Civil Cases—Particulars of civil cases dealt with by the courts in the ten years ended 31st December, 1958 are shown in the following table.

CIVIL CASES (‡)

Year	Higher Courts				Lower Courts			
	Writs		Judgments Signed and Entered		Plaints		Judgments	
	Number	£	Number	£	Number	£	Number	£
1949	595	179,967	131	51,677	15,245	245,516	4,619	103,768
1950	725	169,485	182	99,527	16,017	237,023	4,912	96,772
1951	703	300,902	201	113,908	15,151	242,889	4,228	93,008
1952	839	329,596	206	185,438	18,217	269,535	4,614	129,036
1953	1,088	482,436	378	215,987	19,643	374,484	6,479	187,777
1954	1,143	599,955	453	275,929	24,773	583,751	8,246	244,451
1955	847	526,303	361	307,785	31,079	1,051,654	9,480	448,213
1956	715	518,027	270	280,531	40,313	1,255,197	12,460	415,698
1957	718	478,960	262	337,049	39,259	1,271,653	14,058	525,064
1958	792	351,921	273	300,626	46,077	1,487,625	14,816	562,166

(‡) Excludes proceedings in divorce (see next table) and in bankruptcy (see page 197).

Divorce—Orders for the dissolution of marriage, nullity of marriage and judicial separation may be granted by the Supreme Court or the Eastern Goldfields Circuit Court. The following table shows the number of writs issued and final orders granted in each year from 1949 to 1958.

DIVORCE

Year	Writs	Final Orders for—		
		Dissolution of Marriage	Nullity of Marriage	Judicial Separation
1949	679	566	3	.....
1950	706	720	7	.....
1951	735	682	3	1
1952	662	585	4	.....
1953	620	535	6	.....
1954	596	530	2	1
1955	575	479	6	3
1956	662	544	4	4
1957	633	541	1	3
1958	665	536	6	2

Western Australian Court of Arbitration

The main purpose of the Court of Arbitration is to determine wages and working conditions and to maintain industrial peace in Western Australia. The Court comprises a President, a representative of employers' organizations and a representative of employees' unions. The President of the Court must be a person qualified to be appointed a Judge of the Supreme Court.

The Court of Arbitration has power to intervene in any industrial dispute occurring within the State, whether or not the parties are registered under the Industrial Arbitration Act.

Commonwealth Industrial Court

The Commonwealth Industrial Court, as constituted by the Conciliation and Arbitration Act 1904-1958, comprises a Chief Judge and not more than two other Judges and is empowered to carry out judicial and award enforcement functions under the Act. Although, in general, decisions of the Court are final, an appeal may be made to the High Court of Australia, but only when the High Court grants leave to appeal.

Commonwealth Conciliation and Arbitration Commission

The Commonwealth Conciliation and Arbitration Commission consists of a President, not less than two Deputy Presidents, a Senior Commissioner and not less than five Commissioners. 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 empowered to conciliate or arbitrate in respect of any dispute or industrial matter associated with Commonwealth Government undertakings or projects. The Principal Registry of the Commission is in Melbourne, Victoria, and there are Deputy Industrial Registrars in each State.

Licensing Court

The Licensing Court consists of three members appointed by the Governor to administer the Licensing Act and to issue licences for the sale of alcoholic liquor.

CRIME STATISTICS

Statistics appearing in this section exclude particulars of aboriginals unless otherwise stated.

Magistrates' Courts

The following table shows particulars of convictions in Magistrates' Courts, including Children's Courts, during the ten years ended 31st December, 1958.

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
1949	320	17	1,839	141	3	....	6,594	487	15,361	626	24,117	1,271	25,388
1950	397	23	2,317	164	....	....	7,321	661	15,808	624	25,843	1,472	27,315
1951	335	14	2,577	188	1	....	7,119	462	18,358	709	28,390	1,373	29,763
1952	342	19	2,889	196	....	....	7,376	541	25,770	976	36,377	1,732	38,109
1953	323	25	3,034	250	....	....	7,319	626	27,949	1,117	38,625	2,018	40,643
1954	368	18	3,618	235	2	....	7,094	503	34,747	1,420	45,829	2,176	48,005
1955	363	26	3,667	312	....	....	6,821	523	50,654	2,752	61,505	3,613	65,118
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

(a) Including traffic offences. In addition, fines collected by the Crown Law Department and the Perth City Council for minor traffic offences numbered :—1956, 32,130 ; 1957, 31,405 ; 1958, 36,999.

In 1955, the Traffic Act was amended to provide for the imposition of small fines for minor traffic offences without the formality of court hearings. In 1956 legislation was enacted to empower the Perth City Council to provide parking facilities in the City area and to impose fines for parking offences. As a result of these measures, total convictions in Magistrates' Courts have progressively declined from the record number of 65,118 reached in 1955. Disregarding traffic offences, convictions increased by 36·8 per cent. from 1949 to 1958, compared with an increase of 32·5 per cent. in the mean population for those years.

CONVICTIONS IN MAGISTRATES' COURTS FOR CERTAIN OFFENCES

Year	Assault, Wounding, etc.		Stealing, Receiving, etc.		Drunkenness		Disorderliness		Gaming		Traffic Offences (a)	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1940	279	9	1,345	112	4,967	416	1,100	36	1,812	5	9,801	273
1950	350	18	1,639	159	5,508	538	1,121	55	1,980	5	9,883	311
1951	304	10	1,815	175	5,592	382	928	45	2,321	4	11,909	454
1952	295	16	1,917	188	5,594	448	880	36	2,803	2	18,357	640
1953	296	18	2,103	234	5,692	518	882	54	2,485	3	20,213	780
1954	319	18	2,465	222	5,426	383	895	59	2,951	6	26,506	1,054
1955	327	19	2,537	302	5,307	413	771	44	1,858	9	43,229	2,430
1956	323	15	2,973	330	5,552	360	889	59	299	11	37,473	1,911
1957	259	15	2,936	337	4,968	460	924	54	394	4	35,022	1,637
1958	303	20	3,263	362	4,409	412	990	66	245	1	25,194	1,053

(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 juveniles. Statistics of convictions of juvenile offenders during 1958, classified according to age, sex and nature of offence, are shown in the following table.

CONVICTIONS OF JUVENILES, 1958

Age (years)	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
7	2	....	3	....	1	....	....	....	2	....	6	....	6
8	7	1	7	2	1	....	....	....	....	....	17	3	20
9	9	....	12	....	6	....	1	1	8	....	36	1	37
10	20	....	36	2	11	....	1	....	6	....	74	2	76
11	35	....	50	....	11	....	13	....	20	....	129	....	129
12	42	1	61	....	21	....	14	2	19	3	157	6	163
13	35	1	124	5	17	....	55	....	26	3	257	9	266
14	89	....	171	17	18	....	104	3	137	5	519	25	544
15	95	....	209	24	19	1	215	7	209	4	747	36	783
16	158	....	236	32	25	1	335	9	350	4	1,104	46	1,150
17	121	2	193	21	11	....	848	32	368	15	1,541	70	1,611
Not stated	51	....	127	28	21	....	481	23	86	4	766	55	821
Total	664	5	1,229	131	162	2	2,067	77	1,231	38	5,353	253	5,606

An upward trend is evident in the figures for offences by children under eighteen years of age, as shown in the following table. The increase is largely due to minor offences, although convictions for offences against property rose substantially.

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
1940	141	....	338	35	33	2	768	53	250	30	1,530	120	1,650
1950	234	2	531	27	53	....	670	33	308	8	1,796	70	1,866
1951	262	7	703	50	67	2	602	59	472	11	2,106	129	2,235
1952	307	1	685	63	70	....	647	37	572	23	2,281	124	2,405
1953	338	7	732	64	99	....	1,073	85	401	26	2,643	182	2,825
1954	490	2	871	82	115	2	1,102	67	510	30	3,088	183	3,271
1955	502	2	946	116	73	....	1,359	74	556	14	3,436	206	3,642
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

Higher Courts

Details of penalties inflicted by the Higher Courts during the ten years ended 31st December, 1958 are shown in the following table.

HIGHER COURTS—NATURE OF PUNISHMENT OF DISTINCT PERSONS

Year	Bound Over		Fined		Imprisoned		Sentenced to Death		Total Convictions		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
1949	30	2	5	....	73	....	....	....	108	2	110
1950	41	3	3	1	99	1	1	....	144	5	149
1951	22	2	3	....	107	6	1	....	133	8	141
1952	52	4	9	2	139	6	1	....	201	12	213
1953	49	5	15	1	163	5	3	....	230	11	241
1954	39	1	5	....	168	3	....	....	212	4	216
1955	56	....	8	1	189	2	3	1	256	4	260
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

Only one execution was carried out during the period. All other death sentences were commuted to life imprisonment.

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, 1958

Offence	Distinct Persons Charged			Distinct Persons Convicted		
	Males	Females	Total	Males	Females	Total
I.—Offences against the Person—						
Murder	2	1	3	....	....	....
Manslaughter	16	....	16	3	....	3
Negligent driving causing death	6	....	6	6	....	6
Rape	9	....	9	6	....	6
Incest	3	....	3	2	....	2
Unlawful carnal knowledge	2	....	2	1	....	1
Indecent dealing	3	....	3	3	....	3
Unnatural offences	11	....	11	8	....	8
Abortion	3	....	3	3	....	3
Bigamy	3	3	6	2	3	5
Assault, wounding, etc.	19	1	20	11	....	11
Total, Class I	77	5	82	45	3	48
II.—Offences against Property—						
Robbery	2	....	2	1	....	1
Breaking, entering and stealing	132	1	133	132	....	132
Stealing, receiving, etc.	49	1	50	44	1	45
Extortion	1	1	2	1	1	2
Unlawfully using vehicles	2	....	2	2	....	2
Arson	1	....	1	1	....	1
Total, Class II	187	3	190	181	2	183
III.—Forgery, Uttering and Offences against Currency	6	....	6	6	....	6
IV.—Offences against Good Order—						
Armed causing alarm	1	....	1	1	....	1
Disorderly conduct	1	....	1	1	....	1
Escaping legal custody	4	....	4	3	....	3
Total, Class IV	6	....	6	5	....	5
V.—Other Offences	12	4	16	10	3	13
GRAND TOTAL	288	12	300	247	8	255

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 1958. It will be seen that about two-thirds of the charges are in connexion with the consumption of alcoholic liquor, which is denied to natives by law.

OFFENCES BY ABORIGINALS, 1958

(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—									
Manslaughter	1	....	1	....	....	....	....	....	....
Murder	1	....	1	....	....	....	1	....	1
Rape	1	....	1	1	....	1	....	....	....
Unlawful carnal knowledge	3	....	3	3	....	3	....	....	....
Indecent dealing	5	....	5	4	....	4	....	....	....
Assault, wounding, etc.	83	9	92	75	7	82	2	....	2
Total, Class I	94	9	103	83	7	90	3	....	3
II.—Offences against Property—									
Robbery	2	....	2	1	....	1	1	....	1
Breaking, entering and stealing	13	1	14	7	....	7	4	1	5
Stealing, receiving, etc.	232	19	251	226	18	244	....	....	....
Wilful damage	14	9	23	14	8	22	....	....	....
Unlawfully using vehicle, etc.	25	1	26	24	1	25	....	....	....
Unlawfully on premises	10	1	11	10	1	11	....	....	....
Total, Class II	296	31	327	282	28	310	5	1	6
IV.—Offences against good Order—									
Drunkenness	1,091	274	1,365	1,084	272	1,356	....	....	....
Disorderliness	244	119	363	241	114	355	....	....	....
Vagrancy, etc.	38	20	58	36	20	56	....	....	....
Escaping, resisting and hindering police	75	9	84	73	8	81	....	....	....
Other offences	1	1	2	1	1	2	....	....	....
Total, Class IV	1,449	423	1,872	1,435	415	1,850	....	....	....
V.—Other Offences—									
Native Welfare Act : Receiving liquor	315	72	387	300	69	369	....	....	....
Supplying liquor to natives	99	9	108	97	8	105	....	....	....
Other offences	59	13	72	59	11	70	....	....	....
Traffic offences	175	2	177	164	2	166	....	....	....
Breaches of Liquor laws	55	18	73	55	18	73	....	....	....
Other offences	99	13	112	87	12	99	....	....	....
Total, Class V	802	127	929	762	120	882	....	....	....
GRAND TOTAL	2,641	590	3,231	2,562	570	3,132	8	1	9

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.

Four branches, namely the Criminal Investigation Branch, the Uniformed Branch, the Traffic Branch and the Plainclothes Branch, are each headed by an Inspector-in-Charge. The Women Police form the fifth branch.

At the 30th June, 1958, the Police Force had two chief inspectors, 30 inspectors, 174 sergeants and 769 constables. Of these, four were detective inspectors, 26 detective sergeants and 42 detective constables. In addition, there were eleven women police, comprising two sergeants and nine 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, 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. 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 Plainclothes Branch is mainly concerned with the enforcement of the liquor laws and laws for the suppression of vice and gaming. Officers of the Branch engaged in the inspection of weights and measures test and verify commercial weighing and measuring instruments and check quantities where goods are pre-packaged for sale. Licensing of firearms is also a responsibility of the Branch.

The Women Police—Policewomen are stationed at Perth, Fremantle and Kalgoorlie. They are mainly employed in police duties concerning women and children.

Police and Citizens' Youth Clubs are established by the Department to provide recreational facilities for young people and to give them an appreciation of civic responsibilities. In 1959, there were seven clubs in the metropolitan area and 21 in country districts, with a total membership of approximately 4,000.

PRISONS

There are two common gaols, at Fremantle and Broome, and seventeen police gaols in Western Australia. The prison at Barton's Mill and the Pardelup Prison Farm are outstations of the Fremantle Prison.

Fremantle Prison is divided into separate sections for females, prisoners on remand or awaiting trial, reformatory prisoners and others. There are workshops where opportunity is provided for long-term prisoners to learn the trades of printing, bootmaking, carpentry, blacksmithing and plumbing. 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, but escapes are rare, the number of escapes from all gaols averaging only eight per year during the five years ended 30th June, 1958. All escapees were recaptured.

Broome gaol is situated in the northern part of the State and is mainly used for the imprisonment of aboriginal natives.

Police gaols are established in Perth and at other centres and are used for short-term prisoners and for prisoners awaiting trial. In addition, provision is made for holding prisoners for short periods at police stations throughout the State.

In the following table, which shows the number of prisoners received for penal imprisonment in gaols in Western Australia during the five years ended 30th June, 1958, a prisoner is counted once for each time he is received.

PRISONERS RECEIVED FOR PENAL IMPRISONMENT

Year	Prisoners other than Aboriginals			Aboriginals			Total Prisoners		
	M.	F.	Total	M.	F.	Total	M.	F.	Total
1953-54	2,250	175	2,425	419	167	586	2,669	342	3,011
1954-55	2,467	162	2,629	484	144	628	2,951	306	3,257
1955-56	2,705	132	2,837	735	200	935	3,440	332	3,772
1956-57	2,853	139	2,992	691	239	930	3,544	378	3,922
1957-58	2,680	167	2,847	723	221	944	3,403	388	3,791

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 Aboriginals			Aboriginals			Total Prisoners		
	M.	F.	Total	M.	F.	Total	M.	F.	Total
1953-54	1,305	76	1,381	261	60	321	1,566	136	1,702
1954-55	1,466	74	1,540	297	66	363	1,763	140	1,903
1955-56	1,581	72	1,653	431	80	511	2,012	152	2,164
1956-57	1,687	80	1,767	412	114	526	2,099	194	2,293
1957-58	1,572	80	1,652	444	109	553	2,016	189	2,205

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 1954 to 1958.

PRISONERS IN GAOL

Date	Prisoners other than Aboriginals			Aboriginals			Total Prisoners		
	M.	F.	Total	M.	F.	Total	M.	F.	Total
30th June :—									
1954	354	6	360	40	3	43	394	9	403
1955	376	10	386	46	6	52	422	16	438
1956	472	10	482	66	8	74	538	18	556
1957	478	10	488	80	2	82	558	12	570
1958	518	9	527	100	4	104	618	13	631

Remission of up to twenty-five per cent. of the sentence imposed is allowed to all prisoners whose conduct and diligence are satisfactory.

Prisoners may be sentenced by a Court to imprisonment for a finite term and thereafter to be detained at the Governor's pleasure. At the expiration of the finite sentence, these prisoners are placed in the reformatory section under the supervision of the Indeterminate Sentences Board. On the other hand, the Court may order that a prisoner be held during the Governor's pleasure without imposing a finite sentence. Such prisoners automatically come under the supervision of the Board. In addition, a prisoner serving a finite sentence may be transferred to the reformatory section on the recommendation of the Board.

The following table shows the number of prisoners under the supervision of the Indeterminate Sentences Board during the five years ended 30th June, 1958.

PRISONERS UNDER THE SUPERVISION OF INDETERMINATE SENTENCES BOARD

Year	Placed under Supervision during Year			Under Supervision at 30th June			
	Serving Indetermin- ate Sentence	Serving Finite Sentence	Total	In Reformatory Prison	On Parole	On Probation	Total
1953-54	6	9	15	17	26	12	55
1954-55	9	14	23	28	23	11	62
1955-56	12	26	38	39	31	12	82
1956-57	6	19	25	33	44	8	85
1957-58	13	24	37	47	28	17	92

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 Municipal Councils and Road Boards.

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 £7,584,912 towards the interest payable on the State debts, Western Australia's share of this amount being £473,432. A Sinking Fund, under the control of the National Debt Commission, was created to finance all State debts. In respect of the net public debts of the States at the 30th June, 1927, a contribution of 7s. 6d. 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 10s. per cent. per annum shared equally between the Commonwealth and the State. This provision does not, however, apply to loans raised by a State to meet a revenue deficit. In respect of debt incurred to finance deficits accruing after the 30th June, 1927 and before the 1st July, 1935 it was agreed that until the 30th June, 1944 the rate of 10s. per cent. per annum shared equally between the Commonwealth and the State should operate, but that for a period of 39 years from the 1st July, 1944 the annual contribution should be 5s. per cent. from the Commonwealth and 15s. per cent. from the State. For the funding of all other revenue deficits contributions are at a rate of not less than 4 per cent. per annum to be paid wholly by the State.

The Australian Loan Council

The Australian Loan Council was established by the Financial Agreement Act of 1928 to co-ordinate the public borrowings of the Commonwealth and the States. The Council has as its Chairman the Prime Minister of the Commonwealth, or a Minister nominated by him, and the other members are the Premiers of the States or, in the absence of a Premier, a Minister nominated by him. The Commonwealth and each State submits to the Council a programme of its desired loan raisings during each financial year, including the amount of any revenue 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 peculiar financial disabilities 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."

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 amount received annually from 1953-54 to 1957-58, after authorization by the Commonwealth Parliament under a States Grants Act, is shown against the item "Special Grants" in the first table on page 175.

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.

In 1942 the Commonwealth Government took over from the States the collection of entertainments tax and agreed under the provisions of a States Grants (Entertainments Tax Reimbursement) Act to pay compensation accordingly. Payments were made in respect of the period up to the 30th September, 1953 when, by the enactment of the Entertainments Tax Abolition Act, the Commonwealth vacated this field. The States were then free to reimpose their entertainments taxes and the Western Australian Parliament passed the enabling legislation during the session of 1953.

Special and Additional Financial Assistance

With the increasing financial needs of the States it has become necessary for the Commonwealth Government to make grants in excess of those prescribed by the States Grants (Tax Reimbursement) Act. Financial aid has been extended by a series of States Grants (Special Financial Assistance) Acts, the first of which was passed in 1951, and by the States Grants (Additional Assistance) Act of 1958.

Other Financial Assistance

As well as providing general financial assistance to the States by means of grants, the Commonwealth Government allocates to them funds for specific purposes. These include moneys for roads (see letterpress on page 327), the tuberculosis campaign (pages 154, 161), mental institutions (page 161), universities (page 132) and also, in the case of Western Australia, for waterworks (pages 211-12) and the development of the part of the State north of 20°S. latitude (page 20). These payments, together with various forms of assistance to primary industry, are made from the Consolidated Revenue Fund. In addition, finance for housing (see letterpress on page 149) is provided from Loan Fund, for social services and health services (pages 154-7, 159-60) from the National Welfare Fund, for war and service pensions (page 158) from Consolidated Revenue and for war service land settlement (page 207) from Consolidated Revenue and 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 1953-54 to 1957-58. The items included are those dealt with in the corresponding paragraphs of the preceding section *Commonwealth-State Financial Relations*.

**COMMONWEALTH CONSOLIDATED REVENUE FUND
PAYMENTS TO OR FOR WESTERN AUSTRALIA**

Nature of Payment	Financial Year				
	1953-54	1954-55	1955-56	1956-57	1957-58
Financial Agreement—	£	£	£	£	£
Interest on State Debts	473,432	473,432	473,432	473,432	473,436
Sinking Fund on State Debts	355,917	396,750	428,240	454,590	497,313
Special Grants (a)	7,800,000	7,450,000	8,900,000	9,200,000	10,150,000
Tax Reimbursement Grants	9,623,017	10,238,101	11,251,429	12,250,928	13,061,264
Special Financial Assistance	1,717,514	1,566,422	1,060,354	1,454,163	1,901,825
Additional Financial Assistance .....	.....	.....	.....	.....	315,062
Commonwealth Aid Roads—					
Grants	3,159,747	4,190,181	5,177,859	6,105,163	6,183,000
Special Assistance .....	.....	.....	.....	.....	475,000
Tuberculosis Act—Reimbursement of Capital Ex-					
penditure .....	.....	197,572	215,744	503,977	682,997
Mental Institutions—Contribution to Capital Ex-					
penditure .....	.....	.....	9,984	51,855	29,236
Grants to Universities	114,757	122,130	134,014	193,943	253,045
Western Australia Waterworks Grant	333,047	366,223	681,796	462,500	676,766
Encouragement of Meat Production	133,000	160,000	190,000	52,000	5,000
Tobacco Industry Assistance	3,879	3,814	4,340	5,000	3,750
Dairy Industry Extension Grant	10,000	17,400	18,540	19,043	14,762
Expansion of Agricultural Advisory Services	5,191	26,925	24,940	34,000	27,000
Dairy Industry Subsidy	583,596	585,535	506,000	500,000	545,000
Tractor Bounty	127,920	64,463	53,815	158,303	129,100
Sulphuric Acid Bounty .....	.....	100,953	132,995	77,508	95,458
Flax Fibre Bounty .....	.....	.....	10,537	10,265	4,050
Other Payments	182,677	79,269	29,461	26,608	29,628
TOTAL	24,623,694	26,039,170	29,303,480	32,033,278	35,552,692

(a) See letterpress *The Commonwealth Grants Commission* on pages 173-4.

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. From 1952-53, the Fund has been financed by the transfer each year from Consolidated Revenue of a sum equal to the amount paid out during the year. Its principal sources of revenue had previously been Pay-roll Tax collections and the Social Services Contribution which until 1950-51 was levied as a separate tax upon incomes but is now amalgamated with the normal Income Tax.

Details of the amounts paid in Western Australia from the National Welfare Fund in each financial year from 1953-54 to 1957-58 are given in the following table.

NATIONAL WELFARE FUND—PAYMENTS IN WESTERN AUSTRALIA

Pension or Benefit	Financial Year				
	1953-54	1954-55	1955-56	1956-57	1957-58
Social Services—	£	£	£	£	£
Age and Invalid Pensions	5,374,974	5,759,382	6,681,441	7,253,944	8,077,093
Rehabilitation Service	52,862	54,014	61,426	70,770	79,428
Funeral Benefits	18,604	20,872	22,530	23,170	23,482
Widows' Pensions	435,154	451,002	530,751	612,271	707,480
Unemployment and Sickness Benefits—					
Unemployment	75,904	26,709	76,888	336,846	482,735
Sickness	106,836	98,868	93,854	96,907	130,959
Special	16,939	17,217	16,291	14,055	18,696
Maternity Allowances	253,442	261,129	276,123	271,129	271,032
Child Endowment	3,882,899	4,069,037	4,684,167	4,461,588	4,571,540
National Health Services—					
Hospital Benefits	656,803	745,259	779,293	771,882	929,181
Medical Benefits	158,308	413,165	532,501	600,727	656,813
Medical Benefits for Pensioners	136,468	164,587	198,243	194,421	216,113
Pharmaceutical Benefits	634,897	686,175	717,498	698,473	863,884
Pharmaceutical Benefits for Pensioners	62,967	82,304	95,553	113,632	139,282
Nutrition of Children	106,475	126,302	136,361	157,809	152,600
Miscellaneous Services	18,395	14,618	10,863	12,470	12,975
Tuberculosis Campaign—					
Maintenance (a)	493,986	377,728	397,349	469,945	444,410
Allowances	113,258	105,857	111,295	91,545	76,109
Mental Institution Benefits (a)	18,280	9,453	.....	.....	.....
TOTAL	12,617,451	13,483,678	15,422,427	16,251,584	17,853,812

(a) Figures exclude payments and reimbursements from Consolidated Revenue Fund in respect to capital expenditure by the State Government. See preceding table.

The conditions applying to the payment of social service and health benefits are summarized on pages 154-7 and 159-61.

COMMONWEALTH TAXATION COLLECTIONS IN WESTERN AUSTRALIA

The taxes levied in Western Australia by the Commonwealth Government are listed in the following table. Reference to Customs and Excise Duties is made on page 312. The rates and conditions relating to the imposition of other duties, taxes and charges are summarized in the *Pocket Year Book of Western Australia* and in the *Official Year Book of the Commonwealth of Australia*.

It is important to note that, although the figures shown in the 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.

COMMONWEALTH TAXATION—NET COLLECTIONS IN WESTERN AUSTRALIA

Tax, Duty or Charge	Financial Year				
	1953-54	1954-55	1955-56	1956-57	1957-58
	£	£	£	£	£
Customs Duty	5,822,363	5,668,059	3,680,068	2,424,738	2,590,594
Excise Duty	9,718,454	10,900,515	12,082,979	15,022,692	16,120,407
Sales Tax	5,868,735	5,637,960	5,652,058	6,345,967	6,869,322
Land Tax (a)	202	70	.....	.....	.....
Income Tax and Social Services Contribution	32,265,082	28,578,554	26,376,217	30,081,626	29,586,257
Pay-roll Tax	2,588,423	2,578,132	2,732,959	2,824,293	2,795,843
Estate Duty	687,246	618,183	601,948	767,408	829,457
Gift Duty	129,165	108,114	124,362	140,083	159,231
Entertainments Tax (b)	114,275	52	18	.....	.....
Wool Tax (c)	81,843	79,142	92,491	95,593	135,994
Stevedoring Industry Charge (c)	143,613	86,226	87,306	180,119	319,771
Export Charges on Primary Products (c)	6,334	8,400	13,626	14,942	12,725
Tobacco Charge (c) ....	.....	.....	.....	1,522	1,920
TOTAL	57,375,735	54,263,407	51,344,032	57,898,978	59,221,621

(a) Commonwealth Land Tax abolished from 1st July, 1952; amounts shown represent collections of arrears. (b) Entertainments Tax discontinued as a Commonwealth tax, 30th September, 1953; amounts shown for 1954-56 and 1955-56 represent arrears. (c) Paid to Trust Fund for the purposes of the industry concerned.

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 1953-54 to 1957-58 appear in the table on page 175. 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				
	1953-54	1954-55	1955-56	1956-57	1957-58
Collected by the State—	£	£	£	£	£
Taxation (a)	3,240,972	3,830,565	4,019,463	4,514,227	5,366,954
Territorial Revenues (b)	964,421	1,007,040	1,248,828	1,216,345	1,258,135
Public Utilities—					
Railways, Tramways and Omnibuses	12,404,000	13,456,025	14,003,369	15,380,352	13,833,375
Water Supplies, Sewerage and Drainage	2,111,799	2,436,154	2,685,263	2,897,351	3,143,537
Other Public Utilities	413,973	430,127	296,099	(c) 288,843	(c) 285,738
Departmental Revenue—Reimbursements, Fees, etc.	4,189,035	4,716,682	4,889,376	(c) 6,273,964	(c) 6,819,805
State Trading Concerns (c)	307,605	296,254	395,363		
Other	350,072	369,044	389,430	381,329	444,846
Total	23,981,877	26,341,891	27,927,191	30,952,411	31,152,390
Received from the Commonwealth (d)—					
Tax Reimbursement Grants	9,623,017	10,238,101	11,251,429	12,250,928	13,061,264
Special Grants (e)	7,350,000	7,100,000	8,900,000	9,200,000	10,150,000
Interest on State Debts	473,432	473,432	473,432	473,432	473,436
Other Financial Assistance	1,717,514	1,566,422	1,060,354	1,454,163	2,216,887
Total	19,163,963	19,377,955	21,685,215	23,378,523	25,901,587
GRAND TOTAL	43,145,840	45,719,846	49,612,406	54,330,934	57,053,977

(a) Figures include small amounts representing arrears of State income taxes collected by the Commonwealth. For net amounts collected, see table *Net Collections of State Taxation* on page 178. (b) Comprises revenue from sales, leases and licences relating to lands, timber and mining. (c) From 1956-57, figures for Fremantle Harbour Trust, previously included in *Other Public Utilities*, and those for *State Trading Concerns* have been included in the item *Departmental Revenue*. (d) See table on page 175. (e) The figures shown for 1953-54 and 1954-55 are net amounts credited to Consolidated Revenue after deduction of £450,000 and £350,000 respectively as contribution to deficits for the years 1951-52 and 1952-53. From 1955-56, the full amount of the grant has been credited to Revenue and an expenditure item created for contribution to deficits of earlier years.

More than one-half of the revenue collected by the State comes from public utilities, predominant among which are transport undertakings owned and operated by the Government. Next in importance in earnings from public utilities is the income from water supplies, which include the metropolitan and country areas systems and sewerage, drainage and irrigation services.

Departmental revenues amount to approximately one-fifth of all receipts, the main contributing Departments in 1957-58 being Treasury (£3,448,263, including £3,030,769 on account of interest and sinking funds), Police (£346,984), Harbour and Light (£342,729), Public Works (£297,165), Forests (£290,684), Printing (£237,993) and Agriculture (£200,417). In the Public Accounts for the financial year 1956-57 certain changes were made in the treatment of revenue collected from the State Trading Concerns. Previously credits to Consolidated Revenue Fund from the Trading Concerns, comprising State Brickworks and State Saw Mills (amalgamated from the 1st July, 1957 under the name of "State Building Supplies"), State Hotels, State Engineering Works, State Shipping Service, Wyndham Meat-works and West Australian Meat Export Works, had been grouped under the headings of Interest, Sinking Fund, Profits and Departmental Charges. These "Departmental Charges" represented recoups to Consolidated Revenue for services rendered to the Concerns by Government Departments. For 1956-57 and later years recoups of these charges have been included in the revenue of the Departments concerned while Profits, Interest and Sinking Fund charges have been included in Treasury revenue.

Although the figures appearing against the item "Taxation" are described as having been "collected by the State" they do, in fact, include small sums representing arrears of State income taxes collected by the Commonwealth. Otherwise the amounts shown comprise Consolidated Revenue Fund receipts from probate and succession duties, stamp duties, land tax, entertainments tax, liquor licences, totalisator duty and licences, bookmakers' turnover tax, bookmakers' licences and certain other licences. Some account of the rates and conditions applying to these levies is given in the *Pocket Year Book of Western Australia*.

Territorial revenues are those derived from sales of Crown land and the issue of leases, licences and permits in connexion with land, mining and timber. Reference to the several types of tenure in these categories will be found in Chapter VII, Part 1—*Land Settlement and Tenure*.

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. The collections are grouped according to the nature of the tax rather than the method of collection. Thus stamp duties on betting tickets and revenue

from bookmakers' licences and totalisator licences are included under the heading "Racing" and not under "Stamp Duties" or "Licences." It will be seen that, although the figures represent net collections, the aggregates of the amounts shown as payments to the Consolidated Revenue Fund exceed those appearing as taxation revenue (gross) in the preceding table. This is accounted for by the fact that some types of licences are not included under the heading of taxation in the Public Accounts, earnings from them being credited to departmental revenue. The principal items dealt with in this way are those appearing as "Motor Vehicle" taxation in the first part of the table. Others are licences relating to firearms; factories and shops; fishing, pearling and game; explosives; and marine collectors.

NET COLLECTIONS OF STATE TAXATION

Nature of Tax	Financial Year				
	1953-54	1954-55	1955-56	1956-57	1957-58
Paid to Consolidated Revenue Fund—					
Probate and Succession Duties	£ 857,669	£ 1,049,474	£ 1,083,922	£ 1,004,450	£ 1,083,036
Stamp Duties not elsewhere included	1,196,932	1,248,898	1,194,188	1,249,995	1,415,791
Land	292,367	384,700	517,389	(a) 994,148	(a) 1,402,003
Income (Arrears)	6,809	1,399	1,479	670	2,338
Entertainments	(b) 165,218	225,054	255,922	271,654	285,033
Liquor	268,694	286,714	300,544	367,440	422,755
Racing	420,417	405,791	621,503	593,974	718,804
Motor Vehicle—					
Registration Fees	(c) 313	96,098	101,859	114,755	126,714
Drivers' and Riders' Licences	86,000	1,959	1,780	1,833	2,100
Conductors' and Carriers' Licences (c)	1,614	220	220	220	220
Transport Board Licences (c)	25,601	37,269	40,429	43,769	62,414
Licences not elsewhere included					
Total	3,321,934	3,737,636	4,119,235	4,642,908	5,521,208
Paid to Trust or Special Accounts—					
Motor Vehicle—					
Registration Fees	(d) 1,122,527	1,226,756	1,291,139	1,585,014	1,984,026
Conductors' and Carriers' Licences (d)	13,565	14,203	15,101	17,874	18,858
Transport Board Licences (d)	113,477	119,034	105,495	91,285	92,650
Other Vehicle Registration Fees	3,141	3,082	2,786	2,795	2,464
Land				(a) 100,000	(a) 100,000
Vermine—					
Fruit Fly Eradication	9,969	10,586	10,512	10,948	11,626
Other	72,983	79,437	87,919	(a) 20,698	(a) 2,346
Total	1,335,662	1,453,098	1,512,952	1,828,614	2,211,970
GRAND TOTAL	4,657,596	5,190,734	5,632,187	6,471,522	7,733,178

(a) For 1956-57 and 1957-58, total net collections of Land Tax were £1,094,148 and £1,502,003 respectively, of which amounts £100,000 was paid in each year to the Vermine Act Trust Account under the provisions of the Vermine Act Amendment Act (No. 2), 1956. (b) Represents collections for the nine months from 1st October, 1953, when Entertainments Tax was reimposed by the State following the cessation of collection of the Tax by the Commonwealth. (c) Part collections only; for amounts paid to Trust or Special Accounts, see below. (d) Part collections only; for amounts paid to Consolidated Revenue Fund, see above.

Expenditure from the Consolidated Revenue Fund in each of the financial years 1953-54 to 1957-58 is shown in the following table.

More than two-fifths of the total represents expenditure under the heading "Departmental," and of this almost one-half is attributable to Education and Public Health. Further large sums are accounted for by Police, Public Works and Buildings, Mental Health Services and Agriculture. Another significant item is that shown as "State Shipping Service—Loss." 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.

Expenditure on public utilities amounts to more than one-third of the total, the predominant item being transport undertakings.

Commitments under Special Acts account for approximately 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 and other legislation providing pensions for government employees. The amount paid under the Forests Act in the financial year 1955-56 was more than double that in the previous year. The Forests Act of 1918 provided that three-fifths of the net annual revenue of the

Department should be credited to a fund for forests improvement and reforestation. By an amendment of 1954 the proportion was raised to nine-tenths and this accounts partly for the increase, although the main cause was a rise of more than fifty per cent. in the net revenue of the Department. Payments under the Parliamentary Allowances Act also rose sharply in 1955-56, as the result of an amendment of 1955 which not only authorized general increases but extended the scope of the Act to include the payment of ministerial salaries, previously provided for by the Constitution Acts Amendment Act. By an amendment to the University of Western Australia Act in 1955, the annual subsidy payable to the University was increased from £40,000 to £250,000.

**CONSOLIDATED REVENUE FUND.
EXPENDITURE ACCORDING TO NATURE OF SERVICE**

Nature of Expenditure	Financial Year				
	1953-54	1954-55	1955-56	1956-57	1957-58
Expenditure on Public Utilities—					
Railways, Tramways and Omnibuses	£ 15,509,364	£ 15,633,842	£ 16,878,369	£ 18,138,362	£ 17,098,306
Water Supplies, Sewerage and Drainage	1,869,634	2,059,017	2,306,678	2,454,410	2,541,471
Other	237,806	351,852	406,941	418,082	411,844
Total	17,616,804	18,044,711	19,591,988	21,010,834	20,051,621
Departmental Expenditure—					
Agriculture	566,129	621,660	700,730	808,925	828,800
Child Welfare and Outdoor Relief	254,598	288,558	351,498	498,598	633,410
Crown Law	374,741	406,991	469,063	522,620	549,285
Education	4,751,276	5,608,684	6,240,768	6,818,031	7,586,227
Forests	239,735	263,974	323,929	331,695	391,263
Harbour and Light and Jetties	143,985	160,013	179,255	224,545	233,080
Lands and Surveys	541,390	560,750	618,431	726,226	764,361
Mental Health Services	624,129	703,016	797,543	862,665	888,920
Mines	392,321	357,224	379,170	408,652	412,702
Native Welfare	242,515	378,912	407,343	437,350	518,766
Police	1,223,845	1,290,908	1,442,756	1,558,888	1,676,188
Printing	330,925	326,938	392,793	444,105	434,427
Public Health	3,213,266	3,309,905	3,874,269	4,171,054	4,624,298
Public Works and Buildings	1,301,558	1,414,827	1,377,683	1,410,639	1,506,426
State Shipping Service—Loss	521,844	579,116	706,611	1,077,217	728,859
Treasury	98,108	114,017	133,231	159,636	156,357
Other	3,166,737	3,155,170	3,268,237	3,713,389	3,951,894
Total	17,987,102	19,540,663	21,663,310	24,174,185	25,885,263
Expenditure under Special Acts—					
Forests Act	297,014	331,015	751,759	745,962	757,768
Loan Acts (Public Debt)—					
Interest	4,870,384	5,625,199	6,306,882	6,991,560	7,941,711
Sinking Fund Contributions	1,203,268	1,303,274	1,418,509	1,529,740	1,709,825
Parliamentary Allowances	111,278	111,296	174,765	189,674	190,875
Superannuation Acts—Government Employees	740,661	793,766	856,745	894,897	926,870
University of Western Australia Act	40,000	40,000	250,000	250,000	250,000
Other	310,459	338,997	346,270	361,862	373,122
Total	7,573,064	8,543,547	10,104,930	10,963,695	12,150,171
Other Expenditure	71,549	74,968	83,009	94,588	90,252
GRAND TOTAL	43,248,519	46,203,889	51,443,237	56,243,302	58,177,307

The particulars shown in the preceding table and in the table on page 177 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 treatment appearing in the *Statistical Register of Western Australia—Part II, Public Finance*.

The table is designed to show (in respect to 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."

CONSOLIDATED REVENUE FUND
REVENUE AND EXPENDITURE CLASSIFIED ACCORDING TO FUNCTION

Function	Financial Year					
	1956-57			1957-58		
	Revenue	Expenditure		Revenue	Expenditure	
		Gross	Net		Gross	Net
	£	£	£	£	£	£
Legislation	4	390,852	390,848	2	406,471	406,469
General Administration and Services (N.E.I.)	28,364,432	1,622,660	Cr. 26,741,772	31,778,128	1,860,322	Cr. 29,917,306
Law, Order and Public Safety	469,723	2,353,606	1,883,883	572,316	2,515,443	1,942,627
Education	139,620	7,911,725	7,772,105	183,152	8,857,213	8,674,061
Cultural and Recreational Facilities .....	.....	214,550	214,550	.....	257,572	257,572
Public Health	657,143	5,177,883	4,520,740	649,055	5,708,233	5,059,178
Welfare	244,926	1,251,205	1,006,279	231,504	1,464,652	1,183,148
War and Defence .....	.....	607	607	.....	600	600
Immigration .....	.....	25,583	25,583	.....	23,428	23,428
Regulation of Trade and Industry and Industrial Safety	70,107	204,366	134,259	88,551	208,097	119,546
Development and Conservation of National Resources and Assistance to Industry	5,338,988	7,345,781	2,006,793	5,671,883	7,330,166	1,658,283
Transport and Communication	15,713,795	19,746,849	4,033,054	14,244,125	18,394,516	4,150,391
Power, Fuel and Light	69,102	.....	Cr. 69,102	.....	.....	.....
Housing	5,451	39,915	34,464	7,032	14,526	7,494
Banking and Insurance	63,860	8,323	Cr. 55,537	52,404	18,400	Cr. 34,004
Public Debt Charges	3,193,783	(a) 8,893,066	5,699,283	3,525,325	(a) 10,066,081	6,540,756
Miscellaneous .....	.....	1,056,331	1,056,331	.....	1,051,087	1,051,087
TOTAL	54,330,934	56,243,302	1,912,368	57,053,977	58,177,307	1,123,330

(a) Comprises the amounts shown under "Loan Acts (Public Debt)" in the preceding table and exchange on interest payments and other charges aggregating £371,766 in 1956-57 and £414,545 in 1957-58.

The amount shown as revenue under the heading "General Administration and Services, not elsewhere included" is more than one-half of the total. The item includes receipts from the Commonwealth in the form of Special Grants, Tax Reimbursement Grants, Special Financial Assistance and Additional Financial Assistance (see table on page 175) as well as Taxation collected by the State (see table on page 177), amounting in all to £27,419,318 in 1956-57 and £30,795,105 in 1957-58.

By a provision of the State Electricity Commission Act of 1945 any profit "which, in the opinion of the Commission, is not required by the Commission for its purposes under this Act shall, subject to the approval of the Governor be paid to the credit of the Consolidated Revenue Fund." The sum of £69,102 shown as revenue from Power, Fuel and Light in 1956-57 represents the transfer to the Treasury of part of the profit of the Commission for the year 1955-56.

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, 1958 were those relating to Railways, Tramways and Omnibuses (£18,456,931), Water Supplies, Sewerage and Drainage (£14,964,716), Public Buildings (£11,407,116), Housing (£6,913,590), Electricity Supply (£5,772,794) and Harbours and Rivers (£4,117,100).

Purchases of rolling stock accounted for a large part of the moneys spent under the heading of Railways, Tramways and Omnibuses. Other important items were maintenance and renewals of permanent way, the construction of a railway from Coogee, south of Fremantle, to serve the Kwinana industrial area, the installation of centralized railway traffic control, the extension of trolley-bus services in Perth and suburbs and a major overhaul of trolley-buses and motor omnibuses.

NET LOAN EXPENDITURE

Nature of Expenditure	From 1872 to 30th June, 1953	Financial Year					From 1872 to 30th June, 1958
		1953-54	1954-55	1955-56	1956-57	1957-58	
	£	£	£	£	£	£	£
Public Works, Services, etc.—							
Railways, Tramways and Omnibuses	46,766,813	5,647,407	4,375,814	3,069,649	2,759,379	2,104,682	65,223,244
Electricity Supply	13,074,185	703,104	705,000	1,024,690	2,100,000	1,240,000	18,846,979
Harbours and Rivers	11,593,405	1,163,776	960,011	819,147	475,057	699,109	15,710,505
Public Buildings—							
Schools	4,907,106	847,456	1,236,788	1,379,859	1,586,554	1,651,381	11,609,144
Hospitals	4,094,300	617,983	575,756	522,976	973,539	894,828	7,679,382
Other	1,456,595	106,066	134,072	190,810	239,409	399,099	2,576,591
Housing (a)	3,150,991	1,001,483	1,574,466	1,829,079	1,359,175	1,149,387	10,063,981
Water Supplies, Sewerage and Drainage	29,213,221	1,969,720	2,330,321	2,758,108	3,559,439	3,847,128	44,177,937
Development of Goldfields and Mineral Resources	5,750,432	143,016	68,886	73,360	307,654	517,394	6,860,742
Development of Agriculture	27,336,451	1,124,192	Cr. 13,347	801,748	1,223,952	466,303	31,444,209
Miscellaneous	15,450,978	869,231	1,733,203	844,889	1,038,353	1,166,474	21,759,328
Total	163,299,077	14,193,974	14,730,970	13,314,315	16,278,011	14,135,785	235,952,132
Other Expenditure—							
Discounts and Flotation Expenses	5,995,611	41,177	117,008	Cr. 12,755	1,535,719	Cr. 200,398	7,526,362
Revenue Deficits	12,115,087	60,069	....	157,883	463,723	1,508,331	14,305,593
Total	18,110,698	101,246	117,008	145,128	2,049,442	1,808,433	21,831,955
GRAND TOTAL	181,409,775	14,295,220	14,847,978	13,459,443	18,327,453	15,444,218	257,784,087

(a) Excludes expenditure from Commonwealth loans under Commonwealth-State Housing Agreement. See letter-press on page 149.

Expenditure on Water Supplies, Sewerage and Drainage included the cost of work on the Comprehensive Water Supply Scheme, a pipehead dam and the main dam at Serpentine, the raising of the wall of Wellington Dam, a reservoir to serve the town and the industrial area at Kwinana, the reticulation of water and the extension of sewerage mains to new housing areas, and developmental and improvement work in irrigation districts. An account of progress in the field of water conservation and supply is given in Chapter VII, Part 2.

Of the total expenditure of £11,407,116 on Public Buildings, £6,702,038, or almost three-fifths, was spent on schools including ten new high schools. Work on the second section of the Royal Perth Hospital and the provision of new or improved hospitals in both metropolitan and country areas accounted for £3,585,082. Other expenditure included the cost of work on the construction of a new Government Printing Office.

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, as well as advances for housing at Kwinana under the terms of the Oil Refinery Industry (Anglo-Iranian Oil Company Limited) Act of 1952. 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—*Housing*.

Expenditure attributed to Electricity Supply includes amounts spent by the State Electricity Commission on power stations at South Fremantle, East Perth, Collie and Bunbury, the development of the South-West Power Scheme and the conversion of metropolitan consumers' equipment and appliances necessitated by a change in frequency from 40 cycles to 50 cycles. 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 on page 292 in Chapter VIII, Part 2—*Secondary Industry*.

Among works included under the heading of Harbours and Rivers are the dredging of channels in Cockburn Sound to provide access to wharves and jetties at Kwinana in Fremantle Outer Harbour, the construction of a new signal station at Fremantle, additional berthing accommodation at Fremantle and Albany, the reconstruction of quays and the installation of new mechanical equipment at Fremantle and extensions and improvements at Bunbury.

The aggregate expenditure described as " Miscellaneous " amounted to £6,302,650 and of this total £3,240,953, or more than one-half, was spent on account of the State Shipping Service in progress payments on two new ships under construction, instalment payments on ships already in operation and structural alterations to some of its fleet.

Public Debt—Reference is made on page 173 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, 1958 was £218,428,445, compared with £153,072,170 at the 30th June, 1953, representing an increase of £65,356,275 during the five years. Total raisings in the financial years 1953-54 to 1957-58 amounted to £74,371,946 and the value of securities repurchased and redeemed in London, New York and Australia by the National Debt Commission was £9,015,671. The State's balance on Sinking Fund available to the National Debt Commission at the 30th June, 1958 was £73,659 and Western Australia's net public debt at that date was therefore £218,354,786.

The following table presents a summary of public debt transactions in each year of the period between the 30th June, 1953 and the 30th June, 1958 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 :—					
	1953	1954	1955	1956	1957	1958
	£	£	£	£	£	£
Debits—						
Aggregate Net Loan Expenditure	(a)181,409,775	195,704,995	210,552,973	224,012,416	242,339,869	(a)257,784,087
Inscribed Stock issued under Agricultural Bank Act	1,566,000	1,566,000	1,566,000	1,566,000	1,566,000	1,566,000
Unexpended Balance of General Loan Fund	2,000,719	1,723,799	512,651	....	....	....
Loan Proceeds in Suspense	1,500	....	....	....	....	....
Total Debits	184,977,994	198,994,794	212,631,624	225,578,416	243,905,869	259,350,087
Credits—						
Aggregate Redemptions	31,905,824	33,212,249	34,750,275	36,729,991	38,757,939	40,921,495
Over-expenditure from General Loan Fund .....	....	....	....	115,685	2,887	147
Total Credits	31,905,824	33,212,249	34,750,275	36,845,676	38,760,826	40,921,642
Balance—Gross Public Debt	153,072,170	165,782,545	177,881,349	188,732,740	205,145,043	218,428,445
Amount of Public Debt Maturing in :—						
London	35,970,308	35,819,608	35,770,204	35,770,204	29,585,490	29,530,491
New York	2,008,667	1,359,499	1,037,912	1,125,244	1,148,259	1,525,326
Australia	115,093,195	128,603,438	141,073,233	151,837,292	174,411,294	187,372,628
Total—Gross Public Debt	153,072,170	165,782,545	177,881,349	188,732,740	205,145,043	218,428,445
Sinking Fund available for further Debt Redemption	930,677	410,841	221,058	122,377	55,918	73,659
Net Public Debt	152,141,493	165,371,704	177,660,291	188,610,363	205,089,125	218,354,786

(a) From preceding table.

Trust Funds

The transactions of accounts which constitute the State Government's Trust Funds are recorded in a *Statement of the Receipts and Disbursements of Western Australia* which is published quarterly in the *Government Gazette*.

Trust Funds are divided into three groups, Governmental, Private, and those which deal with moneys advanced by the Commonwealth Government for specific purposes. Governmental Trust Funds relate generally to the financial activities of semi-governmental authorities although they include some accounts, such as the Forests Improvement and Reforestation Fund and accounts concerning certain aspects of agriculture, which are connected with the work of Government Departments. Among the government instrumentalities whose operations are financed entirely or largely from Trust Funds are the State Housing Commission, the Rural and Industries Bank, the Main Roads Department and the State Government Insurance Office. Finance for public hospitals is also provided from Trust Funds. Private Trust Fund

balances comprise moneys available for disbursement to or on behalf of private persons. Examples are the Coal Mine Workers' Pensions Fund and the fund for grants to institutions from the Lotteries Commission. Funds relating to advances from the Commonwealth include those made under the Commonwealth Aid Roads Act and the Commonwealth-State Housing Agreement as well as finance for war service land settlement, the encouragement of meat production and other assistance to primary industry.

The detailed list of Trust Fund transactions appearing in the quarterly statement of receipts and disbursements is an extensive one, and in the following summary only selected items are shown separately.

SUMMARY OF TRUST FUNDS—RECEIPTS AND EXPENDITURE

Title of Account	Financial Year				
	1956-57		1957-58		Balance of Fund at 30th June
	Receipts	Expenditure	Receipts	Expenditure	
Governmental Trust Funds—	£	£	£	£	£
Agriculture Protection Board	153,038	137,073	164,602	186,900	69,393
Argentine Ant Control Committee	142,712	152,356	144,322	144,724	.....
Forests Improvement and Reforestation	1,042,853	978,434	1,091,646	1,006,201	209,739
Hospital Buildings and Equipment	233,816	384,580	421,788	431,404	7,468
Hospital Fund Contributions	4,043,995	4,043,995	4,594,443	4,594,433	.....
Housing—					
Kwinana Housing	116,106	122,502	133,226	128,568	51,179
State Housing Commission	4,957,921	4,471,665	5,055,515	5,611,687	123,658
Insurance—					
Government Fire and Marine Insurance.....	168,497	125,867	235,548	315,708	122,142
Government Workers' Compensation	416,193	456,882	448,329	445,987	43,907
State Insurance	996,755	1,076,644	1,080,456	1,011,316	100,373
Plant Hire	798,282	687,230	936,716	919,733	829,958
Public Debt Sinking Fund	1,988,424	2,054,883	2,211,358	2,193,617	73,659
Railways Expenditure Advance	19,081,686	19,104,774	18,158,599	18,323,008	229,588
Roads—					
Main Roads	771,759	716,799	960,815	824,746	360,278
Main Roads Contribution	134,285	115,016	259,660	118,076	315,670
Metropolitan Traffic	804,045	734,298	1,075,537	1,098,396	153,538
Narrows Bridge Construction	434,171	429,485	723,379	1,354,395	16,617
Rural and Industries Bank	1,763,946	1,787,775	954,037	946,438	10,954
Rural and Industries Bank Investment Reserve	5,354,000	5,498,000	2,640,000	2,531,000	350,000
State Electricity Commission Loans Sinking Funds	132,743	46,314	184,825	130,819	152,762
Transport Co-ordination	206,356	231,784	273,607	294,130	39,032
Vermin Act	147,622	108,363	125,760	126,825	83,699
Other	3,666,623	3,454,157	4,174,266	4,052,073	3,610,228
Total	47,555,828	46,918,876	46,048,424	46,790,194	6,953,842
Private Trust Funds—					
Charitable Institutions	66,025	55,750	64,843	61,219	55,884
Clerk of Courts	886,021	882,090	1,001,165	996,352	45,032
Coal Mine Workers' Investment Reserve	91,602	2,128	71,291	2,906	652,531
Coal Mine Workers' Pensions	182,178	187,806	182,416	177,087	8,192
Contractors' Deposits	185,067	188,580	133,640	135,113	175,966
Land Application Deposits	48,087	41,488	47,471	49,589	29,701
Local Authorities Sinking Funds	35,660	82,168	11,963	18,604	60,200
Lotteries Commission Grants to Institutions	15,967	99,754	143,139	91,389	264,500
Public Trustee Common Fund	995,287	981,197	983,718	976,819	31,681
Superannuation Fund	1,307,411	1,314,132	1,573,144	1,537,078	58,239
Superannuation Investment Reserve	421,253	1,029	472,659	5,357	4,704,639
Other	301,216	268,376	354,285	370,925	397,957
Total	4,535,774	4,104,498	5,039,734	4,422,438	6,484,522
Funds financed from Commonwealth Advances—					
Housing—					
Commonwealth-State Housing Agreement	5,659,924	5,701,683	5,159,563	5,244,496	22,453
Home Builders .....	.....	.....	638,096	557,883	80,213
War Service Homes	3,825,059	3,825,030	4,263,367	4,247,337	28,730
Pharmaceutical Benefits	90,000	99,620	120,529	119,729	5,800
Private Hospitals Benefit	144,000	148,835	169,000	178,101	1,995
Public Hospitals Benefit	450,000	463,937	485,000	496,379	17,599
Roads—Commonwealth Aid Roads Act	6,292,228	6,181,565	7,038,536	6,870,675	257,041
Rural Relief	1,046	.....	2,251	.....	201,927
War Service Land Settlement	3,676,367	3,759,597	3,705,492	3,735,450	374,226
Other	282,404	306,370	231,610	211,111	136,571
Total	20,421,028	20,486,637	21,813,464	21,661,211	1,126,555
GRAND TOTAL	72,512,630	71,510,011	72,901,622	72,873,843	14,564,919

The Funds shown separately in the preceding table have been chosen as being 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.

LOCAL GOVERNMENT FINANCE

The financial and other powers of local government authorities in Western Australia are derived mainly from the Municipal Corporations Act and the Road Districts Act, to which reference is made 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 only to the operations of Municipal Councils, Road Boards, Local Boards of Health, Water Boards and Vermin Boards. The activities of the Fremantle Municipal Transport Board and the Eastern Goldfields Transport Board, which are summarized in Chapter IX, Part 2—*Transport*, are not included except that allocations of profit to the general revenue of certain local government authorities appear in the table on page 185 against the item "Profits from Other Business Undertakings."

For Municipalities the financial year ends on the 31st October and for Road Boards, on the 30th June.

General Revenue

Taxation—As may be seen from the following table, revenue from taxation accounts for about two-fifths of the total receipts of local authorities and is derived almost entirely from rates. These include the general rate, the loan rate and the lighting rate, as provided for in the Municipal Corporations Act and the Road Districts Act. Rates authorized by other legislation are health, sanitary and sewerage rates, water rates and vermin rates, which are used in financing Local Boards of Health, Water Boards and Vermin Boards, and rates relating to fire brigades, cemeteries and libraries and the control of Argentine ants and noxious weeds.

A rate is determined, subject to certain statutory limits, by dividing the anticipated annual financial requirement on the particular rate account by the total ratable value of the district. Ratable values are assessed on the basis of either "unimproved capital value" or "annual value." The unimproved valuation 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 deductions to cover rates and taxes, repairs, insurance and other related expenditure.

Other forms of taxation are permits required under building by-laws, dog licences, and licences and permits issued under the Health Act.

Public Works and Services—Revenue from Public Works and Services amounts to about one-fifth of the total. Income from property and plant is the largest item and includes rents and hire charges for buildings, plant and recreational facilities as well as sales of land, vehicles and plant. Next in importance are the receipts from sanitary services and from construction of private roads which include driveways to premises. Other sources of income under this heading are the charges made for services by Water Boards and Vermin Boards.

Government Reimbursements and Grants—Grants for specific road works and recoups of road construction costs and of vermin bonus payments are the main items 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.

Business Undertakings—The only type of business undertaking from which any substantial revenue is derived is the supply of electricity. The expansion of the area served by the State Electricity Commission and its progressive acquisition of the generating plants of local authorities in the south-west part of the State may be expected to cause some decline in the importance of this field of local government activity. The figures shown for "Electricity Undertakings" for the years 1953-54 to 1956-57 include the operations of a municipal gas works at Geraldton which was closed down in November, 1956. Some details of local government operations in the generation of electricity during 1957-58 appear in the table on page 281.

The amounts described as "Profits from Other Business Undertakings" comprise allocations of profits to certain local government authorities made by the Fremantle Municipal Transport Board.

As the figures include only moneys appropriated to general revenue they do not necessarily represent the working profits for the year stated.

Traffic Fees—Revenue from traffic 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 Road Districts or parts of Road Districts (see letterpress on page 326). Outside this Area each Municipal Council or Road Board licenses vehicles in its own district and retains the fees collected. Metropolitan local authorities receive proportionate allocations of the revenue from vehicle licences issued by the Police Department in the Metropolitan Traffic Area. These disbursements are made from the Metropolitan Traffic Trust Fund, to which the licence fees for vehicles registered in the Metropolitan Traffic Area are paid in the first instance.

Total Revenue—Details of the aggregate revenue of Municipal Councils, Road Boards, Local Boards of Health, Water Boards and Vermin Boards throughout the State are shown in the following table. Amounts appropriated to general revenue as profits from electricity undertakings are not included.

SUMMARY OF LOCAL GOVERNMENT REVENUE (Exclusive of Loan Receipts)

Source of Revenue	Financial Year				
	1953-54	1954-55	1955-56	1956-57	1957-58
Taxation—	£	£	£	£	£
Rates—					
General	1,447,133	1,533,556	1,681,561	1,945,329	2,084,668
Loan	397,135	515,198	628,063	782,827	836,571
Health and Sanitary	266,448	256,001	264,574	347,430	334,197
Vermin	46,802	50,070	52,929	55,611	54,535
Other	90,002	102,939	127,881	126,880	136,909
Total	2,247,520	2,457,764	2,755,008	3,258,077	3,446,880
Licences and Fees (a)	56,287	59,115	54,306	55,229	58,905
Total—Taxation (a)	2,303,807	2,516,879	2,809,314	3,313,306	3,505,785
Public Works and Services—					
Sanitary Services, including Garbage Collection	386,300	408,952	427,736	443,975	466,393
Water Supply	9,898	14,712	9,380	11,427	12,388
Vermin Eradication	13,230	10,571	6,448	6,195	6,438
Income from Property and Plant—					
Halls and Other Buildings	115,886	120,746	127,396	135,817	149,129
Parks, Gardens and Recreational Facilities	61,221	70,133	78,650	91,497	94,742
Vehicles and Plant	130,573	156,991	163,927	160,481	166,377
Other Properties	*361,257	*361,179	433,022	498,495	436,872
Road Construction	165,969	225,833	226,436	240,760	255,862
Other Works and Services	24,625	21,320	47,879	52,884	73,501
Total—Public Works and Services	*1,268,959	*1,390,437	1,520,874	1,641,531	1,661,702
Government Reimbursements and Grants—					
Roads	741,152	*922,483	1,065,608	1,164,565	1,267,058
Vermin Destruction Bonuses	20,966	21,388	17,868	16,317	18,747
Other	49,212	*30,758	47,458	22,557	42,926
Total—Reimbursements and Grants	811,330	*974,629	1,130,934	1,203,439	1,328,726
Other Revenue—					
Electricity Undertakings (b)	466,258	513,534	565,582	572,108	619,984
Profits from Other Business Undertakings	15,709	12,529	11,567	11,062	11,197
Traffic Fees	913,474	987,640	1,047,588	1,209,649	1,422,324
Fines and Penalties	8,684	10,674	14,487	16,051	25,648
Other	189,080	180,825	196,098	195,304	210,488
Total—Other Revenue	1,593,205	1,705,202	1,835,322	2,004,174	2,286,641
GRAND TOTAL (c)	*5,977,301	*6,587,147	7,296,444	8,162,450	8,782,854

(a) Excludes revenue from vehicle licences; see "Traffic Fees" below. (b) Figures for 1956-57 and earlier years include the operations of a municipal gas works at Geraldton which ceased in November, 1956. (c) Figures exclude amounts appropriated to general revenue as profits from electricity undertakings. * Revised.

General Expenditure

General Administration—The amounts shown under this item in the following table comprise the administration costs of Municipal Councils and Road Boards. Expenditure on the administration of

Local Boards of Health, Water Boards and Vermin Boards is not included but is shown separately under the heading of Public Works and Services.

Debt Services—Expenditure on debt services includes all 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 187).

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.

Total Expenditure—Details of the aggregate expenditure of Municipal Councils, Road Boards, Local Boards of Health, Water Boards and Vermin Boards throughout the State are shown in the following table.

SUMMARY OF LOCAL GOVERNMENT EXPENDITURE
(Exclusive of Loan Expenditure)

Nature of Expenditure	Financial Year				
	1953-54	1954-55	1955-56	1956-57	1957-58
General Administration	£ 639,177	£ 701,560	£ 833,897	£ 890,504	£ 945,803
Debt Services—					
Interest and Other Charges	144,542	183,337	242,537	293,419	349,354
Redemptions	325,339	407,321	478,062	557,888	656,514
Total—Debt Services	469,881	590,658	720,599	851,307	1,005,868
Public Works and Services—					
Roads, Paths and Bridges—					
Construction and Maintenance	1,530,708	1,740,739	1,968,745	2,058,038	2,111,510
Other Road Work	170,561	189,121	207,174	236,127	249,941
Street Lighting	77,092	79,991	87,488	88,709	101,411
Property and Plant—					
Parks, Gardens and Recreational Facilities	394,105	419,992	521,643	500,871	584,277
Halls and Other Buildings	235,740	269,464	349,695	432,318	376,822
Vehicles and Plant	461,426	666,433	709,864	723,641	824,350
Other	300,346	*404,077	457,697	493,415	506,297
Administration of—					
Local Boards of Health	152,996	160,470	187,848	195,575	213,294
Water Boards	6,200	6,069	6,588	6,828	7,414
Vermin Boards	14,621	15,119	13,216	13,813	15,174
Other Public Works and Services—					
Sanitary and Garbage Services	424,983	456,164	506,239	509,745	540,067
Water Supply Services	39,239	38,137	38,891	42,090	36,868
Vermin Destruction	64,901	62,833	63,620	64,215	60,284
Other	*50,193	50,368	88,801	59,278	103,331
Total—Public Works and Services	*3,923,111	*4,558,977	5,207,509	5,424,663	5,731,040
Grants and Donations—					
Fire Brigades	60,908	66,600	77,074	84,660	97,879
Hospitals and Ambulances	5,004	7,760	8,017	9,922	6,142
Other	14,456	14,352	12,946	13,908	19,822
Total—Grants and Donations	80,368	88,712	98,037	108,490	123,843
Electricity Undertakings (a)	450,962	484,220	538,501	555,263	601,047
Other Expenditure	182,501	167,254	144,136	156,243	160,026
GRAND TOTAL (a)	*5,746,000	*6,591,393	7,542,679	7,936,470	8,567,627

(a) Figures exclude amounts appropriated to general revenue as profits from electricity undertakings.

* Revised.

Loan Transactions

By the Acts under which they function, Municipal Councils and Road Boards are constituted as corporate bodies and are authorized to raise loans for works and undertakings and for the liquidation of existing loan debts. The extent of loan raisings for works and undertakings is controlled by a provision which limits the net total debt to an amount equal to ten times the average general revenue of the local authority for the two financial years immediately preceding the raising of a loan. 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 computing 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.

The Municipal Corporations Act and the Road Districts Act specify certain other requirements to be observed by local authorities in levying loan rates. Except in special circumstances, a Municipal Council may only levy a loan rate which is uniform throughout a municipal district. A Road Board may, however, apply differential loan rates varying with the amount of loan money to be spent in particular wards or areas of the Road District.

LOCAL GOVERNMENT LOAN RAISINGS

Purpose of Loan	Financial Year				
	1953-54	1954-55	1955-56	1956-57	1957-58
	£	£	£	£	£
Ordinary Services	1,158,741	1,456,867	1,354,808	1,562,923	1,687,895
Health Services .....	.....	18,000	34,000	29,500	140,000
Water Supply	6,000	11,400	8,500	37,000	31,000
Electricity and Gas Undertakings	84,340	81,600	41,500	57,000	83,500
Total	1,249,081	1,567,867	1,438,808	1,686,423	1,942,395

Loans are raised mainly from banks, insurance companies and superannuation funds, and certain of the works and undertakings for which moneys may be used are specified in the local government legislation. Among the items on which expenditure from loans is authorized by the Acts are the construction of streets, roads and bridges, sewers, drains and waterworks, the erection or purchase of electric lighting plant, gas works and stone quarries, the provision of libraries and other recreational facilities and the purchase of land, buildings and materials. Where a particular work or undertaking is not so specified the Governor may by Order in Council give the necessary authority for the raising of a loan.

LOCAL GOVERNMENT LOAN EXPENDITURE

Nature of Expenditure	Financial Year				
	1953-54	1954-55	1955-56	1956-57	1957-58
	£	£	£	£	£
Roads, Paths and Bridges	423,690	574,101	726,749	646,893	699,792
Property and Plant	*345,548	458,152	480,017	458,470	465,953
Parks, Gardens and Recreational Facilities	35,683	80,990	206,231	133,372	186,790
Water Supply	3,964	9,479	11,644	30,143	37,985
Electricity and Gas Undertakings	70,751	*76,695	49,403	23,629	88,856
Other Works and Services	36,792	*21,871	67,327	95,330	224,481
Redemptions	2,151	107	955	1,172	53,920
Other Loan Charges	6,416	21,292	4,610	11,612	19,266
Total	*929,995	1,242,687	1,546,936	1,400,621	1,777,043

* Revised

The proceeds of each loan rate are credited to a separate account from which amounts due to debenture holders are paid at prescribed intervals. Two types of debenture repayment, sinking fund and reducible principal, are provided for in the Acts. Sinking fund payments are credited to a fund from which repayments are made on the maturity of the loan. Under the system of reducible principal, a local authority undertakes to pay both principal and interest by fixed instalments. In all cases the loan liabilities incurred are secured upon the general revenue of the Municipality or Road Board concerned.

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 DEBT

Nature of Debt	At End of Financial Year				
	1953-54	1954-55	1955-56	1956-57	1957-58
Loan Debt Outstanding	£ 4,601,060	£ 5,703,323	£ 6,615,730	£ 7,644,806	£ 8,827,544
Sinking Fund Balances	199,866	147,120	116,290	67,083	61,979
Net Loan Debt	4,401,194	5,556,203	6,499,440	7,577,723	8,765,565
Net Loan Debt on Account of—					
Ordinary Services	3,922,166	*4,992,286	5,897,566	6,921,264	7,893,763
Health Services	39,417	*49,067	76,443	81,053	234,611
Water Supply	87,451	103,876	99,120	128,306	138,451
Electricity and Gas Undertakings	352,160	410,974	426,311	447,100	498,740
Total—Net Loan Debt	4,401,194	5,556,203	6,499,440	7,577,723	8,765,565

* Revised.

It will be seen that the amount of £61,979 shown as "Sinking Fund Balances" at the end of the financial year 1957-58 differs from the trust fund balance of £60,200 appearing in the table on page 183 as standing to the credit of "Local Authorities Sinking Funds." This is accounted for by the fact that the figure shown in the table "Summary of Trust Funds" relates to amounts actually held by the Treasury at the 30th June, 1958, whereas those given in the last table include amounts credited to sinking funds by local authorities but not necessarily received into the Treasury at that date.

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 Statutes now in force are the Coinage Act 1909–1947 and the Reserve Bank Act 1959.

The Australian monetary system is based on that used in the United Kingdom and therefore has as its unit the pound (£) divided into 20 shillings (s.) each of 12 pence (d.). When the Australian currency was first introduced, the Australian pound was identical in value with the pound sterling. Following a gradual depreciation of the Australian pound in terms of sterling during 1930 and 1931, it was stabilized from the 3rd December, 1931 at the rate of £125 Australian = £100 sterling, which has continued to be the prevailing rate. Notes are issued by the Reserve Bank of Australia which is authorized to make issues in the denominations of 5s., 10s., £1, £5, £10 or any multiple of £10. Only notes in the denominations of 10s., £1, £5 and £10 are now in general circulation, no 5s. notes having been issued and public issue of those of denominations higher than £10 having ceased in 1945. The coinage consists of silver and bronze coins, which are minted by branches of the Royal Mint in Melbourne and Perth. Silver coins are issued in denominations of two shillings, one shilling, sixpence and threepence. The bronze coins are the penny and the halfpenny.

Australian notes are legal tender in Australia to any amount, silver coins for amounts not exceeding forty shillings and bronze coins for amounts up to and including one shilling.

In 1959 the Commonwealth Government, having accepted the principle of decimal coinage, appointed a Decimal Currency Committee to consider the adoption of the system. Previous investigations had been made, in 1902 by a Select Committee of the House of Representatives and in 1937 by the Royal Commission on Monetary and Banking Systems, and both inquiries resulted in recommendations favouring the introduction of decimal currency.

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 enactment of Commonwealth legislation 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 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 provided for the formation of a Commonwealth Banking Corporation, to be 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.

Private Trading Banks

There are seven private trading banks operating in Western Australia. These banks, each of which has its Australian head office 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.

Cheque-Paying Banks

The nine cheque-paying banks conducting business in Western Australia comprise the Commonwealth Trading Bank of Australia, The Rural and Industries Bank of Western Australia (Rural Department) and the seven private trading banks.

The following table shows the averages of total amounts on deposit with the cheque-paying banks and of their outstanding advances during each of the years 1953-54 to 1957-58. The figures represent the annual average of amounts as at the close of business each Wednesday.

CHEQUE-PAYING BANKS—AVERAGES OF AMOUNTS ON DEPOSIT AND OF ADVANCES (£'000)

Particulars	Financial Year				
	1953-54	1954-55	1955-56	1956-57	1957-58
Amounts on Deposit—					
Not bearing Interest—					
Australian Governments	1,166	1,315	835	631	786
Other	74,026	73,798	70,204	71,083	69,048
Bearing Interest—					
Australian Governments	6	11	9	8	69
Other—Current	1,324	1,346	2,273	3,565	3,253
Fixed	14,410	13,978	13,929	17,502	20,083
Total	90,932	90,448	87,250	92,789	93,239
Loans, Advances and Bills Outstanding	53,214	68,915	71,293	67,537	70,599
Ratio of Advances to Deposits (per cent.)	58.52	76.19	81.71	72.79	75.72

Of outstanding advances amounting in total to £75.6 million at the end of December, 1958, business advances represented £59.3 million, personal advances £14.3 million, advances to non-profit organizations £1.68 million, and to public authorities other than the Commonwealth and State Governments £0.28 million. Business advances were mainly for rural industry (£26.4 million), for retail and wholesale trade (£12.7 million) and for manufacturing (£10.7 million). Of the personal advances, loans for the building or purchasing of homes accounted for £9.06 million.

At the 31st December, 1958 the Commonwealth Bank's discount rate on bills was 5½ per cent. and those of other banks, between 5 and 6 per cent. The rate of interest charged by the Commonwealth Bank on overdrafts was from 5½ to 6 per cent. and by other banks from 5 to 6 per cent. Interest on fixed deposits was paid by all banks at the rate of 2½ per cent. on deposits for three months, 2½ per cent. for six months, 2½ per cent. for twelve months and 3½ per cent. for two years.

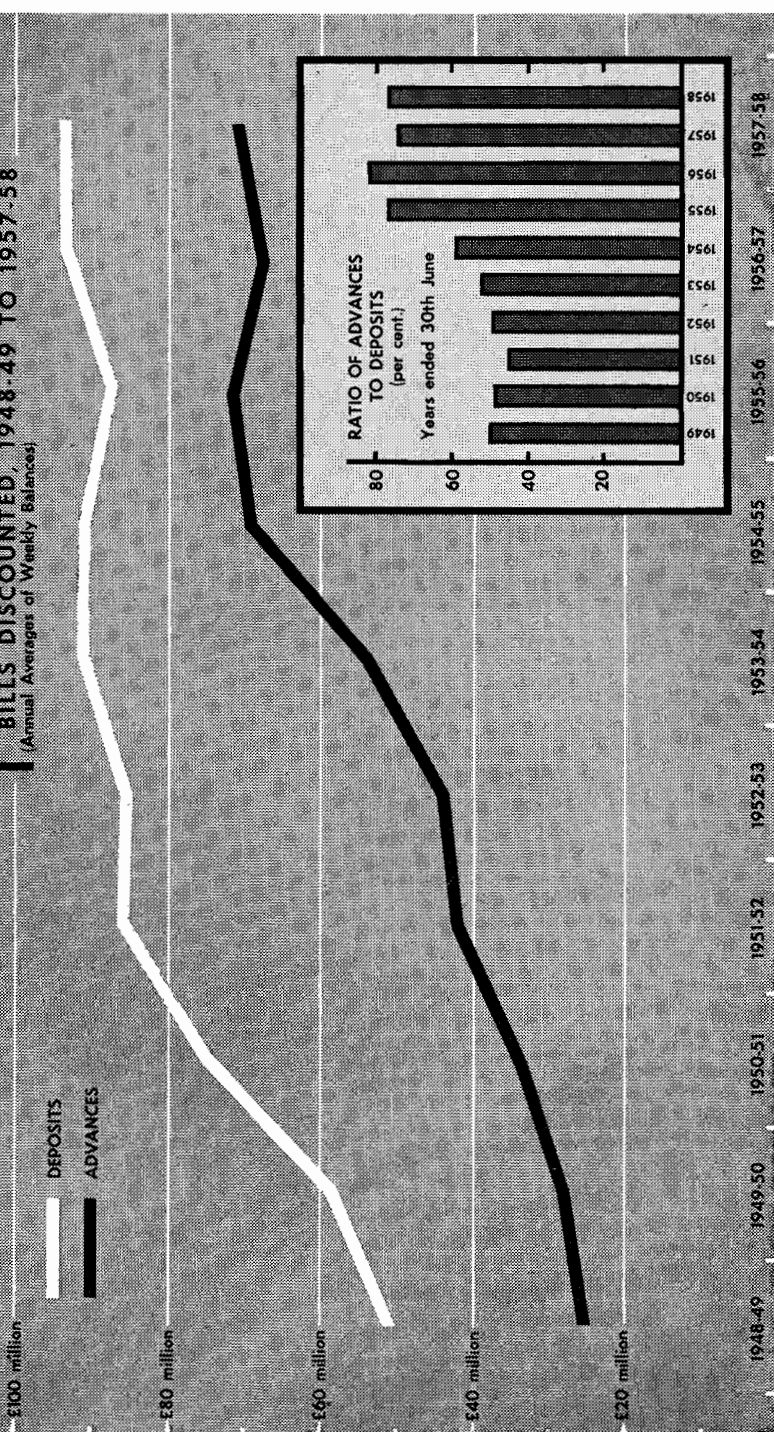
The following table shows the weekly averages of bank clearings through the Perth clearing house for each of the years from 1954 to 1958 and for each quarter in those years.

BANK CLEARINGS—WEEKLY AVERAGES FOR PERTH (£'000)

Particulars	1954	1955	1956	1957	1958
Average for Quarter ended—					
March	13,924	14,467	14,970	16,283	16,210
June	13,635	13,729	14,319	14,653	15,048
September	12,964	12,808	13,898	14,523	13,944
December	13,820	14,287	14,163	16,784	15,504
Average for Year	13,692	13,793	14,538	15,569	15,163

Bank Deposits and Advances

ALL CHEQUE-PAYING BANKS
DEPOSITS: LOANS, ADVANCES AND
BILLS DISCOUNTED, 1948-49 TO 1957-58
(Annual Averages of Weekly Balances)



At the 31st December, 1958 the bank exchange rate between Perth and Adelaide (South Australia) was 2s. 6d. per cent., between Perth and Melbourne (Victoria) 5s. per cent., between Perth and Sydney (New South Wales), Hobart (Tasmania) and Canberra (Australian Capital Territory) 7s. 6d. per cent., and between Perth and Brisbane (Queensland) 10s. per cent. While no charge is made for transfers within a city or town, a charge is payable for other intrastate transfers on the basis of zones into which Western Australia is divided for the purpose. The rate for transfers within a zone is 2s. per cent., with higher rates applying to transfers between zones.

Savings Banks

Savings bank facilities in Western Australia are provided by the Commonwealth Savings Bank, 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). The Commonwealth Savings Bank commenced business in Western Australia in 1913 and the other savings banks in 1956.

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 75,446 accounts at schools was £527,186 at the end of June, 1958. 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				
	1953-54	1954-55	1955-56	1956-57	1957-58
Deposits (a) £'000	51,542	53,086	57,628	65,576	71,189
Withdrawals (a) £'000	49,679	53,117	54,491	62,279	69,499
Excess of—					
Deposits over Withdrawals £'000	1,863	....	3,137	3,297	1,690
Withdrawals over Deposits £'000	....	31	....	....	....
Interest £'000	958	1,045	1,168	1,462	1,565
Accounts Open at end of Year No.	422,480	426,637	446,419	473,548	497,690
Amount Due to Depositors at end of Year—					
Total £'000	52,615	53,629	57,934	62,693	65,948
Average per Account £	124.54	125.70	129.78	132.39	132.51
Average per head of Population £	82.24	81.44	85.53	90.61	93.51

(a) Excluding transfers from and to other States.

The rates of interest paid by savings banks at the 30th June in each of the years from 1954 to 1958 are shown in the following table. Until the 1st November, 1958 the maximum amount on which interest was payable on sums standing to the credit of ordinary accounts was £1,500. From that date, the maximum was increased to £2,000 and the rate raised to 3 per cent. per annum to apply uniformly to all sums up to that amount. At the same time the rate of interest payable on similar sums in friendly and other society accounts was increased to 3 per cent.

SAVINGS BANKS—INTEREST RATES ON DEPOSITS

(per cent. per annum)

Type of Account	Interest Rates at 30th June :				
	1954	1955	1956	1957	1958
Ordinary Accounts—					
£1 to £500	2½	2½	2½	2½	2½
£501 to £1,000	1½	1½	2½	2½	2½
£1,001 to £1,500	1½	1½	1½	1½	1½
Friendly and other Society Accounts—					
£1 to £2,000	2½	2½	2½	2½	2½
£2,001 and over	1½	1½	1½	1½	1½

INSURANCE

Life Assurance

Life assurance business throughout Australia is regulated by the Life Insurance Act 1945-1958 (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 assurance transactions. The purpose of the Act, which supersedes State legislation, is to place life assurance 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 1958, there were 16 life assurance companies or societies operating in Western Australia, the local offices being branches of organizations having a head office in another State or overseas. In terms of total sums assured, life assurance policies relate predominantly to ordinary endowment or whole-life assurance, as shown by the following table, although an appreciable volume of industrial business is also undertaken.

LIFE ASSURANCE

Year	Number of Companies	New Policies Issued			Policies Existing at end of Year		Net Increase during Year (a)	
		Number	Sum Assured £'000	Single and Annual Premiums £'000	Number	Sum Assured £'000	Number	Sum Assured £'000

ORDINARY BUSINESS

1954	.....	12	20,157	18,405	691	195,231	110,784	11,187	13,034
1955	.....	13	20,016	21,553	786	205,137	125,772	9,906	14,988
1956	.....	13	20,703	23,289	813	213,686	141,069	8,549	15,297
1957	.....	16	21,979	25,732	894	224,039	158,632	10,353	17,563
1958	.....	16	23,219	27,651	916	233,923	176,180	9,884	17,548

INDUSTRIAL BUSINESS

1954	.....	7	16,396	2,470	111	242,681	20,120	—524	1,065
1955	.....	7	13,842	2,209	99	238,787	20,744	—3,894	624
1956	.....	7	12,761	2,029	92	233,685	21,057	—5,102	313
1957	.....	7	12,028	1,960	89	226,980	21,267	—6,705	210
1958	.....	7	12,814	2,110	96	220,705	21,501	—6,275	234

(a) Minus sign (—) denotes decrease

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 1958, there were 121 companies operative in Western Australia, 46 of which were Australian companies. The other 75 were overseas companies, the head offices of 56 of them being located in the United Kingdom. Of the total number, 93 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 28 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 provides a variety of insurance 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 1953-54 to 1957-58. It includes the operations of the State Government Insurance Office except for insurances effected on behalf of State Government, semi-government and local government authorities. The transactions of the Motor Vehicle Insurance Trust are not included, but are shown in the table on page 195. 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				
	1953-54	1954-55	1955-56	1956-57	1957-58
REVENUE					
Premiums—					
Motor Vehicles	1,924	2,221	2,191	2,261	2,570
Fire	1,482	1,616	1,802	1,857	1,972
Workers' Compensation	1,047	1,173	1,243	1,278	1,452
Personal Accident	231	272	306	331	405
Hailstone	364	254	376	253	312
Marine	255	241	265	270	298
Other Classes	410	505	590	646	783
Total Premiums	5,713	6,282	6,773	6,896	7,801
Other (Interest, Dividends, Rents, etc.)	115	134	166	214	231
Total—Revenue	5,828	6,416	6,939	7,110	8,032
EXPENDITURE					
Claims—					
Motor Vehicles	1,000	1,326	1,402	1,417	1,560
Fire	381	433	528	604	451
Workers' Compensation	886	985	1,082	1,157	1,302
Personal Accident	91	95	123	144	184
Hailstone	112	48	160	505	66
Marine	94	134	100	100	105
Other Classes	74	110	168	174	236
Total Claims	2,638	3,141	3,563	4,101	3,904
Other—					
Management Expenses	1,219	1,250	1,434	1,518	1,654
Commission and Agents' Charges	605	696	749	767	867
Taxation	152	214	238	183	212
Contributions to Fire Brigades	136	153	171	192	213
Total—Expenditure	4,750	5,454	6,155	6,761	6,850

(a) Excludes transactions of the Motor Vehicle Insurance Trust (see table on page 195) but includes operations of the State Government Insurance Office, except for insurances effected on behalf of State Government, semi-government and local government authorities.

Motor Vehicle Third Party Insurance

Third party insurance in connexion with motor vehicle accidents became compulsory 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 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—				
	1953-54	1954-55	1955-56	1956-57	1957-58
Revenue—	£	£	£	£	£
Net Premiums	510,419	571,871	588,661	688,392	731,225
Interest Received	42,855	46,359	46,088	45,979	36,196
Total Revenue	553,274	618,230	634,749	734,371	767,421
Expenditure—					
Claims Paid (a)	476,907	536,560	535,339	608,856	714,417
Commission	4,393	5,004	5,086	5,676	5,570
Management Expenses	14,572	16,991	19,857	24,517	25,294
Taxation	1,048	1,206	1,199	1,484	1,629
Total Expenditure	496,920	559,761	561,481	640,333	746,910

(†) 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, 1894-1956 and other organizations registered under the National Health Act 1953-1958 (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* on pages 159 and 160. 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 1953-54 to 1957-58, 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				
	1953-54	1954-55	1955-56	1956-57	1957-58
Number of—					
Registered Societies	13	13	13	13	12
Branches	295	282	277	275	270
Members at end of Year—					
Benefit Members	23,279	22,585	21,949	21,200	20,496
Honorary Members	11,388	19,165	20,895	20,893	20,421
Sickness Benefits—					
Number of Members Paid	4,349	4,088	3,907	3,622	3,607
Number of Weeks of Sick Pay	58,101	57,036	56,546	53,922	54,878
Revenue—	£	£	£	£	£
Fees, Contributions and Levies	323,134	367,587	387,213	411,634	452,534
Interest and Rent	39,753	44,799	53,937	49,550	54,535
Other	34,840	80,992	78,533	11,667	43,039
Total	397,727	493,378	519,683	472,851	550,108
Expenditure—					
Sick Pay	27,050	26,846	26,110	24,760	25,613
Medical Attendance and Medicine	219,039	280,343	298,298	317,808	354,652
Death Benefits	16,415	18,439	18,777	17,618	17,317
Administration	52,711	50,804	58,670	58,331	52,130
Other	15,142	7,710	74,640	18,633	37,641
Total	330,357	384,142	476,495	437,150	487,353
Balance of Funds at end of Year	1,124,741	1,233,977	1,277,155	1,312,856	1,375,611

BUILDING SOCIETIES

Building societies in Western Australia are registered under the provisions of the Building Societies Act, 1920 primarily for the purpose of raising funds to assist members by granting loans to build or acquire homes. They also provide a means of investment for shareholder members, trustee funds and other depositors. The revenue of the societies may be in the form of payment for fully-paid shares, subscriptions for contributing shares, or money placed on deposit. 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* on page 149). The Act requires that during the financial years 1956-57 and 1957-58 the institutions, which include registered building societies, shall receive not less than 20 per cent. of the total advances made to the State, and in each of the succeeding three years, not less than 30 per cent. Loans secured on mortgage are granted to members of building societies for the purchase of freehold or leasehold property.

The following table shows details of the activities of societies operative during the years 1953-54 to 1957-58. Not all bodies registered under the Building Societies Act are included, since many societies which became registered in anticipation of assistance from Commonwealth-State funds have failed to receive an allocation of money from this source.

BUILDING SOCIETIES

Particulars	Financial Year				
	1953-54	1954-55	1955-56	1956-57	1957-58
Number of—					
Societies	8	8	8	9	12
Investing Shareholders	25,465	25,901	25,149	24,992	25,413
Borrowers	4,393	4,396	4,442	4,816	5,187
Subscriptions and Deposits	£ 695,868	£ 831,092	£ 870,444	£ 926,723	£ 1,359,925
Loan Repayments	803,305	820,451	778,030	916,328	1,074,528
Commonwealth-State Housing Advances				355,430	685,975
Loans Granted	1,243,200	909,936	807,286	1,414,093	1,889,976
Working Expenses	36,846	40,200	44,702	50,138	56,498
Assets at end of Year	3,434,920	3,712,266	3,989,844	4,831,018	5,968,489

BANKRUPTCY

Under the provisions of the Bankruptcy Act 1924-1958 (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 1953-54 to 1957-58. The bankruptcy year formerly ended on the 31st July but was altered, from and including the year 1955-56, to end on the 30th June.

BANKRUPTCY

Particulars	Year ended 31st July :		Eleven months ended 30th June :	Year ended 30th June :	
	1954	1955		1957	1958
Sequestration Orders (a)—					
On Creditors' Petitions	21	23	15	22	27
On Debtors' Petitions	31	41	46	85	89
	£	£	£	£	£
Assets	83,087	*66,937	*42,454	157,360	61,098
Liabilities	*121,772	*154,363	*124,387	224,655	210,598
Compositions, Assignments and Deeds of Arrangement—					
Number (b)	22	35	59	97	96
	£	£	£	£	£
Assets	269,006	173,304	240,126	464,947	516,999
Liabilities	209,236	162,118	255,651	357,472	582,841

(a) Includes orders for administration of deceased debtors' estates.
representatives of deceased debtors.

(b) Includes petitions by legal personal repre-

* Revised.

CHAPTER VII

LAND SETTLEMENT AND TENURE, WATER CONSERVATION AND SUPPLY

PART 1 – LAND SETTLEMENT AND TENURE

HISTORY

The first settlers in Western Australia, which was then known as the Swan River Settlement, were offered free grants of land subject to certain conditions, and this system of land allocation continued in operation from the foundation of the Colony in 1829 until the introduction of a pricing system in 1832. The conditions mentioned were set out in the terms of settlement which were drafted by the British Colonial Office before the first group of settlers sailed from England under the leadership of Captain James Stirling, R.N. In brief, grants of land in fee simple amounting to 40 acres for every £3 “invested” in the Colony were offered to all persons who were prepared to proceed to the new settlement before the end of 1829.

The introduction of developmental labour to the Colony was attempted initially by a provision in the terms of settlement whereby payment of the passage of a labouring person was to be regarded as equivalent to a capital outlay of £15 and consequently to carry the right to a grant of 200 acres of land in fee simple. It was further provided in connexion with all free grants of land that if improvements were not effected to the satisfaction of the Government within 21 years from the date of the grant, the land concerned should revert absolutely to the Crown. Revised conditions which were introduced shortly afterwards limited this period to 10 years.

This system was very liberal, requiring only the payment of the fares of labourers or the importation of stock or implements in order to secure extensive free grants of land. The improvement conditions were also moderate, development to the value of 1s. 6d. per acre being all that was required in order to secure a free title. Early abuses of this system led to its abolition and from 1832 Crown land was sold at a minimum price of 5s. per acre.

Progress was slow under each system of land alienation, the principal reason being the special problems of farming in the new country and the scarcity of suitable labour. By 1838 many settlers were contending that the abolition of the free grant system had retarded the growth of the settlement by discouraging further immigration and a conflict of opinion arose between the settlers and the Governor on this matter. However, not only was the settlers' contention rejected but from 1839 the upset price of Crown land was raised to 12s. per acre. Instructions to charge this increased price ran counter to the judgement of Governor Hutt who was appointed in January, 1839, but the authorities in England persisted and the price was raised again, in 1841, to £1 per acre. The result was a continued decline in sales of Crown land, the availability of which had been increased by resumption of considerable tracts of land on which the required improvements had not been made.

During the period from 1839 to 1843 there occurred the second of the Colony's large-scale attempts at privately-organized land subdivision and settlement, the first, by Thomas Peel in 1829, having been unsuccessful. The second attempt, which was endangered at the outset by Governor Hutt's proposal to resume the land concerned, comprised the Australind venture, a plan to develop some 103,000 acres near the Leschenault Estuary as a township with surrounding agricultural holdings. Unfortunately the circulation of adverse reports among investors in England led to the failure of this venture and the only results were the partial opening up of a considerable area near Bunbury and a slight addition to the population of the Colony. One of the principal intentions of the scheme was that the Western Australian Company, which promoted it, should send out labourers as well as settlers from England, but in this aim it failed almost completely.

The scarcity of labour continued to be a problem and in 1850 the authorities in England were prevailed upon to send convicts to the Colony to provide a work force. By 1859 some five thousand had arrived, as well as a similar number of free, assisted settlers whose fares were paid by the Home government. This greatly eased the position but the Colonial Office still felt justified in quoting labour supply difficulties as a ground for not reducing the price of Crown lands below a new minimum of 10s. per acre,

contending that if colonial lands were made too cheap too many colonists would become landowners and reduce the available labour still further. The transportation of convicts continued until 1863 and by this time a great deal had been achieved in the construction of important public buildings and roads.

The question of whether control of Crown lands within the Colony should lie with the Home government or with the colonists themselves remained an issue for many years because, although the Governor in Executive Council was increasingly the arbiter on such matters, the basic directives came from London. These circumstances led to a growing agitation for responsible government which was finally granted in 1890, replacing the representative system of government which had been in force since 1870.

The land laws were amended from time to time in the early years of responsible government but the first major development was the passage of a Land Act in 1898, by which existing legislation was amended and consolidated. Meanwhile, 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, 1933-1958, 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, 1904-1957, the Petroleum Act, 1936-1954 and the Forests Act, 1918-1954, 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.

ADMINISTRATION

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, the Bush Fires Board and the National Parks Board.

Permits and leases for mining purposes are issued by the Mines Department 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, 1933-1958 are conditional purchase, public auction, private tender, selection under 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 the area of cultivable land taken up shall not exceed 1,000 acres, except in special cases approved by the Governor when the maximum area may be increased to 2,000 acres. For grazing land alone the selected area may not exceed 5,000 acres. In the case of mixed land, however, the area acquired may not exceed 1,000 acres of cultivable land and 2,500 acres of grazing land or the equivalent area of grazing land or cultivable and grazing land mixed. The basis used in determining limits is that five acres of grazing land are taken as equivalent to two acres of cultivable land. Thus a selection of mixed land which includes, say, 3,000 acres of grazing land may also include no more than 800 acres of cultivable land. The minimum purchase price of land acquired by conditional purchase is two shillings per acre and the purchaser must pay the costs of survey as well as the value of any improvements effected by the Government. In addition,

he must fence at least one-half of the land within the first five years of the conditional purchase lease and the whole of it within the first 10 years. Expenditure on prescribed improvements is required to equal at least one-fifth of the purchase money during each of the first 10 years and, if the Minister so directs, an adequate water supply must be provided within the first two 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 for at least six months in each of the first five years, attach to the ordinary conditional purchase leases but are not obligatory under accelerated-payment leases. Restrictions on transfer are imposed in each case.

Provision is made for conditional purchases of land out of pastoral leases, but these are of a comparatively minor nature designed to grant titles over particular portions of large properties.

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 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.

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.

Selections under the Agricultural Lands Purchase Acts

Although the Agricultural Lands Purchase Acts passed between 1909 and 1929 were repealed by superseding provisions of the Land Act, 1933-1958, land already acquired by the Government through this form of large-scale repurchase continues to be made available for reselection. Selections are allotted under a special form of conditional purchase lease. The maximum permissible area is 1,000 acres of cultivable land, or its equivalent in grazing land or mixed land, on the basis of two acres of cultivable land being equal to five acres of grazing land, except in special cases approved by the Governor when the maximum area may be increased to 2,000 acres of cultivable land or its equivalent. The normal term of such a conditional purchase lease is 40 years and within that period the lessee must pay for the land a price determined by the Governor. The aggregate of prices fixed in each repurchased estate is required to provide sufficient funds to meet the price paid by the Crown, together with interest and the cost of all improvements made upon it, including survey and subdivision. The improvement and residential conditions, the restrictions on transfer and the arrangements for the obtaining of a Crown grant are identical with those already stated in connexion with ordinary conditional purchase leases.

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 or on a 999 years' lease. 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.

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, 1918-1954, 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 Departments of Lands and Surveys, Mines and Forests in granting leases of Crown lands in Western Australia. The activities of each Department in this field are now described in greater detail.

Lands Department

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, an increasing annual acreage of perpetually-leased farming land has been made available to ex-servicemen under the War Service Land Settlement Acts.

Pastoral Leases amounting to a total of over 209 million acres, and including certain lands within the agricultural districts also leased for pastoral uses, occur throughout an area greater than half that of the State. The maximum area which may be held by a lessee, either in his own right or when beneficially interested as a shareholder in an incorporated company, is one million acres. The minimum area depends on the Land Division in which the lease is sought, and varies between 3,000 and 50,000 acres. These minimum areas may be reduced in any Division if proximity of other properties makes it necessary.

The term of all pastoral leases taken up under the Land Act, 1898 was due to expire at the end of 1928 but by amending legislation they could be renewed up to the 31st December, 1948. Under current legislation, which was passed in 1933, all leases will now expire on the 31st December, 1982. Rents are determined by the Minister for Lands on the advice of a Board of Appraisalment and are subject to re-appraisal at statutory intervals.

The lessee is required to effect improvements within the first five years to the value of £5 per 1,000 acres and within the first 10 years to the value of £10 per 1,000 acres. In addition, a pastoral lease is liable to forfeiture if it is not stocked within the first two years at the rate of 10 head of sheep or two head of large stock per 1,000 acres, or within five and eight years at rates which are respectively double

and treble these amounts. Stock numbers are expected to be maintained at least at the eighth-year level for the remainder of the term of the lease. Relief from rent is granted where there have been severe losses of stock or reduction in woolclip due to drought, cyclone or flood. No transfer, mortgage or sub-lease can be effected in respect of a pastoral lease without the consent of the Minister for Lands.

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 £2 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—Reference has already been made on page 201 to the fact that 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.

Leases of Residential Lots—The Governor may lease any town or suburban lands on such terms as he may think fit. The usual procedure is to offer a lease at public auction. Unless otherwise specified, any lessee of town or suburban lands acquired at public auction may apply to purchase the fee simple of the land. Provision is also made for approval of any town or suburban lands being offered for leasing during a period not normally exceeding 99 years, as distinct from public auction. These leases are not convertible to freehold.

Perpetual Leases are provided for under the War Service Land Settlement legislation, whereby it is laid down that ex-servicemen who have been awarded farms under this joint Commonwealth-State scheme and who meet the requirements of the appropriate agreement may enjoy perpetual leases. Lessees may, however, obtain the freehold of their property after the expiration of 10 years from the commencement of the term of perpetual lease and on payment of such purchase price for the fee simple as is fixed by the Minister for Lands.

Mines Department

Under the provisions of the Mining Act, 1904–1957, 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 the 1957 amendment of the Act 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, 1936–1954, with authority to charge fees, rents and royalties.

Gold-mining Leases—As well as conveying a right to mine for gold to any depth, a gold-mining lease permits the construction of all necessary buildings and plant within the area which it defines. Where, in the opinion of the Minister, land is likely to contain alluvial gold, it is normally exempted from lease. However, a lease may be granted if the Minister is satisfied that the land, having already been worked for alluvial gold, has been abandoned or that there is sufficient reason for waiving the exemption. In such cases the lease may range in area up to 48 acres. In all other instances the maximum area is 24 acres. Leases must, where practicable, be 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 lode does not exceed 66 chains. A rent of 5s. per acre is charged during the first year and £1 per acre during the following years. The grant of a gold-mining lease conveys an exclusive right to mine for gold or other minerals within the bounds of the lease, but excludes rights in respect to petroleum.

Mineral Leases—Mineral leases authorize the 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 48 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 5s. per acre is charged. Leases may, at the discretion of the Minister, be amalgamated in working, but the total area may not exceed 96 acres and the total length along the line of reef or lode may not exceed 90 chains.

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 sixpence per acre and a royalty of threepence per ton is payable on all coal raised during the first 10 years of the lease, rising to sixpence per ton during the remainder of the term. The Mining Act, 1904-1957 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 2s. 6d. per annum per acre. Working conditions require that not less than three men shall be continuously employed for every 100 acres or fraction thereof.

Dredging Claims—Application may be made for dredging claims for gold or minerals in lakes, 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 £1,000 shall be continuously employed.

Temporary Reserves—To encourage mining, provision is made for the creation of Temporary Reserves of Crown Lands by the Minister, and an Authority to occupy such reserve for the purpose of searching for gold or 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 all other minerals are not restricted as to area. In the event of any mineral being found by the occupier of a Temporary Reserve, he may be required to peg out and apply for ordinary mining titles.

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 2s. per acre is charged where the total area does not exceed 20 acres and for larger areas the annual rental is sixpence per acre. After 20 years the rent is 1s. per annum if demanded. Basic improvements must be made by the lessee within the first six months and the land must be fenced on its boundaries within three years after the commencement of the lease. Improvements to the value of 10s. per acre must be made within the first five years.

