

OFFICIAL YEAR BOOK
OF
WESTERN AUSTRALIA

1957

No. I (NEW SERIES)



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CIRCULAR

OFFICIAL YEAR BOOK OF WESTERN AUSTRALIA, 1957 (NO.1 - NEW SERIES)

This issue of the Year Book establishes a new annual series. The old series, first published for the year 1886 and discontinued in 1905, developed from the Blue Books of the Colonial Office, London, which comprise the original statistical records of the Colony and date, as far as is known, from 1834.

The present volume, of royal octavo size, contains 363 pages and, in addition, a synopsis of five pages, a preface, and a foreword by the Honourable Gilbert Fraser, M.L.C., Chief Secretary. Separate chapters are devoted to (i) an Historical Review giving a brief summary of discovery and of principal events, treated chronologically, from 1829; (ii) Physical Features, Climate, Flora and Fauna, containing contributions by such authorities as R. T. Prider (Professor of Geology in the University of Western Australia), the Bureau of Meteorology, C. A. Gardner (Government Botanist), L. Glauert (formerly Director of the Western Australian Museum) and C.F.H. Jenkins (Government Entomologist); (iii) Constitution and Government; (iv) Population and Vital Statistics; (v) Social Condition; (vi) Finance (Public and Private); (vii) Land Settlement and Tenure, Water Conservation and Supply; (viii) Production (Primary and Secondary); (ix) Trade, Transport and Communication; and (x) Employment, Wages and Prices. There is also a statistical summary, extending over sixteen pages, which deals with these topics in their several aspects - in some cases, back to 1829.

The work of preparing the first issue of a comprehensive volume of this kind must necessarily extend over a period of years, so that some material has been in print a long time before the last pages can be written and printed. By its very nature, a Year Book can never hope, nor is it designed, to present the latest statistics. This is the function of publications which appear at shorter intervals and are listed in the Book. The textual matter and the statistics presented in this issue relate generally to periods ended the 30th June, or the 31st December, 1956. Certain particulars later than those appearing in the main chapters are given in an Appendix.

The Book contains eleven plates, three in colour, seven in half-tone and one line drawing, showing examples of Western Australian flora, agricultural and pastoral activities, secondary industry, the University, views of the City of Perth and the port of Fremantle. There are several maps illustrating such subjects as geology, climatology, vegetation, the natural regions, main areas of production, irrigation, water supply, forests and air routes. A general map of the State, measuring 32" x 22½", is included. This shows the boundaries of local government areas (statistical districts) and statistical divisions, the main towns, isohyets, railways, highways, mountain ranges, rivers and lakes. Graphs dealing with some aspects of demography are provided in the relevant chapter. It is hoped, in future issues, to extend this graphical treatment to other topics.

Ample use has been made of statistical tables to supplement the descriptive text and to give a numerical account of the State's activities during the last half-century.

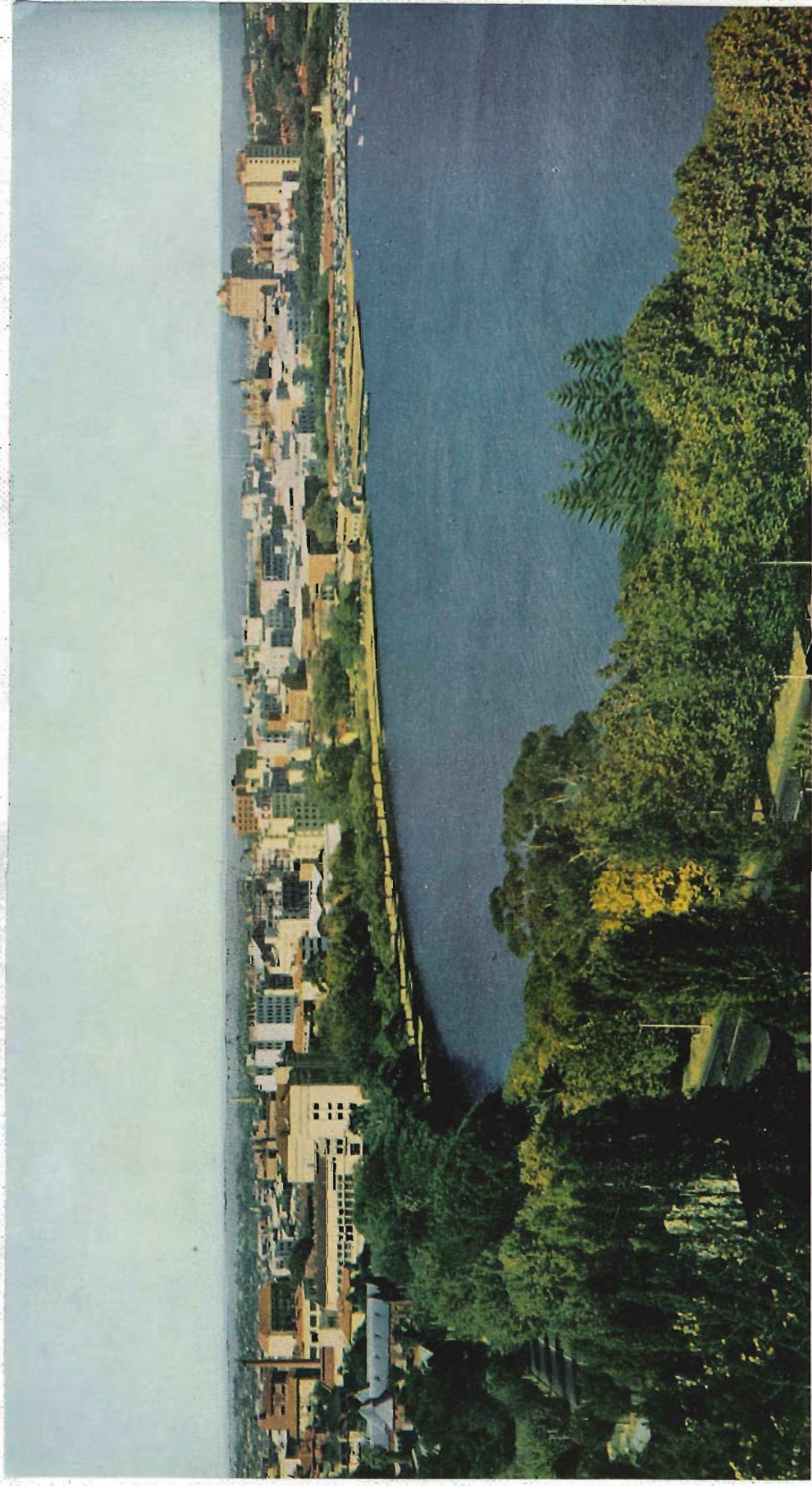
The Book is indexed in detail.