Tenures under provisions of the Petroleum Act, 1936-1954—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 £100 is payable on application for a Permit and where it is granted the successful applicant is required

to lodge with the Under Secretary for Mines a bond of £1,000. It is further provided that a geologist must be engaged, that drilling be confined to "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 £1,000. The licence is valid for two years and the Minister may grant three successive renewals for further periods of one year each. For an annual fee, based on the rate of 5s. per square mile during the first year of the licence (maximum fee, £12 10s.) and on 10s. per square mile in subsequent years (maximum annual fee, £25), the licensee has the exclusive right to prospect for petroleum within the specified area. Drilling arrangements require the approval of the Minister and operating information must be supplied to him at regular intervals.

A holder of a Licence to Prospect may, upon discovering petroleum within his area, select as a Petroleum Lease or Leases so much of his licence area as he requires if the licence was granted on or before the 1st January, 1955 or select not more than half the land if his licence was granted after that date. The balance of the area contained in the Licence to Prospect reverts to the Crown and may be disposed of upon such terms and conditions as the Governor may determine, subject to the holder of the Licence to Prospect being granted first right of acquisition upon those terms and conditions. A bond of £1,000 must be lodged with the Under Secretary for Mines when the lease is granted.

The area of a Petroleum Lease must not be greater than 100 square miles nor, unless approved by the Minister, less than four square miles. Initially, the term is for 21 years and there is an option of renewal for any further period during which petroleum in payable quantities is produced. A rental of £10 per annum is charged for every square mile or portion of a square mile comprising the lease. The Act provides for the fixing of the rate of petroleum royalty when a lease is granted.

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, 1918-1954, 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 logs to the mill at a prescribed rate, and to supply the Forests Department with details of the logs taken and the timber cut therefrom.

Sawmilling permits are of major importance because of the capital outlay involved and the area is usually selected so as to give a cutting life of about 30 years. However, the usual practice is to grant the permits for a term of one year, subject to annual renewals. The royalty payable is determined by the sale of cutting rights by auction or by tender, the minimum royalty having first been established by the Forests Department.

Sawmill Site Permits—It is obligatory upon all holders of Sawmilling Permits to erect an efficient sawmill within a short period after the granting of the permit. The sawmill may be erected outside the sawmilling permit area. If, however, a mill is to be established on Crown land, a Sawmill Site Permit must first be obtained. An area not exceeding 50 acres may be leased to the sawmilling permit holder by the Conservator of Forests for this purpose and the annual rental is £1 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 £1 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.

PROGRESS OF LAND UTILIZATION

Developments up to the granting of responsible government in 1890 have been outlined in the first section of this Part and the following table shows the areas of land alienated and of land held under lease or licence as at the 30th June, at intervals since 1900. The notable increases which occurred in the first 20 years under review are indicative of the rapid agricultural and pastoral development which took place during the early part of this period. Further expansion in the wheat belt is reflected in the rise in alienations between 1920 and 1930.

SUMMARY OF LAND ALIENATED AND LAND HELD UNDER LEASE

Date	Area absolutely alienated	Area in process of alienation	Area held under lease or licence	Remainder of State
At 30th June— 1900†	acres 3,462,490	acres 3,156,798	acres 87,375,981	acres 530,593,531
1910	4,449,326	12,880,195	167,207,854	440,051,425
1920	8,763,051	14,259,769	257,610,300	343,955,680
1930	14,506,064	21,533,054	245,389,756	343,159,926
1940	18,244,428	14,192,666	209,379,761	382,771,945
1949	20,694,582	11,585,376	223,691,028	368,617,814
1950	21,283,085	11,514,531	226,005,162	365,800,022
1951	22,013,900	11,967,117	†203,930,527	366,668,256
1952	22,636,334	12,129,588	205,606,700	364,216,178
1953	23,634,215	12,226,597	206,437,832	382,290,156
1954	24,385,777	12,850,764	206,566,189	380,786,070
1955	24,708,930	13,116,652	208,640,147	378,123,071
1956	25,228,070	13,001,488	216,317,679	370,041,563
1957	25,726,950	12,837,282	216,810,793	369,213,775
1958	26,205,502	13,053,345	221,763,493	363,566,460

† At 31st December.

‡ Decrease in area due mainly to revisions in the records of the Lands Department.

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 in the above table consequently give a practical indication of the increased use of land for agricultural purposes during the period under review. Similarly, the increase in the area used for pastoral purposes may be gauged by reference to the area held under lease or licence, since this consists predominantly of pastoral leases.

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, 1933-1958, and this provision, operating in conjunction with the conditional purchase lease system, has also been an important 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.

The acreage of Crown land held under lease or licence rose rapidly from 1900 to 1920 and reached its peak in June, 1922 when, of the total of 267,619,560 acres, pastoral leases accounted for 263,403,351 acres. Pastoral leases have continued to predominate in this field.

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 on page 207. The area conditionally alienated in any one year reached a post-war peak of 1,675,673 acres in 1953 but had declined to 798,403 acres in 1958.

Details of land conditionally alienated and taken up under lease or licence during each of the years 1949 to 1958 are given in the following table.

CROWN LANDS—AREAS FOR WHICH APPLICATIONS HAVE BEEN APPROVED

Year	Conditional Alienation					Leases and Licences			
	Condi- tional Pur- chases	Free Home- stead Farms	Selections, Lands Purchase Act	Town Lots	Total	Pastoral Leases and Licences	Special Leases	Miscel- laneous Leases	Total
	acres	acres	acres	acres	acres	acres	acres	acres	acres
1949	727,275	10,462	4,901	906	743,544	2,742,294	85,441	400,273	3,228,008
1950	1,071,711	10,535	64,147	1,274	1,147,667	3,501,169	141,284	214,411	3,856,864
1951	1,119,408	12,990	22,175	1,235	1,155,808	3,542,016	78,965	154,566	3,775,547
1952	1,191,191	2,659	16,844	1,707	1,212,401	3,045,945	99,386	234,013	3,379,344
1953	1,660,638	320	13,808	907	1,675,673	2,292,734	71,729	30,040	2,394,503
1954	1,039,794	780	4,558	681	1,045,813	5,427,697	224,870	106,746	5,759,313
1955	796,157	.....	11,672	845	808,674	8,431,745	139,823	41,948	8,613,521
1956	704,052	617	182	1,018	705,869	3,523,487	152,298	204,881	3,880,666
1957	932,685	.....	727	507	933,919	5,218,047	346,254	230,649	5,794,950
1958	796,863	.....	1,255	285	798,403	3,175,303	536,222	186,792	3,898,317

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 £500 per settler as working capital for such essentials as initial improvements, implements and seed. Later this was increased to £625 and a further average loan of £375 towards the cost of land brought the Commonwealth commitment to £1,000 per settler. The State Agricultural Bank provided all extra funds for operations in Western Australia.

By 1940, when operations under the scheme virtually came to an end, 5,213 soldier settlers had been assisted in Western Australia and advances totalling £6,737,693 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

The general purpose of the War Service Land Settlement Scheme is to settle on the land ex-servicemen of the second World War, the Korean War, and the Malayan operations. Every effort has been made to profit from the experience gained in previous land settlement schemes and to avoid the faults and deficiencies which were responsible for their very limited success. In order to ensure, as far as possible, that each individual venture is successful, care is taken to assess the suitability of both the applicant and the selected land for the type of farming which is contemplated. These considerations, rather than the number of applicants wishing to obtain a holding, determine the rate and extent of settlement. The Government's policy is also to prepare the holdings by clearing, fencing and other improvements before allotment to applicants.

In this State, expenditure of the funds of the scheme, which are provided by the Commonwealth Government, is administered by the Land Settlement Board under the direction of the Minister for Agriculture and the State Government is responsible for Western Australia's share of any losses incurred. Settlers are required to invest in their holdings a proportion of their own financial or other resources. Guidance and technical advice are made available to settlers through the Department of Agriculture extension services.

Although holdings of this description were originally available only on perpetual lease, amending legislation passed in the State Parliament during 1954 continuing the relevant provisions of an earlier amendment of 1951, enables War Service Land Settlement lessees to apply for a title in fee simple after holding the land for not less than 10 years on a leasehold basis.

Land chosen for War Service Land Settlement is closely examined as to accessibility, climate, types of soils, water supply, productive capacity and the possibilities of development, improvement and subdivision. In the past, certain privately-owned properties were acquired for resettlement, but the present policy is to develop available areas of Crown land. Up to the 30th June, 1957, a total of 979 ex-servicemen had been placed on farms in Western Australia under the scheme and at the 30th June, 1958 the number had increased to 1,003.

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 £34 million was to be made available for joint developmental projects during the following 10 years. The Commonwealth Government set up a Development and Migration Commission to examine the suitability of any suggested projects. The Commission ultimately reported adversely on the 3,500 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 £34 million agreement itself lapsed before any significant results by way of additional farms had been achieved in Western Australia.

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 Lands Department 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 salable 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 upset 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 Mines Department 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 Lands and Surveys Department.

PUBLIC PARKS AND RESERVES

Reference has already been made on pages 200 and 201 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 below.

The National Parks Board of Western Australia controls a number of parks and reserves, comprising a total area of approximately 321,000 acres. Those in the neighbourhood of Perth are Crawley Reserve, Yanchep Park, the John Forrest National Park near Glen Forrest and reserves at Lesmurdie Falls, Serpentine Falls, Yanchep Beach, Quinns Rock Beach and Penguin Island. In the southern part of the State are the Stirling Range and the Porongorups National Parks. On the south-west coast are the Nornalup National Park and the Hamelin Bay Reserve, near Cape Leeuwin. Recreation and camping facilities are provided in some of these areas. Flora and fauna are protected in all of them. The Board is also responsible for the upkeep of the East Perth Cemetery, a disused burial ground containing the graves of many of the early pioneers.

The Emu Point (Albany) Reserve Board controls a reserve containing an area of approximately 1,000 acres at Emu Point near Albany, which is being developed for recreation, camping and residential purposes.

The King's Park Board administers an area of almost 1,000 acres overlooking Perth, the capital city, and the Swan River. Most of the area is retained in its natural state and the native flora and fauna are protected.



BLUE LESCHENAUTIA

Leschenaultia biloba

from Blackall and Grieve, "How to Know Western Australian Wildflowers"

(Block by courtesy of University of Western Australia Press)

Leschenaultia biloba is native to south-western Australia. It occurs widely on the gravelly hills of the Darling Range but the finest specimens are to be found on the yellow loamy soil, underlaid by gravel, to the east of Northam. It ranges in colour from pale azure to deep ultramarine. The genus comprises nineteen species, sixteen of which are native to Western Australia. It is named after Leschenault, a botanical collector who took part in the expedition of the "Geographe" and the "Naturaliste" in 1801.

Zoological Gardens Board—An area of 43 acres at South Perth is under the control of the Zoological Gardens Board. Sporting and recreational facilities are available to the public.

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 water supply systems of Western Australia are principally under the management of two State Government Departments, both of which are administered by the Minister for Works and Water Supplies. The Metropolitan Water Supply, Sewerage and Drainage Department has as its territory the metropolitan area centred on Perth and extending southward to Kwinana and Serpentine, northward to Marmion and eastward to Greenmount. The Public Works and Country Water Supply, Sewerage and Drainage Department controls the Goldfields and Agricultural Water Supply and the Great Southern Towns Water Supply as well as 55 local supplies. It also provides water for irrigation purposes in the South-West Irrigation Districts. Seven independent town schemes are controlled by local Water Boards in country areas and individual water supplies serve railways, isolated mines, pastoral properties, stock routes and agricultural areas, principally from dams, tanks, wells and bores. In addition, water is used from subterranean sources for irrigation purposes at Carnarvon, from the Ord River for experimental work being carried out by the Department of Agriculture and the Commonwealth Scientific and Industrial Research Organization at the Kimberley Research Station, and from the Fitzroy River for rice growing at Camballin.

There are five main conservation systems in the south-western part of the State and the sixth is under construction at Serpentine. Canning Dam, with supplementary catchments at Victoria Reservoir, Churchman Brook Dam and Wungong Brook Diversion Weir, serves the metropolitan area and environs. 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 areas adjacent to the pipeline and, as occasion arises, is also drawn upon for metropolitan supply. Stirling Dam, with a supplementary catchment at Harvey Weir, serves part of the irrigation area of the South-West. The Drakes Brook Dam and the Samson Brook Dam are also used for this purpose. Wellington Dam, on the Collie River, is a major undertaking now being enlarged to meet not only the needs of the southern parts of the irrigation area but also of the towns along the Great Southern Railway included in the Great Southern Towns Water Supply. The capacity of these storages at the 31st December, 1958, was :—

	million gallons
Canning Dam	20,550
Wungong Brook Diversion Weir	(a)
Churchman Brook Dam	480
Victoria Reservoir	189
Serpentine Pipehead Dam	850
Mundaring Weir	16,954
Drakes Brook Dam	504
Samson Brook Dam	1,800
Stirling Dam	12,000
Harvey Weir	2,275
Wellington Dam	8,000

(a) No storage as only a diversion weir for Canning Dam.

METROPOLITAN WATER SUPPLY

The sources of the metropolitan water supply are the Canning Dam, the Churchman Brook Dam, the Victoria Reservoir, the Wungong Brook Diversion Weir and a pipehead dam on the Serpentine River. The supply from these sources is supplemented as necessary from a pipeline link with the 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.

The 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 the Canning Dam, which was begun in 1933 and completed in 1940. Canning Dam is at present the largest reservoir in Western Australia, having a storage capacity of 20,550 million gallons retained by a concrete wall 218 feet high and 1,534 feet long at the crest. Its estimated catchment area is 302 square miles.

From Canning Dam and supplementary catchments at Victoria Reservoir, Churchman Brook Dam and Wungong Brook Diversion Weir and from the Serpentine Pipehead Dam, water is conveyed to service reservoirs at Mount Yokine, Mount Eliza, 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. The Mount Yokine reservoir was linked to the new Serpentine Pipehead Dam in 1958. Mount Eliza will also be linked to this source of supply by means of a pipeline across the Narrows Bridge. To meet the peak demand during the summer months, these sources are supplemented from a system of artesian bores which can provide a daily maximum of 11.9 million gallons. On the 31st December, 1958, the number of consumer services was 123,948. The following table shows the quantities of water which were drawn from the various sources during each of the five years ended 30th June, 1954 to 1958.

METROPOLITAN WATER SUPPLY—QUANTITIES OF WATER DRAWN (a)
(million gallons)

Source	1953-54	1954-55	1955-56	1956-57	1957-58
Canning Dam	9,363	9,917	9,279	8,865	10,226
Victoria Reservoir	464	517	630	488	469
Churchman Brook Dam	978	682	726	1,139	830
Wungong Brook Diversion Weir	954	742	1,194	1,441	1,403
Mundaring Weir ....	.....	647	1,422	1,782	1,671
Serpentine Pipehead Dam ....	.....	.....	.....	.....	1,365
Metropolitan Bores	1,108	1,499	1,211	1,311	1,572
Total	12,867	14,004	14,462	15,026	17,536

(a) Including supplies to railways and shipping.

Although the figures for any particular year may be significantly affected by the severity of the summer, it will be seen from the preceding table that the consumption of water in the metropolitan area shows a general upward trend. Factors responsible for this are the increase in metropolitan population and the building of new dwellings, together with an expansion of industrial activity. Major works are being undertaken to ensure adequate supplies for future development, the most important being the construction of a reservoir on the Serpentine River about thirty miles south-east of Perth. The first stage of this project, the construction of a pipehead dam of 850 million gallons, has been completed and supplies from this source were received in the metropolitan area in 1957. Work has now begun on the construction of the main dam of 39,000 million gallons where some storage is already available and from which supplies are being drawn. It is expected that the dam will be completed in 1961.

COUNTRY WATER SUPPLIES

CONTROLLED BY PUBLIC WORKS AND COUNTRY WATER SUPPLY, SEWERAGE AND DRAINAGE DEPARTMENT

Comprehensive Water Supply Scheme

A Comprehensive Water Supply Scheme is under construction as the result of an agreement by which the cost of new works, now estimated to be about £10 million, is shared by the Governments of the State and the Commonwealth. Since it was first proposed the intended scope of the Scheme has been greatly reduced because of the high estimated cost of the initial plan which provided for a reticulated water supply over the greater part of the wheat belt. The map on page 213 shows the boundaries of the original scheme as proposed by the State Government when applying to the Commonwealth for financial assistance in January, 1946, and also the area embraced by the modified proposals agreed to by both Governments and introduced in October, 1947.

The project in its present form consists of two main parts, a northern section, being an expansion of the Goldfields and Agricultural Water Supply, and a southern section which is known as the Great Southern Towns Water Supply. Each section is dealt with separately below.

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. Subsequently, however, extensive branch reticulations to country towns and agricultural areas, from various points along the 346-mile pipeline connecting Mundaring Weir with Kalgoorlie, and the increasing demand for water on the goldfields made it necessary to augment supplies. This was achieved by raising the wall 32 feet to a new 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 approximately 16,954 million gallons by the installation of adjustable steel gates, four feet in height. The water storage now provided is expected to meet the expanding requirements of the districts along the pipeline as well as on the goldfields, and the capacity of the mains and pumping stations has been raised to ensure adequate distribution of the increased supplies. Several of the steam pumps have been replaced by electric installations. The undertaking, which is now known as the Goldfields and Agricultural Water Supply, serves the northern section of the modified Comprehensive Water Supply Scheme and reticulation to more country towns and farming areas is being undertaken by further off-takes from the trunk pipeline. Important extensions have already been completed from the main pipeline, southward to serve Bruce Rock, Narembeen and Kondinin and the surrounding farming areas and northward to link up the Waddouring-Barbalin-Knungagin System as well as to serve the districts north of Kellerberrin and Cunderdin. Work on the construction of pipelines north from Cunderdin was commenced in 1956-57 and Koorda was connected to the Scheme in December, 1958. This extension is also designed to bring Scheme water to Wyalkatchem and Dowerin and eventually to Kokardine further north.

GOLDFIELDS AND AGRICULTURAL WATER SUPPLY—CONSUMPTION (a)
(million gallons)

Year					Quantity	Year					Quantity
1948-49	....	....	....	....	2,131	1953-54	....	....	....	....	2,565
1949-50	....	....	....	....	2,208	1954-55	....	....	....	....	2,536
1950-51	....	....	....	....	2,162	1955-56	....	....	....	....	2,812
1951-52	....	....	....	....	2,314	1956-57	....	....	....	....	2,884
1952-53	....	....	....	....	2,374	1957-58	....	....	....	....	3,118

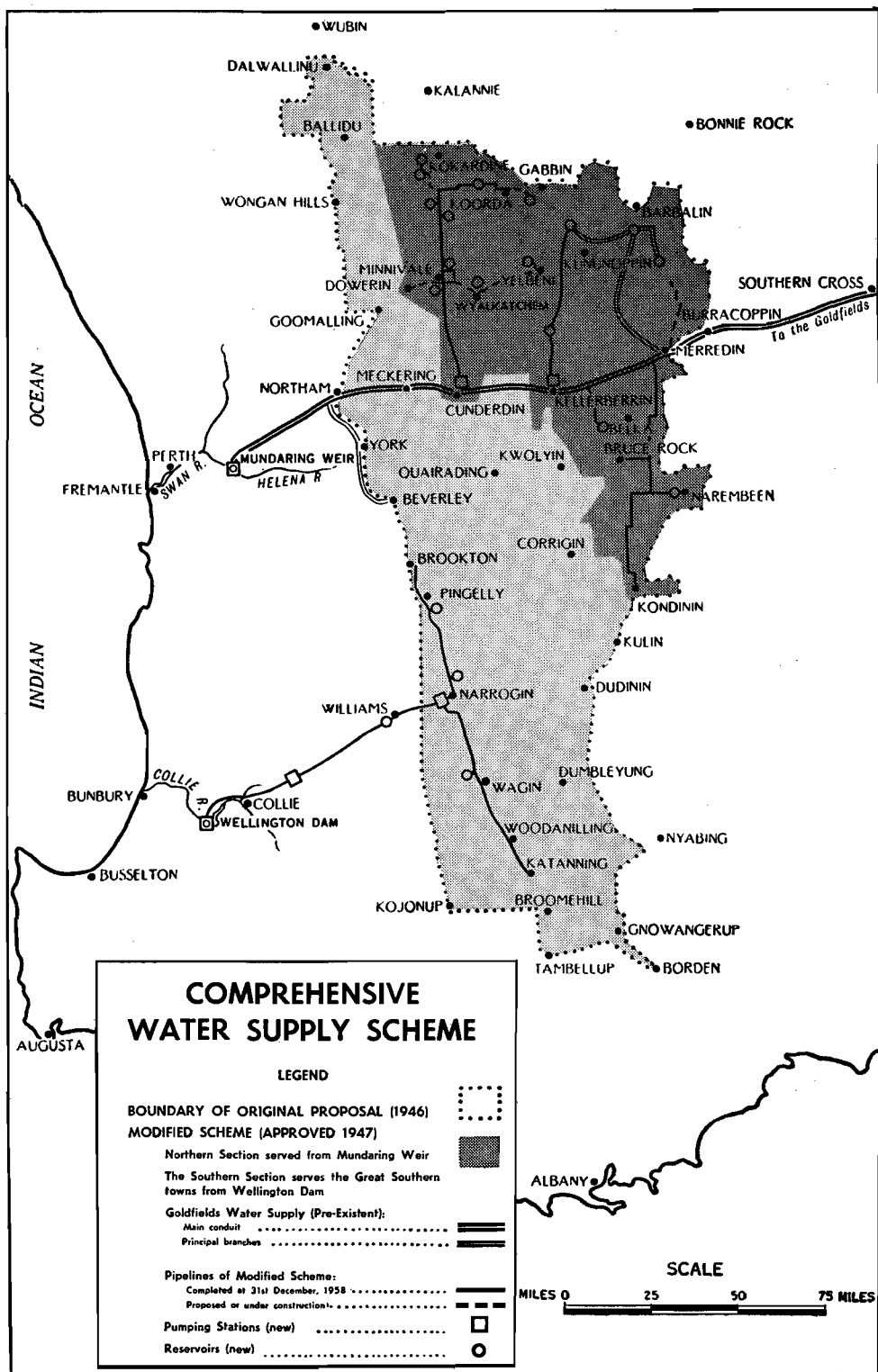
(a) Includes augmentation from Mundaring Weir to local schemes at Waddouring-Barbalin-Knungagin, Bruce Rock, Narembeen and Kondinin but excludes supplies drawn from local catchments at these centres. Water drawn by the Metropolitan Water Supply is excluded—see table on page 211.

Great Southern Towns Water Supply

The Great Southern Towns Water Supply, the southern section of the modified Comprehensive Water Supply Scheme, is designed to serve the towns on the Great Southern Railway between Brookton and Katanning. Supplies are drawn from the Wellington Dam, which is being increased from 8,000 million to 40,800 million gallons capacity and which has been linked by a main pipeline to Narrogin, 80 miles away. In addition to the pumping station at Wellington Dam, two stations have been completed for the purposes of the Scheme, the first some 28 miles east of the Dam and the second at Narrogin. Pipelines have now been constructed from Narrogin northward to Brookton and southward to Katanning, and towns between these two points are being supplied with water from Wellington Dam.

Other Schemes

Fifty-five local schemes supply water from stream flow, dams, tanks, wells and bores, mainly to country towns. Fifty-one of these schemes, as well as the Goldfields and Agricultural Water Supply and the Great Southern Towns Water Supply, are administered under the provisions of the Country Areas Water Supply Act, 1947-1957. The Minister also exercises, under the Water Boards Act, 1904-1954, powers of a Water Board in four additional areas.



OTHER COUNTRY WATER SUPPLIES

In addition to the schemes controlled by the Public Works and Country Water Supply, Sewerage and Drainage Department there are seven local Water Boards operating under the Water Boards Act, 1904-1954 which also draw supplies from stream flow, dams, tanks, wells and bores. 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.

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, e.g., those controlled by the Public Works and Metropolitan Water Supply Departments.

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 (see map on page 215).

The Harvey Irrigation District was the first large-scale project, being opened in 1916. The Harvey Weir, with a capacity of 500 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 1940 provided a storage capacity of 2,304 million gallons for the irrigation of 3,320 rated acres in the Waroona District. In 1931 the capacity of the Harvey Weir was increased to 2,275 million gallons and in 1948 the Stirling Dam, largest of the irrigation reservoirs and with a capacity of 12,000 million gallons, was completed further upstream on the Harvey River. These works enabled the Harvey Irrigation District to be extended northward to link with the Waroona District and the irrigable area of the former to be increased to 14,047 rated acres.

Concurrent with developments in the Harvey and Waroona Districts, action was taken to conserve water for the Collie River Irrigation District and the Wellington Dam on the Collie River was completed in 1934. In view of its importance, not only to irrigation projects but also to the Great Southern Towns Water Supply, the wall of this reservoir is being raised, but already from its present capacity of 8,000 million gallons it serves an irrigable area of 9,132 rated acres in the Collie River Irrigation District, which extends from Brunswick Junction to Dardanup.

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. Two 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.

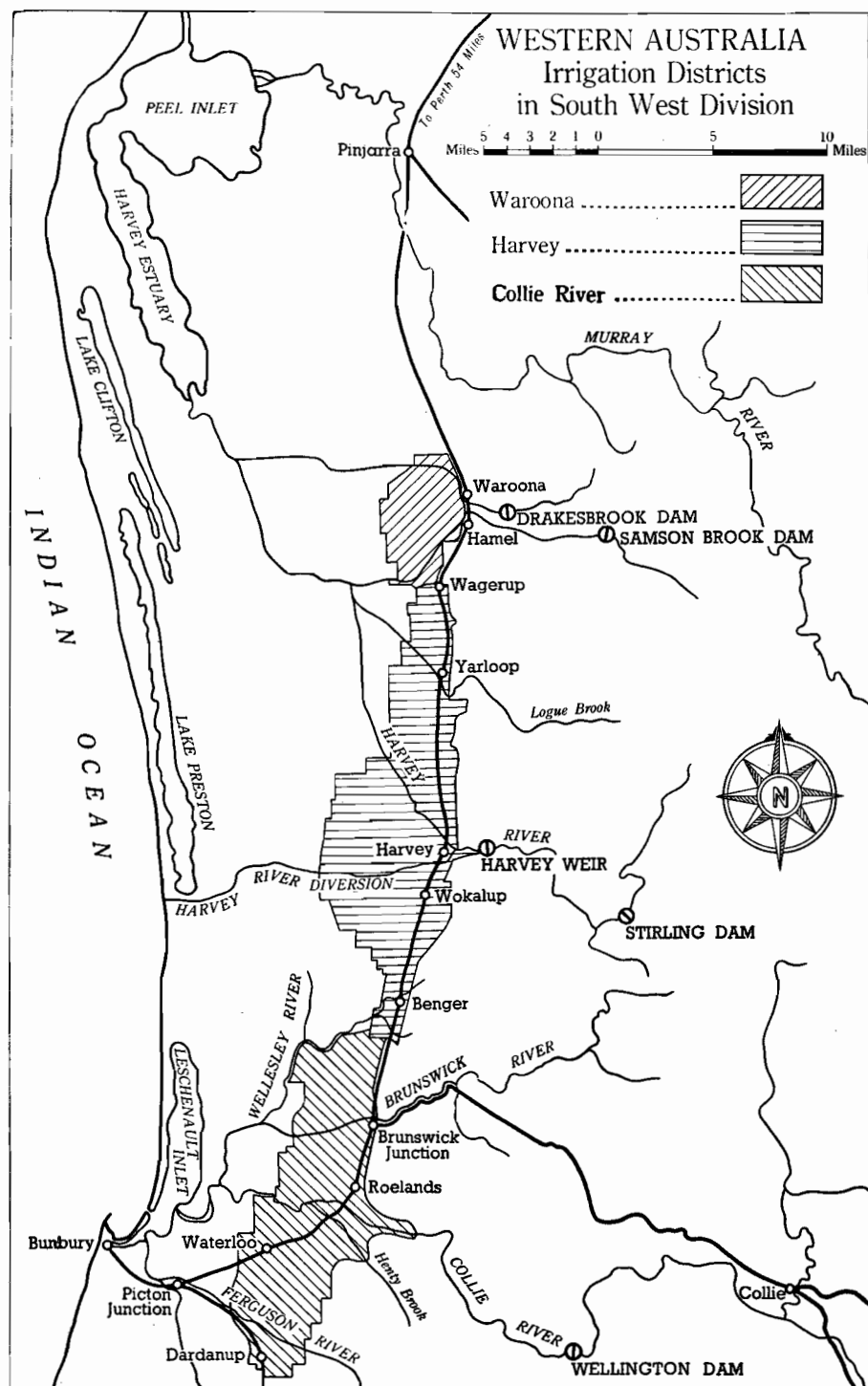
Certain details of irrigation in each District in the years 1956-57 and 1957-58 are set out in the following table.

IRRIGATION

Particulars				Irrigation District						Total		
				Harvey		Waroona		Collie River				
				1956-57	1957-58	1956-57	1957-58	1956-57	1957-58	1956-57	1957-58	
Area Watered—												
Pasture	.....	.....	acres	11,075	11,619	2,372	2,286	8,142	8,354	21,579	22,259
Fodder Crops	.....	.....	”	554	781	188	325	296	412	1,038	1,518
Potatoes	.....	.....	”	397	309	128	142	408	302	933	753
Other Vegetables	.....	.....	”	129	92	570	461	129	124	838	677
Orchards	.....	.....	”	211	202	.....	.....	10	10	221	212
Other Crops	.....	.....	”	.....	.....	34	.....	81	.....	115	.....
Total	.....	.....	”	12,366	13,003	3,292	3,214	9,066	9,202	24,724	25,419
Acres Waterings (a)				76,026	78,220	18,233	18,429	47,455	49,587	141,714	146,236	
Average Number of Waterings				6.2	6.0	5.5	5.7	5.2	5.4	5.7	5.8	
Total Water Gauged at Entry to District				million gal.	13,043	13,555	(b)	(b)	7,848	8,036	(b)	(b)
Dam Capacity				”	14,275	14,275	2,304	2,304	8,000	8,000	24,579	24,579
Length of Channels				” miles	151	151	46	46	106	106	303	303

(a) Number of acres watered multiplied by average number of waterings.

(b) Water to Waroona District not gauged.



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 special interest.

Carnarvon—During the past twenty 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 production now consists mainly of bananas, although considerable quantities of early beans are grown for the metropolitan market and for export interstate. Tomatoes and a variety of other vegetables are also produced. This 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. Cement-lined wells have been driven 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. Some experiments have been carried out with overhead methods of irrigation, mainly at the tropical research station which is maintained at Carnarvon by the State 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 experimental work is being continued.

Ord River—The Kimberley Research Station was established in 1945 on the Ord River, about 60 miles from Wyndham, to investigate the economic prospects of agricultural development of the surrounding alluvial plains and their suitability for irrigation. By agreement between the State and Commonwealth Governments, expenses and the direction of experiments are shared by the Commonwealth Scientific and Industrial Research Organization and the Western Australian Department of Agriculture.

Water for irrigation is obtained by pumping from the Ord River and some technical difficulties are presented by changes in the water level, which rises rapidly and irregularly in the wet season. However, experimental plots have been irrigated and successfully planted to such crops as sugar-cane, rice, cotton and peanuts, as well as to various pastures and fodders. This work has provided a means of comparing results from irrigated and non-irrigated plantings in both the wet and the dry seasons and from the different varieties within each type of crop. It has also indicated the most suitable times for planting and the fertilizer and water requirements of the soil.

Preliminary survey work has been undertaken in connexion with a proposed scheme to harness the waters of the Ord River by means of a diversion dam about 60 miles south-east of Wyndham and a main dam to be constructed a further 40 miles upstream. The Commonwealth Government has agreed to provide financial assistance in implementing a developmental programme, which will have initial emphasis on the growing of rice, safflower and probably cotton, and has accepted the Ord River diversion dam as an approved project within the meaning of the Western Australia Grant (Northern Development) Act 1958. A detailed soil survey has been carried out over an area of 86,000 acres of which 56,000 acres are likely to be suitable for irrigation. Other potential irrigation areas could be served from the same dam.

Fitzroy River—On the Liveringa flood plain, at Camballin, 65 miles south-east of Derby, commercial production of rice by private interests has begun following successful experimental work. Irrigation water from the Fitzroy River is diverted through Uralla Creek, an anabranch, for 25 miles to the rice-growing area where there is a natural storage of about 325 million gallons capacity. The supply of water to the irrigation area is augmented by pumping during periods of low flow in the Fitzroy River.

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 approximately five and a half million acres of which about three million are sown to wheat for grain.

Circumstances similar to those applying to agriculture stimulated the growth of the pastoral industry and large cattle and sheep stations were established on land leased from the Crown, mainly in the northern and north-western areas and in parts of the 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 238. With the development of mixed wheat and sheep farming the total number of sheep has risen to 16 million, but less than one-fifth are now in the pastoral areas and more than four-fifths in the agricultural areas. Although there has been notable progress in beef production in the south-west, the Kimberley Division continues to be the principal producer, having almost two-thirds of the 771,522 head of beef cattle in the State in 1958.

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 is still the major mining activity, followed in order by the mining of coal, asbestos, manganese, iron, ilmenite and pyritic ore.

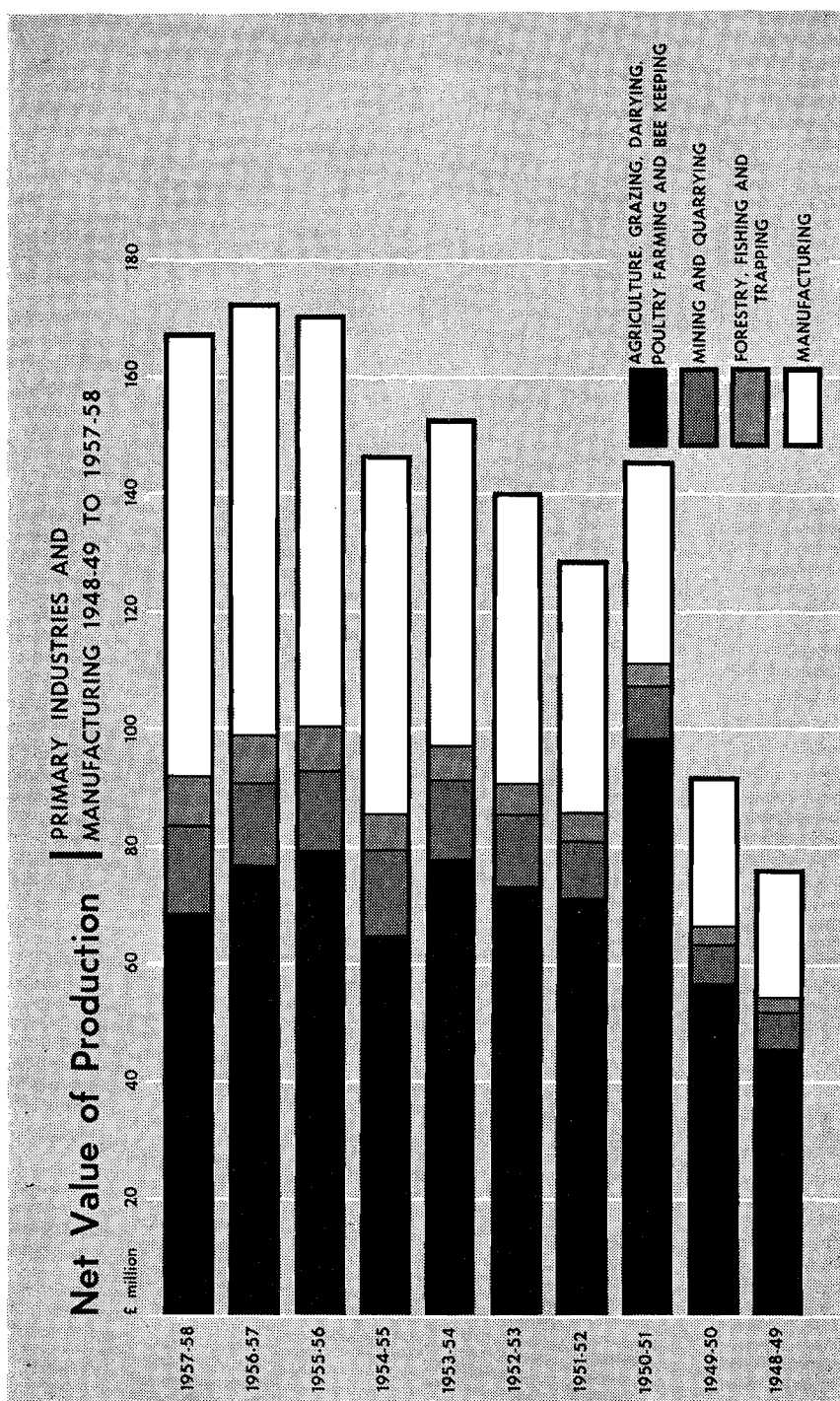
Dairying, with an annual milk production of about 55 million gallons, has become a significant factor in primary industry and in 1957–58 the output of butter was 15,865,332 lb. and of cheese 2,391,854 lb.

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 has developed in post-war years, has given great impetus to the fishing industry, the total value of the take of fish having increased more than sixfold between 1947 and 1957–58. Attention is being given to several aspects of the industry and current research may provide the means of further expansion. 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 20 years.

Remoteness from the resources and markets of the more populous States has been an important factor in retarding manufacturing development, secondary industries being largely dependent on the limited local demand. In recent years the establishment of a major oil refinery and a steel-rolling mill, 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 future development may 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 1953–54 to 1957–58. An effective comparison of their relative importance is provided by the five-yearly averages also quoted as these minimize the effect of unusual seasonal or other conditions occurring in individual years.



NET VALUE OF RECORDED PRODUCTION

Industry	1953-54	1954-55	1955-56	1956-57	1957-58	Average of five years
VALUE (£'000)						
Agriculture	28,119	23,482	37,350	24,640	27,338	28,186
Pastoral	43,784	36,195	36,578	47,343	36,947	40,169
Dairying	3,695	3,225	3,867	3,645	3,430	3,574
Poultry Farming	1,635	1,363	816	697	524	1,007
Bee Keeping	211	97	202	268	243	204
Trapping	304	168	156	111	60	160
Forestry	3,616	3,850	4,877	4,779	5,112	4,447
Fishing and Whaling	1,742	2,019	2,225	2,542	2,989	2,303
Mining and Quarrying	13,998	14,776	14,143	14,350	14,889	14,431
Total, Primary	97,104	85,175	100,214	98,375	91,538	94,481
Manufacturing	55,147	60,956	69,733	73,442	75,312	66,918
Total, Primary and Manufacturing	152,251	146,131	169,947	171,817	166,850	161,399

PROPORTION OF TOTAL (PER CENT.)

Agriculture	18.47	16.07	21.98	14.34	16.39	17.46
Pastoral	28.76	24.77	21.52	27.55	22.14	24.89
Dairying	2.43	2.21	2.28	2.12	2.06	2.21
Poultry Farming	1.07	0.93	0.48	0.41	0.31	0.62
Bee Keeping	0.14	0.07	0.12	0.16	0.15	0.13
Trapping	0.20	0.11	0.09	0.07	0.04	0.10
Forestry	2.38	2.64	2.87	2.78	3.06	2.76
Fishing and Whaling	1.14	1.38	1.31	1.48	1.79	1.43
Mining and Quarrying	9.19	10.11	8.32	8.35	8.92	8.94
Total, Primary	63.78	58.29	58.97	57.26	54.86	58.54
Manufacturing	36.22	41.71	41.03	42.74	45.14	41.46
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 Districts and Divisions*.

The Metropolitan Division (192 square miles), with a population of 387,000 or more than one-half of the State total, is the principal centre of manufacturing activity and its industrial establishments, which employ 35,500 or about three-quarters of the factory workers of the State, are responsible for almost two-thirds 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 (1,886 square miles) is becoming increasingly important in the manufacturing field and its industries, which include an oil refinery, a cement works, a steel-rolling mill, meat works and a large bacon factory, provide employment for 3,300 factory workers. 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 and stone fruit, 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 as an ancillary activity to dairying and, in recent years, beef cattle have increased in importance. Apples, pears, stone fruits, potatoes and other vegetables are grown extensively and tobacco leaf is produced in the Manjimup District. Timber is a major product, being milled over a wide area, and coal and ilmenite are the principal minerals produced. Commercial fishing is centred on Man-

durah, Bunbury and Busselton. The factories of the Division, which include sawmills, butter, cheese and milk-processing plants and a superphosphate works, employ about 4,500 workers.

The Southern Agricultural, Central Agricultural and Northern Agricultural Divisions, which together cover 88,071 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 since the war has led to a remarkable increase in the number of sheep carried on farms in these Divisions and the total, 12 million, is now 74 per cent. 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 beef cattle has also increased in importance and the number, 99,500, in these Divisions is now 13 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 has been established on the west coast, Geraldton, Dongara, the Abrolhos Islands and Lancelin Island being the centres. The only mineral of importance is lead which is mined near Northampton. Factories, which include flour-mills, superphosphate works, butter factories, sawmills, a woollen mill, a charcoal iron and wood-distillation plant, fish canneries and a meat works, provide employment for about 3,750 workers.

The North-West Division (75,503 square miles) has over a million sheep, representing about six per cent. of the State total, and almost nine thousand beef cattle. Tropical agriculture has been developed on the Gascoyne River at Carnarvon where bananas and beans and other vegetables are grown. Carnarvon is also a base for whaling operations along the west coast and commercial fishermen operate from Shark Bay.

The Kimberley Division (139,060 square miles), with over half a million beef cattle, or 65 per cent. of the State total, and meat works at Wyndham, Derby, Broome and Glenroy, is the principal source of beef for export from Western Australia to overseas markets. Broome is also the centre of an important pearl-shell fishing industry and at Kuri Bay in Brecknock Harbour, 130 miles north-east of Derby, culture pearls are now being successfully produced. Iron ore is mined at Cockatoo Island in Yampi Sound and exploratory oil drilling is being carried out at a number of places in the Division.

The Pilbara, Central and Eastern Goldfields Divisions covering a total area of 660,183 square miles contain the principal gold and mineral fields of the State and almost all the gold produced in Western Australia now comes from this area. An important asbestos mining industry is established at Wittenoom and other minerals produced elsewhere in these Divisions include beryl, copper, silver, iron, felspar, gypsum, manganese, pyrite, tin and tanto-columbite ores. Although minerals constitute the main product, these Divisions contribute also to pastoral output, the area containing about 14 per cent. of the sheep and seven per cent. of the beef cattle of the State.

PART 1—PRIMARY PRODUCTION

LAND UTILIZATION ON RURAL HOLDINGS

In 1957–58 there were 21,593 rural holdings in the State, comprising 236,666,717 acres of land or 38 per cent. of the total area of Western Australia.

The total area of rural holdings consisted of 22,819,643 acres of cleared land and 213,847,074 acres uncleared. Of the cleared land, 5,510,867 acres were used for crop, 6,425,664 acres were under established pastures, 616,412 acres were newly cleared during the season and 1,459,894 acres were in fallow. The balance of the cleared area, 8,806,806 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 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 risen from 14,621,424 acres in 1946–47 to 22,819,643 acres in 1957–58, an increase of 56 per cent. In the same period land used for crops has increased from 3,532,445 acres to 5,510,867 acres and the area under established pastures from 2,092,279 to 6,425,664 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 1,459,894 acres.

LAND UTILIZATION

Season	Land Cropped, Cleared, etc.						Rural Holdings	
	Used for Crop (a)	Under Established Pasture	Newly Cleared, prepared for next Season	In Fallow	Other Cleared Land used for Grazing or Resting	Total	Number	Area
	acres	acres	acres	acres	acres	acres		acres
1948-49	4,102,348	2,788,913	369,104	2,205,076	6,435,689	15,901,130	19,754	210,657,902
1949-50	4,292,730	3,027,706	466,171	2,291,611	6,477,254	16,555,472	19,565	211,056,966
1950-51	4,532,756	3,589,598	535,483	2,234,854	5,966,658	16,859,349	19,289	213,361,605
1951-52	4,507,924	4,011,469	582,004	2,041,470	6,545,139	17,688,006	19,515	215,386,015
1952-53	4,636,654	4,266,919	630,110	1,906,285	7,202,797	18,642,765	19,655	215,939,156
1953-54	4,477,102	4,527,188	730,291	1,912,794	8,132,113	19,779,488	20,132	221,805,578
1954-55	5,042,856	4,747,383	634,744	1,815,095	8,439,051	20,679,129	20,876	228,883,394
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

(a) Excluding meadow hay.

EMPLOYMENT AND POPULATION

The permanent male work force on rural holdings in the State has remained almost stationary 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 10,220 in 1949 to 23,963 in 1958. The result has been that, in spite of greatly increased production, there has been little change in the permanent male work force which has risen from 30,329 in 1949 to 30,553 in 1958. Permanent male workers in 1958 consisted of 20,087 owners, lessees, tenants and share-farmers, 1,530 farmers' relatives who were not receiving wages and 8,936 paid employees. The number of males who were temporarily employed, including contractors and their employees, was 5,037. 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, due 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, 1958, totalled 86,370 or 12·3 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	
1949	19,013	1,923	9,393	30,329	(a)	(a)	(a)	(a)	10,220
1950	18,900	2,340	8,782	30,022	3,441	44,635	34,558	79,193	12,119
1951	19,747	2,410	8,664	30,821	4,290	44,715	34,641	79,356	14,554
1952	20,016	2,157	8,062	30,235	3,258	(a)	(a)	(a)	17,077
1953	20,398	2,043	7,842	30,283	4,232	(a)	(a)	(a)	18,313
1954	19,726	1,796	8,281	29,803	4,147	48,222	37,221	85,443	19,670
1955	20,000	1,605	7,978	29,583	4,101	48,636	37,599	86,235	21,166
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	22,909
1958	20,087	1,530	8,936	30,553	5,037	47,874	38,496	86,370	23,963

(a) Not available

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 1957-58. The "*local value*" which is quoted is the value at the source of production and is obtained by deducting marketing costs, such as freight, cost of containers, commission and other handling charges, from the gross value.

VALUE OF PRODUCTION OF PRIMARY INDUSTRIES, 1957-58

Industry	GROSS VALUE (based on Principal Market Prices)	Marketing Costs	LOCAL VALUE (as at source of Production)	Value of Goods Consumed in process of Production	NET VALUE
	£	£	£	£	£
Agriculture	43,646,459	5,388,793	38,257,666	10,919,690	27,337,976
Pastoral (a)	47,058,939	3,165,537	43,893,402	6,946,001	36,947,401
Dairying	9,042,980	416,311	8,626,669	5,190,537	3,436,132
Poultry Farming	2,443,425	472,754	1,970,671	1,446,514	524,157
Bee Keeping	263,668	20,492	243,176	(b)	243,176
Trapping	87,728	27,857	59,871	(b)	59,871
Forestry	5,523,006	410,785	5,112,221	(b)	5,112,221
Fishing and Whaling	3,264,846	39,548	3,225,298	236,775	2,988,523
Mining and Quarrying	22,191,062	1,211,636	20,979,426	6,090,625	14,888,801
Total, Primary (a)	133,522,113	11,153,713	122,368,400	30,830,142	91,538,258

(a) Excludes amount paid as distribution of profits from Wool Disposal Plan.

(b) Not available.

Gross values of the principal commodities are shown in the next table for each of the years 1953-54 to 1957-58.

GROSS VALUES OF PRODUCTION—PRINCIPAL PRIMARY COMMODITIES

Commodity	1953-54	1954-55	1955-56	1956-57	1957-58
	£'000	£'000	£'000	£'000	£'000
Wool (Shorn and Dead) (a)	40,739	33,529	34,384	44,716	37,383
Wheat	27,712	21,827	34,420	22,027	22,956
Gold (b)	13,299	13,314	13,375	13,202	13,817
Livestock Slaughtered	12,171	12,280	12,496	14,164	12,361
Whole Milk (b)	5,796	6,050	6,192	6,401	6,341
Oats	2,925	3,093	5,350	3,695	6,137
Forest Products	3,839	4,058	5,237	5,153	5,523
Hay	2,946	2,781	3,076	2,626	3,733
Orchard Fruit, including Plantation and Berry Fruit	3,111	4,201	4,074	3,974	3,720
Vegetables	3,628	3,572	3,982	4,237	3,279
Coal	3,073	3,589	3,089	2,724	2,553
Eggs (c)	2,337	2,054	2,016	2,186	2,093
Barley	1,266	1,554	2,135	1,853	1,879
Crayfish	922	1,091	1,228	1,355	1,721
Quarry Products	1,344	1,564	1,606	1,600	1,275
Asbestos	707	556	502	826	1,238
Manganese Ore	151	608	498	738	1,162
Vine Fruits	572	578	623	621	672
Fish (including Crabs, Prawns and Oysters) (d)	487	519	601	605	658
Pearls and Pearl-shell	287	358	416	591	615
Tobacco	414	407	380	413	527
Iron Ore	710	654	540	338	429
Ilmenite Concentrates ....	....	....	....	15	412
Pyritic Ore and Concentrates	490	441	397	420	383
Poultry	593	551	537	(e) 255	351
Lead and Silver-Lead Ore and Concentrates	364	103	96	646	316
Honey and Bees-wax	234	106	217	285	(f) 264

(a) 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. (b) Includes Commonwealth Government subsidy. (c) Includes estimated value of non-commercial production. (d) Excludes crayfish, for which separate values are shown above. (e) Decrease due to alteration in method of valuation. (f) Excludes value of production of bee keepers with less than five hives.

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.

Crop	Period	
	Sowing or Planting	Harvesting
Grain—		
Wheat	May to June	November to January
Oats	April to June	November to December
Barley	April to June	November to December
Rye	April to June	November to December
Hay—		
Wheaten	May to June	October to November
Oaten	April to June	October to November
Tobacco	October to November	January to March
Flax	May to June	November 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
Nectarines	July	January to February
Oranges, Navel	July to August	May to September
„ 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 July	January to March
For Wine Making	June to July	February to March
For Drying	June to July	February to March
Shearing and Lambing—		
Shearing :		
Pastoral Areas	March to August	
Agricultural Areas	July to November	
Lambing :		
Whole State	April to July	

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	Loquats	45	Pears	45
Apricots	48	Maize	56	Peas, Field	60
Bananas	56	Mandarins	48	Plums	58
Barley	50	Nectarines	50	Quinces	42
Cherries	48	Oats	40	Rye	60
Figs	44	Oranges	48	Tomatoes	44
Grapefruit	42	Passion Fruit	34	Wheat	60
Lemons	48	Peaches	45		

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 to 3,955,763 acres in 1930 which is the highest acreage yet attained. 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.



HARVESTING A WHEAT CROP

In 1930, a record 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 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. In subsequent years it declined slightly but remained fairly constant at about three million acres, the smallest area sown being 2,764,486 acres in 1956. 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.

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 showing the estimated total wheat equivalent. In recent years the United Kingdom has been the most important and consistent purchaser of the State's wheat. In 1957-58 New South Wales experienced drought conditions and as a result imported almost eight million bushels of Western Australian wheat, other important buyers in that year being Japan, Pakistan and Hong Kong. In the same year principal customers for flour were Singapore, Indonesia, Malaya, Ceylon and Burma. Fuller details of exports appear in Chapter IX—*Trade, Transport and Communication*.

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

(Including Ships' Stores)

Year	Wheat	Flour	Estimated Total Wheat Equivalent
	bushels	tons (a)	bushels
1910	2,014,552	3,082	2,159,547
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	19,647,138
1948-49	18,401,445	131,614	24,587,303
1949-50	21,510,390	116,199	26,971,743
1950-51	30,510,360	160,228	38,041,039
1951-52	*26,822,885	161,974	34,435,663
1952-53	23,318,935	176,030	31,620,545
1953-54	6,800,140	148,467	13,778,089
1954-55	19,334,742	120,711	25,008,159
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

(a) Short ton = 2,000 lb. * Revised

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 1953-54 to 1957-58 which, with the approval of the growers, was established under joint Commonwealth and State legislation to replace similar legislation which expired after the marketing of the 1952-53 crop. The principal object of the Plan is to ensure, in the event of falling prices, that 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.

In 1957 the Commonwealth Parliament passed the Wheat Tax Act providing for a levy of $\frac{1}{4}$ d. per bushel on wheat delivered to the Australian Wheat Board. This money, contributed by the growers, is to be 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 £284,000 made available, under the provisions of the Wheat Acquisition (Undistributed Moneys) Act 1958, from funds held by the Australian Wheat Board.

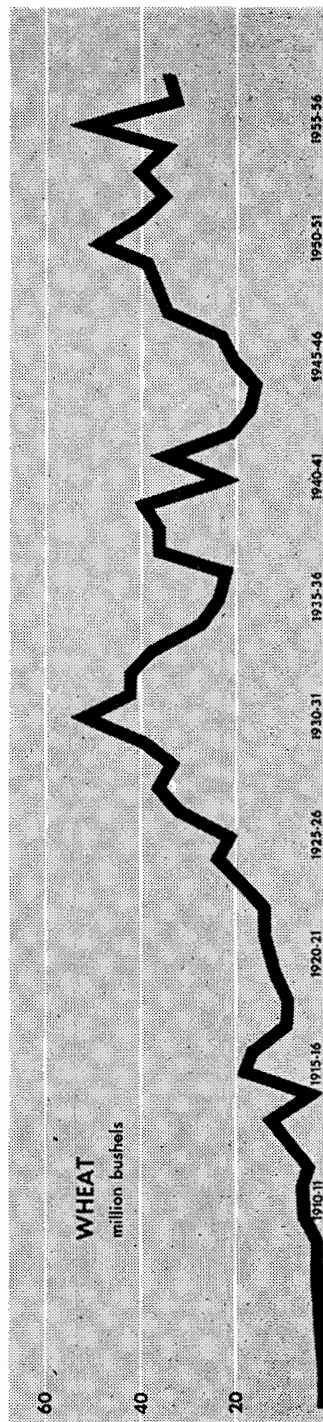
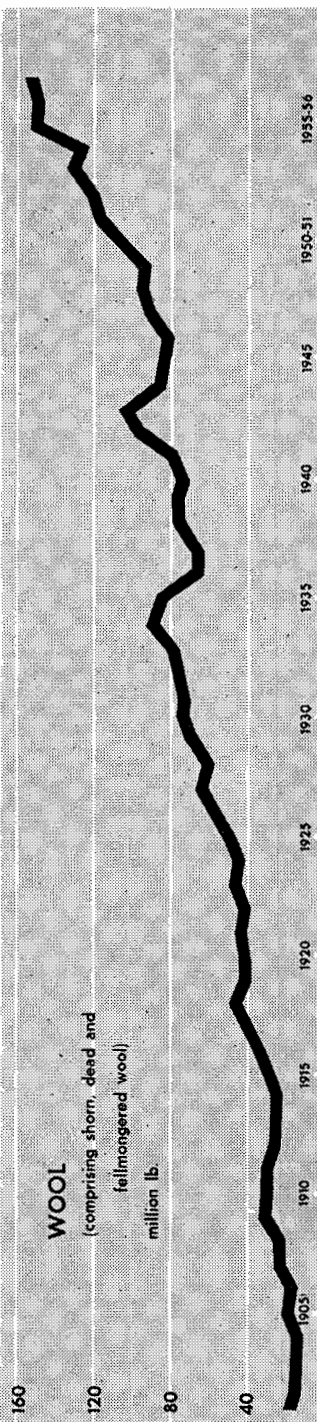
The following table gives details of areas sown and of wheat production since 1900.

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	£ 154,931
1905-06	195,071	2,308,305	11.8	425,594
1910-11	581,862	5,897,540	10.1	1,081,216
1915-16	1,734,117	18,236,355	10.5	3,267,347
1920-21	1,275,675	12,248,080	9.6	5,511,636
1925-26	2,112,032	20,471,177	9.7	6,418,567
1930-31	3,955,763	53,504,149	13.5	6,100,588
1935-36	2,540,696	23,315,417	9.2	4,873,641
1940-41	2,625,401	21,060,000	8.0	4,323,953
1945-46	1,835,780	20,929,000	11.4	7,935,371
1948-49	2,867,517	36,250,000	12.6	21,061,007
1949-50	2,894,020	38,500,000	13.3	25,669,588
1950-51	3,185,389	49,900,000	15.7	32,664,123
1951-52	3,094,536	40,000,000	12.9	29,492,155
1952-53	2,999,475	35,458,000	11.8	27,596,965
1953-54	2,885,114	39,700,000	13.8	27,711,647
1954-55	2,979,151	34,300,000	11.5	21,827,313
1955-56	2,889,585	53,250,000	18.4	34,419,861
1956-57	2,764,486	32,100,000	11.6	22,027,312
1957-58	2,957,206	33,100,000	11.2	22,956,217

In the following tables, holdings growing wheat for grain and the acreages sown are classified in area groups according to the total acreage of the holding and to the acreage sown to wheat for grain during 1955-56, the latest season for which such information is available. Of the 21,323 rural holdings of all types, wheat for grain was grown on 8,295. Holdings of between 1,000 and 5,000 acres accounted for 79 per cent. of this number and for 72 per cent. of the total area sown, and those which sowed between 200 and 1,000 acres for 66 per cent. of the number and 79 per cent. of the area.

Wool and Wheat — Annual Production, 1901 to 1957-58



HOLDINGS GROWING WHEAT FOR GRAIN, CLASSIFIED ACCORDING TO ACREAGE SOWN AND SIZE OF HOLDING—SEASON 1955-56

Area Series—Total Area of Holding (Acres)		Area Series—Area Under 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	
NUMBER OF HOLDINGS																
1-49	4	5	3	4	2	1	3	1	1	1	1	1	1	7	4,505	
50-99	1	1	3	1	3	1	1	1	1	1	1	1	1	12	688	
100-149	1	4	4	5	2	2	7	1	1	1	1	1	1	10	728	
150-199	3	4	5	4	6	3	13	1	1	1	1	1	1	19	729	
200-299	4	4	3	9	9	18	2	6	2	1	1	1	1	24	1,136	
300-399	4	5	3	6	6	13	4	8	3	1	1	1	1	32	804	
400-499	4	7	3	5	5	23	11	8	3	1	1	1	1	45	588	
500-599	4	6	6	5	5	11	12	10	3	1	1	1	1	57	472	
600-699	4	6	5	5	9	11	12	10	3	1	1	1	1	75	396	
700-799	6	5	6	10	10	22	29	30	27	8	1	1	1	84	333	
800-899	7	11	13	13	11	22	30	30	27	36	10	1	1	149	367	
900-999	10	9	12	12	9	28	30	76	129	36	10	1	1	232	392	
1,000-1,399	25	30	23	51	61	123	121	271	353	196	92	6	5	1,937	1,585	
1,400-1,999	26	30	29	54	58	136	99	330	423	390	359	76	16	1,470	1,976	
2,000-2,999	30	29	35	60	60	135	147	374	423	390	359	76	16	2,188	2,679	
3,000-3,999	14	18	11	15	19	33	60	164	218	173	281	122	25	1,203	1,458	
4,000-4,999	4	9	3	7	10	13	41	88	115	105	151	126	25	723	849	
5,000-9,999	4	7	3	8	7	9	26	76	83	92	164	190	153	976	976	
10,000 and over	1	1	3	2	1	1	6	12	16	10	23	35	39	181	722	
Total	151	182	162	271	278	288	648	1,447	1,380	1,011	1,082	558	238	31	8,295	21,323

AREAS UNDER WHEAT FOR GRAIN, CLASSIFIED ACCORDING TO ACREAGE SOWN AND SIZE OF HOLDING—SEASON 1955-56

Area Series—Area Under Wheat for Grain (Acres)															Total
Area Series—Total Area of Holding (Acres)															Total
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
AREA OF WHEAT FOR GRAIN															
1-49	18	66	140	110	73	340	150	270	300	300	400	500	770	84	275
50-99	4	80	45	110	73	340	150	270	300	300	400	500	770	322	954
100-149	8	50	174	174	147	340	150	270	300	300	400	500	770	1,301	2,345
150-199	14	63	115	116	180	847	190	200	300	300	400	500	770	3,231	5,499
200-299	22	15	194	332	180	1,448	310	645	1,401	1,401	1,401	1,401	1,401	7,063	10,238
300-399	21	77	195	515	235	1,448	310	645	1,401	1,401	1,401	1,401	1,401	10,238	40,380
400-499	24	82	195	315	557	1,520	645	1,401	1,401	1,401	1,401	1,401	1,401	17,626	378,422
500-599	20	72	125	287	556	2,549	1,825	2,035	2,340	2,340	2,340	2,340	2,340	713,453	378,422
600-699	20	64	125	532	728	1,258	2,019	2,340	2,340	2,340	2,340	2,340	2,340	483,841	329,155
700-799	37	143	378	532	803	2,525	4,771	6,601	900	400	500	770	770	626,418	193,682
800-899	53	257	521	606	864	3,360	5,130	17,938	8,838	3,270	500	500	500	40,880	20,246
900-999	151	412	1,954	3,389	4,605	14,469	20,555	64,030	41,398	14,989	5,298	865	865	172,626	172,626
1,000-1,399	158	373	2,055	3,285	4,755	16,095	16,705	78,963	117,161	83,726	50,190	4,288	4,288	378,422	378,422
1,400-1,999	154	364	2,238	3,335	5,226	15,676	25,019	89,417	140,920	187,643	199,967	57,400	5,352	713,453	713,453
2,000-2,999	63	233	528	1,030	2,673	6,886	9,783	39,421	73,155	74,852	159,718	95,978	19,275	483,841	483,841
3,000-3,999	28	109	245	528	1,030	4,540	4,332	21,434	38,337	44,717	86,775	100,777	26,166	329,155	329,155
4,000-4,999	23	93	255	550	1,070	4,540	4,332	21,434	38,337	44,717	86,775	100,777	26,166	626,418	626,418
5,000-9,999	20	93	328	370	714	3,203	2,986	18,223	27,591	39,715	93,882	152,329	47,600	525,418	525,418
10,000 & over	8	60	68	50	90	220	1,048	2,695	5,372	4,349	13,278	27,536	51,138	87,760	87,760
Total	899	3,573	10,158	15,498	23,274	75,036	95,798	344,968	457,907	483,661	609,608	440,913	284,256	91,760	2,889,585

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)								
1953-54	3,357	2,389	580	1,528	2,885	10	2	10,751
1954-55	2,919	2,390	688	1,689	2,979	7	1	10,673
1955-56	2,937	2,141	582	1,609	2,890	6	1	10,166
1956-57	1,742	1,565	360	1,438	2,765	4	—	7,874
1957-58	2,257	1,835	461	1,331	2,957	6	1	8,848
PRODUCTION OF WHEAT ('000 BUSHEL)								
1953-54	63,681	53,698	10,180	30,409	39,700	263	29	197,960
1954-55	37,718	48,484	16,478	31,463	34,300	158	15	168,616
1955-56	57,149	41,083	14,922	28,892	53,250	129	19	195,444
1956-57	28,490	35,282	7,061	31,432	32,100	89	1	134,455
1957-58	10,603	32,134	6,657	14,914	33,100	153	5	97,566
YIELD PER ACRE (BUSHEL)								
1953-54	19.0	22.6	17.6	19.7	13.8	27.2	18.5	18.4
1954-55	12.9	20.3	24.0	18.6	11.5	21.7	19.4	15.8
1955-56	19.4	19.2	25.7	18.0	18.4	20.7	25.6	19.2
1956-57	16.4	22.5	19.6	21.9	11.6	22.7	11.1	17.1
1957-58	4.7	17.5	14.5	11.2	11.2	26.1	8.9	11.0

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 1,153,492 in 1957.

In addition to their importance as local stock feed, oats are exported in substantial quantities. In 1957-58 the total sold to other Australian States and overseas was 1,868,496 bushels, the principal buyers being West Germany and the Netherlands. A small amount is processed locally into breakfast food.

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 Trustees of the Wheat Pool of Western Australia 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	£
1953-54	733,122	9,590,643	13.1	2,925,024
1954-55	873,588	9,584,659	11.0	3,092,929
1955-56	1,090,901	16,515,379	15.1	5,350,339
1956-57	1,051,486	10,441,534	9.9	3,694,598
1957-58	1,153,492	13,793,026	12.0	6,136,579

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 64,205 acres in 1948-49 to 307,404 acres in 1957-58. While a large amount of the grain produced is retained on farms for stock feed, a substantial surplus is available for export. In 1957-58 the quantity exported interstate and overseas was 1,124,032 bushels, almost all of which went

to West Germany and the Netherlands. Although both "two-row" and "six-row" barley is grown, only six-row grain is exported in any quantity, nearly all two-row grain which is marketed being consumed locally for malting or as stock feed.

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	£
1953-54	32,812	405,759	12·4	247,748	176,479	2,327,418	13·2	1,018,459
1954-55	55,300	625,566	11·3	419,518	204,388	2,179,140	10·7	1,134,729
1955-56	70,300	993,907	14·1	642,617	266,666	3,659,143	13·7	1,492,193
1956-57	78,764	936,067	11·9	579,005	264,826	2,814,444	10·6	1,274,268
1957-58	63,180	757,615	12·0	465,355	244,224	2,798,426	11·5	1,413,539

Other Grain and Pulse Crops

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	£
1953-54	7,835	47,109	6·0	19,236	4,259	32,055	7·5	64,110
1954-55	6,345	39,165	6·2	11,750	5,915	18,438	3·1	36,876
1955-56	6,662	54,396	8·2	18,359	5,358	54,573	10·2	81,860
1956-57	5,267	30,099	5·7	13,274	4,136	20,397	4·9	28,556
1957-58	8,868	62,583	7·1	35,801	3,855	15,444	4·0	25,483

Hay

The principal hay crop is oats and 193,440 tons were cut in 1957-58 from 179,607 acres. Wheat is the only other cereal crop which is used extensively for this purpose and in 1957-58 the production was 73,393 tons from 73,947 acres. Large quantities of meadow hay are cut from clover and grass pastures, production in 1957-58 being 109,302 tons from 76,375 acres. Barley, rye, lucerne and field peas are also used for hay making but they are of minor importance only.

HAY—AREA AND PRODUCTION

Season	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
1953-54	115,305	144,977	37,536	46,603	64,310	99,576	2,020	2,780	219,171	293,936
1954-55	134,482	130,113	99,377	94,005	49,012	74,888	6,458	6,046	289,329	305,052
1955-56	133,082	178,520	58,005	82,316	75,711	119,386	2,641	3,562	269,439	383,784
1956-57	119,899	121,311	49,782	52,319	68,689	110,507	3,847	4,342	242,217	288,479
1957-58	179,607	193,440	73,947	73,393	76,375	109,302	9,054	9,857	338,983	385,992

(a) Includes barley, rye, lucerne and field pea hay.

Green Feed

Large areas of oats are grown for use as green feed for stock. Other crops which are cultivated for this purpose, but to a far lesser extent, are barley, wheat, rye, peas, beans and maize. In 1957-58 the total area of crops used as green feed was 770,816 acres, of which 657,288 acres were under oats.

GREEN FEED—AREA GRAZED AND CUT

Season	Oats	Barley	Wheat	Peas and Beans	Rye	Maize	All Other Kinds (a)	Total
	acres	acres	acres	acres	acres	acres	acres	acres
1953-54	435,745	31,718	15,241	6,706	9,274	900	8,285	507,869
1954-55	540,952	47,364	21,784	9,778	9,877	982	8,461	639,198
1955-56	557,564	65,842	16,677	6,502	11,522	773	7,578	666,458
1956-57	639,442	66,742	17,974	9,684	9,677	737	7,895	752,151
1957-58	657,288	66,524	20,151	7,314	10,566	690	8,283	770,816

(a) Mainly sudan grass, lucerne, millet, rape, sorghum and elephant grass.

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 ryegrass 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 6.4 million acres in 1957-58. Almost three-quarters of the present acreage occurs in mixed wheat and sheep farming areas, a very large proportion being subterranean clover.

The top-dressing of pastures with superphosphate has developed to such an extent that this treatment is now general practice.

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 acreage 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. Some decline has occurred since then, production in 1957-58 being 1,030,588 lb. from 1,266 acres.

Prior to the war, leaf was purchased on the farms by tobacco manufacturers, but under the present system of marketing the sales are made by public auction.

TOBACCO—AREA AND PRODUCTION

Season	Area	Production		
		Total	Average Yield per acre	Gross Value
	acres	lb.	lb.	£
1953-54	1,434	912,163	636.1	414,257
1954-55	1,418	1,003,391	707.6	406,958
1955-56	1,235	721,426	584.2	379,618
1956-57	1,176	819,268	696.7	413,212
1957-58	1,266	1,030,588	814.1	526,651

Flax for Fibre

Although flax had been grown for fibre previously in Western Australia on a small scale, the first commercial production 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 Drakesbrook and Harvey Districts 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 Preston District and the other at Boyup Brook in the Upper Blackwood District. 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 is now centralized in the vicinity of Boyup Brook, where the only remaining mill is operated by a co-operative company which acquired it from the Commonwealth Government in 1949. Flax is grown as a rotational crop on mixed farms in the district and farmers own shares in the mill, at which all flax straw is retted and scutched before being sent to Victoria for spinning and weaving. Part of the seed which is produced each year as a by-product of fibre production is retained for the next season's planting and the remainder is sold for milling into linseed oil and meal.

Although diseases and insect pests have limited the yield per acre, the Western Australian Department of Agriculture has achieved considerable success in breeding rust-resistant varieties and these, used in conjunction with newly-developed insecticides, have resulted in a significant improvement in recent years.

FLAX FOR FIBRE—AREA AND PRODUCTION

Season						Production		
						Total	Average Yield per acre	Gross Value
						acres	tons	£
1953-54	....	....	....	....	....	3,105	4,470	57,091
1954-55	....	....	....	....	....	464	500	6,867
1955-56	....	....	....	....	....	1,594	1,875	26,813
1956-57	....	....	....	....	....	1,757	2,051	28,227
1957-58	....	....	....	....	....	1,002	1,246	18,233

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 2,700 bushels were harvested from 549 acres.

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 Drakesbrook, Harvey and Dardanup Districts and summer-moist areas in the Preston, Busselton, Manjimup and Albany Districts. Late crops are planted between mid-November and the end of April in approximately the same Districts as the mid-season crops.

Harvesting of the early crop begins in October and this and the mid-season crop produce a substantial export surplus, the bulk of which goes to the other Australian States with smaller but regular consignments being sent overseas, principally to Singapore. The Delaware variety is grown almost exclusively and average yields per acre as high as six to seven tons are obtained, which is almost twice the average for Australia as a whole. This may be attributed in part to the fact that the Delaware is naturally a high-yielding variety but other important factors are the very favourable climatic conditions, the liberal use of fertilizer and the high standard of seed which is maintained.

Potato production in Western Australia is controlled, under the provisions of the Marketing of Potatoes Act, 1946-1957, 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.

POTATOES—AREA AND PRODUCTION

Season	Area	Production		
		Total	Average Yield per acre	Gross Value
	acres	tons	tons	£
1953-54	8,068	53,708	6.7	1,595,023
1954-55	7,563	43,565	5.8	1,174,840
1955-56	6,826	42,079	6.2	1,407,351
1956-57	8,558	53,741	6.3	1,981,504
1957-58	8,322	49,229	5.9	1,385,632

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. In addition, small areas of onions are planted in the South-West and in the York and Kalgoorlie Districts. The total area planted has declined from the post-war peak figure of 499 acres in 1948-49. In 1957-58 the area was 415 acres for a production of 4,149 tons, or an average of 10.0 tons per acre.

Onions are imported annually into Western Australia during the months of May to October but a surplus is produced locally during the summer months and is exported overseas, mainly to Singapore, as well as to the other Australian States. Sales are controlled by the Western Australian Onion Marketing Board under the provisions of the Marketing of Onions Act, 1938-1956, 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	£
1953-54	375	4,626	12.3	145,141
1954-55	390	4,322	11.1	134,270
1955-56	321	3,548	11.1	174,488
1956-57	428	4,606	10.8	144,283
1957-58	415	4,149	10.0	100,170

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 in recent years have established an export trade with Singapore. Production of early tomatoes is also becoming important at Carnarvon, which is further north.

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 at Kalgoorlie but production is comparatively small.

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 1957-58 was 7,979 tons from 1,007 acres, an average of 7.9 tons per acre.

TOMATOES—AREA AND PRODUCTION

Season	Area	Production		
		Total	Average Yield per acre	Gross Value
	acres	tons	tons	£
1953-54	899	6,634	7.4	508,039
1954-55	1,037	7,351	7.1	715,597
1955-56	1,047	7,812	7.5	758,854
1956-57	1,135	8,128	7.2	574,192
1957-58	1,007	7,979	7.9	419,324

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 close 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.

Details of production of the principal varieties in the seasons 1953-54 to 1957-58 appear in the following tables.

TURNIPS, CARROTS, PARSNIPS, BEETROOT—AREA AND PRODUCTION

Season	Turnips			Carrots			Parsnips			Beetroot		
	Area	Production		Area	Production		Area	Production		Area	Production	
		Quan- tity	Gross Value		Quan- tity	Gross Value		Quan- tity	Gross Value		Quan- tity	Gross Value
	acres	cwt.	£	acres	cwt.	£	acres	cwt.	£	acres	cwt.	£
1953-54	255	21,535	31,081	361	66,927	87,708	182	24,428	64,246	150	21,465	43,145
1954-55	251	19,597	26,769	338	62,726	105,913	142	18,750	54,825	152	20,671	42,489
1955-56	311	24,708	45,066	363	66,574	141,192	172	22,469	79,578	151	21,892	36,240
1956-57	262	24,209	28,004	364	69,173	89,925	154	18,035	52,076	163	21,708	38,712
1957-58	238	20,244	31,950	342	64,459	116,295	162	19,857	60,150	153	20,978	44,403

PUMPKINS, BEANS, GREEN PEAS—AREA AND PRODUCTION

Season	Pumpkins			Beans						Green Peas		
				Runner			French					
	Area	Production		Area	Production		Area	Production		Area	Production	
		Quan- tity	Gross Value		Quan- tity	Gross Value		Quan- tity	Gross Value		Quan- tity	Gross Value
1953-54	acres	cwt.	£	acres	cwt.	£	acres	cwt.	£	acres	cwt.	£
1954-55	995	58,057	61,824	538	40,429	268,853	79	3,234	17,477	751	18,352	120,071
1955-56	1,243	76,136	121,475	686	41,757	390,901	85	2,829	15,275	966	19,293	135,321
1956-57	1,222	65,305	82,529	707	46,262	313,040	73	2,798	16,322	964	19,317	153,248
1957-58	1,055	91,221	122,388	840	61,463	370,007	93	3,595	18,454	1,133	21,877	147,013
1957-58	935	58,129	49,410	793	60,011	280,051	69	2,861	12,016	1,121	19,659	155,961

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.	£
1953-54	435	87,032	138,242	578	96,424	176,275	385	74,225	192,312
1954-55	429	75,383	88,258	554	98,410	158,317	391	57,493	184,187
1955-56	403	75,295	119,468	612	97,660	201,424	404	58,250	178,968
1956-57	386	72,951	69,303	628	103,713	180,850	430	64,662	162,193
1957-58	366	76,551	80,735	611	98,620	137,758	418	66,753	171,332

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 1953-54 to 1957-58.

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
	acres	£	acres	£	acres	£	acres	£	acres	£
1953-54	13,391	1,936,566	4,702	556,445	2,327	398,605	1,122	219,092	21,542	3,110,708
1954-55	13,321	2,712,486	4,709	676,220	2,345	426,062	1,100	386,690	21,475	4,201,458
1955-56	13,512	2,558,388	4,943	760,039	2,484	461,338	1,004	293,785	21,943	4,073,550
1956-57	13,752	2,760,811	4,944	634,498	2,520	396,644	824	182,216	22,040	3,974,169
1957-58	13,913	2,540,925	4,988	592,033	2,458	358,850	833	228,272	22,192	3,720,080

(†) Excluding grapes. (a) Apples, pears and quinces. (b) 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.

Apples

Apples, which are the principal fruit crop, account for about half the total orchard area. Bridge-town, Mount Barker, Donnybrook and Manjimup are the most important centres but other districts in the south-west and in the Darling Range near Perth produce large quantities. In 1957-58 the total area of bearing trees was 11,018 acres which produced 1,359,458 bushels, the principal varieties being Granny Smith, Cleopatra, Jonathan, Yates, Delicious and Dougherty.

The export trade, which declined during the war, has now been re-established and oversea shipments average about one million bushels annually. The United Kingdom is the most important market while Sweden and Singapore are also consistent buyers.

APPLES—AREA AND PRODUCTION

Season	Area		Production		
	Trees of Bearing Age	Young Trees not Bearing	Total	Average Yield per acre (a)	Gross Value
	acres	acres	bushels	bushels	£
1953-54	11,148	1,184	1,170,030	105·0	1,766,742
1954-55	11,136	1,135	1,704,635	153·1	2,457,891
1955-56	11,252	1,213	1,516,231	134·8	2,348,179
1956-57	11,251	1,469	1,687,658	150·0	2,542,924
1957-58	11,018	1,874	1,359,458	123·4	2,336,583

(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 1957-58 being 852 acres and the production 98,672 bushels.

The bulk of the crop is consumed locally but small quantities are exported, principally to the United Kingdom and Singapore.

PEARS—AREA AND PRODUCTION

Season	Area		Production		
	Trees of Bearing Age	Young Trees not Bearing	Total	Average Yield per acre	Gross Value
	acres	acres	bushels	bushels	£
1953-54	856	169	99,807	116·6	167,075
1954-55	875	139	147,600	168·7	251,147
1955-56	855	158	99,443	116·3	206,308
1956-57	861	139	151,450	175·9	214,688
1957-58	852	139	98,672	115·8	200,619

Citrus Fruit

While the Chittering District is the chief citrus fruit producer, there are other important areas in the Darling Range near Perth and in the Swan, Murray, Harvey, Capel and Preston Districts. Although oranges are by far the most important crop and account for over 80 per cent. of the total area, substantial quantities of lemons, grapefruit and mandarins are also produced.

Production is largely for local consumption but in recent years an export trade has been developed, mainly with Singapore.

The following tables give details of production of each type for the years 1953-54 to 1957-58.

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	£
1953-54	3,197	587	443,373	448,694	180	37	21,599	32,159
1954-55	3,271	529	403,697	554,494	183	35	15,342	33,582
1955-56	3,357	614	424,456	603,998	183	56	19,719	40,188
1956-57	3,362	611	356,778	510,881	181	65	15,145	35,073
1957-58	3,358	658	439,939	477,604	179	78	22,266	40,342

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	£
1953-54	473	76	94,912	53,862	145	7	24,499	21,730
1954-55	475	70	83,185	68,042	139	7	21,992	20,102
1955-56	495	88	87,735	94,008	141	9	27,326	21,845
1956-57	497	83	87,498	69,950	139	6	20,904	18,594
1957-58	488	91	128,496	58,688	129	7	23,374	15,399

(a) Principally grapefruit.

Stone Fruits

Plums, peaches, apricots, nectarines and cherries are grown in the hills districts near Perth, in the Swan Valley and in many districts in the South-West. The total area under stone fruit in 1957-58 was 2,458 acres, comprising 1,010 acres of plums, 815 of peaches, 399 of apricots, 194 of nectarines and 40 of cherries. The bulk of the stone fruit crop is consumed locally but shipments of plums are sent overseas, mainly to Singapore.

The following tables give details of production of the principal stone fruits for the five years 1953-54 to 1957-58.

PLUMS AND PEACHES—AREA AND PRODUCTION

Season	Plums (a)				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	£
1953-54	712	176	81,211	142,782	671	122	72,736	129,777
1954-55	721	177	71,780	144,020	657	141	83,391	142,691
1955-56	735	233	72,974	159,125	662	183	65,100	143,220
1956-57	747	264	88,037	146,986	679	171	79,664	109,564
1957-58	749	261	80,589	142,100	659	156	77,393	101,471

(a) Including prunes.

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	£
1953-54	369	40	48,140	77,827	175	25	18,810	34,067
1954-55	362	41	48,982	87,079	182	26	22,541	39,698
1955-56	372	51	42,408	98,716	185	26	20,690	47,817
1956-57	366	50	53,716	96,092	180	23	20,349	34,028
1957-58	351	48	41,172	79,599	165	29	19,300	30,237

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 supplies and in the increase in the salt content of the underground water during long dry periods. During 1956-57 these conditions forced many growers to curtail activities and in some instances to abandon the whole or part of their plantations. During the same season, cyclonic winds caused considerable damage.

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	Gross Value
	acres	acres	bushels	bushels	£
1953-54	368	188	41,757	113·5	187,907
1954-55	430	133	76,674	178·3	345,033
1955-56	401	89	68,538	170·9	248,448
1956-57	245	86	34,138	139·3	136,550
1957-58	224	133	43,756	195·3	173,566

Vineyards

More than two-thirds of the State's 9,000 acres of grape vines are in the Swan District, other important centres being Chittering, Wanneroo, Gosnells, Mundaring, Northam and Toodyay.

The area of vines for the production of dried currants, sultanas and table raisins has declined over the past ten years from 5,824 acres in 1948-49 to 4,485 acres in 1957-58 but it still represents nearly half the total area under grapes. Currants are the main item of production and a high percentage of the crop is exported to the other Australian States and overseas, the United Kingdom being the principal buyer. Production of sultanas and table raisins is of minor importance and exports are negligible.

Table grapes are grown for the local market and for export overseas, mainly to Singapore and Ceylon. 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 (a)	Gross Value	
	acres	acres	tons	£	acres	acres	tons	£	gallons
1953-54	3,623	570	6,086	344,371	4,355	654	2,543	227,387	504,112
1954-55	3,659	572	5,942	364,340	4,375	409	2,232	213,204	528,653
1955-56	3,923	484	6,750	364,374	4,346	354	2,558	258,353	539,712
1956-57	3,988	483	7,592	387,939	4,246	279	2,196	233,075	654,011
1957-58	4,045	493	6,981	411,069	4,223	262	2,247	260,607	526,032

(a) Packed weight

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 Coolgardie, Kalgoorlie, Laverton, Leonora and Menzies Statistical Districts, 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 Dundas, Esperance, Phillips River and Yilgarn Districts of 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 driving.

Pastoral production, comprising the production of meat as well as wool, now contributes more than one-third of the total net value of Western Australian primary production. It is no longer confined mainly to the pastoral areas but extends also to most of the agricultural areas of the State.

Sheep

The present distribution of sheep in the State is the result of two opposite trends operating over many years. In the pastoral, or station, areas where the industry is based on long term pastoral leases, severe droughts have led to a decline in the number of sheep, although a slight recovery has taken place in recent years. In the agricultural, or farming, areas however the sheep population has steadily risen. Factors contributing to this rise, particularly since the war, have been the increasing use of subterranean 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, 1958 the State total was 15·7 million or 6·0 million more than the total at the same date in 1946. Numbers in the agricultural areas increased from 7 million, or 72 per cent. of the State total, to nearly 13 million or 81 per cent. They also increased in the pastoral areas from 2·7 million to 3·0 million, but as a percentage of the State total this represents a decline from 28 per cent. to 19 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

An analysis of collected data relating to breeds of sheep as at the 31st March, 1956 showed that Merinos accounted for 92 per cent. of the total. Corriedales, Polwarths and British breeds, the most important of which are Romney Marsh, South Down, Dorset Horn, Border Leicester and English Leicester, 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 1956 comprised about 15 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. In recent years, however, farmers have shown renewed interest and the quantity of lamb exported overseas has risen appreciably.

The following table shows the numbers of each breed of sheep in the State at the 31st March, 1956, the latest date for which this information is available.

BREEDS OF SHEEP AT 31st MARCH, 1956

Breed	Rams (One Year and Over)	Other Sheep	Total
Merino	No. 159,967	No. 12,827,790	No. 12,987,757
Other Recognized Breeds—			
Corriedale	8,412	332,741	341,153
Romney Marsh	3,438	26,268	29,706
South Down	6,924	14,710	21,634
Dorset Horn	4,977	12,514	17,491
Border Leicester	2,019	13,317	15,336
English Leicester	714	5,648	6,362
Polwarth	75	2,291	2,366
Suffolk	539	1,365	1,904
Shropshire	538	1,186	1,724
Ryeland	240	661	901
Other	31	77	108
Total: Other Recognized Breeds	27,907	410,778	438,685
Merino Comeback (a)	21	139,737	139,758
Crossbreds (b) and Other Mixed Breeds	399	561,569	561,968
Total: All Sheep	188,294	13,939,874	14,128,168

(a) Finer than half-bred.

(b) Half-bred Merino and coarser.

SHEEP FLOCKS AS AT 31st MARCH, 1956, CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF FLOCK

Area Series— Total Area of Holding (Acres)	Size of Sheep Flock (Numbers)															Total All Rural Hold- ings	
	NUMBER OF FLOCKS																
	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	Total Flocks
1- 99	206	44	28	3	...	1	...	...	...	...	...	...	...	...	...	...	282
100- 199	81	46	67	22	...	3	...	...	...	...	...	...	...	...	...	...	231
200- 299	80	38	57	38	12	7	6	1	...	...	...	...	...	...	...	...	240
300- 399	68	28	47	33	25	18	11	3	1	...	...	...	...	...	...	...	234
400- 499	56	22	33	41	30	33	19	6	4	...	...	...	...	...	...	...	229
500- 599	32	14	25	31	25	53	31	17	2	...	...	...	...	...	...	...	210
600- 699	35	28	47	52	71	53	68	52	18	...	...	...	...	...	...	...	424
700- 799	33	11	50	50	86	87	159	99	29	...	...	...	...	...	...	...	749
800- 999	28	25	58	71	109	170	348	307	144	...	...	...	...	...	...	...	592
1,000- 1,399	28	12	37	82	80	102	379	595	365	134	53	...	...	...	...	...	1,535
1,400- 1,999	20	11	27	37	80	83	265	712	747	333	112	...	...	...	...	...	1,784
2,000- 2,999	15	12	21	54	67	82	160	404	590	486	204	...	...	...	...	...	2,446
3,000- 4,999	12	7	22	43	33	52	184	237	206	101	19	...	...	...	...	...	2,070
5,000- 9,999	6	3	2	2	...	4	...	7	15	40	34	...	...	...	...	...	976
10,000-19,999	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	185
20,000-49,999	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	63
50,000 and over	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	52
Total	674	292	487	489	566	647	1,492	2,293	2,102	1,314	631	290	201	97	25	2	11,602
																	21,323

SHEEP AS AT 31st MARCH, 1956, CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF FLOCK

Area Series— Total Area of Holding (Acres)		Size of Sheep Flock (Numbers)															Total
		NUMBER OF SHEEP															
		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	2,899	3,151	3,478	680	....	452	....	....	....	....	....	....	....	....	....	....	10,660
100-199	1,544	3,170	9,375	5,379	3,703	1,256	500	....	....	....	....	....	....	....	....	....	25,127
200-299	1,675	2,740	9,567	8,303	4,133	3,044	3,235	800	1,045	....	....	....	....	....	....	....	33,994
300-399	1,294	2,008	6,517	8,106	8,539	8,006	6,277	2,446	4,350	....	....	....	....	....	....	....	44,293
400-499	1,087	1,551	4,759	9,924	10,155	8,119	10,708	4,952	4,359	....	....	....	....	....	....	....	55,614
500-599	915	1,079	7,869	12,769	8,359	14,571	17,184	13,400	2,245	....	....	....	....	....	....	....	69,190
600-799	702	2,112	7,060	12,757	24,409	23,466	39,498	42,022	14,813	7,730	....	....	....	....	....	....	174,568
800-999	691	817	4,421	12,415	29,996	38,333	92,295	80,727	33,673	12,699	....	....	....	....	....	....	306,067
1,000-1,399	700	1,868	8,679	17,811	37,643	75,801	206,063	250,174	183,894	83,549	16,109	....	....	....	....	....	882,591
1,400-1,999	480	877	5,528	9,318	27,378	46,802	159,861	493,920	417,965	215,385	57,592	....	....	....	....	....	1,503,511
2,000-2,999	441	762	4,992	13,438	23,330	36,759	159,861	597,505	868,196	636,662	255,157	67,192	....	....	....	....	2,594,095
3,000-4,999	299	671	3,211	10,658	11,519	22,748	95,242	345,605	694,074	797,117	480,411	199,585	....	....	....	....	2,676,401
5,000-9,999	215	552	1,004	2,503	4,070	7,506	20,533	71,142	215,023	395,430	492,523	371,473	....	....	....	....	1,702,577
10,000-19,999	....	143	297	463	1,378	429	4,174	6,003	16,837	68,075	93,301	133,126	....	....	....	....	543,208
20,000-49,999	....	65	....	....	....	....	....	2,720	3,638	1,468	37,718	57,645	....	....	....	....	206,218
50,000 and over	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3,350,053
Total	12,637	21,116	71,734	121,085	194,986	287,212	886,439	1,913,939	2,441,498	2,148,593	1,490,515	1,094,167	1,379,585	1,265,155	677,416	121,991	14,128,168



Above—Sheep shearing

Below—Wool prepared for buyers' inspection



In the preceding tables, sheep flocks and sheep numbers are classified according to the total area of the holding and the size of the flock at the 31st March, 1956, the latest date for which these particulars have been tabulated. Of the 21,323 rural holdings of all types, sheep were carried on 11,602. Holdings of between 1,000 and 5,000 acres accounted for 66 per cent. of the flocks and for 54 per cent. of all sheep, and those which carried between 500 and 2,000 sheep for 62 per cent. of the flocks and for 52 per cent. of all sheep.

Wool

During the ten years from 1948 to 1957 the total wool production rose from 99·4 million lb. to 158·3 million lb. Shorn wool in 1957 amounted to 149·1 million lb. and was a record for the State. It was shorn from 16·5 million sheep and lambs, the average weight per fleece being 9·0 lb. The balance of the 1957 production consisted of 108,000 lb. of dead wool, 1,793,000 lb. of fellmongered wool and 7,255,000 lb. of wool exported on skins.

During the war years wool was compulsorily acquired by the Commonwealth Government in accordance with an agreement with the United Kingdom. The scheme was administered by the Central Wool Committee and the price paid was determined by a system of appraisalment which, however, operated within limits agreed upon by the two Governments. During this period large stocks of wool were accumulated and after the war an 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 were resumed in Perth in 1946. These sales, which are attended by Australian and overseas buyers who bid for individual lots, are now firmly re-established but a portion of the clip is purchased on farms by wool buyers who deal direct with producers. In September, 1957, auctions were held at Albany for the first time.

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	Total (c)
	'000	'000	'000	lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
1948	9,224	2,200	11,424	8·1	92,909	91	769	5,660	99,429
1949	9,531	2,059	11,590	7·9	90,902	98	1,750	6,139	98,889
1950	9,867	2,264	12,131	8·3	100,968	132	1,811	4,430	107,341
1951	10,403	2,513	12,916	8·8	114,106	182	1,854	(b) 4,259	120,401
1952	10,929	2,539	13,468	8·8	118,138	158	2,430	(b) 7,422	128,148
1953	11,312	2,655	13,967	9·1	126,513	134	2,317	(b) 5,478	134,442
1954	11,724	2,643	14,367	8·4	121,000	125	3,048	(b) 5,489	129,662
1955	12,232	2,661	14,893	9·8	146,196	93	3,475	(b) 6,690	156,454
1956	12,768	3,158	15,926	9·2	145,797	115	2,462	(b) 8,028	156,402
1957	13,317	3,182	16,499	9·0	149,125	108	1,793	(b) 7,255	158,281

(a) From 1949, year ended 31st March of the year following.
(c) See notes (a) and (b).

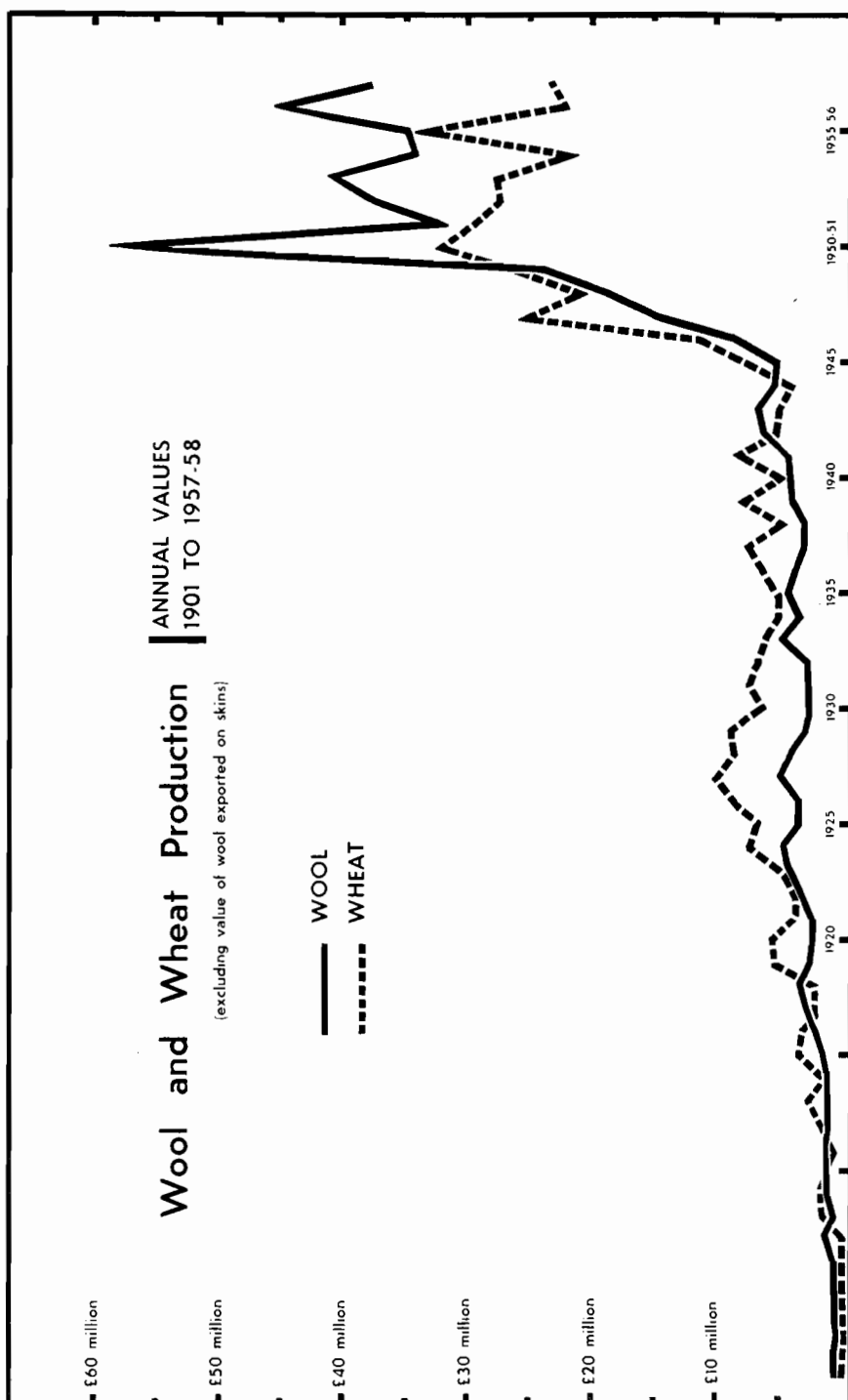
(b) Year ended 30th June of the year following.

GROSS VALUES OF WOOL PRODUCTION

Year	Shorn and Dead Wool (a)	Fellmongered Wool (b)	Wool Exported on Skins	Total (c)
	£	£	£	£
1948	18,731,323	128,884	1,139,995	20,000,202
1949	23,342,869	275,803	1,574,746	25,193,418
1950	57,995,339	1,088,598	2,541,239	61,575,176
1951	31,502,291	511,235	(b) 1,173,952	33,187,478
1952	37,115,080	445,641	(b) 1,603,847	39,164,568
1953	40,739,053	544,284	(b) 1,239,515	42,522,852
1954	33,528,921	403,643	(b) 1,020,168	35,012,732
1955	34,383,966	430,981	(b) 1,059,795	35,880,742
1956	44,716,312	425,311	(b) 1,823,357	46,964,980
1957	37,382,713	231,372	(b) 1,595,142	39,209,227

(a) From 1949, year ended 31st March of the year following.
(c) See notes (a) and (b).

(b) Year ended 30th June of the year following.



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 1957-58 exports of greasy and scoured wool were 96·5 million lb. and 18·6 million lb. respectively. The United Kingdom was the most important buyer but France, West Germany, Italy, Japan, Poland, the United States of America and Czechoslovakia provided valuable markets. Exports to the Australian States are not of major importance and in 1957-58 shipments were only 2·2 million lb.

Beef Cattle

The main centres of beef production are in the Kimberley Statistical Division, which in 1958 carried 512,620 head of beef cattle or 66 per cent. of the State total. Other pastoral areas carried 53,530 head and agricultural areas 205,372.

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 beef cattle. 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 Wyndham and Broome and these ports ship most of the beef exported overseas, either direct or by trans-shipment at Fremantle. In recent years there have been some shipments of live cattle from Derby to the Philippines and in 1957-58 a smaller number were sent from Broome.

A serious problem in the northern areas is the substantial loss of weight which is sustained in droving to the ports, and to minimize this loss some cattle are slaughtered inland at Glenroy Station and the carcasses are transported to the freezing works by air.

Although some beef cattle are shipped from northern ports for slaughtering and consumption in the metropolitan area, by far the greater proportion of the local demand in the southern part of the State is supplied from the agricultural areas. Much of this beef comes from culled stock from dairy herds. As indicated in the following table, the agricultural areas have become increasingly important in recent years as a source of beef supply.

BEEF CATTLE—NUMBERS AND DISTRIBUTION

As at 31st March—	In Agricultural Areas		In Pastoral Areas		State Total
	Number	Proportion of State Total (per cent.)	Number	Proportion of State Total (per cent.)	
1949	83,210	13·1	550,928	86·9	634,138
1950	86,877	13·6	551,646	86·4	638,523
1951	100,049	16·2	518,280	83·8	618,329
1952	113,842	18·3	507,223	81·7	621,065
1953	125,310	20·5	487,082	79·5	612,392
1954	133,990	22·3	466,188	77·7	600,178
1955	136,994	21·7	495,335	78·3	632,329
1956	158,248	23·5	515,065	76·5	673,313
1957	183,760	25·1	549,354	74·9	733,114
1958	205,372	26·6	566,150	73·4	771,522

In the tables on page 244, beef cattle herds and cattle numbers are classified according to the total area of the holding and the size of the herd as at the 31st March, 1956, the latest date for which this information is available. Of the 21,323 rural holdings of all types, beef cattle were carried on 4,735. Holdings of between 1,000 and 5,000 acres accounted for 45 per cent. of the herds but for only 11 per cent. of all beef cattle, and those which carried less than 50 head for 79 per cent. of the herds but for only 7 per cent. of all beef cattle. The largest holdings classified, those of 50,000 acres and over, while constituting less than 6 per cent. of the holdings which carried beef cattle, accounted for almost 77 per cent. of the total number carried.

Slaughtering

Beef cattle are slaughtered for export at Wyndham, Broome and Glenroy in the Kimberley Division and sheep and fat lambs for export at Fremantle and Albany. The local market is supplied mainly from abattoirs at Midland Junction, Fremantle and Kalgoorlie. The many small establishments which operate in country towns also contribute substantially to total production, and farms and stations commonly slaughter sufficient for their own requirements.

The table on page 245 gives details of slaughterings both in abattoirs and on stations and farms.

BEEF CATTLE HERDS AS AT 31st MARCH, 1956, CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF HERD

Area Series— Total Area of Holding	Size of Beef Cattle Herd (Numbers)															Total All Rural Holdings
	NUMBER OF HERDS															
	1-9	10-19	20-29	30-49	50-69	70-99	100-149	105-109	200-299	300-499	500-999	1,000-1,999	2,000-4,999	5,000-9,999	10,000 & over	
Acres																
1-99	149	57	18	8	4	1	1	1	...	...	...	...	...	...	...	239
100-199	155	66	39	39	14	6	2	2	...	...	...	...	...	...	...	321
200-299	119	55	35	32	15	13	6	6	...	...	...	...	...	...	...	1,457
300-399	91	43	27	36	10	20	7	3	...	...	...	...	...	...	...	1,136
400-499	78	34	16	23	18	15	9	3	...	...	...	...	...	...	...	864
500-599	58	38	24	21	16	11	11	6	...	...	...	...	...	...	...	589
600-799	90	46	38	26	26	19	15	5	...	...	...	...	...	...	...	749
800-999	81	41	22	28	20	19	13	6	...	...	...	...	...	...	...	759
1,000-1,399	164	84	51	48	30	25	13	6	...	...	...	...	...	...	...	927
1,400-1,999	229	86	48	49	27	21	12	6	...	...	...	...	...	...	...	500
2,000-2,999	326	110	78	56	30	21	24	6	...	...	...	...	...	...	...	1,535
3,000-4,999	254	80	36	55	41	20	16	6	...	...	...	...	...	...	...	1,976
5,000-9,999	101	53	16	31	10	19	14	6	...	...	...	...	...	...	...	2,679
10,000-19,999	21	6	6	10	4	6	5	4	...	...	...	...	...	...	...	2,807
20,000-49,999	6	3	2	2	...	3	2	1	...	...	...	...	...	...	...	976
50,000 and over	25	32	19	23	10	13	16	10	...	...	...	...	...	...	...	198
Total	1,947	834	474	487	275	230	172	72	79	59	39	14	16	23	14	4,735
																21,323

BEEF CATTLE AS AT 31st MARCH, 1956, CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF HERD

Area Series— Total Area of Holding		Size of Beef Cattle Herd (Numbers)														Total
		NUMBER OF BEEF CATTLE														
		1-9	10-19	20-29	30-49	50-69	70-99	100-149	150-199	200-299	300-499	500-999	1,000-1,999	2,000-4,999	5,000-9,999	10,000 & over
Acres																
1-99	565	769	400	286	220	80	103	151								2,574
100-199	597	904	939	1,486	803	451	243	243								5,423
200-299	457	769	815	1,187	577	1,065	767	310								6,247
300-399	345	590	648	1,324	597	1,695	826	331	226							6,682
400-499	303	492	383	876	1,051	1,202	1,040	512	741	375						6,945
500-599	396	518	571	840	890	893	1,331	1,026	480	774						7,519
600-799	331	665	924	1,029	1,495	1,538	2,419	816	1,139	362						10,718
800-999	285	538	538	1,042	1,133	1,577	1,728	480	761	992	1,031					10,105
1,000-1,399	642	1,177	1,259	1,867	1,778	1,513	1,376	1,016	2,939	1,481	500					15,548
1,400-1,999	861	1,234	1,157	1,825	1,532	2,048	1,622	1,092	1,198	2,368	3,829					18,766
2,000-2,999	1,264	1,521	1,879	2,100	1,664	1,742	2,831	1,975	3,634	2,109	1,095					20,814
3,000-4,999	965	1,084	840	2,000	2,383	1,720	1,961	1,876	2,288	2,627	1,532					19,276
5,000-9,999	426	703	386	1,210	604	1,583	1,598	1,008	2,109	2,586	2,423					13,246
10,000-19,999	102	85	146	385	241	513	621	688	258	2,962	2,423					8,394
20,000-49,999	25	49	21	77	262	243	279	180	279	1,813	1,813					3,524
50,000 and over	139	457	468	841	594	1,092	1,881	1,679	3,166	3,908	14,608	17,971	55,748	165,847	249,133	517,532
Total	7,503	11,525	11,374	18,475	15,362	18,974	20,590	12,120	19,218	22,347	25,593	19,004	55,748	165,847	249,133	673,313

LIVESTOCK SLAUGHTERED FOR HUMAN CONSUMPTION (†)

Year ended 30th June—	Sheep		Lambs		Cattle		Calves	
	Number	Gross Value (a)	Number	Gross Value (a)	Number	Gross Value (a)	Number	Gross Value (a)
		£		£		£		£
1954	1,000,651	3,050,691	557,833	2,067,037	154,753	5,211,147	14,594	124,900
1955	1,115,502	2,968,862	564,801	1,967,930	168,790	5,461,115	13,368	101,725
1956	1,157,517	2,915,226	641,782	2,105,931	174,915	5,376,944	17,137	115,742
1957	1,236,549	3,683,930	676,779	2,400,572	176,061	5,585,854	17,536	130,491
1958	1,166,537	2,453,418	696,743	2,369,573	187,586	5,266,382	30,828	344,793

(†) Details of pigs slaughtered for human consumption are shown on page 249.

(a) 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. This expansion continued until after the war but since then production has remained at about the same level.

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 second five-year stabilization plan, which came into operation on the 1st July, 1957, provided that any subsidy made available under the scheme would be determined before the commencement of each season and would be on the basis of a fixed amount in any dairying season. In 1957-58 an amount of £13,500,000 was provided for the Australian industry, the average subsidy rates per cwt. being 71s. 8d. on butter and 35s. 11d. on cheese.

In the tables on page 246, dairy herds and dairy cattle numbers are classified according to the total area of the holding and the size of the herd as at the 31st March, 1956, the latest date for which this information is available. Of the 21,323 rural holdings of all types, dairy cattle were carried on 11,314. Holdings of between 1,000 and 5,000 acres accounted for 43 per cent. of the herds but for less than 21 per cent. of all dairy cattle and those which carried less than 10 head for 64 per cent. of the herds but only 11 per cent. of all dairy cattle. Herds of 100 head or more, although they comprised less than 3½ per cent. of the holdings carrying dairy cattle, accounted for over 25 per cent. of the total number carried.

DAIRY CATTLE AND MILK PRODUCTION (a)

As at 31st March	Dairy Cattle							Milk Production (b)	
	Dairy Cows		Heifers one year and over	Heifer Calves under one year	Bull Calves under one year	Bulls one year and over	Total Dairy Cattle	Quantity	Gross Value
	In Milk	Dry							
	No.	No.	No.	No.	No.	No.	No.	gallons	£
1949	65,631	67,588	40,859	36,635	13,398	5,882	229,993	50,875,852	3,086,629
1950	60,383	68,982	42,263	36,058	12,892	5,835	226,413	50,074,367	3,440,941
1951	60,873	66,671	41,365	35,633	12,464	5,869	222,875	50,807,056	3,858,172
1952	60,092	70,533	40,292	38,408	15,148	5,996	230,469	49,970,868	4,956,758
1953	57,805	76,118	42,379	37,594	13,800	6,173	233,869	49,769,166	5,591,320
1954	58,621	75,508	41,836	35,069	12,426	6,056	229,516	49,173,673	5,795,994
1955	60,432	74,264	39,708	35,302	12,689	5,850	228,245	52,918,308	6,049,881
1956	59,176	75,341	38,894	33,489	11,215	5,469	223,584	55,373,097	6,192,400
1957	58,851	75,627	37,924	34,246	12,025	5,388	224,061	56,934,772	6,400,575
1958	57,614	76,625	38,135	35,126	12,973	5,178	225,651	54,729,735	6,340,969

(a) Details of butter and cheese production appear in Part 2 of this Chapter.

(b) For year ended 31st March

and includes milk used for processing into butter, cheese and condensery products.

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. This gives the butter-fat producer a distinct advantage over other pig raisers, particularly when wheat and other grains are at high prices. Consequently, although pig raising is also carried on in conjunction with wheat farming, the number of pigs on wheat farms fluctuates with movements in the price of grain. There are also a number of farmers in the districts around Perth who specialize in pig raising but in recent years the importance of the industry in this area has declined.

The principal breeds in Western Australia are the Berkshire, Tamworth and Large White and crosses of these breeds. Importations of Landrace pigs were made for the first time in 1958 and the development of this breed is being watched with considerable interest by producers throughout the State. Pigs are reared for bacon and ham as well as pork and, although the greater proportion of production is consumed locally, there is also a considerable export trade, particularly to the other Australian States. In 1957-58 interstate exports of bacon and ham were 502,314 lb. and oversea exports totalled 185,855 lb., the principal buyer being Singapore. In the same year 4,079,634 lb. of pork were shipped interstate and 1,044,199 lb. overseas, mainly to Singapore and the United Kingdom.

PIGS

As at 31st March	Boars	Breeding Sows	Baconers and Porkers	Suckers, Weaners, Slips	Other Pigs	Total
1949	2,330	10,267	25,988	32,344	9,760	80,689
1950	2,264	11,399	25,139	32,514	7,810	79,126
1951	2,541	12,434	29,340	37,173	8,422	89,910
1952	2,171	11,072	29,706	34,563	8,712	86,224
1953	2,158	10,751	23,705	32,069	7,512	76,195
1954	2,669	15,846	29,620	40,665	12,112	100,912
1955	2,598	14,222	32,332	45,506	12,381	107,039
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	150,783

In the tables on page 248, pig herds and pig numbers are classified according to total area of the holding and the size of the herd as at the 31st March, 1956, the latest date for which this information is available. Of the 21,323 rural holdings of all types, pigs were raised on 3,864. Holdings of between 1,000 and 5,000 acres accounted for 45 per cent. of the herds and for 48 per cent. of all pigs carried, and those which carried less than 15 head for 51 per cent. of the herds but for only 12 per cent. of the total number carried.

**PIGS SLAUGHTERED FOR HUMAN CONSUMPTION
PRODUCTION AND EXPORTS OF BACON AND HAM**

Year ended 30th June :	Pigs Slaughtered		Bacon and Ham	
	Number	Value (a)	Production	Exports (including Ships' Stores)
		£	lb.	lb.
1949	131,872 (b)	1,062,449 (b)	8,412,342	954,040
1950	120,751 (b)	1,180,739 (b)	7,934,110	1,120,089
1951	108,009 (b)	1,109,456 (b)	7,969,883	1,357,555
1952	127,686 (b)	1,722,516 (b)	8,243,124	2,506,965
1953	129,519 (b)	1,939,832 (b)	8,272,455	1,817,247
1954	114,859	2,058,735	7,722,949	1,860,171
1955	182,505	1,993,541	7,427,758	1,072,469
1956	160,807	2,109,552	7,237,217	1,283,473
1957	157,531	2,336,675	6,839,975	1,605,539
1958	219,697	2,340,241	6,612,477	849,964

(a) Value "on hoof" at principal market or at factory door.

(b) For year ended 31st December of preceding year.

LIVESTOCK IN AUSTRALIA

The following table gives details of livestock numbers in each State at the 31st March, 1958, together with Australian totals.

LIVESTOCK NUMBERS AT 31ST MARCH, 1958—AUSTRALIAN STATES

(Thousands)

State or Territory	Horses	Cattle			Sheep	Pigs
		Dairy	Beef	Total		
New South Wales	221	1,307	2,429	3,736	65,410	397
Victoria	98	1,724	1,026	2,750	27,090	279
Queensland	243	1,270	5,917	7,187	22,274	423
South Australia	35	259	338	597	15,237	108
Western Australia	44	226	771	997	15,724	151
Tasmania	13	205	166	371	3,298	62
Northern Territory	39	.....	1,244	1,244	30	}
Australian Capital Territory	1	3	7	10	256	
Australia	694	4,994	11,898	16,892	149,319	1,423

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 a substantial number of birds are also kept for commercial production on orchards, dairy farms and wheat farms throughout the agricultural areas.

The modern methods of breeding, sexing and rearing which are used on specialist poultry farms have resulted in considerably higher egg production per bird. In particular, the use of first-cross hens, bred mainly from White Leghorn cocks and Australorp hens, has proved very successful and the poultry industry is now largely based on this stock.

Under the Marketing of Eggs Act, 1945-1958, 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 makes 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.

Singapore is now the most important oversea market for eggs in the shell, the United Kingdom and Saudi Arabia also buying significant quantities. The United Kingdom is the principal buyer of egg pulp.

POULTRY

As at 31st March—	Fowls	Ducks	Turkeys	Geese
1949	1,163,628	40,974	14,677	1,865
1950	1,089,454	46,075	13,530	1,417
1951	1,012,338	34,734	12,747	1,780
1952	1,026,693	36,423	12,210	1,107
1953	971,583	31,722	10,086	1,189
1954	1,009,931	14,827	8,458	748
1955	909,389	13,009	7,421	697
1956	864,956	11,873	9,598	712
1957	955,069	11,845	11,671	1,557
1958	901,659	12,129	7,453	1,079

EGGS AND POULTRY FOR TABLE PURPOSES

Year ended 31st March—	Egg Production (a)		Poultry Slaughtered for Table Purposes
	Quantity	Gross Value	Gross Value
	doz.	£	£
1949	7,053,741	796,867	525,863
1950	6,732,719	881,257	467,403
1951	6,875,598	987,236	573,267
1952	7,219,560	1,321,791	598,866
1953	7,577,620	1,605,268	617,179
1954	8,113,717	1,788,625	593,378
1955	7,802,232	1,544,668	551,326
1956	7,093,451	1,472,560	537,497
1957	7,443,878	1,623,667	(b) 254,871
1958	7,810,668	1,597,324	(b) 350,907

(a) Excludes non-commercial production. in method of valuation.

(b) Figures not comparable with those for earlier years due to alteration

BEE KEEPING

Commercial producers of honey in Western Australia may be divided into three categories. There are a comparatively small number of specialist apiarists who are engaged solely or mainly in honey production; these 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 on their properties and produce honey as a minor supplementary activity. This pattern of production is illustrated by the following table.

CLASSIFICATION OF BEE KEEPERS, BEEHIVES AND HONEY PRODUCTION(†)—1957-58

Classification of Hives(†)	Bee Keepers		Productive Beehives (a)		Honey Production	
	Number	Proportion of Total (per cent.)	Number	Proportion of Total (per cent.)	Quantity	Proportion of Total (per cent.)
					lb.	
5-25	226	52.2	1,289	3.7	63,177	0.8
26-50	74	17.1	1,963	5.6	173,084	2.4
51-100	41	9.4	2,563	7.3	297,593	4.1
101-200	28	6.5	3,801	10.9	649,910	8.9
201-300	22	5.1	5,050	14.5	1,111,788	15.2
301-500	23	5.3	8,605	24.7	2,047,325	28.0
501-900	16	3.7	8,244	23.6	1,953,600	26.7
Over 900	3	0.7	3,400	9.7	1,016,800	13.9
Total	433	100.0	34,915	100.0	7,313,277	100.0

(†) Excludes details of bee keepers with less than five hives.

(a) Represents the number of hives at 30th June, 1958 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.

Substantial quantities of honey are exported, the principal buyers in 1957-58 being the United Kingdom and West Germany.

BEEHIVES AND HONEY AND BEES-WAX PRODUCTION

Year	Beehives (a)		Honey Production		Bee-wax Production	
	Productive (b)	Unproductive (c)	Quantity	Gross Value	Quantity	Gross Value
	No.	No.	lb.	£	lb.	£
1953-54	27,476	5,067	6,325,108	219,956	72,833	14,448
1954-55	25,724	6,477	2,721,257	93,951	52,103	11,615
1955-56	28,073	6,268	4,482,125	203,115	57,111	13,571
1956-57	31,650	6,137	5,658,866	265,770	70,457	18,890
1957-58 (d)	34,915	5,806	7,313,277	246,427	86,516	17,241

(a) Number at 30th Jnne. (b) Hives from which honey was taken. (c) Includes hives kept for production but from which no honey was taken, young hives and nuclei. (d) Excludes particulars of bee keepers with less than five hives.

THE DEPARTMENT OF AGRICULTURE

Brief references have already been made elsewhere 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 activities 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, Poultry and Brands), Wheat and Sheep (including the Cereal Products Laboratory), Dairying, Horticultural (covering Fruit, Vegetables, Tobacco and Apiculture), Soils (including Soil Conservation and Irrigation), Plant Research (including Botany) and Biological Services (including Plant Pathology, Entomology, Seed Certification and Weed Control). In addition there are Branches for North-West, 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 only about 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 the 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 19.

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. Stations at Denmark, Bramley and Wokalup serve the dairying districts, and one at Manjimup is concerned with tobacco. Stations at Herdsman Lake in the metropolitan area assist the poultry and vegetable-growing industries. A viticultural research station has been established at Upper Swan and a horticultural research station is being developed 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. At Abydos, near Port Hedland, regeneration of overgrazed pastoral country is the main concern. At the Gascoyne Research Station at Carnarvon, problems of growing tropical fruits and winter vegetables are being investigated.

Advisory Services

Extension work is perhaps the Department's most important function and it has undoubtedly exercised a powerful influence in publicizing and accelerating the adoption of better methods. It is difficult to assess the results of any educational undertaking in terms of money, but the desirability of having a well-informed farming community, receptive to new ideas, is obvious. Although the best method of taking advice to farmers is for the technical officer to visit farms for discussion with the farmer on his own property, this is unfortunately not always possible as an officer may have between 500 and 1,000 farms in his district. Individual visits often have to be restricted to cases where a specific request has been made or where some urgent action is required.

Extension officers support and foster the formation of farmers' organizations such as Pasture Groups and attend meetings and field days where talks can be given to groups of farmers. It is estimated that in the past year over 4,000 farmers attended more than 100 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. Increasing use is being 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. A *Journal of Agriculture* is published every month and has a circulation of about 17,000. Bulletins dealing with a wide variety of subjects are available.

Advisory work is not concentrated in a single Division, as is the case in some Departments of Agriculture, but is carried out by several Divisions and Branches of the Department. In recent years a move has been made to decentralize the Department's work and groups of officers have been stationed at Albany, Bridgetown, Bunbury, Busselton, Denmark, Derby, Esperance, Geraldton, Harvey, Katanning, Manjimup, Merredin, Moora, Mount Barker, Narrogin, Northam, Waroona, Wiluna and at the Kimberley and the Gascoyne Research Stations.

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. Two wheat varieties, Nabawa and Bencubbin, which were respectively selected and bred in Western Australia, became in turn the leading varieties in Australia. These, with other 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 about a quarter 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.

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 cineturing, 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.

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. 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.

The producers who benefit from these services pay something for them, but not necessarily the full amount of the cost of providing them.

Administration of Acts

The Department of Agriculture is responsible for administering some fifty Acts concerning a wide range of subjects. Some of the more important relate to animal and plant diseases and insect pests, industry trust funds, soil conservation, vermin control, marketing of agricultural products and registration of feeding stuffs, fertilizers and stock brands.

TRAPPING

Although trapping has been carried on from the first years of settlement, it has never been an important industry. In 1957-58 the recorded gross value was only £87,728 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 skins for the year was no less than 12,387. In 1957-58 the number of skins exported or used in local factories was estimated at 28,000 valued at £6,611. It is said that in the first five years of colonization settlers depended largely, sometimes entirely, on kangaroo meat but the present consumption is small, the meat being sold mainly as food for domestic pets.

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 1957-58 the total value was estimated at only £76,682.

The skins of animals other than kangaroos and rabbits, amounting in value to £4,435 in 1957-58, 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. Some four million acres have been permanently dedicated as State Forests and approximately 2.8 million acres have been established as Timber Reserves under the Forests Act and the Land Act.

Jarrah (*Eucalyptus marginata*) is the State's principal timber and the prime forest covers over three million acres of the State Forests. Karri (*E. diversicolor*) is next in importance but is distributed over only about 250,000 acres. 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 4,000 acres. Marri (*E. calophylla*) and Blackbutt (*E. patens*), which occur through the jarrah 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 in the map on page 255.

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 mulga, tea tree (*Melaleuca spp.*) and Casuarina. Sandalwood (*Santalum cynnorum*), once of great economic importance in the China trade, occurs in the semi-arid regions.

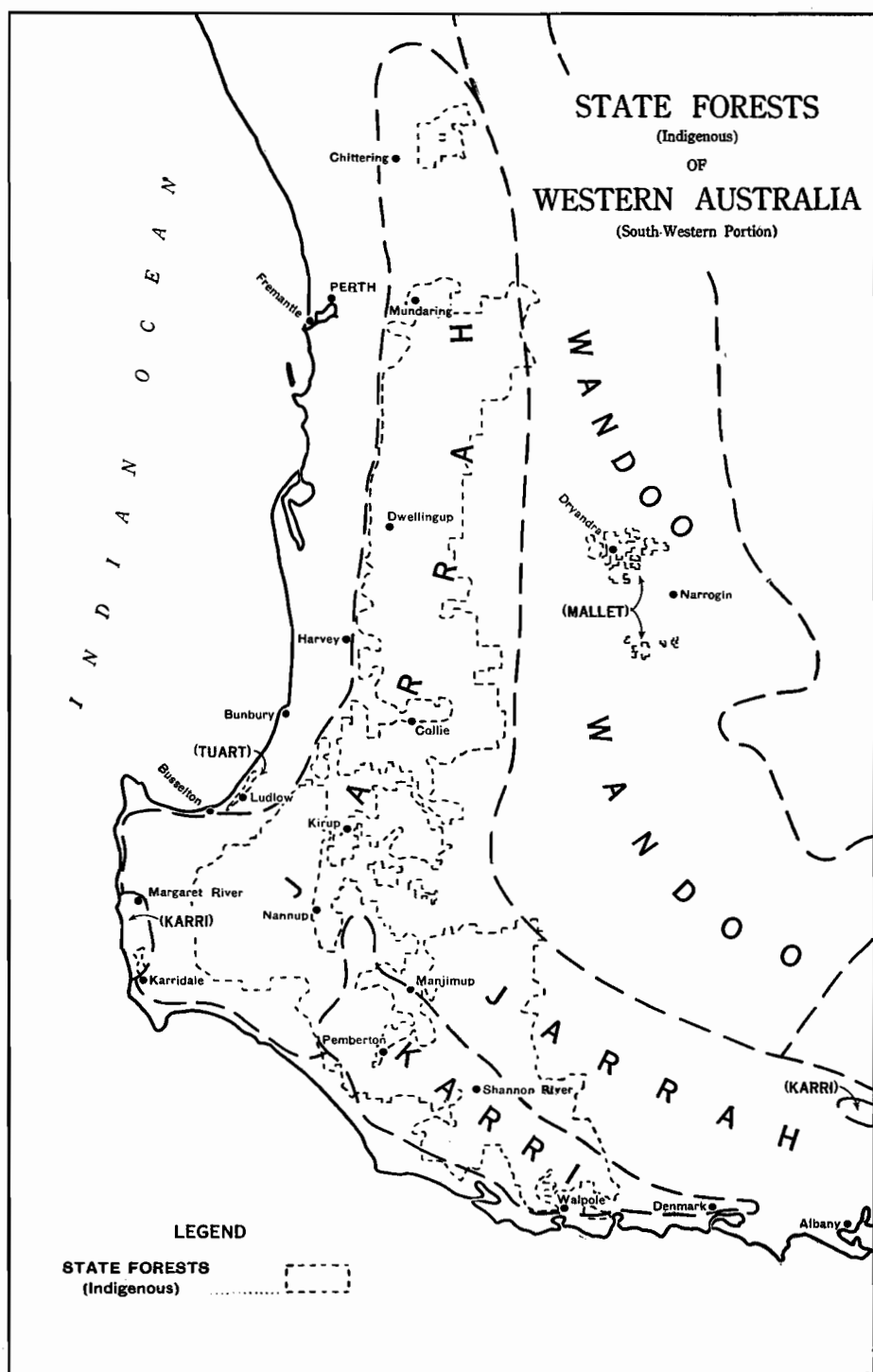
While none of the inland forest can be classed as suitable for sawmilling in the ordinary sense, it forms an important source of timber for mining and agricultural purposes. During recent years, soil conservation in the regions of low rainfall has received increasing attention and the importance of controlling 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 thirty 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 mallee and pine plantations.

Brown Mallee (*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. It is now being regenerated and the area of Mallet plantations now totals 19,000 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 approximately 27,000 acres, have been established and a planting programme of 2,500 acres per annum is planned to provide, ultimately, 200,000 acres of pine forest. The land selected for the purpose is of limited value for agriculture but, used for pines it constitutes a valuable long-term investment, with the prospective development of industries for the manufacture of paper, wallboard and similar products.

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.

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 wireless or telephonic means of 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 in Chapter VII, Part 1—*Land Settlement and Tenure*, page 204.

Principal Forest Products

Sawn and hewn timber are the principal forms 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 smaller 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, jarrah and marri are used as a source of charcoal for the high-grade charcoal pig-iron produced at Wundowie. The karri, wandoo and marri 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 hewn timber production from 1948-49 to 1957-58. It shows that sawn timber production increased steadily up to 1954-55 when output totalled 225·8 million super. feet. A slight recession in 1955-56, when 222·4 million super. feet were cut, was followed by a sharp decline to 204·5 million super. feet in 1956-57 and a further decrease in 1957-58 when 201·7 million super. feet were produced. Hewn timber, which now consists mainly of mining timber, piles, poles, fencing posts and rails, increased from 15·4 to 31·5 million super. feet between 1948-49 and 1957-58.

TIMBER PRODUCTION (†)
(Thousand super. feet)

Item	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58
Timber—Sawn	*126,884	*138,078	156,811	178,290	203,314	216,021	225,795	222,398	204,475	201,664
Timber—Hewn	15,401	15,735	19,396	21,157	20,011	24,990	25,698	22,740	23,952	31,509

(†) From local logs and includes plywood veneers in terms of super. feet.

* Revised since previous issue.

Sawmilling is dealt with in greater detail under *Secondary Industry*, in Part 2 of this Chapter.

In 1957-58 almost 67 million super. feet of timber were exported, 28·3 million to other Australian States and 38·5 million to overseas markets, principally New Zealand, the United Kingdom, India, South Africa, Iraq and Ceylon.



KARRI FOREST IN THE SOUTH-WEST

The karri forest is confined to the hilly country of the extreme South-West where the annual rainfall is in excess of 40 inches. It occurs in certain light types of soil, mostly on the hillsides. The karri tree (*Eucalyptus diversicolor*) attains a height of nearly 300 feet. It has a clean smooth bark which in adult trees covers a trunk of over 150 feet in height.

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 which have been caught in the years 1953-54 to 1957-58.

PRODUCTION OF FISH (†)

Species—Common Name	1953-54	1954-55	1955-56	1956-57	1957-58
	lb.	lb.	lb.	lb.	lb.
Bream, Black	4,945	5,583	12,867	13,875	18,187
" Yellow-fin	60,216	55,139	28,444	43,709	44,498
" Silver or Tarwhine	12,346	6,626	5,880	5,225	8,226
Cobbler	450,538	593,511	550,235	331,224	553,115
Flathead	23,128	27,271	66,116	24,920	24,601
Garfish	61,073	45,551	51,025	50,237	48,241
Gooper	12,401	12,534	10,475	14,224	15,084
Herring, Perth	7,860	12,699	20,494	29,874	59,702
Jewfish, Westralian	220,996	332,884	214,869	221,252	252,675
Kingfish, Sea (Samson Fish)	21,782	48,827	28,277	77,299	86,051
Mackerel, Spanish	12,079	13,524	35,761	42,570	70,236
Mullet, Sea	355,051	435,650	495,218	828,548	857,003
" Yellow-eye	336,129	295,843	376,000	302,174	465,296
Mulloway (River Kingfish)	3,538	3,900	4,121	7,659	21,293
Ruff (Sea Herring)	756,336	888,673	715,124	1,015,124	870,005
Salmon, Australian	6,010,640	4,434,678	4,771,027	4,313,719	4,131,270
Shark	200,151	275,748	248,132	358,996	400,460
Snapper	856,475	1,228,560	1,476,909	1,035,330	864,436
Tailor	88,736	93,104	97,668	147,818	139,153
Trevally, Silver (Skipjack)	80,975	78,097	68,694	105,079	123,913
Whiting, Sand and School	303,980	335,552	355,795	404,784	453,269
" King George	90,908	83,043	30,376	57,541	131,777
Other Fish	109,991	100,056	121,258	134,292	177,144
Crayfish	9,223,519	10,906,561	10,529,539	10,763,104	13,327,286
Crabs	16,477	18,565	21,276	11,415	34,826
Prawns	45,305	25,978	74,600	189,218	147,192
Total	19,365,575	20,358,157	20,410,180	20,529,210	23,324,939

(†) Estimated live weight, except for 1953-54 which refers to "reported" weight.

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 overseas demand, which developed rapidly in post-war years, gave great impetus to the industry and the take increased almost sixfold between 1947 and 1957-58, when total production of live crayfish was 13.3 million lb., valued at £1,721,441 to the fishermen. In 1957-58 the overseas export of crayfish tails totalled 4.6 million lb., the f.o.b. value being almost £2 million. In addition, small quantities of boiled whole crayfish were sent overseas.

The species caught is *Panulirus longipes*, which occurs in the vicinity of the Abrolhos Islands, Geraldton, Dongara, Lancelin and Fremantle, and is protected from overfishing by the declaration of closed seasons as necessary and the prohibition of the taking of fish of less than a prescribed size. 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 approximately half 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 pedica*), sea herring or ruff (*Arripis georgianus*), transparent whiting (*Sillago bassensis*), sand whiting (*Sillago schomburgkii*), sea mullet (*Mugil cephalus*) and trevally or skipjack (*Uscaranx 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 potentialities of deep-sea fishing have been investigated by government-operated vessels on a number of occasions and a privately-owned trawler commenced operating east of Albany in 1929 but, although substantial catches of good quality fish were made, the venture failed. Further research work in 1945 and 1946 by the Commonwealth Government confirmed the existence of valuable deep-sea fishing grounds and two trawlers commenced operations in 1948, but these too were unsuccessful commercially and trawling was discontinued.

Hand-line fishing is used to catch snapper (*Chrysophrys unicolor*) during the northern schooling season, from May to August, in the coastal waters from the Murchison River to North West Cape. The same area also yields heavy catches of Westralian jewfish (*Glaucosoma hebraicum*) and smaller quantities of cod and groper. Other areas as far south as Cape Naturaliste are fished in the same way, jewfish being the principal catch. Some netting of pilchards (*Sardinops neopilchardus*) has also been carried out in southern waters, but it has not been significant in recent years.

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 (*Reporhamphus regularis* and *R. melanochir*), Perth herring or gizzard shad (*Fluvialosa vlamingi*), sea mullet, tailor, sand whiting, King George whiting (*Sillaginodes punctatus*), and flathead. Crabs (*Portunus pelagicus*), king prawns (*Penaeus latisulcatus*) and other prawns are also caught commercially.

Apart from a small crustacean, the marron (*Cherax tenuimanus*) of the lower south-west, there are no indigenous inland or freshwater fish of commercial value, but brown and rainbow trout and English perch have been introduced into the streams of the southern districts.

GENERAL FISHERIES (†)

Year	Boats Licensed	Value of Boats and Equipment	Fishermen Licensed (a)	Total Take		Value of Take	
				Fish (b)	Crayfish	Fish (b)	Crayfish
	No.	£	No.	cwt.	cwt.	£	£
1948	738	452,786	1,556	82,621	25,043	385,563	128,555
1949	762	478,464	1,589	79,562	45,721	330,141	256,037
1950	550	484,500	912	68,383	58,481	226,133	392,777
1951	531	686,570	925	72,223	69,598	290,083	584,620
1952	544	795,497	996	65,795	75,138	412,938	841,543
1954 (c)	600	1,055,232	1,125	90,002	82,353	473,551	922,353
1955 (c)	616	1,245,461	1,069	(d) 83,942	97,380	510,200	1,090,656
1956 (c)	687	1,413,573	1,159	(d) 87,268	94,014	580,904	1,228,446
1957 (c)	706	1,562,130	1,285	(d) 85,347	96,099	577,512	1,355,388
1958 (c)	812	1,858,545	1,348	(d) 87,459	118,994	632,619	1,721,441

(†) From 1950, figures relate only to the operations of professional fishermen. (a) Comprises employees and working proprietors. (b) Excludes oysters, crabs and prawns. (c) Year ended 30th June. (d) Estimated live weight: in previous years "reported" 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 shore-based whaling was recommenced from a station at Point Cloates, the site of an earlier venture, on the north-west coast. The first year's catch was 190 whales. In 1950 the Australian Whaling Commission, set up by the Commonwealth Government, established a station at Babbage Island near Carnarvon, and in that season the two concerns caught 388 whales. The number taken increased to 1,224 in 1951 when both stations were functioning for the full season. Operations of a minor nature were carried out from Albany in 1947 and 1948 but then lapsed until 1952 when whaling was resumed on a much larger scale. In 1956 the company operating from Point Cloates purchased the Commonwealth Government's station at Carnarvon and established its headquarters there.

The whales which pass northward along the western coast from about May and return south by the end of October are predominantly humpbacks. These are protected from undue depletion of numbers by the fixing of an annual quota of kills for each organization, under the procedure laid down by the International Whaling Commission. Since 1955 the company operating from Albany has extended its activities to include the taking of sperm whales, which are not subject to restriction.

The information shown in the following table, which covers each of the years from 1949 to 1958, has been supplied by the State Fisheries Department. It does not include particulars of sperm whales taken by the company operating from Albany.

WHALING

Season	Whales Taken			Whale Products			
	Number	Average Length		Oil (b)		Meal	Solubles
		Males	Females	Total	Average per Whale		
		feet	feet	barrels	barrels	tons	tons
1949	190	(a)	(a)	(a)	(a)	(a)	(a)
1950	388	(a)	(a)	(a)	(a)	(a)	(a)
1951	1,224	(a)	(a)	62,046	50.6	(a)	(a)
1952	1,187	(a)	(a)	62,406	52.6	2,200	3,205
1953	1,300	39.1	40.7	66,000	50.7	3,200	1,811
1954	1,320	38.8	40.5	62,995	47.7	3,312	1,497
1955	1,120	39.9	41.8	54,532	48.7	2,708	1,002
1956 (c)	1,120	40.3	42.3	55,996	50.0	3,193	1,952
1957	1,120	39.8	41.6	56,534	50.5	3,008	1,910
1958 (c)	967	39.3	41.1	48,885	50.3	2,877	1,968

(a) Not available. (b) 6 barrels = 1 ton (approx.). (c) Number Taken and Whale Products include one fin whale in 1956 and two blue and three bryde whales in 1958 which have not been taken into account in calculating average lengths and average oil production.

Pearl-shell Fishing

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.

PEARL AND PEARL-SHELL FISHERIES

(Excluding Culture Pearls)

Year	Vessels			Number of Persons Employed										Pearl-shell Produced		Value of Pearls	
	No.	Total Tonnage	Value (including Equipment)	Europeans	Australian Aborigines	Asians							Total	Quantity	Value		
						Chinese	Japanese	Koopangers	Malays	Filipinos	Others	Total Asians					
			£											tons	£	£	
1949	26	433	68,350	14	39	25	....	105	41	3	3	177	230	312	109,136	1,040
1950	25	372	68,600	8	32	28	....	90	63	1	....	182	222	353	164,490	1,635
1951	24	378	102,600	9	34	25	....	87	57	3	....	172	215	321	174,432	1,490
1952	21	346	83,600	9	48	20	....	48	62	2	....	132	189	303	176,882	500
1953	27	459	84,350	17	65	46	38	37	70	2	....	193	275	447	284,503	2,025
1954	30	525	147,100	12	78	72	39	30	80	1	2	224	314	558	355,555	2,294
1955	36	740	209,600	23	68	57	109	33	80	1	....	280	371	652	413,277	3,075
1956	42	907	251,000	24	98	83	106	28	121	4	....	342	464	898	583,577	7,200
1957	48	1,100	265,040	23	80	110	117	31	119	2	....	379	482	990	604,801	9,893
1958	42	987	218,500	17	64	102	116	27	93	....	....	338	419	753	347,915	20,869

Pearl Culture

In 1956 a three year 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 1958 and marketed overseas. Figures in the above table do not include details of culture pearl production.

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 two-thirds of the total value of mine and quarry products.

The mining industry, for so long 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-sixth 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.

The following table gives details of mine and quarry production during the calendar years 1956 to 1958.

RECORDED MINE AND QUARRY PRODUCTION

Item	1956		1957		1958	
	Quantity	Value	Quantity	Value	Quantity	Value
Gold (a)	fine oz.	£	fine oz.	£	fine oz.	£
Silver (b)	813,617	13,221,742	849,741	13,817,460	874,819	14,297,587
Asbestos—	207,478	88,274	188,204	74,170	195,975	77,771
Crocidolite	tons		tons		tons	
Chrysotile	7,286	800,710	11,105	1,195,634	11,887	1,304,724
Beryl	761	25,366	1,389	42,067	1,378	38,652
	310	57,113	350	64,234	170	31,801
Bismuth Concentrates					lb.	
					3,310	1,475
Chromite	6,096	97,526	1,312	20,997	tons	
Clays—all kinds (value only)		222,886		212,715		238,272
Coal	830,007	2,723,981	838,661	2,552,657	870,882	2,280,649
Copper Ore	212	12,891	1,804	60,011	1,802	55,597
Cupreous Ore (c)	7,713	113,442	4,639	82,127	7,644	114,670
Felspar	3,781	17,719	995	4,611	681	3,093
Glass Sand	7,343	5,153	5,693	3,914	6,420	4,267
Glauconite	85	3,360	126	5,040	112	5,590
Gypsum	27,121	20,928	33,353	25,967	35,515	40,134
Ilmenite Concentrates	3,293	15,150	70,029	412,469	69,817	358,359
Iron Ore	336,890	337,536	416,236	428,870	572,928	591,204
Lead and Silver-lead Ore and Concentrates	7,613	645,804	4,180	316,465	2,493	139,899
Limestone and Shell (including road-making stone but excluding building stone)	370,254	191,252	427,286	176,555	436,531	160,872
Magnetite	804	1,978				
Manganese Ore	56,234	737,569	73,191	1,162,402	47,543	694,356
Ochre	444	4,349	27	273	189	1,893
Pyritic Ore and Concentrates (Iron)....	60,969	420,052	57,918	382,567	49,389	351,847
Stone, Building and Monumental—Sandstone, Limestone, Granite, etc.	80,076	91,161	55,331	78,527	76,159	97,909
Stone, Crushed and Broken (d)—Granite, Diorite, Quartzite, Basalt	489,505	845,694	504,282	806,640	463,983	741,258
Talc	4,456	54,438	3,654	49,906	2,501	35,304
Tantalite Concentrates (including Tantalite-Columbite)	lb.		lb.		lb.	
	159,655	127,663	50,038	11,831	13,507	8,550
	tons		tons		tons	
Tin Ore and Concentrates	358	208,273	270	155,079	138	77,319
Vermiculite	1	9				
Other (Value only)		275,540		47,874		44,478
Total Value		£21,367,559		£22,191,062		£21,797,530

(a) Values are in terms of Australian currency, including amounts realized by the Gold Producers' Association Ltd. on sales of Western Australian gold. They also include Commonwealth net subsidy paid to gold producers—In 1956, £496,819; in 1957, £512,708; in 1958, £623,394. (b) By-product from treatment of auriferous ore and excludes silver contained in lead and silver-lead ores and concentrates exported, for which see table on page 263.

(c) For fertilizer. (d) Excluding limestone.

In addition to the production shown in the preceding table, there have been interesting developments in the search for oil in the State. An extensive programme of 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 has resulted. After 1953 the search was intensified and a large area of the State has now been scientifically examined. Exploration is continuing and geological and geophysical surveys are being carried out in the Carnarvon, Canning and Perth Basins. Drilling around Exmouth Gulf ceased early in 1958 but the Fitzroy section of the Canning Basin is still being probed by bores in areas out from Broome and Derby.

During the war years employment in mining and quarrying decreased considerably and, although there has been some recovery since 1945, the number of men engaged in 1958 was only 7,769 or less than one-half of the 1939 work force of 16,530. This large decline in employment was, however, confined to the gold-mining industry and further comment on it appears on page 262.

MEN WORKING AT MINES AND QUARRIES

Description	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Gold Mining (a)	6,800	7,080	6,766	6,394	6,359	6,128	5,845	5,628	5,385	5,352
Coal Mining	1,044	1,099	1,125	1,281	1,463	1,560	1,386	1,219	1,136	1,072
Other Mining and Quarrying	843	762	1,055	1,297	1,304	1,186	1,161	1,236	1,407	1,345
Total	8,687	8,941	8,946	8,972	9,126	8,874	8,392	8,083	7,928	7,769

(a) Includes alluvial diggers.

The mining laws of the State have been designed to encourage as well as to control activity in the industry. This policy and the experience of other countries were given due consideration in framing them and they are regarded as equitable and offering all reasonable incentives to mining development. The various tenures are described in detail in Chapter VII, Part I—*Land Settlement and Tenure*.

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, which is still the State's most productive field, was developed. By 1900 all the present proclaimed goldfields, ranging from Kimberley in the north to Phillips River in the south, had been opened up.

The production of each of these fields, as reported to the Mines Department, for each year from 1949 to 1958 is shown in the following table.

MINE PRODUCTION OF GOLD (†) CLASSIFIED ACCORDING TO GOLDFIELD
(Fine Ounces)

Goldfield	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Kimberley	269	1,241	120	391	238	83	192	179	68	50
Pilbara	5,712	5,408	9,153	12,938	7,973	2,801	3,874	2,074	785	1,004
West Pilbara	94	115	21	15	4	11	29	1	57	15
Ashburton	70	54	6	18	84	89	19	1	1	....
Gascoyne ....	....	....	....	....	....	21	....	....	....	6
Peak Hill	585	565	271	5,603	9,014	8,683	112	16	260	638
East Murchison	6,546	3,067	390	1,350	1,199	347	134	272	206	817
Murchison	81,844	69,058	63,419	75,319	101,030	135,214	89,146	85,914	85,627	81,984
Yalgoo	793	733	1,657	454	423	....	12	....	112	9
Mount Margaret	33,816	32,075	24,228	27,082	29,140	28,413	28,671	29,851	32,519	31,010
North Coolgardie	7,049	11,889	24,265	34,830	36,459	34,531	35,918	27,646	23,525	21,027
Broad Arrow	4,287	3,376	3,471	3,225	2,550	2,847	2,735	1,957	2,928	2,385
North-East Coolgardie	510	406	345	950	384	213	369	105	115	322
East Coolgardie	437,405	408,169	444,629	454,932	484,949	486,040	489,040	474,590	510,830	529,768
Coolgardie	13,664	20,913	20,229	22,867	19,601	18,743	21,590	17,839	19,267	14,867
Yilgarn	8,287	7,220	5,180	7,480	55,030	60,340	66,710	84,090	80,995	81,740
Dundas	48,600	43,654	44,274	78,914	74,135	83,425	95,718	89,069	92,071	108,331
Phillips River	30	65	63	189	479	76	3	1	359	812
Outside Proclaimed Goldfields	11	25	24	11	39	115	54	12	16	34
Total	649,572	608,633	648,245	727,468	823,331	861,992	834,326	813,617	849,741	874,819

(†) As reported to the Mines Department

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. Although output has not reached pre-war level it has increased considerably in recent years, and in 1958 gold mines reported a total yield of 874,819 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 the preceding tables, because of the delay between production at the mine and refining at the Mint. Values are in Australian currency and include additional premiums distributed by the Gold Producers' Association Ltd. from sales of Western Australian gold. These premiums totalled £539,358 in 1952, £535,330 in 1953, £63,839 in 1954, £19,230 in 1955, £12,154 in 1956, £27,549 in 1957 and £5,146 in 1958. Values also include net subsidy payments to gold producers made by the Commonwealth Government under the provisions of the Gold-Mining Industry Assistance Act 1954-1957. This assistance to the industry in Western Australia amounted to £199,129 in 1955, £496,819 in 1956, £512,708 in 1957 and £623,394 in 1958.

REFINERY PRODUCTION OF GOLD FROM 1886

Period	Quantity			Value
	Refined Outside the State (a)	Refined at Perth Mint	Total	
Prior to 1949	fine oz. 11,532,341	fine oz. 40,671,343	fine oz. 52,203,684	£ 297,669,227
1949	4,173	644,253	648,426	7,962,808
1950	4,160	606,173	610,333	9,466,270
1951	5,590	622,189	627,779	9,725,343
1952	9,607	720,368	729,975	11,847,917
1953	5,396	818,516	823,912	13,299,092
1954	3,089	847,451	850,540	13,313,618
1955	4,092	837,913	842,005	13,374,688
1956	2,331	810,049	812,380	13,202,400
1957	2,043	894,638	896,681	14,550,893
1958	1,810	865,378	867,188	14,178,328
From 1886 to 31st December, 1958	11,574,632	48,338,271	59,912,903	418,590,584

(a) Comprises gold in ores and concentrates exported.

It will be seen that refinery production of gold from 1886 to 1958 amounted to almost 60 million fine ounces. The total value was £418·6 million but it should be noted that this figure has been derived by aggregating annual valuations made at prices *current at the time of production*, which ranged between £4 4s. 11·45d. per fine ounce in 1886 and £15 12s. 6d. per fine ounce in 1958, with the addition of premiums paid by the Gold Producers' Association Ltd. and of government subsidies.

Except for minor fluctuations, a general increase has occurred in the quantity of ore treated annually since the war. This has been achieved with a decreasing work force by the 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 5,352 in 1958 while, in the same period, the amount of ore treated rose from 2,194,477 to 3,021,072 tons.

The Department of Mines operates batteries for the treatment of ore which is mined by prospectors or other small producers and various concessions are made in order to encourage work which is 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 (†)

Year	Leases in Force at end of Year (a)		Gold-Mining Machinery in use at end of Year						Total Value of Gold- Mining Machinery	Ore Treated	Average Number of Men Working at Mines		Alluvial Diggers
	Leases	Area	Batteries		Other Crush- ing Mills	Cyaniding		Above Ground			Under Ground		
			Num- ber	Head of Stamps		Leach- ing and Agitat- ing Vats	Vacuum Filters and Presses						
1949	No.	acres		No.	No.	No.	No.	£	tons	No.	No.	No.	
1949	1,390	24,985	99	597	(b)241	481	65	4,061,771	2,468,297	3,222	3,540	38	
1950	1,562	28,620	94	574	(b)251	437	68	4,395,436	2,463,423	3,372	3,676	32	
1951	1,436	26,563	85	511	418	427	79	4,377,789	2,471,679	3,354	3,388	24	
1952	1,476	28,217	71	486	416	370	84	6,411,794	2,626,612	3,235	3,129	30	
1953	1,360	25,454	66	466	442	343	105	6,839,946	3,169,875	3,208	3,121	30	
1954	1,360	25,283	65	462	373	316	80	6,966,213	3,240,378	3,080	3,019	29	
1955	1,284	23,732	54	396	327	269	86	6,428,883	2,865,048	2,910	2,912	23	
1956	1,190	21,739	50	376	317	262	79	6,896,794	2,870,273	2,694	2,918	16	
1957	1,168	21,265	53	346	201	255	60	7,021,355	2,951,011	2,568	2,804	13	
1958	1,131	20,777	49	326	184	231	62	7,270,143	3,021,072	2,499	2,840	13	

(†) Including Government Batteries.

(a) Includes leases taken up on private property.

(b) Particulars incomplete.

Silver

Western Australia has produced over 9·5 million ounces of silver, by far the greater part of it as a by-product in the recovery of gold, the average silver content of the gold bullion submitted for refining being about 20 per cent. The other silver production is from silver-lead ores and concentrates exported for treatment outside the State.

PRODUCTION OF SILVER

Year	From Treatment of Auriferous Ore		Silver Content of Silver-lead Ores and Concentrates Exported		Year	From Treatment of Auriferous Ore		Silver Content of Silver-lead Ores and Concentrates Exported	
	Quantity	Value	Quantity	Value		Quantity	Value	Quantity	Value
	fine oz.	£	fine oz.	£		fine oz.	£	fine oz.	£
1949	194,721	49,246	9,992	1,792	1954	222,446	85,433	5,931	1,500
1950	193,210	57,984	6,893	1,660	1955	232,667	91,642	3,128	1,139
1951	188,942	77,096	7,801	2,126	1956	207,478	88,274	9,769	2,699
1952	186,441	76,569	12,712	3,556	1957	188,204	74,170	8,910	3,521
1953	214,776	84,618	14,598	4,783	1958	195,975	77,771	4,792	1,880

Asbestos

Several types of asbestos occur in the State but only two have been produced in significant quantities. Blue asbestos (crocidolite) is mined at Wittenoom Gorge in the West Pilbara district and, in 1958, production was 11,887 tons, valued at £1,304,724. The production of chrysotile, which occurs at a number of places in the Pilbara district, was 1,378 tons in 1958, valued at £38,652.

PRODUCTION OF ASBESTOS

Year	Crocidolite		Chrysotile		Other Types		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	tons	£	tons	£	tons	£	tons	£
1949	1,156	116,828	141	8,504	.....	.....	1,297	125,332
1950	1,018	143,496	211	9,156	.....	.....	1,230	152,677
1951	1,393	196,338	726	29,301	.....	.....	2,119	225,639
1952	2,940	557,861	652	37,255	.....	.....	3,592	595,116
1953	3,795	641,595	606	65,769	.....	.....	4,401	707,364
1954	3,794	542,203	303	13,474	.....	.....	4,097	555,677
1955	4,487	486,032	275	15,997	.....	.....	4,762	502,029
1956	7,286	800,710	761	25,366	.....	.....	8,047	826,076
1957	11,105	1,195,634	1,389	42,067	.....	.....	12,494	1,237,701
1958	11,887	1,304,724	1,378	38,652	.....	.....	13,265	1,343,376

Beryllium Ore

Beryl occurs in many localities throughout the State but is obtained mainly from the Pilbara district. Production was negligible until, as a result of the wartime demand for beryllium-copper alloys, 548 tons were produced in 1943 and 387 tons in 1944. Production then declined but recovered to some extent in 1951 when 91 tons were produced. It reached a post-war peak of 350 tons in 1957 but fell to 170 tons in 1958.

PRODUCTION OF BERYL

Item	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity (tons)	20	17	91	85	125	132	199	310	350	170
Value (£)	1,497	1,431	11,174	14,562	22,223	22,607	34,430	57,113	64,234	31,801

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. In the next two years it increased slightly and in 1958 production totalled 870,882 tons.

Open-cut mining was commenced at Collie in 1943 and the amount produced increased rapidly until by 1952 it was almost equal to production from deep mines. Since then, however, this trend has been reversed and deep mines now produce much more than open-cuts.

COAL PRODUCTION

Year	Quantity			Value
	Deep Mines	Open-Cuts	Total	
	tons	tons	tons	£
1949	543,944	206,650	750,594	972,245
1950	556,042	258,310	814,352	1,287,749
1951	480,145	368,330	848,475	1,716,788
1952	419,117	411,344	830,461	2,457,296
1953	493,035	393,147	886,182	3,073,073
1954	607,727	410,616	1,018,343	3,588,818
1955	599,662	304,130	903,792	3,089,311
1956	621,465	208,542	830,007	2,723,981
1957	689,882	148,779	838,661	2,552,657
1958	779,396	91,486	870,882	2,280,649

For some years after the war, employment in coal mining rose steadily and reached 1,560 in 1954. It has since declined, however, and in 1958 was 1,072 or slightly lower than in 1950. Substantial changes have also occurred in the proportion of men working above ground, the principal reason being the fluctuation which has occurred in open-cut operations.

MEN WORKING AT COAL MINES

Description	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Above Ground	328	374	436	564	647	708	582	443	377	230
Below Ground	716	725	689	717	816	852	804	776	759	842
Total	1,044	1,099	1,125	1,281	1,463	1,560	1,386	1,219	1,136	1,072

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. From this lode 75,000 tons of ore have been mined for a yield of 10,000 tons of copper. 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 Ravens-thorpe area, in association with gold. Another important producer has been the Murrin Murrin district in the Mt. 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 has since increased substantially, however, and in 1958 amounted to 1,802 tons valued at £55,597.

PRODUCTION OF COPPER ORE (†)*(For Smelting to Copper)*

Item	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity (tons)	49	2	43	17	50	....	12	212	1,804	1,802
Value (£)	630	183	799	1,200	3,302	....	1,021	12,891	60,011	55,597

(†) For production of cupreous ore for fertilizer *see* following section.

Cupreous Ore (For Fertilizer)

Until recent years, the production of ores having a copper content of less than 10 per cent. was uneconomical because of high costs of transport and smelting. The present demand for copper to remedy trace element deficiencies in soils has, however, created a market for low-grade ores for use in chemical fertilizers. Production for this purpose commenced in 1947, and in 1958 the output was 7,644 tons, valued at £114,670. The Pilbara, Peak Hill and Murchison areas are the principal sources of supply.

PRODUCTION OF CUPREOUS ORE FOR FERTILIZER

Item	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity (tons)	254	970	1,337	1,644	1,948	4,748	7,731	7,713	4,639	7,644
Value (£)	2,821	8,867	16,104	21,595	21,004	50,381	101,731	113,442	82,127	114,670

Ilmenite

The treatment of beach sands near Bunbury, Busselton and Capel for the extraction of ilmenite is a recent development in mineral production. Although the sands being treated also contain rutile, zircon, monazite and leucoxene, the ilmenite content is of particular importance because, unlike that from deposits being worked elsewhere in Australia, it is virtually chrome-free and little difficulty is experienced in producing a concentrate of high quality. After 1956, when recorded production of ilmenite concentrates was 3,293 tons valued at £15,150, output rose rapidly and 69,817 tons valued at £358,359 were produced in 1958.

PRODUCTION OF ILMENITE CONCENTRATES

Item	1956	1957	1958
Quantity (tons)	3,293	70,029	69,817
Value (£)	15,150	412,469	358,359

Concentrates containing rutile, zircon, monazite and leucoxene are recovered as by-products from the treatment of the beach sands and the first shipments were made in 1958, when 513 tons of concentrates valued at £16,769 were exported from the State.

Iron

Iron ore deposits are widely distributed throughout Western Australia, but until comparatively recent years there was very little development, due to the absence of smelting works in the State and

the high cost of transporting ore to distant markets. Since 1951, however, large quantities of hematite have been produced at Cockatoo Island (Yampi Sound) in the West Kimberley district for shipment to the other Australian States. These deposits, together with those of the adjacent Koolan Island, are of considerable magnitude and consist of high-grade ore.

Pig-iron was produced for the first time in Western Australia in 1948. It was smelted at Wundowie in the Darling Range east of Perth from brown iron ore (limonite) mined in the vicinity and using charcoal produced from local eucalypts. More recently ore obtained from Koolyanobbing, east of Bullfinch in the Yilgarn district, has replaced the Wundowie limonite in the smelting process. 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, 1958 is shown on page 283.

PRODUCTION OF IRON ORE

Item	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity (tons)	12,524	14,895	35,652	223,788	707,383	651,744	528,630	336,890	416,236	572,928
Value (£)	4,365	18,104	48,827	230,739	709,655	654,323	540,363	337,536	428,870	591,204

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 almost ceased entirely during the war, but a substantial increase occurred in the post-war years and in 1956 it rose to 7,613 tons. Since then the downward trend in world prices has adversely affected production and in 1958 only 2,493 tons of lead and silver-lead ores were mined.

Although the ore from the Northampton field, the principal producer, is almost free from silver, that from other areas further north, notably the Ashburton and Pilbara, has a silver content which may be as much as 10 ounces per ton. Production of such ores is included in the following table.

PRODUCTION OF LEAD AND SILVER-LEAD ORES AND CONCENTRATES

Item	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity (tons)	2,922	1,866	2,539	7,449	6,425	2,167	1,416	7,613	4,180	2,493
Value (£)	154,777	113,308	242,262	938,743	364,384	102,683	96,311	645,804	316,465	139,899

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 1957 it reached a peak of 73,191 tons valued at £1,162,402 but declined in 1958 to 47,543 tons valued at £694,356. Deposits at a number of centres in the Peak Hill, Marble Bar and Nullagine districts are being worked at present.

PRODUCTION OF MANGANESE ORE

Item	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity (tons)	9,420	11,962	5,257	5,045	16,324	40,581	44,194	56,234	73,191	47,543
Value (£)	56,289	65,459	33,789	35,634	150,991	608,215	497,588	737,569	1,162,402	694,356

Pyrites

The mining of iron pyrites was developed during the war to provide a substitute for overseas supplies of sulphur required for the manufacture of sulphuric acid for superphosphate. Production at Norseman, which is the principal source of supply, commenced in 1942 and has been continued in post-war years. 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 Fimiston. Gold is obtained as a by-product following the extraction of the sulphur from the Fimiston concentrates.

PRODUCTION OF IRON PYRITES (ORE AND CONCENTRATES)

Item	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity (tons)	31,299	35,213	46,615	53,577	59,248	56,150	49,485	60,969	57,918	49,389
Value (£)	125,857	163,514	296,988	422,029	489,985	441,466	397,269	420,052	382,567	351,847

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 for the State declined during the war but increased substantially after 1949 and reached a peak in 1956 when 358 tons of ore and concentrates valued at £208,273 were produced. In 1958 it declined to 138 tons valued at £77,319, the decrease being due mainly to contraction of operations in the Greenbushes field.

PRODUCTION OF TIN ORE AND CONCENTRATES

Item	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity (tons)	35	51	61	98	113	121	180	358	270	138
Value (£)	13,079	25,496	39,493	68,716	63,129	62,976	94,912	208,273	155,079	77,319

Other Minerals

In addition to the other minerals listed in the table on page 260 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 £49,710. 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. A mining company has commenced a survey of bauxite deposits which occur over a large area in the Darling Range. Deposits of bentonite, graphite, mica, kyanite, sillimanite, spodumene, vermiculite and barytes are also known and small amounts have been produced.

Quarrying

The following table gives details of the production of certain quarry products from 1948-49 to 1958.

SELECTED ITEMS OF QUARRY PRODUCTION

Year	Building and Monumental Stone (a)	Other Stone	
		Granite, Diorite, Quartzite, Basalt, etc. (b)	Limestone and Shell (c)
	tons	tons	tons
1948-49	27,374	196,924	148,996
1949-50	44,728	244,858	153,749
1950-51	72,300	306,452	196,150
1951-52	107,515	353,297	178,201
1952-53	92,384	403,580	202,294
1953-54	94,611	436,385	231,625
1954-55	118,336	511,877	242,078
1956 (d)	80,076	489,505	370,254
1957 (d)	55,331	504,282	427,286
1958 (d)	76,159	463,983	436,531

(a) Calcareous sandstone (including limestone) and granite.

(b) Principally for roads, concrete aggregate, filling, etc.

(c) Principally for the manufacture of lime and cement and for road making.

(d) Year ended 31st December.

The increased post-war demand for building and road construction materials is shown by the preceding table but it should be noted that gravel, sand, and clays, for which reliable and complete information cannot be obtained, are not included.

CHAPTER VIII—continued

PART 2—SECONDARY INDUSTRY

EXPLANATORY NOTES AND DEFINITIONS

Unless otherwise stated the figures quoted in this Part cover all industrial establishments conforming to the definition of a factory, including power stations and gas works.

Factory

For statistical purposes a factory is defined as any establishment which is engaged in the 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. It is derived from the value of output by deducting the value of goods consumed in the process of production. The values deducted are those of materials used, fuel, power and light, lubricating oil and water, repairs to plant and buildings, tools replaced, and containers and packings. "Net Production" represents the sum available for payment of wages, rent, depreciation, other sundry expenses and for interest and profit.

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. The tables affected carry appropriate footnotes.

HISTORICAL REVIEW

The growth of secondary industry in Western Australia has taken place almost entirely in the last fifty years and 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 were 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 1957-58 the number of factories had increased to 3,941. However, net production per head of population is still low in comparison with other States, particularly New South Wales and Victoria which have consistently increased their lead in industrial production. Manufacturing net production per head of population in each of the States during the year ended 30th June, 1958, was as follows :—New South Wales, £207 3s.; Victoria, £209 5s.; Queensland, £102 12s.; South Australia, £150 9s.; Western Australia, £107 16s.; and Tasmania, £155 3s.

The average number of persons employed in Western Australian factories from 1900, 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 and 1954-55, 49,314. 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 published in the *Statistical Summary* 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 and had fallen to 48,462 in 1957-58.

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, allowance should be made for price changes which occurred during the period.

In 1948 a wood-treatment plant and blast furnace commenced production at Wundowie, situated 41 miles from Perth in the Darling Range. This undertaking smelts local iron ores with charcoal derived from adjacent hardwood forests. It is financed and controlled by the State Government and was established, primarily, to test the economic possibilities of a larger-scale charcoal-iron and steel industry. As charcoal is relatively free from ash the pig-iron produced is of very pure type. It is consequently in demand by producers of special-type castings, both overseas and in Australia, and the plant's original capacity of 10,000 tons per annum has been expanded to approximately 40,000 tons. Acetic acid and methanol are important by-products from the wood-distillation plant used in the production of the charcoal. Other major developments have included the establishment of an oil refinery in 1955 and a second portland cement factory and a steel-rolling mill in 1956.

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	£ 1,204,326	£ 1,252,927	rated h.p. 7,270	£ (c)
1905	777	11,829	1,652	13,481	1,789,612	1,869,753	11,151	(c)
1910	822	12,404	2,490	14,894	1,822,768	1,939,273	11,378	2,736,000
1915	933	13,453	2,429	15,882	2,635,523	2,733,532	21,997	3,233,935
1920	998	14,311	2,631	16,942	3,563,777	3,411,243	26,451	4,854,075
1925-26 (d)	1,170	17,893	3,274	20,667	4,855,161	5,480,905	37,631	9,611,113
1929-30	1,466	15,921	3,722	19,643	5,623,214	6,090,986	37,754	7,488,060
1934-35	1,658	14,248	3,521	17,769	5,673,461	5,763,428	42,520	6,284,923
1939-40	2,129	18,351	4,636	22,967	6,863,468	7,955,495	66,925	9,027,728
1944-45	1,931	22,404	6,742	29,146	7,654,187	8,254,231	80,667	12,960,009
1949-50	3,023	33,711	7,022	40,733	11,055,002	11,456,767	120,380	26,044,026
1953-54	3,523	40,439	7,020	47,459	24,738,939	28,194,983	169,694	55,147,229
1954-55	3,727	42,294	7,020	49,314	30,229,913	54,955,205	204,843	60,955,829
1955-56	3,871	43,540	6,768	50,108	32,858,951	56,533,675	223,670	69,732,802
1956-57	3,935	42,122	6,626	48,748	35,519,634	63,272,185	238,959	73,441,949
1957-58	3,941	42,039	6,423	48,462	36,845,609	63,840,075	242,719	75,312,250

(a) Includes working proprietors and, up to and including 1925-56, 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 and 1954. 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	31st March, 1901	(a) 12,108	98,145	91,600	13.3
1911	3rd April, 1911	(a) 16,754	133,253	125,886	13.3
1921	4th April, 1921	(a) 18,151	140,296	129,641	14.0
1932-33	30th June, 1933	(b) 14,810	187,636	159,222	9.3
1946-47	30th June, 1947	(b) 33,806	206,400	197,825	17.1
1953-54	30th June, 1954	(b) 47,459	258,401	253,269	18.7

(a) Figures for calendar year. Includes fallers and haulers employed by sawmills. (b) For year ended 30th June.

GENERAL SUMMARY, 1948-49 TO 1957-58

Location of Secondary Industry

The greatest population, both in number and in density, occurs in the Metropolitan Statistical Division and, with a few 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 recent establishment of major industries in the Kwinana area also places it next in manufacturing activity measured by such standards as value of land and buildings and of machinery and plant, consumption of power, fuel and light, value of materials used, value of output and net production. The South-West Division ranks next to the Metropolitan Division in total population and also in factory employment and number of factories.

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 at 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 a section *Geographical Distribution of Industry* which appears on page 219. The Divisions are shown on the map at the back of the Year Book.

PRINCIPAL ITEMS ACCORDING TO STATISTICAL DIVISIONS, 1957-58

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	2,346	£ 24,951,179	£ 24,985,332	30,034	5,493	£ 25,038,042	£ 2,568,294
Percentage of State Total	59.53	67.72	39.14	71.44	85.52	71.66	85.71
Other Divisions—							
Swan	178	4,274,381	22,993,553	3,049	246	2,912,401	119,453
South-West	483	3,377,347	8,532,438	4,332	226	3,311,737	98,826
Southern Agricultural	248	1,339,687	1,689,058	1,340	232	1,030,611	111,940
Central Agricultural	313	1,072,908	1,920,871	1,446	86	1,025,304	35,624
Northern Agricultural	157	604,966	574,950	612	45	431,136	21,574
Eastern Goldfields	139	486,103	1,542,363	752	67	603,927	26,687
Central	77	739,038	1,601,010	474	28	585,165	14,218
North-West							
Pilbara							
Kimberley							
Total, Other Divisions	1,595	11,894,430	38,854,743	12,005	930	9,900,281	423,322
Percentage of State Total	40.47	32.28	60.86	28.56	14.48	28.34	14.29
STATE TOTAL	3,941	36,845,609	63,840,075	42,039	6,423	34,938,323	2,996,616

Statistical Division	Value of Output	Cost of—				Net Production (b)
		Power, Fuel and Light (including Water and Lubricants)	Repairs to Buildings and Plant	Materials Used (including Containers)	Total	
Metropolitan	£ 110,867,265	£ 3,959,044	£ 1,861,735	£ 56,672,571	£ 62,493,850	£ 43,373,915
Percentage of State Total	56.49	42.00	54.35	52.43	51.67	64.23
Other Divisions						
Swan	49,795,616	2,493,700	652,603	34,372,973	37,519,276	12,276,340
South-West	15,366,045	919,363	391,044	7,510,762	8,821,674	6,544,371
Southern Agricultural	6,212,490	249,062	121,593	3,510,985	3,881,640	2,330,850
Central Agricultural	5,662,126	420,153	110,567	3,075,079	3,605,799	2,056,327
Northern Agricultural	2,464,255	103,689	43,972	1,382,779	1,530,440	933,815
Eastern Goldfields	2,964,357	985,329	108,683	580,304	1,674,816	1,290,041
Central	2,929,979	294,130	134,923	994,335	1,423,388	1,506,591
North-West						
Pilbara						
Kimberley						
Total, Other Divisions	85,395,368	5,466,431	1,563,385	51,427,217	58,457,033	26,938,335
Percentage of State Total	43.51	58.00	45.65	47.57	48.33	35.77
STATE TOTAL	196,262,633	9,425,475	3,425,120	108,099,788	120,950,383	75,312,250

(a) Average over whole year. (b) See *Explanatory Notes and Definitions* on page 268. † Separate particulars not available for publication. See note (b).

FACTORIES AND EMPLOYMENT IN EACH STATISTICAL DIVISION

Statistical Division	Year				
	1953-54	1954-55	1955-56	1956-57	1957-58
NUMBER OF FACTORIES					
Metropolitan	2,122	2,244	2,326	2,358	2,346
Swan	154	162	176	177	178
South-West	411	449	477	491	483
Southern Agricultural	203	232	233	244	248
Central Agricultural	293	295	303	302	313
Northern Agricultural	136	142	147	156	157
Eastern Goldfields	140	137	139	137	139
Central	23	22	19	20	19
North-West	14	14	17	16	16
Pilbara	8	11	13	13	14
Kimberley	19	19	21	21	28
Whole State	3,523	3,727	3,871	3,935	3,941

PERSONS EMPLOYED (a)

Metropolitan	36,003	37,047	37,061	35,942	35,527
Swan	1,926	2,591	3,292	3,235	3,295
South-West	4,507	4,583	4,697	4,569	4,558
Southern Agricultural	1,339	1,552	1,492	1,521	1,572
Central Agricultural	1,677	1,593	1,572	1,525	1,532
Northern Agricultural	870	643	653	645	657
Eastern Goldfields	833	814	865	840	819
Central	65	58	51	59	56
North-West	175	167	163	150	144
Pilbara	20	26	23	26	34
Kimberley	244	240	239	236	208
Whole State	47,459	49,314	50,108	48,748	48,462

(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 273. The largest volume of employment is provided by the class comprising Industrial Metals, Machines, Implements and Conveyances. Within this class, the industries which cover the construction and assembly of motor vehicle chassis and bodies and the repair of motor vehicles employed in 1957-58 an average over the year of 6,262 persons and government factories constructing and repairing railway rolling stock employed 3,840. Another large employer of labour is the class Sawmilling, Woodworking and Basketware. Mills sawing logs employed 3,391 persons, and those engaged only in resawing and dressing of rough-sawn timber, 597. In the class Food, Drink and Tobacco, there were 1,040 persons engaged in bakeries and 1,174 in meat and fish preserving factories. In chemical fertilizer works, within the class Chemicals, Dyes, Explosives, Paints, Oils and Grease, employees numbered 1,004 and in brick, tile and pottery works, in the class Bricks, Pottery, Glass, etc., 1,092 persons were employed.

The first table on page 273 gives detailed employment data in each class for June, 1958, and as a total for June in each year from 1954 to 1957. For the purpose of this table, figures for June have been chosen in order to show the incidence of junior employment, particulars of which are collected for that month only.

In 1945, towards the end of the war, the ratio of male to female employment was 3·3 : 1. Within the next five years it increased to 4·6 : 1 and by 1954-55 it had risen to 6·1 : 1. It then rose slowly to 6·3 : 1 in 1956-57 and showed very little increase in 1957-58.

During the same period there was a substantial fall in the proportion of junior employment in both sexes. However, although the proportion of junior males to total males employed became fairly steady by about 1950 and has not changed greatly since, the proportion of junior females continued to fall until 1955 and has since tended to increase slightly. The changes which have occurred during the five years from 1954 to 1958 in the age grouping of workers in secondary industry are illustrated in the second table on page 273 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, 1958
(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-Metaliferous Mine and Quarry Products	117	1,373	65	1,438	20	....	116	18	1,237	47
II. Bricks, Pottery, Glass, etc.	48	1,271	114	1,385	13	....	89	12	1,169	102
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease	60	2,544	239	2,783	11	11	106	74	2,427	154
IV. Industrial Metals, Machines, Conveyances	1,609	17,343	864	18,207	370	23	2,659	306	14,314	535
V. Precious Metals, Jewellery, Plate	71	158	16	174	2	1	33	3	123	12
VI. Textiles and Textile Goods (inclusive of Knitted Goods)	44	522	412	934	15	21	47	137	460	254
VII. Skins and Leather (not Clothing or Footwear)	31	458	100	558	22	5	41	22	395	73
VIII. Clothing (except Knitted)	407	828	2,130	2,958	27	161	154	718	647	1,251
IX. Food, Drink and Tobacco	609	4,681	1,292	5,873	80	53	488	441	4,013	798
X. Sawmilling, Woodworking and Basketware	456	5,351	79	5,430	104	2	587	24	4,660	53
XI. Furniture of Wood, Bedding, etc.	169	976	148	1,124	39	8	220	40	717	100
XII. Paper, Stationery, Printing, Bookbinding, etc.	123	1,912	558	2,470	39	32	351	203	1,522	323
XIII. Rubber	40	225	27	252	6	1	52	13	167	13
XIV. Musical Instruments	8	34	34	68	3	....	5	....	26	....
XV. Miscellaneous Products	59	258	117	375	14	9	43	37	201	71
Total, Classes I to XV	3,851	37,834	6,161	43,995	765	327	4,991	2,048	32,078	3,786
XVI. Heat, Light and Power	90	1,220	17	1,237	4	....	52	7	1,164	10
TOTAL, ALL CLASSES { June, 1958	3,941	39,054	6,178	45,232	769	327	5,043	2,055	33,242	3,796
June, 1957	3,935	39,556	6,262	45,818	898	327	5,071	1,984	33,587	3,951
June, 1956	3,871	39,996	6,490	46,486	901	361	4,888	2,032	34,207	4,097
June, 1955	3,727	40,652	6,642	47,294	876	319	4,858	2,122	34,918	4,201
June, 1954	3,523	38,434	7,073	45,507	835	430	4,518	2,319	33,081	4,324

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								
1954	....	....	....	2.17	11.76	13.93	86.07	100.00
1955	....	....	....	2.15	11.95	14.10	85.90	100.00
1956	....	....	....	2.25	12.22	14.47	85.53	100.00
1957	....	....	....	2.27	12.82	15.09	84.91	100.00
1958	....	....	....	1.97	12.91	14.88	85.12	100.00
FEMALES								
1954	....	....	....	6.08	32.79	38.87	61.13	100.00
1955	....	....	....	4.80	31.95	36.75	63.25	100.00
1956	....	....	....	5.56	31.31	36.87	63.13	100.00
1957	....	....	....	5.22	31.68	36.90	63.10	100.00
1958	....	....	....	5.29	33.27	38.56	61.44	100.00

The average amount of salary and wages paid per employee in secondary industry has increased each year since 1948-49 and this upward movement was accelerated at the end of 1950 by the granting of a basic wage increase of £1 per week for adult males and 15s. per week for adult females. In the following table details are shown for each class of industry in each of the ten years from 1948-49 to 1957-58, 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									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
MALES										
I. Treatment of Non-Metalliferous Mine and Quarry Products	371	421	471	640	716	793	815	851	870	871
II. Bricks, Pottery, Glass, etc.	367	433	517	680	720	781	847	880	872	926
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease	436	491	608	799	867	877	932	1,021	1,001	1,061
IV. Industrial Metals, Machines, Implements, and Conveyances	383	422	505	623	682	730	781	821	835	856
V. Precious Metals, Jewellery, Plate	398	444	500	676	716	736	797	829	895	890
VI. Textiles and Textile Goods (inclusive of Knitted Goods)	393	418	555	679	736	830	815	871	931	954
VII. Skins and Leather (not Clothing or Footwear)	419	467	533	658	747	777	790	865	914	912
VIII. Clothing (except Knitted)	369	404	495	623	714	703	753	771	794	834
IX. Food, Drink and Tobacco	423	477	579	723	797	822	838	863	889	937
X. Sawmilling, Woodworking and Basketware	353	386	459	567	650	701	724	755	777	798
XI. Furniture of Wood, Bedding, etc.	348	393	457	564	610	660	689	737	738	795
XII. Paper, Stationery, Printing, Bookbinding, etc.	415	473	538	653	742	801	875	910	934	969
XIII. Rubber	366	447	546	676	729	739	827	839	844	871
XIV. Musical Instruments	246	314	387	497	575	590	673	726	819	736
XV. Miscellaneous Products	322	355	455	546	605	683	705	729	765	800
XVI. Heat, Light and Power	482	528	621	775	906	911	994	1,054	1,077	1,045
ALL CLASSES—										
Western Australia	390	433	516	644	712	754	798	840	857	885
Australia	446	492	596	726	783	821	878	934	971	1,002

FEMALES

VI. Textiles and Textile Goods (inclusive of Knitted Goods)	213	244	273	366	423	430	441	469	482	491
VII. Skins and Leather (not Clothing or Footwear)	192	235	295	359	394	417	424	466	496	507
VIII. Clothing (except Knitted)	215	236	283	353	404	428	436	448	464	479
IX. Food, Drink and Tobacco	206	235	280	340	391	414	424	436	457	459
XII. Paper, Stationery, Printing, Bookbinding, etc.	187	205	262	339	376	408	426	427	437	478
XV. Miscellaneous Products	161	185	246	309	360	383	381	404	420	384
All other Classes	207	228	282	363	407	422	447	471	490	499
ALL CLASSES—										
Western Australia	208	232	280	351	400	422	434	450	467	479
Australia	247	274	338	422	468	493	510	530	558	578

TOTAL EMPLOYEES

I. Treatment of Non-Metalliferous Mine and Quarry Products	367	418	467	634	708	783	808	839	858	858
II. Bricks, Pottery, Glass, etc.	358	419	504	664	700	749	814	852	837	890
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease	409	459	571	755	826	832	888	977	959	1,014
IV. Industrial Metals, Machines, Implements and Conveyances	375	413	495	611	669	717	766	809	818	839
V. Precious Metals, Jewellery, Plate	387	428	512	632	671	700	756	795	867	858
VI. Textiles and Textile Goods (inclusive of Knitted Goods)	305	334	411	529	589	644	624	683	730	749
VII. Skins and Leather (not Clothing or Footwear)	382	427	493	608	691	711	719	791	837	842
VIII. Clothing (except Knitted)	254	279	337	421	487	499	515	532	554	576
IX. Food, Drink and Tobacco	375	420	507	632	704	726	744	769	793	830
X. Sawmilling, Woodworking and Basketware	351	384	457	564	647	697	721	751	774	794
XI. Furniture of Wood, Bedding, etc.	334	374	437	546	586	632	661	704	704	756
XII. Paper, Stationery, Printing, Bookbinding, etc.	358	406	468	573	655	707	766	795	820	859
XIII. Rubber	355	425	517	646	702	698	793	802	806	830
XIV. Musical Instruments	246	314	387	497	575	590	664	716	797	743
XV. Miscellaneous Products	275	304	385	471	532	590	599	633	659	672
XVI. Heat, Light and Power	480	526	614	771	900	901	987	1,045	1,072	1,039
ALL CLASSES—										
Western Australia	357	397	474	595	665	703	744	785	802	829
Australia	396	437	526	651	710	743	789	837	872	901

(a) Excludes working proprietors and amounts drawn by them.

Capital Employed

In the following table the amount of capital employed in secondary industry is shown, together with the horsepower of engines in use and the relation of factories using power-driven machinery to those using manual labour only.

FACTORY CAPITAL EMPLOYED

Year	Number of Factories		Engines and Electric Motors used to drive Machinery (a)	Book Values of —	
	Using Manual Labour only	Using Power-driven Machinery		Land and Buildings	Plant and Machinery
			rated h.p.	£	£
1948-49	212	2,713	111,628	10,054,598	9,800,130
1949-50	199	2,824	120,380	11,055,002	11,456,767
1950-51	158	2,953	130,188	13,380,566	14,712,662
1951-52	151	3,116	144,726	16,747,352	20,715,509
1952-53	155	3,269	160,103	20,959,603	24,034,814
1953-54	137	3,386	169,694	24,738,939	28,194,983
1954-55	115	3,612	204,848	30,229,913	54,958,205
1955-56	137	3,734	223,670	32,858,951	56,533,675
1956-57	135	3,800	238,959	35,519,634	63,272,185
1957-58	130	3,811	242,719	36,845,609	63,840,075

(a) Excludes engines used in electricity generating stations and motors driven by electricity of own generation.

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	
1948-49	8,682	166	2,187	3,008	11,225	86,360	7,152	111,628
1949-50	9,719	160	1,933	4,679	11,583	92,306	5,745	120,380
1950-51	9,648	144	1,963	5,354	12,687	100,392	6,053	130,188
1951-52	10,439	130	1,621	6,798	15,245	110,493	7,598	144,726
1952-53	10,827	130	1,559	7,156	15,827	124,604	7,435	160,103
1953-54	11,002	130	355	9,482	13,786	134,939	7,480	169,694
1954-55	11,010	10,613	1,499	10,712	12,068	158,946	6,470	204,848
1955-56	12,122	10,609	1,462	15,601	11,867	172,009	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

† Excludes engines held in reserve or idle and engines used in electricity generating stations.

(a) Excludes particulars shown under "Electricity of own Generation."

POWER, FUEL AND LIGHT USED IN FACTORIES

Year	Coal		Coke		Wood		Fuel Oil		Electricity	Other (Gas, Tar Fuel, etc.)
	tons	£	tons	£	tons	£	'000 gal.	£	£	£
1948-49	362,520	828,534	15,875	53,639	456,502	548,600	10,251	576,853	471,560	83,674
1949-50	399,866	965,240	21,786	71,353	473,530	575,143	10,113	653,564	598,920	117,191
1950-51	459,130	1,134,895	21,493	97,162	435,111	579,877	11,210	849,799	723,139	156,566
1951-52	452,510	1,665,076	26,280	133,216	473,310	657,801	13,627	1,215,884	1,031,073	193,441
1952-53	443,783	2,137,504	22,378	129,214	429,556	644,352	14,120	1,369,600	1,382,211	203,920
1953-54	568,130	2,891,657	17,922	147,102	358,599	462,236	15,518	1,392,205	1,534,571	207,004
1954-55	602,871	3,225,276	18,135	144,288	345,326	429,094	*31,748	*1,961,268	1,710,148	207,197
1955-56	586,312	2,955,651	21,743	178,359	330,459	420,252	52,342	2,920,077	1,920,364	248,003
1956-57	537,464	2,646,366	23,460	216,703	322,222	420,764	52,209	3,321,370	1,933,825	269,546
1957-58	562,456	2,535,154	20,101	196,429	312,532	415,930	53,579	3,497,146	1,991,402	339,230

* Revised.

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 increased horsepower of steam engines in use in 1954-55 was due to an expansion in Class III, which covers the production of chemicals, dyes, explosives, paints, oils and grease, and in which specialized processes make their use desirable.

The tables on page 275 show the proportions in which the various types of motive power were used during the ten years from 1948-49 to 1957-58 and the quantities and values of fuel used. The fuels consumed are used for heating purposes, such 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 has been defined in the section *Explanatory Notes and Definitions* on page 268. In the following table for the years 1953-54 to 1957-58 the major components of the cost of production, and the margin to cover other expenditure and profit are expressed as a percentage of the value of output.

COSTS AS A PERCENTAGE OF VALUE OF OUTPUT

Particulars	1953-54	1954-55	1955-56	1956-57	1957-58
Materials Used	48.42	48.87	50.42	51.57	52.56
Containers (non-returnable)	3.48	3.02	2.63	2.57	2.52
Repairs to Buildings and Plant	1.95	1.98	1.96	1.80	1.75
Power, Fuel and Light Used	4.93	5.13	4.94	4.70	4.57
Lubricating Oil and Water Used	0.25	0.25	0.24	0.22	0.23
Salaries and Wages (a)	23.47	23.22	21.24	19.67	19.33
Balance for Other Costs (including Depreciation, Rent, Interest, etc.) and Profit	17.50	17.53	18.57	19.47	19.04
Total	100.00	100.00	100.00	100.00	100.00

(a) Excludes amounts drawn by working proprietors.

The annual values of output and net production and of net production per person employed are shown in the following table for the years 1948-49 to 1957-58.

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)
1948-49	£ 53,417,492	£ 21,473,887	£ 560	1953-54	£ 134,586,811	£ 55,147,229	£ 1,162
1949-50	63,978,037	26,044,026	639	1954-55	149,584,445	60,955,829	1,236
1950-51	84,431,056	34,220,384	782	1955-56	175,146,435	69,732,802	1,392
1951-52	106,571,588	42,745,325	948	1956-57	187,636,004	73,441,949	1,507
1952-53	119,309,764	49,191,332	1,089	1957-58	196,262,633	75,312,250	1,554

(a) Based on average employment (including working proprietors) over the whole year.

Summary According to Industry

The following table gives number of factories, employment and summarized financial data for 1957-58 for each of the 16 classes of industry and for the sub-classes of which they are comprised.

SUMMARY OF FACTORIES ACCORDING TO INDUSTRY, 1957-58

Nature of Industry	Number of Factories	Persons Employed (a)		Salaries and Wages (b)	Value of Output	Cost of—					Total	Net Production (c)	
		Males	Females			Repairs to Buildings and Plant, etc.	Non-Returnable Containers, etc.	Materials Used					
									Power, Fuel, Light, Water and Lubricants Used	£			£
Class I.—Treatment of Non-Metalliferous													
Mine and Quarry Products	23	171	8	150,983	842,679	82,233	18,331	35,345	340,016	475,975	366,704		
Lime, Plaster of Paris, Asphalt	28	201	8	222,092	642,103	10,701	9,503	20	230,212	300,436	341,667		
Fibrous Plaster and Products	10	88	6	66,810	178,661	2,480	6,360	75	59,397	68,312	110,349		
Marble, Slate, etc.													
Cement, Portland	48	841	36	747,088	4,010,774	433,877	116,443	107,985	1,313,827	1,972,132	2,033,642		
Asbestos Cement Sheets and Mouldings													
Other Cement Goods	8	67	3	60,805	217,806	15,606	11,669	7,869	84,250	119,394	98,412		
Other													
Total, Class I.	117	1,458	61	1,247,778	5,892,023	544,897	162,356	151,294	2,077,702	2,936,249	2,955,774		
Class II.—Bricks, Pottery, Glass, etc.													
Bricks and Tiles	32	983	109	971,373	2,518,376	438,422	136,872	14,592	248,562	838,448	1,679,928		
Earthenware, China, Porcelain, Terraotta	16	350	15	311,691	989,923	103,714	27,651	4,664	329,729	465,768	524,165		
Glass Bottles													
Glass (other than Bottles)													
Total, Class II.	48	1,333	124	1,283,064	3,508,299	542,136	164,523	19,256	578,291	1,304,206	2,204,093		
Class III.—Chemicals, Dyes, Explosives, Paints, Oils, Grease													
Industrial and Heavy Chemicals and Acids	36	1,322	200	1,558,061	41,926,871	1,825,203	501,529	368,190	29,710,160	32,405,082	9,521,789		
Pharmaceutical and Toilet Preparations													
Oils, Mineral													
Oils, Animal													
Oils, Vegetable													
Soaps and Candles													
Inks, Polishes, etc.													
Matches													
White Lead, Paints, Varnishes	11	97	16	96,656	952,824	4,499	5,156	100,010	512,173	621,838	330,086		
Bolling Down, Tallow Refining	7	105	3	108,161	613,777	60,327	25,874	83,394	38,000	258,425	325,352		
Chemical Fertilizers	6	987	17	1,008,278	8,789,054	165,192	291,419	896,347	5,295,234	6,578,242	2,210,812		
Total, Class III.	60	2,511	236	2,771,156	52,282,526	2,055,221	823,978	1,337,871	35,676,517	39,893,587	12,388,989		
Class IV.—Industrial Metals, Machines, Conveyances													
Smelting, Converting, Refining, Rolling of Iron and Steel	21	651	13	597,292	3,054,061	357,808	57,657	4,427	1,288,111	1,708,003	1,346,053		
Foundries (Ferrous)													
Extracting and Refining of other Metals : Alloys													
Plant, Equipment and Machinery (including Machine Tools)	101	2,965	206	2,891,610	8,084,083	130,531	106,589	4,325	3,842,890	4,084,338	3,999,745		
Other Engineering	151	874	31	668,319	1,986,212	35,712	27,484	747	792,294	856,237	1,129,975		
Electrical Machinery, Cables and Apparatus	75	733	67	609,082	1,680,682	20,642	17,525	4,500	682,356	725,023	955,659		

For footnotes see page 281.

Canvas Goods (Tents, Tarpaulins, etc.)	18	94	68	104,559	516,535	2,043	2,865	300	333,645	338,853	177,482
Bags and Sacks	6	19	23	308,112	705	2,103	2,103	294	219,629	222,731	80,381
Other	4	23	1	22,087	198,086	2,440	2,622	125	110,883	116,070	82,016
Total, Class VI.	44	531	418	700,566	5,863,620	55,107	75,362	25,450	4,262,373	4,418,292	1,445,328
Class VII.—Skins and Leather (not Clothing or Footwear)											
Furs, Skins, Leather—											
Furriers and Fur Dressing	3	7	14	11,746	42,220	472	21	54	15,123	15,670	26,550
Woolscouring and Felmongery	4	270	29	289,328	988,029	55,273	24,791	3,551	496,680	580,295	407,734
Tanning, Currying and Leather Dressing	5	163	1	125,918	549,180	11,859	9,569	497	361,050	382,975	166,205
Saddlery, Harness, Bags, Trunks and other Goods of Leather and Leather Substitutes (not Clothing or Footwear)—											
Saddlery, Harness and Whips	5	18	7	13,114	42,894	286	499	127	22,504	23,416	19,478
Bags, Trunks and other Goods of Leather and Leather Substitutes	14	71	56	73,433	261,370	1,560	1,509	736	124,343	128,148	133,222
Total, Class VII.	31	519	107	513,539	1,833,693	69,450	36,389	4,965	1,019,700	1,130,504	753,189
Class VIII.—Clothing (except Knitted)											
Tailoring and Ready-made Clothing	116	239	436	306,446	1,089,060	9,699	3,691	726	537,059	551,175	517,885
Waterproof and Oilskin Clothing	3	8	19	14,144	33,028	118	124	....	16,336	16,578	16,450
Gloves	61	30	638	309,385	817,499	6,570	4,295	1,345	375,443	387,653	429,946
Dressmaking, Hemstitching	6	1	26	12,113	48,004	442	148	112	21,740	22,442	25,562
Millinery	14	46	487	260,012	841,018	4,695	5,405	3,077	434,582	447,759	393,259
Shirts, Collars, Underclothing	4	3	7	2,679	14,497	131	3	352	5,697	6,183	8,314
Foundation Garments	5	13	67	46,658	117,905	1,223	1,222	1,265	43,485	47,195	70,710
Handkerchiefs, Ties and Scarves	11	294	209	335,179	891,687	6,532	13,935	5,630	383,227	409,324	482,363
Umbrellas and Walking Sticks	101	219	23	99,990	381,311	3,149	3,589	3,345	114,885	124,968	256,943
Hats and Caps	86	290	325	332,744	808,601	51,663	22,675	8,085	73,613	156,036	652,565
Boots and Shoes (not Rubber)	407	1,143	2,237	1,719,350	5,022,610	84,222	55,087	23,937	2,006,067	2,169,313	2,353,297
Boot and Shoe Repairing											
Boot and Shoe Accessories											
Dyeing and Cleaning (including Renovating and Repairing)											
Total, Class VIII.	407	1,143	2,237	1,719,350	5,022,610	84,222	55,087	23,937	2,006,067	2,169,313	2,353,297
Class IX.—Food, Drink and Tobacco											
Flour Milling	19	425	30	394,617	6,580,287	103,941	43,924	429,081	5,185,978	5,762,324	797,463
Cereal Foods and Starch	10	67	64	74,692	519,610	24,535	5,442	92,892	212,785	335,654	183,956
Animal and Bird Foods	20	110	10	106,245	1,202,668	15,185	15,937	62,058	840,152	933,382	269,266
Bakeries (including Cakes and Pastry)	295	876	164	582,373	3,854,688	126,233	40,913	39,379	2,169,234	2,365,759	1,488,929
Biscuits	6	204	344	351,033	1,660,988	56,434	39,781	233,067	832,993	1,167,275	493,713
Ice Cream											
Sugar Refining	6	648	10	693,669	6,687,544	253,387	89,920	717,377	3,409,479	4,470,163	2,217,381
Beveries											
Malt											
Confectionery (including Chocolate and Sugar)	7	121	176	185,039	846,931	16,317	11,119	96,946	394,890	519,272	327,659
Jams, Fruit and Vegetable Canning	4	39	31	49,163	299,690	3,362	5,821	49,437	138,949	197,569	102,121
Pickles, Sauces, Vinegar	5	31	23	34,280	190,893	3,338	5,007	35,964	56,881	104,190	86,703
Bacon Curing	4	225	43	230,708	3,004,163	36,471	18,179	69,314	2,479,355	2,606,319	397,844

For footnotes see page 281.

SUMMARY OF FACTORIES ACCORDING TO INDUSTRY, 1957-58—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 and Plant, etc.	Non-Returnable Containers, etc.	Materials Used	Total	
				£	£	£	£	£	£	£	£
Butter Factories	18	251	51	253,957	3,589,802	64,472	51,038	177,707	2,829,582	3,122,799	467,003
Cheese Factories	4	81	7	76,080	301,342	1,754	1,878	9,535	156,046	169,213	132,129
Condensed and Dried Milk Factories	35	1,076	98	1,115,066	4,606,974	134,837	109,309	314,433	2,424,194	2,982,773	1,624,201
Margarine	60	223	229	272,404	2,040,676	15,954	19,155	433,732	826,721	1,295,562	745,114
Sausage Casings	38	293	25	278,205	903,512	115,923	60,972	130,214	120,774	427,583	475,629
Condiments, Coffee, Spices, etc. (including Tea Blending and Packing, Food Packing, etc.)	45	221	53	179,113	1,071,495	17,977	27,081	161,607	394,529	601,194	470,301
Ice and Refrigerating	22	60	11	39,450	259,447	2,975	3,753	39,607	111,433	157,768	101,679
Aerated Waters, Cordials, etc.	11	93	23	92,430	399,932	3,935	3,475	188,767	47,991	244,168	155,764
Wine Making											
Bottling											
Tobacco, Cigars and Cigarettes											
Total, Class IX.	609	5,044	1,392	5,008,549	38,000,642	1,000,030	552,754	3,289,117	22,621,866	27,463,767	10,536,875
Class X.—Sawmilling, Woodworking and Basketware											
Sawmills—Sawing from the Log	217	3,365	26	2,555,528	8,529,198	237,253	295,281	4,704	3,443,846	3,981,084	4,548,114
Sawmills—Resawing, Dressing, etc.	28	588	9	465,194	2,442,232	36,705	51,813	551	1,544,758	1,633,827	808,405
Plywood Mills	5	238	1	187,152	846,146	13,668	20,795	40	440,798	475,301	370,845
Other	4	4		2,274	20,529	128	362	1,385	14,554	16,429	4,100
Bark Mills	178	1,308	34	1,007,175	3,024,279	34,918	34,194	577	1,503,526	1,573,215	1,451,064
Cooperage	5	20		20,198	38,760	644	709		11,871	13,224	25,536
Boxes and Cases	6	80	5	61,043	209,862	2,258	3,561	70	97,137	103,026	106,836
Woodturning, Woodcarving, etc.	4	14	2	8,813	28,009	215	216		10,952	11,383	16,626
Basketware, Wickerware and Perambulators	9	57	4	37,794	74,395	344	1,299		20,349	21,992	52,403
Total, Class X.	456	5,674	81	4,845,171	15,213,410	326,133	408,230	7,327	7,087,791	7,829,481	7,883,929
Class XI.—Furniture of Wood, Bedding, etc.											
Cabinet, Furniture Making and Upholstery	150	962	47	653,987	2,296,826	17,966	11,274	203	1,197,581	1,227,024	1,069,802
Bedding and Mattresses (not wire)	5	122	55	133,146	680,777	3,308	5,982	540	361,375	371,205	259,572
Furnishing Drapery	3	1	18	9,328	39,924	165	13		25,255	25,433	14,491
Picture Frames	3	11	2	8,193	24,623	108			9,791	9,899	14,724
Window and Verandah Blinds	8	47	36	57,470	305,951	899	1,355	938	193,693	201,885	104,066
Total, Class XI.	169	1,143	158	862,124	3,298,101	22,446	18,624	1,681	1,792,695	1,835,446	1,462,655
Class XII.—Paper, Stationery, Printing, Bookbinding, etc.											
Newspapers and Periodicals	22	701	30	757,755	2,977,996	40,312	24,271	1	1,286,715	1,354,299	1,823,687
Printing, Government	1	182	74	216,097	499,992	6,072	9,754	903	168,112	179,841	320,151
Printing, General (including Bookbinding)	78	778	350	793,398	2,592,095	25,651	34,736	11,236	970,251	1,041,874	1,550,221

Stationery and Paper Products	5	36	15	35,739	118,505	9,762	2,794	4,376	50,497	68,029	50,476
Papermaking	6	163	9	170,604	231,179	6,265	2,687	31	39,856	48,789	282,440
Other	7	51	55	73,196	565,950	2,685	3,219	912	385,089	180,198	131,770
Cardboard Boxes, Cartons and Containers	123	1,978	559	2,105,259	7,347,885	93,137	79,881	20,365	3,051,502	3,244,885	194,045
Paper Bags	40	244	26	207,480	833,127	26,194	23,323	177	347,937	397,631	4,102,800
Total, Class XII.	40	244	26	207,480	833,127	26,194	23,323	177	347,937	397,631	435,496
Class XIII.—Rubber	8	37	1	24,509	51,430	317	88	12	15,110	15,527	35,903
Rubber Goods (Including Tyre Making)	8	37	1	24,509	51,430	317	88	12	15,110	15,527	35,903
Tyre Retreading and Repairing	8	37	1	24,509	51,430	317	88	12	15,110	15,527	35,903
Total, Class XIII.	8	37	1	24,509	51,430	317	88	12	15,110	15,527	35,903
Class XIV.—Musical Instruments	8	37	1	24,509	51,430	317	88	12	15,110	15,527	35,903
Pianos, Piano-players, Organs, etc.	8	37	1	24,509	51,430	317	88	12	15,110	15,527	35,903
Other	8	37	1	24,509	51,430	317	88	12	15,110	15,527	35,903
Total, Class XIV.	8	37	1	24,509	51,430	317	88	12	15,110	15,527	35,903
Class XV.—Miscellaneous Products	8	30	29	24,651	84,974	1,844	1,208	25	37,751	40,828	44,146
Plastic Moulding and Products	3	83	36	76,923	151,910	1,712	3,273	1,203	57,896	64,084	87,826
Brooms and Brushes	14	52	4	45,868	175,696	1,438	603	559	73,148	75,748	99,948
Optical Instruments and Appliances	16	68	11	55,556	118,839	1,796	1,490	23	24,379	27,688	91,151
Surgical and Other Scientific Instruments and Appliances	5	17	39	27,032	63,782	1,029	321	838	13,377	15,865	48,917
Photographic Material, Developing, etc.	6	14	2	4,969	25,810	141	108	121	9,059	9,429	10,851
Toys, Games, etc.	7	26	1	20,477	123,364	4,758	4,268	423	66,033	75,452	47,882
Other	59	290	122	255,476	744,375	12,718	11,271	3,192	281,643	308,824	435,551
Total, Class XV.	3,851	40,802	6,406	36,647,107	188,162,868	5,889,549	3,124,293	4,945,147	102,550,306	116,509,295	71,653,573
Total, Classes I. to XV.	11	730	12	793,507	4,724,868	2,175,519	139,790	....	2,180	2,317,489	2,407,379
Class XVI.—Heat, Light and Power	36	89	2	94,154	440,497	186,640	25,465	....	87	212,192	228,305
Electric Light and Power—	40	236	1	232,700	1,872,324	1,070,046	106,002	....	11,791	1,189,839	682,485
Government	2	146	2	133,294	750,329	65,253	21,047	....	454,774	541,074	209,255
Local Authority	1	36	....	34,177	311,747	38,468	6,523	....	135,503	180,494	131,253
Companies	90	1,237	17	1,287,832	8,099,765	3,535,926	300,827	....	604,335	4,441,088	3,658,677
Gas Works—	3,941	42,039	6,423	37,934,939	196,262,633	9,425,475	3,425,120	4,945,147	103,154,641	120,950,383	75,312,250
Government	3,941	42,039	6,423	37,934,939	196,262,633	9,425,475	3,425,120	4,945,147	103,154,641	120,950,383	75,312,250
Companies	3,941	42,039	6,423	37,934,939	196,262,633	9,425,475	3,425,120	4,945,147	103,154,641	120,950,383	75,312,250
Total, Class XVI.	90	1,237	17	1,287,832	8,099,765	3,535,926	300,827	....	604,335	4,441,088	3,658,677
GRAND TOTAL	3,941	42,039	6,423	37,934,939	196,262,633	9,425,475	3,425,120	4,945,147	103,154,641	120,950,383	75,312,250

(a) Includes working proprietors. (b) Excludes amounts drawn by working proprietors. (c) See *Explanatory Notes and Definitions* on page 268. † Separate particulars not available for publication. See note (c).