The Year Book is unique in that, rather than being confined to a particular subject or a limited range of subjects, it gives a comprehensive view 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. It is felt, therefore, that it fills a real need and will be found invaluable as a book of reference to workers in a great variety of fields as well as being of considerable interest to the general reader.

The Book may be obtained at the Government Printing Office, Perth, Western Australia at 10/- per copy. Prices including postage are 11/1 in Australia, 12/6 to the United Kingdom and other British countries and 13/10 to foreign countries.

R. J. LITTLE,
Government Statistician.

Government Statistician's Office,
PERTH, Western Australia.



PERTH—CAPITAL OF WESTERN AUSTRALIA

Viewed from King's Park

Registered at the General Post Office, Perth, for transmission through the post as a book .

GOVERNMENT STATISTICIAN'S OFFICE, PERTH

OFFICIAL YEAR BOOK
OF
WESTERN AUSTRALIA
1957

No. 1 (NEW SERIES)



Issued under the authority of
THE HONOURABLE GILBERT FRASER M.L.C.
Chief Secretary
by
R. J. LITTLE
Government Statistician

Perth:
By Authority: ALEX. B. DAVIES, Government Printer

1958

FOREWORD

*By the Chief Secretary, Western Australian Government,
Hon. Gilbert Fraser, M.L.C.*

It is indeed a pleasure to be responsible for having the first volume of the new series of the Western Australian Official Year Book produced under my authority as Minister controlling the Government Statistician's Office of the State.

It is regrettable that a gap of 52 years has elapsed since the production of the last Year Book. This, to some extent, has been mitigated by the issue of that most informative and valuable publication, the Pocket Year Book.

I, personally, for each of the past several years have handed copies of the Pocket Year Book to many visitors to Western Australia, including a number of eminent representatives of their countries. I also have taken pleasure in sending copies to persons in other States whom I have met who have evinced keen interest in Western Australia and its capabilities and who, I am sure, have since proven worthy advocates of our State.

The new Official Year Book, I am sure, will be a valuable successor to its tiny predecessor. It will provide much needed information about the potentialities and characteristics of the State at a time when interest in Western Australia is stirring in overseas countries and will assist in providing industrialists and business people in those countries with much of the information they may require.

GILBERT FRASER

PREFACE

In the preparation of this issue of the *Official Year Book of Western Australia*, the first of a new series, an attempt has been made to bridge the gap of half a century since the Year Book last appeared. The old series, discontinued in 1905, provides an extremely valuable record of discovery, the history of the Colony and the early development of the State. Readers will find there a wealth of information which it has been possible to recapitulate only briefly in the present volume.

Although compilation of some statistical data had been carried out by the Registrar-General's Office for many years, it was not until the 1st July, 1897 that a Statistical Branch was established as an entity, under the direction of the Registrar-General, Mr. Malcolm A. C. Fraser. The *Statistical Register*, a comprehensive annual publication in tabular form, was first produced for the year 1896 and the Register still constitutes the most detailed presentation of the statistics of Western Australia. In 1901 the Registrar-General became also the first Government Statistician of the State, Mr. Fraser continuing to hold the office until 1917 when he was succeeded by Mr. S. Bennett. The next Government Statistician, from 1941 to 1945, was Mr. H. J. Goodes, who was followed by the present occupant.

The *Statistics Act* of 1907 confers the statutory powers for the collection of statistics and requires that the Government Statistician shall publish the results of his investigations, together with any appropriate explanatory text.

The aim of this 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 conditions, 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 text and the statistical tables appearing in this issue relate generally to periods ended the 30th June, or the 31st December, 1956. It has not been possible in all cases to include information up to those dates in the main chapters and a summary of the later particulars which do not appear there is given in the Appendix.

This Office produces a number of periodical publications, in both printed and mimeographed form, containing a wide range of current statistics. A complete list of these will be found at the back of the Book.

Grateful acknowledgement is made of the valuable assistance given by the contributors of the special articles appearing as parts of Chapter II and of the willing help of the many Government officers, in both State and Commonwealth spheres, to whom text was referred. Appreciation of their courtesy in making available the blocks for some of the illustrations is expressed to the University of Western Australia Press, the Royal Society of Western Australia, the BP Refinery (Kwinana) Ltd. and the Government Tourist and Publicity Bureau. The Government Printer and his staff are especially thanked for their enthusiastic co-operation and for the helpful advice given readily and consistently throughout a long and difficult period.

Great credit is due to the Compiler, Mr. R. E. Robertson, for his assiduous application to an exacting assignment and for his painstaking efforts in bringing the work to conclusion. I am personally grateful for his constant and zealous attention to the undertaking.

Finally, it is my pleasure to record my appreciation of the considerable help given by Mr. J. T. Wieland, Assistant Statistician, who has so ably edited much of the material.

While special endeavour has been made to establish the authenticity of the information, some errors may stand undetected and the reader is invited to bring to notice any statement which appears to be inaccurate. Suggestions for improvement of the contents will also be welcomed.

R. J. LITTLE,
Government Statistician.

PERTH, W.A.
16th September, 1958.