Government Factories

As well as operating for the repair and maintenance of government plant and equipment, government factories also engage in such manufacturing activities as brick making, sawmilling, meat treatment and pig-iron production. In addition the principal electricity and gas undertakings are conducted by the State Government.

The activities of factories operated by the Commonwealth and State Governments and by government instrumentalities are included in the tables appearing elsewhere in this Part but are summarized in the following table in order to trace their development from 1948-49 to 1957-58. The factory activities of local government authorities are excluded from this table but are included in all other tables.

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
					£	£	£
1948-49	79	6,239	144	6,383	2,459,099	30,598	2,489,697
1949-50	82	6,411	144	6,555	2,785,189	34,632	2,819,821
1950-51	88	6,573	153	6,726	3,364,960	39,650	3,404,610
1951-52	85	6,719	156	6,875	4,260,857	56,148	4,317,005
1952-53	86	6,897	149	7,046	4,921,224	65,516	4,986,740
1953-54	92	7,265	156	7,421	5,442,440	72,349	5,514,789
1954-55	100	7,705	163	7,868	6,172,691	79,342	6,252,033
1955-56	111	8,104	172	8,276	6,814,468	76,598	6,891,066
1956-57	118	8,124	165	8,289	6,831,587	78,957	6,910,544
1957-58	119	8,298	170	8,468	7,091,855	84,425	7,176,280

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
	£	£	£	£	£	£	£
1948-49	6,453,837	916,481	2,489,177	3,405,658	3,048,179	1,767,789	2,532,605
1949-50	7,686,982	1,056,893	3,024,788	4,081,681	3,605,301	1,753,814	3,190,128
1950-51	10,137,544	1,224,870	3,796,931	5,021,801	5,115,743	2,004,556	4,376,949
1951-52	12,434,319	1,933,312	4,431,096	6,364,408	6,089,911	3,485,854	8,364,148
1952-53	14,268,007	2,144,909	4,615,230	6,760,139	7,507,868	5,258,135	9,660,402
1953-54	15,697,399	2,484,466	4,951,639	7,436,105	8,261,294	5,784,878	11,162,565
1954-55	17,320,780	2,850,341	5,206,954	8,057,295	9,263,485	6,578,604	11,952,216
1955-56	19,121,175	2,894,829	5,926,963	8,821,792	10,299,383	5,342,866	13,223,046
1956-57	19,360,434	2,997,873	6,008,361	9,006,234	10,354,200	5,864,520	17,189,454
1957-58	19,512,080	2,876,936	5,843,179	8,720,115	10,791,965	5,830,999	19,371,066

(a) Including non-returnable containers.

(b) See *Explanatory Notes and Definitions* on page 268.

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 1953-54 to 1957-58. As the list does not include all items manufactured, it should not be regarded as necessarily giving an accurate 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 has risen in each of these five years include sulphuric acid, which has increased by 41 per cent. since 1953-54; electricity, 32 per cent.; pig-iron, 57 per cent.; ready-mixed paints and enamels (excluding water paints), 24 per cent.; sawn sleepers, 42 per cent.; tyre retreads, 85 per cent.; and scoured wool, 69 per cent. However, there have been many fluctuations over the period reviewed and there are numerous examples of declining production 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	Unit	1953-54	1954-55	1955-56	1956-57	1957-58
Acids—Acetic	cwt.	3,524	3,975	6,577	6,529	6,941
Sulphuric	ton	148,166	168,660	169,468	175,054	208,355
Aerated Waters	gal.	3,503,029	4,000,423	4,041,517	3,850,610	4,291,794
Bacon and Ham	lb.	7,722,949	7,427,758	7,237,217	6,839,975	6,612,477
Bark—Ground	ton	1,153	808	1,034	1,025	603
Bath Heaters—Solid Fuel	number	10,398	9,007	6,972	6,128	5,944
Boots, Shoes and Sandals	pair	650,207	556,275	551,871	559,679	538,581
Bran	ton (2,000lb.)	41,793	37,640	41,489	39,178	34,073
Bread (2 lb. loaf)	number	52,667,286	52,815,251	54,225,609	54,616,630	55,784,603
Bricks (Standard Size)—Clay	'000	96,174	106,672	96,247	90,542	101,070
Cement	lb.	5,066	8,740	3,159	1,973	1,904
Butter	lb.	13,757,468	16,005,099	16,584,601	16,715,523	15,247,884
Caravans (Complete)	number	88	155	154	121	171
Cardigans, Pullovers (all types)	dozen	10,304	12,284	11,225	11,561	11,737
Cases—Fruit (including shooks)	number	2,828,401	2,659,010	2,761,645	3,325,320	2,163,290
Cheese	lb.	2,699,531	2,426,524	1,708,439	2,647,935	2,277,385
Coats—Sports—Men's	number	8,776	7,767	6,288	5,164	3,993
Coke (including Coke Breeze)	ton	21,111	22,068	25,778	26,769	21,973
Confectionery (not Chocolate)	lb.	3,451,985	3,824,736	3,623,968	4,083,190	4,321,505
Cordials and Syrups	gal.	220,446	268,133	281,258	270,301	288,141
Custard Powder	lb.	593,161	638,435	667,455	688,668	693,588
Cycles	number	8,407	7,777	7,295	6,457	7,714
Electricity (b)	'000 kwh.	626,851	702,272	752,591	781,620	828,765
Fibrous Plaster Sheets	sq. yd.	2,348,624	2,517,204	2,171,929	1,491,998	1,505,789
Flour—Ordinary	ton (2,000lb.)	187,958	165,767	179,362	169,535	148,148
Self-raising	cwt.	89,000	96,948	93,563	90,214	87,607
Gas (Town) (c)	'000 cub. ft.	1,442,802	1,447,705	1,470,590	1,451,005	1,419,518
Ice	ton	40,528	35,399	24,474	18,819	14,426
Iron—Pig Iron	ton	10,515	11,243	12,324	14,080	16,505
Jelly Crystals	lb.	644,979	858,363	1,010,599	977,060	1,040,788
Lime (Quicklime)	ton	22,594	25,505	25,649	25,759	27,900
Mattresses—						
Woven Wire, Link Mesh, etc.	number	27,980	32,924	29,449	28,206	26,923
Soft Filled	"	44,721	41,751	41,285	37,004	37,979
Inner Spring	"	20,448	21,775	23,010	23,716	29,370
Methanol	gal.	37,093	46,237	41,912	22,719	16,997
Paints and Enamels (d)	gal.	248,757	264,488	292,567	299,973	307,846
Pickles and Chutneys	pint	673,583	663,607	454,458	475,287	500,802
Plaster of Paris	ton	21,950	22,485	23,109	17,817	17,900
Pollard	ton (2,000lb.)	31,314	27,118	29,018	29,274	26,061
Pyjamas—Men's and Boys' (e)	dozen	12,178	14,673	10,594	11,217	11,243
Sauce (all types)	pint	692,397	654,566	760,127	699,700	753,172
Shirts	dozen	51,334	50,234	42,190	47,028	52,767
Sleepers—Sawn	'000 sup. ft.	34,335	34,971	40,105	44,117	48,679
Slippers	pair	624,313	398,590	408,081	373,138	286,176
Soap and Soap Substitutes (f)	cwt.	75,289	74,776	80,021	78,849	79,992
Stock and Poultry Foods—						
Meat and Bone Meal	"	139,339	143,431	131,910	151,871	173,543
Suits—Men's—3 piece	number	5,821	3,816	2,300	1,678	1,069
2 piece	"	25,901	22,247	20,006	17,811	16,595
Superphosphate	ton	428,314	472,787	463,413	482,049	578,781
Tallow (Raw and Refined)	cwt.	66,533	67,048	96,306	95,774	100,026
Tiles (Roofing)—Cement	'000	9,588	11,082	7,489	5,716	6,792
Timber (from local logs)—Sawn (g)	'000 sup. ft.	216,021	225,795	222,398	204,475	201,664
Trousers—Men's—Sports	number	55,361	50,503	48,914	60,118	59,228
Work	"	156,051	147,150	128,489	147,118	156,202
Tyres (Retreaded)	"	73,187	89,837	114,970	128,169	135,726
Vinegar (including Bulk)	gal.	198,983	218,274	203,302	191,418	166,868
Wool—Scoured	lb.	15,241,703	15,930,051	20,905,368	24,348,824	25,811,917

(a) Some major items of production are not available for publication. (b) Total generated—see page 293 for electricity distributed. (c) Total made—see page 293 for gas distributed. (d) Ready mixed, excluding water paints. (e) Woven fabric. (f) Including detergents. (g) Includes sleepers (see separate item above) and plywood veneers in terms of super. feet.

The consumption of various materials in specific industries is shown in the following table for the years 1953-54 to 1957-58. 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 285-91, which appear in the industry order shown in the table on pages 277-81, deal with factory activity in selected industries for each of the ten years from 1948-49 to 1957-58. When considering employment, salaries and wages, value of output and net production, reference should be made to the section dealing with *Explanatory Notes and Definitions* on page 268.

MATERIALS USED IN FACTORIES

Item	Industry or Process in which Used	Unit	1953-54	1954-55	1955-56	1956-57	1957-58
Bark—Ground	Tanning	ton	248	300	284	230	293
Canvas and Duck—Cotton	Canvas Goods	sq. yd.	226,342	271,947	345,337	297,393	335,053
Cement	Cement Goods (excl. Asbestos-Cement Goods)	ton	28,913	39,407	35,627	33,486	36,140
Coal—Fuel	Total Factory Consumption	"	568,130	602,871	586,312	537,494	562,456
Gas Making	Gas Works	dozen	56,240	55,167	55,956	41,789	54,388
Eggs	Egg Pulping	"	2,931,786	1,474,748	1,582,081	1,582,081	2,342,087
Flour—Ordinary	Bakeries	150 lb. bag	534,828	547,518	557,403	552,778	557,016
	Biscuits, Confectionery, Ice Cream	"	40,123	39,055	40,054	42,560	42,907
	Macaroni, Spaghetti, Cereals	"	17,400	18,054	16,480	15,253	21,267
	Self-raising Flour	cwt.	63,418	69,571	62,884	67,215	62,159
	Jams, Essential Oils, Canning, etc.	"	49,335	26,509	54,845	36,455	82,583
	Wine Making	ton	3,145	3,327	3,726	4,636	3,724
	Lime, Plaster and Cement	"	44,353	45,260	37,967	28,429	28,493
Fruit (excluding Grapes for Wine)	Tanning	number	143,691	122,840	107,402	106,528	106,416
Grapes—Fresh	Saddlery, Bags, Boots and Shoes	lb.	1,578,722	1,390,289	1,408,594	1,180,561	1,022,521
Hides (all kinds)	Boot Accessories and Repairing	sq. ft.	2,555,618	1,957,645	2,092,842	1,661,985	1,718,727
Leather—By weight	Paints	gal.	35,686	42,567	32,841	32,337	32,700
By area	Chemical Fertilizers	ton	1,366	1,705	2,368	3,457	4,165
Linseed Oil	Newspapers, Other Printing	"	10,147	11,899	12,551	11,662	12,405
Muriate of Potash	Boxes, General Printing, etc.	"	1,850	1,917	2,317	2,147	2,491
Paper—Newsprint	Chemical Fertilizers	lb.	270,121	296,554	300,836	307,102	368,521
Cardboard	Tyre Repairing	cwt.	737,118	889,784	1,056,751	1,187,644	1,259,187
Phosphate Rock	Bottle Making and Soaps	"	51,165	59,876	46,262	50,060	43,299
Rubber	Aerated Waters	"	56,273	64,570	66,814	63,317	73,078
Soda Ash	Bakeries	"	19,950	23,679	24,314	24,049	23,967
Sugar—Refined	Biscuits, Condenseries, Ice Cream	"	101,422	79,514	83,643	90,504	86,195
	Confectionery	"	46,855	48,370	46,170	46,710	50,432
	Jams, Pickles, Sauces	"	10,706	8,739	12,148	10,987	13,223
	Manufacturing Grocers	"	35,835	40,064	49,777	53,310	50,346
	Chemical Fertilizers	ton	2,661	2,831	2,441	3,194	3,466
	Soap and Candles, etc.	cwt.	26,824	31,470	35,492	32,201	47,123
	Tanning	ton	31,257	30,174	30,385	33,596	34,065
		cwt.	952	898	835	799	756
Sulphate of Ammonia	Sawmills, Plywood Mills, etc.	'000 sup. ft. (Hoppus)	481,260	501,128	507,608	486,675	483,948
Sulphur	Pickles, Jams, Sauces	cwt.	7,164	10,546	11,963	10,980	11,300
Tallow		"	15,937	18,062	23,807	47,828	14,186
Timber (Local)—	Flour Mills, Stock Foods, etc.	bushel	9,092,341	8,370,514	8,908,909	8,652,871	7,46,454
Logs—Hardwoods	Knitting Mills, Rope Works, etc.	lb.	91,017	100,326	86,780	91,384	70,180
Pines	Knitting Mills	"	159,084	169,601	153,953	145,907	151,254
Tomatoes							
Vegetables							
Wheat							
Yarn—Cotton							
Worsted and Woolen							

• Revised.

INDIVIDUAL INDUSTRIES

LIME, PLASTER AND PLASTER SHEETS

Year	Num-ber of Fac-tories	Land, Buildings, and Electric Motors Used (a)	Engines and Electric Motors Used (b)	Persons Em-ployed	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)		
										tons	£				sq. yds.	£	tons	£
1948-49	34	114,649	879	433	147,421	25,985	251,055	499,790	222,690	758	32,910	49,857	1,445,635	200,898	18,733	76,743
1949-50	41	128,923	940	466	182,278	33,859	310,119	624,503	280,495	805	41,709	43,312	1,654,761	245,780	17,962	77,962
1950-51	45	206,175	1,483	543	262,685	59,227	437,830	939,904	427,847	1,066	74,568	56,648	2,067,752	374,996	20,121	144,071
1951-52	48	205,302	1,114	567	343,227	61,322	656,437	1,289,113	571,354	1,339	114,170	58,616	2,574,692	554,041	22,480	183,000
1952-53	46	198,039	969	575	375,751	74,987	702,118	1,340,335	563,230	1,260	95,137	60,965	2,436,220	531,865	25,384	204,948
1953-54	46	232,887	969	595	422,957	75,807	759,768	1,452,354	616,779	1,445	109,100	53,164	2,348,624	552,516	22,504	198,763
1954-55	49	368,141	1,129	632	467,408	83,143	809,712	1,639,844	746,989	1,475	113,904	54,135	2,517,204	614,526	25,505	230,513
1955-56	51	456,495	1,310	573	450,726	85,731	793,518	1,552,602	683,353	1,199	93,939	51,651	2,171,929	518,330	25,649	224,465
1956-57	54	473,164	1,326	482	368,431	83,437	688,712	1,445,239	663,090	832	74,452	56,436	1,491,988	393,526	25,759	221,733
1957-58	51	501,864	1,759	478	373,075	92,934	683,477	1,484,782	708,371	737	68,820	53,139	1,505,789	402,847	27,900	215,525

(a) Book values at end of year.
in factories classified to other industries.

(b) Excludes motors driven by electricity of own generation.

(c) Includes water and lubricants.

(d) Includes quantities produced

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 Em- ployed	Salaries and Wages	Power, Fuel and Light Used (c)	Repairs, Containers and Materials Used	Value of Output	Net Pro- duction	Materials Used		Production (e) (f)			
										Reinforcing Steel	Cement (d)	Cement Roofing Tiles	Cement Bricks		
		£	rated h.p.		£	£	£	£	£	tons	£	'000	'000	£	
1948-49	37	203,201	4,528	537	209,828	114,213	312,610	820,493	393,670	485	11,759	8,962	55,127	2,617	13,700
1949-50	46	255,146	4,695	663	277,536	138,532	425,055	1,025,361	461,774	903	22,213	11,910	86,667	3,351	14,895
1950-51	52	441,118	4,890	898	388,788	197,412	620,768	1,539,752	721,572	2,086	46,106	17,319	141,392	8,192	22,474
1951-52	75	725,065	6,310	1,094	666,739	276,654	1,018,098	2,323,038	1,028,286	1,375	38,092	25,454	267,541	10,352	46,887
1952-53	68	827,347	7,689	1,063	737,977	433,769	1,278,564	3,049,156	1,316,823	1,141	45,201	26,113	320,300	11,735	51,846
1953-54	57	733,406	8,634	1,015	790,937	580,489	1,419,013	3,574,567	1,575,065	1,082	44,626	26,798	315,993	9,588	59,475
1954-55	54	935,064	9,169	1,179	952,847	654,141	1,954,401	4,370,509	1,761,967	1,797	101,362	36,179	450,063	11,082	106,080
1955-56	52	2,806,711	13,510	1,146	948,743	660,872	1,735,117	4,137,966	1,741,977	1,657	90,003	32,708	383,331	7,489	34,451
1956-57	48	2,654,404	13,148	898	774,128	518,440	1,488,746	3,914,547	1,912,361	1,613	80,409	29,686	353,117	5,716	20,782
1957-58	48	2,569,490	13,099	877	747,088	433,877	1,538,255	4,010,774	2,038,742	1,233	62,386	31,881	386,330	6,792	20,792

(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 pro-

(e) Includes quantities produced in factories classified to other industries.

(f) Certain major items of production are not available for publication.

BRICKS, TILES, EARTHENWARE, PORCELAIN, ETC. (a)

Year	Number of Factories	Land, Buildings, and Plant and Machinery (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	Production (e)	
										Bricks—Standard Clay (f)	Fire Bricks and Blocks
		£	rated h.p.		£	£	£	£	£	No.	£
1948-49	32	326,273	3,856	799	275,969	92,524	100,930	611,150	417,696	47,761,000	288,107
1949-50	30	413,652	4,051	888	367,029	131,825	132,093	827,387	563,469	56,427,000	50,336
1950-51	32	516,949	4,934	985	490,721	180,496	183,892	1,120,744	756,356	64,928,000	80,293
1951-52	34	675,554	5,551	991	654,364	261,159	220,171	1,466,143	984,813	72,417,000	103,387
1952-53	37	1,628,851	8,450	1,075	764,328	367,880	271,654	1,900,946	1,271,412	82,521,000	93,856
1953-54	38	1,777,525	8,443	1,202	904,749	424,224	341,933	2,355,089	1,588,932	96,174,000	120,084
1954-55	37	2,059,134	8,770	1,273	1,032,742	493,459	394,122	2,576,199	1,686,618	106,972,000	95,379
1955-56	36	2,084,303	9,413	1,181	988,544	483,470	403,961	2,453,213	1,565,782	96,247,000	123,589
1956-57	34	2,012,488	9,200	1,017	849,523	388,396	355,114	2,191,459	1,447,949	90,542,000	124,948
1957-58	32	1,973,485	9,637	1,092	971,373	438,422	400,026	2,518,376	1,679,928	101,070,000	142,412

(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) Certain major items of production are not available for publication.

(f) Excludes fire bricks.

CHEMICAL FERTILIZERS

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		Pyrites		Production of Superphosphate	
										Phosphate Rock	Sulphur	tons	£	tons	£
		£	rated h.p.		£	£	£	£	£	tons	£	tons	£	tons	£
1948-49	6	1,453,540	3,962	738	332,241	106,308	2,999,800	3,881,297	775,189	221,102	1,440,003	31,085	399,138	381,013	3,305,310
1949-50	6	1,412,780	4,302	730	372,935	101,147	3,165,087	4,029,784	763,550	227,245	1,290,137	31,416	563,077	387,115	3,623,065
1950-51	5	1,317,637	4,326	762	459,958	71,286	3,480,258	4,274,653	723,109	260,310	1,240,222	34,243	721,941	40,421	227,088
1951-52	5	1,352,362	4,326	848	609,451	73,795	5,170,537	6,466,751	1,222,419	283,891	2,151,352	32,025	694,679	47,878	416,997
1952-53	5	1,519,560	4,543	901	725,571	128,668	5,087,817	6,791,432	1,574,947	264,949	1,856,840	27,629	726,084	641,119	5,997,303
1953-54	5	3,048,785	4,864	889	769,629	126,291	4,827,575	6,514,091	1,560,225	270,121	1,716,730	26,924	595,063	57,309	6,359,908
1954-55	6	4,070,938	7,533	1,004	874,866	141,461	4,832,795	6,965,260	1,944,004	296,554	1,547,768	31,470	647,995	428,314	5,801,559
1955-56	6	4,082,936	7,977	977	883,741	145,425	5,009,249	7,561,183	2,406,509	307,836	2,006,032	35,421	751,725	472,787	5,937,274
1956-57	6	3,861,954	8,180	942	839,228	149,561	5,428,211	7,601,544	2,023,772	301,102	2,301,583	32,201	702,807	463,413	6,110,109
1957-58	6	3,753,202	8,050	1,004	1,008,278	165,192	6,413,050	8,789,054	2,210,812	368,521	3,010,083	47,123	976,512	482,049	6,483,954
														578,781	7,756,160

(a) Book values at end of year.

(b) Excludes motors driven by electricity of own generation.

(c) Includes water and lubricants.

† Not available for publication.

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
		£	rated h.p.		£	£	£	£	£
1948-49	928	5,245,601	29,759	13,442	4,758,070	277,558	5,114,991	12,044,118	6,651,569
1949-50	948	5,823,722	31,341	14,418	5,643,427	324,850	6,662,523	15,383,792	8,396,419
1950-51	994	6,201,784	34,640	15,971	7,518,344	426,662	10,164,922	22,596,356	12,004,772
1951-52	1,067	7,624,284	37,811	16,376	9,495,583	596,407	12,780,354	27,454,979	14,078,218
1952-53	1,189	9,841,425	41,741	16,888	10,678,834	641,966	13,413,925	30,082,060	16,029,139
1953-54	1,264	11,910,696	45,617	18,241	12,408,098	720,419	17,191,647	36,909,513	18,997,447
1954-55	1,381	13,719,254	48,913	18,726	13,586,572	764,060	17,366,152	39,387,318	21,257,106
1955-56	1,484	15,400,984	51,787	19,410	14,769,312	887,884	18,337,160	41,190,699	21,965,655
1956-57	1,564	19,661,970	65,267	19,490	15,030,186	1,008,276	20,552,495	44,836,239	25,275,468
1957-58	1,809	20,720,552	67,817	19,549	15,450,376	1,046,329	22,430,241	47,850,836	24,374,266

(c) Includes water and lubricants used.

(b) Excludes motors driven by electricity of own generation.

(a) Book values at end of year.

TANNING

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	Leather Produced		
									Net Production	For Sale by Weight	For Sale by Measurement
		£	rated h.p.		£	£	£	£	£	lb.	sq. ft.
1948-49	5	80,593	674	209	84,456	6,416	232,674	381,935	142,645	133,232	127,467
1949-50	5	85,300	707	218	85,330	7,082	255,204	425,517	166,231	137,422	141,693
1950-51	5	88,328	765	225	115,521	7,877	276,417	495,464	211,170	139,465	146,778
1951-52	5	86,833	778	223	141,747	9,933	342,365	596,142	243,844	141,090	160,688
1952-53	5	92,773	850	203	152,783	11,794	357,356	642,574	273,424	132,153	194,436
1953-54	5	88,215	882	209	156,791	12,991	399,438	641,746	229,317	143,691	230,204
1954-55	5	96,547	904	197	145,138	11,260	398,998	616,949	206,701	122,840	217,243
1955-56	5	97,925	943	176	143,824	11,821	372,300	577,869	193,748	107,402	219,192
1956-57	5	129,274	916	168	137,292	11,831	395,325	574,256	167,100	105,528	238,076
1957-58	5	130,840	935	154	125,918	11,859	371,116	549,180	166,205	106,416	246,635
										£534,621 (d)	

(a) Book values at end of year.

(b) Excludes motors driven by electricity of own generation.

(c) Includes water and lubricants.

(d) Total value only available for publication.

BOOTS AND SHOES

Year	Num-ber of Fac-tories	Land, Buildings, 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	Leather Used				Production (d)			
										Purchased by Weight		Purchased by Area		Boots, Shoes and Sandals		Slippers	
										£	rated h.p.	£	sq. ft.	£	pairs	£	pairs	£	pairs
1948-49	13	168,889	442	749	228,124	3,316	311,895	614,394	299,183	1,200,310	95,288	128,821	585,480	480,729	476,005	156,065	
1949-50	12	162,266	461	770	282,303	5,573	355,011	691,808	331,224	1,265,256	104,511	127,048	615,720	512,754	492,236	180,796	
1950-51	12	203,226	512	887	383,851	7,823	459,806	981,014	525,885	1,418,833	123,471	183,836	729,983	643,259	624,533	251,781	
1951-52	12	236,863	575	898	474,697	7,096	614,691	1,251,455	629,668	1,393,439	155,910	206,935	738,809	643,259	581,885	311,516	
1952-53	10	234,523	606	738	427,187	7,833	538,515	1,086,129	539,781	1,232,456	166,389	187,032	600,072	844,481	441,725	251,575	
1953-54	11	272,359	595	767	444,048	8,548	596,840	1,203,179	597,791	1,294,086	175,566	208,542	650,207	865,640	624,313	341,850	
1954-55	11	281,691	589	634	395,058	7,914	481,114	1,020,869	640,841	1,030,911	154,430	149,137	556,275	602,003	398,590	281,738	
1955-56	10	290,214	495	607	382,590	7,557	521,581	1,015,621	486,483	1,057,220	154,710	1,847,141	551,871	772,590	408,081	253,980	
1956-57	11	293,812	600	592	383,380	6,989	439,287	975,796	529,520	817,516	118,311	1,273,551	559,679	755,425	373,138	245,298	
1957-58	11	266,061	563	503	385,179	6,532	402,792	891,687	482,363	692,465	106,493	1,190,615	538,581	735,027	296,178	224,639	

(a) Book values at end of year.

in factories classified to other Industries.

(b) Excludes motors driven by electricity of own generation.

(c) Includes water and lubricants.

(d) Includes quantities produced

FLOUR MILLING

Year	Num-ber of Fac-tories	Land, Buildings, and Machinery (a) (f)	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 Pro-duction	Wheat Ground			Production (d)				
										bushels	£	tons (e)	Flour		Bran		Pollard
													£	tons (e)	£	tons (e)		£	tons (e)
1948-49	20	535,320	3,976	515	246,552	55,151	3,130,888	3,672,357	486,318	8,277,775	2,683,427	131,466	372,872	276,117			
1949-50	20	594,932	4,074	483	249,118	59,236	2,872,633	3,431,040	499,171	7,360,608	2,386,799	159,495	40,198	29,736			
1950-51	20	1,244,718	4,555	546	346,995	79,031	4,605,556	5,341,363	656,776	9,885,810	3,713,611	217,345	34,117	26,849			
1951-52	20	1,271,675	4,866	559	427,180	118,063	6,086,877	7,004,411	848,931	10,142,012	4,743,649	221,846	47,377	34,907			
1952-53	20	1,262,820	5,720	571	467,792	136,252	7,088,874	8,025,194	851,068	10,352,390	5,919,793	224,350	49,283	35,764			
1953-54	20	1,300,525	5,280	543	439,985	125,181	6,752,569	7,712,595	834,845	8,898,076	6,025,890	187,958	31,314	639,919			
1954-55	20	1,358,308	5,060	507	416,199	110,402	6,260,307	7,066,426	705,717	8,078,907	5,658,970	165,767	37,640	568,883			
1955-56	20	1,396,394	5,689	510	433,983	116,616	6,402,018	7,241,128	722,494	8,601,658	5,781,472	179,362	41,489	799,878			
1956-57	20	1,410,330	5,407	504	422,152	114,727	6,279,916	7,153,598	758,955	8,318,043	5,678,022	169,535	39,178	574,005			
1957-58	19	1,329,433	5,537	455	394,617	103,941	5,658,883	6,560,287	797,463	7,392,991	5,158,962	148,148	34,073	520,412			

(a) Book values at end of year.

own works. (c) Short ton = 2,000 lb.

(b) Excludes motors driven by electricity of own generation.

(c) Includes water and lubricants.

(d) Includes quantities used in



VINEYARDS IN THE MIDDLE SWAN AREA

29518-11

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				Confectionery (not Chocolate) Produced (d) (e)	
										Sugar (70 lb. bags)		Glucose		lb.	£
										No.	£	cwt.	£		
1948-49	10	160,075	493	391	100,953	8,819	371,047	572,811	192,945	51,586	61,477	7,884	29,012	4,177,243	302,548
1949-50	11	162,507	470	409	113,084	10,531	385,216	642,337	246,590	50,642	64,382	8,890	33,963	283,067	285,067
1950-51	8	161,972	463	335	117,958	17,306	398,493	614,389	228,570	48,268	70,754	12,943	33,963	3,632,378	389,466
1951-52	8	161,397	466	351	138,225	15,332	431,653	698,676	251,688	48,934	90,108	12,451	31,962	3,822,362	389,466
1952-53	8	179,332	473	328	148,012	17,958	396,014	675,534	261,562	48,222	103,614	10,703	56,023	3,867,845	484,585
1953-54	8	166,527	479	314	168,169	17,589	432,757	755,813	305,467	48,855	104,489	8,697	46,715	3,851,985	486,395
1954-55	7	148,344	477	321	167,548	17,282	458,521	789,460	313,657	48,370	107,855	9,663	53,470	3,824,736	534,505
1955-56	6	154,255	447	325	179,065	16,165	406,295	732,856	307,396	46,170	103,025	9,416	47,893	3,823,988	480,383
1956-57	6	159,418	469	299	176,637	15,754	465,441	788,275	307,080	46,710	118,563	10,555	53,710	4,083,190	534,732
1957-58	7	175,102	420	297	185,089	16,317	502,955	846,931	327,659	50,432	124,843	11,415	56,427	4,321,505	532,838

(a) Book values at end of year.
in factories classified to other industries.

(b) Excludes motors driven by electricity of own generation.

(c) Includes water and lubricants.

(d) Includes quantities produced

JAMS, PICKLES, SAUCES AND VINEGAR

Year	Num-ber of Fac-tories	Land, Build-ings, and Plant Ma-chinery (a)	Engines and Electric Motors Used (b)	Persons Em-ployed	Salaries and Wages (c)	Power, Fuel, and Light Used (c)	Repairs, Con-tainers and Ma-terials Used	Value of Output	Net Pro-duction	Materials Used				Production					
										Fruit		Vegetables (d)		Jams (e)		Pickles and Chutneys		Sauces	
										£	¢wt.	£	¢wt.	£	lb.	£	pinta	£	pinta	£	pinta
1948-49	13	119,517	359	197	55,802	4,714	134,170	236,746	91,862	22,460	13,511	15,607	1,446,136	56,211	389,311	20,484	888,957	45,092	
1949-50	12	122,897	372	183	61,581	4,481	150,738	265,550	107,331	16,791	12,453	19,871	14,363	1,438,032	76,296	24,009	857,813	49,075	
1950-51	11	120,683	386	186	74,066	6,882	163,670	379,967	169,515	17,264	15,190	13,654	19,487	1,355,779	75,493	45,287	870,594	59,539	
1951-52	11	134,228	389	179	78,263	7,089	265,698	421,334	148,547	18,244	20,956	10,809	36,372	1,285,968	74,554	48,313	969,365	69,313	
1952-53	11	133,945	368	128	76,773	5,872	231,126	387,871	150,873	16,827	13,116	4,436	19,277	1,119,212	74,167	63,065	830,499	68,806	
1953-54	11	152,680	371	139	78,278	5,424	218,170	368,265	144,671	9,152	12,014	8,098	26,478	793,451	49,017	673,583	79,023	692,397	
1954-55	12	175,733	383	126	76,216	5,322	219,569	385,348	133,641	6,737	13,318	32,693	56,451	683,807	36,585	663,607	654,566	57,951	
1955-56	9	177,369	378	139	85,506	6,246	305,898	485,348	173,206	23,143	25,697	27,108	53,617	743,561	44,341	454,458	64,020	760,127	
1956-57	9	186,493	337	151	98,359	7,575	398,795	614,466	208,096	15,901	19,694	22,005	66,648	589,535	41,646	475,287	68,522	699,700	
1957-58	9	212,515	349	124	83,423	6,700	295,059	490,583	198,824	31,783	33,292	12,098	33,968	500,802	66,075	500,802	753,172	90,576	

(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) In-
...

BACON CURING

Year	Num- ber of Fac- tories	Land, Buildings, and Plant and Machinery (a)	Engines and Electric Motors Used (b)	Persons Em- ployed	Salaries and Em- ployed Wages	Power, Fuel and Light Used (c)	Repairs, Containers and Materials Used	Value of Output	Net Pro- duction	Pigs Killed (d)						Bacon and Ham Produced
										On own Account				On Com- mission		
										For Curing	For other purposes	Total	Cost at Works			
															No.		No.	£	£
1948-49	4	89,751	941	311	117,141	19,203	1,404,059	1,591,082	167,820	80,920	20,454	101,374	831,681	222	8,412,342	724,349
1949-50	4	86,872	887	273	105,896	16,851	1,279,896	1,562,557	265,810	77,479	10,420	87,899	901,227	376	7,934,110	828,421
1950-51	4	86,872	887	273	105,896	16,851	1,279,896	1,562,557	265,810	77,479	10,420	87,899	901,227	376	7,934,110	828,421
1951-52	4	105,647	901	258	136,888	18,017	1,541,905	1,845,505	285,583	74,221	11,037	86,258	900,242	186	7,969,883	957,112
1952-53	4	104,646	908	253	176,372	27,482	1,916,175	2,224,450	280,793	83,207	12,927	96,134	1,400,299	222	8,243,124	1,192,291
1953-54	4	174,459	919	263	180,727	35,493	2,012,212	2,307,390	259,885	76,838	12,201	89,039	1,423,237	127	8,272,455	1,310,595
1954-55	4	136,019	762	215	166,553	29,708	2,035,665	2,237,656	172,283	77,166	6,938	84,104	1,559,042	119	7,722,949	1,422,727
1955-56	4	144,938	929	254	189,145	33,850	1,835,133	2,298,546	190,063	89,681	26,967	115,348	1,352,293	341	7,427,758	1,324,813
1956-57	4	161,902	878	257	183,819	33,630	2,103,989	2,346,617	209,098	88,039	1,975	105,314	1,526,504	207	7,237,217	1,319,746
1957-58	4	170,499	841	254	195,056	35,114	2,442,110	2,814,733	337,509	94,086	11,299	106,685	1,796,753	236	6,839,975	1,478,325
1958-59	4	193,692	1,133	268	230,703	39,471	2,506,848	3,004,163	397,844	121,891	24,287	146,178	1,823,453	510	6,612,477	1,325,246

(d) Excludes pigs condemned.

(c) Includes water and lubricants.

driven by electricity of own generation.

(h) Excludes mo

BUTTER, CHEESE AND CONDENSED AND PROCESSED MILK

[illegible]

(a) Do the values of α and β change

Prices for electricity of our consumers

(c) Tooling, water and lubricants

(d) Includes whole milk equivalent.

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	
		£	rated h.p.		£	£	£	£	£	No.	£	gal.	£	£
1948-49	49	155,380	777	302	81,584	8,970	211,393	453,038	232,875	48,517	57,533	3,245,005	407,115	137,938
1949-50	50	157,392	823	306	102,130	10,753	278,479	548,589	259,157	56,097	74,666	3,713,579	479,074	190,718
1950-51	52	172,266	807	322	111,944	11,991	299,669	614,274	302,614	55,964	76,946	3,405,896	543,384	168,729
1951-52	55	330,072	1,108	301	138,708	16,663	399,513	741,301	325,125	56,726	96,251	3,576,856	645,516	201,598
1952-53	49	309,290	1,118	269	134,656	15,592	379,699	729,869	334,378	54,181	115,060	3,299,562	639,809	214,043
1953-54	48	329,142	1,168	293	161,204	15,625	398,947	833,060	418,488	56,273	129,260	3,503,029	714,922	220,446
1954-55	46	352,030	1,200	265	170,755	16,012	509,312	919,420	394,501	64,570	148,326	4,000,423	816,267	268,133
1955-56	45	411,650	1,082	281	181,397	16,012	509,312	919,420	412,034	66,814	154,241	4,041,517	834,268	281,258
1956-57	44	475,538	1,139	271	172,546	14,427	516,234	984,298	403,637	63,317	158,018	3,850,610	837,103	270,301
1957-58	45	506,761	1,200	274	179,113	17,977	583,217	1,071,495	470,301	73,078	185,834	4,291,794	967,176	288,141

(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	Number of Factories	Land, Buildings, Plant and Machinery (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	Logs (Local), Sawm (e)				Sawn Timber Produced from Local Logs (f)			
										Hardwoods		Pines		Hardwoods		Pines	
		£	rated h.p.		£	£	£	£	£	'000 sup. ft. (Hoppus)	£	'000 sup. ft. (Hoppus)	£	'000 sup. ft.	£	'000 sup. ft.	£
1948-49	154	565,889	12,771	2,446	787,578	53,552	1,068,023	2,316,586	1,250,011	303,827	975,165	2,865	20,576	125,538	2,218,926	1,351	32,740
1949-50	172	976,526	16,371	2,707	963,491	80,185	1,358,592	3,005,176	1,954,479	313,414	1,293,368	3,325	18,065	136,385	2,877,795	1,493	41,098
1950-51	179	1,211,952	18,531	2,910	1,237,678	100,729	1,671,582	3,960,018	2,177,727	346,444	1,481,365	4,191	22,829	153,601	3,960,310	3,210	58,289
1951-52	231	1,874,976	23,323	3,335	1,744,860	150,435	2,201,284	5,326,042	3,171,823	1,911,121	1,911,121	6,107	38,073	175,131	5,360,069	3,159	76,524
1952-53	223	2,084,603	24,964	3,660	2,273,865	201,237	2,776,279	7,063,310	4,025,794	449,977	2,413,788	9,925	53,322	199,344	6,744,200	3,970	130,680
1953-54	224	2,085,599	27,270	3,723	2,529,310	214,931	3,166,416	7,610,750	4,230,103	481,260	2,841,502	7,164	55,359	213,723	7,365,097	2,298	84,450
1954-55	231	2,384,391	29,297	3,853	2,946,578	239,176	3,468,094	8,958,039	4,958,939	501,138	3,104,352	10,546	65,819	225,531	7,701,831	5,251	174,389
1955-56	231	2,404,418	32,545	3,872	2,970,779	230,833	3,699,937	8,794,340	4,629,932	507,608	3,597,344	11,959	90,159	216,404	8,295,892	5,363	183,325
1956-57	232	2,631,412	34,224	3,806	2,575,248	223,613	3,643,501	8,539,392	4,461,240	436,675	3,247,584	10,930	88,871	188,470	8,711,443	5,736	192,007
1957-58	217	2,204,477	33,235	3,391	2,565,528	237,253	3,743,391	8,529,198	4,645,114	438,948	3,361,382	11,300	103,159	196,773	8,271,612	5,592	191,718

(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 and small quantities used by factories classified to other industries. (f) Includes plywood veneers in terms of super. feet and small quantities of timber produced in factories classified to other industries.

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 over 70 independent operators, the Commission is now responsible for a preponderance of supplies to the south-western portion of the State as well as for all supplies to the metropolitan area.

In 1937-38 steam power stations represented 54 per cent. of installed generator capacity but by 1957-58 this proportion had risen to 79 per cent., operated mainly by the Commission. During the same period the capacity of internal combustion equipment also increased, but to a much lesser extent and installations were principally in the more isolated mining areas.

As coal is almost exclusively the fuel used by steam power stations it is by far the most important source of energy for electricity generation, but consumption of fuel oil is also significant as internal combustion equipment is still used to generate some 20 per cent. of total electricity produced. A small hydro-turbine was installed at the Wellington Dam in 1958 but any large expansion of hydro-electric power generation is unlikely in the near future because in Western Australia there is, in general, a lack of the natural features required for this purpose.

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 new power station which is being completed in planned stages at Bunbury. The first unit of 30,000 kilowatt capacity came on load in May, 1957 and the second and third units, of similar capacity, in April, 1959 and May, 1960. Work is in progress on a fourth unit which will bring the Bunbury station to its planned capacity of 120,000 kilowatts.

One of the responsibilities undertaken by the State Electricity Commission was the administration of the South-West State Power Scheme Act, 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 kilowatts to 12,500. It later installed at Wellington Dam, near Collie, a hydro-turbine which is connected to the Collie power station and operated from it by remote control. At present this unit operates on the overflow of the Dam and its use is limited to three or four months of the year, according to rainfall. However, on completion of work which is being done to increase the height of the dam wall, it will be possible to extend the period of operation by utilizing the irrigation flow as well as the overflow. Investigations are also being made into the possibility of installing a major power station on the Collie coalfields, and test boring is being carried out to ascertain whether sufficient underground water supplies exist for the purpose.

At Albany, in the extreme south of the State, the Commission operates a diesel station of 5,400 kilowatt capacity which serves the towns of Albany, Mount Barker and Denmark and limited surrounding areas.

The main generating stations situated at East Perth, South Fremantle and Bunbury are linked and interconnected with the power station at Collie. The main links are two 132,000 volt transmission lines from Cannington switchyard in the metropolitan area to the Bunbury power station switchyard. From terminal points 66,000 volt lines complete the interconnexion.

Transmission lines radiate from Perth, one of 66,000 volts extending 161 miles eastwards almost to Merredin and another, of 22,000 volts, 209 miles southwards to Pemberton with branches to Margaret River and Boyup Brook. A further 66,000 volt extension from Collie 68 miles eastwards to Wagin was energized in May, 1960 and preliminary work has commenced on two 66,000 volt extensions from Wagin, one running 26 miles north to Narrogin and the other 30 miles south-east to Katanning.

Minor systems which are privately-owned or controlled by local government authorities are being absorbed as the grid system's transmission lines extend into the country areas and when this work is completed all except the more sparsely-populated areas of the State will be provided with electric power of standard frequency and voltage.

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	
		£	rated h.p.	£	£	£	£	£	£	tons	'000 gal.	'000 kwh.	'000 kwh.	£
1948-49	116	1,703,605	161,945	915	429,249	1,399,673	117,914	2,171,940	664,353	271,524	632,805	6,346,551	398,465	2,133,256
1949-50	115	2,084,900	168,410	1,029	525,414	1,529,818	146,371	2,430,501	754,312	297,113	708,316	6,267,504	417,499	2,574,360
1950-51	113	4,272,997	203,902	1,023	617,861	1,722,615	246,000	2,827,501	858,885	339,164	803,243	6,648,003	401,556	3,431,092
1951-52	100	8,212,102	265,955	1,108	836,272	2,353,374	288,619	3,774,441	1,132,448	335,897	7,924,178	714,830	529,701	4,674,778
1952-53	95	10,199,394	253,189	1,003	916,588	2,450,595	259,119	5,109,589	2,199,875	314,425	1,461,106	8,086,481	508,677	5,994,265
1953-54	93	11,641,758	278,017	961	849,712	3,079,371	275,339	5,663,331	2,308,621	411,111	2,044,214	8,927,544	626,851	6,761,024
1954-55	94	12,699,433	323,119	945	923,274	3,352,550	306,437	6,262,257	2,602,970	431,251	2,275,402	11,672,741	702,272	7,523,244
1955-56	90	12,307,345	359,751	949	1,000,090	3,302,395	368,055	6,334,363	2,663,883	470,060	2,308,900	9,688,107	752,591	626,928
1956-57	87	17,484,715	406,482	971	1,052,490	3,438,602	291,544	6,645,692	2,915,546	464,243	2,258,452	11,044,893	781,620	8,545,583
1957-58	87	19,459,069	410,906	1,070	1,120,361	3,432,205	287,315	7,037,689	3,318,169	501,171	2,217,811	10,413,223	828,765	9,090,885

(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.

GAS WORKS (a)

Year	Gas Works	Land, Buildings, and 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	Materials Used				Gas Distributed	Coke (including Coke Breeze) Produced (e)	
										Coal (Carbonized)			Oil			
										tons	£	gal.	£			'000 cub. ft.
1948-49	4	625,080	1,330	191	84,004	23,467	289,560	399,207	86,180	55,824	237,977	435,450	26,852	1,139,203	22,604	45,729
1949-50	4	719,140	1,143	191	98,227	40,429	342,559	479,252	96,228	48,312	243,159	1,049,098	64,868	1,046,896	33,009	65,005
1950-51	4	874,836	1,262	183	104,158	45,191	437,969	589,010	105,850	59,494	305,184	1,359,476	91,131	1,226,259	637,907	66,970
1951-52	4	1,092,922	1,245	201	153,207	78,045	612,728	871,734	180,961	64,621	406,768	1,825,004	158,900	1,214,137	30,689	112,530
1952-53	4	1,356,615	1,237	212	156,597	60,860	712,022	960,940	188,058	63,750	482,898	2,036,482	186,892	1,223,879	23,930	110,499
1953-54	4	1,607,377	1,202	201	180,647	98,986	678,560	1,008,168	225,622	56,240	454,242	2,114,791	173,144	1,240,085	21,111	129,528
1954-55	4	1,692,989	1,245	200	187,667	104,906	633,383	996,751	258,462	55,167	442,972	1,925,045	149,068	1,201,388	22,068	131,185
1955-56	4	1,723,770	1,212	191	172,652	104,780	639,993	1,024,716	279,943	55,956	465,482	1,701,038	125,538	1,223,054	25,778	149,354
1956-57	4	1,784,827	1,185	175	158,379	174,929	566,389	1,015,099	273,781	41,789	410,592	1,469,998	120,949	1,245,789	26,769	163,353
1957-58	3	1,762,806	1,204	184	167,471	103,721	617,847	1,062,076	340,508	54,388	456,090	1,532,775	132,142	1,222,981	21,973	168,558

(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 used in own works.

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 one, at Fremantle, by a limited company. A fourth gasworks was previously operated by the Municipality of Geraldton but was closed in 1956.

Summary of Operations

The tables on page 293 give details of electricity and town gas undertakings for each of the ten years from 1948-49 to 1957-58. When considering employment, salaries and wages, value of output and net production, reference should be made to the section dealing with *Explanatory Notes and Definitions* on page 268.

DEPARTMENT OF INDUSTRIAL DEVELOPMENT

At the end of the first World War the State Government, with the object of fostering secondary industry, established a Council of Industrial Development which has since been succeeded by the Department of Industrial Development.

The functions of this Department are to assist the expansion of existing industry, foster the establishment of new industries, encourage exports, organize exhibitions and publicize Western Australian trade and industry. It also conducts investigations and research into the commercial possibilities of using indigenous raw materials for industrial purposes. In carrying out these functions the Department establishes and maintains liaison with industry and with Government Departments responsible for the provision of necessary services, information and finance.

CHAPTER IX—TRADE, TRANSPORT AND COMMUNICATION

PART 1 – TRADE

TRADE FROM 1829 TO FEDERATION IN 1901

Statistics concerning the external trade of the Colony of Western Australia during the early years of settlement were obtained from the reports of Harbour Masters and are recorded in the colonial Blue Books. Records of trade activity in the early period are not detailed and although they show that in 1829, the year of establishment of the Colony, the total value of imports was about £50,000, 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 £25,959.

Western Australia depended at first upon the United Kingdom for most of its imports. The first specific record of trade with the other Australian Colonies relates to the year 1857 when the value of goods received from South Australia, New South Wales and Victoria was £9,473, compared with £67,135 from the United Kingdom and a total of £94,532 from all sources. Purchases from the other Australian Colonies gradually increased in importance and in 1877 exceeded in value those from Britain and comprised nearly half the total.

In the decade before Federation, the other Australian Colonies provided 54 per cent. of Western Australia's purchases and the United Kingdom 36 per cent. The total value of imports was still well below £1 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 £5·96 million in 1900. Of this amount £2·68 million was spent on goods from the other Australian Colonies and £2·23 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 £758 was sent to England. In 1892 almost 9 million lb. worth £326,703 was shipped from the Colony, representing nearly two-fifths of a total value of exports of £882,148. Other items, in order of importance, were gold, £226,282; pearl-shell and pearls, £119,259; timber, £78,419; sandalwood, £42,870; and hides and skins, £36,897. 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 £5·55 million accounted for more than four-fifths of a total export income of £6·85 million, while timber with an export value of £0·46 million had displaced wool as the commodity second in importance to gold.

In all but a few of the seventy years before Federation, Western Australia's principal market was the United Kingdom which in the ten years from 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 1947-48

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.

Between the beginning of the century and 1947-48, the value of imports increased, with some fluctuation, from less than £6·5 million to nearly £43 million. Detailed statistics of imports in this half-century 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. In the years immediately following the second World War, another change in the pattern of import trade had become apparent, with metals and metal manufactures (including motor vehicles and parts), petroleum products, electrical appliances and equipment accounting for about two-fifths of the value of all imports in 1947-48.

During the period from 1901 to 1947-48 the value of exports rose from £8·5 million to £55·7 million, staple commodities being gold, wheat and flour, wool and timber. Export income from gold fluctuated widely. In the ten years before Federation it had been by far the most valuable item of export. In 1903, the peak year of production, gold shipments earned £8·62 million compared with £0·64 million from timber and £0·44 million from wool. Despite a consistent decline in output since that year and the development of wheat growing as a major industry, gold continued to be the principal item until 1919-20 when revenue from its export, £3·40 million, was exceeded for the first time by that from wheat and flour, £5·07 million, wool being next in order with export earnings of £3·94 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, £0·66 million, was the lowest recorded for 35 years. In the same year wheat and flour earned £8·00 million and wool £4·96 million of a total export income of £18·2 million.

Prices of wheat and wool fell sharply at the beginning of the next decade, reaching their lowest level in 1930-31 with an average f.o.b. value for wheat of 2s. 3½d. per bushel and for wool of 8·94 pence per lb. Despite an increase in shipments, 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.

In the years immediately following the war, export income from wheat and flour and from wool showed substantial increases. In 1947-48 the average price of wheat, 17s. 6d. per bushel f.o.b., was the highest ever recorded and export revenue from wheat and flour was £22·6 million. Earnings from wool amounted to £16·6 million, from gold £3·83 million and from timber £1·12 million.

CLASSIFICATION AND VALUATION OF IMPORTS AND EXPORTS

Particulars of Western Australian trade are classified in accordance with a Statistical Classification of Imports and Exports based on the tariff schedule used for Customs purposes. The classification comprises some 2,000 items of imports and about 1,000 items of exports, the items being grouped into a number of classes and sub-classes, which are shown in the table on page 300. The detailed classification and an accompanying index appear in Part IV of the *Statistical Register of Western Australia*.

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 overseas imports have been recorded on this basis since its introduction and those for earlier years were revised accordingly back to 1938-39.

Statistics of imports from other Australian States are recorded in terms of landed cost.

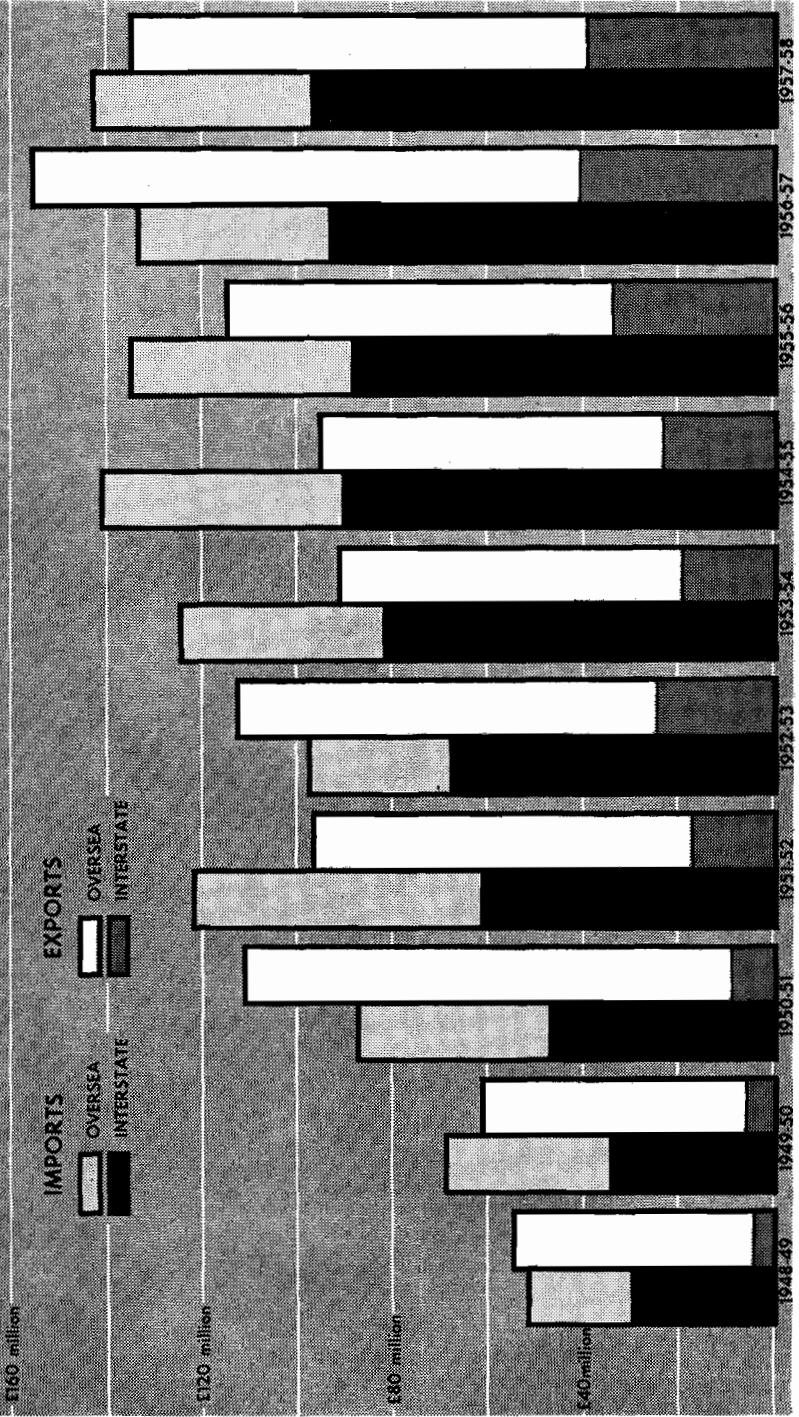
The value of goods exported, both overseas and interstate, is recorded in Australian currency. The basis of valuation is f.o.b., or its equivalent, at the port of shipment or other point of consignment.

GENERAL SUMMARY OF TRADE, 1948-49 TO 1957-58

Statistics during the ten-year period ended 30th June, 1958 reveal an irregular pattern of fluctuating trading balances, as shown in the table on page 298. In each of the years under review overseas trade resulted in a favourable balance while interstate trade showed a deficit.

A small surplus of nearly £3 million was recorded in 1948-49 but in the following year, when imports exceeded exports by £7·58 million, the State experienced its second adverse balance since the war. In 1950-51, although the value of imports continued to rise, exceptionally high prices brought the value of wool exported to £56·3 million, more than double the amount of £25·5 million recorded in 1949-50, and total external trade for the year showed a surplus of £23·7 million. The position deteriorated in 1951-52 when the value of imports increased by £34·2 million to an unprecedentedly high level of £122·3 million. Purchases from overseas, at £60·2 million, were almost equal to the value of imports from other Australian States. At the same time there was a sharp decline in export revenue due to a fall in wool prices to little more than half the record average of 143·43 pence per lb. f.o.b. in the previous year, and an unfavourable balance of £24·6 million resulted. An unusual feature was a deficit in trade with the United Kingdom, amounting to £5·23 million.

Imports and Exports, 1948-49 to 1957-58



Following the extension and intensification of import restrictions by the Commonwealth Government in March, 1952, the value of overseas imports fell by more than half, from £60·2 million in 1951-52 to £29·9 million in 1952-53. Although interstate imports rose in value from £62·1 million to £68·6 million there was an increase in the value of all exports to £113·1 million and total trade for the year showed a surplus of £14·7 million. There were some relaxations of import restrictions in 1953 and the first half of 1954 and overseas imports rose from £29·9 million in 1952-53 to £42·5 million in 1953-54, while imports from other Australian States also increased, from £68·6 million to £82·7 million, giving a total increase of £26·7 million in the value of imports. Export revenue declined by £21·5 million due mainly to a contraction in shipments of wheat and flour, which accounted for £16·2 million of the decrease. In the same year exports of gold bullion fell to £6·62 million, from £12·4 million in 1952-53, and the total trade deficit was £33·6 million.

The rising import trend continued into 1954-55 and, while revenue from exports had begun to increase, the State experienced an unfavourable balance of £45·6 million, some £12 million greater than that of the previous year. Although a deficit was recorded again in 1955-56, there was a considerable improvement. Expenditure on imports was £6·24 million lower than in 1954-55 and export income increased by £19·6 million, mainly as a result of larger shipments of refined petroleum to the other Australian States (see letterpress *Petroleum Products* on page 309). In 1956-57, the value of imports showed little change but export income rose by an amount of more than £40 million, due principally to increases in returns from wheat of £16·2 million, from wool of £8·60 million, from gold bullion of £5·64 million and from petroleum oils and spirit of £1·99 million, resulting in a surplus of £21·5 million, the first since 1952-53.

In 1957-58, the latest year under review, imports increased by nearly £9 million to £143·4 million, the main factors being greater purchases of crude petroleum, machines and machinery, metals and metal manufactures from overseas, and motor vehicles and components, iron and steel and agricultural machinery from the other Australian States. Exports of wheat and flour yielded £10·5 million less than in 1956-57 despite the unusual feature of interstate shipments of wheat, which were valued at £6·77 million, following a period of drought in eastern Australia. Income from wool fell by £7·41 million due to lower prices and smaller consignments. Revenue from exports of gold was less by £8·80 million and returns from oats and barley declined significantly. The total decrease in export income amounted to more than £21 million and the excess of imports over exports for the year was £8·47 million.

SUMMARY OF IMPORTS AND EXPORTS (£'000)

Item	Year ended 30th June—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957 (a)	1958 (a)
OVERSEA										
Imports	22,038	34,422	40,258	60,237	29,875	42,525	50,647	46,482	40,211	45,888
Exports	50,819	55,528	102,196	79,551	87,852	71,649	72,039	81,036	114,832	94,689
Excess of :—										
Imports over Exports	28,781	21,106	61,938	19,314	57,977	29,124	21,392	34,554	74,621	48,901
Exports over Imports	28,781	21,106	61,938	19,314	57,977	29,124	21,392	34,554	74,621	48,901
INTERSTATE										
Imports	30,591	35,022	47,914	62,104	68,606	82,687	91,055	88,976	94,340	97,551
Exports	4,775	6,338	9,661	18,141	25,281	20,004	24,055	34,636	41,195	40,283
Excess of :—										
Imports over Exports	25,816	28,684	38,253	43,963	43,325	62,683	67,000	54,340	53,145	57,268
Exports over Imports	25,816	28,684	38,253	43,963	43,325	62,683	67,000	54,340	53,145	57,268
TOTAL										
Imports	52,629	69,444	88,172	122,341	98,481	125,212	141,702	135,458	134,551	143,439
Exports	55,594	61,866	111,857	97,692	113,133	91,653	96,094	115,672	156,027	134,972
Excess of :—										
Imports over Exports	2,965	7,578	23,685	24,649	14,652	33,559	45,608	19,786	21,476	8,467
Exports over Imports	2,965	7,578	23,685	24,649	14,652	33,559	45,608	19,786	21,476	8,467

(a) Figures for 1956-57 incorporate an adjustment to include, and those for 1957-58 to exclude, an amount of £504,450, representing the value of a consignment of goods exported overseas in 1956-57 but not recorded until 1957-58.

IMPORTS

In each year of the period from 1948-49 to 1957-58, more than one-half of Western Australia's expenditure on imports was on goods purchased in the other Australian States. In some years the proportion was as high as 70 per cent. and the average for the period was 62·9 per cent. The following table, which relates to the years 1956-57 and 1957-58, provides a summary of the principal items im-

ported from this source, and also gives a dissection of imports according to main supplying States in 1957-58.

VALUE OF PRINCIPAL IMPORTS FROM AUSTRALIAN STATES (£)

Commodity	Year ended 30th June, 1957	Year ended 30th June, 1958				
	All States	New South Wales	Victoria	South Australia	Queensland, Tasmania, Northern Territory	All States
	£	£	£	£	£	£
Apparel (other than headwear and footwear)	8,830,162	2,653,310	5,503,967	114,549	83,584	8,355,410
Bananas	391,428	270,654	3,140	25,619	...	299,413
Batteries	765,914	493,251	191,859	950	15	686,075
Blankets and Rugs	215,750	16,649	114,764	42,181	8,702	182,296
Breakfast Foods	179,983	183,401	22,501	6,027	60	211,989
Brushware	247,184	50,465	111,095	72,826	174	234,560
Butter	201,703	...	491,588	...	...	491,588
Cable, Electrical (Covered)	885,616	336,970	567,437	8,669	4,395	917,471
Carpets and Carpeting	446,128	65,444	352,646	4,503	...	422,593
Cheese	494,692	11,354	452,804	63,331	14,664	542,153
Cigarettes	2,062,396	354,155	1,468,260	2,311	...	1,824,726
Coal	703,194	594,711	268	...	...	594,979
Confectionery	1,513,461	422,790	590,418	67,962	173,120	1,254,290
Explosives	1,058,248	13,788	1,091,374	7,313	...	1,112,475
Footwear	2,291,878	638,879	1,597,468	126,563	5,290	2,368,200
Fruits preserved in liquid	705,709	21,953	182,499	150,946	244,586	599,984
Headwear	275,846	126,084	135,920	7,954	948	270,906
Iron and Steel	7,417,679	7,871,935	167,504	404,009	18,170	8,461,618
Jam	441,319	31,339	261,359	65,692	90,906	449,296
Machines and Machinery—						
Agricultural	1,901,054	319,266	1,640,072	511,715	3,614	2,474,667
Refrigerating Appliances	1,776,920	507,114	221,185	567,766	24,311	1,320,376
Washing Machines	572,985	179,883	26,300	301,592	...	507,775
Other	5,915,107	3,175,212	2,139,296	562,452	350,698	6,227,658
Magazines, Periodicals and Books	634,701	487,666	15,032	21,734	1,090	664,522
Margarine	328,174	254,341	69,400	7,155	34,567	365,103
Medicinal Preparations	1,659,453	1,092,162	517,746	229,267	4,341	1,843,516
Metals, Non-ferrous	1,044,158	522,337	388,489	40,230	58,734	1,009,790
Milk and Cream, Preserved	904,668	13,303	850,121	270	...	863,694
Motor Vehicles and Components (ex- cluding Motor Cycles)	8,566,516	2,234,211	6,582,199	2,377,125	243,446	11,436,981
Paints, Varnishes and Lacquers	962,820	331,738	148,818	429,854	1,207	911,617
Paper and Paper Boards	1,477,552	235,130	715,928	42,264	616,777	1,610,099
Pickles, Chutneys and Sauces	280,825	96,861	148,114	30,423	1,522	276,920
Piece-goods (apparel and furnishing fabrics)	1,636,552	479,156	974,314	93,845	48,040	1,595,355
Soap and Soap Substitutes	1,063,614	325,753	713,219	9,129	1,159	1,049,260
Tobacco, Manufactured	1,011,106	608,816	282,807	4,315	1,520	897,458
Toilet Preparations	865,904	666,926	271,480	17,014	28	955,448
Towels and Towelling	256,983	109,817	115,593	33,072	1,040	259,522
Toys	424,432	154,065	220,918	18,155	2,133	395,271
Tractors and Parts	885,406	163,632	858,639	79,827	10,106	1,112,204
Tyres and Tubes, Rubber	2,510,506	823,236	1,626,013	16,690	49	2,465,988
Vegetables preserved in liquid	411,789	99,289	302,193	13,055	47,323	461,860
Wines	572,302	24,955	29,842	420,706	447	475,950
Wire and Wire Manufactures	796,101	813,832	197,156	48,672	10,568	1,070,228
Wireless (Radio) Equipment	805,764	482,435	211,568	120,035	5,555	819,593
Wool—						
Greasy and Scoured	920,888	...	118,902	395,982	...	514,884
Tops	245,177	...	21,909	161,485	...	183,394
Wool Yarn (Knitting Wool)	376,866	41,307	275,272	2,276	56,498	375,353
All other	26,403,301	9,685,738	10,494,216	2,726,278	3,220,946	26,127,178
TOTAL INTERSTATE IMPORTS	94,339,914	38,085,313	43,622,252	10,453,788	(a)5,390,333	97,551,686

(†) Figures relate to the State from which the commodity was imported, which is not in all cases the State in which it was produced. (a) Comprises Queensland, £3,403,155; Tasmania, £1,658,888; Northern Territory, £328,290.

Western Australia's imports consist predominantly of manufactured goods and equipment. During the ten years ended 30th June, 1958 more than three-quarters (76·5 per cent.) of the total of £1,111 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 38·9 per cent.; Class VIII—Yarns and Manufactured Fibres, Textiles and Apparel, for 15·2 per cent.; Class IX—Oils, Fats and Waxes, for 10·9 per cent.; Class II—Foodstuffs of Vegetable Origin, for 6·5 per cent.; and Class XIX—Drugs, Fertilizers and Chemicals, for 5·0 per cent.

VALUE OF IMPORTS ACCORDING TO STATISTICAL CLASS
(£'000)

Class No.	Name of Class	Year ended 30th June :—				
		1949	1950	1951	1952	1953
I	Foodstuffs of Animal Origin	1,129	1,532	2,037	2,376	2,755
II	Foodstuffs of Vegetable Origin	4,138	4,405	5,549	6,129	7,041
III	Spirituuous and Alcoholic Liquors	363	398	456	557	526
IV	Tobacco, Cigarettes, Cigars and Snuff	1,403	1,708	1,979	2,327	2,343
V	Live Animals	287	466	508	599	512
VI	Animal Substances other than Foodstuffs	710	782	1,363	881	650
VII	Vegetable Substances and Fibres	348	460	643	773	638
VIII (A)	Yarns and Manufactured Fibres	1,847	1,931	1,829	3,788	1,472
VIII (B)	Textiles	4,405	4,869	6,396	8,468	3,932
VIII (C)	Apparel	4,710	5,450	6,697	8,866	7,890
IX	Oils, Fats and Waxes	4,759	6,081	8,192	9,287	8,412
X	Pigments, Paints and Varnishes	500	536	767	927	874
XI	Rocks and Minerals (including Ores and Concentrates)	652	1,123	1,373	1,133	1,223
XII (A)	Metals and Metal Manufactures	8,472	14,323	18,476	26,833	22,013
XII (B)	Dynamo Electrical Machinery and Appliances	2,226	2,896	3,356	4,224	3,986
XII (C)	Machines and Machinery (except Dynamo Electrical)	6,065	10,233	11,976	18,536	14,862
XIII (A)	Rubber and Rubber Manufactures	1,314	1,862	2,776	4,426	3,442
XIII (B)	Leather and Leather Manufactures	126	148	326	488	455
XIV	Wood and Wicker, Raw and Manufactured	571	522	640	1,037	510
XV	Earthenware, Cement, China, Glass, etc.	631	884	1,080	1,705	1,071
XVI (A)	Pulp, Paper and Board	1,104	893	1,230	2,574	1,373
XVI (B)	Paper Manufactures and Stationery	921	1,039	1,343	1,976	1,948
XVII	Sporting Materials, Toys, Fancy Goods, etc.	580	732	906	1,108	751
XVIII	Optical, Surgical and Scientific Instruments and Apparatus	454	468	647	872	529
XIX	Drugs, Fertilizers and Chemicals	2,836	3,360	4,224	5,209	4,978
XX	Miscellaneous	2,061	2,333	3,392	7,241	4,289
XXI	Gold and Silver : Bronze Specie	17	10	11	1	6
TOTAL IMPORTS		52,629	69,444	88,172	122,341	98,481

Class No.	Name of Class	Year ended 30th June :—				
		1954	1955	1956	1957	1958
I	Foodstuffs of Animal Origin	3,149	3,261	3,093	3,145	3,829
II	Foodstuffs of Vegetable Origin	8,104	9,008	8,722	9,695	9,050
III	Spirituuous and Alcoholic Liquors	767	858	947	914	831
IV	Tobacco, Cigarettes, Cigars and Snuff	2,864	3,026	2,677	3,139	2,796
V	Live Animals	726	610	560	586	1,020
VI	Animal Substances other than Foodstuffs	633	538	536	1,341	893
VII	Vegetable Substances and Fibres	734	711	549	722	632
VIII (A)	Yarns and Manufactured Fibres	1,512	2,024	1,474	1,984	1,821
VIII (B)	Textiles	6,982	6,983	6,597	6,211	6,462
VIII (C)	Apparel	10,382	10,741	10,235	11,525	11,170
IX	Oils, Fats and Waxes	8,858	15,976	18,305	19,228	21,737
X	Pigments, Paints and Varnishes	1,262	1,397	1,467	1,482	1,488
XI	Rocks and Minerals (including Ores and Concentrates)	1,582	1,662	1,447	1,400	1,453
XII (A)	Metals and Metal Manufactures	29,694	32,230	28,908	26,369	31,615
XII (B)	Dynamo Electrical Machinery and Appliances	5,145	5,479	5,725	5,472	5,215
XII (C)	Machines and Machinery (except Dynamo Electrical)	20,155	21,126	17,299	14,110	15,606
XIII (A)	Rubber and Rubber Manufactures	3,639	3,758	3,955	3,464	3,448
XIII (B)	Leather and Leather Manufactures	434	408	364	398	385
XIV	Wood and Wicker, Raw and Manufactured	924	816	840	831	874
XV	Earthenware, Cement, China, Glass, etc.	1,623	1,704	1,655	1,507	1,584
XVI (A)	Pulp, Paper and Board	1,659	2,588	2,329	2,407	2,546
XVI (B)	Paper Manufactures and Stationery	2,266	2,627	2,687	2,795	2,833
XVII	Sporting Materials, Toys, Fancy Goods, etc.	1,336	1,406	1,513	1,463	1,488
XVIII	Optical, Surgical and Scientific Instruments and Apparatus	844	916	973	974	1,063
XIX	Drugs, Fertilizers and Chemicals	5,910	6,733	6,760	7,412	8,333
XX	Miscellaneous	4,023	5,117	5,841	5,977	5,267
XXI	Gold and Silver : Bronze Specie	5	(a)	(a)	....	....
TOTAL IMPORTS		125,212	141,708	135,458	134,551	143,439

(a) Less than £500.

In 1957-58 the value of imports of commodities in the five main classes was £111 million or 77·4 per cent. of all imports aggregating £143 million.

In Class XII, which accounted for £52.4 million, principal items were motor vehicles and components £13.2 million, iron and steel £9.15 million, tractors and parts £3.23 million, agricultural machinery £2.75 million, telephone, telegraph and wireless equipment £1.62 million, refrigerating appliances £1.34 million, wire and wire manufactures £1.15 million, non-ferrous metals £1.05 million, earthworking and roadmaking machinery £0.85 million, cooking and heating appliances £0.72 million, batteries and accumulators £0.70 million, and washing machines £0.51 million.

Class VIII showed total imports of £19.5 million, the main commodities being apparel other than footwear and headwear £8.48 million, piece-goods £3.98 million, footwear £2.41 million, bags and sacks £1.12 million, carpets £0.68 million, knitting wool £0.38 million, linoleums £0.35 million, headwear £0.28 million, blankets and rugs £0.20 million, sewing threads £0.11 million, and cordage, rope and twine £0.11 million.

Class IX recorded a total of £21.7 million, the predominant items being crude petroleum £18.0 million and refined petroleum oils and spirits £3.16 million. (See letterpress *Petroleum Products* on page 309.)

In Class II, imports aggregating £9.05 million were accounted for mainly by dried and canned fruits and vegetables £1.34 million, confectionery £1.26 million, tea £0.84 million, jams and sauces £0.65 million, coffee £0.30 million, bananas £0.30 million, prepared soups £0.26 million, nuts £0.25 million, and breakfast foods £0.21 million.

In Class XIX, with a total of £8.33 million, imports consisted largely of medical preparations and drugs £1.91 million, chemical fertilizers £1.48 million, soap and soap substitutes £1.08 million, and toilet preparations £0.96 million.

EXPORTS

It will be apparent from an examination of the table on page 310 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, meat and fish freezing, whale oil extraction and so on.

During the ten years ended 30th June, 1958 the aggregate value of exports from Western Australia was £1,035 million. Of this total more than three-quarters (76.5 per cent.) was accounted for by fourteen commodities or groups of commodities, namely wool, greasy and scoured (£368 million or 35.6 per cent.), wheat and wheaten flour (£235 million, 22.7 per cent.), gold bullion (£57 million, 5.51 per cent.), timber (£19.8 million, 1.91 per cent.), skins and hides (£17.5 million, 1.69 per cent.), fresh fruit (£15.9 million, 1.54 per cent.), frozen and chilled meats (£15.9 million, 1.53 per cent.), crayfish tails (£10.9 million, 1.05 per cent.), oats (£9.33 million, 0.90 per cent.), whale oil (£7.75 million, 0.75 per cent.), fresh vegetables (£7.06 million, 0.68 per cent.), eggs (£6.59 million, 0.64 per cent.), barley (£4.74 million, 0.46 per cent.) and the principal minerals other than gold (£16.1 million, 1.55 per cent.).

A large oil refinery began production early in 1955 and, during the first three full years of operation, refined liquid petroleum products valued at more than £74 million were exported as commercial cargo or in the form of supplies to ships and aircraft (see letterpress *Petroleum Products* on page 309). The addition of earnings from these items to the income from those already enumerated meant that in the three years ended 30th June, 1958 the total value of exports of fifteen commodities or groups of commodities was £345.2 million or 84.9 per cent. of that of all exports.

In the following tables and accompanying letterpress these commodities are dealt with separately for each year of the period from 1948-49 to 1957-58. The figures shown in the tables exclude details of exports in the form of ships' stores, to which some reference is made on page 311.

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-fifth 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 the quantity shipped and in price. The smallest export was that of the year 1950-51 which, however, showed the greatest return, due to an exceptionally high average value of 143.43 pence per lb. f.o.b. In 1955-56, when 113.3 million lb. were exported, the price had fallen to 61.32 pence per lb. and earnings at £28.9 million were only three-fifths of the amount of £48.2 million realized in 1950-51.

EXPORTS OF GREASY WOOL

Item	Year ended 30th June :—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity '000 lb.	85,019	83,405	80,732	91,455	100,909	100,701	96,564	113,289	108,582	96,453
Value £'000	18,359	20,035	48,247	28,645	33,879	35,673	29,648	28,947	35,626	28,612
Average value (a) pence	51·28	57·65	143·43	75·17	80·58	85·02	73·70	61·32	78·74	71·20

(a) F.o.b. value per lb.

The principal market for greasy wool in each of the ten years was the United Kingdom which in 1957-58 took 41·2 million lb., worth £12·1 million, of a total export of 96·5 million lb. valued at £28·6 million. The purchasing country next in importance during the period was France which bought 15·1 million lb. worth £4·23 million in 1957-58. The United States of America was a valuable customer until 1954-55, but after that year consignments showed a consistent decline and were worth only £0·65 million in 1957-58. Italy took appreciable quantities in almost all of the ten years and other valuable markets were Belgium-Luxemburg, the Federal Republic of Germany, Japan and Poland.

EXPORTS OF SCOURED WOOL

Item	Year ended 30th June :—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity '000 lb.	13,588	17,491	11,055	11,353	12,604	11,918	13,261	16,745	18,746	18,557
Value £'000	3,176	5,426	8,033	5,194	5,682	5,457	5,633	6,210	8,129	7,731

The United Kingdom was the largest buyer of scoured wool in each year except 1957-58 when Mainland China, whose purchases had become significant in 1954-55, took 3·02 million lb. worth £1·55 million, equivalent to about one-fifth of the total value. The Federal Republic of Germany was an important customer in the last four years of the period and at the same time sales to the United States of America increased, after restrained buying in 1952-53 and 1953-54.

Wheat and Wheat Flour

The annual export income from wheat varied considerably during the ten years under review, from £5·64 million in 1953-54, when only 6·80 million bushels were shipped compared with an annual average for the period of 24·3 million bushels, to £30·6 million in 1956-57, a value far greater than any ever previously recorded and representing about one-fifth of the total export income for that year.

In 1948-49 and 1949-50 prices showed a recession from the peak of 17s. 6d. per bushel f.o.b. realized in 1947-48. Values rose again in 1950-51 and continued to improve in the next two years after which there was a decline to 12s. 4d. per bushel in 1955-56, the lowest level during the ten-year period. Prices showed some recovery in the following year and a substantial increase in 1957-58, to 15s. 4d. per bushel.

EXPORTS OF WHEAT

Item	Year ended 30th June :—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity '000 bush.	18,401	21,510	30,510	26,823	23,319	6,800	19,335	22,773	46,796	26,644
Value £'000	14,050	16,692	25,844	22,864	20,173	5,636	13,739	14,430	30,646	20,431
Average value (a) s. d.	15 3½	15 6½	16 11½	17 0½	17 3½	16 7	14 2½	12 4	13 1½	15 4

(a) F.o.b. value per bushel.

The United Kingdom was the principal market for wheat in all years other than 1949-50 and 1954-55, when purchases by India were greater, and 1957-58 when 7·72 million bushels valued at £6·77 million were sent to New South Wales following a period of drought in eastern Australia. India took large consignments in all years except 1957-58 when no wheat was sent there. The Federal Republic of Germany was a fairly consistent buyer. Egypt was an important customer in the early years of the period and Japan and Pakistan in the later years.

EXPORTS OF WHEATEN FLOUR

Item	Year ended 30th June :—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity short tons (a)	131,203	115,814	159,740	161,581	176,241	147,849	120,343	129,421	127,491	111,827
Value £'000	5,258	4,168	5,887	6,834	7,545	5,852	3,610	3,883	3,737	3,454

(a) Short ton = 2,000 lb.

Western Australia's exports of wheaten flour during the ten years were mainly to Asian countries, particularly Singapore, Indonesia and Malaya.

Gold

Although the production of gold was well sustained during the ten years from 1948-49 to 1957-58, exports were extremely variable. In 1948-49 and 1950-51 none was shipped and in 1949-50 there was only a small consignment valued at £1,177. In 1952-53 and again in 1956-57 gold bullion exports exceeded £12 million. In all, 3.58 million fine ounces were shipped during the period, for an aggregate value of £57.0 million. The average value ranged from £15 9s. 9d. per fine ounce in 1949-50 to £16 12s. 9d. in 1951-52.

EXPORTS OF GOLD BULLION

Item	Year ended 30th June :—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity fine oz.	76	....	394,984	759,291	418,069	618,495	410,278	770,061	207,665
Value £'000	1	....	6,571	12,399	6,615	9,669	6,421	12,060	3,256

Except for insignificant quantities sent in some years to the United Kingdom, all gold exported from Western Australia went to New South Wales for shipment overseas.

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 almost two-fifths of that of all timber exported during the ten years under review.

In 1948-49, consignments of timber aggregating 38.4 million super. feet were worth £0.99 million. The quantity exported fell to 34.3 million super. feet in 1949-50 and to 28.1 million super. feet in 1950-51. There was some improvement in 1951-52, a substantial increase to 47.6 million super. feet valued at £2.07 million in 1952-53 and a further rise in value in 1953-54 when shipments were worth £2.24 million. After a decrease in 1954-55, sales improved greatly in the three following years and an export of 66.9 million super. feet in 1957-58 earned £3.75 million.

EXPORTS OF TIMBER

Item	Year ended 30th June :—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
QUANTITY ('000 super. feet)										
Sleepers	13,822	9,728	7,926	7,867	11,318	15,782	15,254	22,570	24,737	35,905
Other (a)	24,557	24,567	20,184	20,792	36,267	30,536	26,494	32,021	31,410	30,967
Total (a)	38,379	34,295	28,110	28,659	47,585	46,318	41,748	54,591	56,147	66,872
VALUE (£'000)										
Sleepers	446	290	254	259	403	804	696	1,147	1,411	2,026
Other (a)	547	684	638	779	1,671	1,436	1,228	1,652	1,697	1,722
Total (a)	993	974	892	1,038	2,074	2,240	1,924	2,799	3,108	3,748

(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 in each year and took quantities worth well over half the value of all timber exported during the ten years. The United Kingdom and South Africa were other consistent buyers and large consignments were sent to New Zealand in the last four years of the period. Valuable shipments of railway sleepers were sent to Ceylon and Iraq in some years and to India in 1957-58. Of the total exports of 66.9 million super. feet in that year, sleepers represented 35.9 million super. feet, of which 29.4 million super. feet were sent to overseas countries, principally New Zealand, the United Kingdom, India, Iraq and South Africa.

Skins and Hides

Skins exported from Western Australia consist almost entirely of sheep and lamb skins, mainly with wool. France was by far the most important customer in each of the years under review, the United Kingdom being the next most valuable market except in 1952-53, when Belgium-Luxemburg took greater quantities, and 1957-58 when Italy's purchases were slightly in excess of those of the United Kingdom. Belgium-Luxemburg was a consistent buyer throughout and Italy took valuable consignments in each year in the latter half of the period.

Other export items are calf skins and certain furred skins, notably kangaroo and rabbit. The other Australian States provided a regular market for each of these commodities throughout the period and the United States of America took consignments of furred skins in each year.

The overseas export trade in hides, which consist principally of cattle hides, was mainly with the United Kingdom, Turkey and India, and there was a consistent interstate export during the period.

EXPORTS OF SKINS AND HIDES

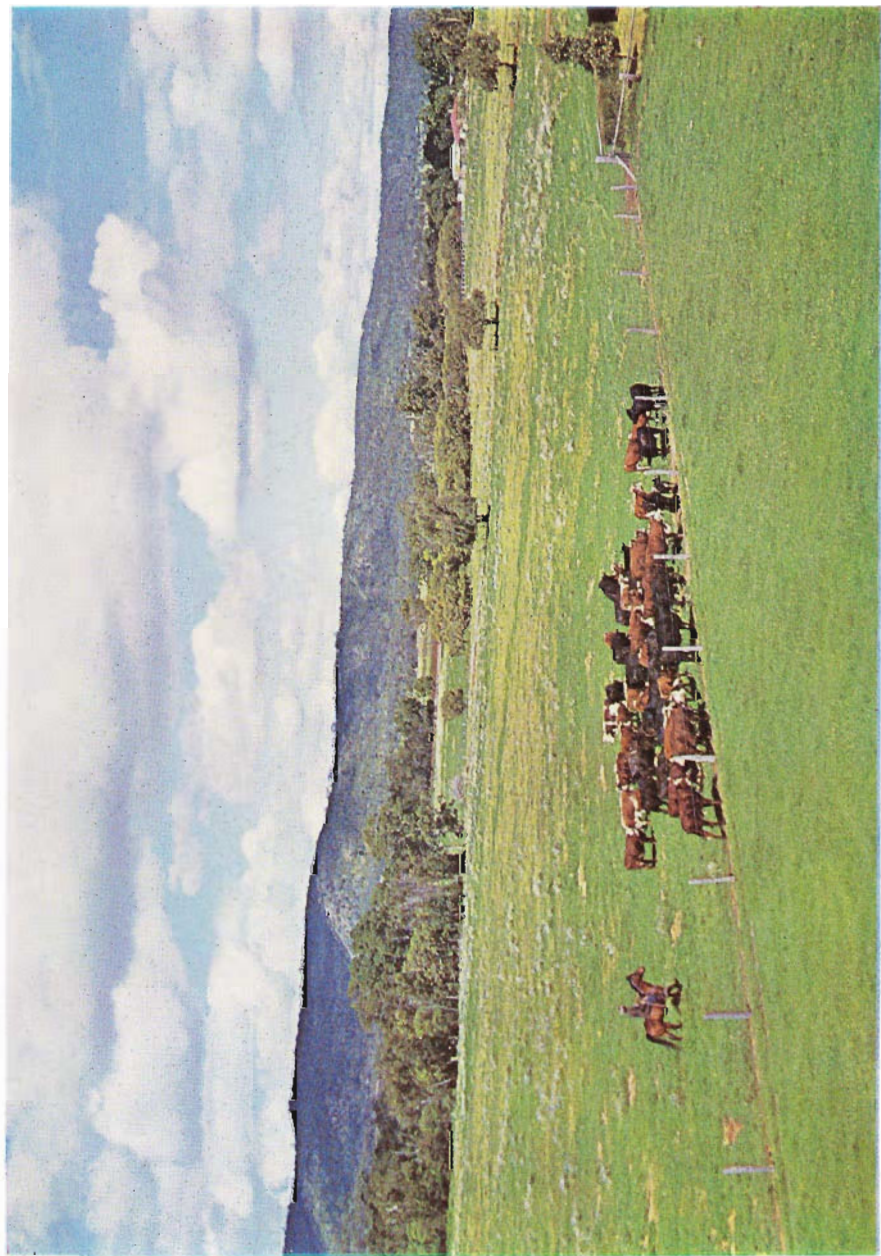
Type	Year ended 30th June :—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
QUANTITY ('000 lb.)										
Sheep and Lamb	8,276	7,923	7,001	6,544	10,845	8,293	7,610	9,169	10,863	9,676
Cattle and Calf	1,492	1,070	1,175	1,045	1,202	1,496	2,181	2,850	(a) 3,057	(a) 3,024
Other	704	694	693	585	386	496	465	388	306	192
Total	10,472	9,687	8,869	8,174	12,433	10,285	10,256	12,407	(a) 14,226	(a) 12,892
VALUE (£'000)										
Sheep and Lamb	859	1,005	2,375	1,304	1,801	1,465	1,242	1,351	2,038	1,708
Cattle and Calf	77	65	113	152	124	115	136	183	(a) 230	(a) 210
Other	131	95	159	141	46	67	82	103	68	20
Total	1,067	1,165	2,647	1,597	1,971	1,647	1,460	1,637	(a) 2,336	(a) 1,938

(a) Figures for 1956-57 incorporate an adjustment to include, and those for 1957-58 to exclude, an amount of £11,006, representing the value of a consignment of 204,367 lb. of cattle hides exported overseas in 1956-57 but not recorded until 1957-58.

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 1957-58 representing more than three-quarters of that of all fruits exported. The United Kingdom, Singapore and Sweden were the most valuable markets, with appreciable quantities being consigned to the other Australian States in some years.

Grapes, most of which were sent to Singapore and Ceylon, predominated among the other fresh fruits exported. Singapore was the largest buyer of both citrus fruits and stone fruits, comprising mainly plums, in each of the ten years 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.



ABERDEEN ANGUS
AND
HEREFORD CATTLE
on a holding near Serpen-
tine, with Darling Range
escarpment in background

EXPORTS OF FRESH FRUIT

Item	Year ended 30th June :—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
QUANTITY										
Apples '000 bush.	671	707	725	655	1,375	846	1,068	907	1,284	871
Grapes (a) cental	13,990	15,759	24,078	18,057	23,880	22,433	23,200	21,695	(d)	23,606
Citrus (b) '000 bush.	40	46	23	44	42	29	21	10	11	12
VALUE (£'000)										
Apples	581	670	865	1,071	1,930	1,309	1,599	1,428	1,955	1,524
Grapes (a)	82	122	185	216	221	242	239	215	216	234
Citrus (b)	45	61	35	73	68	43	31	15	18	19
Other (b) (c)	18	37	63	66	64	56	54	38	110	85
Total	726	890	1,148	1,426	2,283	1,650	1,923	1,696	2,299	1,862

(a) Oversea exports only ; see note (c). (b) Interstate exports of mandarins and, for the years 1948-49 to 1951-52, of grapefruit are included in the item "Other." (c) Includes interstate exports of grapes, which are not recorded separately. (d) Not available.

Potatoes constituted the principal item of exports of fresh vegetables and were sent mainly to other Australian States. Among overseas buyers Singapore was predominant and took consignments in each of the ten years under review.

Tomatoes were next in importance to potatoes and were marketed largely in other Australian States, Singapore being the chief overseas customer.

More than two-thirds of the onions exported during the period were sent to overseas destinations, by far the largest purchaser being Singapore. Consignments were sent regularly to the other Australian States and in some years these exceeded overseas shipments.

Singapore was the most valuable overseas market for other fresh vegetables but almost two-thirds of export income from these items came from the other Australian States. A notable development in the later years of the period was the increase in interstate exports of beans, which earned £90,945 in 1956-57 and £74,163 in 1957-58.

EXPORTS OF FRESH VEGETABLES

Item	Year ended 30th June :—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
QUANTITY (cwt.)										
Potatoes	270,121	198,617	220,082	266,020	253,147	315,470	177,561	44,773	152,119	275,534
Tomatoes	32,769	38,696	43,064	30,059	42,743	36,155	33,005	51,529	31,965	61,137
Onions	62,203	40,823	32,319	38,645	61,869	43,633	37,143	20,677	44,231	40,122
VALUE (£'000)										
Potatoes	215	192	253	367	375	650	256	86	368	416
Tomatoes	143	200	221	184	173	158	176	287	162	133
Onions	69	55	47	91	97	63	50	44	71	59
Other	71	74	78	128	122	167	158	153	235	208
Total	498	521	599	770	767	1,038	640	570	836	816

Meats

The items of export of frozen and chilled meats in order of importance during the ten years to 1957-58 were beef and veal, lamb and mutton, and pork. Almost the whole of Western Australia's trade in these commodities was with overseas countries, although purchases by the other Australian States were significant in some years.

EXPORT OF FROZEN AND CHILLED MEATS

Item	Year ended 30th June :—									
	1949 (a)	1950 (a)	1951 (a)	1952	1953	1954	1955	1956	1957	1958
QUANTITY ('000 lb.)										
Beef and Veal	(b) 17,760	(b) 19,015	(b) 16,973	(b) 13,290	11,058	13,555	14,939	16,757	(c) 15,876	(c) 17,528
Lamb	10,157	5,274	2,071	2,301	6,150	4,078	4,567	7,487	7,174	7,943
Mutton					8,378	3,217	2,542	7,069	5,587	3,262
Pork	1,375	359	616	934	1,020	474	2,313	1,637	1,615	5,124
Total	(b) 29,292	(b) 24,648	(b) 19,660	(b) 16,525	26,606	21,324	24,361	32,950	(c) 30,252	(c) 33,857
VALUE (£'000)										
Beef and Veal	(b) 420	(b) 592	(b) 611	(b) 568	718	874	1,019	1,172	(c) 1,057	(c) 1,205
Lamb	354	242	109	150	441	322	548	788	623	802
Mutton					291	115	116	290	248	148
Pork	90	30	56	116	152	76	266	241	294	731
Total	(b) 864	(b) 864	(b) 776	(b) 834	1,602	1,387	1,949	2,491	(c) 2,222	(c) 2,886

(a) Excludes a small quantity of fresh meats of unspecified kinds. (b) Excludes interstate exports of veal.
(c) Figures for 1956-57 incorporate an adjustment to include, and those for 1957-58 to exclude, 6,776,366 lb. of beef valued at £446,551 exported overseas in 1956-57 but not recorded until 1957-58.

The United Kingdom was by far the most valuable market for beef in each year of the period. Singapore bought appreciable quantities throughout and the United States of America was an important customer in 1957-58.

Lamb and mutton exports were mainly to the United Kingdom, with Singapore a consistent buyer and the United States of America making notable purchases in 1957-58.

Singapore was the principal market for pork in the first five years and the other Australian States in the latter half of the period, except in 1954-55 when the United Kingdom was the largest buyer.

Crayfish

The export of frozen crayfish tails 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. Complete details are not recorded for years earlier than 1952-53 when total consignments were worth £1.04 million. In each year since then exports increased in quantity and value and 4.71 million lb. worth £1.98 million were sent out of the State in 1957-58.

EXPORTS OF CRAYFISH TAILS

Item	Year ended 30th June :—									
	1949	1950 (b)	1951 (b)	1952 (b)	1953	1954	1955	1956	1957	1958
Quantity '000 lb.	(a)	1,143	3,165	2,891	2,930	3,222	3,377	3,529	3,566	4,708
Value £'000	(a)	232	759	931	1,042	1,171	1,245	1,511	1,757	1,983

(a) Precise information not available, but it is known that the value of exports was about £250,000. (b) Oversea exports only; excludes quantity and value of small consignments to other Australian States.

In each year of the period, all but a very small amount of the total shipment went to the United States of America, which in 1957-58 took 4.53 million lb. valued at £1.93 million. Small consignments went to other Australian States and to Singapore throughout the period and, in some years, to Canada.

Oats

Exports of oats showed wide fluctuations during the ten-year period to 1957-58. In 1948-49 the value of shipments was £0.18 million and in 1955-56 it reached £1.70 million. Income from this source in 1957-58 was £0.96 million.

EXPORTS OF OATS

Item	Year ended 30th June :—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity '000 bush.	639	496	1,567	2,686	2,406	2,393	1,095	4,410	4,188	1,868
Value £'000	179	180	672	1,640	1,000	863	486	1,696	1,654	955

Switzerland, the Netherlands and the Republic of Ireland were the most important markets in the first three years of the period and the United Kingdom in each of the four succeeding years. In the last three of the ten years under review, the Federal Republic of Germany was the principal buyer. Other notable customers were Belgium-Luxemburg, which took valuable consignments in 1950-51 and again in 1952-53, and South Africa which also took an appreciable quantity in that year.

Barley

Export income from barley showed a large general increase during the period, although there was a substantial fall in 1957-58 from the level of more than £1 million in the previous year.

EXPORTS OF BARLEY

Item	Year ended 30th June :—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Quantity '000 bush.	144	45	166	307	922	938	1,147	2,234	2,130	1,124
Value £'000	69	27	106	266	585	438	642	963	1,008	634

The United Kingdom was the principal buyer in each year from 1951-52 to 1955-56. Japan provided the most valuable market in 1956-57 and the Federal Republic of Germany in 1957-58. The Netherlands took large consignments in some years and the Republic of Ireland was an important customer in 1954-55.

Whale Oil

Whaling was conducted along the Western Australian coast from the first years of settlement and whale oil was among the earliest exports from the Colony. Activity since then has fluctuated widely and at times ceased altogether. The most recent large-scale revival of the industry began in 1949.

There was some export of whale oil in each of the first three years of the period under review but it was not until 1951-52 that the value of consignments exceeded £1 million for the first time. Export income at £1.36 million was the highest during the ten years despite the larger shipments made in each of the years from 1952-53 to 1957-58.

EXPORTS OF WHALE OIL

Item	Year ended 30th June :—									
	1949 (a)	1950 (a)	1951	1952	1953	1954	1955	1956	1957	1958
Quantity '000 gal.	3	193	700	2,180	2,559	3,182	2,403	2,322	2,393	2,573
Value £'000	2	86	364	1,360	936	1,093	945	967	992	1,005

(a) Figures approximate.

The principal market until 1954-55 was the Netherlands, although the Federal Republic of Germany bought a greater quantity in 1952-53. From 1955-56, the United Kingdom replaced the Netherlands as the most important customer. Substantial shipments went to the Federal Republic of Germany in almost all years and Sweden, Belgium-Luxemburg and Italy took valuable consignments during the period.

Whaling activity has been limited since 1951 by quotas imposed by the International Whaling Commission on the taking of humpback whales, which predominate off the Western Australian coast. Since 1955 a company based on Albany on the south coast has extended its operations to include sperm whaling which is not subject to restriction.

Eggs

Eggs are exported in shell and in pulped or powdered form, those in shell comprising about two-thirds of the total export market during the ten-year period to 1957-58. Eggs not in shell are predominantly in liquid form and there is only a small trade in powdered eggs.

EXPORTS OF EGGS

Item	Year ended 30th June :—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
QUANTITY										
In Shell '000 doz.	2,070	2,052	1,542	1,643	2,470	2,322	2,922	2,213	2,085	2,331
Not in Shell '000 lb.	1,313	941	1,480	1,730	3,148	3,453	1,378	972	1,260	2,410
VALUE (£'000)										
In Shell	254	285	217	305	551	526	612	482	501	489
Not in Shell	115	91	210	209	470	565	168	116	156	267
Total	369	376	427	514	1,021	1,091	780	598	657	756

The United Kingdom provided the most important market for eggs in shell during the first half of the period except in 1951-52 when purchases by Singapore were greater. In each year from 1953-54 to 1957-58 Singapore was the largest buyer and, although sales to the United Kingdom continued, Saudi Arabia became an important customer and took larger quantities than the United Kingdom in each year from 1955-56. Notable exports were made to Kuwait in 1956-57 and 1957-58.

The United Kingdom purchased almost all of the eggs shipped in liquid form.

Minerals other than Gold

The principal minerals, other than gold, exported during the ten years from 1948-49 to 1957-58 were asbestos, manganese ore, lead (including silver-lead) and zinc ores and concentrates, and iron ore. In 1956-57 and 1957-58, ilmenite concentrates were a significant export item.

EXPORTS OF PRINCIPAL MINERALS OTHER THAN GOLD

Mineral	Year ended 30th June :—									
	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
QUANTITY (tons)										
Asbestos	1,160	879	1,543	2,579	2,958	3,149	3,732	7,415	10,558	11,557
Manganese Ore	1,649	9,550	11,488	7,898	14,330	26,839	34,085	54,905	58,495	74,563
Lead Ores (a)	2,267	2,964	2,290	5,858	9,244	2,697	896	5,985	5,819	3,297
Iron Ore ....	....	....	....	51,622	543,725	583,462	579,526	472,058	328,588	438,624
Ilmenite Concentrates ....	....	....	....	....	....	....	....	....	(b) 14,668	88,270
VALUE (£'000)										
Asbestos	90	102	189	355	495	493	394	720	1,070	1,460
Manganese Ore	11	63	77	58	128	414	402	635	776	1,251
Lead Ores (a)	117	136	132	684	841	138	59	448	489	212
Iron Ore ....	....	....	....	51	539	579	575	468	325	435
Ilmenite Concentrates ....	....	....	....	....	....	....	....	....	(b) 85	506

(a) Includes silver-lead and zinc ores and concentrates. (b) Oversea exports only. Interstate exports of all titanium and zirconium ores and concentrates amounted to 12,129 tons valued at £65,081.

During the first half of the period, the greater part of the asbestos exported went to other Australian States, the United States of America being the most important oversea buyer. From 1953-54, trade in this commodity was predominantly with oversea countries, the United States of America continuing to take the largest quantities, other valuable markets being Belgium-Luxemburg, Italy and Japan.

In all but three of the ten years, exports of manganese ore were confined to shipments made to the other Australian States, principally New South Wales. In 1953-54 and 1957-58 the United States of America was the most important customer, with Japan taking large consignments in 1956-57 and 1957-58.

Until 1954-55 Belgium-Luxemburg was the main market for lead and zinc ores and concentrates but both the United States of America and Japan took greater quantities in 1955-56. Japan was the largest buyer in 1956-57 and again in 1957-58. The United Kingdom made valuable purchases in the early years of the period.

Exports of iron ore began in 1951-52 when 51,622 tons, valued at £51,191, were sent to New South Wales. In each of the three following years more than ten times this quantity was shipped to the same destination. Although consignments in the years 1955-56 to 1957-58, all to New South Wales, were at a lower level, iron ore continued to be an important source of export income. In addition to iron ore, almost one million cwt. of pig-iron, having a total value of £1.16 million, were sent during the ten-year period to other Australian States and to oversea countries, principally Japan, the Federal Republic of Germany, the United States of America and Italy.

The first shipments of ilmenite concentrates were made in 1956-57 when 14,668 tons valued at £84,570 were sent overseas, almost all of it to Japan and the remainder, a very small quantity, to France. There was some interstate export, particulars of which were not recorded separately. Almost one-third of the total consignments in 1957-58 went to Tasmania and, among oversea buyers, the United Kingdom, the United States of America and Japan were the most important.

Petroleum Products

Although Western Australia still relies very largely for its export revenue on the products of its primary industries, an important development in recent years has been 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 £21.0 million in 1955-56, the first full year of operation, £24.1 million in 1956-57 and £29.2 million in 1957-58.

The following table shows the amount spent on imports of these products during each year from 1948-49 to 1957-58 and on crude petroleum for each of the years from 1954-55 to 1957-58. 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 imports in relation to exports. The significance of the refining industry in the trade of Western Australia will be readily appreciated from an examination of this balance. In the three years before the industry came into production, trade in liquid petroleum products showed an average annual net deficit of £4.67 million compared with an average surplus of £5.64 million in the first three full years of operation. In 1957-58 the net gain was £8.13 million.

SUMMARY OF TRADE IN PETROLEUM AND PETROLEUM PRODUCTS (£'000)

Year ended 30th June:	Imports			Exports (b)			Balance	
	Crude Petroleum	Refined Liquid Petroleum Products (a)	Total	Commercial Cargo	Supplies to Ships and Aircraft	Total	Excess of Imports over Exports	Excess of Exports over Imports
1949 .....	.....	4,525	4,525	24	1,836	1,860	2,665	.....
1950 .....	.....	5,782	5,782	32	1,848	1,880	3,902	.....
1951 .....	.....	7,835	7,835	37	2,925	2,962	4,873	.....
1952 .....	.....	8,849	8,849	31	3,418	3,449	5,400	.....
1953 .....	.....	7,971	7,971	261	4,392	4,653	3,318	.....
1954 .....	.....	8,365	8,365	131	2,938	3,069	5,296	.....
1955	5,466	9,978	15,444	3,032	3,202	6,234	9,210	.....
1956	13,198	4,520	17,718	16,700	4,270	20,970	.....	3,252
1957	14,542	3,991	18,533	18,692	5,391	24,083	.....	5,550
1958	17,954	3,164	21,118	24,377	4,865	29,242	.....	8,124

(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.

Almost all of the crude petroleum was imported from Iran and Kuwait while most of the output of refined liquid products was sent to other Australian States and New Zealand, the remainder being shipped principally to Aden, India and Ceylon.

Exports during 1956-57 and 1957-58

The following table gives details of Western Australia's principal exports during each of the years 1956-57 and 1957-58.

PRINCIPAL EXPORTS—QUANTITY AND VALUE

Commodity	Unit of Quantity	Year ended 30th June :—			
		1957		1958	
		Quantity	Value	Quantity	Value
Ale and Beer	gal.	459,022	£ 369,842	452,882	£ 329,931
Animals—					
Sheep	number	128,737	461,569	120,352	420,598
Cattle	number	3,020	121,370	4,168	154,128
Pigs	number	720	17,081	890	17,957
Apparel (other than headwear and footwear)	n.a.	n.a.	293,504	n.a.	351,348
Asbestos	ton	10,558	1,069,889	11,557	1,459,827
Barley	bushel	2,129,855	1,007,871	1,124,032	634,106
Butter	lb.	390,781	77,807	441,050	84,344
Eggs in Shell	doz.	2,085,420	501,381	2,330,532	489,458
Eggs in Liquid or Powdered Form	lb.	1,259,804	155,574	2,410,250	266,705
Fish—					
Crayfish Tails, Frozen	lb.	3,565,789	1,757,138	4,708,161	1,982,535
Preserved in Containers	lb.	2,713,647	431,751	1,847,095	223,864
Flour	short ton (a)	127,491	3,736,776	111,827	3,453,530
Fruit, Fresh—					
Apples	bushel	1,284,067	1,955,106	870,700	1,523,736
Other	n.a.	n.a.	343,945	n.a.	338,746
Fruit, Dried—Currants	lb.	4,414,324	274,817	2,406,140	144,394
Gold Bullion	fine oz.	770,061	12,059,597	207,665	3,255,098
Iron Ore	ton	328,588	324,650	438,624	435,182
Iron, Pig and Ingot	cwt.	214,689	306,943	210,948	288,974
Leather	n.a.	n.a.	271,057	n.a.	271,802
Machines and Machinery—					
Agricultural	n.a.	n.a.	267,987	n.a.	270,452
Earthworking and Mining	n.a.	n.a.	289,271	n.a.	223,852
Manganese Ore	ton	58,495	775,672	74,563	1,250,647
Meats, Frozen and Chilled—					
Beef and Veal (b)	lb.	15,875,818	1,057,108	17,528,363	1,204,639
Lamb	lb.	7,174,477	622,802	7,942,648	801,762
Mutton	lb.	5,586,635	247,810	3,261,989	148,334
Pork	lb.	1,614,923	293,885	5,123,833	730,765
Meats Preserved in Containers	lb.	1,771,516	208,216	1,364,128	168,814
Metal Scrap, Non-ferrous	cwt.	54,179	377,964	49,471	257,365
Milk and Cream, Condensed and Concentrated (not dried)	lb.	4,900,346	371,492	5,420,033	376,534
Oats	bushel	4,188,097	1,654,283	1,868,496	955,174
Pearl-shell	cwt.	21,671	695,728	22,580	690,286
Petroleum Oils and Spirits	gal.	335,032,510	18,691,677	435,461,273	24,377,292
Skins and Hides—					
Sheep and Lamb	lb.	10,862,493	2,087,951	9,676,027	1,707,714
Cattle and Calf (b)	lb.	3,057,487	229,713	3,024,235	210,573
Other	lb.	305,931	68,116	191,656	19,932
Timber—					
Railway Sleepers	super. ft.	24,736,729	1,410,667	35,905,411	2,025,756
Other	super. ft.	31,410,015	1,696,846	30,966,735	1,722,176
Tobacco, Unmanufactured (leaf)	lb.	641,388	344,816	876,700	435,209
Tractors and Parts	n.a.	n.a.	888,378	n.a.	846,505
Vegetables, Fresh—					
Potatoes	cwt.	152,119	367,908	275,534	416,056
Tomatoes	cwt.	31,965	161,689	61,137	133,380
Beans (c)	lb.	1,081,745	90,945	1,483,247	74,163
Onions	cwt.	44,231	70,991	40,122	58,944
Other	n.a.	n.a.	144,781	n.a.	133,711
Whale Oil	gal.	2,392,519	992,145	2,573,315	1,005,247
Wheat	bushel	46,796,467	30,645,638	26,643,941	20,430,624
Wool, Greasy	lb.	108,581,711	35,625,655	96,452,609	28,612,208
Wool, Scoured	lb.	18,746,141	8,129,332	18,557,014	7,730,971
All other Commodities (b)	n.a.	n.a.	15,588,618	n.a.	15,920,369
Total (b)	n.a.	n.a.	149,576,302	n.a.	129,171,317
Ships' Stores—					
Bunker Oil	gal.	104,527,502	5,239,252	83,054,204	4,658,536
Other Ships' Stores (d)	n.a.	n.a.	1,211,753	n.a.	1,142,366
Total	n.a.	n.a.	6,451,005	n.a.	5,800,902
Total Exports (b)	n.a.	n.a.	156,027,307	n.a.	134,972,219

n.a. = "not applicable" or "not available." (a) Short ton = 2,000 lb. (b) A consignment of beef and beef products valued at £504,450 was sent overseas in 1956-57 but not recorded until 1957-58. Of this total, £446,551 represented the value of 6,776,366 lb. of frozen beef, £11,006 the value of 204,367 lb. of cattle hides and £46,893 the value of tallow and offal. Figures for 1956-57 incorporate adjustments to include, and those for 1957-58 to exclude, these amounts. (c) Figures exclude overseas exports. (d) For further details, see table on page 311.

Of the amounts shown under the heading of Ships' Stores in the preceding table more than four-fifths represented bunker oil. Details of this and other commodities supplied to ships during each of the years 1956-57 and 1957-58 are given in the following table.

EXPORTS IN THE FORM OF SHIPS' STORES

Commodity	Unit of Quantity	Year ended 30th June :—			
		1957		1958	
		Quantity	Value	Quantity	Value
Alcoholic Beverages	gal.	64,893	£ 33,628	67,983	£ 34,608
Coal	ton	4,586	44,649	5,122	49,007
Fodders for Animals	cwt.	6,851	7,491	10,699	14,528
Foodstuffs—					
Eggs in Shell	doz.	201,572	53,998	173,928	45,607
Fish	lb.	238,608	43,152	257,673	56,956
Fruit	n.a.	n.a.	44,636	n.a.	49,190
Meats—					
Bacon and Hams	lb.	264,562	58,077	161,784	34,364
Other	lb.	2,124,325	214,037	2,039,302	187,563
Vegetables	n.a.	n.a.	132,339	n.a.	82,453
Other Foodstuffs	n.a.	n.a.	78,870	n.a.	55,408
Paints and Colours	gal.	9,580	21,649	7,121	18,130
Petroleum Oils and Spirits—					
Bunker Oil	gal.	104,527,502	5,239,252	83,054,204	4,658,536
Other (a)	gal.	708,463	151,588	773,626	206,263
Tobacco and Cigarettes	lb.	5,314	6,620	5,777	7,112
All other Ships' Stores	n.a.	n.a.	321,019	n.a.	301,178
Total	n.a.	n.a.	6,451,005	n.a.	5,800,902

n.a. = "not applicable" or "not available."

(a) Includes fuel for aircraft.

OVERSEA AND INTERSTATE TRADE OF PORTS

The Port of Fremantle is Western Australia's principal port and the following table clearly shows its predominance in the State's trade. Considerable development of both the inner and the outer harbour has taken place in recent years. New handling equipment, transit sheds, roads and railways have been provided and large amounts have been spent on the acquisition of land and the extension of berthing facilities at North Quay. Work on the widening and deepening of channels through the Success and Parmelia Banks in the outer harbour in Cockburn Sound, to provide access to the oil refinery and the steel-rolling mill in the Kwinana industrial area, was begun in January, 1953 and the route opened to shipping early in 1955. A new signal station, fitted with modern navigational aids, was opened in February, 1957.

There is a system of smaller ports extending along the entire coastline from Esperance in the south to Wyndham in the north.

In 1957-58, Geraldton was next in importance to Fremantle in terms of total trade, with imports and exports aggregating £7·73 million in value. Rock phosphate and sulphur, for use in the manufacture of superphosphate fertilizer, were the principal imports. Commodities exported included wheat and wheaten flour, manganese, wool, lead, barley, tomatoes, crayfish tails and sheep. The value of Albany's trade was £7·68 million. Imports included rock phosphate and sulphur, and among its exports were wool, wheat, frozen and chilled meats, apples, whale oil, canned fish and barley. Bunbury is Western Australia's chief timber port and other items of export in 1957-58 were wheat and wheaten flour, ilmenite concentrates and oats. Busselton's exports consisted almost entirely of timber. Imports at Esperance were principally petroleum oils and spirits, and copper concentrates and some wool were exported. Among the ports of the north-west and northern coasts, the value of Wyndham's trade was greatest, the predominant exports being frozen and chilled meats, skins, hides and tallow. Carnarvon's export trade was mainly in wool and whale oil and that of Port Hedland, in manganese and other minerals. Shipments from Yampi comprised iron ore sent to New South Wales. Consignments of wool, frozen and chilled meats and pearl-shell were sent from Broome, while Derby exported frozen and chilled meats and cattle.

OVERSEA AND INTERSTATE TRADE OF PORTS

Port	Year ended 30th June :—			
	1957		1958	
	Imports	Exports (a)	Imports	Exports (a)
Port of Fremantle	£ 93,315,730	£ 117,592,614	£ 100,464,291	£ 104,982,457
Other Ports—				
Albany	860,196	5,087,236	1,108,708	6,573,266
Broome	14,658	395,652	16,161	508,711
Bunbury	315,161	5,372,545	653,581	5,000,597
Busselton	.....	398,634	523	439,790
Carnarvon	40,275	983,040	43,000	924,087
Derby	1,723	108,377	13	64,696
Esperance	733,610	45	698,084	98,873
Geraldton	154,509	9,335,402	204,221	7,526,534
Onslow	230	33,173	.....	48,100
Point Samson	.....	389	.....	86
Port Hedland	.....	371,458	164	621,079
Wyndham	2,110	(b) 955,497	41,012	(b) 1,020,645
Yampi	34,631	327,613	35,810	446,097
Total	2,157,103	(b) 23,369,061	2,801,277	(b) 23,272,561
All Ports	95,472,833	(b) 140,961,675	103,265,568	(b) 128,255,018
By Other Means (c)	39,078,647	15,065,632	40,173,836	6,717,201
GRAND TOTAL	134,551,480	(b) 156,027,307	143,439,404	(b) 134,972,219

(a) Includes ships' stores. (b) Figures for 1956-57 incorporate an adjustment to include, and those for 1957-58 to exclude, an amount of £504,450 representing the value of a consignment of goods exported in 1956-57 but not recorded until 1957-58. (c) Comprises rail, road, air freight and parcel post.

DIRECTION OF TRADE

The greater part of Western Australia's imports comprise purchases from other Australian States, which in 1957-58 supplied more than two-thirds of imports aggregating £143 million in value. The United Kingdom ranked next in importance and provided goods valued at nearly £13 million. Purchases from other Commonwealth countries accounted for £5·91 million, or 4·1 per cent. of the total. Imports from foreign countries, consisting principally of crude petroleum from Iran and Arabian States, amounted to more than £27 million, equivalent to about one-fifth of all imports.

Of exports (including ships' stores) valued at £135 million, 30·2 per cent. went to foreign countries, 29·6 per cent. to Australian States, 18·2 per cent. to the United Kingdom and 16·5 per cent. to other Commonwealth countries.

The table on page 313 shows details of Western Australia's imports and exports during 1956-57 and 1957-58 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, and the authority for the collection and control of customs and excise duties is vested in the Commonwealth Government. The principal Acts affecting oversea trade are the Customs Act 1901-1959, the administrative Act under which the Department of Customs and Excise functions, and the various Customs Tariff Acts which provide the statutory authority for imposing the actual rates of duty in force from time to time.

The Australian tariff has been developed in conformity with the policy of protecting economic and efficient Australian industries, and of granting preferential treatment to imports from certain countries of the British Commonwealth. Three distinct Customs Tariffs are in operation, namely the British Preferential Tariff, the Intermediate Tariff and the General Tariff.

The British Preferential Tariff applies to goods which are the produce or manufacture of the United Kingdom, provided that certain requirements, such as direct consignment to Australia, have been satisfied. By means of separate trade agreements, most commodities produced in Canada and New Zealand have been brought under the provisions of the British Preferential Tariff. This Tariff applies also to some other British Commonwealth countries in respect of specified goods.

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 :—	
	1957	1958	1957	1958
	£	£	£	£
AUSTRALIA—				
New South Wales	37,680,218	38,085,313	17,340,833	15,435,685
Victoria	40,293,117	43,622,252	9,889,152	9,644,834
Queensland	3,179,904	3,403,155	630,132	646,865
South Australia	11,290,271	10,453,788	11,367,091	12,614,269
Tasmania	1,647,325	1,658,888	183,528	322,396
Northern Territory	249,079	328,290	1,361,711	1,253,967
TOTAL	94,339,914	97,551,686	40,772,447	39,918,016
UNITED KINGDOM	12,198,895	12,942,584	(b) 34,542,824	(b) 24,525,743
OTHER COMMONWEALTH COUNTRIES—				
Aden	226,687	513,267	802,906	2,988,127
Borneo, British	226,660	236,749	32,158	37,918
Canada	533,717	492,404	798,020	257,929
Ceylon	869,363	593,733	1,292,023	1,214,877
Christmas Island (a)	538,879	803,474	574,448	574,313
Hong Kong	85,386	130,986	1,176,282	1,080,354
India, Republic of	1,987,792	1,940,643	11,310,885	2,375,823
Malaya, Federation of	94,067	87,429	1,046,572	1,749,883
New Zealand	130,286	126,707	3,920,623	4,576,770
Pakistan	50,511	10,166	2,706,049	2,504,498
Singapore	477,919	410,450	3,201,518	2,718,222
South Africa, Union of	103,334	232,240	327,350	452,022
Other	392,238	328,083	807,513	1,679,663
TOTAL	5,716,839	5,906,281	27,996,347	22,210,399
FOREIGN COUNTRIES—				
Arabian States—				
Bahrain Islands	307,385	179,096	258,907	133,979
Kuwait	6,045,465	3,198,182	395,390	242,980
Saudi Arabia		83,113	156,140	161,845
Other Arabian States	1,049,135	2,355,244	245,497	181,700
Belgium-Luxemburg	464,630	258,824	(b) 1,736,776	(b) 642,144
Burma	743	1,709	376,471	314,522
China (Mainland)	17,885	49,760	3,445,391	4,388,212
Czechoslovakia	35,503	64,085	981,706	1,438,900
France	235,468	299,244	8,543,220	5,572,157
Germany, Eastern	23,758	14,533	7,846	93,992
Germany, Federal Republic of	680,688	1,183,384	6,558,738	4,364,296
Indonesia, Republic of	1,151,982	575,687	982,557	753,566
Iran	7,928,437	12,771,856	80,202	207,941
Italy	330,729	424,089	4,311,192	2,796,577
Japan	287,350	599,502	6,284,676	6,781,543
Netherlands	213,937	201,982	617,821	346,984
Poland	1,180	1,807	2,245,649	1,508,384
Spain	54,664	47,879	146,821	1,181,859
Sweden	417,533	518,352	409,539	811,918
United States of America	2,003,018	2,921,462	5,288,769	5,962,050
Other	1,020,228	1,258,626	2,095,719	2,905,056
TOTAL	22,269,718	27,008,416	(b) 45,169,027	(b) 40,790,605
NOT STATED	26,114	30,437	1,095,657	1,726,554
SHIPS' STORES—				
Petroleum Oils and Spirits—				
Bunker Oil			5,239,252	4,658,536
Other (c)			151,588	206,263
All Other (d)			1,060,165	936,103
TOTAL			6,451,005	5,800,902
GRAND TOTAL	134,551,480	143,439,404	(b) 156,027,307	(b) 134,972,219

(a) Indian Ocean. (b) A consignment of goods valued at £504,450 was sent overseas in 1956-57 but not recorded until 1957-58. Of this total, £473,014 worth went to the United Kingdom and £31,436 worth to Belgium-Luxemburg. Figures for 1956-57 incorporate adjustments to include, and those for 1957-58 to exclude, these amounts. (c) Includes fuel for aircraft. (d) For details, see table on page 311.

The countries to which the Intermediate Tariff applies include those with which Australia has concluded trade agreements and countries which accord to Australia reciprocal most-favoured-nation tariff treatment by reason of agreement between those countries and the United Kingdom.

All imports which do not come within the scope of the British Preferential Tariff or the Intermediate Tariff are automatically subject to the General Tariff, except in the case of goods to which special rates under trade agreements apply.

In addition to duties imposed by the Customs Tariff, *ad valorem* primage duties at rates of 4, 5 or 10 per cent. are charged on some goods according to type and origin.

Amending Customs Tariff Acts are passed by the Commonwealth Parliament as necessitated by changing economic conditions and are frequently the result of recommendations made to the Minister for Customs and Excise by the Tariff Board established under the Tariff Board Act 1921-1958. The purpose of the Board is to advise the Government on matters relating to the protection and encouragement of Australian industry and to the Customs and Excise Tariffs. The Board consists of seven members who are appointed for terms of not less than one year and not more than five years. The Tariff Board conducts public hearings in connexion with proposed changes in the Tariff, applications for a bounty, or complaints that a manufacturer is taking undue advantage of the protection afforded by the Tariff.

CUSTOMS AND EXCISE—NET COLLECTIONS IN WESTERN AUSTRALIA

Statistical Class and Excise Division		Year ended 30th June :—	
		1957	1958
CUSTOMS		£	£
I	Foodstuffs of Animal Origin	10,747	22,824
II	Foodstuffs of Vegetable Origin; Non-Alcoholic Beverages, etc.	89,639	85,300
III	Spirituous and Alcoholic Liquors	184,537	190,540
IV	Tobacco, Cigars, Cigarettes and Snuff	68,639	62,345
V	Live Animals	—52	—
VI	Animal Substances, not foodstuffs	—39	99
VII	Vegetable Substances and Fibres	8,207	8,481
VIII	(A) Yarns and Manufactured Fibres	11,249	9,512
	(B) Textiles	250,077	313,000
	(C) Apparel	29,521	43,025
IX	Oils, Fats and Waxes—		
	Aviation Spirit	99,690	119,709
	Motor Spirit and Solvents	579,218	221,913
	Diesel Fuel (a)		161,879
	Other Oils, Fats and Waxes	101,842	71,533
X	Pigments, Paints and Varnishes	2,797	3,977
XI	Rocks, Minerals and Hydrocarbons	1,156	1,505
XII	(A) Metals and Metal Manufactures—		
	Motor Vehicles	121,142	112,920
	Other	124,684	192,933
	(B) Dynamo Electrical Machinery and Electrical Appliances, n.e.i. (b)	39,888	59,020
	(C) Machines and Machinery	156,701	349,356
XIII	(A) Rubber and Rubber Manufactures	17,334	19,888
	(B) Leather, Leather Manufactures, etc.	2,029	2,588
XIV	Wood and Wicker	28,905	36,112
XV	Earthenware, Cement, China, Glass and Stoneware	81,705	89,420
XVI	(A) Pulp, Paper and Board	12,924	19,383
	(B) Paper Manufactures and Stationery	6,899	11,075
XVII	Sporting Material, Toys, Fancy Goods, Jewellery and Timepieces	56,254	67,799
XVIII	Optical, Surgical and Scientific Instruments and Photographic Goods	12,798	16,405
XIX	Chemicals, Medicinal and Pharmaceutical Products, etc.	19,451	24,610
XX	Miscellaneous	44,349	81,762
	Primage	225,013	155,401
	Sundry Undistributed Duties	17,927	12,608
	Duties under Industries Preservation Act	38	—
	Other Miscellaneous Receipts	19,469	23,693
	Total Net Customs Duties	2,424,738	2,590,595
EXCISE			
	Ale, Porter and Other Beer	7,303,128	7,571,645
	Spirits	333,949	317,892
	Tobacco, Cigars and Cigarettes	4,344,329	4,416,705
	Other Excise Duty	3,041,286	3,814,165
	Total Net Excise Duties	15,022,692	16,120,407
	TOTAL NET REVENUE	17,447,430	18,711,002

Minus sign (—) indicates excess of refunds over collections.

(a) Duty collected from 4th September, 1957.

(b) n.e.i. denotes "not elsewhere included."

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 1956-57 and 1957-58.

EXCISE DUTY—WESTERN AUSTRALIA

Commodity	Unit of Quantity	Rate of Duty	Year ended 30th June :—			
			1957		1958	
			Quantity	Gross Collections	Quantity	Gross Collections
Beer	gal.	s. d. 9 10	14,886,435	£ 7,319,164	15,428,917	£ 7,585,885
Spirits, Potable—						
Brandy	pf. gal.	49 0	42,790	104,836	42,072	103,073
Gin	"	82 0	9,627	39,469	11,513	47,124
Liqueurs	"	81 0	1,880	7,617	1,818	7,360
Rum	"	82 0	7,171	29,400	6,464	26,503
Whisky	"	80 0	33,102	132,411	28,668	114,674
Total	"	n.a.	94,570	313,733	90,535	298,734
Other Spirits for—						
Fortifying Wine	"	4 0	59,820	11,964	54,586	10,916
Industrial and Scientific Purposes	"	25 0	4,525	5,656	4,580	5,724
Vinegar	"	2 0	8,800	880	10,970	1,096
Essences	"	s. d. 10 0 to 12 0	2,726	1,537	2,429	1,364
Scents and Toilet Preparations	"	10 0 to 16 0	247	192	....	....
	"	14 0 to 16 0	....	....	....	....
	"	s. d. 16 0	....	....	77	61
Petrol " " " " " " " " " " " "	gal.	11½	(a)	(a)	70,374,276	3,372,100
Diesel Fuel (b) " " " " " " " " " " " "	"	1 0	....	....	7,958,038	397,903
Coal	ton	8	846,720	28,224	849,867	28,327
Other (c)	n.a.	n.a.	n.a.	7,357,309	n.a.	4,571,584
TOTAL COLLECTIONS	....	....	n.a.	15,039,159	n.a.	16,273,694

n.a. = not applicable. (a) Not available for publication. Excise duty included in "Other." (b) Duty collected from 4th September, 1957. (c) For 1956-57 and 1957-58 includes tobacco, cigars, cigarettes, cigarette papers and matches, and in addition petrol for 1956-57.

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 overseas and interstate cargoes and a considerable volume of the intrastate freight. The railway system extends from Fremantle, Perth and Midland Junction 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, Onslow, 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 tonnage of cargo discharged at and shipped from each of these ports during the years 1956-57 and 1957-58. Most of the cargo is 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. As the total cannot be described accurately either as "tons weight" or "tons measurement," each part is recorded and published separately.

TONNAGE OF CARGO HANDLED AT PORTS

Port	Discharged				Shipped			
	Year ended 30th June :				Year ended 30th June :			
	1957		1958		1957		1958	
	Tons Weight	Tons Measurement	Tons Weight	Tons Measurement	Tons Weight	Tons Measurement	Tons Weight	Tons Measurement
Port of Fremantle	3,043,635	276,184	3,262,030	310,688	2,528,385	176,510	2,437,265	177,644
Other Ports—								
Albany	100,267	3,652	126,639	2,657	125,057	15,183	117,986	11,543
Broome	2,114	8,457	1,803	7,750	1,952	2,964	2,158	8,411
Bunbury	46,501	....	66,277	71	157,478	70,423	153,941	96,419
Busselton	....	....	....	....	15,689	1,807	7,724	6,893
Carnarvon	13,844	435	10,060	....	15,723	119	15,478	3,445
Derby	6,668	7,311	3,177	7,316	2,468	3,787	2,006	3,912
Esperance	33,202	....	31,358	29,430	....	....	2,967	....
Geraldton	66,047	168	89,596	....	365,094	4,370	283,116	4,890
Onslow	8,560	1,816	6,609	1,107	2,884	1,735	2,178	412
Point Samson	6,896	495	7,682	....	12,921	80	16,669	475
Port Hedland	7,676	2,880	3,152	8,940	30,028	205	24,606	4,102
Wyndham	4,725	8,965	3,833	6,439	10,478	3,120	6,534	3,106
Yampi	2,185	....	1,771	....	329,014	....	454,429	....
Total	298,685	34,179	351,957	63,710	1,068,786	103,793	1,089,792	143,608
All Ports	3,342,320	310,363	3,613,987	374,398	3,597,171	280,303	3,527,057	321,252

The table on page 312 and the letterpress accompanying it relate to the overseas and interstate trade of Western Australian ports. It will be seen from the following table that there is, in addition, an appreciable volume of intrastate trade. Cargoes discharged at the ports on the north-west and northern coasts are predominantly, and in some cases entirely, of this category, as also are the shipments from some of them. The areas served by these ports are largely dependent for sea transport on the State Shipping Service. The Service was inaugurated by the State Government in 1912 to provide shipping facilities between ports within the State. Although it formerly operated to ports on the south-west and south coasts, as well as to those in the north-west and the north, its services are now confined to the northern routes and extend to Darwin in the Northern Territory. Some ships carry only freight, and others both passengers and freight. 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 in 1958 consisted 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 in 1958 included asbestos and other minerals from Point Samson and Port Hedland, whale products from Carnarvon, meats, skins and hides, blood and bone manures and tallow from Wyndham and Broome, and wool from a number of ports. In addition, almost five thousand head of cattle and more than fifteen hundred sheep were transported to Fremantle, mainly for slaughter at metropolitan abattoirs.

TONNAGE OF OVERSEA, INTERSTATE AND INTRASTATE CARGO: 1957-58

Port	Oversea		Interstate		Intrastate		Total	
	Tons Weight	Tons Measurement	Tons Weight	Tons Measurement	Tons Weight	Tons Measurement	Tons Weight	Tons Measurement
DISCHARGED								
Port of Fremantle	2,893,384	118,000	333,308	172,834	35,338	19,854	3,262,030	310,688
Other Ports—								
Albany	76,277	410	1,590	2,247	48,772	...	126,639	2,657
Broome	99	1,280	...	...	1,704	6,470	1,803	7,750
Bunbury	63,729	...	2,548	...	...	71	66,277	71
Busselton	...	...	...	...	...	...	...	...
Carnarvon	4,593	...	...	...	5,467	...	10,060	...
Derby	...	...	...	...	3,177	7,316	3,177	7,316
Esperance	...	...	31,358	29,430	...	...	31,358	29,430
Geraldton	48,367	...	56	...	41,173	...	89,596	...
Onslow	...	...	...	...	6,609	1,107	6,609	1,107
Point Samson	...	...	957	...	6,725	...	7,682	...
Port Hedland	...	...	...	...	3,152	8,940	3,152	8,940
Wyndham	1,001	...	38	...	2,794	6,439	3,833	6,439
Yampi	...	...	719	...	1,052	...	1,771	...
Total	194,066	1,690	37,266	31,677	120,625	30,343	351,957	63,710
All Ports	3,087,450	119,690	370,574	204,511	155,963	50,197	3,613,987	374,398
SHIPPED								
Port of Fremantle	1,275,423	80,915	1,056,386	55,224	105,456	41,505	2,437,265	177,644
Other Ports—								
Albany	66,205	10,759	51,781	784	...	...	117,986	11,543
Broome	1,080	5,806	...	...	1,078	2,605	2,158	8,411
Bunbury	92,967	78,900	60,974	17,519	...	...	153,941	96,419
Busselton	...	...	7,724	6,893	...	...	7,724	6,893
Carnarvon	6,101	2,121	27	1,324	9,350	...	15,478	3,445
Derby	950	...	...	...	1,056	3,912	2,006	3,912
Esperance	2,966	...	...	...	1	...	2,967	...
Geraldton	138,679	4,890	144,020	...	417	...	283,116	4,890
Onslow	...	...	...	...	2,178	412	2,178	412
Point Samson	89	...	1,300	475	15,280	...	16,669	475
Port Hedland	11,581	...	7,201	57	5,824	4,045	24,606	4,102
Wyndham	4,784	...	...	...	1,750	3,106	6,534	3,106
Yampi	9,517	...	444,634	...	278	...	454,429	...
Total	334,919	102,476	717,661	27,052	37,212	14,080	1,089,792	143,608
All Ports	1,610,342	183,391	1,774,047	82,276	142,668	55,585	3,527,057	321,252

The following table shows the numbers and net tonnage of vessels, excluding warships, entered at or cleared from each of the ports in Western Australia during the years 1956-57 and 1957-58. The "net ton" is synonymous with the "ton register," equivalent to 100 cubic feet, and the term "net tonnage" refers to the volume of the space available for passengers or cargo. It is derived from the gross tonnage, or total internal cubic capacity of the vessel including enclosed spaces above the tonnage deck, by deducting space such as that taken up by crew quarters, engine room, fuel or stores. Net tonnage in relation to a particular vessel is therefore not necessarily constant but may vary in accordance with changes in the volume of the space to be deducted in determining it.

VESSELS ENTERED AND CLEARED AT PORTS

Port	Year ended 30th June :							
	1957				1958			
	Entered		Cleared		Entered		Cleared	
	Vessels	Net Tons	Vessels	Net Tons	Vessels	Net Tons	Vessels	Net Tons
Port of Fremantle	1,163	6,095,492	1,177	6,141,919	1,121	5,962,393	1,119	6,016,049
Other Ports—								
Albany	86	355,634	85	355,526	124	487,437	121	474,322
Broome	72	110,094	70	106,646	76	122,369	76	122,369
Bunbury	80	213,584	81	219,783	85	244,030	85	244,030
Busselton	19	38,312	18	36,323	15	28,864	14	27,114
Carnarvon	95	146,452	95	146,452	93	144,634	91	142,500
Derby	117	127,133	116	124,749	103	108,762	101	107,831
Esperance	9	35,606	9	35,606	13	63,884	13	63,884
Geraldton	117	348,817	115	339,437	118	320,348	119	323,424
Onslow	103	153,722	103	153,721	104	154,245	104	154,145
Point Samson	95	108,042	94	106,268	91	127,630	91	127,636
Port Hedland	81	110,405	81	110,408	80	112,812	80	112,817
Wyndham	49	90,716	49	91,641	45	90,603	45	85,558
Yampi	111	205,555	111	205,559	152	283,726	152	283,650

In the next table the numbers of vessels cleared from Western Australian ports during the year ended 30th June, 1958 are dissected according to the categories "Oversea," "Interstate" and "Intrastate." These categories do not necessarily refer to the place of registration of the vessel concerned, as classification is made on the basis of the type of voyage on which the vessel is engaged. Vessels classified to the category "Intrastate" are those engaged on a voyage where each of the terminal ports is in Western Australia.

VESSELS CLEARED FROM PORTS : 1957-58

Port	Oversea—				Interstate—				Intrastate		Total	
	Via Ports within the State		For Ports outside the State		Via Ports within the State		Direct		Ves-sels	Net Tons	Ves-sels	Net Tons
	Ves-sels	Net Tons	Ves-sels	Net Tons	Ves-sels	Net Tons	Ves-sels	Net Tons				
Port of Fremantle....	29	79,230	562	3,218,645	64	122,150	392	2,392,236	72	203,788	1,119	6,016,049
Other Ports—												
Albany	27	125,644	22	91,910	3	5,994	43	166,363	26	84,411	121	474,322
Broome	3	6,022	6	11,435	19	28,284	2	3,015	46	73,613	76	122,369
Bunbury	27	101,351	14	39,848	11	28,750	22	43,382	11	30,699	85	244,030
Busselton	1	...	...	...	4	8,881	10	18,233	...	...	14	27,114
Carnarvon	1	2,217	6	19,213	22	31,508	...	...	62	89,562	91	142,500
Derby .....	...	...	4	5,099	17	23,383	6	7,918	74	71,431	101	107,831
Esperance	4	23,503	4	25,049	...	...	...	...	5	15,332	13	63,884
Geraldton	13	39,225	37	113,958	26	56,872	11	25,750	30	87,619	119	323,424
Onslow	1	2,120	6	18,446	26	40,032	...	...	69	93,547	104	154,145
Point Samson	3	6,360	...	...	24	34,115	...	...	64	87,161	91	127,636
Port Hedland	3	7,138	2	3,029	29	41,479	...	...	46	61,171	80	112,817
Wyndham	1	4,362	4	19,669	...	...	22	30,009	18	31,518	45	85,558
Yampi .....	...	...	1	4,305	12	18,331	46	244,584	93	16,430	152	283,650

Harbour Administration

The Port of Fremantle is controlled and operated by the Fremantle Harbour Trust, and those at Albany and Bunbury by Harbour Boards. The State Government is responsible for all other ports in Western Australia, their operations being under the direction of the Harbour and Light Department or the Western Australian Government Railways. Control of the ports of Busselton and Geraldton was transferred from the Western Australian Government Railways to the Harbour and Light Department from the 1st July, 1957. At the 31st December, 1958, Esperance was the only port remaining under Railways administration.

RAILWAYS

Railways operating in Western Australia for general and passenger traffic comprise the State Government system, part of the Commonwealth Government system, and a private line. There are, in addition, both government and private railways used for the haulage of timber.

Origin and Development

The earliest railways in the Colony, built in 1871 from Busselton into the nearby jarrah forest and in 1872 between Rockingham and Jarrahdale, 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 gradual decrease, and by the 30th June, 1958 the total mileage of the system had declined to 4,117.

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.

At the 30th June, 1958 there were 4,848 route miles of railway open for general and passenger traffic in Western Australia. Of this total, 4,117 miles were owned and operated by the State Government, 454 miles by the Commonwealth Government and 277 miles by the Midland Railway Company. There were, in addition, 420 miles of timber railways, of which 122 miles were government-owned and 298 miles privately-owned.

Western Australian Government Railways

The operations of the Western Australian Government Railways are controlled by a Commissioner of Railways responsible to the Minister for Railways.

Financial procedure for the State 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. A plan to improve country and suburban passenger services by the use of diesel-electric rail cars, first brought into service in December, 1937, was resumed and diesel-electric locomotives for long-distance haulage were introduced in May, 1954.

In recent years, work on the installation of centralized traffic control has been in progress on the South-Western Railway and by the end of 1958 the system had been extended as far as Serpentine.

In August, 1954, the Government appointed an interdepartmental committee to investigate the problems associated with rail and road transport. As a result of the report of this committee, the Government requested in 1956 that three of its members, namely the Chairman of the Western Australian Transport Board, the Commissioner of Railways and the Commissioner of Main Roads, form a committee to make a closer examination of non-paying lines. Their findings formed the basis of a submission to the Parliament that services be discontinued on several branch lines which for many years had earned comparatively little revenue to offset the high maintenance costs involved. A motion agreed to by the Parliament in December, 1956 gave authority for the suspension, for a trial period, of rail services on 842 miles of line and by October, 1957 services had been withdrawn on 820 miles. On certain of the closed routes alternative road services were provided.

In March, 1957, the Government instituted an investigation into certain aspects of railway working. Shortly after the inquiry began, its scope was extended to cover railway affairs generally and its status raised to that of a Royal Commission. A number of interim reports were presented to the Government before the conclusion of the investigation in July, 1959.

In addition to its normal railway operations, the Department provides road services for the carriage of passengers and freight, to which reference is made on page 322. The activities of the Railways Road Services are excluded from the following table. The figure of 4,117 given as the route mileage at the 30th June, 1958 includes the length of lines on which services had been suspended, as these railways had not been formally closed by Act of Parliament at that date.



PORT OF FREMANTLE—Inner Harbour—at the mouth of the Swan River

WESTERN AUSTRALIAN GOVERNMENT RAILWAYS (a)

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
Route Mileage at 30th June	4,111	4,111	4,119	4,117	4,117
Number of—	'000	'000	'000	'000	'000
Train Miles Run	7,204	7,769	8,278	8,278	7,327
Passengers Carried—					
Suburban	7,816	9,354	11,481	12,497	13,353
Country	862	795	790	774	753
Total	8,678	10,139	12,271	13,271	14,106
Tonnage of Paying Goods Carried (b)	3,206	3,407	3,793	4,223	3,589
Operating Revenues—	£'000	£'000	£'000	£'000	£'000
Passenger Fares	883	960	1,040	1,076	1,090
Parcels and Mails	368	391	452	431	448
Paying Goods and Livestock	9,308	10,359	10,989	11,698	10,506
Miscellaneous	552	605	599	654	744
Total Operating Revenues	11,111	12,315	13,080	13,859	12,788
Operating Expenses	13,507	13,730	14,800	15,820	14,652
Excess of Operating Expenses over Revenues	2,396	1,415	1,720	1,961	1,864
Rehabilitation of Fully Depreciated Assets	161	....	43	....	....
Depreciation	791	961	1,120	1,256	1,439
Interest Charges	1,134	1,411	1,721	2,053	2,112
Total Deficit	4,482	3,787	4,604	5,270	5,415

(a) Excludes particulars of Railway Road Services (see page 322) and timber railways (see page 323). (b) Includes livestock.

The preceding table 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 1953-54 to 1957-58. The classification used in the table is that adopted by the Railways Department in dissecting its freight transport statistics.

WESTERN AUSTRALIAN GOVERNMENT RAILWAYS
TONNAGE OF PAYING GOODS (†) CARRIED

Freight Classification	Year ended 30th June :				
	1954	1955	1956	1957	1958
Wheat	637,067	778,624	1,062,649	1,511,542	785,454
Other Grain	} 214,287 {	60,595	176,682	107,752	91,887
Grain Products		107,448	100,528	103,208	86,934
Chaff	18,359	12,680	10,586	10,459	9,419
Fertilizers	341,248	366,421	357,462	400,797	422,094
Fruit and Vegetables	107,119	112,393	102,071	111,474	102,826
Wool	51,062	48,280	61,083	59,791	62,152
Timber	290,586	311,589	323,201	326,891	334,816
Firewood	23,742	19,719	18,121	14,279	11,932
Coal, Coke, Shale and Charcoal (a)	535,691	587,999	520,851	471,529	538,861
Ores and Minerals	(b)	156,793	186,919	205,072	245,101
Oil in Tank Wagons	143,399	150,159	148,771	158,667	163,006
Other Classifications	720,175	565,933	586,403	593,576	600,786
Livestock (†)	123,223	128,001	137,529	147,994	133,646
Total	3,205,958	3,406,634	3,792,856	4,223,031	3,588,914
(†) Number of Livestock Carried—					
Sheep	1,730,984	1,874,482	1,983,593	2,324,489	2,094,873
Cattle	110,789	105,025	121,903	119,508	106,930
Pigs	106,835	146,828	131,650	130,248	155,758
Horses	4,358	3,667	3,894	3,087	3,046

(†) Including livestock.

(a) Predominantly local coal.

(b) Included in "Other Classifications."

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 as a whole are shown in the table on page 325.

Private Railways

The only private railway open for general and passenger traffic in Western Australia is that operated by the Midland Railway Company over 277 miles of route between Midland Junction and Walkaway. The following table gives details of the Company's railway activities in each of the years from 1953-54 to 1957-58. Particulars of its road service are not included but are summarized in the table on page 323.

PRIVATE RAILWAYS

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
Number of—					
Route Miles Operated	277	277	277	277	277
Train Miles Run	321,912	303,251	333,803	355,142	329,182
Passengers Carried	4,297	4,285	3,804	3,701	3,809
Employees at 30th June	444	473	495	474	469
Tonnage of Paying Goods Carried (a)	185,724	192,282	218,614	258,382	217,413
	£	£	£	£	£
Operating Revenues	603,978	665,406	699,760	765,166	701,685
Operating Expenses	549,162	600,139	667,461	742,333	647,491

(a) Includes livestock.

Railways Road Services

The road services operated by the Western Australian Government Railways 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. Another advantage was the reduction in travelling time between points served by road vehicles.

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. Since that year operations have shown a steady decline partly attributable to the improvement in country rail services by the increased use of diesel-electric traction. This development has made possible the withdrawal of a number of road services and it is the policy of the Department to continue this action where circumstances indicate that it is desirable.

In 1946, the Midland Railway Company inaugurated a road service from Perth to Moora and Geraldton.

Both government and private services carry freight as well as passengers. Some of the omnibuses are dual-purpose vehicles equipped with a freight compartment, but vehicles used solely for the transport of goods are also in operation.

The following table gives a summary of the activities of the Western Australian Government Railways Road Services, together with financial results, in each year from 1953-54 to 1957-58.

WESTERN AUSTRALIAN GOVERNMENT RAILWAYS ROAD SERVICES

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
Number of—					
Route Miles Operated	2,849	2,662	2,670	2,843	2,709
Omnibuses at 30th June	54	52	52	52	52
Miles Run	1,962,937	1,644,974	1,505,382	1,458,833	1,371,695
Passengers Carried	521,228	351,601	312,202	305,315	277,943
Employees at 30th June	151	139	133	120	122
Operating Revenues—	£	£	£	£	£
Passenger Fares	224,255	178,503	155,584	148,013	134,486
Parcels and Mails	38,736	36,688	38,711	37,137	39,978
Goods ....	.....	.....	.....	.....	12,555
Total Operating Revenues	262,991	215,191	194,295	185,150	187,019
Operating Expenses	249,222	205,420	193,586	191,277	190,423
Excess of—					
Operating Revenues over Expenses	13,769	9,771	709	.....	.....
Operating Expenses over Revenues ....	.....	.....	.....	6,127	3,404
Depreciation	42,121	29,902	10,263	1,562	2,011
Interest Charges	4,205	2,810	2,247	2,303	2,478
Deficit	32,557	22,941	11,801	9,992	7,893

The following table deals with the operations of the Midland Railway Company's road service during the period from 1953-54 to 1957-58. Financial details relating to the service are not available for publication.

PRIVATE RAILWAY ROAD SERVICES

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
Number of—					
Route Miles Operated	312	312	312	312	312
Omnibuses at 30th June	7	7	7	8	6
Miles Run	345,498	345,723	350,450	346,744	311,025
Passengers Carried	29,899	27,771	25,048	26,782	25,915
Employees at 30th June	21	26	25	25	25

Timber Railways

At the 30th June, 1958, there were four government and eleven private railways open for the haulage of timber. Of the government lines, three were operating in connexion with the sawmill activities of the State Building Supplies and the fourth was being worked by the Western Australian Government Railways for the supply of timber for railway purposes. Ten of the private lines were owned by timber companies and the remaining line by a mining company for use in the transport of mining timber.

TIMBER RAILWAYS

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
GOVERNMENT					
Number of—					
Lines Open at 30th June	9	8	6	4	4
Route Miles Operated	159	161	138	129	122
Locomotives at 30th June	10	10	9	10	8
Train Miles Run	123,104	112,329	97,760	94,125	87,792
Employees at 30th June	77	70	64	58	62
Tonnage of Timber and Other Goods Carried	189,923	157,729	128,010	120,104	129,829
PRIVATE					
Number of—					
Lines Open at 30th June	14	14	13	12	11
Route Miles Operated	481	471	449	429	298
Locomotives at 30th June	24	25	21	19	16
Train Miles Run	166,787	158,830	141,599	111,053	98,350
Employees at 30th June	155	146	127	105	88
Tonnage of Timber and Other Goods Carried	265,618	221,211	194,950	150,311	178,059

Railway Gauges

The gauge used in Western Australia on the government railway system and on the Midland Railway Company's line is 3 ft. 6 in. Of the total route mileage of government railways in Australia at the 30th June, 1958, almost one-half (12,843 miles) was of this gauge. There were 7,502 miles of the standard 4 ft. 8½ in. gauge and 6,018 miles of 5 ft. 3 in. gauge.

The following table shows the route mileage of government railways of each gauge in each of the Australian States and Territories at the 30th June, 1958.

GOVERNMENT RAILWAYS IN EACH STATE AND TERRITORY OF AUSTRALIA 30th JUNE, 1958

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) 241	6,103	....	....	....	(a) 6,344
Victoria	4,126	....	....	34	....	(a) 4,160
Queensland	....	(a) 69	6,357	....	30	6,456
South Australia	1,651	....	882	....	....	2,533
Western Australia	....	....	4,117	....	....	4,117
Tasmania	....	....	565	....	....	565
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	6,018	7,502	12,843	34	30	26,427

(a) See following letterpress *Operations of Government Railways in Australia*.

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, a distance of 419 miles. 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. At the 31st December, 1958, no action had been taken to implement this proposal but work had begun on other sections of the unification scheme.

Operations of Government Railways in Australia

The following table gives a summary of operations during the year ended 30th June, 1958 on each of the railway systems owned by State Governments and on that of the Commonwealth Government.

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 previous table, 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 241 miles.

A Uniform Gauge Railway of 4 ft. 8½ in. and 181 route miles in length between Grafton (New South Wales) and South Brisbane (Queensland) was completed in 1930. This line is operated by the New South Wales Railways, and details of operations on the New South Wales section (112 route miles) are included with those of the New South Wales system and particulars for the Queensland section (69 route miles) with those for the Queensland system.

GOVERNMENT RAILWAYS OF AUSTRALIA—SUMMARY OF OPERATIONS, 1957-58

Railway System of :—	Route Mileage at 30th June	Revenue Train Miles Run (‘000)	Passenger Journeys (‘000)	Goods and Livestock Carried (‘000 tons)	Gross Revenue (£’000)	Working Expenses (£’000)	Average Number of Employees
New South Wales	6,103	35,020	258,651	18,502	74,433	72,534	52,923
Victoria	4,401	18,353	167,662	8,892	35,954	38,174	30,097
Queensland	6,456	19,032	33,665	7,766	34,636	36,894	30,149
South Australia	2,533	7,081	17,564	4,146	13,160	(a) 15,953	11,062
Western Australia	4,117	7,327	14,106	3,589	12,788	(a) 16,091	13,274
Tasmania	565	1,568	2,444	1,096	2,569	(a) 3,218	2,653
Commonwealth	2,252	1,910	238	1,259	5,346	3,611	2,725
Australia	26,427	90,291	494,330	45,250	178,886	186,475	142,883

(a) Includes provision of reserves for depreciation.

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 Municipal Councils and Road Boards.

The Main Roads Act, 1930-1959 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 work 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. 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. A similar provision applies in the case of developmental roads.

The construction and maintenance of main roads, including important secondary roads, and the construction of developmental roads are the responsibility of the Main Roads Department, which also carries out, on behalf of the Commonwealth Government, the construction and maintenance of strategic roads and roads of access to Commonwealth property.

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, 1958, classified according to Statistical Division (see map of Western Australia preceding Index). Included in the total are 3,487 miles of main roads, 7,419 miles of important secondary roads and 14,360 miles of developmental roads.

ROADS OPEN FOR GENERAL TRAFFIC AT 30th JUNE, 1958
MILEAGE CLASSIFIED ACCORDING TO STATISTICAL DIVISION

Statistical Division	Surfaced				Unsurfaced			Grand Total
	Bitumen (a)	Gravel	Other (b)	Total	Formed but not metalled or otherwise prepared (c)	Unformed (d)	Total	
Metropolitan (e)	1,407	137	1	1,545	4	87	91	1,336
Swan (e)	928	642	153	1,723	347	(f) 286	(f) 633	(f) 2,356
South-West	1,149	2,755	140	4,044	1,924	1,940	3,864	7,908
Southern Agricultural	745	2,515	186	3,446	6,444	(f) 2,562	(f) 9,006	(f) 12,452
Central Agricultural	1,276	5,259	62	6,597	10,148	(f) 4,434	(f) 14,582	(f) 21,179
Northern Agricultural	908	3,254	197	4,359	5,949	4,495	10,444	14,803
Eastern Goldfields	517	1,186	133	1,836	3,335	4,360	7,695	9,531
Central	17	58	746	821	5,159	(f) 2,934	(f) 8,093	(f) 8,914
North-West	73	16	49	138	2,186	2,497	4,683	4,821
Pilbara	66	90	5	161	2,247	(f) 277	(f) 2,524	(f) 2,385
Kimberley	55	246	325	626	1,576	(f) 1,185	(f) 2,761	(f) 3,387
Total	(a) 7,141	16,158	1,997	25,296	39,319	(f) 25,057	(f) 64,376	(f) 89,672

(a) Includes short lengths of concrete surface aggregating 3 miles, 72 chains. (b) Includes limestone and granite surfaces. (c) Mainly natural surfaces. (d) Roads unprepared except for certain clearing. (e) The whole of the Swan Road District has been included in the figures shown for the Swan Statistical Division although the South Ward, for which separate details are not available, is part of the Metropolitan Statistical Division. (f) Particulars are incomplete as information for some Road Districts is not available.

Vehicle Registration, Licences and Traffic Control

The Traffic Act, 1919-1959 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 issues licences in the Metropolitan Traffic Area, which comprises the whole of the Metropolitan Statistical Division (see map of Western Australia preceding Index) and that part of the Swan Division consisting of the Cockburn, Gosnells, Kwinana and Rockingham Road Districts in their entirety and parts of the Armadale-Kelmscott, Mundaring and Swan Road Districts. Outside the Metropolitan Traffic Area each Municipal Council or Road Board 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 table on page 327 includes particulars of the number of motor vehicles, classified according to type, on the register at the 30th June in each of the years from 1954 to 1958. 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, 1958 there were in Western Australia 962 Commonwealth-owned vehicles (excluding those of the Defence Services), comprising 102 motor cars, 851 utilities, vans and trucks, 3 omnibuses and 6 motor cycles.

Traffic control in general is exercised by the Police Department in the Metropolitan Traffic Area, except for certain powers in relation to the parking of vehicles conferred on the Perth City Council by the City of Perth Parking Facilities Act, 1956-1958. Outside the Metropolitan Traffic Area, control is vested by the Traffic Act in the local government authorities, each of which is required by the Act to appoint at least one traffic inspector for its district.

MOTOR VEHICLES ON REGISTER (†) AND FEES RECEIVED

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
METROPOLITAN TRAFFIC AREA (a)					
Number on Register at end of Year—					
Motor Cars (b)	47,819	55,720	61,835	65,013	69,414
Utilities, Vans and Trucks (b)	20,400	22,694	24,169	24,354	24,217
Omnibuses	574	534	548	560	553
Motor Cycles	9,692	9,605	9,253	8,770	8,580
Total	78,485	88,553	95,805	98,697	102,764
Revenue from Registrations and Fees (c) £	523,069	584,047	635,790	811,315	1,042,525
REST OF STATE (a)					
Number on Register at end of Year—					
Motor Cars (b)	30,398	34,431	36,950	38,679	41,057
Utilities, Vans and Trucks (b)	38,071	39,252	39,441	39,653	39,978
Omnibuses	524	576	623	641	634
Motor Cycles	5,545	5,047	4,614	4,370	4,241
Total	74,538	79,306	81,628	83,343	85,910
Revenue from Registrations and Fees (c) £	613,336	656,912	670,450	791,573	960,359
WHOLE STATE					
Number on Register at end of Year—					
Motor Cars (b)	78,217	90,151	98,785	103,692	110,471
Utilities, Vans and Trucks (b)	58,471	61,946	63,610	64,007	64,195
Omnibuses	1,098	1,110	1,171	1,201	1,187
Motor Cycles	15,237	14,652	13,367	13,140	12,821
Total	153,023	167,859	177,433	182,040	188,674
Revenue from—					
Motor Vehicle Registrations and Fees (c) £	1,136,405	1,240,959	1,306,240	1,602,888	2,002,884
Drivers', Riders', etc. Licences and Fees £	87,614	98,057	103,639	116,588	128,814

(†) Excludes vehicles owned by the Commonwealth Government. (a) The Metropolitan Traffic Area was enlarged, by an amendment to regulations under the Traffic Act dated 15th June, 1955, to include the Kwinana Road District and, by a similar amendment dated 19th December, 1955, to include also the Rockingham Road District (see also letterpress *Vehicle Registration, Licences and Traffic Control*). (b) In the figures shown for 1954, 1955 and 1956 station wagons are included with Utilities, Vans and Trucks and, in those for 1957 and 1958, with Motor Cars. (c) Net revenue after payment of refunds.

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.

The Commonwealth Aid Roads Act of 1954 repealed earlier legislation and provided for distribution among the States, for a period of five years from the 1st July, 1954, of part of the moneys derived from customs and excise duties on petrol. Five per cent. of the total grant was payable to the State of Tasmania, the balance to be distributed among the other States on the basis of three-fifths according to population and two-fifths according to area. The Act required that forty per cent. of the moneys received by a State should be spent on roads in rural areas, other than highways, trunk roads and main roads. Additional payments to the States for each of the years 1957-58 and 1958-59 were authorized by a Commonwealth Aid Roads (Special Assistance) Act passed in 1957. With the expiry of these Acts in 1959, they were replaced by a new Commonwealth Aid Roads Act (No. 39 of 1959) with a currency of five years from the 1st July, 1959. By its provisions the funds available for distribution among the States cease to be related to taxation on petrol. They take the form of a basic grant aggregating £220 million for the five-year period, with an additional grant of £30 million. The basic grant increases uniformly from £40 million in the first year to £48 million in the fifth year and, after payment to Tasmania of five per cent. of the total in each year, the balance is allocated among the other 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, increasing from £2 million in 1959-60 to £10 million in 1963-64, is a conditional one dependent on a State's expenditure on roads from its own re-

sources. Where this expenditure in any year exceeds the corresponding amount spent in 1958-59, the State is entitled to receive a grant equal to the amount of the excess, but not greater than its quota of the total additional grant for the year, this quota being determined on the same principle as that used in allocating the basic grant.

The receipt and distribution of State 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 and the Central Road Trust Fund.

Before the Central Road Trust Fund was established by an amendment to the Traffic Act in 1959, all receipts from vehicle licence fees in the Metropolitan Traffic Area were paid to the Metropolitan Traffic Trust Account, while the local government authorities outside the Metropolitan Traffic Area retained the whole of their collections from this source. Income from drivers' and riders' licences throughout the State was formerly credited to the Consolidated Revenue Fund.

A Central Road Trust Fund account was opened at the Treasury on the 1st January, 1960, to record transactions in connexion with the additional grant provided for in the Commonwealth Aid Roads Act of 1959. The State moneys required to be paid into the Fund comprise metropolitan collections of vehicle licence fees in excess of the amount received in 1958-59 (£1,093,895), and revenue throughout the State from drivers' and riders' licences. Other revenues accruing to the Fund are those derived from local government authorities outside the Metropolitan Traffic Area, which may elect to contribute the amount of their collections of vehicle licence fees in excess of such receipts in 1958-59, as well as 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 required to make certain payments from the Fund after the 30th June in each year. A contributing local authority outside the Metropolitan Traffic Area is entitled under the Act to receive a payment 50 per cent. greater than the amount of its contribution. The metropolitan local authorities share, in proportions determined by the Minister, an amount equal to three-quarters of the total sum paid to the credit of the Fund by the Commissioner of Police as the metropolitan vehicle-licensing authority. It is provided that the total disbursements to local government authorities from the Fund shall not in any year exceed twice the amount of the additional grant received from the Commonwealth for that year, and that moneys so paid must be spent by the local authorities on roads, road-making plant or research in connexion with road construction.

The revenue of the Metropolitan Traffic Trust Account consists of the amount received from vehicle licence fees in the Metropolitan Traffic Area, except for that portion which is required to be paid to the Central Road Trust Fund. The Act provides that, after payment of an annual charge of £120,000 for the costs of collection and administration, one-half of the net balance shall be shared by local government authorities in the Metropolitan Traffic Area in proportions determined by the Minister, and the remaining half paid to the Commissioner of Main Roads to be applied to 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 Western Australian Transport Board to meet the cost of maintaining and improving roads used by omnibuses and commercial vehicles licensed by the Board.

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.

METROPOLITAN (PERTH) PASSENGER TRANSPORT TRUST

The Metropolitan (Perth) Passenger Transport Trust is constituted under the Metropolitan (Perth) Passenger Transport Act of 1957 to provide, maintain and manage road passenger services and ferry services in the metropolitan area, and in this connexion to acquire any such existing service. 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. It thus embraces an area comprising the whole of the Metropolitan Statistical Division, almost all of the Swan Statistical Division and a small area of each of the three adjoining Divisions (see map of Western Australia preceding Index). A brief summary of the main provisions of the Act is given in Chapter III—*Constitution and Government*.

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. It is anticipated that by the end of 1961 the Trust will have acquired the four remaining non-government metropolitan omnibus services.

TRAM, TROLLEY-BUS AND FERRY SERVICES

The Western Australian Government Tramways and Ferries Department was the authority which, since its establishment in 1949 as a statutory body separate from Railways administration, controlled the State Government's tramway services until operations ceased on the 19th July, 1958, and trolley-bus, metropolitan omnibus and ferry services until their acquisition by the Metropolitan (Perth) Passenger Transport Trust on the 1st July, 1960.

Tramways

The only tramway service operating in Western Australia after 1952, when municipal services at Kalgoorlie and Fremantle were discontinued, was that provided by the State Government on routes confined to Perth and suburbs. It will be seen from the following table that activities showed a consistent decline during the five-year period to 1957-58, which was the last complete year of operations. When tramway services ceased on the 19th July, 1958, alternative transport by trolley-bus and motor omnibus was provided.

STATE GOVERNMENT TRAMWAY SERVICES

Particulars	Year ended 30th June:				
	1954	1955	1956	1957	1958
Number of—					
Route Miles Operated	11	12	12	12	4
Tram-cars at 30th June	40	40	40	40	33
Miles Run	979,348	864,095	758,071	539,120	440,972
Passengers Carried	11,106,722	9,548,661	8,531,896	5,976,935	4,749,536
Employees at 30th June	252	222	206	152	128
	£	£	£	£	£
Operating Revenues	275,431	252,479	216,963	181,357	149,528
Operating Expenses	301,262	262,147	248,151	200,988	176,764
Depreciation	17,132	19,012	17,509	17,243	13,619
Interest	11,484	9,721	8,980	9,497	8,064

Trolley-Buses

Trolley-bus services in Perth and suburbs were operated by the State Government from their introduction on 4½ miles of route in 1933 until the 1st July, 1960, when the Metropolitan (Perth) Passenger Transport Trust assumed control of these services. The following table gives a summary of activities during each of the years from 1953-54 to 1957-58.

STATE GOVERNMENT TROLLEY-BUS SERVICES

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
Number of—					
Route Miles Operated	19	20	22	22	23
Trolley-buses at 30th June	90	90	90	90	90
Miles Run	1,327,549	1,340,900	1,280,874	973,411	974,668
Passengers Carried	7,635,962	7,740,456	7,330,306	5,521,624	5,550,009
Employees at 30th June	218	223	221	182	175
	£	£	£	£	£
Operating Revenues	233,667	234,720	219,147	194,354	200,664
Operating Expenses	261,237	263,206	266,625	240,075	242,816
Depreciation	30,362	28,744	21,304	20,647	19,813
Interest	25,476	23,922	24,336	27,156	26,481

Passenger Ferries

A passenger ferry service across the Swan River from Perth to South Perth, formerly conducted by the State Government, has been operated by the Metropolitan (Perth) Passenger Transport Trust since the 1st July, 1960. The activities of the service during the five-year period ended 30th June, 1958 are summarized in the following table. Particulars of private charter excursions are excluded from the figures, which therefore relate only to the regular transport of passengers.

STATE GOVERNMENT FERRY SERVICES

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
Number of—					
Miles Run	26,833	25,825	25,797	25,606	25,701
Boats at 30th June	4	4	4	4	4
Passengers Carried	530,017	468,627	437,168	444,638	442,259
Employees at 30th June	12	11	11	11	11
Operating Revenues	£ 10,754	£ 11,480	£ 9,944	£ 12,836	£ 13,520
Operating Expenses	18,272	15,962	15,410	15,022	15,868
Depreciation	886	887	1,095	1,018	1,019
Interest	399	397	387	392	352

MOTOR OMNIBUS SERVICES

Motor omnibus services in Western Australia are provided by the State Government, by local government authorities, by private operators and also, since the 1st September, 1958, by the Metropolitan (Perth) Passenger Transport Trust.

State Government Omnibus Services

Reference is made on page 322 to the Western Australian Government Railways Road Services, which cover long-distance routes between Perth and country centres. The State Government also provided metropolitan omnibus services, until their acquisition by the Metropolitan (Perth) Passenger Transport Trust on the 1st July, 1960. A summary of operations during the five-year period ended 30th June, 1958 is given in the following table.

STATE GOVERNMENT OMNIBUS SERVICES (a)

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
Number of—					
Route Miles Operated	113	128	131	133	140
Omnibuses at 30th June	121	125	127	133	141
Miles Run	4,164,683	4,046,721	4,414,694	5,016,111	5,047,868
Passengers Carried	18,027,727	17,584,885	17,729,016	18,429,555	17,887,430
Employees at 30th June	416	453	493	549	542
Operating Revenues	£ 556,561	£ 539,901	£ 552,264	£ 678,738	£ 678,945
Operating Expenses	499,586	534,717	592,424	722,486	749,104
Depreciation	55,296	55,564	58,002	56,051	62,163
Interest	20,736	18,682	17,160	18,092	20,377

(a) Excludes particulars of Western Australian Government Railways Road Services (see page 323).

Municipal Omnibus Services

The Fremantle Municipal Transport Board conducted an omnibus service in Fremantle and suburbs on behalf of the Fremantle and East Fremantle Municipal Councils until the 31st August, 1960, after which the service passed to the control of the Metropolitan (Perth) Passenger Transport Trust.

The Eastern Goldfields Transport Board operates services in Kalgoorlie and suburbs under an agreement with the Kalgoorlie and Boulder Municipal Councils and the Kalgoorlie Road Board.

The activities of the Boards in each year from 1953–54 to 1957–58 are summarized in the following table.

MUNICIPAL OMNIBUS SERVICES

Particulars	Financial Year (a)				
	1953-54	1954-55	1955-56	1956-57	1957-58
FREMANTLE MUNICIPAL TRANSPORT BOARD					
Number of—					
Route Miles Operated	26	27	37	35	37
Omnibuses at end of Year	33	37	37	40	39
Miles Run	944,715	1,007,345	1,006,278	999,090	989,705
Passengers Carried	6,528,441	6,511,274	6,417,446	6,127,154	5,965,563
Employees at end of Year	135	128	119	112	100
Operating Revenue	£ 164,233	£ 165,083	£ 165,341	£ 158,092	£ 155,341
Interest on Trust Funds and Fixed Deposits	23,270	23,706	24,714	26,614	31,219
Other Revenue	2,106	1,976	2,613	1,437	1,947
Operating Expenses	152,249	155,654	157,369	153,502	159,843
Depreciation	19,339	20,270	21,420	19,267	15,157
Contributions to Local Government Revenue (b)....	15,709	12,529	11,567	11,062	11,196
Other Appropriations	2,312	2,312	2,312	2,312	2,311

EASTERN GOLDFIELDS TRANSPORT BOARD

Number of—					
Route Miles Operated	18	18	18	18	18
Omnibuses at end of Year	11	11	11	11	15
Miles Run	309,718	300,494	296,299	287,007	287,780
Passengers Carried	1,379,515	1,402,857	1,352,738	1,290,949	1,216,828
Employees at end of Year	22	23	21	19	19
Operating Revenue	£ 36,565	£ 36,419	£ 35,167	£ 35,843	£ 35,554
Other Revenue	445	442	407	409	385
Operating Expenses	36,292	34,596	34,853	34,359	34,268
Renewals Reserve Fund	237	1,847	372	1,581	997
Other Charges (Interest)	481	378	349	274	557

(a) For the Fremantle Municipal Transport Board, year ended 31st August and for the Eastern Goldfields Transport Board, 30th November. (b) Paid to the Fremantle and East Fremantle Municipal Councils.

Private Omnibus Services

PRIVATE OMNIBUS SERVICES (a)

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958

METROPOLITAN SERVICES (b)

Number of—					
Omnibuses at 30th June	358	313	299	315	323
Miles Run	11,533,865	12,072,867	11,015,186	10,672,482	10,579,131
Passengers Carried	32,831,271	32,350,929	31,083,840	29,318,685	28,421,950
Employees at 30th June	893	811	730	755	719
Operating Revenue	£ 1,536,973	£ 1,543,722	£ 1,448,138	£ 1,464,922	£ 1,452,542
Operating Expenses (c)	1,403,376	1,489,580	1,388,049	1,386,115	1,382,654

OTHER SERVICES

Number of—					
Omnibuses at 30th June	65	75	73	63	60
Miles Run	1,016,479	1,117,362	1,156,418	1,128,343	1,064,786
Passengers Carried	1,379,892	1,508,579	1,523,164	1,482,908	1,458,925
Employees at 30th June	78	95	97	82	81
Operating Revenue	£ 123,655	£ 130,597	£ 132,606	£ 129,342	£ 123,968
Operating Expenses (c)	111,142	116,263	131,757	128,685	126,947

(a) Excludes tourist and school bus services and charter excursions. (b) Services operating wholly within the Metropolitan Statistical Division and its environs. (c) Includes depreciation.

Privately-owned omnibus services operate in Perth and suburbs or in and around country centres. The figures shown under the heading of Metropolitan Services in the preceding table relate to undertakings which provide transport facilities on routes lying wholly within the Metropolitan Statistical Division and its environs. The activities of those operating in other parts of Western Australia are shown under Other Services. Details of the road passenger service of the Midland Railway Company, to which reference is made on page 322, are included in this section of the table, which therefore gives a summary of the operations of all private omnibus services during the five years from 1953-54 to 1957-58.

STATISTICAL SUMMARY OF RAIL, ROAD AND FERRY SERVICES

The following table, which is based on figures already shown in tables on the preceding pages, is designed to give a convenient summary of the operations of the several services during 1957-58 and to provide some significant totals for the services as a whole.

RAIL, ROAD AND FERRY SERVICES—SUMMARY FOR 1957-58

Service	Route Miles	Miles Run	Passengers Carried		Employees at end of Year	Operating Revenues £	Operating Expenses £
			Metropolitan	Other			
Railways—							
State Government (a)	4,117	7,326,966	13,352,866	753,411	13,246	12,788,157	14,652,239
Private	277	329,182	....	3,809	469	701,685	647,491
Total	4,394	7,656,148	13,352,866	757,220	13,715	13,489,842	15,299,730
Railways Road Services—							
State Government	2,709	1,371,695	....	277,943	122	187,019	190,423
Private	312	311,025	....	25,915	25	(b)	(b)
Total	3,021	1,682,720	....	303,858	147	(c)	(c)
Tramways, State Government	4	440,972	4,749,536	....	128	149,528	176,764
Trolley-buses, State Government	23	974,668	5,550,009	....	175	200,664	242,816
Ferries, State Government	(d)	25,701	442,259	....	11	13,520	15,868
Omnibuses—							
State Government (a)....	140	5,047,868	17,887,430	....	542	678,945	749,104
Municipal	55	1,277,485	5,965,563	1,216,828	119	190,895	194,111
Private (e)	(d)	11,332,892	28,421,950	1,433,010	775	1,576,510	(f) 1,509,601
Total	(d)	17,658,245	52,274,943	2,649,838	1,436	2,446,350	2,452,816
GRAND TOTAL	(d)	28,438,454	76,369,613	3,710,916	15,612	16,486,923	18,378,417

(a) Excluding Western Australian Government Railways Road Services. (b) Not available separately for publication; included in "Omnibuses, Private." (c) Not available; see note (b). (d) Not available. (e) Excluding private railway road services, except for figures shown under "Operating Revenues" and "Operating Expenses." (f) Includes depreciation.

ROAD TRAFFIC ACCIDENTS

Statistics of road traffic accidents are prepared from information contained in reports submitted by the police or by traffic inspectors employed by Municipal Councils and Road Boards outside the Metropolitan Traffic Area. 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 the number of accidents involving casualties which occurred in Western Australia and in Australia (excluding the Northern Territory, for which particulars are not available) during each year of the period from 1953-54 to 1957-58. Casualty rates per 100,000 of mean population and per 10,000 motor vehicles registered 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 for those relating to persons killed per 10,000 motor vehicles registered in 1956-57 and 1957-58, when the Western Australian and Australian rates were equal.

ROAD TRAFFIC ACCIDENTS AND CASUALTIES WESTERN AUSTRALIA AND AUSTRALIA (†)

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
WESTERN AUSTRALIA					
Accidents involving Casualties	3,079	3,149	3,211	3,082	3,338
Number of Persons Killed—					
Total	175	206	185	168	164
Per 100,000 of Mean Population	28	32	28	25	23
Per 10,000 Motor Vehicles Registered (a)	12	13	11	9	9
Number of Persons Injured—					
Total	3,935	4,036	4,098	3,921	4,249
Per 100,000 of Mean Population	624	622	613	573	608
Per 10,000 Motor Vehicles Registered (a)	266	248	236	217	229
AUSTRALIA (†)					
Accidents involving Casualties	35,523	36,602	37,766	39,066	41,170
Number of Persons Killed—					
Total	1,976	2,042	2,119	2,113	2,147
Per 100,000 of Mean Population	22	23	23	22	22
Per 10,000 Motor Vehicles Registered (a)	11	10	10	9	9
Number of Persons Injured—					
Total	44,629	46,465	48,773	50,450	54,193
Per 100,000 of Mean Population	502	512	525	530	557
Per 10,000 Motor Vehicles Registered (a)	238	226	221	216	219

(†) Excluding Northern Territory, for which particulars are not available.

(a) Based on annual average of number of motor vehicles on register.

In the next table road traffic accident casualties which occurred in Western Australia during the five years ended 30th June, 1958 are classified according to type of road user. The figures shown in the category "Other" refer to such persons as tram drivers, 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 30th June :				
	1954	1955	1956	1957	1958
PERSONS KILLED					
Drivers of Motor Vehicles	32	41	46	42	36
Motor Cyclists	28	37	20	19	25
Pedal Cyclists	12	15	7	8	13
Passengers :					
Pillion	3	5	3	5	4
Other	46	55	59	38	38
Pedestrians	54	53	50	54	48
Other	...	...	...	2	...
Total	175	206	185	168	164
PERSONS INJURED					
Drivers of Motor Vehicles	704	766	853	874	973
Motor Cyclists	810	772	673	672	703
Pedal Cyclists	481	431	423	348	404
Passengers :					
Pillion	170	194	120	160	156
Other	1,163	1,258	1,305	1,289	1,329
Pedestrians	598	608	704	576	679
Other	9	7	20	2	5
Total	3,935	4,036	4,098	3,921	4,249

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 1953-54 to 1957-58.

ROAD TRAFFIC ACCIDENTS—CASUALTIES CLASSIFIED ACCORDING TO AGE

Year ended 30th June :	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											
1954	9	6	13	19	34	24	16	19	31	4	175
1955	11	1	11	26	32	19	19	21	57	9	206
1956	8	3	16	21	36	23	27	18	33	....	185
1957	9	9	14	21	33	15	14	14	38	1	168
1958	5	5	13	22	28	29	14	12	36	....	164
PERSONS INJURED											
1954	128	102	465	587	847	450	337	235	250	534	3,935
1955	126	91	497	638	866	481	371	254	260	452	4,036
1956	188	94	486	605	737	476	336	269	246	661	4,098
1957	145	78	480	644	891	482	373	268	241	519	3,921
1958	158	85	548	742	743	493	389	280	266	545	4,249

Road traffic accidents during the years ended 30th June, 1957 and 1958 are classified in the next table according to type of accident and type of vehicle involved. It should be noted that, as accidents and casualties may involve more than one type of vehicle and, in such cases, are classified to each type involved, totals cannot be derived by adding the figures in the second part of the table.

ROAD TRAFFIC ACCIDENTS TYPE OF ACCIDENT AND TYPE OF VEHICLE INVOLVED

Type of Accident and Type of Vehicle Involved	Year ended 30th June :					
	1957			1958		
	Accidents involving Casualties	Casualties		Accidents involving Casualties	Casualties	
		Persons Killed	Persons Injured		Persons Killed	Persons Injured
TYPE OF ACCIDENT						
Vehicle Colliding with—						
Moving Vehicle	1,375	37	1,882	1,550	49	2,073
Pedestrian	609	55	578	705	46	705
Stationary Vehicle	171	10	212	108	11	138
Other Fixed Object				42	3	57
Animal	43	1	49	26	....	27
Vehicle Overturning or Leaving Road	780	58	1,098	811	53	1,152
Passenger Accident	96	7	93	88	2	89
Other	8	....	9	8	....	8
Total	3,082	168	3,921	3,338	164	4,249
TYPE OF VEHICLE INVOLVED (a)						
Motor Vehicle, excluding Motor Cycle	2,557	145	3,341	2,871	145	3,722
Motor Cycle	791	24	924	833	33	961
Pedal Cycle	369	9	380	445	14	450
Animal-drawn Vehicle	9	2	9	10	....	13

(a) See letterpress immediately preceding table.

Motor Vehicle Third Party Insurance

Motor vehicle third party insurance became compulsory in Western Australia under the provisions of the Motor Vehicle (Third Party Insurance) Act of 1943. All such insurances are now effected through a Motor Vehicle Insurance Trust, a summary of whose operations is given in Chapter VI—Part 2, *Private Finance*.

AIR TRANSPORT

The supervision and control of civil air transport operations throughout Australia is the responsibility of the Department of Civil Aviation. Among its functions are the enforcement of safety regulations; the registration of aircraft and the issue of certificates of airworthiness; the licensing of members of air crews and of ground staffs; the provision, operation and maintenance of aeronautical communication systems and air navigation facilities; the authorization of sites for aerodromes; the design, operation and maintenance of aerodromes; the establishment and operation of air traffic control services; the specification of the requisite meteorological services; the approval of fares, freight rates and time tables; and the licensing of air service operations and co-operation with State Government transport licensing authorities.

An extensive system of air services operates in Western Australia for the transport of passengers, freight and mails. Perth has an international airport which is used by overseas services between Australia and the United Kingdom via Djakarta and Singapore and between Australia and South Africa via Cocos Island and Mauritius. Perth is also the western terminus of interstate flights connecting the capital cities of Australia and is the base for a comprehensive airline network serving many inland centres as well as coastal towns in the south, the north-west and the north of the State. From some of these towns regular services operate over many hundreds of miles of route to sheep and cattle stations and to native missions. Some stations and towns in the Kimberley are linked with Darwin and Alice Springs in the Northern Territory. (The air routes being flown in or through Western Australia at the 31st December, 1959 are shown on the map of the State preceding the index.) In addition to these regular services there are facilities for charter flights, and some operators undertake specific types of contracts such as the transport of beef carcasses from inland stations to the port of shipment, or work connected with the Royal Flying Doctor Service.

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 constituted in 1934 under the provisions of the State Transport Co-ordination Act of 1933. It consists of three members, of whom one must be a government official, one representative of rural industries, and one representative of city interests. The functions of the Board 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 on the granting of such licenses; and, in cases where it is considered desirable to do so, to call tenders and invite premiums in regard to the provision of transport.

The public vehicles licensed by the Board are omnibuses, commercial goods vehicles and aircraft. In the licensing of omnibuses the Board 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 page 328, is not subject to the State Transport Co-ordination Act and has assumed these powers in relation to its own services. All commercial goods vehicles are required to be licensed by the Board, except those which operate solely in the area within a radius of 20 miles from the Perth General Post Office or within a radius of 20 miles from the owner's place of business, 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 Board, in addition to those relating to regular services, charter flights and the Royal Flying Doctor Service, authorize such operations as aerial seeding and fertilizing and the spraying and dusting of crops, and the transport of personnel and equipment in connexion with aerial surveys and photography and geophysical and geological surveys.

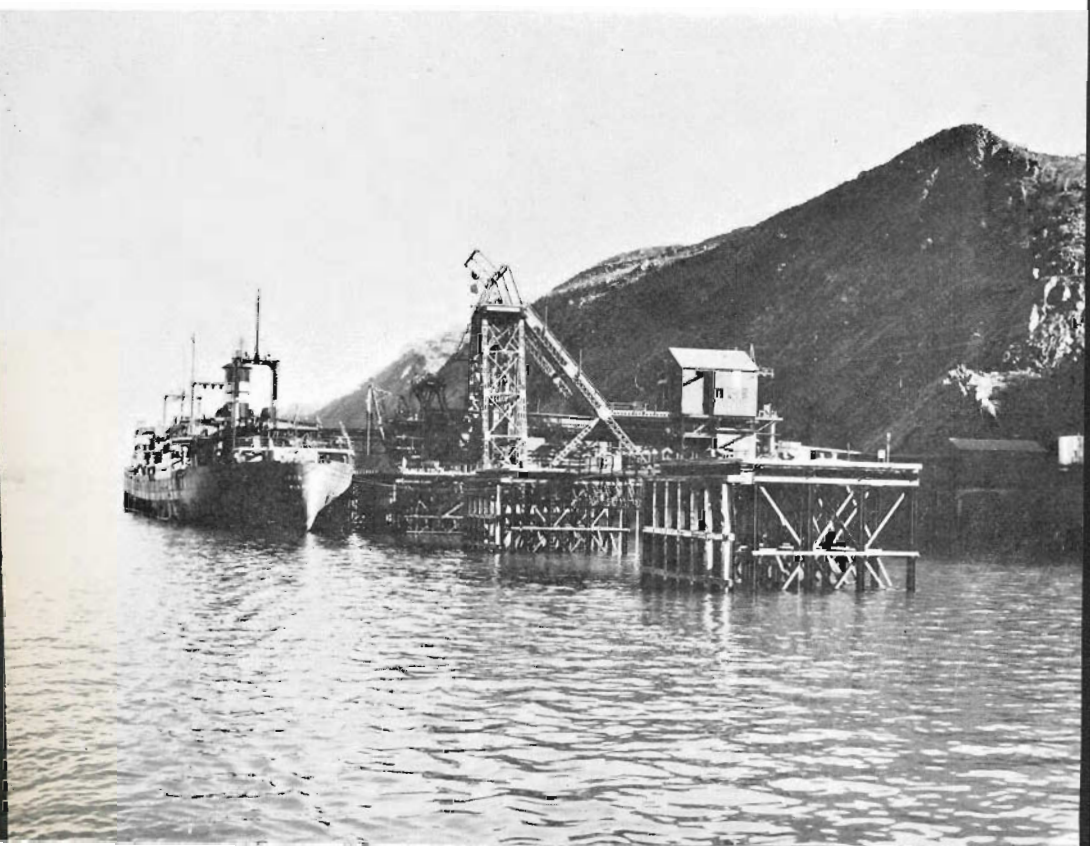
In respect to railways the Board may recommend the closure of lines or the partial suspension of services where it considers that a district is, or could be, better served by road or air transport. The Board, at the direction of the appropriate Minister, may then call tenders for the provision of transport 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 Board relating to the service to be provided and the period during which it shall operate. In some areas affected by the suspension of rail services in 1957, as described on page 320, alternative transport was arranged by this means or by the Board's exempting certain areas from the licensing provisions of the State Transport Co-ordination Act, while in other cases the Western Australian Government Railways Road Services were extended to include the particular area.

The financial transactions of the Board 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 premiums, as well as amounts received from the Treasury for payment by the Board 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 Municipal Councils and Road Boards for the maintenance and improvement of roads used by vehicles licensed by the Board, 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 part of the State north of 26°S. latitude and on air travel by students normally resident in that area.



Above—Facilities for shipment of iron ore at Cockatoo Island in Yampi Sound

Below—Ship loading iron ore at Cockatoo Island



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, or receiving allowances from, the Postmaster-General's Department in Western Australia, and the number of post offices throughout the State at the 30th June of each of the years from 1954 to 1958. "Non-official" post offices are those conducted by persons who are not full-time employees of the Department, but are paid an allowance for their services. These offices are situated mainly in country areas and are usually established at retail stores or other places of business. "Telephone offices" are those at which only telephone or telegraph business is transacted.

POSTMASTER-GENERAL'S DEPARTMENT—EMPLOYMENT AND POST OFFICES WESTERN AUSTRALIA

Particulars	At 30th June :				
	1954	1955	1956	1957	1958
Employment—					
Permanent Employees	3,213	3,346	3,555	3,945	4,233
Temporary Employees	37	53	47	56	50
Exempt Employees	1,330	1,482	1,515	1,362	1,283
Non-official Postmasters and Staffs	521	520	516	519	523
Telephone Office (†) Keepers	347	349	351	352	340
Mail Contractors (a)	292	284	291	279	289
Part-time Employees	86	91	86	90	96
Total	5,826	6,125	6,361	6,603	6,814
Post Offices—					
Official	151	150	151	151	150
Non-official	488	488	484	487	486
Telephone Offices (†)	353	352	357	352	344
Total	992	990	992	990	980

(†) Offices at which telephone and telegraph business only is conducted.

(a) Including drivers.

Figures relating to the revenue and expenditure of the Department in Western Australia during each of the financial years from 1953–54 to 1957–58 are given in the following table. They represent the amounts actually collected or paid 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 (a)
WESTERN AUSTRALIA
 (£'000)

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
REVENUE (a)					
Postage	1,499	1,588	1,664	1,821	1,902
Money Order Commission and Poundage on Postal Notes	46	49	56	52	58
Private Boxes and Bags	13	14	15	20	20
Miscellaneous	160	145	166	155	157
Total—Postal Revenue	1,718	1,796	1,901	2,048	2,137
Telegraphs	377	452	473	546	581
Telephones	2,086	2,296	2,541	2,802	3,124
GRAND TOTAL	4,181	4,544	4,915	5,396	5,842
EXPENDITURE (a)					
Expenditure from Ordinary Votes—					
Salaries and Payments in the Nature of Salary	1,998	2,069	2,318	2,440	2,579
General Expenses	182	213	236	301	291
Stores and Material	108	113	120	144	173
Mail Services	220	225	275	243	251
Engineering Services (other than Capital Works)	1,549	1,612	1,926	2,105	2,267
Total	4,057	4,232	4,875	5,233	5,561
Rent, Repairs and Maintenance	74	68	73	56	67
Proportion of Audit Expenses	2	2	2	3	3
Capital Works and Services—					
Telegraph and Telephone	1,420	1,385	1,567	1,920	2,230
New Buildings, etc., Fittings and Furniture	320	240	405	192	250
GRAND TOTAL	5,873	5,927	6,922	7,404	8,111

(a) The figures shown as Revenue represent revenue actually collected during the year, and those shown as Expenditure, actual payments made, as recorded for Treasury purposes.

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 result of the operations throughout Australia of each branch, after providing for working expenses (including superannuation, pensions and depreciation) and interest charges including exchange, are shown in the following table.

POSTMASTER-GENERAL'S DEPARTMENT—PROFIT OR LOSS (†) OF BRANCHES
AUSTRALIA
 (£'000)

Branch	Year ended 30th June :				
	1954	1955	1956	1957	1958
Postal	— 1,849	— 2,254	— 2,402	— 1,526	— 1,954
Telegraph	— 1,219	— 800	— 1,202	— 638	— 330
Telephone	3,221	2,905	3,179	5,281	6,294
All Branches	153	— 149	— 425	3,117	4,010

(†) Minus sign (—) denotes loss.

Posts

In the following table, postal matter handled in Western Australia during each year from 1953–54 to 1957–58 is dissected according to the type of article dealt with, and whether received from overseas or posted for delivery in Australia or to an overseas destination.

POSTAL ARTICLES HANDLED (thousands)

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
Posted for Delivery within Australia—					
Letters and Post Cards	85,289	88,130	90,928	89,960	97,500
Newspapers and Packets	9,668	9,740	9,734	9,945	8,839
Parcels (a)	1,083	1,144	1,179	1,127	1,129
Registered Articles (b)	829	932	908	833	707
Posted for Delivery Overseas—					
Letters and Post Cards	3,967	4,887	5,315	5,351	5,427
Newspapers and Packets	1,359	1,487	1,544	1,281	1,411
Parcels (a)	50	36	36	30	31
Registered Articles (b)	68	59	62	60	56
Received from Overseas—					
Letters and Post Cards	2,802	3,487	3,786	3,486	3,434
Newspapers and Packets	4,737	4,929	5,413	5,946	5,910
Parcels (a)	47	48	48	44	45
Registered Articles (b)	63	65	60	52	56

(a) Includes registered, cash on delivery and duty parcels.

(b) Excludes registered parcels ; see note (a).

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 on page 340.

The following table relates to telegraph and telephone services in Western Australia in each financial year from 1953-54 to 1957-58. It shows the numbers of telegraph offices and of telephone exchanges and lines and instruments connected at the 30th June of each year. The volume of telegraph traffic handled and the number of telephone calls made, classified according to the type of call, are also shown.

TELEGRAPHS AND TELEPHONES

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958

TELEGRAPHS

Number of—					
Offices (a)	998	988	994	1,002	978
Telegrams and Cables—					
Inland—Dispatched	2,209,821	2,119,251	2,099,773	1,914,988	1,826,947
Oversea—Dispatched	81,046	72,298	74,191	71,391	75,755
Received	67,728	71,160	74,283	71,744	68,531
Total	148,774	143,458	148,474	143,135	144,286

TELEPHONES

Number of—					
Exchanges (a)	743	747	756	764	767
Lines Connected (a)	59,704	64,588	68,480	72,893	78,051
Instruments Connected (a)—					
Subscribers'	80,052	86,973	92,544	98,688	105,350
Public Telephones	1,248	1,267	1,294	1,363	1,448
Other	1,554	1,658	1,848	2,078	2,195
Paid Local Calls—	'000	'000	'000	'000	'000
Subscribers'	51,266	57,874	62,592	65,241	69,814
From Public Telephones	7,124	7,564	7,361	6,707	6,967
Trunk Line Calls	4,670	5,099	5,614	6,101	6,638

(a) At 30th June.

At the 30th June, 1958, the single wire mileage of telegraph and telephone cables in Western Australia was 471,702. The duct mileage of conduits, which includes only ducts and conduits of an internal diameter of 2 inches or over, was 835. The single wire mileage of aerial wires was 113,529 and the mileage of pole routes was 15,579.

RADIO COMMUNICATION

The Overseas Telecommunications Commission (Australia) was established in 1946 under the provisions of the Overseas Telecommunications Act (Commonwealth) of 1946.

The Commission participates with other countries of the British Commonwealth in the 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 which, on the 31st March, 1958, included 145,000 nautical miles of submarine cable, 98 cable stations and more than 120 radio transmitting and receiving stations.

The Commission operates telegraph services with overseas countries, traffic being routed over cable or radio circuits, or a combination of them, according to circumstances. It also conducts radio-telegraph services with ships at sea and with aircraft in flight. Radio-telephone circuits are provided by the Commission for operation, by the Postmaster-General's Department, of services with overseas countries and with ships at sea. In addition, a coastal radio service is controlled by the Commission.

The licensing of civil radio-communication 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 on page 335, provides general telegraph facilities in remote areas through its extensive radio network.

The numbers of each type of radio-communication station authorized to operate in Western Australia at the 30th June, 1958 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.

RADIO-COMMUNICATION STATIONS (†) AUTHORIZED—30th JUNE, 1958

Type of Station	Number	Type of Station	Number
TRANSMITTING AND RECEIVING		TRANSMITTING AND RECEIVING— <i>contd.</i>	
Fixed Stations—		Mobile Stations—	
Aeronautical	15	Aeronautical	(†)
Services with Other Countries	9	Land Mobile Services	1,041
Outposts	285	Harbour Mobile Services	47
Other	46	Outpost	(†)
Land Stations—		Ship	(†)
Aeronautical	18	Amateur	236
Base Stations—			
Land Mobile Services	90	TOTAL—TRANSMITTING AND RECEIVING	1,841
Harbour Mobile Services	27	RECEIVING ONLY (Fixed)	35
Coast	12		
Special Experimental	15	GRAND TOTAL (†)	1,876

(†) See letterpress immediately following table.

At the 30th June, 1958, there were 27,305 radio-communication stations authorized throughout Australia. This total includes 2,798 mobile stations which cannot be classified according to States, comprising 389 aeronautical, 715 outpost and 1,694 ship stations.

At the 31st March, 1958, Western Australian coastal radio stations at Perth, Broome, Esperance and Geraldton were operated by the Overseas Telecommunications Commission, and at Wyndham by the Department of Civil Aviation as agent for the Commission.

The Commission's 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, commercial communications with ships at sea and, by radio-telephone,

message communication with small vessels. In addition, coastal radio stations exchange radio-telegrams with inland and island outpost stations.

The following table relates to traffic handled by coastal radio stations in Western Australia during each of the years 1956-57 and 1957-58.

COASTAL RADIO SERVICE TRAFFIC

Station	Paid Traffic		Free Traffic		Meteorological Traffic		Total	
	Messages	Words	Messages	Words	Messages	Words	Messages	Words
YEAR ENDED 31st MARCH, 1957								
Perth	19,665	400,379	1,906	47,259	15,194	645,765	36,765	1,093,403
Broome	6,949	127,099	750	13,825	7,295	168,387	14,994	309,311
Esperance	4,741	74,560	119	2,274	2,250	38,552	7,110	115,386
Geraldton	2,472	35,813	208	3,840	1,594	33,271	4,274	72,924
Wyndham	73	1,143	....	....	2	17	75	1,160
All Stations	33,900	638,994	2,983	67,198	26,335	885,992	63,218	1,592,184
YEAR ENDED 31st MARCH, 1958								
Perth	21,019	483,260	2,173	39,451	18,332	685,494	41,524	1,208,295
Broome	7,731	143,766	219	7,242	6,330	153,595	14,280	304,603
Esperance	4,191	64,896	153	2,703	1,882	37,764	6,226	105,363
Geraldton	1,980	26,098	260	3,869	1,374	27,832	3,614	57,799
Wyndham	137	1,869	....	....	....	....	137	1,869
All Stations	35,058	719,889	2,805	53,355	27,918	904,685	65,781	1,677,929

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 1942-1956, 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 and Television Licence Fees Act 1956.

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 1942-1956, 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.

Television services in Western Australia are provided by one national station and one commercial station, both of which transmit from Perth. The commercial station, TVW (Channel 7), began full-scale

transmission on the 16th October, 1959 and the national station, ABW (Channel 2), on the 7th May, 1960.

The following list shows the call sign, the location, the frequency and the aerial power of each of the broadcasting stations operating in Western Australia at the 30th June, 1958.

BROADCASTING STATIONS AT 30th JUNE, 1958

NATIONAL STATIONS				COMMERCIAL STATIONS			
Call Sign	Location	Frequency (K/cs.)	Aerial Power (Watts)	Call Sign	Location	Frequency (K/cs.)	Aerial Power (Watts)
Medium Wave Services				Medium Wave Services			
6WF	Perth	690	5,000	6IX	Perth	1,080	2,000
6WN	"	810	10,000	6KY	"	1,210	2,000
6AL	Albany	650	400	6PM	"	1,000	2,000
6GF	Kalgoorlie	720	2,000	6PR	"	880	2,000
6GN	Geraldton	830	2,000	6AM	Northam	980	2,000
6NM	Northam	600	200	6BY	Bridgetown	900	2,000
6WA	Wagin	560	50,000	6CI	Collie	1,130	2,000
Short Wave Services				6GE	Geraldton	1,010	2,000
				6KG	Kalgoorlie	860	2,000
				6MD	Merredin	1,100	2,000
				6NA	Narrogin	920	2,000
				6TZ	Bunbury	960	2,000
VLW	Perth	(a)	2,000	6VA	Albany	780	2,000
VLX	"	(a)	10,000	6WB	Katanning	1,070	2,000

(a) The frequencies on which these stations transmit are varied as required to obtain optimum results.

The following table gives particulars of broadcast licences in force in Western Australia at the 30th June of each of the years from 1954 to 1958. The revenue received from broadcast listeners' licences in the State during each financial year from 1953-54 to 1957-58 is also shown. Licences are granted to certain classes of pensioners at a reduced fee and are issued free of charge to blind persons and to schools.

BROADCAST LICENCES

Particulars	Year ended 30th June :				
	1954	1955	1956	1957	1958
Broadcasting Licences (a)—					
National Stations	7	7	9	9	9
Commercial Stations	13	13	14	14	14
Total	20	20	23	23	23
Broadcast Listeners' Licences (a)—					
Ordinary	136,953	137,935	140,212	139,391	142,271
Pensioners'	10,654	11,707	12,632	15,155	16,648
Blind Persons'	345	320	373	579	336
Schools'	240	237	228	241	296
Total	148,192	150,199	153,445	155,166	159,551
Revenue from Broadcast Listeners' Licences £	278,569	281,078	285,081	353,304	398,214

(a) Number in force at 30th June.

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.

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 work force 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, though usually working, were not actively engaged at the time of the census on account of sickness, accident or industrial dispute, were unable to secure employment, were temporarily laid off or inactive for any other reason.

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 and industry. For the purpose of this Chapter, only a selection of the tables relating to industry, in condensed form, 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 1954 the proportion stood at 62 per cent.

In 1901 there were 13,068 females in the work force representing 18·34 per cent. of the female population. Although this proportion had declined to 17·25 per cent. at the 30th June, 1954, each census since 1901 has shown a large increase in the number of economically active females until in 1954 a total of 53,360, or more than four times the female work force of 1901, were found to be so engaged. The number of males in the work force had increased during the same period by 141 per cent. from 85,077 to 205,041.

In the following table the numbers and proportions of males, females and persons in the work force are shown for each census from 1901 to 1954.

A noteworthy feature of the table is the decrease between 1911 and 1921 in the numbers and proportions of both males and females employing labour and the accompanying increase in the self-employed group. Among the males, the greatest variation occurred in primary industry (including mining), which

accounted for one-half of the decrease in the number of employers and more than three-fifths of the increase in the self-employed. It may be assumed that the increase in the number of "one-man" enterprises is accounted for largely by the settlement of ex-servicemen on the land and their establishment as proprietors in business and other ventures.

WORK FORCE—NUMBERS AND PROPORTIONS OF POPULATION

(Exclusive of full-blood aboriginals)

MALES

Census Year	In Work Force						Total in Work Force	Not in Work Force	Total Male Population
	At Work					Not at Work			
	Em- ployers	Self- employed	Employees (on wage or salary)	Helpers (not on wage or salary)	Total				
Number									
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

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

FEMALES

Census Year	In Work Force						Not in Work Force	Total Female Population	
	At Work					Not at Work			Total in Work Force
	Em- ployers	Self- employed	Employees (on wage or salary)	Helpers (not on wage or salary)	Total				
Number									
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	46,201	798	52,619	741	53,360	256,053	309,413

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

PERSONS

Census Year	In Work Force							Not in Work Force	Total Population
	At Work					Not at Work	Total in Work Force		
	Em- ployers	Self- employed	Employees (on wage or salary)	Helpers (not on wage or salary)	Total				
Number									
1901	8,443	12,136	71,021	2,871	94,471	3,674	98,145	85,979	184,124
1911	14,738	14,687	96,461	3,058	128,944	4,309	133,253	148,861	282,114
1921	9,317	23,445	96,879	1,498	131,139	9,157	140,296	192,436	332,732
1933	17,168	28,766	113,288	2,940	162,162	25,474	187,636	251,216	438,852
1947	15,583	26,955	155,287	1,941	199,766	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

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

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 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, Agriculture and Mixed Farming. The table is an abridged form of a more detailed tabulation which appears in an appendix to Part I, *Population and Vital Statistics*, of the *Statistical Register of Western Australia* for 1954-55.

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 Municipalities and Road Boards.