CONTENTS

CHAPTER	SUBJECT	PAGE
	NOTE ON STATISTICAL AREAS	viii
	LIST OF MAPS, GRAPHS AND PLATES	ix
	SYNOPSIS	xi
I.	HISTORICAL REVIEW	1
II.	PHYSICAL FEATURES, CLIMATE, FLORA AND FAUNA	19
III.	CONSTITUTION AND GOVERNMENT	64
IV.	POPULATION AND VITAL STATISTICS	72
V.	SOCIAL CONDITION	95
VI.	FINANCE	142
VII.	LAND SETTLEMENT AND TENURE, WATER CONSERVATION AND SUPPLY	164
VIII.	PRODUCTION	181
IX.	TRADE, TRANSPORT AND COMMUNICATION	251
X.	EMPLOYMENT, WAGES AND PRICES	295
	STATISTICAL SUMMARY FROM 1829	322
	APPENDIX	338
	STATISTICAL DISTRICTS AND DIVISIONS	348
	GENERAL MAP OF WESTERN AUSTRALIA	<i>preceding Index</i>
	INDEX	351
	LIST OF STATISTICAL PUBLICATIONS	363

NOTE ON STATISTICAL AREAS

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. These Divisions have been officially recognized by the State and Commonwealth Governments as regions for national planning purposes. The Statistical Divisions and their component Statistical Districts are shown on the map of the State appearing at the back of the Year Book and are listed on page 348.

The area and the estimated population of each of these Divisions at the 30th June, 1956, are shown below, together with the proportions which they bear to the State total.

Statistical Division.	Area.	Proportion of State Total.	Estimated Population at 30th June, 1956	Proportion of State Total.
	square miles.	per cent.	'000.	per cent.
Metropolitan	191	0·02	368·6	54·42
Swan	1,886	0·19	52·1	7·60
South-West	11,025	1·13	73·4	10·83
Southern Agricultural	22,050	2·26	38·7	5·72
Central Agricultural	29,382	3·01	59·5	8·78
Northern Agricultural	36,640	3·75	34·4	5·08
Eastern Goldfields	250,225	25·64	34·9	5·15
Central	215,193	22·05	4·4	0·64
North-West	75,503	7·74	4·6	0·68
Pilbara	194,765	19·96	2·9	0·43
Kimberley	139,060	14·25	3·9	0·58
Whole State	975,920	100·00	677·4	100·00

Many of the tables appearing in the Year Book are presented on the basis of the Statistical Divisions.

For administrative and other purposes, the area described officially as the South-West Land Division often has special significance and references to it will be found at several places in the Book. 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, and contains more than nine-tenths of the population.

LIST OF MAPS, GRAPHS AND PLATES

	Page
Perth viewed from King's Park	<i>Frontispiece</i>
Geological Map	22
Wettest Six-Monthly Period of Year (Map)	30
Evaporation (Map)	34
Agricultural Area—Rainfall (Map)	35
Pitcher Plant (<i>Cephalotus follicularis</i>)	43
Vegetation Provinces (Map)	46
Blue Leschenaultia (<i>Leschenaultia biloba</i>)	<i>facing</i> 48
Natural Regions (Map)	61
City of Perth—Aerial View	<i>facing</i> 64
Five Main Areas of Production (Map)	73
Population—Geographical Distribution	75
Source of Population Increase or Decrease (Graph)	77
Births, Deaths and Marriages (Graph)	86
Rates of Birth, Death and Marriage (Graph)	89
University of Western Australia, Crawley	<i>facing</i> 97
Illyarrie (<i>Eucalyptus erythrocorys</i>)	<i>facing</i> 128
Comprehensive Water Supply Scheme (Map)	177
Irrigation Districts—South-West Division (Map)	178
Harvesting at Bindi Bindi	<i>facing</i> 192
Sheep Flock near Borden	<i>facing</i> 208
State Forests (Map)	212
Karri Forest near Pemberton	<i>facing</i> 225
Section of Distillation Area of BP Refinery (Kwinana) Ltd.	<i>facing</i> 240
Fremantle Harbour	<i>facing</i> 256
Air Routes (Map)	289
General Map of Western Australia	<i>preceding Index</i>
<i>including Statistical Districts, Statistical Divisions, Isohyets</i>	

SYNOPSIS

CHAPTER I.—HISTORICAL REVIEW

	<i>Page</i>		<i>Page</i>
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	
General	19
Physical Features—	
The Great Plateau	19
The Coastal Plains	21
Geology—	
The Pre-Cambrian Basement	21
The Sedimentary Basins	24
The Superficial Deposits	27
Conclusion	28

PART 2.—CLIMATE AND METEOROLOGY	
General	29
Pressure Systems	29
Rainfall	31
Evaporation	36
Growing Season	36
Temperature	36
Thunderstorms	39
Interstate Comparisons	40
Snow	40
Metropolitan Climate	40

PART 3.—VEGETATION	
General	42
Special Features of the Flora	44

PART 3.—VEGETATION—continued	
Vegetation Provinces—	
Northern Province	45, 47
South-West Province	47
Ereman Province	47
Vegetation Formations—	
Forest Formations	48
Woodland Formations	49
Shrub Formations	50
Savannah Formations and Steppe	51
Species of Economic Value	52

PART 4.—FAUNA	
General	53
Fauna Assemblages—	
South-Western	53
Northern	55
Ereman	55

PART 5.—ENTOMOLOGY	
<i>(With Particular Reference to Agriculture)</i>	
General	56, 60
Class Insecta (Insects)	56
Class Arachnida (Spiders, Mites, Ticks, etc.)	60

PART 6.—NATURAL REGIONS	61
--------------------------------	----

CHAPTER III.—CONSTITUTION AND GOVERNMENT

General	64
Constitutional History	64
Vice-Regal Representation	64
Federal Parliament and Executive Government—	
Parliamentary System	65
Legislative Powers	66
State Parliament and Executive Government—	
General	66
Membership of the State Houses	67
The Cabinet	69