POPULATION CLASSIFIED ACCORDING TO INDUSTRY
CENSUS 30th JUNE, 1954
(Exclusive of full-blood aboriginals)

Industry	Metropolitan Statistical Division				Rest of State †				Whole State			
	Males	Females	Persons		Males	Females	Persons		Males	Females	Persons	
Primary Production—												
Fishing	352	2	354		1,068	15	1,083		1,420	17	1,437	
Hunting and Trapping	6	.....	6		125	2	127		131	2	133	
Agriculture and Mixed Farming	1,490	125	1,615		21,791	1,220	23,011		23,281	1,345	24,626	
Dairying	346	29	375		6,197	551	6,748		6,543	585	7,128	
Sheep Rearing	128	7	135		4,746	388	5,134		4,874	395	5,269	
Poultry Farming	254	40	303		436	81	517		600	130	730	
Forestry	96	2	98		909	5	914		1,005	7	1,012	
Other	133	6	139		928	16	944		1,061	22	1,083	
Total—Primary Production	2,805	220	3,025		36,200	2,278	38,478		39,005	2,498	41,503	
Mining and Quarrying—												
Mining (including Open-Cut Mining)	167	21	188		8,670	106	8,776		8,837	127	8,964	
Quarrying	152	12	164		222	2	224		374	14	388	
Total—Mining and Quarrying	319	33	352		8,892	108	9,000		9,211	141	9,352	
Manufacturing—												
Cement, Bricks, Glass and Stone	2,635	207	2,842		953	17	970		3,638	224	3,862	
Foundry, Engineering and Metal-working	7,546	626	8,172		1,469	65	1,534		9,015	691	9,706	
Manufacture, Assembly and Repair of Ships, Vehicles, Parts and Accessories	5,534	133	5,667		1,857	25	1,882		7,391	158	7,549	
Clothing and Knitted Goods (including Needleworking)	508	2,265	2,773		96	322	418		604	2,587	3,191	
Boot and Shoe Making and Repairing (other than Rubber)	596	273	869		116	53	169		712	326	1,038	
Food, Drink and Tobacco	3,840	1,037	4,877		1,988	345	2,333		5,638	1,382	7,020	
Sawmilling and Manufacture of Wood Products	2,130	51	2,181		4,498	41	4,537		6,636	92	6,728	
Furniture and Fittings (other than Metal), Bedding and Furnishings	1,680	188	1,868		198	15	213		1,878	203	2,081	
Paper, Printing, Book-binding and Photography	2,178	782	2,960		361	93	454		2,539	875	3,414	
Chemicals, Dyes, Explosives, Paints and Non-Mineral Oils	1,203	245	1,448		417	20	437		1,620	265	1,885	
Other Manufacture (including inadequately defined)	1,773	489	2,262		474	167	641		2,247	656	2,903	
Total—Manufacturing	29,473	6,296	35,769		12,425	1,163	13,588		41,898	7,459	49,357	
Electricity, Gas, Water and Sanitary Services (Production, Supply and Maintenance)—												
Gas and Electricity	1,641	115	1,756		639	21	660		2,280	136	2,416	
Water Supply, Sewerage, etc.	973	68	1,041		703	9	712		1,676	77	1,753	
Total—Electricity, Gas, Water and Sanitary Services	2,614	183	2,797		1,342	30	1,372		3,956	213	4,169	
Building and Construction—												
Construction and Repair of Buildings	11,962	168	12,130		4,888	33	4,921		16,850	201	17,051	
Construction Works and Maintenance (other than Buildings)	4,477	88	4,565		6,593	72	6,665		11,070	160	11,230	
Total—Building and Construction	16,439	256	16,695		11,481	105	11,586		27,920	361	28,281	

The total of 381,370 persons not in the work force comprised 82,963 children not attending school, 117,323 full-time students and children attending school, 7,412 persons of independent means, 130,880 engaged in home duties, 36,316 pensioners and annuitants, 4,479 inmates of institutions and 1,997 others not engaged in industry.

At the Census of 1848, almost one-third of the male population was recorded as being engaged in agricultural and pastoral pursuits. Although no specific data as to mining activity are available, it may be assumed that a small number were engaged in mining operations. In 1901, the proportion of males engaged in agriculture, grazing and mining was 26.35 per cent. and in 1954, 13.71 per cent. At the Census of 1954, the industries Primary Production and Mining and Quarrying together accounted for 51,217 persons, or 19.82 per cent. of the total work force. Manufacturing, with 49,733 persons (19.25 per cent.) and Commerce with 43,883 persons (16.98 per cent.) were next in order of importance.

INDUSTRY OF THE POPULATION—NUMBERS AND PROPORTIONAL DISTRIBUTION

CENSUS 30th JUNE, 1954

(Exclusive of full-blood aborigines)

Industry Group	Males			Females			Persons		
	Number†	Proportion of Male Work Force	Proportion of Male Population	Number†	Proportion of Female Work Force	Proportion of Female Population	Number†	Proportion of Total Work Force	Proportion of Total Population
		per cent.	per cent.		per cent.	per cent.		per cent.	per cent.
Primary Production	39,268	19.15	11.89	2,524	4.73	0.82	41,792	16.17	6.53
Mining and Quarrying	9,284	4.53	2.81	141	0.26	0.04	9,425	3.65	1.47
Manufacturing	42,206	20.58	12.78	7,527	14.11	2.43	49,733	19.25	7.78
Electricity, Gas, Water and Sanitary Services	3,985	1.94	1.21	215	0.40	0.07	4,200	1.63	0.66
Building and Construction	28,125	13.72	8.51	363	0.68	0.12	28,488	11.03	4.45
Transport and Storage	19,028	9.28	5.76	922	1.73	0.30	19,950	7.72	3.12
Communication	4,111	2.01	1.24	898	1.68	0.29	5,009	1.94	0.78
Finance and Property ; Business Services (n.e.i.)	4,500	2.19	1.36	2,101	3.94	0.68	6,601	2.55	1.03
Commerce	28,883	14.09	8.74	15,000	28.11	4.85	43,883	16.98	6.86
Public Authority (n.e.i.) and Professional	18,848	9.19	5.71	14,053	26.34	4.54	32,901	12.73	5.14
Amusement, Hotels, Cafes, Personal Service, etc.	6,802	3.32	2.06	9,615	18.02	3.11	16,417	6.35	2.57
Other Industries	1	0.00	0.00	1	0.00	0.00	2	0.00	0.00
Total in Work Force ...	205,041	100.00	62.07	53,360	100.00	17.25	258,401	100.00	40.39
Not in the Work Force ...	125,317	....	37.93	256,053	....	82.75	381,370	....	59.61
TOTAL POPULATION	330,358	....	100.00	309,413	....	100.00	639,771	....	100.00

† After distribution of numbers recorded in indefinite groups.

The table on pages 352 and 353 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 Statistical Divisions are shown on the map of the State appearing at the back of the Year Book and are listed on page 398.) The migratory population comprises those who, at midnight between the 30th June and the 1st July, 1954, were on board ships or were travelling on long-distance trains or aircraft and had not been enumerated elsewhere. Of the total of 1,907 migratory persons in the work force, 1,303 gave their industry as Shipping, 55 were engaged in Rail and Air Transport, and 215 were naval personnel, most of them being on board war vessels in Western Australian waters.

Classification of the components of the work force according to industry, as in the following table, furnishes much useful information. It is interesting to note, for example, the preponderance of employers and the self-employed in Primary Production. Of the 41,792 persons engaged in this industry almost 57 per cent. were in one or other of these categories.

WORK FORCE CLASSIFIED ACCORDING TO INDUSTRY GROUPS

CENSUS 30th JUNE, 1954

(Exclusive of full-blood aboriginals)

Industry Group	At Work					Not at Work	Total in Work Force
	Em- ployer	Self- employed	Employee (on Wage or Salary)	Helper (not on Wage or Salary)	Total		
MALES							
Primary Production	6,104	16,202	15,357	1,265	38,928	340	39,268
Mining and Quarrying	80	450	8,623	10	9,163	121	9,284
Manufacturing	2,066	1,364	38,292	25	41,747	459	42,206
Electricity, Gas, Water and Sanitary Services	21	34	3,903	2	3,960	25	3,985
Building and Construction	2,075	2,255	23,414	22	27,766	359	28,125
Transport and Storage	537	1,503	16,798	12	18,850	178	19,028
Communication .....	.....	11	4,080	.....	4,091	20	4,111
Finance and Property ; Business Services (n.e.i.)	288	163	4,021	2	4,474	26	4,500
Commerce	3,671	2,835	22,026	74	28,606	277	28,883
Public Authority (n.e.i.) and Professional	903	447	17,309	56	18,715	133	18,848
Amusement, Hotels, Cafes, Personal Service, etc.	1,126	901	4,589	47	6,663	139	6,802
Other Industries .....	.....	.....	1	.....	1	.....	1
Total Males in Work Force	16,871	26,165	158,413	1,515	202,964	2,077	205,041

FEMALES							
Primary Production	596	899	684	328	2,507	17	2,524
Mining and Quarrying .....	.....	2	138	1	141	.....	141
Manufacturing	152	187	7,064	24	7,427	100	7,527
Electricity, Gas, Water and Sanitary Services	2	.....	212	.....	214	1	215
Building and Construction	10	6	341	5	362	1	363
Transport and Storage	37	17	847	8	909	13	922
Communication	3	6	873	9	891	7	898
Finance and Property ; Business Services (n.e.i.)	22	20	2,046	3	2,091	10	2,101
Commerce	817	774	13,080	136	14,807	193	15,000
Public Authority (n.e.i.) and Professional	84	181	13,483	140	13,888	165	14,053
Amusement, Hotels, Cafes, Personal Service, etc.	523	1,281	7,433	144	9,381	234	9,615
Other Industries .....	.....	1	.....	.....	1	.....	1
Total Females in Work Force	2,246	3,374	46,201	798	52,619	741	53,360

PERSONS							
Primary Production	6,700	17,101	16,041	1,593	41,435	357	41,792
Mining and Quarrying	80	452	8,761	11	9,304	121	9,425
Manufacturing	2,218	1,551	45,356	49	49,174	559	49,733
Electricity, Gas, Water and Sanitary Services	23	34	4,115	2	4,174	26	4,200
Building and Construction	2,085	2,261	23,755	27	28,128	360	28,488
Transport and Storage	574	1,520	17,645	20	19,759	191	19,950
Communication	3	17	4,953	9	4,982	27	5,009
Finance and Property ; Business Services (n.e.i.)	310	183	6,067	5	6,565	36	6,601
Commerce	4,488	3,609	35,106	210	43,413	470	43,883
Public Authority (n.e.i.) and Professional	987	628	30,792	196	32,603	298	32,901
Amusement, Hotels, Cafes, Personal Service, etc.	1,649	2,182	12,022	191	16,044	373	16,417
Other Industries .....	.....	1	1	.....	2	.....	2
Total in Work Force	19,117	29,539	204,614	2,313	255,583	2,818	258,401

Estimates of Employment

In addition to employment data provided by the census and similar enumerations, 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 female private domestics. These estimates are derived from three main sources, (i) monthly data relating to persons employed in factories as shown by the annual Census of Factories, (ii) monthly returns furnished by governmental authorities, and (iii) monthly Pay-roll Tax returns lodged by all employers paying more than £200 per week in wages, other than those specifically exempted under the Pay-roll Tax Assessment Act 1941-1957. The data thus derived are supplemented from other sources which provide information relating to employees not included in these three main categories.

The monthly estimates of employment according to industry are compiled on an establishment or enterprise basis. They do not therefore correspond exactly to the relevant industry tabulations of the Population Census, which are based on personal information supplied by individual respondents in their census schedules.

The purpose of the estimates is to measure, as nearly as possible with the available data, current monthly *trends* in employment in the defined field. The industry groups are not identical in coverage with those used in the census tabulations.

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. They include persons employed part-time.

The table on page 351 contains estimates of the numbers of wage and salary earners in civilian employment, excluding employees in rural industry (comprising agriculture, grazing and dairying) and female private domestics, for June in each of the years 1949 and from 1954 to 1958. It shows employment in each of the main industry groups and a division of total employment between employees of government authorities and private employers. The figures for the several industry groups include both private employees and government employees, where they occur.

The numbers in the group *Manufacturing, etc.* represent actual employment in factories as recorded at successive annual Censuses of Factories (*cf.* table on page 273) together with estimates of the number of employees in industrial establishments outside the scope of the definition of a factory (see page 268) as well as persons employed by factory proprietors but engaged in selling and distribution.

The figures shown for *Other Industries* comprise employment in the industries Law and Order; Religion and Social Welfare; Health; Education; Other Professional Services; Amusement, Sport and Recreation; and Personal Service, including Hotels, Restaurants, etc., but excluding females in private domestic service. In addition, female employees in Forestry, Fishing and Trapping have been included in *Other Industries*.

The numbers appearing as *Government* wage and salary earners comprise all employees in Western Australia of government authorities, whether Commonwealth, State, Local Government or Semi-Government. 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, migrant hostels, banks, post office, broadcasting, police, factories, electricity generation and supply, water conservation, 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 1949 and from 1954 to 1958.

GOVERNMENT AUTHORITIES—CIVILIAN EMPLOYEES IN WESTERN AUSTRALIA

Date	Commonwealth			State and Semi-Government			Local Government			Total		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
June: 1949	8,544	2,433	10,977	27,751	4,270	32,021	2,907	251	3,158	39,202	6,954	46,156
1954	8,472	2,063	10,535	34,689	5,825	40,514	3,086	292	3,378	46,247	8,180	54,427
1955	8,979	2,157	11,136	37,080	6,152	43,232	3,363	315	3,678	49,422	8,624	58,046
1956	8,994	2,197	11,191	37,804	6,519	44,323	3,499	323	3,822	50,297	9,039	59,336
1957	9,082	2,197	11,279	37,822	6,790	44,612	3,392	328	3,720	50,296	9,315	59,611
1958	9,340	2,233	11,573	39,451	7,173	46,624	3,607	356	3,963	52,398	9,762	62,160

WAGE AND SALARY EARNERS IN CIVILIAN EMPLOYMENT—INDUSTRY GROUPS

Excluding Wage Earners in Rural Industry and Female Private Domestic

(Personnel in Defence Forces and National Service Trainees in Camp are also excluded)
(thousands)

Industry Group	June, 1949	June, 1954	June, 1955	June, 1956	June, 1957	June, 1958
MALES						
Forestry, Fishing and Trapping	1.7	2.3	2.3	2.5	2.5	2.3
Mining and Quarrying	8.0	8.5	8.4	7.9	7.7	7.4
Manufacturing, etc. (a)	32.5	40.8	43.2	42.5	42.0	41.6
Building and Construction	12.5	18.7	16.0	14.9	14.3	14.9
Shipping and Stevedoring	3.1	4.2	5.0	4.9	5.2	5.3
Rail and Air Transport	8.7	10.5	10.9	11.1	10.8	10.5
Road Transport	4.4	4.7	4.7	4.7	4.5	4.7
Communication	3.5	4.0	4.2	4.4	4.6	4.8
Property and Finance	3.4	3.7	3.8	3.9	4.0	4.1
Retail Trade	8.8	9.6	9.7	9.5	9.6	9.7
Wholesale and Other Commerce	10.5	13.4	14.2	14.7	13.5	13.4
Public Authority Activity (n.e.i.)	6.2	7.0	7.3	7.4	7.4	7.6
Other Industries (a)	11.2	11.7	11.8	12.1	12.3	12.3
Total	114.5	139.1	141.5	140.5	138.4	138.6
Government (a)	39.2	46.2	49.4	50.3	50.3	52.4
Private	75.3	92.9	92.1	90.2	88.1	86.2
Total	114.5	139.1	141.5	140.5	138.4	138.6

FEMALES						
Mining and Quarrying	0.1	0.1	0.2	0.2	0.2	0.2
Manufacturing, etc. (a)	7.5	8.0	7.5	7.4	7.1	7.1
Building and Construction	0.2	0.4	0.3	0.3	0.3	0.3
Shipping and Stevedoring	0.1	0.2	0.2	0.2	0.2	0.2
Rail and Air Transport	0.4	0.4	0.4	0.4	0.4	0.4
Road Transport	0.4	0.4	0.4	0.3	0.3	0.3
Communication	0.9	0.8	0.9	1.0	1.0	1.0
Property and Finance	1.5	1.9	2.1	2.3	2.3	2.4
Retail Trade	8.3	9.7	10.1	10.1	10.2	10.6
Wholesale and Other Commerce	2.6	3.3	3.6	3.6	3.4	3.4
Public Authority Activity (n.e.i.)	1.9	2.0	2.0	2.0	2.0	2.0
Other Industries (a)	14.3	16.2	16.6	17.3	17.1	17.7
Total	38.2	43.4	44.3	45.1	44.5	45.6
Government (a)	7.0	8.2	8.6	9.0	9.3	9.8
Private	31.2	35.2	35.7	36.1	35.2	35.8
Total	38.2	43.4	44.3	45.1	44.5	45.6

PERSONS						
Forestry, Fishing and Trapping	1.7	2.3	2.3	2.5	2.5	2.3
Mining and Quarrying	8.1	8.6	8.6	8.1	7.9	7.6
Manufacturing, etc. (a)	40.0	48.8	50.7	49.9	49.1	48.7
Building and Construction	12.7	19.1	16.3	15.2	14.6	15.2
Shipping and Stevedoring	3.2	4.4	5.2	5.1	5.4	5.5
Rail and Air Transport	9.1	10.9	11.3	11.5	11.2	10.9
Road Transport	4.8	5.1	5.1	5.0	4.8	5.0
Communication	4.4	4.8	5.1	5.4	5.6	5.8
Property and Finance	4.9	5.6	5.9	6.2	6.3	6.5
Retail Trade	17.1	19.3	19.8	19.6	19.8	20.3
Wholesale and Other Commerce	13.1	16.7	17.8	18.3	16.9	16.8
Public Authority Activity (n.e.i.)	8.1	9.0	9.3	9.4	9.4	9.6
Other Industries (a)	25.5	27.9	28.4	29.4	29.4	30.0
Total	152.7	182.5	185.8	185.6	182.9	184.2
Government (a)	46.2	54.4	58.0	59.3	59.6	62.2
Private	106.5	128.1	127.8	126.3	123.3	122.0
Total	152.7	182.5	185.8	185.6	182.9	184.2

(a) See letterpress on page 350.

INDUSTRY OF THE POPULATION IN STATISTICAL DIVISIONS
CENSUS 30th JUNE, 1954
(Exclusive of full-blood aboriginals)

Statistical Division	Primary 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.f.) Personal Service, etc.	Other, Inadequately Described, and Not Stated	Total in Work Force	Not in Work Force	Grand Total
MALES														
Metropolitan ...	2,805	319	29,473	2,614	16,439	10,507	2,722	3,231	19,745	12,661	4,411	105,677	66,155	171,832
Swan ...	3,304	154	3,107	245	2,725	944	180	143	1,390	1,453	309	14,058	10,312	24,370
South-West ...	6,940	1,782	4,903	250	2,337	1,747	264	280	2,010	931	528	22,082	14,525	36,607
Southern Agricultural ...	5,818	4	1,035	81	1,672	671	176	208	1,314	691	265	12,018	7,122	19,140
Central Agricultural ...	9,647	75	1,655	371	1,992	1,541	303	284	1,854	1,092	455	19,431	11,071	30,502
Northern Agricultural	6,129	78	581	80	1,235	863	170	144	1,018	494	244	11,137	6,526	17,663
Eastern Goldfields ...	1,016	5,436	675	272	754	812	154	135	1,009	577	397	11,342	7,218	18,560
Central ...	814	639	26	22	192	145	30	12	91	95	41	2,111	819	2,930
North-West ...	1,410	110	51	9	176	101	28	16	92	123	31	2,167	584	2,751
Pilbara ...	505	480	18	4	123	117	25	3	50	84	23	1,438	357	1,795
Kimberley ...	583	123	321	6	241	104	27	9	66	248	30	1,781	522	2,303
Migratory (a) ...	34	11	53	2	34	1,341	3	3	34	260	19	1,799	106	1,905
TOTAL, WESTERN AUSTRALIA	39,005	9,211	41,898	3,956	27,920	18,893	4,082	4,468	28,673	18,709	6,753	205,041	125,317	330,358
FEMALES														
Metropolitan ...	2,920	33	6,296	183	256	708	350	1,776	10,439	9,790	5,598	35,961	140,854	176,815
Swan ...	254	2	396	3	50	66	54	84	727	650	329	2,645	19,387	22,032
South-West ...	461	7	213	10	20	17	143	51	1,039	840	896	3,743	23,203	31,946

PERSONS

Southern Agricultural ...	324	...	221	1	6	14	65	38	597	475	482	19	2,242	14,743	16,985
Central Agricultural ...	551	...	144	7	11	29	120	57	813	745	814	31	3,322	22,100	25,422
Northern Agricultural	326	1	56	4	7	13	79	23	468	483	547	36	2,043	12,382	14,405
Eastern Goldfields ...	64	70	90	5	4	31	39	39	614	600	512	36	2,104	13,914	16,018
Central ...	87	15	2	...	2	2	14	1	44	72	113	2	354	1,510	1,864
North-West ...	129	...	7	...	1	3	6	4	42	55	76	10	333	1,136	1,469
Pilbara ...	37	7	...	...	...	3	4	...	20	35	60	...	166	689	855
Kimberley ...	45	6	24	...	4	4	9	1	32	134	79	1	339	901	1,240
Migratory (a) ...	...	...	10	...	...	23	4	5	16	30	16	4	108	254	362
TOTAL, WESTERN AUSTRALIA ...	2,498	141	7,459	213	361	913	387	2,079	14,851	13,909	9,522	527	53,360	256,053	309,413
Metropolitan ...	3,025	352	35,769	2,797	16,695	11,215	3,072	5,007	30,184	22,451	10,009	1,062	141,638	207,009	348,647
Swan ...	3,558	156	3,503	248	2,775	1,010	234	227	2,117	2,103	638	134	16,703	29,699	40,402
South-West ...	7,401	1,789	5,116	200	2,357	1,764	407	331	3,049	1,771	1,424	156	25,825	42,728	68,563
Southern Agricultural ...	6,142	4	1,256	82	1,678	685	241	246	1,911	1,166	747	102	14,260	21,865	36,125
Central Agricultural ...	10,198	75	1,799	378	2,003	1,570	423	341	2,667	1,837	1,269	193	22,753	33,171	55,924
Northern Agricultural	6,455	79	637	84	1,242	876	249	167	1,486	977	791	137	13,180	18,888	32,068
Eastern Goldfields ...	1,080	5,506	765	277	758	843	193	174	1,623	1,177	909	141	13,446	21,132	34,578
Central ...	901	654	28	22	194	147	44	13	135	167	154	6	2,465	2,329	4,794
North-West ...	1,539	110	58	9	177	104	34	20	134	178	107	30	2,500	1,720	4,220
Pilbara ...	542	487	18	4	123	120	29	3	70	119	83	6	1,604	1,046	2,650
Kimberley ...	628	129	345	6	245	108	36	10	98	382	109	24	2,120	1,423	3,543
Migratory (a) ...	34	11	63	2	34	1,364	7	8	50	290	35	9	1,907	360	2,267
TOTAL, WESTERN AUSTRALIA ...	41,503	9,352	49,357	4,169	28,251	19,806	4,969	6,547	43,524	32,618	16,275	2,000	258,401	331,370	639,771

(a) Comprises persons (both passengers and crew) not enumerated elsewhere who, at midnight between the 30th June and the 1st July, 1954, were on board ships or were travelling on long-distance trains or aircraft.

Industry of the Work Force

CENSUS 30th JUNE, 1954
MALES AND FEMALES

MALES FEMALES

PRIMARY PRODUCTION

MINING AND QUARRYING

MANUFACTURING

ELECTRICITY, GAS, WATER AND
SANITARY SERVICES

BUILDING AND CONSTRUCTION

TRANSPORT, STORAGE AND
COMMUNICATION

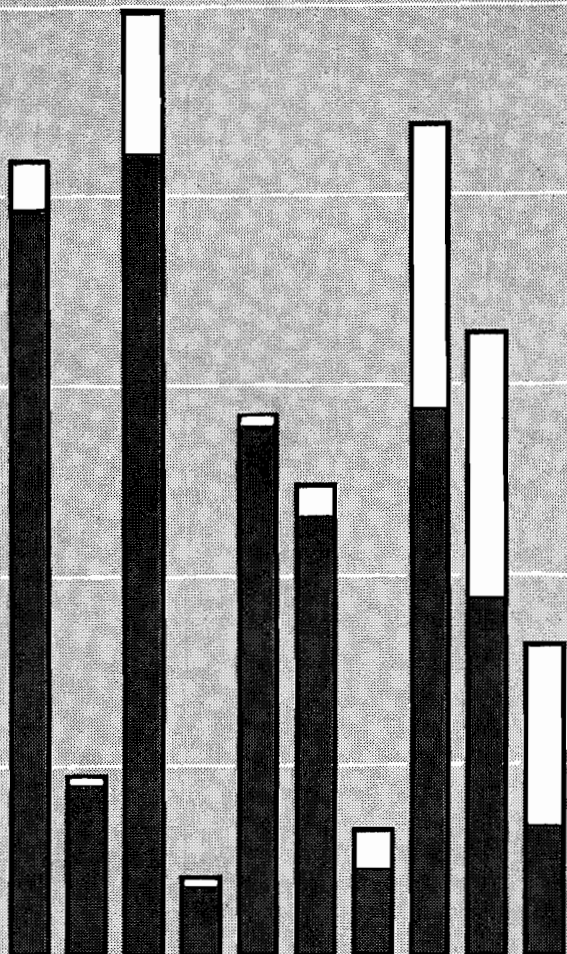
FINANCE AND PROPERTY;
BUSINESS SERVICES (N.E.I.)

COMMERCE

PUBLIC AUTHORITY (N.E.I.) AND
PROFESSIONAL

AMUSEMENT, HOTELS, CAFES, PERSONAL
SERVICE, ETC.

50,000
40,000
30,000
20,000
10,000



CHAPTER X—continued

PART 2—WAGES

THE BASIC WAGE

The concept of a "basic" or "living" wage occurs commonly in the determinations of wage-fixing authorities in Australia, although it may vary in definition. Originally the term was understood to mean the minimum or "basic" wage necessary to provide a reasonable standard of comfort for the average worker and his family. In later years, however, economic factors have been taken into account and, in determining specified minimum rates of wage, consideration has been given to the capacity of industry to pay those rates.

There are two tribunals, the Commonwealth Conciliation and Arbitration Commission and the State Court of Arbitration, which have authority to declare basic wage rates applicable in Western Australia.

By an amendment of 1949 to the Commonwealth Conciliation and Arbitration Act, the basic wage for an adult male worker is defined as "that wage, or that part of a wage, which is just and reasonable for an adult male, without regard to any circumstance pertaining to the work upon which, or the industry in which, he is employed." The Act contains a similar definition of a basic wage for females. Before the inclusion of this amendment, the Act empowered the Court to prescribe a "minimum rate of wage" but it neither defined, nor provided for the determination of, a specific "basic wage." In general terms, however, the basic wage was understood to be identifiable as the minimum wage, including "loadings," payable to an adult unskilled labourer. A "loading" may be defined as an addition to the "basic" wage as compensation for some peculiar condition of labour or environment or other circumstance, and not by way of "margin for skill."

The State Industrial Arbitration Act defines the basic wage as "a wage which the Court considers to be just and reasonable for the average worker to whom it applies." The Court must have regard to the needs of the worker to enable him to live in reasonable comfort. An amendment of 1950 requires that the Court shall take into consideration the economic capacity of industry but, in so doing, shall not reduce the basic wage below an amount which it deems necessary to maintain this reasonable standard of comfort.

The *Commonwealth Conciliation and Arbitration Commission* was established in 1956 by an amendment to the Conciliation and Arbitration Act which had the effect of allocating to the Commission the arbitral functions and to a Commonwealth Industrial Court the judicial functions formerly carried out by the Commonwealth Court of Conciliation and Arbitration. The Commission consists of a President, not less than two Deputy Presidents, a Senior Commissioner and not less than five Commissioners. The *Commonwealth Industrial Court* comprises a Chief Judge and not more than two other Judges.

The *State Court of Arbitration* consists of a President, who must be a person qualified to be appointed a Judge of the Supreme Court, a representative of the employers' organizations registered with the Court, and a representative of the employees' unions.

Commonwealth Basic Wage

The first determination of a wage standard by a Court in Australia was made in 1907, when Mr. Justice Higgins, President of the Commonwealth Court of Conciliation and Arbitration, fixed an amount of £2 2s. per week for Melbourne as reasonable to meet the needs of "a family of about five." This determination is commonly referred to as the "Harvester Judgment" from the fact that it related to an application by the proprietors of the Sunshine Harvester Works that the wage paid to their employees was "fair and reasonable."

The "Harvester" standard was adopted by the Court for incorporation in its awards and the rates remained virtually unchanged until 1913. In that year the Court began to have regard to retail price index numbers the first of which, the "A" series, covering food and groceries and rent of all houses, had recently been published by the Commonwealth Statistician. In general, the practice was to revise basic wage rates in direct proportion to variations in the retail price index. Until 1918 the Court, in computing "Harvester" equivalents, used the index numbers for the previous calendar year and, from 1918 to 1921, the figures for the next preceding four quarters.

During the period of application of this system, it was frequently contended that it failed to maintain the "Harvester" standard. Criticism became more general with the rise in prices towards the end of the first World War and led to the appointment in 1919 of a Royal Commission on the Basic Wage under the chairmanship of A. B. Piddington, K.C. The "Piddington Commission," as it came to be called, was required by its terms of reference to inquire into the actual cost of maintaining in a reasonable state of comfort a household comprising a man and his wife and three children under fourteen years of age, and also the means to be adopted for the automatic adjustment of the basic wage in order to maintain its purchasing power. The Commission presented its findings in two reports, the first of which was made in November, 1920, and the second in April, 1921. The recommendations in relation to a living wage were rejected by the Court as being so much in excess of existing wages as to cause doubt about the capacity of industry to pay such rates. The Commission's finding in regard to the automatic adjustment of the basic wage led to the creation of the "C" Series Index of Retail Prices, an index much more comprehensive in scope than the original "A" Series in that it includes 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. 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. was discarded and a fresh starting point selected. The new wage was largely founded upon a declaration of £4 4s. 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. in 1926 was £3 7s., 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. 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., for Adelaide, Perth and Hobart, 4s. and for the Six Capital Cities as a whole, 5s.

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. 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) of the new Six Capitals wage. This established the base, 1000 in the "C" Series index = £4 7s. in the wage. The immediate monetary effect was to increase by 7s. per week the "needs" wage in each of the capital cities with the exception of Hobart, where the increase was 6s. 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 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., the increased weighted average wage for the Six Capitals (made up of the "needs" portion £6 17s., plus a uniform prosperity loading of 5s., plus the additional £1 awarded by the Court). In this way, 1000 in the "C" Series index became equal to £5 3s. in the wage. In determining the new rate of payment, a uniform amount of £1 5s. was added to the existing "needs" basic wage, with the concurrent discontinuance of the prosperity loading as a separate entity. This had the effect of increasing the basic wage in Sydney, Melbourne and Brisbane by 19s., in Adelaide, Perth and Hobart by £1 1s., and for the Six Capital Cities as a whole by £1. 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, and that automatic quarterly adjustments be restored. In the course of the hearing the Attorney-General, in exercise of powers conferred by the Conciliation and Arbitration Act, intervened in the public interest on behalf of the Commonwealth and each of the State Governments was represented by counsel or by a State official. In its judgment, delivered on the 25th May, 1956, the Court refused the first of the unions' claims and rejected the request for the restoration of the quarterly adjustments, but granted an increase of 10s. per week in the adult male basic wage to apply from the beginning of the first pay-period commencing in June, 1956.

The next basic wage hearing commenced before the newly-constituted Commonwealth Conciliation and Arbitration Commission on the 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 in the basic wage was not included. Again the Commonwealth Government intervened in the public interest and representatives of the South Australian and Victorian State Governments appeared before the Commission. In its judgment on the 29th April, 1957, the Commission rejected the claims made by the unions and granted a uniform increase of 10s. per week in the adult male basic wage to apply from the beginning of the first pay-period commencing on or after the 15th May, 1957.

On the 18th February, 1958, the Commission began hearing an application by unions claiming that the basic wage be increased to the amount which it would have reached had the system of quarterly

COMMONWEALTH BASIC WAGE—VARIATIONS IN RATES FROM 1939

Date of Operation †	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Weighted Average Six Capital Cities
1939—	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
March	4 1	3 19	3 15	3 16	3 16	3 16	3 18
June	4 2	4 1	3 17	3 18	3 17	3 17	3 19
September	4 1		3 16				
December	4 2	4 " 0	"	3 17	"	"	"
1940—							
February	" 3	4 1	3 17	"	"	3 18	4 0
May	4 3	4 2	3 18	3 18	"	"	"
August	4 5	4 4	3 19	4 0	3 19	4 " 0	4 " 2
November	"	"	"	"	4 0	4 1	4 3
1941—							
February	4 8	4 6	4 2	4 2	4 1	4 3	4 5
May	"	4 7	4 3	4 3	4 2	4 4	4 6
August	4 " 9	"	"	"	4 4	4 5	"
November	"	4 " 8	4 " 4	4 " 4	4 5	"	4 " 7
1942—							
February	4 11	4 9	4 6	4 6	4 6	4 7	4 8
May	4 13	4 12	4 8	4 8	4 7	4 8	4 10
August	4 15	4 14	4 9	4 11	4 9	4 11	4 13
November	4 17	4 17	4 11	4 13	4 11	4 12	4 15
1943—							
February	4 18	4 18	"	"	4 12	4 14	4 16
May	"	"	4 12	"	"	"	"
August	5 " 0	4 19	4 14	4 14	4 14	4 15	4 18
November	4 19	4 18	4 13	"	"	"	4 17
1944—							
February	"	4 17	"	4 13	4 13	4 14	4 16
May	"	"	"	"	"	"	"
August	"	4 18	"	"	"	4 13	"
November	"	"	"	"	4 14	4 14	"
1945—							
February	"	"	"	"	4 13	"	"
May	4 18	"	"	"	"	4 13	"
August	"	"	"	"	4 14	"	"
November	4 19	"	"	"	"	4 14	"
1946—							
February	"	"	"	4 14	"	4 15	"
May	"	"	4 14	"	"	"	4 17
August	5 " 0	4 19	"	4 15	4 15	4 16	4 18
November	5 1	"	"	"	"	4 17	"
December	5 8	5 " 6	5 " 1	5 " 2	5 " 2	5 3	5 " 5
1947—							
February	"	5 7	5 3	"	5 3	5 4	5 6
May	5 10	"	5 4	5 3	"	"	"
August	"	5 " 8	"	5 4	5 " 4	5 " 5	5 " 7
November	5 12	5 9	5 " 5	5 6	5 6	5 7	"
1948—							
February	5 14	5 13	5 7	5 8	5 7	5 10	5 11
May	5 16	5 15	5 10	5 11	5 10	5 12	5 14
August	6 0	5 17	5 13	5 14	5 12	5 15	5 16
November	6 2	6 0	5 15	5 16	5 16	5 18	5 19
1949—							
February	6 4	6 3	5 18	5 19	5 18	6 1	6 2
May	6 7	6 5	5 19	6 1	6 0	6 4	6 4
August	6 10	6 8	6 2	6 4	6 6	6 7	6 7
November	6 12	6 10	6 5	6 6	6 9	6 8	6 9
1950—							
February	6 15	6 14	6 7	6 9	6 11	6 11	6 13
May	6 18	6 17	6 9	6 11	6 13	"	6 15
August	7 2	7 0	6 12	6 14	6 16	6 15	6 18
November	7 6	7 3	6 15	6 17	6 19	6 19	7 2
December	8 5	8 2	7 14	7 18	8 0	8 0	8 2
1951—							
February	8 13	8 10	7 19	8 6	8 6	8 5	8 9
May	9 0	8 17	8 6	8 11	8 16	8 13	8 16
August	9 13	9 9	8 15	9 4	9 8	9 7	9 9
November	10 7	9 19	9 5	9 15	9 17	9 19	10 0
1952—							
February	10 16	10 9	9 19	10 5	10 5	10 8	10 10
May	11 3	10 12	10 7	10 11	10 14	10 14	10 16
August	11 15	11 4	10 13	11 4	11 2	11 2	11 7
November	11 17	11 8	10 16	11 9	11 8	11 10	11 11
1953—							
February	11 18	11 9	10 15	11 5	11 9	11 12	"
May	12 1	11 12	10 17	11 8	11 11	11 19	11 14
August	12 3	11 15	10 18	11 11	11 16	12 2	11 16
1956—							
June	12 13	12 5	11 8	12 1	12 6	12 12	12 6
1957—							
May (a)	13 3	12 15	11 18	12 11	12 16	13 2	12 16
1958—							
May (b)	13 8	13 0	12 3	12 16	13 1	13 7	13 1

† Beginning of first pay-period commencing in the month except where indicated otherwise. (a) Beginning of first pay-period commencing on or after the 15th May. (b) Beginning of first pay-period commencing on or after the 21st May.

adjustments been retained plus an addition of 10s. per week, and that the resultant wage be subsequently varied by quarterly adjustment. The claims were opposed by the 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. 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.

State Basic Wage

Under the provisions of an amendment of 1925 to the Industrial Arbitration Act, 1912, the State 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 Court's obligation to make an annual declaration and gives the Court discretion to make basic wage determinations at any time, provided that such reviews are at intervals of not less than twelve months. The provision for quarterly adjustments was retained. Basic wage determinations of the Court are automatically applicable and thus become the minimum wage permissible by law to be paid to all male and female workers who are covered by industrial awards made by the State Court or by agreements registered with the Court and to those who come within the provisions of the Factories and Shops Act.

The first decision of the Court took effect on the 1st July, 1926, and prescribed a rate of £4 5s. for males and £2 5s. 11d. (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. and £2 7s. respectively, with the exception of certain specified goldfields areas for which the previous wage was retained.

A revision by the Court following the 1930 inquiry resulted in the declaration of a separate wage for the metropolitan area of £4 6s. for males and £2 6s. 5d. for females. In this connexion, the metropolitan area is the area comprised within a radius of 15 miles from the General Post Office, Perth. Rates for all other parts of the State were fixed at £4 5s. and £2 5s. 11d. respectively.

Additional power was given to the Court under the provisions of the Industrial Arbitration Act Amendment Act, 1930, to enable quarterly adjustments to be made to the rates fixed by the annual declaration and, on the 3rd March, 1931, rates of £3 18s. for males and £2 2s. 2d. for females were prescribed for the metropolitan area, and of £3 17s. and £2 1s. 8d. for all other parts of the State. The Court is empowered to make such quarterly adjustments only when a rise of one shilling or more per week is indicated in the "cost of living."

The annual declaration operative from the 1st July, 1931, did not vary these amounts, but a further quarterly adjustment on the 18th August, 1931, marked the inauguration of a separate wage for agricultural areas, which are taken to be those areas, other than the Court's metropolitan area, contained within the official South-West Land Division as described in the Land Act.

In 1938 an inquiry, which was the most comprehensive since the original declaration, gave special consideration to the factors of national income and standards of nutrition and as a result wage levels throughout the State were considerably increased from the 1st July in that year. The Rent and Mis-

cellaneous Expenditure elements of the wage were based on the existing standards but Clothing was based on the Piddington standard, reduced to provide for a family unit of four, and Food and Groceries on the Piddington standard plus an amount of 1s.

Subsequent annual declarations until 1942 maintained in purchasing power the standard of the 1938 judgment.

At a sitting of the Court held on the 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.

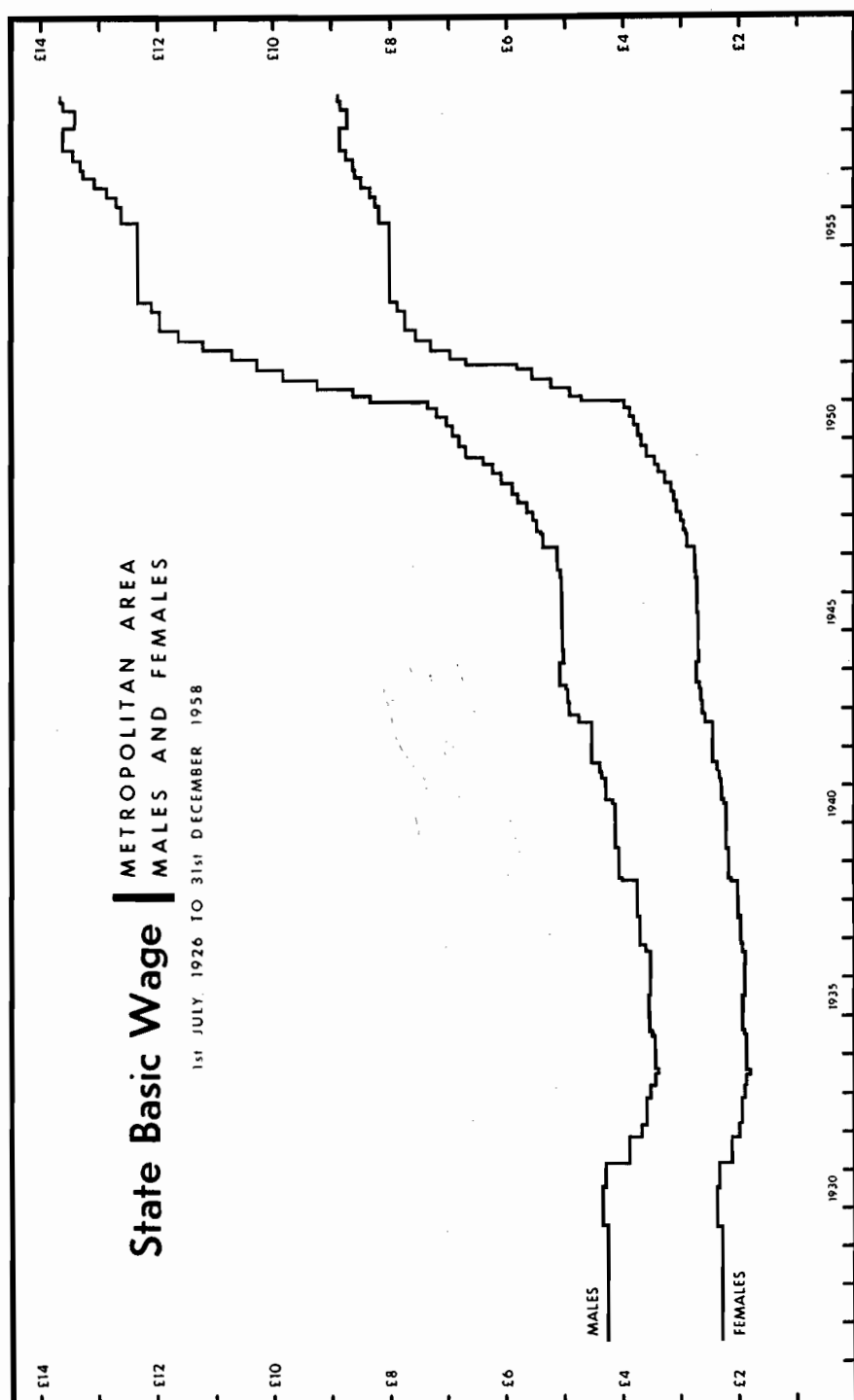
On the 11th June, 1942, the Court, in its annual declaration, adopted as its new base the rates which had operated since the 28th July, 1941, and these remained in force until the 8th August, 1942, when they were superseded by a Basic Wage Adjustment Order made by the Premier under the authority of National 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. 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 Court's obligation to make annual declarations, empowers it to make basic wage determinations at any time during the year at intervals of not less than twelve months, subject only to quarterly adjustments, and requires that in such determinations the Court must give due consideration to the economic capacity of industry to pay any proposed increase in the basic wage.

Consequent on the judgment of the Commonwealth Court on the 12th October, 1950, the State Court declared a new wage, incorporating an increase of £1 for males and 15s. for females and 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 now abandoned. It also decided in January, 1951, that any quarterly adjustments should be based on variations in the "C" Series Retail Prices Index Numbers. On the 28th November, 1951, the Court raised the basic wage for females from 54 per cent. of the male rate to 65 per cent., the new rates to operate from the 1st December, 1951.

On the 13th November, 1953, the Court again exercised its discretionary powers, conferred by Section 127 of the Act, and determined that no change should be made in the basic wage, although there had been an appreciable increase in the "C" Series Retail Prices Index. This decision governed subsequent determinations until the 9th August, 1955, when the Court reverted to the practice of making quarterly adjustments.



STATE BASIC WAGE—VARIATIONS IN RATES FROM INCEPTION

Date of Operation	Metropolitan Area ‡		South-West Land Division ‡		Goldfields Areas and other parts of State	
	Males	Females	Males	Females	Males	Females
1926—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
*1st July	4 5 0	2 5 11	4 5 0	2 5 11	4 5 0	2 5 11
1929—						
*1st July	4 7 0	2 7 0	4 7 0	2 7 0	"	"
1930—						
*1st July	4 6 0	2 6 5	4 5 0	2 5 11	"	"
1931—						
3rd March	3 18 0	2 2 2	3 17 0	2 1 8	3 17 0	2 1 8
*1st July	"	"	"	"	"	"
18th August	"	"	3 16 0	2 1 0	"	"
5th November	3 13 6	1 19 8	3 14 6	2 0 3	"	"
1932—						
29th February	3 12 0	1 18 11	"	"	"	"
3rd May	"	"	3 13 6	1 19 8	"	"
*1st July	"	"	"	"	3 18 0	2 2 2
2nd November	3 10 6	1 18 1	3 12 6	1 19 2	"	"
1933—						
28th February	3 9 0	1 17 3	3 11 0	1 18 4	"	"
16th May	"	"	3 9 6	1 17 6	"	"
*1st July	3 8 0	1 16 9	"	"	3 17 6	2 1 10
3rd August	3 9 3	1 17 5	"	"	"	"
1934—						
1st May	"	"	"	"	3 19 3	2 2 10
*1st July	3 9 6	1 17 6	3 10 0	1 17 10	3 19 6	2 2 11
1st August	3 11 0	1 18 4	3 11 6	1 18 7	4 2 0	2 4 3
1935—						
24th May	"	"	"	"	4 4 4	2 5 6
*1st July	3 10 6	1 18 1	3 11 2	1 18 5	"	"
4th November	"	"	"	"	4 5 7	2 6 3
1936—						
*1st July	"	"	3 11 9	1 18 9	4 6 0	2 6 5
12th August	3 12 0	1 18 11	3 13 0	1 19 5	4 7 0	2 7 0
16th November	3 13 9	1 19 10	3 14 8	2 0 4	"	"
1937—						
*1st July	"	"	"	"	"	"
26th July	3 14 11	2 0 5	3 15 10	2 0 11	"	"
1938—						
*1st July	4 0 0	2 3 2	4 1 0	2 3 9	4 13 3	2 10 4
29th July	4 1 1	2 3 9	"	"	4 15 2	2 11 5
2nd November	"	"	4 2 2	2 4 4	"	"
1939—						
24th April	4 2 2	2 4 4	"	"	4 16 4	2 12 0
*1st July	"	"	4 3 1	2 4 10	"	"
1940—						
*1st July	4 2 8	2 4 8	4 3 3	2 4 11	4 16 3	"
31st July	4 5 4	2 6 1	4 5 6	2 6 2	4 18 8	2 13 3
26th October	"	"	4 6 6	2 6 9	5 0 3	2 14 2
1941—						
26th February	4 6 11	2 6 11	4 7 8	2 7 4	5 2 1	2 15 2
28th April	4 8 0	2 7 6	4 9 3	2 8 2	5 3 6	2 15 11
*1st July	"	"	"	"	"	"
28th July	4 10 5	2 8 10	4 10 10	2 9 1	5 5 7	2 17 0
1942—						
*1st July	"	"	"	"	"	"
8th August ‡	4 14 11	2 11 3	4 14 10	2 11 3	"	"
November (a)	4 17 9	2 12 9	4 17 1	2 12 5	"	"
1943—						
1st March	4 18 9	2 13 4	4 18 1	2 13 0	"	"
*1st July	4 19 1	2 13 6	"	"	5 5 9	2 17 1
August (a)	5 1 1	2 14 7	5 0 3	2 14 2	5 7 10	2 18 3
1944—						
28th February	4 19 8	2 13 10	4 19 2	2 13 7	5 6 7	2 17 7
*1st July	4 19 11	2 13 11	4 19 8	2 13 10	5 7 1	2 17 10
26th October (b)	"	"	5 0 9	2 14 5	"	"
1945—						
28th February (b)	"	"	4 19 7	2 13 9	"	"
*1st July	5 0 1	2 14 1	"	"	5 7 5	2 18 0
1946—						
13th May (b)	5 1 1	2 14 7	"	"	5 9 0	2 18 10
*1st July	"	"	5 0 6	2 14 3	"	"
22nd July (b)	5 2 1	2 15 1	5 1 6	2 14 10	"	"
1947—						
4th February (b)	"	"	"	"	5 10 4	2 19 7
26th February ‡	5 7 1	2 17 10	5 6 6	2 17 6	5 15 4	3 2 3
*1st July	5 7 10	2 18 3	5 7 3	2 17 11	5 16 0	3 2 8
23rd July	5 9 3	2 19 0	5 8 9	2 18 9	5 17 6	3 3 5
30th October	5 10 9	2 19 10	5 10 6	2 19 8	5 19 0	3 4 3

See footnotes on next page.

STATE BASIC WAGE—VARIATIONS IN RATES FROM INCEPTION—*continued*

Date of Operation	Metropolitan Area†		South-West Land Division‡		Goldfields Areas and other parts of State	
	Males	Females	Males	Females	Males	Females
1948—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
2nd February	5 12 9	3 0 11	5 12 6	3 0 9	6 1 4	3 5 6
26th April	5 15 9	3 2 6	5 15 2	3 2 2	6 4 9	3 7 4
*1st July	5 17 5	3 3 5	5 17 1	3 3 3	6 5 10	3 7 11
26th July	6 1 7	3 5 8	6 1 3	3 5 6	6 9 6	3 9 11
1st November						
1949—						
9th February	6 4 9	3 7 4	6 4 4	3 7 2	6 12 9	3 11 8
2nd May	6 7 1	3 8 8	6 6 9	3 8 5	6 15 1	3 12 11
*1st July	6 13 2	3 11 11	6 12 11	3 11 9	7 0 5	3 15 10
21st July	6 15 11	3 13 5	6 15 4	3 13 1	7 2 11	3 17 2
24th October						
1950—						
31st January	6 18 1	3 14 7	6 17 4	3 14 2	7 4 8	3 18 1
2nd May	7 0 0	3 15 7	6 19 9	3 15 6	7 7 3	3 19 6
31st July	7 3 6	3 17 6	7 3 2	3 17 4	7 11 6	4 1 10
23rd October	7 6 6	3 19 1	7 6 7	3 19 2	7 14 8	4 3 6
18th December (c)	8 6 6	4 14 1	8 6 7	4 14 2	8 14 8	4 18 6
1951—						
29th January	8 12 11	4 17 9	8 12 11	4 17 9	9 0 5	5 1 9
30th April	9 4 3	5 4 1	9 4 1	5 4 1	9 8 5	5 6 3
23rd July	9 16 8	5 11 1	9 15 9	5 10 8	10 1 6	5 13 8
22nd October	10 5 8	5 16 3	10 4 7	5 15 8	10 10 11	5 18 11
1st December (d) .....	.....	6 13 8	.....	6 13 0	.....	6 17 1
1952—						
29th January	10 14 1	6 19 2	10 13 8	6 18 11	10 19 8	7 2 9
28th April	11 3 10	7 5 6	11 2 5	7 4 7	11 8 10	7 8 9
28th July	11 12 3	7 11 0	11 12 5	7 11 1	11 18 0	7 14 8
27th October	11 18 6	7 15 0	11 19 2	7 15 6	12 4 2	7 18 9
1953—						
27th January	12 1 10	7 17 2	12 0 6	7 16 4	12 5 9	7 19 9
27th April	12 6 6	8 0 3	12 3 0	7 17 11	12 7 9	8 1 0
27th July			12 6 0	7 19 11	12 9 4	8 2 1
1955—						
9th August	12 12 5	8 4 1	12 11 8	8 3 7	12 14 1	8 5 2
1956—						
31st January	12 13 8	8 4 11	12 13 11	8 5 0	12 15 11	8 6 4
23rd April	12 17 1	8 7 1				
23rd July	13 1 6	8 10 0	12 18 10	8 8 3	12 18 10	8 8 3
29th October	13 5 2	8 12 4	13 2 11	8 10 11	13 2 8	8 10 9
1957—						
25th January	13 6 3	8 13 1	13 6 5	8 13 2	13 6 7	8 13 3
26th April	13 8 10	8 14 9				
19th July	13 12 9	8 17 3	13 9 11	8 15 5	13 7 10	8 14 1
28th October	"	"	13 11 5	8 16 5	13 6 7	8 13 3
1958—						
7th February	13 8 6	8 14 6	13 10 1	8 15 7		
28th April			13 11 2	8 16 3	13 8 0	8 14 2
4th August	13 12 3	8 17 0	13 13 4	8 17 8	13 9 9	8 15 4
27th October	13 13 5	8 17 9	"	"	13 11 6	8 16 6

* Annual declaration.

(a) Beginning of first pay-period.

(b) Beginning of next succeeding pay-period.

(c) Special determination incorporating increase of £1 for males and 15/- for females. (d) Female rate increased to 65 per cent. of male rate.

† See letterpress on pages 359 and 360.

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 State Court of Arbitration 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 awards, determinations and registered agreements of the Commonwealth authority apply to 13 per cent. of male and 19 per cent. of female workers in Western Australia, and of the State Court of Arbitration to 77 per cent. of male and 72 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, 1958, to adult workers in a selection of industries and occupations. The data have been extracted from a much more comprehensive list appearing in the *Quarterly Statistical Abstract* and in Part VI of the *Statistical Register*. The rates relate generally to a working week of 40 hours.

MINIMUM RATES OF WAGES PAYABLE TO ADULT WORKERS UNDER AWARDS OF
ARBITRATION AUTHORITIES AND INDUSTRIAL AGREEMENTS
AS AT 31ST DECEMBER, 1958

Rates relate generally to the metropolitan area and are shown to the nearest penny

Industry and Occupation	Wages	Industry and Occupation	Wages
	£ s. d.		£ s. d.
AGRICULTURAL, PASTORAL AND DAIRY- ING—		HOSPITALS (GOVERNMENT)—continued	
Farming	Per week	Sister	12 17 9
Farm worker	13 19 4		to
Pastoral Workers			13 12 9
Machine shearer	Per 100		12 7 9
Flock sheep	7 13 9	Junior sister	to
Rams	15 7 6		12 12 9
	Per week	Wardsmaid, Kitchenmaid	9 12 9
Wool presser	26 14 9		14 10 11
Wool shed hand	24 0 3	Orderly	to
BUILDING—			15 3 5
Carpenter, Joiner	19 3 5	HOTELS, HOSTELS—	
Bricklayer, Rubble waller	19 0 5	Barman, Barmaid	16 3 5
Stonemason	18 18 5		14 8 5
Painter, Signwriter	18 19 8	Cook (male)	to
Plasterer	19 1 11		15 18 5
Plumber	19 2 11		10 5 3
CARTING AND CARRYING—		Cook (female)	to
Motor wagon driver			11 10 3
Vehicle 25 cwt. or less	15 9 5	Waiter	14 3 5
Vehicle over 25 cwt. and up to		Waitress	9 17 9
3 tons	15 19 5	MANUFACTURING—	
Vehicle over 3 and up to 6 tons	16 9 5	Treatment of Non-Metalliferous Mine and Quarry Products—	
Omnibus driver	16 3 5	ASBESTOS-CEMENT GOODS :	
Ordinary vehicles	to	Sheet machine driver, Magnani machine operator	15 13 5
Articulated vehicles	16 9 5		14 14 5
Taxi-car driver	17 2 5		to
Fare collector (female)	15 1 11		15 1 5
	9 13 9	CEMENT GOODS :	
CLEANING, CARETAKING, ETC. (BUILD- INGS)—		Block making	
Caretaker (male)	16 14 5	Mixer, Block machine operator	15 7 2
Cleaner (male)	14 18 5	Pipe making	
	10 2 9	Moulder	15 2 5
Cleaner (female)	to	Wiredrawer	15 0 5
	10 5 9	Tile making	
Lift attendant (male)	14 9 5	Hand presser, Ridge maker	15 5 11
Window cleaner (male)	15 4 11	CEMENT WORKS :	
CLERICAL—		Miller	15 8 5
Wholesale and Retail Trading—		Burner	16 11 5
Senior clerk	17 8 5	FIBROUS PLASTER AND PLASTER GOODS :	
	14 12 11	Bench hand	17 9 11
Clerk (male)	16 13 5	Fixer	17 3 5
	10 10 3	LIMEWORKS :	
Clerk (female)	to	Dayfiter, Lime bagger, Crusher	14 8 5
	10 19 9	Bricks, Pottery, Glass, etc.	
HAIRDRESSING—		BRICKWORKS :	
Hairdresser (male)	16 3 5	Burner	15 4 5
Hairdresser (female)	10 17 9		to
HOSPITALS (GOVERNMENT)—			15 10 11
Matron	15 7 9	Moulder and presser	15 15 5
	19 12 9	GLASS WORKERS :	
Assistant matron	15 7 9	Glass beveller and silverer	17 8 5
	to	Leadlight glazer	17 8 5
	15 12 9	PIPE AND TILE WORKS :	
	13 17 9	Burner	15 8 5
Sister in charge	to	Moulder, Presser, Trap maker	15 3 5
	14 12 9		

MINIMUM RATES OF WAGES AT 31ST DECEMBER, 1958—continued

Industry and Occupation	Wages	Industry and Occupation	Wages
MANUFACTURING—continued	£ s. d.	MANUFACTURING—continued	£ s. d.
Chemicals, Dyes, Explosives, Paints, Oils, Grease—	Per week	TEXTILES MAKING—continued	Per week
OIL REFINING :		Female worker	10 2 0
Plant attendant, leading hand	17 15 4	to	10 18 0
Plant attendant first class	17 1 4	Warping	
Plant attendant, second class	16 7 10	Assistant foreman	16 8 0
Storeman	15 3 4	Other male worker	14 6 0
SOAP FACTORIES :		to	15 5 0
Soap crutcher	14 17 5	to	10 2 0
Tallow man, Soap cutter	14 14 5	to	11 3 0
Industrial Metals, Machines, Implements and Conveyances—		Female worker	
AGRICULTURAL IMPLEMENT MAKING :		Weaving	
Assembler	14 18 5	Assistant foreman	16 18 0
to	15 8 5	Other male worker	14 2 0
to	15 18 5	to	16 13 0
to	16 3 5	to	10 2 0
Fitter	16 3 5	to	11 12 0
AIRCRAFT WORKERS :		to	
Repair, Maintenance and Servicing Section—		Skins and Leather (not Clothing or Footwear)—	
Ground engineer, Aircraft mechanic	17 5 0	SADDLERY AND LEATHER WORKING :	
Holding prescribed certificates	18 16 0	Journeyman	16 5 5
Holding no certificate	16 16 0	to	16 8 5
COACHBUILDING :		Journeywoman	9 13 9
Coachsmith, General smith, Farrier, Wheelwright smith, Spring maker, Bodymaker, Panel beater	17 8 5	TANNING :	
to	14 18 5	Carrier	16 19 6
to	17 8 5	Table hand	15 8 6
Welder	17 8 5	to	15 12 6
Wheelwright, Wheelmaker, Painter, Spray painter, Trimmer, Grainer, Seatmaker, Sign-writer	17 0 11	WOOLSCOURING :	
ENGINEERING :		Woolscorner in charge of machine	16 4 5
Blacksmith, Fitter, Turner	17 8 5	Other worker	15 13 5
Patternmaker	18 10 11	Clothing (excluding Knitted)—	
Toolmaker	18 3 5	BOOT AND SHOE MAKING :	
Motor mechanic	17 8 5	Journeyman	15 9 0
Electrical fitter, Armature winder	17 8 5	Journeywoman	10 17 6
Electrical installer	17 0 11	Repairer	16 3 5
SHEET METAL WORKING :		CLOTHING, MEN'S (READY-MADE) :	
Bench hand (first class)	17 8 5	Cutter	16 16 0
Canister maker	15 3 5	Tailor	16 11 0
WIRE MAKING :		Trimmer, Fitter-up (female)	16 0 0
Galvaniser	14 13 5	to	10 1 6
Barbed wire maker	14 3 11	Journeywoman	11 10 6
Annealer	14 3 5	DRESSMAKING (ORDER) :	
Precious Metals, Jewellery, Plate—		Cutter (male)	17 8 0
JEWELLERS, WATCHMAKERS :		Cutter (female)	14 1 6
Jeweller, Engraver, Setter	17 8 5	Head of a table (male)	16 17 0
Watchmaker, Clockmaker	17 11 5	Machinist (male)	16 0 0
Textiles and Textile Goods (including Knitted Goods)—		to	10 1 6
BAG AND SACK MAKING :		Journeywoman	11 16 6
Floor hand (female)	8 17 9	DRESSMAKING (READY-MADE) :	
Machinist, Hand cutter (female)	9 2 9	Cutter (male)	16 16 0
Machinist (male)	14 7 5	Cutter (female)	11 16 6
KNITTING :		Tailor	16 11 0
Mechanic	15 3 5	Machinist (male)	16 0 0
Machine attendant, Presser (male)	14 7 5	to	10 1 6
Female worker	10 1 4	Journeywoman	11 16 6
TEXTILES MAKING :		TAILORING, MEN'S (ORDER) :	
Combing	16 8 0	Cutter	17 18 0
Assistant foreman	14 15 0	Trimmer, Fitter-up, Presser	16 0 0
to	15 4 0	to	10 1 6
Other male worker	10 2 0	Journeywoman	13 3 6
to	10 18 0	Food, Drink and Tobacco—	
Female worker	10 18 0	AERATED WATER AND CORDIAL MAKING :	
Drawing, Spinning, Twisting and Winding		Cordial maker	15 13 5
Assistant foreman	16 8 0	Bottler	14 8 5
to	14 2 0	BAKING :	
to	15 4 0	Foreman in charge	18 16 11
Other male worker	15 4 0	to	19 3 5
		Single hand baker, Doughmaker	18 10 5
		Bread carter	14 19 11
		Bread carter in charge of motor vehicle	15 7 11
		BREWING :	
		Leading hand	17 1 5
		Bottle washer, Cask washer, Packer, Sorter, Corker, Winer, Labourer	16 1 5

MINIMUM RATES OF WAGES AT 31ST DECEMBER, 1958—continued

Industry and Occupation	Wages	Industry and Occupation	Wages
MANUFACTURING—continued	£ s. d.	MANUFACTURING—continued	£ s. d.
Food, Drink and Tobacco—continued	Per week	Paper, Stationery, Printing, Bookbinding, etc.—continued	Per week
BUTTER MAKING :		PRINTING (NEWSPAPERS) :	
Butter maker	15 10 5	Linotype operators	
Cream grader	16 0 11	Night	22 7 6
Factory hand	14 7 11	Day	21 12 6
CHEESE MAKING :		General hand	
Cheese maker	15 19 5	Night	18 0 5
Factory hand	14 7 11	Day	17 5 5
CIGAR, CIGARETTE AND TOBACCO MAKING :		Miscellaneous Products—	
Male worker	14 7 5	DENTAL :	
Female worker	14 18 5	Dental technician (male)	17 8 5
Foreman miller	9 5 3	Dental technician (female)	10 13 4
Shift miller, Roller man	19 5 0	OPTICAL :	
Wheat sampler	17 7 6	Optical mechanic	16 15 11
HAM AND BACON CURING :		Leading hand	17 10 11
Leading man	19 5 0		19 0 11
Trimmer	16 1 0	RADIO :	
ICE MAKING AND COLD STORAGE :		General serviceman	17 8 5
Leading hand	15 5 11	Workshop serviceman	17 8 5
Puller, Stacker, Packer	14 18 5	Heat, Light and Power—	
Freezing machine operator	14 14 11	ELECTRIC LIGHT WORKS :	
Cone and wafer machine hand	15 4 11	Turbine driver	17 18 5
JAM MAKING, FRUIT AND VEGETABLE CANNING :		Auxiliary plant attendant	16 11 5
Leading hand	15 5 5	GAS WORKS :	
Syrup maker, Jam boiler, Retort attendant	14 9 5	Retort operator in charge	16 17 5
MILK PROCESSING :		Service layer, Main layer	15 10 11
Tester, Grader	15 11 5	MINING—	
Pasteuriser	14 15 5	Coal—	
Man in charge of bottling machine	14 9 5	Miner	Per shift (a)
PASTRY COOKING :		Loaderman (mechanical units)	3 1 11
Pastrycook (male)	16 3 5	Faceman, Shiftman (mechanical units)	3 9 3
Pastrycook (female)	16 14 5	Gold—	
SUGAR REFINING :		Rock-drill man	Per shift (b)
Raw Sugar	10 4 9	Hand miner	3 7 10
Leading hand	16 0 11	Shaft-timber man	3 11 1
Melting house	15 19 5	QUARRYING—	
Fugal washer	15 19 5	Spaller, Man barring down, Machine man	15 1 11
Refined Sugar	15 19 5	Crusher feeder	15 8 5
Drier, Grader	15 19 5	Powder monkey	15 16 11
Sawmilling, Woodworking and Basketware BOX AND CASE MAKING :		RAILWAYS (GOVERNMENT)—	
Sawyer	14 19 5	Engine driver	Per shift (c)
Machinist	15 19 5	Fireman	3 9 8
Case maker	14 15 5	Trainee engineman	4 1 8
SAWMILLING :		Guard	2 19 6
Faller	16 10 10	Porter	3 5 2
Saw doctor	18 3 4		2 17 6
Sawyer, Benchman	14 14 4		3 4 11
Tractor driver	17 8 4		to
TIMBER YARDS :			3 10 3
Buzzer	17 0 10		2 17 6
Moulding machinist	14 14 5		3 1 5
Sawyer, Benchman	16 18 11	RETAIL TRADE—	
Tenoner	14 14 5	Shop assistant (male)	Per week
Furniture, Bedding, etc.		Shop assistant (female)	15 14 11
Cabinetmaker, Chairmaker	17 7 5	Storeman	10 7 9
Wood carver, Upholsterer, French polisher	17 5 11	STEVEDORING—	
Paper, Stationery, Printing, Bookbinding, etc.—		Lumper handling general cargo	Per hour
PRINTING (JOBING) :		TRAMWAYS—	
Machine compositor	17 18 6	Trolley bus driver	0 10 4
Proof reader and reviser	17 3 6	Conductor	Per week
		Petrol bus driver	16 3 5
		Track repairer	14 15 11
		WOOL STORES—	
		Head classer, Man in charge of store	15 10 11
		Assistant classer	16 15 11
		Wool sorter	14 15 11

(a) Eleven shifts worked each fortnight ; ten of 7 hours and one of 5 hours.

(b) Five 7½-hour shifts per week.

(c) Five 8-hour shifts per week.

WAGE AND SALARY PAYMENTS

Statistics of wages and salaries paid and of average earnings are prepared each quarter by the Commonwealth Statistician. The figures are derived from particulars of employment and wages recorded on Pay-roll Tax returns, which cover about three-quarters of total employment, from other direct collections and from estimates of the unrecorded balance. Pay of members of the armed forces is not included.

The following table shows the average weekly equivalent of the total wage and salary payments so derived and the corresponding average weekly earnings per employed male unit, together with the Commonwealth and State Basic Wage rates applying to adult male workers in the metropolitan area, during the period from the 1st July, 1953 to the 31st December, 1958. Male units represent the total number of males in civil employment plus a proportion of female employees 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 include payments to all grades of employees throughout the State from junior workers to persons at the highest levels of executive and administrative activity. Particulars of basic wage rates applying to adult male workers in the metropolitan area have been included to provide a summary of trend in those rates during the same period.

AVERAGE WEEKLY TOTAL WAGES PAID, AVERAGE WEEKLY EARNINGS
AND BASIC WAGE RATES

Period	Average Weekly Total Wages Paid	Average Weekly Earnings per Employed Male Unit	Basic Wage Rates 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
	£'000	£	£	£	£	£
Year ended 30th June :—						
1954	2,754*	15.59*	11.80	11.78†	12.33	12.31
1955	2,928*	16.11*	11.80	11.80†	12.33	12.33
1956	3,104*	16.92*	12.30	11.84†	12.85	12.65
1957	3,177	17.48	12.80	12.36(a)	13.44	13.23
1958	3,284	18.05	13.05	12.83(b)	13.43	13.54
Quarter ended :—						
30th September, 1958	3,392	18.50	13.05	13.05	13.61	13.54
31st December, 1958	3,494	18.97	13.05	13.05	13.67	13.65

* Revised since previous issue. † It has been assumed, in computing this average, that variations in the Commonwealth Basic Wage operated on and from the first day of the month in which they began to apply. (a) Variation (increase of 10s.) assumed to have operated on and from the 15th May, 1957. (b) Variation (increase of 5s.) assumed to have operated on and from the 21st May, 1958.

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 combined index number covering the retail prices of these items was known as the "A" Series Index, with the year 1911 as its base. The field of collection was later expanded to cover other groups of household expenditure.

Retail prices of selected groups of commodities and services continue to be collected regularly from representative informants in the more important towns. From six of these, prices are obtained for food and groceries, rents of 4 and 5 roomed houses, men's, women's and children's clothing and footwear, household drapery and utensils and other items of miscellaneous expenditure, such as fuel, light and fares. A collection restricted to the prices of food and groceries only is made for a more extensive list of towns. Informants are required to furnish prices monthly, as at the 15th of the month, for food and groceries and quarterly, as at the 15th of the middle month of each quarter, for house rents, clothing and miscellaneous items.

In order to ensure that only pure price movements are measured, specific grades and qualities have been established for the several items under investigation and all informants throughout the State are required to quote consistently for articles conforming to these standards. The collection of data is carried out by specially qualified field officers who, where necessary, check prices and standards in the shops of informants and inspect houses listed on the rent returns.

During the war years unusual difficulty was experienced in obtaining prices data, due mainly to the scarcity and the uncertain supply of some types of goods and to changes in grade and quality, especially in the clothing and the household drapery and utensils sections. In these circumstances, it became necessary in some cases to substitute new grades, qualities or types of articles in place of those normally included or, alternatively, to adopt appropriate statistical devices to overcome the effects of the lack of quotations for goods temporarily unobtainable. In some measure the problem remained under early post-war conditions, when some commodities were still in short supply and stocks were extremely variable.

The following tables show the annual average retail prices of 40 items of groceries, dairy produce and meat in the metropolitan area for each of the five years from 1954 to 1958.

AVERAGE RETAIL PRICES OF GROCERIES—METROPOLITAN AREA

Commodity	Unit	1954	1955	1956	1957	1958
Bread (a)	2 lb.	Pence 13·58	Pence 14·58	Pence 14·92	Pence 15·50	Pence 16·00
Flour, plain	"	11·86	13·35	13·73	13·82	13·75
" self-raising	"	19·22	19·49	19·35	19·68	20·43
Tea	lb.	64·22	86·92	83·73	81·32	78·29
Sugar	"	9·00	9·00	9·62	10·00	10·00
Rice	"	11·86	11·71	11·75	11·93	11·85
Tapioca, seed	"	19·67	15·13	18·77	28·02	16·78
Jam, plum	1½ lb. tin	31·77	31·68	33·31	35·52	36·51
Golden Syrup	2 lb.	19·88	19·87	20·84	21·43	21·11
Oats, flaked	lb.	9·22	11·12	9·97	10·23	11·80
Raisins, seeded	"	32·27	30·05	30·22	30·55	31·21
Currants	"	24·02	24·13	24·13	25·13	26·00
Apricots, dried	"	61·14	61·46	60·95	61·67	68·03
Peaches, canned	29 oz.	38·83	39·38	40·75	43·61	46·75
Pears, canned	"	40·28	40·62	41·72	43·35	43·23
Potatoes	7 lb.	30·54	33·62	37·18	41·89	35·69
Onions, brown	lb.	8·66	9·01	12·19	8·70	7·62
Soap	"	18·53	19·30	19·27	19·42	19·71
Kerosene	quart	13·07	13·03	13·19	13·44	13·38

(a) Cash price delivered.

AVERAGE RETAIL PRICES OF DAIRY PRODUCE AND MEAT—METROPOLITAN AREA

Commodity	Unit	1954	1955	1956	1957	1958
<i>Dairy Produce</i>						
Butter	lb.	Pence 49·97	Pence 50·27	Pence 53·80	Pence 54·30	Pence 54·17
Cheese	"	37·00	39·56	43·42	44·97	46·05
Eggs, new laid	doz.	59·79	61·88	62·81	61·44	62·02
Bacon rashers	lb.	70·65	65·66	75·95	78·43	70·89
Milk, condensed	14 oz. tin	23·36	22·89	22·65	22·34	22·33
" fresh, bottled (a)	quart	18·00	18·00	18·25	19·00	19·00
<i>Meat</i>						
Beef (fresh):						
Sirloin	lb.	37·82	39·02	40·32	42·16	42·30
Rib (without bone)	"	38·57	39·90	41·16	41·71	42·23
Steak, rump	"	52·28	54·90	56·38	59·03	59·28
" chuck	"	35·29	35·19	35·70	36·88	36·43
Sausages	"	21·87	21·81	22·68	23·62	22·99
Beef (corned):						
Silverside	"	36·88	38·11	39·17	40·80	40·82
Brisket, rolled	"	29·99	29·89	30·20	30·34	29·30
Mutton (fresh):						
Leg	"	28·85	28·60	30·05	29·47	27·11
Forequarter	"	18·10	17·58	18·87	17·83	16·22
Loin (trimmed)	"	28·48	28·18	29·60	27·65	24·54
Chops, loin	"	28·63	28·19	29·68	27·80	24·60
" leg	"	28·63	28·19	29·71	27·84	24·68
Pork (fresh):						
Leg	"	58·21	50·78	59·73	55·80	49·58
Loin	"	58·24	50·72	60·02	55·94	49·47
Chops	"	58·33	50·74	60·15	55·94	49·48

(a) 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. The basic principle of a retail price index is relatively simple. Commodities representative of the field to be covered are selected and their prices combined at regular intervals in accordance with their relative importance in that field. The aim is to express as a single number the degree of change in prices for the selected field as a whole during each of these intervals and thus to establish a series for individual towns or groups of towns.

The group of selected items is called a "regimen," and the quantities consumed annually of each item used in the index are called "weights." In compiling the index, the price of each item is multiplied by its quantity "weight," and then by its appropriate population or household "weight." The sum of these products for all items gives an "aggregate expenditure." The "aggregate expenditures" are converted into a series of indexes 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 regimen must be a selected one, because it is impossible in practice to ascertain at regular intervals prices of every item of goods and services. In order to ensure the reliability of a retail price index, the selected items comprising the regimen must conform to certain criteria. They must be such that they can be clearly and definitely described, and must be capable of standardization so that they shall be consistently uniform. They must not be subject to violent or extreme seasonal fluctuations in price or availability. They must be in common use and their consumption must remain relatively constant and comprise an appreciable proportion of the total for the commodity group which they purport to represent. Above all, they must constitute a fair sample of the goods or services of which they are representative.

The regimen is simply a selected list of items combined in certain proportions for the purpose of measuring price variations on a defined basis. The items are representative of the field covered, and the proportions approximate to those in average consumption so far as can be ascertained. In order to avoid breaks in continuity of the index, it is desirable to keep the regimen and weights as stable as possible.

RETAIL PRICE INDEX NUMBERS OF FOOD AND GROCERIES—31 TOWNS

(Base : Weighted Average of Six Capital Cities for 1923-27, = 1000)

Town	1954	1955	1956	1957	1958
Metropolitan Area	2802	2868	3004	3046	2972
Albany	2772	2879	2969	3038	3039
Bridgetown	2742	2931	3041	3179	3145
Bunbury	2841	2958	3064	3142	3111
Busselton	2796	2905	2991	3066	3058
Collie	2869	2976	3088	3173	3183
Coolgardie	2988	3067	3222	3275	3278
Cue	2994	3106	3244	3353	3333
Dalwallinu	2714	2824	2948	3008	2997
Esperance	3022	3092	3181	3277	3267
Geraldton	2870	2964	3110	3229	3231
Greenbushes	2764	2853	3000	3140	3105
Jarrahdale	2718	2807	2930	3003	2988
Kalgoorlie-Boulder	2910	3049	3170	3214	3205
Katanning	2799	2912	3068	3142	3093
Leonora-Gwalia	3014	3158	3376	3485	3446
Manjimup	2789	2916	3068	3143	3103
Meekatharra	2996	3083	3369	3432	3424
Merredin	2875	2977	3063	3117	3091
Moora	2756	2929	3045	3154	3136
Mullewa	2735	2849	3114	3208	3245
Naremburn	2714	2876	3080	3162	3115
Narrogin	2782	2892	2996	3097	3107
Norseman	2922	3005	3112	3236	3229
Northam	2817	2924	3055	3142	3093
Northampton	2845	2938	3073	3145	3146
Pemberton	2809	2903	3020	3040	3008
Southern Cross	2922	3060	3194	3226	3215
Three Springs	2835	2946	3162	3321	3272
Wyalkatchem	2848	3026	3101	3171	3157
Yarloop	2851	2980	3110	3178	3184

Price Movement of Potatoes and Onions—As stated earlier, one of the criteria governing the selection of an item for inclusion in the regimen is that it should not be subject to violent or extreme seasonal variation in price or availability. Abnormally large seasonal fluctuations in prices of potatoes and onions did, however, occur in the period from the September quarter of 1956 to the March quarter of 1957. These variations had a major effect, first upwards and then downwards, on the movement of price indexes in most cities and towns. The fluctuations also caused highly disparate movements in the aggregate indexes as between cities and towns. In order to provide an indication of the recent trend of the indexes apart from these abnormally large seasonal fluctuations, index numbers excluding the effects of price movements of potatoes and onions are calculated for comparison with those which include those items. That the effect of these price variations was much less marked in Perth than in any other State capital city will be evident from an examination of the tables on pages 371 and 372.

RETAIL PRICE INDEX NUMBERS OF FOOD AND GROCERIES†—FIVE PRINCIPAL TOWNS

(Base : Weighted Average of Six Capital Cities for 1923-27, = 1000)

Period	Western Australia					Australia
	Metropolitan Area	Kalgoorlie-Boulder	Northam	Bunbury	Geraldton	Weighted Average of Six Capital Cities
1949	1437	1572	1455	1443	1471	1394
1950	1597	1728	1613	1610	1636	1566
1951	1963	2105	1995	1991	2033	2041
1952	2359	2556	2429	2415	2473	2526
1953	2608	2738	2630	2636	2698	2641
1954	2802	2910	2817	2841	2870	2871
1955	2868	3049	2924	2958	2964	2811
1956	A 2997 B 3004	A 3158 B 3170	A 3048 B 3055	A 3050 B 3064	A 3099 B 3110	A 2923 B 3084
1957	3034 3046	3206 3214	3131 3142	3127 3142	3220 3229	2973 2971
1958	2980 2972	3203 3205	3101 3093	3118 3111	3243 3231	3021 2993
1958—						
1st Quarter	2952 2941	3172 3173	3099 3088	3161 3151	3230 3215	3012 2988
2nd Quarter	2995 2984	3190 3191	3095 3086	3170 3159	3238 3222	3018 2982
3rd Quarter	3008 2998	3224 3222	3121 3111	3100 3091	3252 3238	3017 2981
4th Quarter	2963 2963	3226 3232	3087 3087	3041 3044	3252 3247	3037 3022

† The indexes in column "A" exclude, and those in column "B" include, the price movement of potatoes and onions cumulative from, and including, the September quarter of 1955. See letterpress *Price Movement of Potatoes and Onions* above.

RETAIL PRICE INDEX NUMBERS OF FOOD AND GROCERIES†—SIX CAPITAL CITIES

(Base: Weighted Average of Six Capital Cities for 1923-27, = 1000)

Period	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Weighted Average of Six Capital Cities
1949	1388	1418	1332	1351	1437	1495	1394
1950	1572	1605	1462	1494	1597	1574	1566
1951	2099	2088	1823	1931	1963	1992	2041
1952	2654	2509	2328	2380	2359	2487	2526
1953	2711	2684	2413	2444	2608	2803	2641
1954	2721	2687	2451	2525	2802	2797	2671
1955	2871	2854	2526	2657	2868	2925	2811
	A B	A B	A B	A B	A B	A B	A B
1956	2998 3160	2974 3180	2598 2719	2709 2871	2997 3004	3025 3142	2923 3084
1957	3054 3045	3019 3039	2699 2648	2717 2710	3034 3046	3035 3019	2973 2971
1958	3121 3084	3018 3009	2886 2816	2790 2768	2980 2972	3046 3000	3021 2993
1958—							
1st Quarter	3161 3125	3002 2999	2851 2788	2646 2635	2952 2941	3019 3003	3012 2988
2nd Quarter	3129 3087	3010 2993	2867 2782	2763 2727	2995 2984	3016 2965	3018 2982
3rd Quarter	3088 3044	3019 2998	2888 2820	2853 2815	3008 2998	3054 2987	3017 2981
4th Quarter	3105 3081	3039 3046	2939 2874	2899 2894	2963 2963	3093 3046	3037 3022

† The indexes in column "A" exclude, and those in column "B" include, the price movement of potatoes and onions cumulative from, and including, the September quarter of 1955. See letterpress *Price Movement of Potatoes and Onions* on page 370.

Two comprehensive retail price index numbers are currently compiled each quarter in the Commonwealth Bureau of Census and Statistics.⁽¹⁾ The first of these is the "C" Series Index which is prepared for the capital city and some other cities or towns in each State. It has as its base the weighted average of the six State capital cities for the period 1923-27, = 1000. The second is the Interim Retail Price Index which is compiled for capital cities only, each of the six indexes having as its base the year 1952-53, = 100.

The Interim Retail Price Index is calculated both inclusive and exclusive of potatoes and onions as from the base period 1952-53. For the "C" Series Retail Price Index, index numbers excluding the price movement of potatoes and onions have been calculated as from, and including, the September quarter of 1955. (See letterpress *Price Movement of Potatoes and Onions* on page 370.)

THE "C" SERIES INDEX⁽¹⁾

Probably the most widely known of the retail price index numbers compiled in Australia is that described as the "C" Series. It was constructed as a result of the recommendations made in 1920 and 1921 by the Royal Commission on the Basic Wage, to which reference has been made in Part 2 of this Chapter.

The official definition of the purpose of the index is of particular importance.

"The 'C' Series Retail Price Index is designed to measure the extent of changes in price levels only. While it may be used as indicating proportionate variations in the cost of a constant standard, it does not measure the absolute cost of any standard of living, nor the cost of changes in the standard of living. In other words, it measures as nearly as may be the proportionate change in the aggregate cost of specified quantities and qualities of the selected regimen of items included in the index. The regimen is representative of a high proportion of the expenditure of wage-earner households."

The regimen of the index is not, as is sometimes erroneously supposed, a basic wage regimen nor yet is it a full list of component items in a standard of living. It does not imply that any particular goods or any selected grades or quantities of these goods should enter into determination of a basic or living wage.

The Statistician describes the index as a price index, *not* as a "cost of living" index. Colloquially it is often referred to as a "cost of living" index, and industrial tribunals sometimes use this phrase and the phrase "cost of living variations." While use of such a misnomer may be conveniently descriptive in some ways, it frequently leads to confusion of thought and to irrelevant discussions on the index. Prices are an important element in the cost of living, but they are not the only element causing changes in cost of living.

⁽¹⁾ See *Appendix*.

No single index could simultaneously measure the extent of all changes in cost of living. The "C" Series Index is solely a price index and can therefore measure only the price component of changes in cost of living. Changes caused by factors other than price variations are subjects for consideration quite independently of the "C" Series Index.

The "C" Series Index is derived by combining separate indexes based upon the collected retail prices of 40 items of food and groceries; 77 items of men's, women's and children's clothing and footwear; 38 items of miscellaneous household expenditure, including household drapery and utensils, fuel, light, fares, newspapers and smoking; and rents of 4 and 5 roomed houses, in relation to which house agents are required to quote the rentals of "ordinary unfurnished dwellings, in a good state of repair and with ordinary conveniences, occupying fair situations." The index numbers for the various towns shown in the following tables are based upon the relationship existing between the aggregate cost at different times of all these items in each town and the weighted average annual aggregate cost of the same regimen in the six State capital cities taken as a whole during the five years 1923 to 1927.

"C" SERIES INDEX OF RETAIL PRICES†

(Base: Weighted Average of Six Capital Cities for 1923-27, = 1000)

WESTERN AUSTRALIA—FIVE PRINCIPAL TOWNS

Period	Metropolitan Area		Kalgoorlie-Boulder		Northam		Bunbury		Geraldton	
1949	1410	1502	1420	1424	1475			
1950	1538	1636	1550	1559	1611			
1951	1860	1940	1870	1870	1956			
1952	2170	2262	2186	2195	2293			
1953	2295	2361	2315	2314	2421			
1954	2459	2426	2417	2447	2577			
1955	2554	2493	2508	2569	2702			
		A B	A B	A B	A B	A B	A B	A B	A B	
1956	2653 2655	2559 2563	2582 2584	2660 2664	2822 2825			
1957	2726 2729	2623 2625	2688 2691	2745 2749	2913 2916			
1958	2748 2743	2653 2653	2711 2707	2795 2790	2961 2955			
1958—										
1st Quarter	2718 2712	2630 2630	2698 2693	2787 2782	2937 2931			
2nd Quarter	2753 2747	2648 2647	2713 2708	2811 2806	2960 2953			
3rd Quarter	2764 2758	2665 2663	2721 2716	2792 2786	2968 2962			
4th Quarter	2758 2755	2669 2670	2713 2711	2788 2785	2977 2974			

AUSTRALIA—SIX CAPITAL CITIES

Period	Sydney		Melbourne		Brisbane		Adelaide		Perth		Hobart		Weighted Average
1949	1439	1415	1348	1393	1410	1419	1415				
1950	1593	1565	1472	1521	1538	1526	1560				
1951	1933	1880	1760	1833	1860	1861	1883				
1952	2265	2170	2063	2159	2170	2180	2196				
1953	2368	2285	2135	2246	2295	2399	2302				
1954	2382	2288	2170	2277	2459	2406	2326				
1955	2439	2365	2211	2354	2554	2458	2393				
		A B	A B	A B	A B	A B	A B	A B	A B	A B	A B	A B	
1956	2525 2584	2492 2567	2272 2316	2408 2466	2653 2655	2622 2663	2489 2547				
1957	2618 2614	2555 2562	2361 2343	2466 2463	2726 2729	2699 2690	2567 2565				
1958	2677 2663	2595 2590	2495 2471	2545 2536	2748 2743	2749 2728	2626 2615				
1958—													
1st Quarter	2677 2665	2566 2564	2432 2411	2472 2466	2718 2712	2716 2707	2601 2592				
2nd Quarter	2676 2661	2581 2574	2492 2462	2537 2522	2753 2747	2735 2712	2620 2607				
3rd Quarter	2671 2654	2597 2588	2508 2484	2577 2563	2764 2758	2755 2727	2630 2616				
4th Quarter	2682 2673	2634 2635	2547 2525	2593 2591	2758 2755	2788 2767	2652 2646				

† The indexes in column "A" exclude, and those in column "B" include, the price movement of potatoes and onions cumulative from, and including, the September quarter of 1955. See letterpress *Price Movement of Potatoes and Onions* on page 370.

THE INTERIM RETAIL PRICE INDEX (1952-53 BASE YEAR)

Origin of the Index

The list of component items and the weighting pattern of the "C" Series Retail Price Index were first adopted in 1921 but were reviewed by the Conference of Australian Statisticians in 1936.

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 the pattern of expenditure. This rendered 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.

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. By the middle of 1949 a considerable number of new price series were coming into being and the body of data available as to expenditure and consumption in the post-rationing period was beginning to indicate something of the new weighting pattern likely to be appropriate for post-war review of the components and construction of the "C" Series Index.

There supervened in the next two years conditions which caused wide price dispersion, 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 for the years 1949-50, 1950-51 and 1951-52 likely to be better suited to the index or more continuously representative of conditions then current than was the existing "C" Series Index on the 1936 revision. The Conference of Statisticians therefore deferred revision of the weighting system and component items of the "C" Series Index. Conference was, however, advised by the Acting Commonwealth Statistician in June, 1953 (i) that although the aggregate "C" Series Index, as verified by supplementary indexes, was still reasonably reliable for current use, some of the component groups, more particularly food and miscellaneous items, were not satisfactory individually; and (ii) that the time had arrived either to produce a new index or to reconstruct the "C" Series Index extensively.⁽¹⁾

The Interim Retail Price Index has been compiled pursuant to Resolution 13 of the Conference of Statisticians in June, 1953, reading:—

" 13. *Retail Price Indexes*—

- (a) That in view of the persistence of recurrent changes in the pattern of consumer expenditure in the post-war period, it is undesirable to make a general revision of the list of items and weighting system of the "C" Series Retail Price Index at present, unless industrial tribunals expressly desire some revision for special purposes.
- (b) That an Interim Retail Price Index be compiled with putative weights and components representative, as nearly as may be, of the post-war pattern of consumer usage and expenditure.
- (c) That, having regard to the complexities of the problem and the limit of staff resources available, such interim index relate only to each capital city and to the six capital cities combined.
- (d) That attention be drawn again to the statement already published that the "C" Series Retail Price Index cannot measure changes in relative retail price levels as between capital cities consistently with its main purpose of measuring periodic changes in retail price levels for each city.
- (e) That the problem of measuring comparative retail price levels as between cities at any point of time differs in principle from the problem of measuring periodic variations in price level in an individual city."

The Interim Retail Price Index (1952-53 base year) is used as the current retail price index in statistical publications of the Commonwealth Statistician for general statistical purposes. It relates only to six capital cities of Australia because it is not practicable with existing staff resources to collect price data for the greatly enlarged list of items for other cities and towns. These continue to be covered as to the less extensive list of items used for the "C" Series Index.

At times appreciable disparities appear in the movement of the respective indexes for individual cities from quarter to quarter. The Interim Index, being based on recent weights and an extended list of items, is the more representative measure of current quarterly retail price variations.

⁽¹⁾ See *Appendix*.

Definition of the Index

The index provides the interim results of researches designed to measure retail price variations (with 1952-53, = 100, as base year) on the basis of:—

- a current pattern of wage-earner expenditure using recent consumption weights for foods and recent expenditure weights for combining groups of items into the aggregate index;
- a wider range of commodities and services than that covered by any existing price index in order to provide greater representativeness; and
- individual city weights for such items as electricity, gas and fares.

The components and weighting of the Interim Retail Price Index are being reviewed in the light of data derived from the Census of Retail Sales (see Part XII of the *Statistical Register* for 1954-55 and later years) as to consumer expenditure on various kinds of goods and from estimates of consumer expenditure on services relevant to construction of a retail price index of this type and data as to rents and housing derived from the Population Census of 30th June, 1954 and additional special surveys. It is proposed to cast the index into final form as soon as possible and this may entail some revision in the index.⁽¹⁾

General

In the Interim Index common weights are adopted for all groups and items in the index for each city except in respect of fares, gas, electricity and some minor items. The resultant indexes measure price movement from period to period for each city separately. While they indicate degree of price movement from time to time for respective cities, they do not indicate the relative level of prices as between cities. The Interim Index for each city in the base year 1952-53 is 100.

The following table shows movements in the Index for Perth and in the component groups for each year from 1952-53, the base year, to 1957-58 as well as for the quarters of 1958.

INTERIM RETAIL PRICE INDEX—PERTH

(Base of each Group Index: Year 1952-53 = 100)

Period	GROUP I		GROUP II	GROUP III	GROUP IV	ALL GROUPS (a)	
	Food (a)		Clothing and Drapery	Rent ^(b) (4 and 5 Roomed Houses)	Other Items (c)		
Year ended June:	A	B				A	B
1953	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1954	106.3	106.3	100.9	110.8	100.8	103.9	103.9
1955	109.4	109.5	101.6	149.6	101.9	109.5	109.6
1956	111.0	111.3	103.0	159.1	106.4	112.6	112.7
1957	115.8	116.8	105.4	169.2	113.7	117.9	118.3
1958	115.0	115.4	108.5	176.2	115.8	119.7	119.8
1958—							
Quarter ended—							
March	114.2	114.4	108.5	176.0	115.8	119.4	119.4
June	115.6	115.7	109.6	180.5	115.9	120.7	120.7
September	116.0	116.2	109.7	182.0	116.4	121.2	121.2
December	114.7	114.9	110.5	185.5	116.6	121.0	121.1

(a) The indexes in column "A" exclude, and those in column "B" include, potatoes and onions. See letterpress *Price Movement of Potatoes and Onions* on page 370. (b) The rent index numbers shown measure the proportionate rise and fall in the average weekly rentals paid for houses of four and five rooms taking corresponding houses throughout. They are "price" indexes in the strict sense, being designed to measure only the "price" element in rent fluctuations. (c) Comprises a group of items under the headings Electricity, Gas and Firewood; Household Sundries; Services; Cinema Admission, Radio Licence and Newspapers; Fares; and Tobacco and Cigarettes.

The figures appearing after the decimal point possess little significance for general statistical purposes. They are inserted to avoid the distortion that would occur in rounding off the figures to the nearest whole number. Price indexes cannot measure aggregate price variations with an accuracy of the order of one-tenth of 1 per cent.

Due regard should be paid to the fact that a composite price index is necessarily an approximate summary which combines, into one aggregate, price variations of many items. Any more rigid use of the index for specific purposes is the responsibility of the bodies or persons using the index.

⁽¹⁾ See Appendix.

STATISTICAL SUMMARY FROM 1829

POPULATION AND MIGRATION

(Excluding full-blood aborigines)

Year	Population at 31st December				Mean Population †		Migration	
	Whole State †			Metropolitan ‡	Year ended—		Arrivals	Departures
	Males	Females	Persons	Persons	30th June	31st December		
1829	769	234	1,003	(c)	(c)	(c)	652	....
1830	877	295	1,172				1,125	....
1840	1,434	877	2,311				1,223	....
1850	3,576	2,310	5,886				203	....
1860	9,529	5,698	15,227				(a) 461	450
1870	15,474	9,610	25,084				268	303
1880	16,559	12,460	29,019				577	777
1890	28,854	19,648	48,502				3,567	1,996
1891	32,176	21,001	53,177				50,840	6,346
1892	36,048	22,521	58,569				55,873	7,440
1893	40,975	23,948	64,923				61,746	8,928
1894	55,055	26,524	81,579				73,251	25,858
1895	69,733	30,782	100,515				91,047	29,523
1896	96,999	39,817	136,816				118,666	55,215
1897	107,655	52,840	160,495				148,656	49,387
1898	107,593	59,285	166,878				163,687	32,709
1899	106,816	63,442	170,258				168,568	20,278
1900	110,088	69,879	179,967				175,113	24,921
1901	117,885	75,716	193,601	70,700	180,856	188,135	32,762	20,780
1902	128,370	83,603	211,973	(c)	195,791	204,705	37,860	21,001
1903	134,140	90,608	224,748	(c)	212,968	219,648	30,943	20,216
1904	141,694	97,714	239,408	(c)	226,471	233,963	31,517	19,563
1905	146,498	103,640	250,138	(c)	240,896	246,681	28,791	22,934
1906	148,061	107,112	255,173	95,870	251,112	254,362	25,396	25,077
1907	146,264	108,276	254,540	(c)	255,840	255,510	22,326	27,740
1908	148,447	111,224	259,671	(c)	255,933	257,822	24,594	24,339
1909	151,325	114,350	265,675	(c)	260,355	263,279	24,643	23,537
1910	157,971	118,861	276,832	(c)	266,686	271,019	31,403	25,001
1911	167,993	125,930	293,923	111,400	278,043	286,712	41,359	29,436
1912	173,897	131,724	305,621	(c)	294,364	301,040	38,326	31,982
1913	180,534	139,401	319,935	(c)	307,145	313,383	37,637	29,607
1914	178,978	143,111	322,089	(c)	319,014	322,668	27,270	31,277
1915	170,890	145,773	316,663	(c)	322,906	321,247	20,734	32,187
1916	159,237	147,743	306,880	124,110	317,867	313,066	19,322	34,583
1917	157,532	149,306	306,838	(c)	308,756	306,339	17,822	22,977
1918	159,865	150,318	310,183	(c)	306,804	308,198	24,262	25,190
1919	174,981	152,879	327,860	(c)	311,835	319,955	32,561	18,231
1920	176,895	154,428	331,323	(c)	327,152	330,023	29,930	31,228
1921	178,968	157,580	336,548	155,590	331,973	334,084	29,333	28,435
1922	184,471	161,073	345,544	(c)	337,269	341,375	31,141	27,109
1923	191,131	165,728	356,859	(c)	345,891	350,702	33,835	27,444
1924	197,676	170,648	368,324	(c)	356,751	363,152	35,195	28,768
1925	202,554	174,973	377,527	(c)	368,525	372,700	32,920	28,587
1926	206,797	178,436	385,233	188,260	376,933	380,930	30,732	27,977
1927	215,851	184,046	399,897	(c)	385,780	392,071	35,275	25,700
1928	225,072	189,549	414,621	(c)	399,777	407,576	36,039	26,379
1929	231,361	195,776	426,637	(c)	414,489	420,756	32,547	25,952
1930	232,668	198,742	431,610	(c)	425,785	429,079	22,457	22,910
1931	232,397	201,289	433,686	215,800	431,022	432,347	14,192	16,984
1932	233,049	203,271	436,320	214,880	433,596	435,041	15,446	17,062
1933	234,744	205,898	440,642	209,000	436,798	438,780	(b) 17,261	(b) 17,401
1934	236,140	207,589	443,729	211,000	440,736	442,354	(b) 17,609	(b) 18,988
1935	238,739	210,884	449,623	214,000	444,275	446,874	(b) 19,733	(b) 15,569
1936	240,827	213,373	454,200	217,000	449,728	452,294	(b) 20,590	(b) 21,027
1937	244,050	216,492	460,542	220,000	454,532	457,328	(b) 22,571	(b) 21,561
1938	246,943	219,741	466,684	223,000	460,642	463,808	(b) 23,227	(b) 22,784
1939	249,065	223,315	472,380	227,000	466,896	469,780	(b) 21,195	(b) 20,980
1940	248,734	225,342	474,076	230,000	472,060	473,397	(c)	(c)
1941	246,842	226,371	473,213	234,000	474,180	478,988	(c)	(c)
1942	246,816	229,839	476,655	239,000	474,833	476,619	(c)	(c)
1943	246,389	231,875	478,264	245,000	476,989	476,745	(c)	(c)
1944	249,301	235,474	484,775	253,000	478,271	481,498	(c)	(c)
1945	251,590	238,988	490,578	260,000	484,720	487,510	(b) 20,831	(b) 21,482
1946	255,310	241,663	496,973	268,000	489,982	492,771	(b) 35,547	(b) 35,746
1947	261,653	247,109	508,762	276,000	497,006	502,951	(b) 54,001	(b) 50,640
1948	268,304	253,695	521,999	283,000	508,747	514,621	(b) 63,183	(b) 67,980
1949	280,273	263,911	544,184	296,000	521,932	532,603	(b) 72,127	(b) 68,363
1950	294,758	277,891	572,649	313,000	545,134	557,878	(b) 83,272	(b) 63,586
1951	304,454	285,885	590,339	322,000	570,346	580,317	(b) 79,254	(b) 70,829
1952	316,700	296,235	612,935	335,000	589,887	600,615	(b) 82,663	(b) 69,986
1953	326,372	305,371	631,743	345,000	611,191	621,034	(b) 82,063	(b) 73,805
1954	334,886	314,529	649,415	354,000	630,705	640,140	(b) 82,970	(b) 75,742
1955	345,487	325,263	670,750	365,000	648,930	658,747	(b) 89,201	(b) 79,110
1956	353,082	331,753	684,835	372,000	669,040	677,317	(b) 86,808	(b) 84,067
1957	360,031	340,183	700,214	380,000	684,518	691,723	(b) 84,397	(b) 80,645
1958	366,356	347,227	713,583	387,000	698,548	705,600	(b) 87,522	(b) 85,330
1959	372,252	354,287	726,489	393,000	712,257	718,830	(b) 95,046	(b) 93,754

(a) Figures represent excess of arrivals over departures.

(b) These are recorded figures which have not been

adjusted for intercensal corrections of population consequent on the 1947 and 1954 Censuses. (c) Not available.

† Estimates for 1954 and later are based on population at Census of 30th June, 1954, plus natural increase and

recorded net migration since that date. Figures are subject to revision after the next Census. ‡ Estimated.

Figures for 1954 and later years are subject to revision after the next Census.