State Parliament and Executive Government—	
<i>continued</i>	
State Government Functions	69
Oversea Representation	69
The Judiciary—	
Commonwealth Courts	70
State Courts of Western Australia	70
Local Government—	
General	70
Electoral Provisions	70
Audit Arrangements	71
Functions of Local Authorities	71

CHAPTER IV.—POPULATION AND VITAL STATISTICS

PART 1.—POPULATION	
General	72
Sources of Increase	74
Geographical Distribution	78
Aboriginals	79
Censuses—	
General	80
Masculinity	80
Age Composition	80
Birthplace	82

PART 1.—POPULATION—continued	
Censuses—continued	
Nationality	83
Religion	83
Conjugal Condition	84
PART 2.—BIRTHS, DEATHS AND MARRIAGES	
Registration System	85
Births—	
Numbers	85
Birth Rates	87
Gross and Net Reproduction Rates	87

CHAPTER IV.—POPULATION AND VITAL STATISTICS—continued

	Page		Page
PART 2.—BIRTHS, DEATHS AND MARRIAGES		PART 2.—BIRTHS, DEATHS AND MARRIAGES	
<i>—continued</i>		<i>—continued</i>	
Deaths—		Deaths—continued	
Numbers	88	Causes of Death	92
Death Rates	88	Expectation of Life	92
Infant Mortality Rates	88	Marriages—	
Causes of Infant Deaths	90	Numbers	94
Stillbirths	90	Marriage Rates	94
Standardized Death Rates	91		

CHAPTER V.—SOCIAL CONDITION

<p style="text-align: center;">PART 1.—EDUCATION</p> <p>Primary and Secondary Education—</p> <p>General</p> <p>School Attendance</p> <p>Kindergartens</p> <p>Government Primary and Secondary Schools</p> <p>Private Schools</p> <p>Special Subjects</p> <p>Government Scholarships and Bursaries</p> <p>Radio and Film Aids</p> <p>Technical Education</p> <p>Agricultural Education</p> <p>Teachers' Training Colleges</p> <p>Student Counselling and Vocational Guidance</p> <p>Special Schools and Classes</p> <p>Business Colleges and Correspondence Schools</p> <p>University Education—</p> <p>Establishment of University of Western Australia</p> <p>Expansion</p> <p>Private Bequests</p> <p>The Senate</p> <p>Convocation</p> <p>Guild of Undergraduates</p> <p>Student Fees and Scholarships</p> <p>Tuition</p> <p>Residential Colleges</p> <p>Degrees Conferred and Research Undertaken</p> <p>Extra-curricular Activities</p> <p>University Finance</p> <p>Statistics</p> <p>PART 2.—PUBLIC LIBRARIES, MUSEUM AND ART GALLERY, AND SCIENTIFIC INSTITUTIONS</p> <p>Public Libraries—</p> <p>State Library</p> <p>Local Public Libraries</p> <p>Museum and Art Gallery</p> <p>Scientific Institutions—</p> <p>Observatories</p> <p>State Government Laboratories</p> <p>The Institute of Agriculture, University of Western Australia</p> <p>Commonwealth Scientific and Industrial Research Organization</p>	<p style="text-align: center;">PART 3.—HEALTH SERVICES, HOSPITALS, AND HOMES FOR THE AGED</p> <p>Health Services—</p> <p>General</p> <p>Infectious Diseases</p> <p>Special Health Services for Children</p> <p>Hospitals (Other than Mental Hospitals)—</p> <p>Commonwealth Government Hospitals</p> <p>State Government and Government-Assisted Hospitals</p> <p>Private Hospitals</p> <p>Mental Hospitals</p> <p>Homes for the Aged and Infirm</p> <p style="text-align: center;">PART 4.—HOUSING</p> <p>Housing and the Census—</p> <p>General</p> <p>Dwellings—</p> <p>Class of Dwelling</p> <p>Number of Inmates</p> <p>Number of Rooms</p> <p>Material of Outer Walls</p> <p>Nature of Occupancy</p> <p>Weekly Rent (Unfurnished) of Tenanted Private Dwellings</p> <p>Government and Government-Sponsored Housing—</p> <p>State Housing Commission</p> <p>Other Government Housing Activity</p> <p>Control of Building</p> <p>Building Operations</p> <p>Dwellings Completed and Population Increase</p> <p style="text-align: center;">PART 5.—SOCIAL BENEFITS, RELIEF PAYMENTS AND CHILD WELFARE</p> <p>General</p> <p>Social Services Benefits—</p> <p>Age and Invalid Pensions</p> <p>Widows' Pensions</p> <p>Unemployment and Sickness Benefits</p> <p>Maternity Allowances</p> <p>Child Endowment</p> <p>Reciprocal Arrangements with Other Countries</p> <p>War and Service Pensions—</p> <p>War Pensions</p> <p>Service Pensions</p>
---	--

CHAPTER V.—SOCIAL CONDITION—continued

	<i>Page</i>
PART 5.—SOCIAL BENEFITS, RELIEF	
PAYMENTS AND CHILD WELFARE—continued	
National Health Services—	
General	128
Hospital Benefits	128
Medical Benefits	128
Pharmaceutical Benefits	128
Free Milk to School Children	128
Tuberculosis Campaign	129
Mental Institutions	129
Relief Payments and Child Welfare—	
Relief Payments	129
Child Welfare	130

	<i>Page</i>
PART 6.—LAW COURTS, POLICE AND PRISONS	
Law Courts—	
High Court of Australia	132
State Full Court	133
State Supreme Court	133
Courts of Quarter Sessions	133
Magistrates' and Coroners' Courts	133
Proceedings in Civil Courts	133
Commonwealth Industrial Court	134
Western Australian Court of Arbitration	134
Commonwealth Conciliation and Arbitration Commission	134
State Licensing Court	135
Crime Statistics	135
Police	140
Prisons	140

CHAPTER VI.—FINANCE

PART 1.—PUBLIC FINANCE	
General	142
Commonwealth-State Financial Relations	142
State Government Finance—	
Consolidated Revenue Fund	146
Loan Fund and Public Debt	148
Trust Funds	149
Local Government Finance—	
Revenue	150
Expenditure (Other than Loan Expenditure)	152
Municipal Transport Services	153
Loan Operations	154

PART 2.—PRIVATE FINANCE	
Money and Banking—	
Currency	156
General Banking	156
Savings Bank Facilities	158
Insurance—	
Life Assurance	158
General Insurance	159
Other Forms of Insurance	161
Building Societies	161
Bankruptcy	162

CHAPTER VII.—LAND SETTLEMENT AND TENURE, WATER CONSERVATION AND SUPPLY

PART 1.—LAND SETTLEMENT AND TENURE	
History	164
Administration	165
Methods of Land Alienation—	
Conditional Purchase	165
Sale by Public Auction	166
Sale by Private Tender	166
Selections under the Agricultural Lands Purchase Acts	
Endowment of Land and Reservation for Public Purposes	166
State Forests and Timber Reserves	167
Methods of Leasing—	
Lands Department	167
Mines Department	168
Forests Department	170
Progress of Land Utilization	170
Land Settlement Schemes—	
Soldiers' Settlement Scheme	172
Group Settlement Scheme	172

PART 1.—LAND SETTLEMENT AND TENURE	
<i>—continued</i>	
Land Settlement Schemes—continued	
War Service Land Settlement Scheme	173
Other Schemes of Settlement	173
Land Classification	173
Public Parks and Reserves	174
PART 2.—WATER CONSERVATION AND SUPPLY	
General	175
Metropolitan Water Supply	175
Goldfields Water Supply	176
Comprehensive Water Supply Scheme	176
South-West Irrigation Schemes	179
Northern Irrigation Schemes	179
Other Schemes to Supply Water to Country Areas and Towns	
	180

CHAPTER VIII. — PRODUCTION

	<i>Page</i>		<i>Page</i>
General	181	PART 1.—PRIMARY PRODUCTION—	
		<i>continued</i>	
PART 1.—PRIMARY PRODUCTION		Forestry—	
Land Utilization on Rural Holdings	182	The Prime Indigenous Forests	211
Employment and Population on Rural Holdings	183	The Inland Forests	211
Value of Production	183	Forestry Administration	211
Agriculture—		Principal Forest Products	213
Wheat	185	Fisheries—	
Oats	188	General Fisheries	214
Barley	188	Whaling	215
Other Grain and Pulse Crops	189	Pearlshell Fishing	216
Hay	189	Mining—	
Green Feed	190	General	217
Pastures	190	Gold	218
Tobacco	190	Silver	220
Flax	191	Asbestos	220
Potatoes	191	Beryllium	221
Onions	192	Coal	221
Tomatoes	192	Copper	222
Other Vegetables	193	Iron	222
Orchards	193	Lead	223
Apples	194	Manganese	223
Pears	194	Iron Pyrites	223
Citrus Fruits	195	Tin	224
Stone Fruits	195	Other Minerals	217, 224
Bananas	196	Quarrying	224
Vineyards	196		
Grazing—		PART 2.—SECONDARY INDUSTRY	
Sheep	197	Explanatory Notes and Definitions	225
Wool	200	Historical Review	225
Beef Cattle	200	Department of Industrial Development	227
Slaughtering	201	Location of Factories	228
Dairying	203	Employment and Wages	228
Pig Raising	205	Capital Employed	233
Livestock in Australia	207	Motive Power and Fuel Consumed	233
Poultry Farming	207	Output and Net Production	234
Bee Farming	208	Factories Summary according to Industry	235
The Department of Agriculture—		Government Factories	240
General	208	Articles Produced and Materials Used	240
State Farms and Research Stations	209	Growth of Certain Industries	243
Advisory Services	209	Electricity and Town Gas Undertakings—	
Research Activities	210	Electricity Generation and Transmission	249
Other Services	211	Town Gas Production	249
Administration of Acts	211		

CHAPTER IX. — TRADE, TRANSPORT AND COMMUNICATION

PART 1.—TRADE		PART 2.—TRANSPORT—continued	
Early Records and Historical Summary	251	Railway System—	
Post-Federation Trade	251	General	274
Trade since 1939—		Government Railways	274
General	252	Private Railways	276
War-time and Post-war Imports	252	Railways for Timber Haulage	277
War-time and Post-war Exports	255	Comparison with Commonwealth Railways and other State Systems	277
Ships' Stores	260		
Direction of Trade	262	Trams, Buses and Ferries—	
Trade of Ports	263	Government Tramways	278
Customs and Excise	264	Trolley-Buses	278
Trade Supplement—1954/55 and 1955/56	267	Passenger Ferries	279
		Motor Omnibus Services	280
PART 2.—TRANSPORT			
Shipping Services	272		

CHAPTER IX.—TRADE, TRANSPORT AND COMMUNICATION—continued

	<i>Page</i>		<i>Page</i>
PART 2.—TRANSPORT—continued		PART 2.—TRANSPORT—continued	
Roads—		Road Traffic Accidents	286
Roads under Control of the Main Roads		Air Transport	288
Department	283	Transport Co-ordination	290
Other Roads	283		
Road Traffic Control—		PART 3.—COMMUNICATION	
Vehicle Registration	284	Posts, Telegraphs and Telephones	291
Third Party Insurance	285	Radio Communication and Broadcasting	292
Motor Drivers' and Riders' Licences	286		
Proceeds of Vehicle Registration and			
Drivers' and Riders' Licences	286		

CHAPTER X.—EMPLOYMENT, WAGES AND PRICES

PART 1.—EMPLOYMENT		PART 2.—WAGES—continued	
The Work Force	295	Wage and Salary Payments	314
Industry of the Population	297		
PART 2.—WAGES		PART 3.—RETAIL PRICES	
The Basic Wage—		General	315
Commonwealth Basic Wage	304	Retail Price Index-Numbers	317
State Basic Wage	308	The "C" Series Index	318
Minimum Rates of Wage	311	Comparative Costs of Goods and Services	320

STATISTICAL SUMMARY FROM 1829 (p. 322)

APPENDIX (p. 338)

CHAPTER IV.—POPULATION AND VITAL STATISTICS

Part 1—Population

Part 2—Births, Deaths and Marriages

CHAPTER V.—SOCIAL CONDITION

Part 1—Education

Part 3—Health Services, etc.