VITAL STATISTICS
(Excluding full-blood aboriginals)

Year	Numbers			Rates per 1,000 of Mean Population			Infant Mortality	
	Marriages	Births	Deaths	Marriages	Births	Deaths (a)	Number	Rate (b)
1829	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)
1830	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)
1840	25	54	20	(c)	(c)	(c)	(c)	(c)
1850	37	186	54	(c)	(c)	(c)	(c)	(c)
1860	151	588	209	10·01	38·96	13·85	(c)	(c)
1870	153	615	281	6·15	34·27	15·18	100	117·23
1880	214	933	382	7·29	31·79	13·02	72	77·17
1890	278	1,561	540	5·90	33·16	11·47	140	89·69
1891	413	1,786	869	8·12	35·13	17·09	214	119·82
1892	412	1,848	931	7·37	33·08	16·66	260	140·69
1893	392	2,112	945	6·35	34·20	15·30	250	118·37
1894	482	2,123	1,081	6·58	28·98	14·76	268	126·24
1895	633	2,373	1,604	6·95	26·06	17·62	340	143·28
1896	1,077	2,782	2,020	9·08	23·44	17·02	513	184·40
1897	1,659	4,021	2,643	11·16	27·05	17·78	738	183·54
1898	1,674	4,968	2,716	10·23	30·35	16·59	825	166·06
1899	1,671	5,174	2,324	9·91	30·69	13·79	724	139·93
1900	1,781	5,454	2,240	10·17	31·15	12·79	688	126·15
1901	1,821	5,718	2,519	9·68	30·39	13·39	737	128·89
1902	2,024	6,232	2,823	9·89	30·44	13·79	885	142·01
1903	2,064	6,699	2,788	9·40	30·50	12·69	946	141·22
1904	2,088	7,176	2,817	8·92	30·67	12·04	811	113·02
1905	2,123	7,582	2,709	8·61	30·74	10·98	790	104·19
1906	2,261	7,800	3,084	8·89	30·66	12·12	858	110·00
1907	2,114	7,712	2,931	8·27	30·18	11·47	752	97·51
1908	2,012	7,755	2,879	7·80	30·08	11·17	657	84·72
1909	1,997	7,602	2,704	7·59	28·87	10·27	593	78·01
1910	2,107	7,585	2,740	7·77	27·99	10·11	593	78·18
1911	2,421	8,091	2,923	8·44	28·22	10·19	615	76·01
1912	2,524	8,689	3,335	8·38	28·86	11·08	713	82·06
1913	2,572	9,218	2,934	8·21	29·41	9·36	648	70·30
1914	2,660	9,204	3,043	8·24	28·52	9·43	627	68·12
1915	2,580	9,017	2,992	8·03	28·07	9·31	600	66·54
1916	2,365	8,563	3,085	7·55	27·35	9·65	567	66·22
1917	1,621	7,882	2,769	5·29	25·73	9·04	450	57·09
1918	1,612	7,106	2,833	5·23	23·06	9·19	406	57·13
1919	2,194	6,937	3,590	6·86	21·68	11·22	424	61·12
1920	2,931	8,149	3,388	8·88	24·69	10·27	538	66·02
1921	2,656	7,807	3,480	7·95	23·37	10·42	611	78·26
1922	2,446	8,131	3,167	7·17	23·82	9·28	452	55·59
1923	2,376	7,854	2,930	6·77	22·39	8·35	442	56·02
1924	2,596	8,301	3,263	7·15	22·86	8·99	414	49·87
1925	2,746	8,185	3,315	7·36	21·95	8·89	463	56·57
1926	2,844	8,301	3,350	7·47	21·79	8·79	409	49·27
1927	3,107	8,482	3,393	7·93	21·63	8·65	389	45·86
1928	3,309	8,704	3,640	8·12	21·36	8·93	419	48·14
1929	3,367	9,051	3,930	8·00	21·51	9·34	508	56·13
1930	3,205	9,200	3,774	7·47	21·44	8·80	430	46·74
1931	2,741	8,549	3,681	6·34	19·77	8·51	355	41·53
1932	2,904	7,965	3,715	6·68	18·31	8·54	355	44·57
1933	3,374	7,874	3,790	7·69	17·95	8·64	290	36·83
1934	3,682	7,801	4,076	8·32	17·64	9·21	319	40·89
1935	3,940	8,119	4,118	8·82	18·17	9·22	326	40·15
1936	4,242	8,479	4,230	9·38	18·75	9·35	358	42·22
1937	4,169	8,609	4,065	9·12	18·82	8·89	323	37·52
1938	4,153	9,141	4,234	8·95	19·71	9·13	309	33·80
1939	4,195	9,036	4,336	8·93	19·23	9·23	369	40·84
1940	5,234	9,121	4,486	11·06	19·27	9·48	403	44·18
1941	5,074	10,118	4,769	10·71	21·35	10·06	357	35·28
1942	5,441	9,901	5,076	11·42	20·77	10·65	365	36·86
1943	4,528	10,481	4,587	9·50	21·98	9·62	342	32·63
1944	4,506	10,870	4,478	9·36	22·58	9·30	354	32·57
1945	3,788	10,672	4,712	7·77	21·89	9·67	315	29·52
1946	5,171	12,105	4,753	10·49	24·57	9·65	376	31·06
1947	5,282	12,874	4,723	10·50	25·60	9·39	398	30·92
1948	5,186	12,931	4,685	10·08	25·13	9·10	331	25·60
1949	4,951	13,511	4,790	9·30	25·37	8·99	357	26·42
1950	5,434	14,228	5,058	9·74	25·50	9·07	386	27·13
1951	5,390	14,794	5,266	9·29	25·49	9·11	425	28·73
1952	5,389	15,413	5,209	8·97	25·66	8·67	384	24·91
1953	5,032	15,862	5,072	8·10	25·54	8·17	378	23·83
1954	5,204	15,928	5,364	8·13	24·88	8·38	359	22·54
1955	5,145	16,623	5,379	7·81	25·23	8·17	373	22·44
1956	5,080	16,916	5,572	7·50	24·98	8·23	384	22·70
1957	4,897	16,924	5,297	7·08	24·47	7·66	357	21·09
1958	5,038	16,731	5,554	7·14	23·71	7·87	360	21·52
1959	5,387	17,111	5,497	7·49	23·80	7·65	345	20·16

(a) Excludes deaths of defence personnel from September, 1939 to June, 1947.
 year of age per 1,000 live births.

(c) Not available.

(b) Deaths under one

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	2,639	.....	.....	16,827	769	.....	.....	.....	15,098
1850	1,994	.....	82	19,138	2,105	.....	.....	.....	16,657
1860	16,712	.....	631	69,863	2,194	.....	.....	.....	61,745
1870	19,428	26	649	98,132	5,803	.....	.....	.....	113,046
1880	34,693	207	852	180,049	7,670	.....	.....	.....	204,337
1890	103,244	4,029	1,140	414,314	15,702	.....	3,522	.....	401,737
1900	118,462	106,589	11,064	2,875,396	45,307	6,304	63,069	2,571	2,615,675
1901	138,654	94,632	18,006	3,080,580	56,316	11,093	66,437	2,724	3,164,147
1902	128,746	113,644	16,992	3,690,585	58,986	12,104	62,231	3,363	3,491,016
1903	130,123	47,532	21,444	3,996,470	69,441	45,442	64,432	4,153	3,886,802
1904	147,723	44,026	20,152	3,978,468	114,084	49,087	156,647	3,938	4,127,973
1905	160,042	36,112	18,588	4,019,066	131,259	39,596	168,699	4,864	4,145,625
1906	170,384	34,674	21,122	3,973,050	112,793	49,310	75,344	5,785	4,047,461
1907	197,798	34,067	21,482	3,837,604	102,775	42,646	69,867	6,271	3,981,715
1908	222,286	31,434	23,499	3,893,863	102,147	46,077	71,572	8,802	3,898,003
1909	263,252	32,024	26,516	3,816,271	112,759	50,306	64,655	9,031	3,906,679
1910	298,990	32,227	27,705	4,274,424	72,297	47,481	60,598	8,531	4,060,610
1911	366,138	38,189	34,668	3,850,440	80,382	54,028	68,161	8,861	3,734,448
1912	360,874	29,294	40,983	3,966,673	90,792	63,205	70,553	10,460	4,101,082
1913	364,693	26,420	43,439	4,596,659	83,150	87,122	68,190	11,463	4,787,063
1914	379,334	26,000	44,929	5,205,343	71,904	59,892	66,333	12,093	5,340,754
1915	366,305	23,669	43,003	5,140,725	62,093	48,863	59,940	10,458	5,706,542
1916	370,387	23,408	35,366	5,356,978	45,565	46,275	62,694	8,565	5,705,201
1917	324,654	20,546	27,379	4,577,007	46,286	57,600	64,698	10,087	5,276,764
1918	320,756	19,291	39,248	4,622,536	46,326	54,438	60,030	11,220	5,328,279
1919	334,786	17,643	36,818	4,944,850	44,703	62,455	57,302	10,873	5,596,865
1920	377,155	24,050	54,010	5,863,501	59,816	68,410	69,958	36,119	6,531,725
1921	400,153	24,108	70,796	6,789,565	90,182	65,863	73,551	50,128	7,476,291
1922	381,278	22,929	73,530	6,907,107	108,192	58,974	65,684	58,142	7,639,242
1923	391,343	19,880	72,095	7,207,492	101,056	56,398	66,447	56,846	7,612,856
1924	401,683	17,376	115,947	7,865,594	100,897	59,656	63,002	81,050	8,094,753
1925	447,975	16,328	151,787	8,381,446	82,963	63,225	61,481	85,410	8,439,844
1926	482,621	16,305	188,641	8,808,166	72,689	70,487	68,492	112,978	8,907,309
1927	497,946	16,689	183,692	9,750,833	72,191	77,963	86,160	110,173	9,722,588
1928	558,189	18,812	197,026	9,807,949	69,141	85,881	102,066	113,061	9,834,415
1929	539,526	17,724	153,533	9,947,951	71,843	93,851	102,148	95,489	10,223,919
1930	618,727	16,380	148,822	9,750,515	72,823	98,645	105,116	109,321	10,268,518
1931	404,020	17,557	85,762	8,686,756	64,306	77,547	105,141	37,582	10,107,295
1932	355,865	16,906	52,220	8,035,316	52,045	64,918	102,252	32,794	9,593,222
1933	328,375	20,304	61,435	8,332,153	48,001	65,061	87,424	31,651	9,196,234
1934	320,829	27,768	83,194	8,481,697	46,616	66,640	109,985	42,165	9,270,609
1935	372,583	45,049	110,504	9,331,430	47,823	75,535	120,665	53,794	9,498,525
1936	324,513	42,242	134,318	10,033,721	51,094	87,254	145,720	65,323	9,945,343
1937	306,360	41,838	155,469	10,185,433	51,743	100,419	144,092	73,227	10,556,638
1938	294,683	38,884	165,126	10,819,042	52,327	118,174	142,504	83,080	10,829,735
1939	253,405	41,201	137,395	10,949,660	56,765	117,049	144,103	76,708	11,170,102
1940	232,637	39,863	143,585	11,119,943	56,077	112,640	139,698	79,230	11,266,768
1941	255,253	34,559	151,079	11,432,068	56,585	108,885	129,847	83,160	11,420,957
1942	263,612	32,579	105,083	11,940,149	54,202	107,569	123,341	80,797	11,938,381
1943	289,832	21,708	137,596	13,151,678	55,353	105,370	112,264	117,659	13,127,242
1944	321,774	21,873	128,733	13,589,176	61,392	112,529	113,507	163,841	13,551,154
1945	308,747	20,089	137,840	13,953,830	65,122	132,920	128,016	199,440	13,949,340
1946	304,758	26,306	134,749	14,407,557	85,028	168,518	133,482	199,900	14,407,557
1947	364,646	37,750	236,442	14,980,875	119,010	182,292	162,539	216,649	15,025,427
1948	433,148	36,606	242,362	17,710,310	159,884	211,863	185,657	208,294	18,062,392
1949	460,347	42,318	182,654	20,560,646	186,163	257,363	193,802	182,616	21,377,907
1950	481,359	43,512	248,684	25,810,961	283,834	345,789	208,362	241,083	25,787,203
1951	465,169	43,242	287,141	28,156,181	295,370	400,394	246,789	280,389	27,996,834
1952	466,936	45,258	346,962	33,955,157	407,321	492,858	281,905	385,287	34,546,768
1953	520,709	51,444	453,287	38,884,236	437,517	551,697	349,160	525,819	39,392,119
1954	648,586	62,498	560,180	43,145,840	541,390	612,574	392,321	536,749	43,248,519
1955	768,327	65,477	683,702	45,719,846	560,756	667,655	357,224	594,989	46,203,889
1956	833,008	78,808	866,424	49,612,406	618,431	750,801	379,170	1,075,688	51,443,237
1957	1,280,825	68,832	755,361	54,330,934	726,226	862,224	408,652	1,077,657	56,243,302
1958	1,707,178	74,392	898,361	57,053,977	764,361	881,423	412,702	1,149,031	58,177,307
1959	1,625,139	92,266	911,711	60,068,237	770,334	920,794	414,175	1,144,547	61,752,970

(a) Calendar years to 1890, thence years ended 30th June.

(b) Includes expenditure under Special Acts.

NET EXPENDITURE FROM LOAN FUNDS ; PUBLIC DEBT

Year (a)	(c) Net Expenditure from Loan Funds on—						Public Debt (as at end of year)		
	Railways and Tramways	Electricity Supply	Harbours, Rivers, Light- houses, etc.	Water Supply and Sewerage (including Irrigation and Coun- try Water Supplies)	Public Buildings	Total Ex- penditure from Loans	Gross Amount outstand- ing (d)	Sinking Fund	Approximate Net Indebted- ness Per Head of Population 30th June
	£	£	£	£	£	£	£	£	£
1860 ....	.....	.....	.....	.....	.....	.....	1,750	.....	(h)
1870 ....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1880	(e) 274,320	.....	(f) 19,016	.....	.....	(f) 400,856	361,000	(h)	(h)
1890	1,497	.....	3,011	760	(b) 37,837	15,906	1,367,445	85,107	27·70
1900	151,111	.....	197,488	474,615	.....	878,329	11,674,640	377,161	63·55
1901	332,729	.....	214,830	872,800	.....	1,495,292	12,709,430	431,478	64·97
1902	578,985	.....	182,962	731,989	.....	1,545,823	14,942,310	486,737	70·28
1903	1,059,418	.....	138,422	413,435	.....	1,665,901	15,627,298	655,069	67·99
1904	443,339	.....	84,145	130,442	.....	710,629	16,090,288	864,752	64·69
1905	348,327	.....	96,296	469	.....	654,353	16,642,773	1,073,844	62·86
1906	219,937	.....	28,455	18,681	3,248	372,442	18,058,553	1,320,603	65·60
1907	329,527	.....	96,050	91,708	112,098	900,964	19,222,638	1,600,043	68·98
1908	305,817	.....	73,464	127,886	106,595	733,745	20,493,618	1,904,434	71·97
1909	547,639	.....	81,185	114,540	97,171	1,012,208	21,951,753	2,233,385	74·83
1910	454,121	.....	86,792	99,268	75,894	1,028,995	23,287,453	2,569,707	76·40
1911	(g) 908,968	(g) 33,275	(g) 153,592	(g) 52,909	(g) 556,912	23,703,953	2,544,812	73·51	73·51
1912	1,320,309	.....	185,764	124,989	130,846	2,309,552	26,283,523	2,918,734	77·39
1913	1,993,901	.....	150,499	395,115	70,132	3,409,218	30,276,436	3,309,345	86·10
1914	1,166,584	.....	89,870	332,110	44,166	2,913,010	34,420,181	3,692,103	95·07
1915	693,118	.....	165,360	248,142	81,004	2,521,608	37,022,622	4,068,888	102·52
1916	447,553	.....	109,228	165,543	40,661	1,584,642	39,139,676	4,528,432	110·66
1917	337,472	.....	121,858	76,485	23,350	855,183	40,914,826	5,035,961	116·21
1918	207,973	.....	84,933	68,248	17,537	1,054,178	42,304,001	5,570,853	119·32
1919	187,345	.....	69,948	46,637	21,570	1,049,736	43,637,076	6,139,008	117·32
1920	121,149	.....	102,177	47,080	10,603	2,663,320	46,822,003	6,827,878	121·13
1921	198,926	.....	118,333	213,608	24,963	2,586,404	49,039,667	7,641,564	124·08
1922	603,476	.....	91,641	217,579	44,440	2,454,925	54,969,778	8,370,160	137·01
1923	679,375	.....	120,140	200,856	18,680	3,389,299	58,485,854	8,781,051	142·78
1924	651,519	.....	139,014	435,665	88,595	3,936,833	62,765,782	9,373,571	146·68
1925	621,335	.....	181,012	650,295	91,140	4,099,021	64,493,261	9,985,031	146·20
1926	769,774	.....	219,303	678,461	77,795	4,078,686	70,010,921	10,654,093	155·75
1927	779,421	.....	191,187	441,845	117,483	3,980,201	70,606,175	8,756,936	157·73
1928	951,134	.....	264,860	566,021	127,764	4,198,362	76,427,764	8,899,080	165·55
1929	912,481	.....	263,847	545,839	91,079	3,940,752	69,355,449	991,276	162·36
1930	909,370	.....	264,360	305,056	54,108	3,645,725	71,194,325	1,040,463	163·49
1931	439,015	.....	128,599	209,964	Cr. 41	1,505,846	76,564,885	1,310,369	174·13
1932	131,448	.....	77,490	575,903	.....	1,312,242	79,707,953	1,308,906	180·18
1933	187,014	.....	242,279	677,622	34,628	2,060,530	83,514,698	1,346,549	187·23
1934	329,440	.....	246,068	803,201	95,009	2,648,501	85,847,802	371,412	193·05
1935	498,344	.....	304,941	1,077,273	106,399	2,538,213	88,590,176	523,815	196·94
1936	472,779	.....	300,955	1,243,406	84,422	2,451,707	90,344,055	569,184	198·40
1937	245,422	.....	175,991	1,151,369	89,126	2,032,224	92,332,855	645,906	200·52
1938	474,861	.....	100,540	921,550	91,678	2,160,480	93,711,941	307,211	201·31
1939	220,644	.....	92,014	888,708	114,788	1,636,184	95,472,601	359,656	202·35
1940	100,205	.....	51,758	807,293	366,017	1,812,079	96,230,399	303,976	202·70
1941	106,958	8,801	76,098	824,290	153,047	1,409,314	97,791,724	573,576	204·76
1942	55,250	12,578	55,668	302,547	35,043	97,720	97,359,245	267,426	203·56
1943	78,593	46,137	66,258	49,857	27,432	376,892	96,988,206	173,515	203·70
1944	24,340	15,357	Cr. 71,613	37,661	82,979	105,845	96,478,295	70,159	200·21
1945	69,985	5,381	Cr. 30,519	74,836	120,395	546,902	95,894,885	127,093	196·37
1946	70,924	104,060	37,609	236,486	225,298	812,263	96,925,931	503,996	195·78
1947	267,740	166,054	86,436	728,741	366,101	2,043,627	99,002,301	545,234	195·94
1948	338,062	735,697	158,232	693,878	548,505	2,537,002	100,274,741	154,496	194·38
1949	456,477	1,065,343	224,499	813,227	549,572	3,580,294	103,688,743	62,822	194·72
1950	2,248,183	2,345,719	401,853	1,001,043	678,299	8,104,696	109,550,142	70,980	196·52
1951	1,861,324	3,295,712	582,213	2,045,312	1,001,695	10,326,594	123,186,766	8,346	212·26
1952	7,599,037	3,341,916	1,346,808	2,401,831	1,364,556	17,758,295	138,288,531	323,313	230·01
1953	6,766,730	89,576	1,210,975	2,429,186	2,716,163	17,606,337	153,072,170	930,677	245·19
1954	5,647,407	703,104	1,163,776	1,969,720	1,572,045	14,193,974	165,732,545	410,841	258·51
1955	4,875,314	705,000	960,011	2,830,321	1,966,616	14,730,970	177,881,349	221,058	269·81
1956	3,069,649	1,024,690	819,147	2,758,108	2,093,645	13,314,315	188,732,740	122,377	278·44
1957	2,759,379	2,100,000	475,057	3,559,439	2,799,502	16,278,011	205,145,043	55,918	296·42
1958	2,104,682	1,240,000	699,109	3,847,128	2,945,308	14,135,785	218,428,445	73,659	309·61
1959	2,455,615	1,100,000	713,790	4,197,363	3,704,970	16,171,125	232,118,579	86,437	322·64

(a) Calendar years to 1890, thence years ended 30th June. Sinking Fund is at 31st March from 1893 to 1928.
 (b) Inclusive of prior to 1890. (c) From 1928 includes expenditure from Loan Suspense Account. (d) Reduction of Public Debt in 1929 is due to cancellation of Western Australian Stocks held by Sinking Fund Trustees in accordance with Financial Agreement Act. (e) Total amount for the years 1877 to 1881. (f) Total amount for the years 1872 to 1881. (g) Including readjustments for previous years. (h) Not available.

BANKING AND INSURANCE

Year	Cheque-paying Banks (Weekly Average over Year) (a)			Savings Banks (b)		Insurance			
	De-positors' Balances	Loans, Advances and Bills Discounted	Bank Clearings (Weekly Averages) (f)	Accounts open at end of Year	Amounts due to Depositors at end of Year	Life		General (g) ‡	
						Policies Existing at end of Year		Gross Premiums	Gross Claims
						Sum Assured			
						Ordinary	Industrial		
	£'000	£'000	£'000	No.	£	£'000	£'000	£	£
1870	(c)	(c)	(c)	805	13,582	(c)	(c)	(c)	(c)
1880	(c)	(c)		1,299	22,724				
1890	952	1,404		3,014	34,616				
1900	4,391	2,757		33,646	1,299,144	3,458	220		
1901	4,437	3,061	(c)	39,318	1,618,359	3,816	238		
1902	4,796	3,224		45,108	1,889,082	4,337	261		
1903	4,792	3,651		48,008	1,988,624	4,925	264		
1904	4,734	3,855		54,873	2,079,763	5,344	266		
1905	5,098	4,111		59,764	2,207,296	5,557	353		
1906	5,551	4,614		63,573	2,316,161	5,626	365		
1907	5,348	5,062		66,737	2,633,135	5,621	355		
1908	4,985	5,451		70,340	2,881,189	5,773	445		
1909	5,116	5,488		75,852	3,055,575	5,937	481		
1910	6,314	6,114		84,262	3,477,708	6,359	585		
1911	7,165	7,500	(c)	97,147	4,088,800	6,998	684		
1912	6,697	8,412		108,622	4,400,398	7,462	831		
1913	6,420	8,176		121,201	4,675,097	7,638	1,009		
1914	6,894	8,317		134,510	4,925,454	7,921	1,134		
1915	7,615	8,709		144,777	5,142,291	8,029	1,225		
1916	8,049	9,317		156,458	5,333,463	8,330	1,365		
1917	8,589	9,143		171,207	5,841,611	8,620	1,521	360,648	95,065
1918	9,687	9,585		182,140	6,290,028	9,051	1,728	391,380	151,673
1919	10,803	10,414		196,584	7,002,474	9,925	1,953	401,706	147,620
1920	12,371	10,797		211,415	7,257,840	10,820	2,045	539,944	184,067
1921	12,002	10,916	(d)	226,468	7,716,529	12,091	2,349	556,185	341,919
1922	12,260	10,766		237,505	7,759,317	12,793	2,594	597,675	328,867
1923	12,674	10,398		250,214	8,033,420	13,772	2,854	620,861	217,530
1924	13,122	11,656		264,842	8,218,147	14,655	3,180	764,152	271,565
1925	13,600	12,048		277,701	8,303,934	15,870	3,405	834,380	361,979
1926	(d) 14,444	(d) 12,872		292,353	8,969,824	16,985	3,658	916,006	450,389
1927	14,651	14,617		309,176	9,694,396	18,139	4,021	(d) 415,329	(d) 216,226
1928	15,513	15,296		330,284	10,645,373	19,463	4,375	1,055,624	600,194
1929	13,405	17,240		350,046	11,609,190	20,634	4,683	1,195,526	602,706
1930	12,762	20,886		367,665	11,728,617	20,828	4,502	1,226,101	581,607
1931	12,228	20,818	(e)	371,662	10,867,422	19,953	4,177	957,008	485,620
1932	14,281	19,646		206,997	10,217,739	19,591	4,293	846,498	327,445
1933	14,892	19,217		194,095	10,064,464	19,724	4,459	893,218	397,817
1934	16,426	19,121		192,915	10,398,972	20,315	4,697	872,956	400,446
1935	18,103	20,531		197,611	10,929,010	21,449	4,973	964,609	454,809
1936	19,366	21,616		208,990	11,517,220	22,704	5,344	1,087,779	507,335
1937	19,732	22,266		211,247	11,834,794	24,428	5,687	1,205,146	682,812
1938	20,615	22,571		225,118	12,037,486	25,826	5,972	1,320,314	762,869
1939	20,590	23,887		232,564	12,396,191	26,926	6,304	1,372,956	730,778
1940	21,110	23,765		233,649	11,860,151	27,354	6,543	1,441,950	729,969
1941	23,549	22,809	(e)	238,820	12,521,159	27,921	6,938	1,395,903	618,153
1942	25,959	21,819		250,153	13,821,138	27,940	7,656	1,402,777	622,303
1943	30,568	18,914		279,469	18,884,330	28,932	8,328	1,173,589	507,033
1944	35,764	16,731		301,225	25,790,714	30,690	8,981	1,184,443	448,445
1945	37,423	15,752		316,565	31,763,170	33,127	9,512	1,282,270	577,196
1946	33,326	16,863		340,737	38,289,087	38,804	10,518	1,444,946	611,433
1947	36,245	22,694		349,091	36,625,137	44,008	11,527	1,751,278	868,571
1948	41,016	24,377		358,709	36,182,591	49,446	12,569	2,093,779	1,044,528
1949	50,486	24,952		365,130	37,534,968	55,606	13,563	2,535,463	1,026,541
1950	58,229	27,650		378,670	39,612,361	63,166	14,752	2,956,479	1,220,179
1951	74,622	33,340	(e)	392,790	44,672,327	74,362	16,230	3,679,886	1,670,488
1952	85,461	41,676		403,678	47,170,835	85,504	17,628	4,678,956	2,630,471
1953	85,117	43,676		414,288	49,794,288	97,750	19,055	5,368,019	2,726,318
1954	90,932	53,214		422,480	52,614,379	110,784	20,120	5,713,329	2,637,919
1955	90,448	68,915		426,637	53,628,939	125,772	20,744	6,281,459	3,140,606
1956	87,250	71,293		446,419	57,933,790	141,069	21,057	6,772,858	3,562,896
1957	92,789	67,537		473,548	62,693,286	158,632	21,267	6,896,208	4,101,225
1958	93,239	70,599		497,690	65,948,351	176,180	21,502	7,800,541	3,903,656
1959	90,150	73,553		527,079	71,499,134	198,161	21,639	8,584,513	4,582,351

(a) Averages based on amounts as at close of business each week. Figures subsequent to 1926 are for the years ended 30th June. (b) Figures for 1893 and later years are for the year ended 30th June. (c) Particulars not available. (d) Particulars for half-year ended 30th June. (e) Average for September to June only.

(f) Particulars are for calendar years. (g) Up to 1926 particulars are for calendar years, thereafter years ended 30th June. ‡ Exclusive of particulars of the Motor Vehicle Insurance Trust which became the sole insurer in respect to motor vehicle (third party) insurance from 1st July, 1949.

TRANSPORT AND COMMUNICATION

Year	State Government Railways (a)				Private Railways	Posts and Telegraphs (d)			Shipping (i)	
	Route Mileage at end of Year (b)	Operating Revenues (j)	Operating Expenses (j)	Tonnage of Paying Goods and Livestock Carried	Miles open at end of Year (c)	Telegraph and Telephone Lines (e)	Post, Telegraph and Telephone (f) †		Vessels—Cleared to Ports outside the State	
							Revenue	Expenditure	Number	Net Tonnage
		£	£			miles	£	£		
1870	...	...	...	...	...	...	4,226	7,105	131	67,730
1880	34	2,626	3,851	2,465	38	1,568	13,014	29,908	168	126,444
1890	188	45,113	51,640	60,692	385	2,961	26,594	36,609	267	420,327
1900	1,355	1,259,512	861,470	1,384,040	623	6,053	206,475	248,877	747	1,606,332
1901	1,355	1,353,704	1,044,920	1,719,720	629	6,173	218,818	251,289	901	1,872,027
1902	1,360	1,521,429	1,256,370	1,885,146	629	6,112	232,591	259,499	765	1,886,905
1903	1,510	1,553,485	1,247,873	1,795,019	627	6,079	221,323	277,021	703	1,662,741
1904	1,541	1,588,084	1,179,624	2,057,270	655	6,199	235,664	305,225	655	1,777,186
1905	1,605	1,610,129	1,256,003	2,154,275	694	6,389	263,666	302,150	656	1,828,256
1906	1,612	1,634,444	1,201,753	2,096,514	743	6,451	259,735	295,300	609	1,792,176
1907	1,764	1,537,333	1,135,907	2,091,376	765	6,686	260,650	319,141	597	1,760,338
1908	1,943	1,501,925	1,007,732	2,058,741	798	6,868	272,179	346,198	592	1,816,806
1909	2,045	1,508,436	973,871	1,997,100	842	6,719	276,668	336,001	650	2,054,189
1910	2,145	1,637,334	1,096,908	2,241,859	902	7,480	306,312	392,469	726	2,372,260
1911	2,376	1,844,419	1,216,477	2,488,844	948	7,580	314,357	452,140	781	2,566,090
1912	2,598	1,884,604	1,343,977	2,542,087	981	7,758	320,935	493,925	765	2,614,127
1913	2,854	2,037,853	1,506,600	2,866,241	952	8,513	336,422	632,601	873	3,022,958
1914	2,967	2,257,011	1,572,008	3,170,144	960	8,804	343,879	571,090	(g) 527	3,179,470
1915	3,332	2,058,244	1,497,826	2,523,859	976	(h) 8,791	346,102	543,960	627	2,384,122
1916	3,332	2,088,110	1,511,655	2,554,858	993	8,791	367,178	526,084	689	2,492,875
1917	3,425	1,977,382	1,448,451	2,400,246	1,010	8,342	380,271	486,698	731	2,557,989
1918	3,491	1,816,388	1,451,334	2,259,070	983	8,313	389,022	444,864	315	1,102,295
1919	3,539	1,872,897	1,567,591	2,379,403	998	8,328	451,636	462,848	636	2,111,894
1920	3,539	2,291,876	2,000,473	2,613,606	918	8,270	442,975	533,533	729	2,659,302
1921	3,539	2,720,032	2,422,004	2,604,068	895	8,318	541,882	618,130	789	2,825,586
1922	3,539	2,827,856	2,328,843	2,548,258	878	8,413	592,112	736,691	874	3,231,366
1923	3,555	2,815,985	2,210,348	2,624,320	865	8,706	607,630	862,737	709	3,087,946
1924	3,629	3,227,371	2,297,980	3,023,299	812	10,098	608,306	1,305,560	673	3,101,166
1925	3,733	3,359,501	2,355,087	3,284,915	860	11,031	634,985	971,375	805	3,657,529
1926	3,865	3,337,292	2,509,049	3,237,496	884	11,402	679,879	1,026,949	685	3,256,132
1927	3,918	3,607,989	2,685,693	3,438,587	872	11,858	740,218	937,450	799	3,796,564
1928	3,977	3,858,051	2,910,811	3,697,248	838	11,526	799,031	963,141	812	3,906,078
1929	4,079	3,799,764	3,055,446	3,670,147	842	11,691	845,638	915,498	808	3,674,298
1930	4,111	3,595,203	3,112,895	3,530,188	847	11,804	908,993	920,429	794	3,932,476
1931	4,181	3,198,913	2,610,839	3,153,525	826	11,812	835,996	812,922	742	3,686,229
1932	4,235	2,922,385	2,123,281	2,847,568	830	11,699	788,063	619,427	694	3,530,279
1933	4,338	2,932,140	2,111,588	2,840,077	845	11,723	819,668	632,767	691	3,563,679
1934	4,360	2,919,315	2,186,506	2,652,247	854	11,785	848,021	668,246	683	3,567,884
1935	4,359	3,311,839	2,382,744	2,903,481	869	11,505	922,263	733,576	730	3,775,162
1936	4,358	3,446,161	2,488,117	2,886,648	880	11,532	974,601	826,539	725	3,831,105
1937	4,357	3,462,037	2,620,093	2,798,448	873	12,090	1,038,894	911,309	761	3,753,586
1938	4,376	3,677,850	2,709,914	3,061,921	854	12,057	1,081,641	922,402	866	4,111,171
1939	4,378	3,599,143	2,911,570	2,859,141	844	12,071	1,108,315	1,016,764	930	4,326,529
1940	4,381	3,555,982	2,828,329	2,658,876	831	12,040	1,117,395	994,509	805	3,751,135
1941	4,381	3,571,828	2,757,891	2,603,857	815	12,080	1,149,839	1,000,181	556	3,087,389
1942	4,381	3,996,312	3,025,919	2,638,469	818	12,118	1,300,674	1,048,689	492	2,507,742
1943	4,381	4,417,907	3,447,512	2,504,682	849	12,164	1,537,970	1,280,582	312	1,467,495
1944	4,381	4,386,523	3,795,929	2,560,137	829	12,523	1,635,564	1,295,764	385	1,579,656
1945	4,381	4,276,250	3,764,290	2,904,431	798	12,435	1,682,022	1,308,433	382	1,528,336
1946	4,381	4,106,718	4,026,706	2,727,702	706	12,429	1,731,309	1,448,680	490	2,472,948
1947	4,348	4,045,935	4,423,801	2,576,936	759	12,423	1,845,239	1,663,976	572	2,646,285
1948	4,348	4,598,896	5,570,000	2,857,573	739	12,661	1,961,377	2,204,194	752	3,431,319
1949	4,321	5,214,844	6,702,254	2,736,720	734	12,874	2,066,248	2,893,111	950	4,677,867
1950	4,252	6,472,049	7,501,395	2,843,292	774	14,439	2,369,391	3,534,606	1,006	5,271,814
1951	4,228	7,196,214	8,618,863	3,033,213	752	14,120	2,755,706	4,151,000	1,060	5,552,156
1952	4,113	9,163,532	10,601,917	3,062,641	752	14,598	3,644,986	4,925,000	1,045	5,523,959
1953	4,108	7,972,260	12,087,333	2,618,806	724	14,904	3,895,850	5,462,000	1,027	5,413,420
1954	4,111	11,374,307	13,756,109	3,205,958	758	14,946	4,180,297	5,873,000	1,003	5,315,041
1955	4,111	12,530,410	13,935,329	3,406,634	748	15,149	4,544,000	5,927,000	1,138	6,154,422
1956	4,119	13,274,166	14,993,054	3,792,856	726	15,284	4,915,000	6,922,000	1,258	6,754,321
1957	4,117	14,044,111	16,011,316	4,223,031	705	15,482	5,396,000	7,404,000	1,248	6,543,365
1958	4,117	12,975,176	14,842,662	3,588,914	575	15,579	5,842,000	8,111,000	1,222	6,502,096
1959	4,117	13,699,803	14,932,503	3,913,167	575	15,690	6,109,000	8,572,000	1,284	6,613,454

(a) From 1900, year ended 30th June.

(b) Exclusive of lines used by government timber mills which in

1959 totalled 125 miles.

(c) Including length of lines open for general and passenger traffic, which from 1894 to

1959 was 277 miles.

(d) From 1901, under control of Commonwealth Government.

(e) As at end of year.

From 1916, year ended 30th June. From 1935, figures represent pole route mileage.

(f) From 1920, year ended 30th June. (g) Half-year ended 30th June. (h) Complete records not available.

(i) From 1915, year ended 30th June. (j) Includes operations of Railway Road Services which commenced in November, 1941.

† Figures represent revenue actually collected, and actual payments made, as recorded for Treasury purposes.

MOTOR VEHICLE REGISTRATIONS ; EXPORTS OF WOOL

Year (a)	Motor Vehicles—Effective Registrations as at 30th June ‡				Wool Exports			
	Cars	Utilities, Vans, Trucks	Buses	Motor Cycles	Greasy (c)		Scoured	
					Quantity	Value	Quantity	Value
	No.	No.	No.	No.	lb.	£	lb.	£
1840					50,000	2,500		
1850					309,640	15,482		
1860					656,815	49,261		
1870					1,787,812	89,390		
1880					4,342,606	271,412		
1890					6,969,380	261,352		
1900					8,658,343	252,535	436,400	18,183
1901					12,867,770	348,502	711,193	29,633
1902					12,484,361	429,150	447,910	28,928
1903					12,501,804	416,726	405,261	27,017
1904					11,914,085	399,498	299,550	19,897
1905					17,033,579	571,632	349,509	23,240
1906					14,678,076	578,364	363,528	24,716
1907					19,914,451	791,485	295,782	20,603
1908					20,302,976	619,715	440,069	17,293
1909					26,430,526	975,287	714,053	37,353
1910					25,777,153	946,976	420,056	19,894
1911					24,981,375	917,517	175,818	7,933
1912					27,901,770	1,026,041	225,330	9,625
1913					25,504,884	966,513	227,465	10,305
1914(b)					4,845,635	180,421	35,436	1,618
1915					23,905,597	812,869	99,210	4,761
1916					28,868,646	1,258,577	234,808	14,006
1917					24,327,307	1,415,519	77,976	4,772
1918	2,538				10,519,055	528,192	112,967	7,627
1919	2,938				29,022,006	1,887,635	622,550	64,506
1920	3,404				56,284,119	3,608,849	3,316,416	328,257
1921	4,181				42,047,567	2,296,593	1,083,810	91,526
1922	4,403				54,511,990	2,836,610	4,180,513	365,535
1923	7,280				39,275,458	2,993,029	2,650,590	239,567
1924	11,162				42,358,624	4,014,014	1,516,384	223,138
1925	15,261				33,722,363	3,514,835	1,293,383	221,465
1926	20,011				48,023,588	3,351,405	1,665,500	176,460
1927	19,451	5,741	78		52,130,709	3,347,220	1,656,846	171,093
1928	24,205	7,971	133		60,401,951	4,866,755	838,905	95,802
1929	27,174	9,516	251		56,202,277	3,807,439	843,409	103,302
1930	31,130	11,096	262	7,707	61,777,499	2,711,016	1,024,994	68,097
1931	27,741	10,571	300	6,777	69,397,449	2,325,894	1,385,684	60,644
1932	28,608	11,802	292	6,700	64,591,198	2,269,826	1,965,598	75,744
1933	27,969	12,344	282	6,700	68,191,868	2,435,668	2,695,264	117,924
1934	28,761	13,642	295	6,234	69,997,609	4,565,408	2,728,112	245,438
1935	30,578	15,179	351	6,597	80,550,382	3,239,585	3,451,156	174,004
1936	32,329	17,028	334	6,861	78,487,989	4,446,016	3,081,405	225,720
1937	34,180	19,600	319	6,977	58,323,998	3,926,932	2,447,923	237,501
1938	36,386	22,273	323	7,079	53,451,966	2,938,571	2,705,782	222,969
1939	38,039	24,163	278	7,199	68,408,797	3,035,899	3,605,920	234,681
1940	38,907	24,745	281	6,789	65,279,119	3,801,266	3,648,086	330,609
1941	36,995	24,493	295	6,704	19,982,826	1,300,647	2,798,895	258,938
1942	29,022	21,341	284	4,057	75,738,857	4,918,206	4,927,597	514,835
1943	29,750	20,869	320	3,935	28,513,716	2,081,357	2,731,336	297,170
1944	30,295	22,183	276	4,324	68,663,427	5,420,995	4,618,630	458,592
1945	30,635	23,649	294	4,501	52,057,795	4,041,137	4,885,497	512,302
1946	31,408	28,590	314	6,799	108,180,425	8,567,873	11,746,396	1,389,157
1947	32,379	31,762	335	8,199	75,186,771	7,780,467	17,466,798	2,479,906
1948	35,596	34,322	463	8,877	80,204,880	13,900,549	16,072,580	2,721,435
1949	40,119	38,247	654	10,974	85,919,353	18,358,654	13,588,435	3,176,250
1950	48,632	42,370	836	12,897	83,405,237	20,035,466	17,490,562	5,426,116
1951	56,235	46,964	944	14,535	80,731,643	48,246,541	11,054,717	8,032,936
1952	64,277	51,645	982	10,047	91,455,408	28,645,328	11,352,904	5,194,466
1953	69,917	55,420	1,025	15,565	100,908,701	33,879,266	12,603,629	5,681,628
1954	78,312	59,257	1,105	15,243	100,701,099	35,672,828	11,918,274	5,457,140
1955	90,255	62,753	1,117	14,662	96,554,322	29,648,228	13,261,323	5,633,302
1956	98,875	64,430	1,175	13,873	113,289,040	28,947,217	16,744,513	6,209,713
1957	103,788	64,806	1,204	13,146	108,581,711	35,625,655	18,746,141	8,129,332
1958	110,573	65,046	1,190	12,827	96,452,009	28,612,208	18,557,014	7,730,971
1959	118,112	66,617	1,213	13,411	111,130,597	23,156,358	21,763,475	6,112,115

(a) From 1915, year ended 30th June. (b) Six months ended June. (c) Figures for the years 1840 to 1890 include scoured wool, separate particulars of which are not available. (d) See note (c). ‡ From 1929, as at 30th June; for earlier years, various dates. Figures prior to 1946 exclude Commonwealth-owned vehicles. From 1946 onwards Commonwealth-owned vehicles other than those of defence services are included. n.a. = "not applicable" or "not available."

EXPORTS OF CERTAIN COMMODITIES—continued

Year (a)	Wheat		Beef and Veal*		Mutton and Lamb		Pork	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	bushels	£			lb.	£		
1860	37	10						
1880	15,400	3,850						
1900	1,074	181			184,379	4,582		
1901	105	21			244,009	6,154		
1902	....	....			....	....
1903	....	....			....	....
1904	9,680	1,580			....	....
1905	46,733	7,973			8,775	198		
			lb.	£	lb.	£	lb.	£
1906	38	7	....	....	15,812	292	....	....
1907	490,350	96,675	....	....	369,958	5,586	....	....
1908	211,800	45,005	....	....	95,235	1,366	....	....
1909	624,660	129,025	....	....	....	....	722	23
1910	2,014,552	406,326	....	....	....	....	....	....
1911	2,231,393	386,922	....	....	....	....	....	....
1912	502,475	100,148	....	....	....	....	....	....
1913	4,105,900	763,798	....	....	....	....	48	....
1914(b)	7,286,118	1,343,856	....	....	....	....	....	....
1915	20	10	....	....	....	....	....	....
1916	3,930,900	1,023,362	4,311,087	87,831	40,912	802	....	....
1917	7,036,262	1,619,630	....	....	....	....	....	....
1918	1,693,937	437,709	1,187,915	17,929	114,820	1,969	323,641	7,407
1919	1,651,182	399,979	239,033	3,247	138,224	2,123	132,662	3,237
1920	9,151,125	2,541,698	661,965	16,431	....	....	....	....
1921	6,576,405	2,930,179	5,762,126	123,978	117,816	3,652	44,807	2,386
1922	10,357,245	3,037,997	2,478,848	39,400	....	....	....	....
1923	5,362,817	1,471,100	9,954,698	152,349	865,510	27,432	1,413	82
1924	10,925,377	2,542,626	10,646,717	135,938	445,926	12,825	....	....
1925	14,985,953	5,158,020	7,106,375	99,062	....	....	....	....
1926	13,174,678	4,186,714	8,118,705	120,117	....	....	....	....
1927	16,329,668	4,667,095	6,696,652	99,020	....	....	....	....
1928	26,193,707	6,994,528	11,026,131	136,082	227,261	7,675	....	....
1929	26,091,098	6,692,046	9,313,392	112,765	....	....	....	....
1930	24,953,238	6,129,218	11,381,415	136,242	....	....	....	....
1931	42,440,195	5,288,252	11,315,154	122,143	854,608	17,298	208,960	3,546
1932	36,867,683	5,323,740	11,239,948	117,640	2,113,217	51,315	1,220,708	26,502
1933	30,694,720	4,661,276	14,406,036	138,141	383,855	7,271	948,667	18,331
1934	23,359,750	3,417,230	12,602,428	117,189	1,352,172	24,428	667,564	14,749
1935	24,935,638	3,921,897	12,072,230	116,327	4,978,521	118,228	1,193,912	27,345
1936	14,897,053	2,803,358	17,036,178	160,323	5,557,094	141,230	1,550,285	32,313
1937	13,780,400	3,627,352	11,226,986	124,567	4,554,709	123,485	1,305,864	33,549
1938	22,038,207	4,833,666	11,444,720	157,004	8,704,973	234,754	822,723	26,106
1939	22,613,525	3,027,703	16,501,339	248,321	11,774,994	318,927	1,278,045	39,883
1940	15,330,423	2,334,344	10,638,900	164,476	10,284,974	266,329	4,990,211	161,758
1941	14,855,703	2,928,876	12,308,601	203,581	9,691,373	248,231	13,260,644	425,718
1942	9,774,348	2,010,536	7,883,141	163,331	8,122,379	217,309	10,295,031	341,049
1943	5,137,852	1,055,423	408	29	8,785,353	228,860	2,320,707	77,376
1944	12,056,630	2,906,348	3,184,931	94,923	14,691,304	381,370	3,456,855	119,123
1945	23,589,598	7,477,402	2,651,186	84,146	8,824,161	204,844	3,740,724	127,203
1946	13,510,257	5,848,105	9,517,061	278,907	5,001,813	137,530	7,497,152	272,570
1947	6,802,465	4,481,773	14,016,681	345,301	8,997,059	204,434	2,879,603	123,915
1948	19,311,637	16,904,259	14,006,848	301,938	11,197,846	292,167	668,757	26,604
1949	18,401,445	14,049,810	17,760,205	420,214	10,156,809	354,124	1,374,622	89,554
1950	21,510,390	16,692,007	19,015,413	591,603	5,274,277	242,556	358,571	29,646
1951	30,510,360	25,843,951	16,973,192	610,600	2,070,449	108,603	616,359	56,424
1952	26,822,885	22,864,041	13,289,965	567,712	2,300,953	150,526	933,788	116,212
1953	23,318,935	20,173,406	11,058,475	718,691	14,527,244	731,536	1,019,862	151,736
1954	6,800,140	5,635,764	13,555,097	873,785	7,294,910	437,440	474,349	76,077
1955	19,334,742	13,738,962	14,939,112	1,018,832	7,108,748	664,048	2,313,361	266,129
1956	22,773,235	14,429,864	16,757,378	1,171,613	14,556,055	1,077,932	1,636,927	241,145
1957	46,796,467	30,645,638	(c) 9,099,452	(c) 610,557	12,761,112	870,612	1,614,923	293,885
1958	26,643,941	20,430,624	(c) 24,304,729	(c) 1,651,190	11,204,637	950,096	5,123,833	730,765
1959	23,503,275	16,761,792	23,226,399	2,171,044	21,923,136	1,588,442	4,371,464	589,144

(a) From 1915, year ended 30th June.

(b) Six months ended 30th June.

(c) Figures for 1956-57

exclude, and those for 1957-58 include, a shipment of 6,776,366 lb. valued at £446,551 exported overseas during 1956-57 but not recorded until 1957-58.

* Revised.

EXPORTS OF CERTAIN COMMODITIES—continued

Year (a)	Flour †		Butter †		Potatoes †		Fresh Fruit (b) †	Cattle	Sheep
	Quantity	Value	Quantity	Value	Quantity	Value	Value	Value	Value
	short tons (c)	£	lb. (d)	£	tons (d)	£	£	£	£
1850	....	....	....	18	....	96	....	24	118
1860	12	220	....	....	70	630	....	....	2,200
1870	....	....	....	....	26	172	....	....	240
1880	(d)	1,231	....	....	....	....	....	....	102
1890	....	....	....	....	....	....	....	483	831
1900	48	400	....	....	111	649	414	18	1,039
1901	44	413	....	....	74	641	682	10	1,954
1902	....	....	....	....	24	148	20	10,836	2,328
1903	....	....	....	....	2	20	15	....	65
1904	5	41	240	8	1	6	12	....	922
1905	114	877	....	....	9	80	121	100	1,313
1906	24	199	....	....	35	388	238	113	931
1907	4,087	34,565	....	....	....	....	925	800	42
1908	528	5,066	326	18	61	448	2,262	315	155
1909	1,088	10,575	547	32	126	941	2,157	117	436
1910	3,082	25,427	124	9	81	709	5,506	7,845	4,363
1911	7,270	54,565	11,844	500	64	844	16,103	33,283	8,441
1912	15,591	121,730	39,943	2,205	712	7,396	33,396	51,358	11,076
1913	29,851	239,840	48,505	2,546	242	2,162	32,274	72,950	15,430
1914 (e)	18,273	158,066	20,893	1,138	135	960	8,280	29,677	3,111
1915	2,986	27,186	25,533	1,613	301	2,806	46,417	37,468	5,676
1916	17,309	218,889	33,719	2,353	906	10,352	22,236	70,845	4,359
1917	37,972	424,362	53,061	3,920	399	3,848	82,014	22,533	2,016
1918	58,066	693,577	313,140	25,607	165	2,107	35,689	88,597	14,590
1919	105,453	1,294,482	199,415	17,766	555	7,027	57,021	9,016	21,948
1920	129,491	2,526,620	137,370	13,785	1,982	34,934	150,087	36,517	13,839
1921	53,452	1,075,082	86,745	10,396	712	8,583	121,335	21,907	11,510
1922	56,248	1,024,632	61,003	5,793	859	8,533	176,104	47,917	34,766
1923	59,875	670,909	27,176	2,544	2,097	23,075	237,940	59,065	22,474
1924	78,217	824,743	45,947	3,887	4,011	53,989	188,947	30,170	19,772
1925	75,407	968,501	33,334	2,765	919	6,547	246,535	2,255	3,976
1926	92,097	1,294,311	37,700	3,400	2,056	28,549	232,149	14,848	15,635
1927	94,329	1,161,324	29,876	2,833	2,004	29,528	334,272	16,199	24,922
1928	85,398	1,008,168	23,418	2,364	801	10,489	191,915	34,917	29,102
1929	79,865	892,323	99,505	9,101	1,641	20,938	533,354	18,959	25,753
1930	69,274	772,715	66,899	5,517	5,387	81,070	156,194	343	22,963
1931	85,966	635,518	41,944	2,082	5,301	26,925	302,085	1,435	12,590
1932	88,631	580,729	1,455,042	89,199	1,065	10,457	430,738	1,394	13,768
1933	86,434	554,519	2,297,431	189,917	850	4,880	332,273	680	17,574
1934	64,830	392,269	2,220,130	98,435	2,000	10,853	369,515	35	13,024
1935	86,160	564,945	2,316,638	75,111	2,691	28,091	448,058	466	21,963
1936	66,987	487,353	2,301,397	124,501	8,713	63,497	501,988	501	23,461
1937	86,291	832,860	1,652,308	93,230	7,301	62,741	362,020	667	27,984
1938	81,336	804,706	3,651,258	238,232	5,500	30,933	328,124	177	37,055
1939	89,245	584,397	4,165,717	233,542	15,297	148,427	648,985	341	36,588
1940	91,843	652,163	4,157,400	247,379	12,487	114,358	422,885	125	32,360
1941	118,710	1,093,982	3,883,233	232,158	19,000	196,273	187,332	1,057	56,163
1942	85,156	842,687	3,722,340	216,753	10,940	114,149	122,565	297	48,256
1943	77,802	792,778	477,150	32,770	7,081	81,018	135,670	473	218
1944	107,808	1,183,517	2,144,544	142,588	1,641	23,407	100,012	13,375	69
1945	104,444	1,284,658	2,214,548	192,822	18,377	302,081	119,194	945	348
1946	117,136	2,339,327	2,887,169	255,952	13,768	234,059	406,453	1,085	45,385
1947	129,842	3,818,727	2,089,858	196,769	13,404	250,903	793,621	13,622	181,002
1948	140,306	5,678,840	4,572,333	506,814	18,924	349,876	945,244	4,771	173,565
1949	131,614	5,271,572	4,682,378	535,602	14,529	231,288	882,943	5,542	186,973
1950	116,199	4,178,932	3,527,571	463,601	11,164	217,172	1,116,588	2,714	213,250
1951	160,228	5,900,046	1,285,022	184,056	12,306	284,830	1,404,698	4,373	308,016
1952	161,974	6,851,709	448,120	69,751	15,073	419,979	1,649,465	11,507	315,363
1953	176,630	7,566,057	421,937	78,875	13,568	405,380	2,490,580	11,408	250,749
1954	148,467	5,867,669	442,111	83,953	17,186	699,593	1,841,714	14,265	284,146
1955	120,711	3,623,031	441,157	84,696	9,667	281,648	2,145,042	33,912	306,201
1956	130,519	3,907,810	649,696	122,559	3,354	135,278	2,045,049	88,492	312,345
1957	127,712	3,745,512	445,590	90,412	8,598	428,632	2,499,800	121,370	461,569
1958	111,946	3,456,983	477,856	92,036	14,266	434,002	1,909,399	154,128	420,598
1959	104,754	3,171,608	417,259	89,343	9,172	205,650	1,995,119	197,992	382,125

† Includes ships' stores. (a) From 1915, year ended 30th June. (b) Including tomatoes. (c) Short ton = 2,000 lb. (d) Not available. (e) Six months ended June.

EXPORTS OF CERTAIN COMMODITIES—continued

Year (a)	Hides	Skins	Timber (c)		Pearl-shell	Asbestos	Manganese Ore	Iron Ore
	Value	Value	Quantity	Value	Value	Value	Value	Value
	£	£	'000 sup. ft.	£	£	£	£	£
1850	.....	329	126	1,048	.....	.....	.....	.....
1860	.....	56	658	4,932	.....	.....	.....	.....
1870	.....	195	2,566	17,571	9,431	.....	.....	.....
1880	826	2,947	7,950	66,253	39,710	.....	.....	.....
1890	196	24,207	14,066	82,052	86,293	.....	.....	.....
1900	20,803	54,099	68,705	458,036	86,513	.....	.....	.....
1901	22,337	64,222	85,807	572,047	105,730	.....	.....	.....
1902	24,082	87,374	75,082	500,533	138,689	.....	.....	.....
1903	24,878	103,747	95,794	638,867	174,322	10	.....	.....
1904	24,204	102,068	96,868	654,120	124,505	.....	.....	.....
1905	25,197	143,083	104,514	689,011	146,832	.....	.....	.....
1906	25,846	159,854	105,761	707,789	142,682	.....	.....	.....
1907	28,055	158,623	76,826	504,985	169,815	.....	.....	.....
1908	25,443	112,488	118,435	813,618	190,741	.....	.....	.....
1909	27,362	170,293	129,868	866,758	174,960	.....	.....	140
1910	35,788	205,436	144,858	972,325	248,068	.....	.....	.....
1911	39,065	134,275	149,390	986,187	240,764	.....	.....	.....
1912	42,800	139,635	135,565	903,396	421,609	.....	4	.....
1913	59,407	197,010	163,438	1,089,486	274,724	.....	.....	.....
1914b	25,485	78,990	75,357	502,183	85,922	.....	.....	.....
1915	33,811	116,120	119,622	808,392	161,389	.....	.....	.....
1916	86,781	165,041	65,188	442,014	158,597	.....	3	.....
1917	57,839	164,667	46,688	310,893	196,977	.....	.....	.....
1918	53,486	150,252	41,230	273,783	143,779	25	.....	.....
1919	30,580	241,371	49,629	332,584	117,816	97	.....	.....
1920	51,234	571,795	60,784	465,734	335,283	.....	.....	.....
1921	19,116	360,558	117,795	1,137,223	234,936	6,666	10	.....
1922	54,607	310,542	99,707	1,041,047	253,779	4,195	135	.....
1923	52,624	493,353	94,935	997,471	214,534	.....	120	.....
1924	50,275	469,973	133,648	1,367,517	243,680	.....	80	.....
1925	55,006	422,431	142,132	1,477,997	234,349	.....	160	.....
1926	37,390	403,913	144,017	1,522,958	232,647	.....	.....	.....
1927	46,350	329,654	157,355	1,657,976	212,337	.....	503	.....
1928	75,428	477,716	124,617	1,265,383	166,005	.....	303	.....
1929	81,885	468,439	91,623	960,435	172,376	.....	.....	.....
1930	43,653	325,436	78,957	807,425	165,700	.....	230	.....
1931	52,311	217,348	49,534	507,382	167,218	.....	.....	.....
1932	29,373	168,186	36,752	361,155	97,237	.....	2	.....
1933	32,974	206,954	26,826	261,477	147,025	.....	.....	.....
1934	38,787	346,578	48,730	486,023	97,930	.....	.....	.....
1935	40,186	279,613	63,913	635,222	94,336	.....	.....	.....
1936	53,054	477,221	67,178	677,903	106,948	.....	.....	.....
1937	76,054	495,480	68,087	698,261	123,388	.....	.....	.....
1938	74,585	417,829	90,549	929,872	168,106	18,270	.....	.....
1939	61,509	306,430	68,451	718,010	105,880	12,866	.....	.....
1940	53,499	319,121	60,595	625,304	76,306	8,388	.....	.....
1941	46,944	242,918	73,094	772,959	76,433	7,404	.....	.....
1942	22,707	363,302	62,697	684,561	70,846	3,443	.....	.....
1943	21,712	152,119	42,272	594,467	710	4,017	.....	.....
1944	25,819	314,314	43,744	607,986	304	4,220	.....	.....
1945	16,188	252,511	34,218	565,737	.....	18,221	.....	.....
1946	26,555	610,433	40,476	714,621	3,789	52,192	.....	.....
1947	31,063	1,034,539	41,505	859,636	60,048	32,724	.....	.....
1948	44,081	980,070	43,349	1,115,211	169,896	74,224	.....	.....
1949	82,116	984,926	38,379	993,152	183,439	89,607	10,863	.....
1950	70,300	1,094,251	34,295	974,493	123,898	102,124	63,100	.....
1951	123,495	2,523,395	28,110	891,522	137,190	189,063	77,069	.....
1952	173,724	1,423,207	28,659	1,037,688	202,986	354,508	57,741	51,191
1953	130,640	1,840,181	47,585	2,073,593	305,992	494,953	128,027	539,275
1954	120,410	1,527,033	46,318	2,240,042	353,780	492,839	414,361	578,602
1955	140,107	1,320,174	41,748	1,923,618	409,827	394,060	*401,942	574,653
1956	187,203	1,449,702	54,591	2,799,170	499,727	719,928	*635,309	468,127
1957	(d) 222,334	2,102,440	56,147	3,107,513	695,728	1,069,889	775,672	324,650
1958	(d) 224,734	1,724,491	66,872	3,747,932	690,286	1,459,827	1,250,647	435,182
1959	337,071	1,407,237	77,561	4,207,482	386,031	1,082,924	813,874	584,430

(a) From 1915, year ended 30th June. (b) Six months ended June. (c) Excluding plywood and veneers and small quantities of timber for which no super. footage is recorded. For years 1906 to 1921 approximate figures only. (d) Figure for 1956-57 excludes, and that for 1957-58 includes, an amount of £11,006 representing the value of a consignment of cattle hides exported during 1956-57 but not recorded until 1957-58. * Revised.

EXPORTS—continued; TOTAL TRADE; GOLD AND COAL PRODUCTION

Year	Gold (Bullion and Specie) (b)	Lead (Inc. Silver- Lead) and Zinc Ores and Con- centrates (a)	Tin Ore and Con- centrates (a)	Total Trade (a)		Gold Production (f)		Coal Production	
				Exports †	Imports	Quantity	Value (e) ‡	Quantity	Value
	Value (d)	Value	Value	Value	Value				
	£	£	£	£	£	fine oz.	£	tons	£
1850	.....	55	.....	22,135	* 62,351	.....	.....	.....	.....
1860	.....	985	.....	89,247	169,075	.....	.....	.....	.....
1870	.....	14,514	.....	200,985	213,259	.....	.....	.....	.....
1880	.....	15,368	.....	499,183	353,669	.....	.....	.....	.....
1890	86,664	2,135	5,400	671,813	874,447	20,402	85,664	.....	.....
1900	5,549,879	242	38,178	6,852,054	5,962,178	1,414,311	6,007,611	118,410	54,835
1901	6,749,688	.....	39,495	8,515,623	6,454,171	1,703,417	7,235,653	117,836	68,561
1902	7,468,827	.....	22,568	9,051,358	7,218,352	1,871,037	7,947,661	140,884	80,188
1903	8,617,959	.....	22,856	10,324,732	6,769,922	2,064,801	8,770,719	133,427	69,128
1904	8,502,870	.....	27,118	10,271,489	6,672,480	1,983,280	8,424,226	138,550	67,172
1905	7,538,051	.....	76,778	9,871,019	6,481,874	1,955,316	8,305,654	127,364	55,314
1906	7,344,050	.....	138,634	9,832,679	6,820,933	1,704,547	7,622,740	149,755	57,998
1907	7,146,629	1,866	151,414	9,904,860	6,522,998	1,697,554	7,210,749	142,373	55,158
1908	6,990,134	5,006	83,594	9,518,020	6,178,197	1,647,911	6,999,882	175,248	75,694
1909	5,649,479	2,168	62,980	8,860,494	6,406,960	1,595,269	6,776,274	214,302	90,965
1910	4,568,868	2,058	46,261	8,299,781	7,908,386	1,470,632	6,246,848	262,166	113,699
1911	6,965,517	15,380	55,220	10,606,863	8,645,938	1,370,867	5,823,075	249,899	111,154
1912	5,250,094	22,603	79,738	8,941,008	9,550,457	1,282,658	5,448,385	295,079	135,857
1913	4,319,362	59,724	72,142	9,128,607	9,892,705	1,314,043	5,581,701	313,818	153,614
1914	e 2,280,096	(c) 28,697	(c) 24,623	(c) 5,209,548	(c) 4,683,941	1,232,977	5,237,353	319,210	148,684
1915	2,240,128	47,391	25,665	5,352,140	8,301,280	1,210,112	5,140,228	286,666	137,859
1916	3,155,385	10,813	46,183	8,040,484	8,983,000	1,061,398	4,508,532	301,526	147,823
1917	9,120,061	3,717	56,519	14,683,027	9,385,010	970,317	4,121,645	326,550	191,822
1918	2,200,000	4,540	55,132	5,067,335	7,648,233	876,511	3,723,183	337,039	204,319
1919	4,995,204	3,794	55,550	10,922,675	* 8,023,990	734,066	3,748,882	401,713	260,355
1920	3,398,226	51,087	64,401	16,068,790	12,368,331	617,842	3,475,392	462,021	350,346
1921	1,759,657	33,269	20,590	12,258,639	14,839,241	553,731	2,953,693	468,817	407,117
1922	2,948,501	.....	9,087	13,628,883	12,037,779	538,246	2,525,811	438,443	381,555
1923	2,218,897	23,479	9,080	11,105,220	13,777,679	504,512	2,232,186	420,714	368,949
1924	2,305,209	53,942	18,770	14,123,289	14,344,145	485,035	2,255,927	421,864	363,255
1925	668,749	93,180	14,935	14,064,548	16,074,035	441,252	1,874,320	437,461	363,203
1926	1,046,148	92,849	11,740	14,581,957	16,462,572	437,343	1,857,716	474,819	394,400
1927	1,091,089	54,633	13,987	15,151,959	18,376,063	408,352	1,734,571	501,505	407,967
1928	656,145	3,928	12,193	18,240,775	18,287,633	393,408	1,671,093	528,420	420,145
1929	1,273,759	5,315	14,889	17,185,954	20,053,772	377,176	1,602,142	544,720	426,706
1930	4,636,368	9,734	14,612	17,769,529	18,781,656	417,518	1,804,442	501,423	384,758
1931	6,731,510	1,183	5,173	17,975,502	11,401,852	510,572	2,998,137	432,400	336,178
1932	4,916,534	400	3,079	16,296,066	11,389,900	605,561	4,403,642	415,720	270,630
1933	4,734,346	32	3,407	15,597,412	13,140,922	637,207	4,886,254	458,398	289,806
1934	5,311,904	116	5,543	17,291,577	13,721,407	651,338	5,558,873	500,343	278,704
1935	5,129,010	25	8,454	16,879,168	15,246,718	649,049	5,702,149	537,188	318,013
1936	6,692,639	.....	9,051	18,891,679	17,380,382	846,208	7,373,539	565,075	331,565
1937	7,909,423	.....	7,846	20,991,133	19,442,750	1,000,647	8,743,755	553,509	340,444
1938	9,313,060	483	9,926	23,100,537	20,932,599	1,167,791	10,363,023	604,792	375,983
1939	10,620,221	543	5,523	23,006,410	18,801,957	1,214,238	11,842,964	557,535	362,811
1940	12,027,762	950	6,973	24,576,754	20,008,720	1,191,481	12,696,503	539,427	304,500
1941	12,547,760	948	5,890	24,839,479	18,614,730	1,109,318	11,851,445	556,574	389,278
1942	10,295,056	1,134	2,970	25,351,484	18,250,537	848,181	8,805,495	581,176	461,495
1943	7,872,227	467	2,551	16,362,003	16,093,080	546,475	5,710,669	531,546	489,721
1944	3,624,948	436	3,075	19,532,146	17,199,337	466,265	4,899,997	558,322	583,076
1945	.....	742	2,519	19,403,033	18,039,357	468,550	5,010,541	543,363	672,896
1946	.....	179	4,021	20,544,880	21,628,149	616,964	6,640,069	642,287	730,104
1947	.....	2,714	6,060	29,720,015	30,591,097	703,886	7,575,574	730,506	840,249
1948	3,827,850	72,924	8,523	55,731,230	42,819,781	664,986	7,156,099	732,938	880,236
1949	.....	117,302	15,478	55,993,840	52,628,846	648,426	7,962,808	750,594	972,245
1950	1,177	135,755	24,659	61,865,036	69,443,677	610,333	9,466,270	814,352	1,287,749
1951	.....	131,607	30,757	111,867,881	88,172,421	627,779	9,725,343	848,475	1,716,788
1952	6,571,284	684,346	53,471	97,692,527	122,341,420	729,975	11,847,917	830,461	2,457,296
1953	12,399,246	840,623	76,655	113,132,804	98,480,531	823,912	13,299,092	886,182	3,073,073
1954	6,615,109	* 137,674	48,507	91,652,608	125,212,340	850,540	13,313,618	1,018,343	3,588,818
1955	9,668,885	58,681	73,189	96,094,994	141,702,541	842,005	13,374,688	903,792	3,089,311
1956	6,420,786	448,429	160,836	115,671,798	135,457,665	812,380	13,202,400	830,007	2,329,981
1957	12,060,111	489,057	146,327	155,522,857	134,551,480	896,681	14,550,893	838,661	2,552,657
1958	3,255,698	211,622	82,987	135,476,669	143,439,044	867,188	14,178,328	870,882	2,280,649
1959	2,058,944	125,521	152,008	126,492,928	146,200,948	860,609	14,194,195	911,435	2,356,534

(a) From 1915, year ended 30th June.

(b) Gold sold abroad is not recorded here until actually shipped.

(c) Six months ended 30th June.

(d) Australian currency value, including additional premiums on sales of industrial gold.

(e) Australian currency value, including amounts distributed by the Gold Producers' Association for additional premiums: in 1952, £539,353; in 1953, £535,330; in 1954, £63,839; in 1955, £19,230; in 1956, £12,154; in 1957, £27,549; in 1958, £5,146; and in 1959, £1,167.

(f) Comprises gold refined at the mint and gold contained in gold-bearing materials exported.

(g) Figure for 1956-57 excludes, and that for 1957-58 includes, an amount of £504,450, representing the value of a shipment of goods exported overseas in 1956-57 but not recorded until 1957-58.

† Inclusive of Commonwealth net subsidy paid to producers: in 1955, £190,129; in 1956, £490,819; in 1957, £512,708; in 1958, £623,394; and in 1959, £652,266.

‡ Including ships' stores.

WOOL PRODUCTION ; LAND SETTLEMENT ; LIVESTOCK

Year	Wool Production (b)		Land Settlement (d)		Livestock (as at 31st December) (a)			
	Quantity	Gross Value	Alienated and in Process of Alienation at end of Year	Crown Leases or Licences at end of Year (e)	Horses	Cattle	Sheep	Pigs
	lb.	£	acres	acres	No.	No.	No.	No.
1829	(f)	(f)	525,000	....	57	204	1,469	109
1830	(f)	(f)	633,345	....	101	583	7,981	66
1840	(f)	(f)	1,597,697	....	506	2,318	30,961	1,533
1850	(f)	(f)	1,329,821	(g)	2,635	13,074	128,111	3,190
1860	657,000	(f)	1,515,700	5,563,023	9,555	32,476	260,136	10,991
1870	1,788,000	(f)	1,465,118	12,239,111	22,174	45,213	608,892	12,927
1880	4,343,000	(f)	2,124,701	44,919,631	34,568	63,719	1,231,717	24,232
1890	6,969,000	(f)	5,333,611	104,742,419	44,384	130,670	2,524,913	28,985
1900	9,531,000	(f)	6,619,288	87,375,981	68,253	338,590	2,434,311	61,740
1901	15,305,000	414,510	9,585,144	97,455,927	73,710	398,547	2,625,855	61,052
1902	14,633,000	503,009	9,856,592	112,137,932	80,158	437,136	2,704,880	52,883
1903	14,645,000	488,167	10,548,057	135,678,571	82,747	497,617	2,600,633	50,209
1904	13,964,000	468,376	11,558,308	139,854,318	90,225	561,490	2,853,424	70,299
1905	19,523,000	654,834	12,380,035	145,769,592	97,397	631,825	3,120,703	74,567
1906	17,438,000	687,348	12,575,902	152,527,740	104,922	690,011	3,340,745	56,203
1907	22,014,000	875,057	13,070,006	160,180,142	113,330	717,377	3,684,974	53,599
1908	22,451,000	688,691	14,002,939	161,218,973	116,795	741,788	4,097,324	46,652
1909	30,048,000	1,109,272	16,252,397	166,857,911	125,315	793,217	4,731,737	47,062
1910	29,123,000	1,070,270	17,329,521	167,207,804	134,114	825,040	5,158,516	57,628
1911	29,644,000	1,091,887	19,045,932	169,937,588	140,277	843,638	5,411,542	55,635
1912	25,380,000	934,830	20,793,298	175,629,991	147,629	806,294	4,596,958	47,351
1913	25,026,000	950,988	21,362,546	188,547,364	156,636	834,265	4,421,375	47,906
1914	24,419,000	909,608	21,648,949	184,220,512	161,625	863,835	4,456,186	59,516
1915	29,713,000	1,303,660	22,087,323	189,742,326	163,016	821,048	4,803,850	58,231
1916	33,093,000	1,963,050	21,709,705	196,706,909	169,730	863,930	5,529,960	90,756
1917	40,334,743	2,417,649	21,560,805	192,437,243	178,151	927,086	6,384,191	11,844
1918	45,733,978	3,077,307	21,567,713	208,048,942	180,094	943,847	7,183,747	85,803
1919	41,594,124	2,684,695	21,843,426	245,404,541	174,919	880,644	6,697,951	58,155
1920	41,772,372	2,275,772	23,022,820	257,609,971	178,664	849,803	6,532,965	60,581
1921	43,081,960	2,240,786	24,232,047	258,503,929	180,334	893,108	6,506,177	63,001
1922	40,861,683	3,146,871	25,756,107	267,619,560	181,159	939,596	6,664,135	67,561
1923	45,286,052	4,332,628	27,064,666	262,146,805	181,944	953,764	6,585,867	61,478
1924	43,423,989	4,575,624	28,342,629	209,936,847	175,116	891,564	6,396,564	66,375
1925	48,288,461	3,399,856	28,901,792	232,991,598	170,563	835,911	6,861,795	74,316
1926	55,131,972	3,573,815	30,277,669	230,562,420	166,463	827,303	7,458,766	69,798
1927	62,702,013	5,084,870	31,740,177	234,160,075	165,021	846,735	8,447,480	59,810
1928	58,865,734	4,013,385	33,322,223	237,428,216	160,676	837,527	8,943,002	49,243
1929	67,150,720	2,976,144	35,398,760	243,723,857	159,528	836,646	9,556,823	64,522
1930	71,541,885	2,414,433	36,039,118	245,389,756	156,973	812,844	9,882,761	100,664
1931	71,614,145	2,503,280	36,208,840	216,626,973	156,489	826,532	10,098,104	120,521
1932	75,147,012	2,598,930	35,869,310	206,162,014	157,443	857,473	10,417,031	117,529
1933	78,424,200	4,701,766	35,546,902	198,325,118	159,646	885,669	10,322,350	91,213
1934	89,991,658	3,210,784	35,089,664	200,587,868	161,636	911,940	11,187,156	97,997
1935	85,706,700	4,443,118	34,117,635	203,601,662	160,181	882,671	11,082,972	98,026
1936	63,537,200	3,652,879	32,995,173	203,961,422	155,177	792,508	9,007,535	76,451
1937	64,739,400	2,915,858	33,002,808	205,059,057	151,067	740,241	8,732,076	64,593
1938	72,475,000	2,724,967	33,008,899	205,992,155	143,679	767,680	9,177,531	82,922
1939	75,400,000	3,270,436	32,767,548	205,705,440	139,207	799,175	9,574,433	149,604
1940	71,347,000	3,944,264	32,437,094	209,379,761	130,057	788,928	9,516,272	217,910
1941	77,827,000	4,164,150	32,109,627	209,958,332	124,402	839,731	9,772,780	163,196
1942	95,718,000	5,967,440	31,863,907	211,535,790	112,782	831,231	10,424,385	151,958
1943	102,759,000	6,370,720	31,657,609	212,038,518	106,743	870,939	11,012,936	163,876
1944	84,140,600	5,255,927	31,621,961	212,696,361	96,528	852,563	10,049,587	163,993
1945	82,067,200	5,211,793	31,719,182	212,330,824	88,180	833,567	9,765,983	137,872
1946	80,524,106	8,046,766	31,781,189	212,162,893	80,746	811,949	9,787,002	101,719
1947	89,527,502	14,638,444	32,082,825	213,884,634	74,537	815,610	10,443,798	93,180
1948	93,769,073	18,860,207	31,856,991	217,806,958	68,521	864,131	10,872,540	80,689
1949	92,750,214	23,618,672	32,279,956	223,691,026	59,166	864,936	10,923,167	79,126
1950	102,910,530	59,033,937	32,777,616	226,005,162	55,340	841,204	11,361,908	89,910
1951	116,142,000	32,013,526	33,981,017	203,939,527†	53,347	851,534	12,187,752	86,224
1952	120,726,000	37,560,721	34,765,922	205,606,700	50,241	846,261	12,474,672	76,195
1953	128,964,000	41,283,337	35,860,812	206,437,832	48,770	829,694	13,087,108	100,912
1954	124,173,000	33,992,564	37,236,541	206,566,189	46,886	860,574	13,411,282	107,039
1955	149,764,000	34,820,947	37,825,582	208,640,147	45,491	896,897	14,128,168	99,097
1956	148,374,000	45,141,623	38,229,558	216,317,679	44,660	957,175	14,886,549	139,982
1957	151,026,000	37,614,085	38,564,232	216,810,793	43,930	997,173	15,723,963	150,783
1958	157,358,000	29,703,679	39,258,847	221,763,493	41,286	999,832	16,215,244	115,446

(a) Figures for 1942 and later years are as at 31st March of the following year. (b) Includes fellmongered and dead wool but excludes wool exported on skins. Figures up to 1947 are for years ended 31st December, thereafter for years ended 31st March of the following year. (c) Figures exclude distribution of profits under Wool Disposal Plan : in 1949, £1,814,739 ; in 1951, £1,814,739 ; in 1952, £1,162,662 ; in 1953, £184,052 ; in 1954, £1,060,230 ; and in 1955, £898,545. (d) To 1905, at 31st December, thereafter at 30th June. (e) Including certain leases and licences issued by the Mines and Forests Departments—see also note f. (f) Not available. (g) Licences to occupy Crown lands first issued in 1848 ; the records prior to 1856 are not available. † Apparent decrease due mainly to revisions in the records of the Lands Department.

AGRICULTURE

Year (c)	Total Area under all Crops (d)	Area and Production of Principal Grain Crops							
		Wheat				Oats		Barley	
		Area	Production			Area	Production	Area	Production
			Per Acre	Total					
				Quantity	Gross Value				
	acres	acres	bushels	bushels	£	acres	bushels	acres	bushels
1829	(a)	(a)	(a)	(a)	(b)	(b)	(b)	(b)	(b)
1830	(a)	(a)	(a)	(a)	(b)	(b)	(b)	(b)	(b)
1840	2,921	1,670	20.00	33,400	(b)	(b)	(b)	(b)	(b)
1850	7,419	4,416	(a)	(a)	(b)	(b)	(b)	(b)	(b)
1860	24,705	13,584	15.34	208,322	(b)	507	11,925	2,412	43,465
1870	54,527	26,640	11.89	316,769	(b)	2,095	39,974	5,439	87,750
1880	63,902	27,686	12.00	257,174	(b)	1,319	21,104	6,363	89,082
1890	69,678	33,820	13.82	467,389	(b)	1,934	38,791	5,322	85,451
1900	201,338	74,308	10.42	774,653	154,931	4,790	86,433	2,536	29,189
1901	217,441	94,709	10.10	956,886	179,416	9,751	163,654	2,669	34,723
1902	229,992	92,398	10.67	985,559	172,473	10,334	167,882	3,783	46,255
1903	283,752	137,946	13.60	1,876,252	304,891	14,568	258,503	3,609	53,227
1904	327,391	182,080	11.06	2,013,237	343,928	13,864	226,318	3,251	37,332
1905	364,704	195,071	11.83	2,308,305	425,594	15,713	283,987	3,665	49,497
1906	460,825	250,283	11.02	2,758,567	543,093	28,363	457,155	3,590	48,827
1907	493,837	279,609	10.46	2,925,690	522,925	46,667	721,753	6,019	76,205
1908	585,339	285,011	8.63	2,460,823	1,216,368	59,461	739,303	7,308	74,433
1909	722,086	448,918	12.48	5,602,368	1,330,562	73,342	1,248,162	8,022	101,673
1910	855,024	581,862	10.14	5,897,540	1,081,216	61,918	776,233	3,369	33,566
1911	1,072,653	612,104	7.12	4,358,904	867,240	77,488	961,385	3,664	37,011
1912	1,199,991	793,096	11.56	9,168,594	1,604,504	127,645	2,015,812	5,626	93,418
1913	1,537,923	1,097,193	12.15	13,331,350	2,332,986	133,625	1,655,681	11,502	167,915
1914	1,867,547	1,376,012	1.91	2,624,190	940,335	96,085	464,943	6,986	24,090
1915	2,189,456	1,734,117	10.52	18,236,355	3,267,347	104,086	1,538,092	10,069	130,870
1916	2,004,944	1,566,608	10.28	16,103,216	3,052,901	122,220	1,689,352	11,105	134,055
1917	1,676,772	1,249,762	7.44	9,303,787	2,209,649	95,666	908,592	5,028	35,761
1918	1,605,088	1,146,103	7.72	8,845,387	2,211,347	141,459	1,499,689	7,982	81,451
1919	1,628,163	1,041,827	10.77	11,222,950	5,330,901	191,931	2,486,918	9,167	116,037
1920	1,804,986	1,275,675	9.60	12,248,080	5,511,636	193,486	2,022,031	10,686	111,405
1921	1,901,680	1,336,228	10.41	13,904,721	3,765,862	162,866	2,019,603	7,894	85,857
1922	2,274,998	1,552,868	8.92	13,857,432	3,493,228	214,269	2,261,863	9,243	107,804
1923	2,323,070	1,656,915	11.42	18,920,271	4,493,564	241,608	2,846,670	8,673	97,779
1924	2,710,856	1,867,614	12.79	23,887,397	7,265,750	318,982	4,241,074	11,606	177,537
1925	2,932,210	2,112,032	9.69	20,471,177	6,418,567	278,344	2,939,380	13,306	158,300
1926	3,324,523	2,571,187	11.68	31,068,608	8,608,591	234,826	2,716,436	13,826	128,136
1927	3,720,100	2,998,523	12.12	36,370,219	9,921,039	235,469	2,922,865	12,138	126,835
1928	4,259,269	3,343,530	10.10	33,790,040	8,236,322	325,827	3,554,609	14,429	189,560
1929	4,566,001	3,568,225	10.95	39,081,183	8,860,518	385,134	4,058,160	23,649	261,870
1930	4,792,017	3,955,763	13.53	53,504,149	6,100,588	274,874	3,292,560	17,236	185,301
1931	3,963,172	3,158,888	13.14	41,521,245	7,215,043	267,894	3,549,636	14,533	164,580
1932	4,262,884	3,389,352	12.33	41,791,866	6,677,190	285,850	3,603,447	13,772	153,243
1933	4,217,260	3,183,216	11.72	37,305,100	6,002,101	342,642	3,949,905	24,534	324,846
1934	3,840,530	2,764,373	9.76	26,985,000	5,061,500	408,810	4,244,322	26,589	237,765
1935	3,726,324	2,540,696	9.18	23,315,417	4,873,641	448,156	4,557,774	31,568	417,627
1936	3,851,876	2,575,283	8.37	21,549,000	5,950,936	463,129	3,445,167	40,092	449,235
1937	4,168,021	3,026,420	11.97	36,224,800	7,414,763	386,112	4,364,370	44,930	584,055
1938	4,683,333	3,412,818	10.79	36,843,600	4,492,003	426,110	4,668,036	74,928	946,287
1939	4,286,935	2,970,411	13.76	40,861,000	7,763,190	452,764	5,315,292	82,721	971,373
1940	3,988,308	2,625,401	8.02	21,060,000	4,323,953	429,177	3,250,314	65,623	725,352
1941	3,816,522	2,653,419	14.13	37,500,000	7,807,300	407,259	5,325,456	68,388	959,364
1942	2,784,034	1,753,178	11.75	20,600,000	5,039,970	342,309	3,611,991	49,502	533,433
1943	2,744,007	1,567,016	10.56	16,550,000	4,765,639	358,129	3,964,032	61,400	723,984
1944	2,756,022	1,515,762	10.51	15,929,000	4,159,287	401,958	3,844,965	76,164	884,433
1945	2,875,048	1,835,780	11.40	20,929,000	7,935,371	396,285	4,080,948	66,386	665,949
1946	3,532,445	2,425,780	9.81	23,800,000	11,024,015	425,032	3,660,792	65,886	519,252
1947	3,936,118	2,760,446	12.50	34,500,000	25,132,282	494,589	5,410,533	63,136	744,522
1948	4,102,348	2,867,517	12.64	36,250,000	21,061,007	531,638	6,998,295	64,205	981,426
1949	4,292,730	2,894,020	13.30	38,500,000	25,669,588	584,603	7,267,965	67,965	967,815
1950	4,532,756	3,185,389	15.66	49,900,000	32,664,123	585,701	7,913,973	59,114	924,741
1951	4,507,924	3,094,536	12.93	40,000,000	29,492,155	656,559	7,689,222	56,574	695,085
1952	4,636,654	2,999,475	11.82	35,458,000	27,596,965	832,170	10,439,880	106,961	1,742,376
1953	4,477,102	2,885,114	13.76	39,700,000	27,711,647	733,122	9,590,643	209,291	2,733,177
1954	5,042,856	2,979,151	11.51	34,300,000	21,827,313	873,588	9,584,559	259,688	2,804,706
1955	5,233,501	2,889,585	18.43	53,250,000	34,419,861	1,090,901	16,515,679	336,966	4,653,050
1956	5,139,098	2,764,486	11.61	32,100,000	22,027,312	1,051,486	10,441,534	343,590	3,750,511
1957	5,510,867	2,957,206	11.19	33,100,000	22,956,217	1,153,492	13,793,026	307,404	3,556,041
1958	6,015,387	3,291,858	17.51	57,650,000	38,819,613	1,329,742	22,585,050	321,493	5,410,217

(a) Agricultural returns for these years are not available, though it is known that farming was carried on from the first settlement of the Colony. (b) Particulars not available. (c) Prior to 1943, figures are for the years ended last day of February in the following year; for 1943 onwards for the season ended 31st March in the following year. (d) Excludes meadow hay.

AGRICULTURE—continued; VALUES OF PRODUCTION

Year (a)	Hay (all kinds)		Gross Value of Primary Production						† Net Value of all Recorded Production (Primary and Second- ary) (d)
	Area	Production	Agriculture	Dairying, Poultry and Bee Keeping	Pastoral and Trapping (d)	Mining and Quarrying	Forestry	Fishing	
	acres	tons	£	£	£	£	£	£	£
1860	6,286	8,099							
1870	17,173	20,833							
1880	19,563	19,563							
1890	23,183	25,014							
1900	104,254	103,813							
1901	92,654	89,729							
1902	105,791	94,007							
1903	109,002	121,934							
1904	105,247	113,794							
1905	124,906	139,380							
1906	149,890	158,112							
1907	131,056	137,511							
1908	201,874	170,008							
1909	158,629	195,182					(c)	(c)	(c)
1910	175,432	178,891							
1911	344,032	299,695							
1912	231,690	255,751							
1913	246,640	278,585							
1914	332,037	156,932	3,097,140	560,766	2,057,735	5,577,097			
1915	290,036	395,172	6,529,633	586,549	3,030,234	5,528,405			
1916	240,726	236,989	5,889,663	691,366	3,670,066	5,968,341			
1917	265,899	267,163	4,256,661	665,963	4,479,482	4,682,723			
1918	249,796	250,014	4,757,763	698,038	4,544,144	4,303,482			
1919	327,498	379,025	9,066,281	843,719	4,771,768	3,592,238			
1920	266,824	264,244	8,732,984	1,032,507	4,504,150	3,296,062			
1921	335,561	368,720	6,926,532	1,132,257	4,016,045	2,922,664			
1922	431,633	457,371	6,495,948	1,174,851	5,292,235	2,869,254			
1923	329,534	368,122	7,537,964	1,241,422	6,513,581	2,722,824		320,980	
1924	397,591	448,525	11,183,727	1,362,914	6,709,662	2,670,086		382,160	
1925	391,142	355,269	9,574,956	1,253,464	5,768,524	2,505,170	2,063,174	(b)485,250	(e)24,681,198
1926	358,487	423,839	12,093,686	1,251,495	5,631,168	2,466,581	1,683,505	289,850	23,162,951
1927	357,065	416,707	13,034,025	1,343,673	7,343,577	2,348,913	1,453,021	258,155	25,804,240
1928	414,866	421,504	11,942,067	1,467,753	6,750,319	2,294,254	1,231,490	280,453	23,949,014
1929	418,698	428,328	12,251,902	1,721,388	5,400,037	2,247,942	1,079,265	272,194	20,860,888
1930	398,411	491,595	8,877,875	1,584,978	4,422,575	2,347,588	904,701	242,633	13,914,201
1931	381,447	453,353	10,492,701	1,655,262	4,011,531	3,455,446	655,923	213,496	16,516,863
1932	417,435	485,368	10,247,311	1,669,074	4,028,270	4,845,554	591,410	215,077	17,418,817
1933	479,768	512,439	9,511,096	1,667,318	6,684,416	5,303,171	823,941	202,970	20,432,227
1934	413,138	462,947	8,167,869	1,963,338	4,727,974	5,969,261	1,199,693	186,626	20,372,642
1935	494,495	504,571	8,522,428	1,948,366	6,319,427	6,201,012	1,326,715	185,970	23,680,130
1936	478,099	412,982	9,435,736	2,084,770	5,718,359	7,913,659	1,515,852	232,272	26,170,259
1937	432,399	450,419	10,535,740	2,246,941	5,069,745	9,422,688	1,478,636	296,130	27,972,618
1938	408,276	437,809	8,538,688	2,358,189	4,728,565	11,102,334	1,449,716	280,301	26,763,445
1939	395,639	475,677	11,598,791	2,427,580	5,800,989	12,517,427	1,329,823	280,914	32,177,566
1940	418,486	375,143	7,379,974	2,614,995	5,850,496	13,352,883	1,580,207	269,515	29,549,180
1941	325,266	414,115	11,109,603	2,979,965	6,116,767	12,421,298	1,475,248	239,398	33,329,884
1942	253,150	277,957	9,052,786	3,831,973	8,172,499	9,487,594	1,638,701	127,355	34,077,181
1943	282,456	314,359	9,252,670	3,985,399	9,190,361	6,400,676	1,574,929	173,276	33,759,041
1944	328,729	338,912	10,428,229	4,236,364	7,799,991	5,764,391	1,575,877	165,109	34,098,239
1945	281,410	287,476	13,155,180	4,354,613	8,114,158	5,898,368	1,678,763	219,068	37,747,734
1946	277,489	280,252	16,317,320	4,466,485	11,225,456	7,702,257	1,652,657	317,394	45,923,834
1947	229,172	267,901	32,349,539	4,894,796	18,715,106	8,863,798	1,824,300	567,749	71,987,304
1948	226,779	277,329	29,392,579	5,981,981	23,385,628	8,771,506	2,012,180	689,438	75,564,837
1949	216,320	272,052	34,843,016	6,487,739	29,539,589	9,853,665	2,250,678	715,872	91,907,856
1950	176,990	226,703	43,875,771	7,077,385	66,209,926	12,087,322	3,370,294	824,673	145,243,287
1951	173,855	211,629	43,395,573	9,388,982	40,221,535	13,487,712	4,258,405	1,252,545	128,246,533
1952	227,082	290,296	43,563,257	10,644,635	45,549,700	17,984,292	3,577,440	1,642,876	139,752,602
1953	219,171	293,936	43,266,693	11,163,967	51,087,795	20,498,158	3,839,062	1,903,752	152,251,009
1954	289,329	305,052	38,582,102	10,880,776	43,884,930	21,325,541	4,057,889	2,191,669	146,131,160
1955	269,439	383,784	54,854,648	11,216,389	44,826,886	20,599,437	5,236,982	2,457,393	169,946,624
1956	242,217	288,479	40,085,122	11,620,153	56,580,939	21,367,559	5,152,544	2,781,749	171,816,453
1957	338,983	385,992	43,646,459	11,750,073	47,146,667	22,191,062	5,523,006	3,264,846	166,850,508
1958	332,613	455,160	63,335,990	11,418,878	40,882,021	21,797,530	5,451,306	3,909,190	178,757,530

(a) Figures generally are for the season or financial period ending in the following year. (b) 18 months period. (c) Not available. (d) In addition, the following amounts were paid as an interim distribution of profits from Wool Disposal Plan: in 1949, £1,814,739; in 1951, £1,814,739; in 1952, £1,162,662; in 1953, £184,052; in 1954, £1,060,230; and in 1955, £898,545. Separate State figures are not available for distributions made in subsequent years. (e) Includes Secondary Industry figures for 18 months ended 30th June, 1928. † Represents "Gross Value" less "Marketing Costs" and "Value of Goods Consumed in the processes of production."

FACTORIES †

Year (a)	Facto- ries	Persons Em- ployed (b)	Salaries and Wages Paid (c)	Output (d)	Net Pro- duction (e)	Certain Items of Factory Production							
						Bricks (f)	Cement	Timber from Local Logs (g)	Bacon and Ham	Butter (j)	Beer and Stout	Flour	Elec- tricity (h)
	No.	No.	£'000	£'000	£'000	'000	tons	'000 sup. ft.	tons	tons	'000 gal.	short ton (l)	'000 kwh.
1897	487	9,689	†	†	†	36,564	....	85,053	†	121	2,818	7,314	†
1898	595	9,895	†	†	†	26,811	....	103,043	†	118	3,278	8,460	†
1899	603	10,206	1,248	†	†	18,565	....	118,052	†	132	3,374	10,042	†
1900	632	11,166	1,294	†	†	25,234	....	112,693	†	130	4,015	12,539	†
1901	662	12,198	1,455	†	†	30,160	....	122,414	†	150	4,225	10,278	†
1902	702	12,520	1,521	†	†	37,722	....	124,005	†	144	4,780	11,840	†
1903	693	12,458	1,480	†	†	45,576	....	126,730	†	157	4,943	13,711	†
1904	793	13,427	1,604	†	†	50,332	....	143,595	†	197	5,404	20,185	†
1905	777	13,481	1,555	†	†	44,045	....	137,250	†	189	5,144	26,420	†
1906	802	13,739	1,622	†	†	37,893	....	136,295	†	170	5,100	26,977	†
1907	791	13,545	1,479	†	†	28,666	....	110,394	†	195	4,652	28,353	†
1908	774	13,276	1,558	4,479	2,607	23,842	....	168,414	†	163	4,312	31,424	†
1909	773	13,606	1,590	4,405	2,482	17,833	....	171,825	†	185	4,600	24,878	†
1910	822	14,894	1,766	5,079	2,736	23,162	....	174,528	†	286	4,711	36,818	†
1911	880	16,754	2,086	5,932	3,283	28,687	....	198,977	†	222	5,113	40,642	23,227
1912	891	17,425	2,290	6,826	3,582	34,432	....	217,696	†	200	5,419	49,319	24,704
1913	954	18,372	2,338	7,299	3,702	35,085	....	218,908	†	231	5,360	61,997	25,716
1914	989	18,799	2,474	7,222	3,833	34,854	....	227,297	†	201	5,544	61,922	27,580
1915	983	15,882	1,936	7,063	3,234	21,667	....	123,494	†	320	5,349	32,396	28,131
1916	953	13,844	1,800	7,346	3,147	18,585	....	100,356	†	482	5,299	70,912	26,943
1917	944	13,350	1,743	7,662	3,099	17,488	....	85,218	†	608	5,018	102,300	30,252
1918	862	13,849	1,863	8,399	3,159	15,672	....	94,990	1,028	397	5,362	119,876	30,402
1919	922	16,358	2,318	10,287	3,823	21,092	....	131,477	1,000	445	5,775	141,516	28,083
1920	998	16,942	3,037	13,141	4,854	31,838	....	137,934	837	544	5,736	120,125	33,336
1921	1,099	18,151	3,568	12,844	5,240	23,548	†	183,663	772	684	5,532	82,148	36,086
1922	1,323	18,743	3,713	12,871	5,790	28,509	†	179,059	801	678	4,988	94,316	40,556
1923	1,307	19,805	3,865	13,704	6,129	34,864	†	192,547	989	766	4,893	107,990	47,973
1924	1,293	21,671	4,337	15,726	6,958	34,930	†	207,137	1,164	741	5,196	122,192	55,440
1925	1,170	20,667	4,588	21,450	9,611	53,336	15,636	328,935	1,875	836	5,793	190,369	99,853
1927	1,216	19,403	4,151	15,672	6,907	45,204	17,050	229,195	1,123	1,100	5,615	133,919	78,139
1928	1,398	20,435	4,601	16,998	7,690	52,992	19,645	227,631	1,157	1,111	6,011	127,246	84,450
1929	1,469	20,913	4,676	17,454	7,969	60,568	20,769	174,324	1,080	1,617	5,934	119,550	92,460
1930	1,466	19,643	4,155	16,891	7,488	47,720	23,276	159,643	1,161	2,109	6,008	120,595	102,411
1931	1,455	14,619	2,887	12,353	5,281	13,630	15,565	112,484	1,300	3,171	5,028	132,090	98,100
1932	1,490	13,392	2,336	11,188	4,606	15,101	16,853	57,690	1,297	3,727	4,366	131,165	119,833
1933	1,499	14,810	2,541	12,328	5,062	25,673	24,357	59,254	1,542	4,224	4,689	127,574	138,094
1934	1,606	16,154	2,753	12,877	5,444	31,717	27,746	96,428	1,901	4,386	5,450	122,000	152,028
1935	1,658	17,769	3,111	14,642	6,285	37,552	40,403	130,497	2,035	4,992	5,976	124,130	163,561
1936	1,946	20,972	3,704	17,529	7,504	50,498	48,539	154,989	2,373	4,896	7,260	118,340	194,003
1937	2,032	22,712	4,158	18,313	7,947	53,270	48,804	176,321	1,941	4,751	6,676	122,723	223,699
1938	2,066	23,133	4,401	19,644	8,562	57,598	59,694	176,718	1,945	6,117	6,792	125,472	250,368
1939	2,129	23,211	4,574	19,549	8,776	53,062	56,520	161,315	1,881	6,542	7,269	137,553	277,517
1940	2,129	22,967	4,575	20,307	9,028	43,786	57,775	152,453	2,073	6,251	8,009	140,849	305,999
1941	2,056	22,734	4,721	21,825	9,017	45,505	48,704	146,847	2,288	6,352	8,162	149,925	320,296
1942	1,938	23,980	5,500	23,952	10,101	34,247	43,367	146,013	2,729	6,991	8,384	135,338	313,625
1943	1,799	25,813	6,478	26,738	11,453	8,926	32,750	138,878	4,106	6,446	9,063	126,274	283,215
1944	1,807	28,101	7,418	29,209	12,512	6,296	29,783	121,600	4,322	6,155	9,671	159,799	279,359
1945	1,931	29,146	7,614	31,741	12,960	10,003	29,090	116,330	4,971	5,676	9,178	161,690	291,585
1946	2,280	30,256	7,884	34,023	13,827	24,150	25,195	117,995	4,573	5,604	10,552	166,791	302,025
1947	2,615	33,806	9,105	38,270	15,748	37,758	43,575	139,842	4,603	5,956	11,802	176,726	338,820
1948	2,788	35,967	10,736	45,626	18,384	44,986	56,450	148,695	3,955	6,974	11,999	195,497	358,221
1949	2,925	38,354	12,928	53,417	21,474	50,378	59,130	142,285	3,553	6,966	13,207	181,466	*353,875
1950	3,023	40,733	15,293	63,978	26,044	58,943	60,000	153,813	3,542	6,769	15,250	159,495	368,371
1951	3,111	43,761	19,658	84,431	34,220	67,312	72,075	176,207	3,558	6,797	16,479	217,345	401,556
1952	3,267	45,097	25,385	106,572	42,745	76,884	74,680	199,447	3,680	6,705	17,433	221,846	428,056
1953	3,424	45,188	28,344	119,310	49,191	86,043	97,418	223,325	3,693	6,480	17,783	224,330	469,209
1954	3,523	47,459	31,590	134,587	55,147	101,240	125,466	241,011	3,448	6,142	17,844	187,958	520,301
1955	3,727	49,314	34,738	149,584	60,956	115,412	(k)	251,493	3,316	7,145	17,411	165,767	582,688
1956	3,871	50,108	37,206	175,146	69,733	99,406	(k)	245,138	3,231	7,404	(k)	179,302	626,928
1957	3,935	48,748	36,916	187,636	73,442	92,515	(k)	228,427	3,054	7,462	(k)	160,535	652,438
1958	3,941	48,462	37,935	196,263	75,312	102,974	(k)	233,173	2,952	6,807	(k)	148,148	688,990
1959	4,125	48,417	38,732	196,203	78,762	95,018	(k)	237,779	2,955	6,166	(k)	139,702	731,546

(a) Calendar years to 1924, thereafter years ended 30th June.

(b) Average over the full twelve months

and includes working proprietors and, up to and including 1925-26, fallers and haulers employed by sawmills.

(c) Figures for 1929-30 and later years exclude the value of working proprietors' services.

(d) Selling value "At Factory Door."