Part 6—Law Courts, Police and Prisons

Proceedings in Civil Courts

Crime Statistics

CHAPTER VIII.—PRODUCTION

Part 2—Secondary Industry

STATISTICAL DISTRICTS AND DIVISIONS (p. 348)

(See "Note on Statistical Areas," p. viii)

GENERAL MAP OF WESTERN AUSTRALIA (preceding Index)

Including : STATISTICAL DISTRICTS

STATISTICAL DIVISIONS

ISOHYETS

INDEX (p. 351)

LIST OF STATISTICAL PUBLICATIONS (p. 363)

CHAPTER I.—HISTORICAL REVIEW

DISCOVERIES AND HISTORY UP TO COLONISATION 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 Indies in the vessel "Eendracht" he entered the bay which Dampier later visited and named Shark Bay. 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 to which the name Houtman's Abrolhos was given 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 Pieter Nuyts examined and charted the southern coastline between Cape Leeuwin and the head of the Great Australian Bight whilst on a voyage in the Dutch vessel "Gulden Zeepaard."

It was also the Dutch who made the first extended stay on the Australian coast or the adjacent islands. In 1629, the vessel "Batavia," while on a voyage from Holland to the Indies, was wrecked on one of the Abrolhos Islands—about 50 miles west-north-west of the present port of Geraldton. The vessel was a total loss, but most of the passengers and crew reached shore. The commander, Commodore Francis Pelsart, with eight men, sailed 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 on the nearby mainland two lesser miscreants, who thus became, in a grim sense, the first permanent European residents of the Australian continent.

The Dutch paid further brief visits. 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 Braeq" in the course of which he examined the northern and north-western coasts as far south as Exmouth Gulf, probably landing at points now named Carnot and Roebuck Bays. To the western half of the continent he gave the name "New Holland." In April, 1656, the "Vergulden Draak" was wrecked about latitude 30° 40' South with the loss of 118 lives and considerable treasure. Seven survivors reached Batavia, but several searches failed to locate the 69 remaining at the wreck or the 78,600 guilders which the ship had carried. Relief expeditions did, however, produce improved charts of Western Australian waters.

The first recorded visit of an Englishman was that by William Dampier. He was aboard the small vessel "Cygnat" when in January, 1688, the crew—seeking an isolated spot for overhauling after having mutinied and seized the ship—beached her on the north-west coast at a place now known as Cygnat 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 "Rotte-nest" (now spelt "Rottnest") from the number of "rats"—actually wallabies—nests found there. In January, 1697, he and a party of armed men landed on the adjacent coast (probably near 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 which Vlaming is said to have explored for a distance of fourteen or sixteen miles. He saw no natives though a primitive hut was found and footprints and other signs of habitation were seen. Vlaming examined the coast northwards as far as North West Cape. On the whole his report on the country was not favourable.

In 1699, Dampier was sent in the "Roebuck" by His Majesty, King William III, 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 by the barren and waterless country that he abandoned his mission. As a result of his unfavourable 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 the Abrolhos Islands.

In March, 1772, a French ship "Le Gros Ventre" under the command of Captain de St. Allouarn 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 eastwards, the expedition entered a fine natural harbour which was named "King George III Sound" (now King George Sound). Vancouver took formal possession of the land he saw between his landfall (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 leaving Botany Bay in 1788. The visit of the fleet under d'Entrecasteaux is reflected 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 area in the sloop "Investigator." He charted the coast eastwards from Cape Leeuwin, including King George Sound, as far as Bass Strait. In 1814, at his suggestion, the continent was named Australia.

A scientific expedition, comprising the vessels "Geographie" commanded by Commadore Nicolas Baudin and "Naturaliste" by Captain Hamelin with Lieutenant Louis de Freycinet, was despatched 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 "Geographie" 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 junction of the Helena River. Leaving Timor in November, 1801, the two vessels sailed to Tasmania and a third vessel, the "Casuarina," was ultimately chartered in Sydney. In 1803, the "Naturaliste" having sailed for France, the "Geographie" and "Casuarina" continued to examine the Western Australian coast, touching at points from King George Sound to 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 a minute geographical survey of Shark Bay was made.

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

In 1826, the French vessel "Astrolabe," under Captain Dumont D'Urville, visited King George Sound and spent ten days there on scientific work, and in that year also, Governor Darling of New South Wales despatched 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. (The present port of Albany resulted from the development of this area.)

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, and his report was favourable. Governor Darling recommended the British Government to proceed at once with the venture but delay ensued.

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".

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—for some time 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 sixty-nine persons.

"*Parmelia*" followed a few days later by H.M.S. "*Sulphur*" with detachment of troops. Townsites of Perth, the capital of the colony, and Fremantle, the port, laid out. Official ceremony to mark the foundation of Perth took place on 12th August. Several additional ships carrying settlers and stores arrived during 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. Sites of towns of York, Beverley and Northam explored. First Executive Council constituted. Thirty-nine vessels arrived at Fremantle during year.

1831—Inauguration of monthly boat service between Fremantle and Guildford. First land lots taken up at Kelmscott. Settlement of York district. 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. Production of first printed newspaper, replacing earlier manuscript news-sheet. Wheat harvested from a total area of 160 acres.

1832—First sitting of Executive and Legislative Council. Civil Court established.

1833—Townsites of Northam and Newcastle (now Toodyay), surveyed. Area under crop increased to 600 acres.

1834—Encounter near Pinjarra between party, led by Sir James Stirling and Captain Ellis, and natives of Murray tribe, to whom were attributed many murders and robberies in the Swan River settlement since its establishment. In this "Battle of Pinjarra" about twenty natives were killed and Captain Ellis fatally wounded. First shipment of wool—7,585 lb.—to England.

1835—Value of land and improvements estimated at nearly £250,000. Area of land under crop about 1,800 acres. Livestock numbered 7,158, including 5,138 sheep. Fifty bales of wool sent to London.

1836—First settlers took up residence in Leschenault district. Moore River, north of Perth, discovered by G. F. Moore, Advocate-General of the Colony. Launching of first sea-going craft—built of local timber. First shipment of Western Australian timber to England. First issue of "Government Gazette."

1837—Bank of Western Australia commenced business with nominal capital of £10,000. Whaling operations began in Cockburn Sound. Opening of direct road between Perth and Albany. First town lot taken up at Busselton. Captain George Grey's landing at mouth of Prince Regent River.

1838—Captain George Grey's exploration of West Kimberley district, under instructions from Imperial Government, with concurrent coastal survey by H.M.S. "*Beagle*". Expiration of Sir James Stirling's term as Governor.

1839—Grey's discovery of the Gascoyne River as well as the Murchison, Greenough, Irwin and other rivers between Shark Bay and Perth. Government offer of land grant of 2,560 acres to discoverer of coal in the Colony. Establishment of post office at Guildford with tri-weekly mail to Perth.

1840—Construction begun of causeway over Swan River, at Perth. Departure for London of ship laden wholly with Colonial produce.

1841—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. Townsite of Bunbury surveyed. Settlement established at Australind by Western Australian Company. Absorption of Bank of Western Australia by the Bank of Australasia, followed by the formation of a new locally-owned bank, the Western Australian Bank.

1843—Completion of causeway at Perth.

1845—First visit of a steam vessel, H.M.S. "*Driver*". First export of sandalwood.

1846—Stimulation of timber industry and regular exports commenced. Formation of Western Australian Mining Company following the reported discovery of coal in Murray district. Discovery of coal at Irwin River by Messrs. A. C., F. T., and C. Gregory.

1847—Appointment of General Board of Education to supervise conduct of public schools in the Colony. Rockingham townsite proclaimed.

1848—First official census, disclosing total population of 4,622 persons, comprising 2,818 males, and 1,804 females. Stock numbered 141,123 sheep, 10,919 cattle, 2,287 pigs and 2,095 horses. Area under crop exceeded 7,000 acres, including 3,317 acres of wheat. Discovery of lead south of Murchison

River by Gregory brothers 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 extensive forests.

1849—Colony declared a penal settlement, after years of agitation by some colonists seeking a solution to problems of serious labour shortage. Discovery of copper at Geraldine Mine.

1850—Arrival at Fremantle on 1st June of "Scindian" with first convicts, seventy-five in number. Passage of Imperial Act enabling Colony to establish partly-elective Legislative Council—no advantage taken until 1870. Discovery by Lieutenant Helpman of pearls at Shark Bay. Survey of part of town of Geraldton.

1851—Comprehensive programme of public works (including roads and bridges, schools, hospitals and other public buildings), begun with convict labour.

1852—First shipment of Colonial wine. Establishment of coaling station at Albany for steamers carrying mails between England and Australia. Construction of smelting furnace at Geraldine Mine. Townsite of Dongara surveyed. First export of pig-lead.

1854—Second census of the Colony, showing population of 11,743, consisting of 7,779 males and 3,964 females. Stock comprised 173,568 sheep, 20,436 cattle, 4,499 horses, and 4,073 pigs. Area under crop approximated 14,000 acres, almost half being sown to wheat. Whaling station opened at Port Gregory, about 50 miles north of Geraldton. R. 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." Issue of first postage stamps.

1855—Government Savings Bank opened. Discovery of copper at Bowes River, about 25 miles north of Geraldton.

1856—Perth constituted a city. A. C. Gregory's North Australian Expedition from Victoria River (Northern Territory) along Sturt Creek—which he discovered and named—as far as Gregory's Salt Sea, west of the Musgrave Range. Government Savings Bank closed.

1858—F. T. Gregory's exploration of the Gascoyne district and discovery of good pastoral lands.

1859—Third census taken. Population 14,837, consisting of 9,522 males and 5,315 females. Stock 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.

1861—Supreme Court set up. Indications of gold at Guildford and at Northam. F. T. Gregory's exploration of the North-West with Nickol Bay as base. Ashburton, Fortescue, De Grey and Oakover Rivers discovered and named by him, also excellent grazing lands described and pearls and shell found in Nickol Bay region.

1862—Government offer of reward of £5,000 for discovery of payable goldfield within 150 miles of Perth. Money Order Office opened. Severe floods in many parts of the Colony, causing damage estimated at £30,000 and loss of several lives.

1863—First settlement in North-West—at De Grey River. Examination of Camden Harbour area near Collier Bay. Post Office Savings Bank opened at Perth.

1864—Extension of pastoral industry to Nickol Bay and Shark Bay, and establishment of overland communication between Champion and Shark Bays. First shipment of wool from North-West. City of Perth divided into three wards for municipal purposes.

1865—Failure of Camden Harbour Pastoral Association to form settlement at Glenelg River, and of Denison Plains Association.

1866—Town of Roebourne proclaimed.

1867—Corner-stone of Perth Town Hall laid.

1868—Transportation of convicts ceased, largely as a result of agitation from the other Australian colonies which had either abandoned, or had never adopted, the convict system. Intensification of pearling activity resulted in export of pearls and shell worth £5,554. Large exports of flour and grain, valued at £21,367.