(e) Value added in course of manufacture, representing sum available for payment of

wages, rent, interest, depreciation, advertising, insurance, etc., and profit.

(f) Includes cement bricks and, prior to 1925-26, firebricks and blocks.

(g) Includes plywood veneers in terms of super. feet and hewn timber produced by agencies other than "Factories."

(h) Distributed.

(i) Eighteen months period ended 30th June, 1926. A revised Factory Classification was introduced during this period.

(j) Prior to 1918, figures include butter made on farms.

(k) Not available for publication.

(l) Short ton = 2,000 lb.

† For the purpose of these statistics the term "Factories" comprises industrial establishments in which four or more hands were employed or motive power was used in the processes of manufacturing, assembling, treating or repairing.

* Revised.

RETAIL PRICE INDEX NUMBERS—GROUPS AND "C" SERIES

(Base—Weighted Average of Six Capital Cities for five years 1923–27, = 1000)

Period	Commodity Group or Service (a)				"C" Series (c)												Aus- tralia
	Perth (Metropolitan Area)				Western Australia						Other Capital Cities						
					Five Principal Towns												
	Food and Groceries	Rent (4 and 5- roomed Houses)	Clothing	Miscellaneous House- hold Expenditure	Kalgoorlie-Boulder	Northam	Bunbury	Geraldton	Perth (Metropolitan Area)	Weighted Average, Five Towns	Sydney	Melbourne	Brisbane	Adelaide	Hobart	Weighted Average, Six Capital Cities	
Nov. 1914 ...	746	586	698	780	(b)	(b)	(b)	(b)	707	(b)	712	671	611	699	687	687	
" 1915 ...	819	581	760	822					755	(b)	816	768	721	780	776	782	
" 1916 ...	854	592	849	869					800	(b)	836	773	698	798	783	795	
" 1917 ...	828	602	980	926					832	(b)	892	823	773	832	879	847	
" 1918 ...	816	619	1135	1035					885	(b)	938	890	848	887	923	905	
" 1919 ...	987	650	1277	1120					1005	(b)	1065	988	981	1018	1042	1022	
" 1920 ...	1113	718	1359	1262					1111	(b)	1193	1172	1054	1164	1213	1166	
" 1921 ...	1005	754	1232	1029	1048	1030	1045	1056	1008	1020	1046	1003	923	989	1070	1013	
" 1922 ...	948	644	992	1003	964	958	968	970	931	941	1021	963	877	954	997	975	
Year 1923	1022	791	1053	1007	1006	965	962	1016	977	981	1023	1004	923	1008	1042	1003	
" 1924 ...	1058	802	1015	993	1009	969	983	1012	982	986	1002	976	915	1015	1051	987	
" 1925 ...	1084	819	1011	983	1009	1008	985	1027	994	996	1016	984	923	1028	1028	997	
" 1926 ...	1042	898	1003	980	1002	998	978	1012	992	994	1033	998	950	1026	1035	1011	
" 1927 ...	1004	922	1013	978	984	988	963	1010	984	985	1029	990	922	1018	998	1002	
" 1928 ...	1053	941	1027	987	995	1003	963	1029	1012	1009	1042	992	917	1027	980	1009	
" 1929 ...	1084	955	1023	987	1032	1022	978	1051	1026	1026	1073	1017	923	1037	1000	1033	
" 1930 ...	961	979	1002	979	986	969	966	1029	977	979	1026	956	859	952	956	975	
" 1931 ...	836	881	911	966	937	878	877	951	885	891	922	846	798	837	875	873	
" 1932 ...	804	810	843	954	940	844	842	904	840	852	867	813	764	802	844	830	
" 1933 ...	757	795	819	945	937	814	824	851	811	825	832	789	751	789	825	804	
" 1934 ...	807	794	817	942	975	825	843	866	830	842	842	801	762	806	837	817	
" 1935 ...	821	792	825	927	1011	829	865	886	834	848	852	824	780	820	849	832	
" 1936 ...	853	844	815	932	1027	860	880	933	856	870	866	844	804	839	860	850	
" 1937 ...	881	861	806	946	1030	890	897	970	869	884	889	868	837	859	875	873	
" 1938 ...	899	872	823	949	1048	900	914	957	882	897	913	896	852	888	887	897	
" 1939 ...	938	881	832	954	1066	915	936	965	901	915	936	924	870	906	908	920	
" 1940 ...	949	882	926	985	1099	947	962	990	932	946	974	964	908	936	945	957	
" 1941 ...	981	883	1098	1043	1165	1017	1018	1055	993	1008	1028	1008	963	988	1001	1008	
" 1942 ...	1029	885	1283	1093	1175	1079	1065	1114	1061	1070	1107	1100	1033	1075	1078	1091	
" 1943 ...	1059	885	1396	1136	1192	1111	1102	1165	1104	1112	1151	1139	1072	1102	1117	1131	
" 1944 ...	1056	886	1401	1144	1199	1113	1110	1176	1105	1113	1144	1135	1071	1098	1105	1126	
" 1945 ...	1060	886	1410	1138	1202	1113	1115	1170	1107	1116	1142	1135	1072	1102	1107	1126	
" 1946 ...	1059	886	1497	1143	1223	1133	1136	1187	1127	1136	1165	1149	1093	1120	1138	1145	
" 1947 ...	1104	887	1565	1158	1265	1171	1173	1221	1161	1170	1212	1188	1137	1165	1178	1188	
" 1948 ...	1251	889	1756	1202	1368	1272	1277	1327	1264	1273	1318	1294	1241	1277	1292	1295	
" 1949 ...	1437	895	2033	1288	1502	1420	1424	1475	1410	1418	1439	1415	1348	1393	1419	1415	
" 1950 ...	1597	901	2289	1357	1636	1550	1559	1611	1538	1547	1593	1565	1472	1521	1526	1560	
" 1951 ...	1963	1065	2759	1624	1940	1870	1870	1956	1860	1868	1933	1880	1760	1833	1861	1883	
" 1952 ...	2359	1185	3123	1945	2262	2186	2195	2293	2170	2180	2265	2170	2063	2159	2180	2196	
" 1953 ...	2608	1205	3185	2039	2361	2315	2314	2421	2295	2303	2368	2285	2135	2246	2399	2302	
" 1954 ...	2802	1602	3188	2049	2426	2417	2447	2577	2459	2458	2382	2288	2170	2277	2406	2326	
" 1955 ...	2868	1843	3221	2095	2493	2508	2569	2702	2554	2552	2439	2365	2211	2354	2458	2393	
" 1956 ...	3004	1972	3241	2190	2563	2584	2664	2825	2655	2651	2584	2567	2316	2466	2663	2547	
" 1957 ...	3046	2060	3322	2304	2625	2691	2749	2916	2729	2725	2614	2562	2343	2463	2690	2565	
" 1958 ...	2972	2154	3437	2328	2653	2707	2790	2955	2743	2741	2693	2590	2471	2536	2728	2615	
" 1959 ...	3071	2221	3426	2349	2712	2740	2833	3064	2807	2805	2707	2698	2578	2647	2812	2694	

(a) The index numbers appearing in these four columns cannot be compared horizontally to show the relative levels of the groups since the prices aggregate in each group in the base period is made equal to 1,000. (b) Not available. (c) The "C" Series index figures combine together in one series the index numbers relating to food and groceries, rent, clothing, household drapery and utensils, fuel and light, and other miscellaneous items of household expenditure. They may be used directly to show the relative levels in different places and at different times.

STATE AND COMMONWEALTH BASIC WAGE RATES

At 31st December	State Basic Wage		Commonwealth—Male Basic Wage Rates (a)								Weighted Average Six Capital Cities	
	Perth		Perth	Sydney	Mel- bourne	Brisbane	Adelaide	Hobart				
	Male	Female										
1923	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
1924	(b)		3 18 0	4 9 0	4 11 6	3 16 0	4 5 6	4 9 0	4 7 6	4 3 0		
1925			3 19 0	4 4 6	4 4 6	3 15 0	4 4 0	4 8 0	4 3 0	4 3 0		
1926			4 11 0	4 8 0	4 7 6	3 17 0	4 6 0	4 5 6	4 6 0	4 6 0		
1926	4 5 0	2 5 11	4 1 6	4 11 6	4 9 0	4 2 6	4 5 6	4 8 6	4 8 6	4 8 6		
1927	4 5 0	2 5 11	3 19 6	4 10 6	4 10 0	3 19 6	4 8 0	4 5 0	4 8 0	4 8 0		
1928	4 5 0	2 5 11	4 5 0	4 10 6	4 6 0	3 19 0	4 5 0	4 2 6	4 7 0	4 7 0		
1929	4 7 0	2 7 0	4 5 6	4 15 0	4 10 0	4 0 6	4 8 6	4 6 0	4 10 6	4 10 6		
1930	4 6 0	2 6 5	3 19 0	4 8 0	4 3 0	3 10 6	3 18 0	4 2 0	4 3 0	4 3 0		
1931	3 13 6	1 19 8	3 2 1	3 10 8	3 3 5	2 18 6	2 18 1	3 4 4	3 5 3	3 5 3		
1932	3 10 6	1 18 1	2 19 5	3 7 6	3 1 8	2 16 8	2 17 2	3 4 4	3 3 0	3 3 0		
1933	3 9 3	1 17 5	3 0 3	3 6 11	3 2 10	2 19 4	2 19 7	3 3 11	3 3 4	3 3 4		
1934	3 11 0	1 18 4	3 8 0	3 8 0	3 4 0	3 2 0	3 3 0	3 6 0	3 6 0	3 6 0		
1935	3 10 6	1 18 1	3 8 0	3 10 0	3 6 0	3 4 0	3 7 0	3 9 0	3 8 0	3 8 0		
1936	3 13 9	1 19 10	3 11 0	3 10 0	3 9 0	3 6 0	3 9 0	3 9 0	3 8 0	3 8 0		
1937	3 14 11	2 0 5	3 15 0	3 18 0	3 17 0	3 14 0	3 14 0	3 15 0	3 16 0	3 16 0		
1938	4 1 1	2 3 9	3 16 0	4 1 0	3 19 0	3 15 0	3 16 0	3 16 0	3 18 0	3 18 0		
1939	4 2 2	2 4 4	3 17 0	4 2 0	4 0 0	3 16 0	3 17 0	3 17 0	3 19 0	3 19 0		
1940	4 5 4	2 6 1	4 0 0	4 5 0	4 4 0	3 19 0	4 0 0	4 1 0	4 3 0	4 3 0		
1941	4 10 5	2 8 10	4 5 0	4 9 0	4 8 0	4 4 0	4 4 0	4 5 0	4 7 0	4 7 0		
1942	4 17 9	2 12 9	4 11 0	4 17 0	4 17 0	4 11 0	4 13 0	4 12 0	4 15 0	4 15 0		
1943	5 1 1	2 14 7	4 14 0	4 19 0	4 18 0	4 13 0	4 14 0	4 15 0	4 17 0	4 17 0		
1944	4 19 11	2 13 11	4 14 0	4 19 0	4 18 0	4 13 0	4 13 0	4 14 0	4 16 0	4 16 0		
1945	5 0 1	2 14 1	4 14 0	4 19 0	4 18 0	4 13 0	4 13 0	4 14 0	4 16 0	4 16 0		
1946	5 2 1	2 15 1	5 2 0	5 8 0	5 6 0	5 1 0	5 2 0	5 3 0	5 5 0	5 5 0		
1947	5 10 9	2 19 10	5 6 0	5 12 0	5 9 0	5 5 0	5 6 0	5 7 0	5 9 0	5 9 0		
1948	6 1 7	3 5 8	5 16 0	6 2 0	6 0 0	5 15 0	5 16 0	5 18 0	5 19 0	5 19 0		
1949	6 15 11	3 13 5	6 9 0	6 12 0	6 10 0	6 5 0	6 6 0	6 8 0	6 9 0	6 9 0		
1950	8 6 6	4 14 1	8 0 0	8 5 0	8 2 0	7 14 0	7 18 0	8 0 0	8 2 0	8 2 0		
1951	10 5 8	6 13 8	9 17 0	10 7 0	9 19 0	9 5 0	9 15 0	9 19 0	10 0 0	10 0 0		
1952	11 18 6	7 15 0	11 8 0	11 17 0	11 8 0	10 16 0	11 9 0	11 10 0	11 11 0	11 11 0		
1953	12 6 6	8 0 3	11 16 0	12 3 0	11 15 0	10 18 0	11 11 0	12 2 0	11 16 0	11 16 0		
1954	12 6 6	8 0 3	11 16 0	12 3 0	11 15 0	10 18 0	11 11 0	12 2 0	11 16 0	11 16 0		
1955	12 12 5	8 4 1	11 16 0	12 3 0	11 15 0	10 18 0	11 11 0	12 2 0	11 16 0	11 16 0		
1956	13 5 2	8 12 4	12 6 0	12 13 0	12 5 0	11 8 0	12 1 0	12 12 0	12 6 0	12 6 0		
1957	13 12 9	8 17 3	12 16 0	13 3 0	12 15 0	11 18 0	12 11 0	13 2 0	12 16 0	12 16 0		
1958	13 13 5	8 17 9	13 1 0	13 8 0	13 0 0	12 3 0	12 16 0	13 7 0	13 1 0	13 1 0		
1959	14 1 6	9 3 0	13 16 0	14 3 0	13 15 0	12 18 0	13 11 0	14 2 0	13 16 0	13 16 0		

(a) Since December, 1950, the female basic wage has been 75 per cent. of the male rate; previously it had ranged between 54 per cent. and 75 per cent.

(b) The first State basic wage operated from 1st July, 1926.

APPENDIX

CHAPTER III—CONSTITUTION AND GOVERNMENT

page 81

The Governor-General of Australia

His Excellency the Right Honourable Viscount Dunrossil, who had been Governor-General from the 2nd February, 1960, died at Government House, Canberra on the 3rd February, 1961. The Governor of Victoria, His Excellency General Sir Dallas Brooks, K.C.B., K.C.M.G., K.C.V.O., D.S.O., K.St.J., was sworn in as Administrator on the 4th February, 1961.

On the 10th April, 1961 it was announced that Her Majesty the Queen had approved the appointment of the Right Honourable Viscount De L'Isle, V.C., P.C. as Governor-General.

page 85

The Legislative Council

The biennial elections for the Legislative Council were held on the 30th April, 1960. Two members, Hon. Sir Charles Latham (Country Party) Central Province and Hon. H. L. Roche (Country Party) South Province, did not seek re-election. All other retiring members were re-elected except Hon. F. D. Willmott, who was returned unopposed. For the Central Province, Hon. N. E. Baxter (Country Party) was elected and for the South Province, Hon. S. T. J. Thompson (Country Party). The strengths of the political parties in the Council therefore remained unchanged.

page 86

The Legislative Assembly

Mr. W. L. Grayden, who had been re-elected to the Legislative Assembly at the general elections held on the 21st March, 1959 as Independent Liberal member for South Perth, rejoined the Liberal Party on the 15th September, 1959. As a result, the composition of the Assembly became :—

Australian Labor Party	....	....	....	....	23
Country Party	....	....	....	....	8
Independent Liberal	....	....	....	....	1
Liberal and Country League	....	....	....	....	18
					—
Total	....	....	....	....	50
					—

On the 25th January, 1960 Mr. E. P. Oldfield, who had been re-elected in March, 1959 as Independent Liberal member for Mount Lawley, joined the Australian Labor Party. From that date the strengths of the political parties in the Assembly thus became :—

Australian Labor Party	....	....	....	....	24
Country Party	....	....	....	....	8
Liberal and Country League	....	....	....	....	18
					—
Total	....	....	....	....	50
					—

page 90

State Courts of Western Australia

The Supreme Court of Western Australia—An amendment to the Supreme Court Act, 1935–1957, assented to on the 6th October, 1960, authorized the appointment of six Judges, in addition to the Chief Justice, instead of four as previously. Mr. Justice Hale, who had been acting as a Judge of the Supreme

Court from the 1st March, 1960, was appointed as from the 6th October, 1960. At the 31st December, 1960, a sixth Judge had not been appointed and the composition of the Supreme Court at that date was as shown below.

Chief Justice

Hon. Sir Albert Wolff, K.C.M.G.

Senior Puisne Judge

Hon. L. W. Jackson

Puisne Judges

Hon. J. E. Virtue

Hon. R. V. Neville

Hon. G. B. D'Arcy

Hon. John Hale

The Hon. R. V. Neville is also President of the Court of Arbitration.

CHAPTER V—SOCIAL CONDITION

PART 5—SOCIAL BENEFITS, RELIEF PAYMENTS AND CHILD WELFARE

pages 122-9

Commonwealth Benefits

The following tables and letterpress relate to the more important variations in social service, repatriation and health benefits which became operative during 1959 and 1960.

RATES OF BENEFIT—INCREASES DURING 1959

Benefit	Rate per week at 31st December, 1958	Increase during 1959		Rate per week at 31st December, 1959
		Amount per week	Date of Operation	
	£ s. d.	s. d.		£ s. d.
Pensions—				
Age	4 7 6	7 6	8th October	4 15 0
Invalid	4 7 6	7 6	" "	4 15 0
Widows'—				
With one or more Dependent Children	4 12 6	7 6	13th October	5 0 0
Others (a)	3 15 0	7 6	" "	4 2 6
War—				
Special Rate	11 10 0	15 0	1st October	12 5 0
General Rate	5 2 6	7 6	" "	5 10 0
Widows	4 17 6	7 6	" "	5 5 0
Domestic Allowance	2 7 6	7 6	" "	2 15 0
Service	4 7 6	7 6	" "	4 15 0
Tuberculosis Allowance—				
Sufferer with Dependent Wife	10 7 6	15 0	8th October	11 2 6
Sufferer without Dependents	6 10 0	7 6	" "	6 17 6

(a) Includes women where the husband is in prison and who are aged 50 years or over or have one or more dependent children.

Aboriginal Natives—A provision of the Social Services Act 1959 enabled an extension of the social service benefits payable to aboriginal natives. Aboriginals other than the nomadic or primitive had previously been entitled to child endowment and unemployment and sickness benefits on much the same basis as other persons. Eligibility for a pension or a maternity allowance, however, depended on whether the aboriginal possessed a certificate of exemption from State laws relating to the control of aboriginal natives. The amending Act repealed this provision and made all aboriginal natives, other than those who are nomadic or primitive, eligible for the various social service benefits on the same basis as other members of the community. The new provision was proclaimed to come into operation on the 2nd February,

1960, and from that date all aboriginals not being nomadic or living in the primitive state could qualify for age, invalid and widows' pensions and maternity allowances, as well as child endowment and unemployment and sickness benefits.

Pharmaceutical Benefits—The National Health Act 1959 authorizes a charge of 5s. for each prescription written under the Pharmaceutical Benefits scheme. Medicines so prescribed had previously been supplied free of charge to all persons including pensioners, who continue to receive the free service. The charge of 5s. became payable on the 1st March, 1960 and at the same time the range of drugs available under the scheme was considerably extended.

RATES OF BENEFIT—INCREASES DURING 1960

Benefit	Rate per week at 31st December, 1959	Increase during 1960		Rate per week at 31st December, 1960
		Amount per week	Date of Operation	
	£ s. d.	s. d.		£ s. d.
Pensions—				
Age	4 15 0	5 0	6th October	5 0 0
Invalid	4 15 0	5 0	" "	5 0 0
Widows—				
With one or more Dependent Children	5 0 0	5 0	11th October	5 5 0
Others (a)	4 2 6	5 0	" "	4 7 6
War—				
Special Rate	12 5 0	10 0	29th September	12 15 0
Widows	5 5 0	5 0	" "	5 10 0
Domestic Allowance	2 15 0	5 0	" "	3 0 0
Service	4 15 0	5 0	" "	5 0 0
Tuberculosis Allowance—				
Sufferer with Dependent Wife	11 2 6	10 0	6th October	11 12 6
Sufferer without Dependants	6 17 6	5 0	" "	7 2 6

(a) See letterpress immediately following table.

From the 11th October, 1960, a woman having a husband in prison and who previously qualified for a pension of up to £4 2s. 6d. per week became eligible for pension on the same basis as a widow, thus qualifying for a payment of up to £4 7s. 6d. per week if having no dependent children and being aged 50 years or over, or, in cases where there are one or more dependent children, £5 5s. per week with an additional 10s. per week for each child other than the first.

page 129

State Relief Payments

From the 27th September, 1960, State monetary assistance to deserted wives, women with husbands in prison and widows, not in receipt of a Commonwealth widow's pension, was increased from £3 7s. 6d. to £4 2s. 6d. per week.

CHAPTER X—EMPLOYMENT, WAGES AND PRICES

PART 3—RETAIL PRICES

pages 371-4

In a statement dated 20th April, 1961, the Commonwealth Statistician announced that the "C" Series Retail Price Index and the Interim Retail Price Index had been replaced by a new measure known as the Consumer Price Index which was first issued in August, 1960, and that publication of the "C" Series Retail Price Index had ceased.

NOTE ON STATISTICAL DISTRICTS AND DIVISIONS

For statistical purposes, Western Australia is divided into Statistical Districts which are identical with the areas constituted under local government legislation. At the 31st December, 1958 there were 147 such areas, of which 21 were Municipalities and 126 were Road Districts. Information presented on the basis of Statistical Districts is useful when considering activities in particular local government areas but is often more detailed than is required for a broader geographic assessment. For this reason, the Statistical Districts are grouped into eleven Statistical Divisions which provide significant areas for the publication of data in a convenient summary form, and many of the tables appearing in the Year Book are presented in this way.

The Statistical Divisions and their component Statistical Districts are listed on the following pages and are shown on the accompanying map of the State. The area and the estimated population of each of the Divisions at the 30th June, 1958 are given below, together with the proportions which they bore to the State total.

Statistical Division	Area	Proportion of State Total	Estimated Population	Proportion of State Total
	square miles	per cent.	thousands	per cent.
Metropolitan	192	0·02	382·3	54·21
Swan	1,886	0·19	55·3	7·84
South-West	11,025	1·13	76·5	10·84
Southern Agricultural	22,050	2·26	40·6	5·75
Central Agricultural	29,381	3·01	62·7	8·89
Northern Agricultural	36,640	3·75	36·0	5·10
Eastern Goldfields	250,225	25·64	35·2	5·00
Central	215,193	22·05	4·6	0·65
North-West	75,503	7·74	4·6	0·65
Pilbara	194,765	19·96	3·3	0·47
Kimberley	139,060	14·25	4·2	0·60
WHOLE STATE	975,920	100·00	(a) 705·3	100·00

(a) See letterpress *Estimates of Population* on page 100.

LIST OF STATISTICAL DIVISIONS

with component Statistical Districts at 31st December, 1958

METROPOLITAN**Municipalities**

CLAREMONT
COTTESLOE
EAST FREMANTLE
FREMANTLE
GUILDFORD
MIDLAND JUNCTION
NEDLANDS
NORTH FREMANTLE
PERTH
SOUTH PERTH
SUBIACO

Road Districts

Bassendean
Bayswater
Belmont Park
Canning
Melville
Mosman Park
Peppermint Grove
Perth
Swan (South Ward)

SWAN**Road Districts**

Armada-Kelmscott
Cockburn
Darling Range
Gosnells
Kwinana
Mundaring
Rockingham
Serpentine-Jarrahdale
Swan (except South Ward)
Wanneroo

SOUTH-WEST**Municipality**

BUNBURY

Road Districts

Angusta-Margaret River
Balingup
Bridgetown
Busselton
Capel
Collie Coalfields
Dardanup
Drakesbrook
Greenbushes
Harvey
Mandurah
Manjimup
Marradong
Murray
Nannup
Preston
Upper Blackwood

SOUTHERN AGRICULTURAL**Municipalities**

ALBANY
WAGIN

Road Districts

Albany
Broomehill
Cranbrook
Denmark
Dumbleyung
Gnowangerup
Katanning
Kojonup
Lake Grace
Nyabing-Pingrup
Plantagenet
Tambellup
Wagin
West Arthur
Woodanilling

CENTRAL AGRICULTURAL**Municipalities**

NARROGIN
NORTHAM
YORK

Road Districts

Beverley
Brookton
Bruce Rock
Corrigin
Cuballing
Cunderdin
Dowerin
Goomalling
Kellerberrin
Kondinin
Koorda
Kulin
Kununoppin-Trayning
Merredin
Mount Marshall
Mukinbudin
Narembreen
Narrogin
Northam
Nungarin
Pingelly
Quairading
Tammn
Toodyay
Wandering
Westonia
Wickepin
Williams
Wyalkatchem
York

NORTHERN AGRICULTURAL**Municipality**

GERALDTON

Road Districts

Carnamah
Chapman Valley
Chittering
Dalwallinu
Dandaragan
Geraldton-Greenough
Gingin
Irwin
Mingenew
Moora
Morawa
Mullewa
Northampton
Perenjori
Three Springs
Victoria Plains
Wongan-Ballidu

EASTERN GOLDFIELDS**Municipalities**

BOULDER
KALGOORLIE

Road Districts

Coolgardie
Dundas
Esperance
Kalgoorlie
Laverton
Leonora
Menzies
Phillips River
Yilgarn

CENTRAL**Road Districts**

Black Range
Cue
Meekatharra
Mount Magnet
Murchison
Wiluna
Yalgoo

NORTH-WEST**Municipality**

CARNARVON

Road Districts

Ashburton
Gascoyne-Minilya
Shark Bay
Upper Gascoyne

PILBARA**Road Districts**

Marble Bar
Nullagine
Port Hedland
Roebourne
Tableland

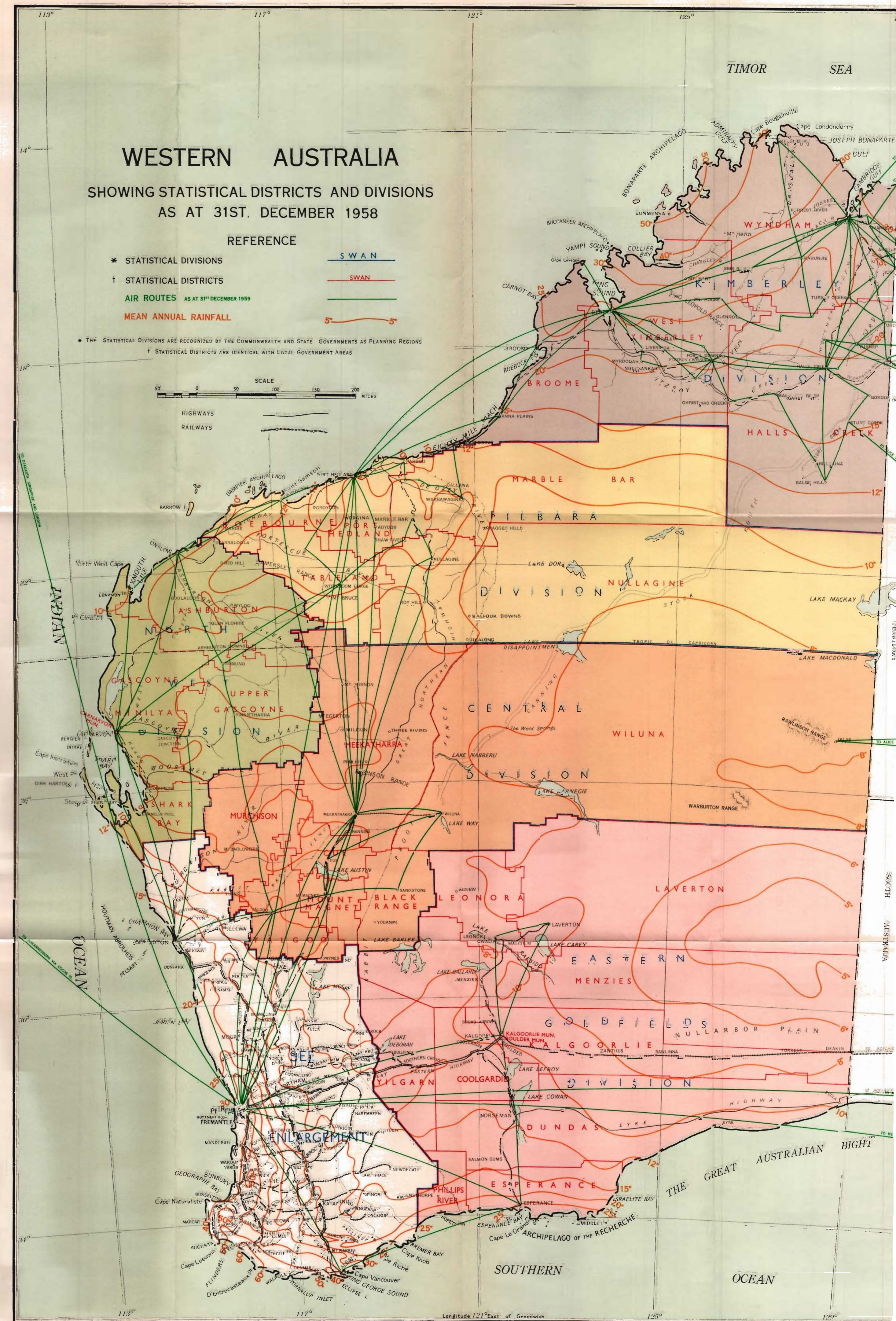
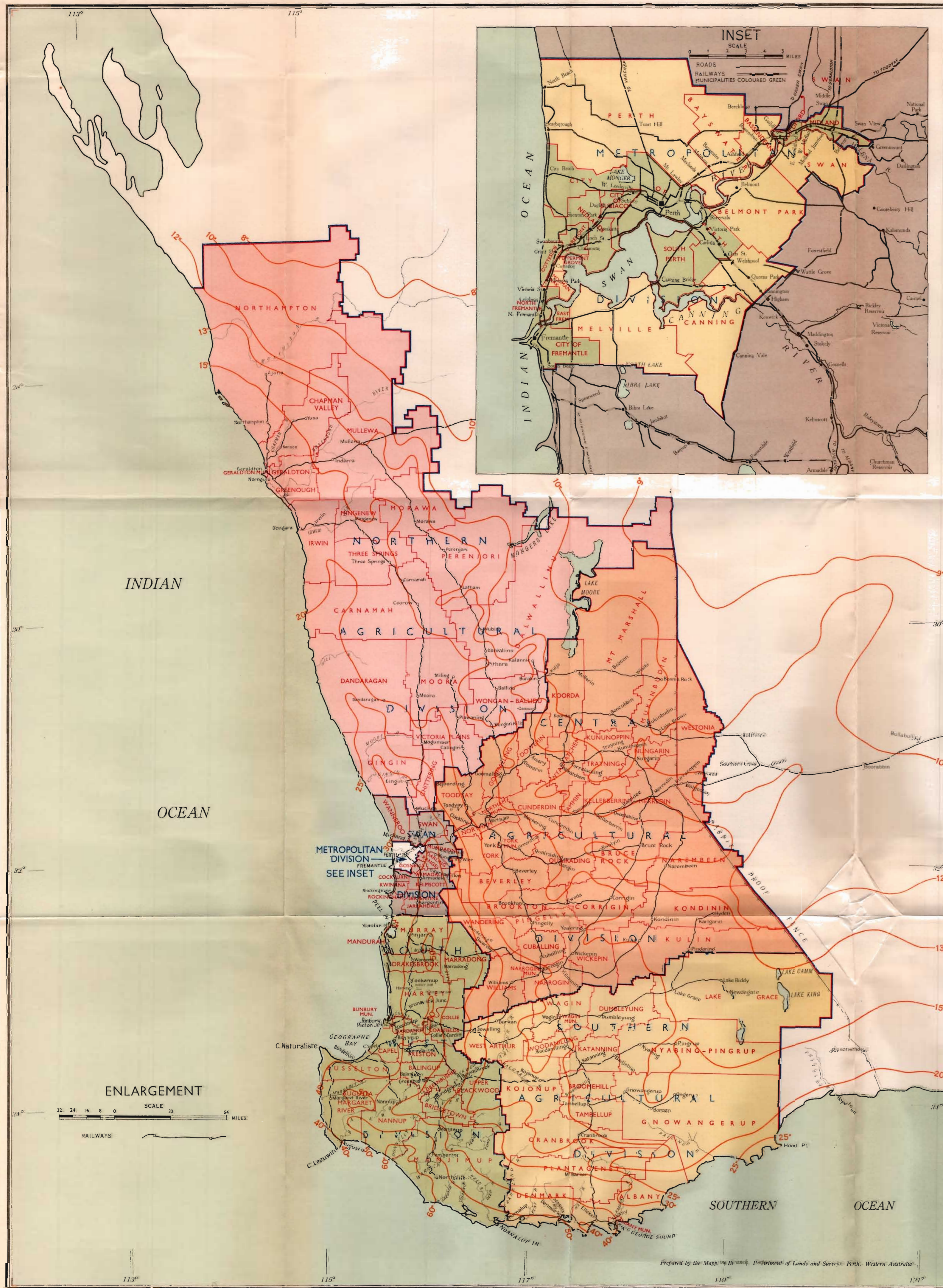
KIMBERLEY**Road Districts**

Broome
Halls Creek
West Kimberley
Wyndham

LIST OF STATISTICAL DISTRICTS

at 31st December, 1958

Local Government Area (Statistical District)	Municipality (M.) Rural District (R.D.)	Statistical Division in which Situated	Local Government Area (Statistical District)	Municipality (M.) Rural District (R.D.)	Statistical Division in which Situated
ALBANY	M.	Southern Agricultural	Marble Bar	R.D.	Pilbara
Albany	R.D.	Southern Agricultural	Marradong	R.D.	South-West
Armada-Kelmscott	R.D.	Swan	Meekatharra	R.D.	Central
Ashburton	R.D.	North-West	Melville	R.D.	Metropolitan
Augusta-Margaret River....	R.D.	South-West	Menzies	R.D.	Eastern Goldfields
Balingup	R.D.	South-West	Merredin	R.D.	Central Agricultural
Bassendean	R.D.	Metropolitan	MIDLAND JUNCTION	M.	Metropolitan
Bayswater	R.D.	Metropolitan	Mingenew	R.D.	Northern Agricultural
Belmont Park	R.D.	Metropolitan	Moora	R.D.	Northern Agricultural
Beverley	R.D.	Central Agricultural	Morawa	R.D.	Northern Agricultural
Black Range	R.D.	Central	Mosman Park	R.D.	Metropolitan
BOULDER	M.	Eastern Goldfields	Mount Maguet	R.D.	Central
Bridgetown	R.D.	South-West	Mount Marshall	R.D.	Central Agricultural
Brookton	R.D.	Central Agricultural	Mukinbudin	R.D.	Central Agricultural
Broome	R.D.	Kimberley	Mullewa	R.D.	Northern Agricultural
Broomehill	R.D.	Southern Agricultural	Mundaring	R.D.	Swan
Bruce Rock	R.D.	Central Agricultural	Murchison	R.D.	Central
BUNBURY	M.	South-West	Murray	R.D.	South-West
Busselton	R.D.	South-West	Nannup	R.D.	South-West
Cannlug	R.D.	Metropolitan	Nareenbeen	R.D.	Central Agricultural
Capel	R.D.	South-West	NARROGIN	M.	Central Agricultural
Carnamah	R.D.	Northern Agricultural	Narrogin	R.D.	Central Agricultural
CARNARVON	M.	North-West	NEDLANDS	M.	Metropolitan
Chapman Valley	R.D.	Northern Agricultural	NORTH FREMANTLE	M.	Metropolitan
Chittering	R.D.	Northern Agricultural	NORTHAM	M.	Central Agricultural
CLAREMONT	M.	Metropolitan	Northam	R.D.	Central Agricultural
Cockburn	R.D.	Swan	Northampton	R.D.	Northern Agricultural
Collie Coalfields	R.D.	South-West	Nullagine	R.D.	Pilbara
Coolgardie	R.D.	Eastern Goldfields	Nungarin	R.D.	Central Agricultural
Corrigin	R.D.	Central Agricultural	Nyabing-Pingrup	R.D.	Southern Agricultural
COTTESLOE	M.	Metropolitan	Peppermint Grove	R.D.	Metropolitan
Cranbrook	R.D.	Southern Agricultural	Perenjori	R.D.	Northern Agricultural
Cuballing	R.D.	Central Agricultural	PERTH	M.	Metropolitan
Cue	R.D.	Central	Perth	R.D.	Metropolitan
Cunderdin	R.D.	Central Agricultural	Phillips River	R.D.	Eastern Goldfields
Dalwallinu	R.D.	Northern Agricultural	Pingelly	R.D.	Central Agricultural
Dandaragan	R.D.	Northern Agricultural	Plantagenet	R.D.	Southern Agricultural
Dardanup	R.D.	South-West	Port Hedland	R.D.	Pilbara
Darling Range	R.D.	Swan	Preston	R.D.	South-West
Denmark	R.D.	Southern Agricultural	Quairading	R.D.	Central Agricultural
Dowerin	R.D.	Central Agricultural	Rockingham	R.D.	Swan
Drakesbrook	R.D.	South-West	Roebourne	R.D.	Pilbara
Dumbleyung	R.D.	Southern Agricultural	Serpentine-Jarrahdale	R.D.	Swan
Dundas	R.D.	Eastern Goldfields	Shark Bay	R.D.	North-West
EAST FREMANTLE	M.	Metropolitan	SOUTH PERTH	M.	Metropolitan
Esperance	R.D.	Eastern Goldfields	SUBIACO	M.	Metropolitan
FREMANTLE	M.	Metropolitan	Swan (South Ward)	R.D.	Metropolitan
Gascoyne-Minilya	R.D.	North-West	Swau (except South Ward)	R.D.	Swan
GERALDTON	M.	Northern Agricultural	Tableland	R.D.	Pilbara
Geraldton-Greenough	R.D.	Northern Agricultural	Tambellup	R.D.	Southern Agricultural
Gingin	R.D.	Northern Agricultural	Tammin	R.D.	Central Agricultural
Gnowangerup	R.D.	Southern Agricultural	Three Springs	R.D.	Northern Agricultural
Goomalling	R.D.	Central Agricultural	Toodyay	R.D.	Central Agricultural
Gosnells	R.D.	Swan	Upper Blackwood	R.D.	South-West
Greenbushes	R.D.	South-West	Upper Gascoyne	R.D.	North-West
GUILDFORD	M.	Metropolitan	Victoria Plains	R.D.	Northern Agricultural
Halls Creek	R.D.	Kimberley	WAGIN	M.	Southern Agricultural
Harvey	R.D.	South-West	Wagin	R.D.	Southern Agricultural
Irwin	R.D.	Northern Agricultural	Wandering	R.D.	Central Agricultural
KALGOORLIE	M.	Eastern Goldfields	Wanneroo	R.D.	Swan
Kalgoorlie	R.D.	Eastern Goldfields	West Arthur	R.D.	Southern Agricultural
Katanning	R.D.	Southern Agricultural	West Kimberley	R.D.	Kimberley
Kellerberrin	R.D.	Central Agricultural	Westonia	R.D.	Central Agricultural
Kojonup	R.D.	Southern Agricultural	Wickepin	R.D.	Central Agricultural
Kondinin	R.D.	Central Agricultural	Williams	R.D.	Central Agricultural
Koorda	R.D.	Central Agricultural	Wiluna	R.D.	Central
Kulin	R.D.	Central Agricultural	Wongan-Ballidu	R.D.	Northern Agricultural
Kununoppin-Trayning	R.D.	Central Agricultural	Woodanilling	R.D.	Southern Agricultural
Kwinana	R.D.	Swan	Wyalkatchem	R.D.	Central Agricultural
Lake Grace	R.D.	Southern Agricultural	Wyndham	R.D.	Kimberley
Laverton	R.D.	Eastern Goldfields	Yalgoo	R.D.	Central
Leonora	R.D.	Eastern Goldfields	Yilgarn	R.D.	Eastern Goldfields
Mandurah	R.D.	South-West	YORK	M.	Central Agricultural
Manjimup	R.D.	South-West	York	R.D.	Central Agricultural



INDEX

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 2-22 of Chapter I. Generally, in these cases, only the first reference appearing there has been indexed.

	Page		Page
A		Apricots	
"A" Series Retail Price Index	355, 368	Area	237
Aboriginal, Aborigines— <i>see also</i> Native	3, 138, 179, 201, 335	Dried, Retail Price	368
Education	123	Production	223, 237
Legislation	19, 22, 89	Arbitration Authorities	
Offences by	169	Commonwealth	9, 90, 167, 355, 363
Population	93, 107	State	8, 90, 166, 355, 359, 363, 395
Social Service Benefits	395	Area, Areas	
Aborigines' Protection Board	7	Agricultural	238
Abrolhos Islands	1, 60, 62, 220, 257	Irrigated	214
Accidents		Local Government— <i>see also</i> map preceding	
Deaths from	116, 333	Index	397, 399
Road Traffic	332	Metropolitan Traffic	185, 326, 328
Acetic Acid	269, 283	North of 26° S. Latitude	106
Acids, Production of	283	of Australia	107
Administration		Crops— <i>see also</i> specific crops	3, 220, 388
Commonwealth	80, 394	Crown Lands	205, 387
State	2, 80	Rural Holdings	220, 226, 240, 243, 246, 248
Administrator, Administrators		South-West Land Division	106
of the Commonwealth	81, 394	States and Territories	107
of Western Australia	81	Statistical Divisions	107, 397
Adult Education Board	130	Western Australia	107, 397
Aerated Waters	280, 283, 291	Pastoral	238
Aerial Medical Services	12, 335	Statistical— <i>see</i> Statistical Divisions	
Age, Ages		under Pasture	220, 231
of Employees in Factories	272	Unincorporated	92
Population	94, 96	Argentine Ants	73, 183
Pensions, Pensioners	154, 161, 175, 395	Arrivals— <i>see</i> Migration	
Agent-General, London	19, 90	Arsenious Oxide	267
Agricultural		Art Gallery	9, 134
Advisory Services	252	Artesian Water Supplies	25, 28, 31, 78, 210
Areas	238	Artificial	
Bank of Western Australia	8, 9, 13, 182, 189, 207	Fertilizers— <i>see</i> Fertilizers, Artificial	
College, Muresk	11, 125, 251	Insemination of Dairy Cattle	245, 253
Education	10, 11, 123, 125, 128	Asbestos	13, 19, 21, 217, 220, 222, 260, 263, 308, 310, 385
Employment	221, 346	Assembly, Legislative	80, 83, 86, 394
Entomology	71, 137, 251	Assistance to	
Lands Purchase— <i>see also</i> Land	199	Indigent and Distressed Persons	161
Machinery	221, 278, 295, 299, 301, 365	Industry	262, 294
Population	221	Primary Producers	135, 175, 189, 207, 226, 245, 251
Produce, Bushel Weights	224	Assurance, Life	193, 380
Production	217, 388	Atmospheric Pressure	35
Research	12, 136, 216, 224, 226, 251	Auction Sales	
Seasonal Calendar	223	Crown Lands	3, 200
Water Supply	211	Wool	10, 13, 18, 241
Agriculture— <i>see also</i> specific crops	181, 217, 224, 378, 388	Auriferous Ores— <i>see also</i> Gold	27, 267
Department of	125, 137, 177, 184, 207, 210, 216, 224, 232, 245, 251	Australia	
Employment in	221, 346	Area of	107
Institute of	136	Commonwealth of	8, 80, 394
Minimum Wage Rates	364	Australian	
Protection Board	15, 183	Broadcasting	
Tropical	216, 220, 252	Commission	122, 341
Value of Production	219, 222, 389	Control Board	341
Air Transport	10, 335	Constitution	80
Albany Harbour Board	319	Labor Party	82, 394
Alcoholic Beverages		Life Tables	115
Customs Duty	314	Loan Council	173
Excise	314, 315	Population at Censuses	94
Exports	4, 310	Whaling Commission	15, 17, 258
Imports	299, 300	Wheat Board	225
Production	219, 238, 284, 365, 390	Australind, Settlement at	4, 198
Ships' Stores	311	Awards, Industrial	359, 363
Ale— <i>see</i> Alcoholic Beverages			
Alienation of Crown Lands	198, 205, 387	B	
Altitude of Climatological Stations	38, 47	Baby Health Centres	140
Aluminium	32	Bacon, Ham	
Alunite	24, 33	Exports	249, 311
Antimonial Concentrates	267	Factories	279, 290, 366
Apiculture— <i>see also</i> Bee Keeping	205, 250, 256	Production	249, 283, 290, 390
Appendix	394	Retail Price	369
Apples	219, 223, 234	Bags and Sacks	
Area	235	Factories	279, 365
Exports	235, 304, 310	Imports	301
Production	223, 235	Bakeries	279, 284, 365

	Page
Charitable Institutions	144, 163, 183
Cheese	217, 219, 245, 283, 290, 299, 366, 369
Chemical Fertilizers— <i>see</i> Fertilizers, Artificial	
Cheque-paying Banks— <i>see</i> Bank, Banks	
Cherries	224, 236
Chest	
Clinics	138
Hospital, Perth	138, 142
Chief Justice	5, 81, 90, 395
Child— <i>see also</i> Juvenile	
Endowment	12, 157, 161, 175, 395
Welfare	87, 161
Children, Children's	
Adoption of	164
Boarded-out	162, 164
Courts	87, 162, 165
Employment of	87, 162, 164
Handicapped	122, 143
Health Services for	138, 139, 160, 175
In Institutions	143, 163
Neglected	162
Private	162
School	4, 87, 120, 126, 160, 193, 348
Chiropodists Registration Board	87
Chromite	260
Chronological Notes from 1829	2
Churches— <i>see also</i> Religion of Population	4, 5, 6, 7, 8
Cigarettes, Cigars— <i>see</i> Tobacco	
Cities	91
Citrus Fruits— <i>see also specific fruits</i>	236, 305
Civil Aviation, Department of	335
Clays	260
Climate	32, 34, 46, 53
Climatological Stations	34, 38, 44
Clothing	
Factories	273, 279, 346, 365
Imports	299
Items of, Production	283, 288
Clover, Subterranean	136, 137, 220, 231, 238, 245, 253
Coal	3, 7, 8, 25, 28, 31, 135, 219, 271, 292
Bunker	311
carried on Railways	321
Discovery	4, 260, 264
Excise on	315
Gas	135, 281, 283, 293, 366
Imports	299
Mines, Men Working at	264
Mining	
Leases	203
Minimum Wage Rates	366
Production	16, 222, 260, 264, 386
used in Factories	275, 284, 293
Value	222, 260, 264, 386
Coastal Configuration	25
Coastline, Length of	25
Cockburn Sound	3, 17, 181, 311
Coinage	189
Coke	135, 275, 283, 293
College, Colleges	
Agricultural	125
Teachers'	125
Technical	123
University	128, 130
Collusive Tendering, Tenders	21, 89
Commission— <i>see also</i> Royal	
Broadcasting, Australian	122, 341
Conciliation and Arbitration, Commonwealth	167, 355
Electricity, State	180, 181, 183, 184, 271, 292
Grants, Commonwealth	11, 173
Housing, State	88, 89, 143, 181, 183, 184
Lotteries	11, 140, 164, 183
National Debt	173, 182
Overseas Telecommunications	340
Whaling	
Australian	15, 17, 258
International	258, 308
Commissioner, Commissioners	
Conciliation	167, 355
of Main Roads	325, 328
Police	170
Public Health	139
Railways	88, 320
Rural and Industries Bank	189
Commonwealth	
Aid (Roads)	11, 175, 183, 327
Bank of Australia	9, 189
Banking Corporation	189
Basic Wage	9, 13, 19, 21, 355, 367, 392
Conciliation and Arbitration Commission	167, 355

	Page
Commonwealth— <i>continued</i>	
Constitution	80
Court of Conciliation and Arbitration	355
Development Bank of Australia	189
Grants Commission	11, 173
Industrial Court	90, 167, 355
of Australia	8, 80, 394
Parliament	8, 80, 82, 87
Rehabilitation Service	155, 175
Savings Bank of Australia	9, 189, 192
Scientific and Industrial Research Organization	16, 20, 136, 210, 216, 252
Trading Bank of Australia	189
Commonwealth-State	
Financial Agreement	11, 173, 175
Housing Agreement	13, 17, 18, 88, 149, 183, 196
Communication	3, 5, 6, 7, 8, 9, 10, 11, 20, 337, 347, 351, 381
Compensation, Workers'	10, 11, 15, 183, 193, 194
Comprehensive Water Supply Scheme— <i>see also</i> Water	14, 15, 17, 19, 21, 181, 211
Conciliation and Arbitration	
Commonwealth Court of	355
Commission, Commonwealth	167, 355
Conditional Purchase of Freehold Land	199
Confectionery	
Imports	299, 301
Production	279, 283, 289
Congenital Malformation, Deaths from	113
Conjugal Condition of Population	98
Consolidated Revenue Fund	174, 176, 378
Constitution	
Commonwealth	80
State	80, 83
Consumer Price Index	396
Convictions, Court	167
Convicts	2, 4, 93, 198, 217
Copper, Copper Ores	4, 5, 135, 220, 224, 253, 260, 265, 311, 319
Coral, Corals	60, 69
Correspondence Tuition	123
Cotton	216, 284
Council, Councils	
Executive	80
Health Education	22, 88, 138
Legislative	80, 83, 85, 394
Loan, Australian	173
Municipal— <i>see also</i> Municipalities	91, 150, 184
National Fitness	209
Privy	15, 90, 165
Country Party	10, 82, 394
Court, Courts	
Bankruptcy	90, 165, 196
Children's	87, 162, 165
Convictions	168
Coroners'	166
Full	90, 165
High, of Australia	90, 165, 167
Industrial, Commonwealth	90, 167, 355
Judges'	90, 165, 169, 394
Civil Cases	166
Convictions	169
Licensing	167
Magistrates'	165
Civil Cases	166
Convictions	167, 170
of Arbitration, Western Australian	8, 90, 166, 355, 359, 363, 395
Conciliation and Arbitration, Commonwealth	355
Police	165
Session	165
Supreme	5, 90, 165, 394
Crayfish	137, 217
Exports	14, 257, 301, 306, 310, 311
Production	14, 21, 220, 222, 257
Species of	60, 68, 257
Crime	167
Crops— <i>see also specific crops</i>	220, 388
Crown Land— <i>see</i> Land	
Cupreous Ore	260, 265
Currants	219, 237
Exports	310
Retail Price	368
Currency	189
Customs	
Collections	176, 314
Tariffs	312
Cycles, Motor	327, 334, 382
Cyclones	6, 7, 9, 12, 13, 20, 35, 36

	Page		Page
D		Education—continued	
"D" Series Retail Price Index	356	School, Schools,—continued	
Dairy		for Natives	123
Cattle	246, 249	Government	120, 181
Produce, Retail Prices of	369	Leaving Age	13, 87, 120
Products, Marketing of	245	Non-Government	120, 125
Dairying 10, 12, 136, 207 217, 219, 222, 245, 346, 364, 389		of Medicine	17, 19, 21, 127, 131, 138
Dampier, William	1	Mines	123, 335
Dams—see Reservoirs; Water		the Air	125
Day Hospital, Graylands	143	Primary	121, 125
Death, Deaths	110, 377	Secondary	121, 125
Causes	113, 115, 332	Teacher Training	125
Infant	113, 377	Technical	123
Rates	18, 112, 332, 377	University	9, 126
Registration of	108	Visual Aids in	122
Road Traffic Accident	332	Vocational Guidance	122
Sentences	169	Egg, Eggs	
Debt, Public	173, 182, 379	Exports	250, 308, 310, 311
Decimal Currency	189	Marketing Board, Western Australian	249
Degrees Conferred, University	127	Production	222, 250
Density of Population	106	Retail Price	369
Dental		used in Factories	284
Clinics	21	Elections	
Services, Schools	140	Commonwealth	82
Departures—see Migration		Local Government	91
Deserted Wives, Assistance to	155, 161, 396	State	80, 84, 87, 394
Development Bank of Australia, Commonwealth	189	Electoral Provisions	
Diabetes Mellitus, Deaths from	116	Commonwealth	82
Diarrhoea and Enteritis, Deaths from	113, 116	Local Government	91
Dingoes	65	State	85
Diorite	267	Electric Motors	270, 275
Diphtheria	116, 138	Electrical Appliances and Equipment	
Direction of Trade	312	Imports	295, 299
Diseases		Production	277
Deaths from	113, 115	Electricity	
Infectious	138	Commission, State	180, 181, 183, 184, 271, 292
of Early Infancy, Deaths from	113	Generation and Distribution	8, 184, 271, 281, 283, 292, 366, 379, 390
Veneral	139	Undertakings, Local Government	14, 184, 281
Divorce, Divorces	7, 166	used in Factories	275
Dried Fruits—see Fruits		Employment	
Drivers' and Riders' Licences, Vehicle	88, 171, 178, 326, 328	at Mines	21, 343
Drug Plants	58	classified by Industry	345, 350
Drunkenness	168	Estimates	349
Duty		Government	350
Customs	176, 312, 314	in Factories	17, 219, 268, 272, 277, 285, 293, 390
Estate	176	Fishing	258, 346
Excise	176, 312, 314	Hospitals	141
Gift	176	Manufacturing	346, 351
Primage	314	Statistical Divisions	219, 352
Probate and Succession	178	Teaching	
Stamp	88, 178	School	121, 124, 126
Dwellings		University	127
Class of	145	Transport	325, 332, 347, 351
Completed	151	of Children	87, 162, 164
Inmates	146	Postmaster-General's Department	337
Material of Outer Walls	147	on Rural Holdings	221
Nature of Occupancy	147	Private	351
Occupied	145	Work Force	343
Rent	148, 368, 374, 391	Endowment, Endowments	
Rooms	146	Child	12, 157, 161, 175, 395
Unoccupied	145	Land	200
		University	9, 127, 128
E		Engineering Works	177, 277, 287, 365
Eastern Goldfields Transport Board	331	Engines in Factories	270, 275, 285
Education	19, 21	Enrolments	
Adult	130	School	4, 121, 126
Agricultural	10, 11, 123, 125, 128	Teachers' College	125
Assistance to, Commonwealth	19, 21, 131, 175	Technical Education	124
Board of		University	127
Central	120	Enteritis and Diarrhoea, Deaths from	113, 116
General	120	Entertainments Tax	16, 176, 178
Council, Health	22, 88, 138	Entomology—see also Insects	71, 137, 251
Department	120	Estate Duty	176
Employment in	121, 124, 347	Evaporation	35, 40, 47
Examinations, Public	121, 130	Examination, Examinations	
Expenditure on	131, 179	Dental, in Schools	140
Itinerant Teacher Service	123	Medical	
of Handicapped Children	122	for Veneral Diseases	139
Natives	123	In Schools	140
Parents' and Citizens' Associations	122	of Bankrupts	196
Pre-School	10, 126	Public	121, 130
Provision for, in Remote Areas	123, 335	Board	130
Scholarships and Bursaries	122, 128, 130	X-ray, for Tuberculosis	15, 138
School, Schools		Exchange Rates, Sterling	189
Agricultural	123	Excise	
Attendance, Attendances at	120	Collections	176, 314
Broadcasts to	122	Commodities subject to	315
Correspondence	123	Rates	315
		Executive Council	80
		Ex-nuptial Births	108
		Expectation of Life	115
		Experiment, Experimental Farms	224, 251

Export Charges, Primary Products	176
Exports— <i>see also specific items</i>	
Classification	296
Destination	302, 312
Items of, Principal	295, 301, 310, 382
Valuation of	296
Value	295, 301, 310, 382
External Trade— <i>see also</i> Direction of Trade; Ex-	
ports; Import, Imports	18, 20, 295, 386
Eyre, Edward J.	4

F

Factory, Factories— <i>see also specific types of factory</i>	
Classification	273, 277
Definition of, Statistical	268
Development of	268
Distribution of, Geographical	219, 270
Employment	17, 219, 268, 272, 277, 285, 293, 390
Engines used in	270, 275, 285
Government	177, 269, 281, 282, 292
Land and Buildings	270, 275, 282, 285, 293
Materials used in	271, 276, 277, 282, 285, 293
Number of	268, 270, 277, 285, 293, 390
Output, Value of	268, 271, 276, 277, 285, 293, 390
Plant and Machinery	270, 275, 282, 285, 293
Power, Fuel and Light used in	271, 275, 277, 293
Production	
Items of	282, 285, 293, 390
Net	268, 270, 276, 277, 293, 390
Salaries and Wages	268, 271, 274, 276, 277, 293, 390
Summary according to Industry	277, 285, 293
Farm, Farms	
Experiment, Experimental	224, 251
Production— <i>see also</i> Agricultural; Agri-	
culture; Farming; Primary	217, 219, 388
State	251
Farmers, Assistance to	
Financial	10, 175, 189, 207, 226, 245
Technical	135, 207, 251
Farming	217, 264
Bee— <i>see</i> Bee Keeping	
Dairy	10, 12, 136, 217, 219, 222, 245, 346, 364, 389
Ley	75, 220
Pig	219, 247
Poultry	219, 222, 249, 252, 346
Sheep	217, 220, 238
Wheat	3, 9, 217, 220, 224, 319, 388
Fauna	59, 137, 208
Federation, Commonwealth	8, 10, 80
Fellmongering— <i>see also</i> Wool	279
Felspar	220, 260
Ferries	330
Fertility and Reproduction Rates	109
Fertilizers, Artificial	223, 336
carried on Railways	321
Factories	9, 220, 272, 277, 284, 286
Imports	301
Production	266, 283, 286
Ores used in	260, 265, 286, 311
Use of	135, 224, 231, 253
Finance	
Commonwealth-State	11, 20, 149, 161, 173, 175, 177, 183, 196, 327
Hospitals	140, 142, 183
Local Government	184
Private	18, 20, 189, 380
Public	18, 20, 173, 378
Railways	321, 323, 325, 332, 381
Roads	11, 175, 183, 186, 327
Financial Agreement, Commonwealth-State	11, 173, 175
Fire	
Brigades	184, 186
Board, Western Australian	194
Insurance	194
Protection, Forest	256
Firewood	256, 275, 321
Fish— <i>see also</i> Crayfish; Fisheries, Fishing	
Exports	14, 257, 301, 306, 310, 311
Production	14, 21, 217, 222, 257
Species of	59, 67, 257
Fisheries, Fishing— <i>see also</i> Fish; Pearls, Pearl-	
Shell; Whales, Whaling	18, 21, 217, 219, 257
Employment in	258, 346
Research	18, 137, 258
Value of	219, 222, 389
Fitness Council, National	209
Flats	145, 151
Flax	
Area	232
Fibre Bounty	175
Production	223, 232

Fleece Weights	241
Flinders, Matthew	2
Flora— <i>see also</i> Forest, Forests	48, 56, 208
Flour, Wheaten	
Exports	225, 298, 301, 303, 310, 384
Milling	3, 4, 220, 279, 284, 288, 366
Production	283, 288, 390
Retail Prices	368
used in Factories	284
Flying Doctor Service, Royal	12, 335
Fodder Crops	214, 231
Foodstuffs— <i>see also specific foodstuffs</i>	
Exports	225, 296, 301, 304, 308, 310, 311, 383
Imports	295, 299
Retail Prices	368
Footwear	
Factories	279, 283, 288, 365
Imports	299, 301
Forest, Forests	4, 54, 254
Administration and Conservation	10, 178, 183, 201, 254
Fire Protection	256
Leases, Licences, Permits	204
Products— <i>see also specific products</i>	58, 217, 222, 256
Situation of	54, 254
State	201, 254
Tenures	204
Tree Species	54, 78, 254
Forestry	
Employment in	346
Production, Value of	219, 222, 389
Forrest	
Alexander	6, 238
John	4, 6, 7, 8, 10, 84
Fossils	27, 64, 69
Free	
Grants of Crown Land	3, 198, 200
Milk for School Children	160, 175
Freight	
Air	335
Railway	321, 325, 381
Road	323, 336
Sea-borne	311, 316
Fremantle, Charles H.	2
Fremantle	
Harbour Trust	319
Municipal Transport Board	184, 330
Friendly Societies	195
Frosts	43
Fruits— <i>see also specific fruits</i>	
Dried	
Imports	301
Exports	237, 310
Production	237
Fresh	
carried on Railways	321
Exports	235, 301, 304, 310, 384
Imports	299
Production	214, 216, 219, 222, 234
used in Factories	284, 289
Preserved in Liquid	
Factories	279, 284, 366
Imports	299, 301
Retail Prices	368
Fuel Oil— <i>see also</i> Oil, Oils	275, 293
Fuel, Power and Light Consumption in Factories	271, 275, 284, 293
<i>see also</i> Power, Electric	
Fund— <i>see specific funds</i>	
Funeral Benefits	155, 175, 195
Furniture Factories	280, 346, 366

G

Gaols	3, 5, 171
Gas, Coal— <i>see</i> Coal	
Gauges, Railway	324
Geology	25, 78
Gift Duty	176
Giles, Ernest	6
Glass Sand	260
Glaucanite	260
Gold— <i>see also</i> Goldfields	
Discovery	7, 8, 11, 23, 93, 217, 260, 295
Exports	295, 298, 301, 303, 310, 386
Mining	
Assistance to	18, 262, 386
Employment in	261
Leases	202, 263
Minimum Wage Rates	366
Price	15, 262
Production	9, 220, 222, 260, 386
Refined	262
Value	222, 260, 386

Page

Goldfields	
Basic Wage	359, 362
Employment	261
Proclaimed	7, 261
Water Supply	8, 9, 210, 212
Goods Traffic, Railway	321, 325, 381
Government	
Commonwealth	8, 80, 394
Local	6, 17, 80, 91
Representative	4, 6, 80
Responsible	7, 80, 83, 199
State	3, 80, 83, 394
Governor, Governors	3, 80
Governor-General	81, 394
Grain— <i>see also specific grains</i>	388
carried on Railways	321
Grants	
by Local Government Authorities	186
Commission, Commonwealth	11, 173
for Waterworks	14, 17, 19, 175, 211
of Crown Land	198, 200
Special, Commonwealth	173, 175, 177
State (Tax Reimbursement)	13, 174, 175, 177
to University, Universities	19, 21, 131, 175, 179
under Section 96 of Constitution	173, 175
Grapefruit	224, 236
Grapes— <i>see also Vine Fruits</i>	219, 223, 237, 284, 304
Graphite	267
Grasses	53, 56, 137, 224, 231
Grazing— <i>see also Cattle; Pastoral; Pasture;</i>	
Sheep, Lambs; Wool	199, 220, 231, 238, 346
Gregory, Augustus C., Francis T.	4, 238
Grey, George	3, 238
Group Settlement Scheme	10, 12, 207, 245
Guanos	4, 62
Guidance, Educational	122, 124
Gums and Resins	58, 256
Gypsum	24, 33, 220, 260, 284

H

Hackett, John W.	127
Hail	43
Ham— <i>see Bacon, Ham</i>	
Handicapped Children	122, 143
Harbour Boards	319
Harbours— <i>see Ports</i>	
Hardwoods— <i>see also Jarrah; Karri; Tuart;</i>	
Wandoo	4, 58, 217, 254, 291, 303
Hartogs, Dirk	1
"Harvester" Judgment	355
Hay	
Area	230, 389
Production	222, 230, 389
Health	
Boards of, Local	91, 138, 184, 186
Department of	138
Education Council	22, 88, 138
Insurance	159, 195
Laboratories	138
Public, Commissioner of	139
Services	21, 91, 138, 142, 159, 175, 396
Heart Diseases, Deaths from	116
Heights above Sea-Level	34, 38, 47
Hides and Skins	253, 284, 287, 295, 301, 304, 310, 385
High	
Court of Australia	90, 165, 167
Schools	121, 123
Highways— <i>see Road, Roads</i>	
Hire Purchase	18, 20, 22, 89
Historical Review	1
Hives, Bee	205, 250
Holdings, Agricultural and Pastoral	226, 240, 243, 246, 248
Homes for the Aged	144
Homicide	116
Honey	222, 250
Horsepower of Engines in Factories	275, 285, 293
Horses	249, 321, 387
Hospital Benefits	159, 175, 183, 195
Hospitals	8, 138, 140, 161, 181, 183, 186, 364
Hotels	3, 10, 15, 177, 347, 364
House	
of Representatives	82
Rents	148, 368, 374, 391
Houses	145, 151
Housing	145, 180
Agreement, Commonwealth-State	88, 149, 183, 196
at Census	145
Commission, State	88, 89, 148, 181, 183, 184
Government	148
Loans	9, 13, 19, 88, 149, 190, 196
Trust, McNess	150

Page

Houtman, Frederik de	1
Humidity	43, 47
Hydro-Electric Power	29, 292
I	
Illegitimacy	108
Ilmenite	17, 19, 21, 32, 217, 219, 222, 260, 265, 308, 311
Immigration— <i>see also Migration</i>	4, 8, 10, 11, 180, 206, 224
Import, Imports— <i>see also specific items</i>	
Classification	296
Control	298
Items of, Principal	295, 298, 301
Origin	295, 298, 312
Valuation of	296
Value	295, 312, 386
Income	
Personal	18, 20
Tax	9, 10, 12, 13, 18, 20, 174, 176, 178
Indebtedness, Public	173, 182, 379
Index Numbers, Retail Price	19, 21, 355, 368, 369, 391, 396
Industrial	
Awards	359, 363
Court, Commonwealth	90, 167, 355
Development	
Department of	294
History of	268
Industries Assistance Board	10
Industry	
Geographical Distribution	219
of Population	345
Primary— <i>see also Primary; Rural</i>	220
Secondary— <i>see also Factory, Factories; Manu-</i>	
facturing	268
Inebriates	143
Infant	
Deaths	113, 377
Health Centres	140
Mortality Rate	18, 112, 114, 377
Infectious Diseases	
Cases Reported	139
Deaths from	113, 116
Influenza, Pneumonic	10
Insects	60, 71
Insolvencies	196
Institutions, Charitable	144, 163, 183
Instruction, Public— <i>see Education</i>	
Insurance	
Employment in	347
Fire, Marine and General	193, 380
Health, Hospital	159, 195
Life	193, 380
Motor Vehicle, Third Party	194, 335
Office, State Government	12, 16, 182, 193
Interest Rates, Bank	190, 192
Interim Retail Price Index	373, 396
Internal Combustion Engines in Factories	275
International Whaling Commission	258, 308
Interstate	
Air Services	11, 12, 335
Cargo, Shipping	317
Comparison of	
Areas	107
Basic Wage Rates	358, 392
Building Activity	153
Dwellings, Private	153
Livestock Numbers	249
Net Production, Manufacturing	269
Population	107, 153
Railways, Government	324, 325
Retail Price Indexes	371, 372, 391
Weather	43, 47
Wheat Production	229
Migration	102
Railway	320, 322
Representation	91
Road	12
Shipping	318
Trade	18, 20, 295, 298, 302, 311, 313
Invalid Pensions, Pensioners	154, 161, 175, 395
Investment Societies	5, 196
Iron— <i>see also Pig-Iron</i>	
Ore	12, 13, 21, 32, 217, 220, 265, 269
Exports	12, 15, 308, 310, 355
Production	222, 260, 265
Pyrites	260, 266, 286
Irrigation	11, 12, 14, 23, 210, 214, 245, 252

Page

J

Jams and Jellies	299, 301
Imports	279, 284, 289, 366
Production	368
Retail Price	3, 54, 58, 79, 217, 254, 303
Jarrah	283
Jelly Crystals	85, 87, 90, 165, 167, 394
Judges	90, 165, 169, 394
Judges' Courts	90, 165, 355, 394
Judicature	166
Judicial Separations	19, 88, 165
Jury, Juries	168
Justice—see Court, Courts	
Juvenile—see also Child; Children, Children's	
Convictions in Courts	87, 162, 164, 273
Employment	

K

Kangaroo, Kangaroos	59, 64, 137, 253
Paw (flower)	45, 50
Karri	54, 58, 79, 217, 254, 303
Kerosene	368
Retail Price	6, 7, 17, 24, 71, 93, 217, 220, 238, 260, 352
Kimberley	17, 137, 210, 216, 252
Research Station	58
Timber Resources	10, 122, 126
Kindergartens	2
King, Philip P.	208
King's Park Board	278, 284, 365
Knitting Mills	16, 17, 19, 106, 180, 181, 183, 270, 311
Kwinana	267
Kyanite	

L

Laboratories, State Government	135, 138
Labour—see Employment	
Labour Parties	8, 82, 83, 394
Lakes	24, 32, 78
Lamb—see Mutton, Lamb	
Lambs—see Sheep, Lambs	
Land	
and Buildings, Factory	270, 275, 282, 285, 293
Crown	
Administration	199
Alienation of	198, 205, 387
Classification of	206, 208
Conditional Purchase	199
Endowment	200
Grants	198, 200
Leases and Licences	201, 387
Agricultural	199
Forest	204
Mining	202, 263
Pastoral	201
Reservations	200, 208
Sales	3, 200
Settlement Schemes	
Australind	4, 198
Group	10, 12, 207, 245
Peel, Thomas	3, 198
Soldiers'	10, 206, 224
3,500 Farms	208
War Service	13, 136, 174, 183, 202, 206, 238
Tax Collections	176, 177, 178
Utilization	205, 220
Lands and Surveys, Department of	199, 201, 206, 208
Laterite	24, 31, 54
Lead, Lead Ores	4, 5, 14, 21, 220, 222, 260, 263, 266, 308, 319, 386
Leases of Crown Land—see also Land	
Agricultural	199
Forest	204
Mining	202, 263
Pastoral	4, 6, 18, 201, 205, 220
Leather	
Customs Duty	314
Exports	310
Goods Factories	279, 288, 365
Imports	300
Production	287
used in Factories	284, 288
Lecturers, University	127
Legal Tender	189
Legislation	
during 1957	
Commonwealth	87
State	19, 87

Page

Legislation—continued

during 1958	20, 87
Commonwealth	21, 87, 88
State	
Legislative	
Assembly	80, 83, 86, 394
Council	80, 83, 85, 394
Legislature	
Commonwealth	80, 82
State	80, 83
Lemons	223, 236
Leprosaria	142
Leprosy	138
Lettuce	234
Leucocene	265
Ley Farming	75, 220
Liberal and Country League	84, 394
Liberal Party	82, 394
Libraries	7, 9, 16, 17, 19, 133, 187
Library Board of Western Australia	16, 17, 133
Licences—see also Land	
Broadcast Listeners'	342
Broadcasting Station	342
Liquor	167, 178
Motor	
Drivers' and Riders'	88, 171, 178, 326, 328
Vehicle	10, 89, 171, 178, 185, 326, 328, 382
Radio	342
Revenue from	178
Transport	335
Licensing Court	167
Lieutenant-Governors	2, 12, 81
Life	
Assurance	193, 380
Expectation of	115
Lime and Plaster Factories	277, 284, 285, 364
Limestone	24, 260, 267, 285
Linseed, Linseed Oil	232, 284
Liquor Licences	167, 178
Lithium	267
Livestock—see also specific types	
carried on Railways	321
Exports	310, 384
Imports	300
on Rural Holdings	217, 220, 238, 240, 243, 246, 248, 387
Slaughtering	222, 245, 249
Loan, Loans	
Bank	190, 380
Building Society	196
Council, Australian	173
Expenditure	
Local Government	187
State Government	180, 379
Fund, General	180
Housing	9, 13, 19, 88, 149, 190, 196
Indebtedness	
Local Government	188
State Government	173, 182, 379
Raisings, Local Government	187
Local Government	80, 91
Areas—see also map preceding Index	397, 399
Lockyer, Edmund	2
Locomotives	6, 16, 320, 323
Long Service Leave	19, 21, 22, 89
Lotteries Commission	11, 140, 164, 183
Lubricating Oil	309

M

Machinery and Plant, Factory	270, 275, 282
Machines, Machinery	
Customs Duty	314
Exports	310
Imports	295, 299
in Factories	270, 275, 282
Production	277, 287, 365
McNess Housing Trust	150
Magistrates' Courts	165, 167, 170
Magnetite	260
Mails—see Posts, Telegraphs, Telephones	
Main Roads—see Road, Roads	
Maize	224, 231
Malformations, Congenital, Deaths from	113
Malting Barley	230
Mandarins	224, 236
Manganese, Manganese Ore	217, 220, 260, 266, 308, 310, 385
Manufacturing—see also Factory, Factories	
Manures—see Fertilizers, Artificial	19, 21, 217, 346, 348, 351, 364
Margins, Wage	355, 363

	Page		Page
Oil, Oils— <i>continued</i>		Pickles, Sauces	
Search	17, 19, 29, 203, 220, 260	Imports	299, 301
Ships' Stores	310, 313	Production	279, 283, 284, 289
used in Factories	275, 284, 293	“Piddington” Commission	356
Omnibuses— <i>see</i> Buses		Pig-Iron	220, 256, 266, 269, 283, 309, 310
Onion, Onions		Pigs	4, 247, 290, 310, 321, 387
Area	233	Pines	256, 291
Exports	305, 310	Plant and Machinery, Factory	270, 275, 282
Marketing Board, Western Australian	233	Plantations	11, 216, 237, 256
Production	223, 233	Plaster	277, 283, 285, 364
Retail Price	368, 370	Plums	223, 236, 304
Oranges	223, 236	Plywood	256
Orchards— <i>see also specific fruits</i>	214, 222, 234	Pneumonia, Deaths from	116
Ord River	12, 14, 16, 210, 216, 238	Pneumonic Influenza	10
Ores— <i>see also specific ores</i>	28, 220, 260, 264, 308, 310, 321, 385	Police	3, 4, 170, 179, 185, 326, 328
Orphanages	163	Policies, Life Assurance	193, 380
Output, Factory, Value of	268, 271, 276, 277, 285, 293, 390	Polio-myelitis	14, 16, 17, 19, 21, 138
Oversea, Overseas		Political Parties	82, 394
Air Services	335	Australian Labor Party	82, 394
Cargo, Tonnage of	317	Country Party	10, 82, 394
Representation	90	Labour	8, 83
Shipping	318	Liberal and Country League	84, 394
Telecommunications Commission	340	Liberal Party	82, 394
Trade— <i>see also</i> Exports; Import, Imports	18, 20, 295, 302, 311	Nationalist Party	84
Oysters	68	Political Labour Party	8
		Pollard	283, 288
		Pome Fruits— <i>see</i> Apples; Pears	
		Population	3, 93, 376
		Aboriginal	107
		Age Distribution	94
		Birthplace	97
		Censuses— <i>see also</i> Censuses of Population	4, 94, 115, 343
		Conjugal Condition	98
		Density	106
		Estimates	93, 100, 376, 397
		Geographical Distribution	105, 352, 397
		Increase	93, 101, 376
		Industry of	345
		Masculinity	94, 105
		Mean	100, 376
		Metropolitan	105, 107, 219, 346, 352, 376, 397
		Migratory	97, 105, 107, 348
		Nationality	97
		Principal Towns	106
		Rates of Increase	93
		Religion	97
		Reproduction	109
		Rural Holdings	221
		Statistical Divisions	105, 352, 397
		Work Force	343, 349
		Pork	
		Exports	247, 305, 310, 383
		Retail Prices	369
		Ports	
		Administration	319
		Cargo Tonnages	316
		Shipping	318
		Trade	311, 317
		Postmaster-General's Department	337, 340
		Posts, Telegraphs, Telephones	3, 5, 6, 7, 8, 9, 10, 11, 34, 337, 381
		Potash	24, 33, 284
		Potato, Potatoes	
		Area	214, 233
		Exports	305, 310, 384
		Marketing Board, Western Australian	232
		Production	220, 223, 232
		Retail Price	368, 370
		Poultry	136, 219, 222, 249, 252, 346
		Power, Electric— <i>see also</i> Electricity; Hydro-	
		Electric Power	
		Generation and Distribution	8, 184, 271, 281, 283, 292, 366, 379, 390
		used in Factories	7, 83
		Premier, Premiers	193, 380
		Premiums, Insurance, Assurance	126
		Pre-School Education	
		Price Indexes— <i>see</i> Index Numbers, Retail Price	
		Prices	
		Control	12, 14, 16, 17
		Retail	368
		Prime Minister	13, 15, 173
		Primage Duty	314
		Primary	
		Producers, Assistance to	
		Financial	175, 189, 207, 226
		Technical	135, 207, 226, 245, 251
		Production	217, 220, 301, 343, 346, 351, 364, 366, 386, 389
		Schools— <i>see also</i> Education	121, 125
		Printing Works	6, 181, 280, 284, 366
		Prisons, Prisoners	3, 5, 171
Paint, Paints	277, 283, 299, 311, 314		
Paper, Paper Products			
Customs Duty	314		
Factories	273, 281, 284, 346		
Imports	299		
Parasitic Diseases, Deaths from	113		
Parks and Reserves	185, 201, 208		
Parliament, Parliaments			
Commonwealth	8, 80, 82, 87		
State	7, 8, 80, 83, 87, 394		
Parsnips	234		
Passengers Carried			
Ferries	330, 332		
Motor Omnibuses	330, 332		
Railways	321, 325, 332		
Railway Road Services	323, 332		
Tramways	329, 332		
Trolley-Buses	329, 332		
Pastoral— <i>see also</i> Cattle; Grazing; Sheep,	136, 208, 217, 238, 251, 364		
Lambs; Wool	238		
Areas	217, 219, 222, 238, 364, 389		
Industry	4, 6, 18, 201, 205, 220		
Leases	137, 214, 216, 220, 231, 245, 253		
Pasture	11, 12, 245		
Paterson Plan	141, 143		
Patients in Hospital	12, 176, 349		
Pay-roll Tax	223, 236, 368		
Peaches	216		
Peanuts	68		
Pearls, Pearl-Shell			
Culture	17, 18, 220, 259		
Discovery	4		
Exports	5, 259, 295, 310, 385		
Production	220, 222, 259		
Pears	223, 235, 304, 368		
Peas	224, 230, 234		
Peel, Thomas	3, 198		
Penal Offences	167		
Pensions, Pensioners			
Age	154, 161, 175, 395		
Invalid	154, 161, 175, 395		
Medical Service	160, 175		
Reciprocal Arrangements with Other Countries	157		
Service	154, 158, 395		
War	154, 158, 395		
Widows'	155, 161, 175, 395		
Personal Income	18, 20		
Perth			
City Council	5, 17, 19, 91, 167, 326		
Foundation of	2		
Town Trust	4, 91		
Petrol, Petroleum, Petroleum Products— <i>see also</i>			
Oil, Oils			
Customs	314, 327		
Excise	315, 327		
Exports	298, 301, 309, 310, 313		
Imports	295, 301, 309, 311		
Leases, Licences	203		
Pharmaceutical Benefits	154, 160, 175, 183, 396		
Phosphate, Rock— <i>see also</i> Fertilizers, Artificial	284, 286, 311		
Physical Features	23, 77		

Page

Private	
Children	162
Dwellings	145
Finance	18, 20, 189, 380
Hospitals	142, 183
Omnibus Services	329, 331
Railways	6, 7, 8, 319, 322, 323, 332, 381
Privy Council	15, 90, 165
Probate Duties	178
Professors, University	127
Profit Control	17, 21, 88, 89
Prohibition Poll	15
Proportional Representation	82
Public	
Debt	173, 182, 379
Examinations—see Education	
Finance	3, 18, 20, 173, 378
Child Welfare	164
Customs and Excise	176, 314
Education	131, 179
Hospitals	142, 183
Infant Health	140
Posts, Telegraphs and Telephones	338, 381
Social Service Benefits	155, 175
Transport Services	177, 179, 183, 321, 323, 325, 329, 332, 381
Vehicle Licences	178, 185, 327
Health	91, 138, 179, 184
Hospitals	8, 9, 10, 14, 21, 140, 161, 181, 364
Instruction—see Education	
Transport Services	177, 179, 183, 319, 329, 379, 381
Trustee	13, 183
Publications, List of	following Index
Pumpkins	234
Pyrites—see also Iron	217, 220, 222, 260, 266, 286

Q

Quarantine	138
Quarrying—see Mining and Quarrying	
Quartzite	267
Quicklime	283, 285

R

Rabbit-Proof Fences	9
Rabbits	8, 15, 65, 137, 254, 304
Racing, State Revenue from	173
Radio Services	9, 10, 340
Rail Standardization	324
Railways	6, 88, 180, 183, 319, 332, 336, 366, 381
Rainfall	13, 17, 20, 22, 34, 36, 53, 78, 106, 216, 224
Raisins	219, 237, 368
Refining	
Gold	262
Oil	16, 17, 217, 219, 269, 301, 309, 365
Sugar	366
Tallow	277
Refrigerating	
Machines and Appliances, Imports of	299, 301
Works	8, 280
Regions, Natural	77
Rehabilitation Service, Commonwealth	155, 175
Religion of Population—see also Churches	97
Rents of Dwellings	148, 368, 374, 391
Repatriation Services	140, 158, 395
Representation	
Oversea and Interstate	90
Parliamentary	80, 82, 85, 394
Vice-Regal	81, 394
Representatives, House of	82
Reproduction Rates	109
Reptiles	65
Research	
Agricultural	12, 136, 216, 224, 226, 251
Organization, Commonwealth Scientific and	
Industrial	16, 20, 136, 210, 216, 252
Reserves of Land	200, 208
Reservoirs—see also Water	7, 9, 11, 12, 15, 17, 19, 210, 216
Resins and Gums	58, 256
Retail	
Establishments, Census of	18, 374
Price, Prices	368
Index Numbers	19, 21, 355, 368, 369, 391, 396
Sales, Value of	18, 20
Trade	
Employment in	347, 351
Minimum Wage Rates	366
Rheumatic Fever, Deaths from	116

Page

Rice	16, 17, 18, 20, 88, 216, 368
Rivers	24, 210, 216, 238
Road, Roads	325
Boards	6, 91, 150, 184, 325, 330, 336
Commonwealth Aid	11, 175, 183, 327
Districts—see also map preceding Index	398
Finance	11, 175, 183, 186, 327
Main	11, 182, 325, 328, 336
Traffic	
Accidents	332
Control	10, 171, 326
Transport	184, 322, 328, 335
Employment	323, 329, 332, 347, 351
Minimum Wage Rates	364, 366
Vehicles	323, 327, 329, 336, 382
Trust Fund, Central	328
Rock Phosphate—see Phosphate, Rock	
Rocks	25
Roe, John S.	3, 4
Rottneet Island Board	209
Route Mileage—see Mileage	
Royal	
Commission	9, 10, 12, 14, 15, 16, 19, 189
on Basic Wage	356, 359
University	9, 127
Flying Doctor Service	12, 335
Mint	189, 262
Visits to Western Australia	6, 8, 10, 11, 12, 17, 22
Rubber, Rubber Goods	
Customs Duty	314
Factories	281, 284
Imports	299
Rubidium	267
Rural	
and Industries Bank of Western Australia	13, 17, 183, 189
Holdings	220, 226, 240, 243, 246, 248
Industry	18, 20, 217, 301, 343, 346, 364, 387, 389
Seasonal Calendar	223
Rutile	32, 265
Rye	223, 230

S

Safflower	216
Salaries and Wages—see also Basic Wage, Wages	367
Factories	268, 271, 273, 276, 277, 285, 293, 390
Hospitals	142
Infant Health	140
Minimum Rates	363
Postmaster-General's Department	338
University	131
Sales Tax	176
Salt	24, 33, 253
Bush	53, 56
Lakes	24, 32, 78
Sandalwood	58, 254, 256, 295
Sandstone	27, 260, 267
Sauce—see Pickles, Sauces	
Savings Banks—see Bank, Banks	
Sawmills, Sawmilling	4, 219, 256, 272, 280, 284, 291, 301, 323
Employment	272, 280, 291, 346
Minimum Wage Rates	366
Permits	204
Salaries and Wages	274, 280, 291
Scarlet Fever	139
Scholarships, Bursaries	122, 128, 130
Schools—see Education	
Scientific Institutions	135, 210, 216, 251
Seasonal Calendar, Rural	223
Secession Referendum	11
Secondary	
Production—see Factory, Factories; Manu-	
facturing	
Schools—see Education	
Sedimentary Basins	28
Senate	
Commonwealth Parliament	82
University of Western Australia	128
Separations, Judicial	166
Sequestration Orders	196
Service, Services	
Advisory, Agricultural	252
Broadcasting	10, 341
Dental, Schools	140
Flying Doctor, Royal	12, 335
Health	
Infant	140
National	138, 159, 175, 396

	Page
Service, Services— <i>continued</i>	
Hospital	140
Library	16, 133
Medical	138
Pensioner	160, 175
Schools	140
Pensions	154, 158, 395
Post, Telegraph and Telephone	337, 381
Radio Communication	9, 10, 340
Rehabilitation, Commonwealth	155, 175
Repatriation	140, 158, 395
Reservoirs	211
Shipping, State	9, 18, 177, 178, 182, 317
Social	154, 161, 175, 395
Soil Conservation	251, 253
Statistical	8, 19
Television	341
Transport	19, 20, 88, 316, 319, 328, 335, 381
Veterinary	251
War, Land Settlement	13, 136, 174, 183, 202, 206, 238
Settlement— <i>see</i> Land	
Sheep, Lambs	
Breeds	239
carried on Railways	321
Exports	310, 384
Fleece Weights	241
Numbers	3, 217, 220, 239, 249, 387
Research	136, 253
Shorn	241
Size of Flocks	240
Skins Exported	304, 310
Slaughtered	245
Shipping	316, 347, 381
Cargo	311, 316
Service, State	9, 18, 177, 178, 182, 317
Ships' Stores	309, 311, 313
Shoes— <i>see</i> Boots and Shoes	
Sickness Benefits	156, 175, 195, 395
Sillimanite	267
Silver, Silver-Lead Ores	220, 260, 263, 266, 308, 386
Sinking Funds	173, 175, 182, 187, 379
Skins and Hides	253, 284, 287, 295, 301, 304, 310, 385
Slaughtering, Livestock	222, 245, 249
Sleepers, Railway	283, 303, 310
Slippers	283, 288
Snakes	65
Snow	46
Soap, Soap Substitutes	
Factories	284, 365
Imports	299, 301
Production	283
Retail Price	368
Social Services	154, 161, 175, 395
Softwoods— <i>see</i> Pines	
Soil, Soils	23, 32, 54, 136, 208, 224, 251
Conservation	224, 251, 253
Fertility	136, 253
Surveys	136, 216
Types	32
Soldiers' Settlement Scheme	10, 206, 224
South-West Land Division	106, 359, 362
Spinifex	54, 57, 78
Spirits	
Beverage— <i>see</i> Alcoholic Beverages	
for Industrial Purposes	315
Spodumene	267
Standardized Death Rates	114
State	
Arbitration Court	8, 90, 166, 355, 359, 363, 395
Basic Wage	11, 12, 13, 14, 15, 16, 21, 273, 359, 392
Batteries	135, 262
Cabinet	7, 15, 22, 83
Education System	8, 120
Electricity Commission	180, 181, 183, 184, 271, 292
Government Insurance Office	12, 16, 182, 193
Housing Commission	88, 89, 148, 181, 183, 184
Library of Western Australia	133
Shipping Service	9, 18, 177, 178, 182, 317
Trading Concerns	177
States, Australian	80, 107, 153
Statistical Divisions— <i>see also map preceding Index</i>	238, 397
Areas of	107, 397
Components of	398
Factories in	270
Industries in	219
Population in	105, 107, 397
Industry of	348, 352
Roads in	326
Steam Engines in Factories	275
Steel Rolling	16, 19, 217, 219, 269
Stephenson Plan for Metropolitan Region	17

	Page
Stevedoring	
Employment	347
Industry Charge	176
Minimum Wage Rate	366
Stillbirths	108, 113
Stirling, James	2, 3, 198
Stone	24, 27, 260, 267, 285
Fruits— <i>see also specific fruits</i>	219, 224, 235, 236, 304
Quarry Production	260, 267
Storms	36, 43
Street Lighting	6, 186
Students— <i>see</i> Education	
Subterranean Clover	136, 137, 220, 231, 238, 245, 253
Succession Duty	178
Sugar	
Cane	17, 216
Refining, Minimum Wage Rates	366
Retail Price	368
used in Factories	84, 289, 291
Suicides	116
Sulphur	266, 284, 286, 311
Sulphuric Acid	175, 266, 283
Sunshine, Periods of	46
Superphosphate— <i>see</i> Fertilizers, Artificial	
Supreme Court	
Federal	90
of Western Australia	5, 90, 165, 394
Swan, Swans	1, 63
River Conservation Board	89
Syphilis	139
T	
Tailoring	279, 365
Talc	260
Tallow	277, 283, 284, 311, 317
Tanneries	279, 284, 287, 365
Tannin	58, 254
Tanning Bark— <i>see also</i> Bark	58, 256
Tantalum Ores	260, 267
Tariff	
Board	314
Customs	312
Tasman, Abel	1
Taxation	9, 10, 12, 13, 16, 18, 20, 88, 154, 174, 176, 184, 220, 226, 238, 312, 327, 89, 364
Taxi-Cars	295, 301, 368
Tea	295, 301, 368
Teachers— <i>see</i> Education	
Technical Education— <i>see</i> Education	
Telecommunications Commission, Overseas	340
Telegraph, Telegraphy— <i>see</i> Posts, Telegraphs, Telephones	
Telephones— <i>see</i> Posts, Telegraphs, Telephones	
Television	20, 341
Temperature	34, 43, 53
Tetanus	139
Textile, Textiles	
Customs Duty	314
Imports	299
Factories	10, 273, 278, 365
Third Party (Motor Vehicle) Insurance	194, 335
Thorium	267
Thunderstorms	43
Tiles, Roofing	283, 285
Timber— <i>see also</i> Forest, Forests; Hardwoods; Jarrah; Karri; Pines; Plywood; Sandalwood; Sawmills, Sawmilling; Tuart; Wandoo	
carried on Railways	321
Exports	3, 4, 6, 11, 256, 295, 301, 303, 310, 385
Minimum Wage Rates	366
Production	256, 283, 291, 390
Railways	6, 323
Reserves	254
Revenue from	378
Species	54, 78, 254
Tin Ore and Concentrates	7, 8, 220, 260, 267, 386
Tobacco	
Area	231
Charge	176
Customs and Excise	314
Exports	310
Imports	299
Production	219, 222, 231, 366
Tomatoes	216, 220, 223, 233, 284, 305, 310
Topography	23, 34, 78
Tourist and Publicity Bureau, Western Australian	91
Town Planning Board	150
Trachoma	138
Tractors— <i>see also</i> Agricultural	11, 13, 15, 175, 221, 269, 295, 299, 301, 310

	Page
Trade	
Interstate and Oversea	18, 20, 295
Retail, Wholesale	
Employment in	347, 351
Minimum Wage Rates	364, 366
Unions	7, 8, 11, 16, 90, 166, 355
Traffic	
Accidents, Road	332
Act	88, 89, 167, 184, 326
Area, Metropolitan	185, 326, 328
Control, Road	10, 171, 326, 336
Fees	185, 326
Passenger Ferry	330, 332
Rail	321, 325, 332, 381
Road	10, 18, 171, 322, 326, 329, 336
Tramways	8, 9, 20, 329, 332, 366
Transport— <i>see also</i> Air Transport; Buses; Ferries; Motor, Motors; Railways; Road, Roads; 18, 20, Shipping; Tramways; Trolley-Bus Services	316, 347, 351, 364, 366, 379, 381
Board	
Eastern Goldfields	184, 330
Fremantle Municipal	184, 330
Western Australian	320, 328, 335
Services, Municipal	184, 330
Trust, Metropolitan (Perth) Passenger	19, 20, 88, 328, 336
Trapping	219, 222, 253, 346
Tree Species	54, 78, 254
Trolley-Bus Services	180, 329, 332, 366
Tropical Agriculture	216, 220, 252
Trust Funds	176, 182, 188, 328
Tuart— <i>see also</i> Hardwoods	55, 254
Tuberculosis	
Allowances— <i>see also</i> War and Service Pensions	154, 161, 175, 395
Campaign	15, 89, 138, 142, 154, 161, 175
Cases Reported	139
Deaths from	116
Hospitals	142
Tungsten Ores	267
Turnips	234
Typhoid Fever	116, 139
U	
Unemployment Relief	11, 13, 19, 21, 154, 156, 161, 175, 395
Unfair Trading	17, 21, 88, 89
Unincorporated Area	92
United Kingdom	
Representation in	90
Trade with	295, 302, 306, 312
Universities, Financial Aid	19, 21, 132, 175, 179
University of Western Australia— <i>see</i> Education	
Unoccupied Dwellings	145
Upholstering, Minimum Wage Rates	366
Uranium	267
V	
Valuation for Rating, Local Government	184
Vanadium	267
Veal— <i>see</i> Beef	
Vegetables— <i>see also specific vegetables</i>	
Fresh	
Exports	232, 301, 305, 310, 384
Imports	233
Production	214, 216, 219, 222, 232
used in Factories	284, 289
Vegetation	32, 48, 78
Provinces	51
Vehicles, Motor— <i>see</i> Motor, Motors	
Veneers, Plywood— <i>see</i> Plywood	
Veneral Diseases	139
Vermiculite	260, 267
Vermin	15, 65
Boards	184
Bonus, Bounty	63, 184
Taxation	178, 184
Vice-Regal Representation	81, 394
Vine Fruits	219, 222, 237
Dried— <i>see also</i> Currants; Raisins	219, 237
Grapes	
Area	238
Exports	304
Production	219, 238
used in Factories	284
Vinegar	283
Vineyards	3, 237
Vital Statistics	108, 377
Viticultural Research	252
Vlaming, Willem de	1
Vocational Guidance	122, 124
Voting— <i>see</i> Electoral Provisions	

	Page
W	
Wage and Salary Earners, Number of	344, 349, 351
Wages— <i>see</i> Salaries and Wages	
Wandoo— <i>see also</i> Hardwoods	54, 58, 79, 254, 256
War	8, 10, 12, 13
Pensions	10, 154, 158, 395
Service	
Homes	148, 183
Land Settlement	
Board	220
Scheme	13, 136, 174, 183, 202, 206, 238
War and Service Pensions	10, 154, 158, 395
Water	
Artesian	25, 28, 31, 78, 210
Boards	184, 210, 212, 214
Conservation	210
Supply	7, 19, 21, 78, 177, 179, 181, 185, 187, 210, 346, 379
Commonwealth Grants for	14, 17, 19, 175, 211, 216
Metropolitan	7, 8, 210
Scheme, Schemes	
Comprehensive	14, 15, 17, 19, 21, 181, 211
Goldfields	8, 9, 210, 212
Other	184, 212, 214
Weather	34
Webworm Moth	75
Weirs— <i>see</i> Reservoirs; Water	
Whale Oil	3, 217, 258, 295, 301, 307, 310
Whales, Whaling	3, 14, 15, 17, 61, 65, 217, 220, 258, 307
Catch	258
Commission	
Australian	15, 17, 258
International	258, 308
Wheat	
Area	3, 217, 224, 228, 251, 319, 388
Board	
Australian	225
Western Australian	89
Bulk Handling of	11, 225
carried on Railways	321
Exports	9, 18, 225, 296, 298, 301, 302, 310, 383
Prices, Export	11, 14, 296, 302
Production	3, 9, 10, 11, 17, 20, 222, 224, 228, 319, 388
Research	136, 224, 226, 251, 253
Stabilization Scheme	89, 225
Tax	226
used in Milling	284, 288
Varieties	10, 253
Yield per Acre	17, 224, 229, 388
Wholesale Trade	347, 364
Widows' Pensions	155, 161, 175, 395
Wildflowers	48, 57
Wind	35, 36, 47
Wine— <i>see</i> Alcoholic Beverages	
Wineries	219, 280, 284
Wire Working	278
Wireless Communication	9, 340
Wood, Wood Products— <i>see also</i> Firewood; San- dalwood; Timber	
Customs Duty	314
Fuel used in Factories	275
Imports	300
Manufacture	269, 273, 280, 283, 346, 366
Wool	
Auctions	10, 13, 18, 241
carried on Railways	321
Exports	3, 5, 6, 243, 295, 298, 301, 310, 382
Fleece Weights	241
Imports	299
Prices, Export	11, 12, 15, 296, 301, 302
Production	10, 13, 17, 20, 220, 222, 227, 241, 283, 387
Scouring	279, 365
Shearing	223, 364
Tax	176
Value of	222, 387
Work Force— <i>see</i> Employment	
Workers' Compensation	10, 11, 15, 183, 193, 194
Workers' Homes	
Act	9
Board	13, 14, 148
Y	
Yarn, Yarns	
Imports	299
used in Factories	284
Yttrium	267
Z	
Zinc, Zinc Ores	137, 224, 253, 267, 308, 386
Zircon	32, 265
Zoogeography	59
Zoological Gardens	8
Board	209

LIST OF STATISTICAL PUBLICATIONS

Compiled and Issued by the Deputy Commonwealth Statistician and Government Statistician
Prudential Building, 189 St. George's Terrace, Perth

PRINTED PUBLICATIONS	PRICE		
	Excluding Postage	Including Postage	
		Australia and Other British Countries	Foreign Countries
	s. d.	s. d.	s. d.
OFFICIAL YEAR BOOK OF WESTERN AUSTRALIA	10 0	†	14 8
POCKET YEAR BOOK OF WESTERN AUSTRALIA	2 0	2 5	2 8
QUARTERLY STATISTICAL ABSTRACT	2 0	2 5	2 8
STATISTICAL REGISTER OF WESTERN AUSTRALIA (Annual)—			
Complete Bound Volume	60 0	61 11	63 8
Parts issued separately :			
Part I—Population and Vital Statistics:	4 0	4 5	4 5
Parts II and III—Public and Private Finance	4 0	4 5	4 5
Part IV—Trade, Transport and Communication	14 0	14 8	14 11
Part V—Land Settlement, Agriculture, Livestock and Meteorological Statistics	11 0	11 5	11 8
Part VI—Factory Statistics	9 0	9 5	9 8
Part VII—Mineral Statistics and Water Conservation	2 0	2 5	2 5
Parts VIII, IX and X—Social Statistics	3 0	3 5	3 5
Comprising : Part VIII—Law and Crime			
Part IX—Hospitals and Charitable Institutions			
Part X—Education			
Part XI—Local Government	5 0	5 5	5 5
Part XII—Retail Prices, Wages, Employment and Miscellaneous	6 0	6 5	6 8
Statistical Summary from 1829	2 0	2 5	2 5
ABSTRACT OF STATISTICS OF LOCAL GOVERNMENT AREAS (Annual)	5 0	5 8	5 11

† Australia, 12/1 ; United Kingdom and other British Countries, 12/5.

MIMEOGRAPHED PUBLICATIONS

(Available Free of Charge on Application)

SUBJECT	ISSUED
AGRICULTURAL AND PASTORAL ACTIVITIES—	
General Summary	Annually
Cereal Crops	Annually
Cereal Crop Forecast	Annually
Livestock and Woolclip	Annually
Machinery on Rural Holdings	Annually
BUILDING—	
Building Operations	Quarterly
Local Government (Permit Issues) and Government Authorities (Approvals)	Monthly
DIVORCE	Annually
EXTERNAL TRADE	Annually
FACTORIES	Annually
FIRE, MARINE AND GENERAL INSURANCE	Annually
MOTOR VEHICLES ON REGISTER IN LICENSING AREAS	Annually
POPULATION, DWELLINGS AND VITAL STATISTICS (Municipalities, Road Districts and Statistical Divisions)	Annually
ROAD TRAFFIC ACCIDENTS	Quarterly and Annually
WAGE AND SALARY EARNERS IN CIVILIAN EMPLOYMENT	Annually
GENERAL—	
Monthly Statistical Summary	Monthly