1869—Opening of telegraph line between Perth and Fremantle—the first in the Colony. Visit of H.R.H. the Duke of Edinburgh. John Forrest's expedition (in search of traces of Leichhardt's lost party) to a point east of Mount Margaret, covering in all 2,000 miles.

1870—Fourth census taken. Population 24,785, made up of 15,375 males and 9,410 females. Sheep numbered 654,054, cattle 47,263, horses 23,012, pigs 16,120. Area under crop, 50,263 acres of which 25,963 acres sown to wheat. Inauguration of representative government with election of Legislative Council comprising twelve elected members and six nominees. Severe drought affecting both pastoral and agricultural districts. Journey by Forrest brothers (John and Alexander) from Perth to Adelaide by way of Kojonup, Esperance Bay and Eucla. Official opening of Perth Town Hall.

1871—Passage of Elementary Education Act, vesting control of education in a Central Board and making school attendance compulsory. Municipalities of Perth, Fremantle, Guildford, Albany, Bunbury, Busselton, Geraldton and York proclaimed. Opening of Colony's first railway, twelve miles in length, built into timber tracts near Busselton by the Western Australian Timber Company. Alexander Forrest's journey in search of new pastoral land to a point beyond present site of Kalgoorlie and return by way of Mount Ragged and Esperance.

1872—Hurricane in Nickol Bay area—heavy stock losses, and town of Roebourne devastated. Avon and Swan Rivers in flood, causing extensive damage to property.

1873—Major Warburton's expedition from Alice Springs (Northern Territory) to De Grey River.

1874—Forrest brothers' journey to Adelaide by way of Murchison River, Kimberley and Frere Ranges, Weld Springs and Peake Telegraph Station (S.A.).

1875—Ernest Giles' journey from Port Augusta (S.A.) entering the Colony at Boundary Dam and thence by way of Queen Victoria Springs and Lake Moore to Perth.

1876—Giles' return by way of Northampton, and the Robinson, Alfred and Marie, and Rawlinson Ranges to Peake Telegraph Station (S.A.) and Adelaide. Escape from Fremantle Prison of six Fenians who were taken off at Rockingham by American whaler, "Catalpa."

1877—Telegraph line between Perth and Eucla opened, thus establishing communication with Adelaide and with London via Adelaide.

1879—First Government railway, 34 miles in length, opened between Geraldton and Northampton. Alexander Forrest's exploration of the Kimberleys from the De Grey River and thence by way of Beagle Bay, King Sound, Fitzroy River, Nicholson Plains and Ord River to Katherine Telegraph Station (N.T.). Northam Municipality proclaimed.

1880—First Mayor of Perth elected. Kimberley district first settled by pastoralists.

1881—Fifth official census of the State, the first taken simultaneously in all States. Population of 29,708, consisting of 17,062 males and 12,646 females. Livestock included 1,221,079 sheep, 64,603 cattle, 34,782 horses and 26,743 pigs. Area sown to wheat 29,352 acres of total area under crop, 60,821 acres. Opening of Government railway, 19 miles in length, connecting Fremantle, Perth and Guildford as first section of Eastern line.

1883—Proclamation of Broome, Derby and Carnarvon townsites. Election of first Mayor of Fremantle. Discovery of coal at Collie River, near present townsite of Collie.

1884—Opening of railway between Guildford and Chidlow's Well.

1885—First discovery of payable gold—on Margaret and Ord Rivers in Kimberley district. Eastern Railway extended from Chidlow's Well to Spencer's Brook and line constructed between Spencer's Brook and York. Port of Derby proclaimed. Onslow townsite declared.

1886—Kimberley Goldfield proclaimed and townsite of Wyndham declared as its port. Opening of railways between York and Beverley and from Spencer's Brook to Northam. Convict establishment disbanded.

1887—Discovery of gold at Southern Cross and elsewhere in Yilgarn district. Completion of railway between Geraldton and Walkaway. Telephone exchange system inaugurated at Perth. Towns of Cossack and Roebourne declared municipalities.

1888—Rich deposits of alluvial gold found at Pilbara Creek. Pilbara and Yilgarn Goldfields proclaimed. Discovery of tin at Greenbushes. Opening of railway between Clackline and Newcastle (Toodyay). Telephone branch opened at Fremantle.

1889—Discovery of gold at Ashburton River. Completion of West Australian Land Company's railway between Beverley and Albany. Overseas telegraph communication established by cable from Broome to Banjoewangi, Java. First efforts to prove existence of commercial coal at Collie River. Passage by Legislative Council of Constitution Bill in anticipation of responsible government.

1890—Granting of responsible government to the Colony of Western Australia and proclamation of Constitution. Election of members of newly constituted Legislative Assembly. John Forrest commissioned to form first Ministry. Ashburton Goldfield proclaimed. Railway between Albany and Denmark opened.

1891—Sixth census taken. Population, 49,782 comprised of 29,807 males and 19,975 females. Sheep numbered 2,563,866, cattle 134,997, horses, 48,999 and pigs 32,267. Railway between Bunbury and Boyanup opened. Murchison Goldfield proclaimed. Disastrous drought in North-West. Journey by D. Lindsay and L. A. Wells from Warrina (S.A.) entering the Colony near Fort Mueller—east of the Warburton Range—and thence by way of Queen Victoria Springs, Fraser's Range and Southern Cross to the Murchison.

1892—Rich discovery of gold at Coolgardie. Further exploration of coal deposits at Collie River and discovery of substantial seams. Commencement of Fremantle Harbour Works. Appointment of first Agent General for Western Australia in the United Kingdom.

1893—Opening of railway from Perth to Picton Junction and from Boyanup to Donnybrook. Discovery of gold deposits at Kalgoorlie and other areas east of Coolgardie. Dundas Goldfield proclaimed following successful prospecting between Fraser's Range and Southern Cross. Coolgardie townsite declared. Central Board of Education abolished and Department of Education constituted.

1894—Act establishing Agricultural Bank to provide advances to settlers on rural holdings. Railway extension from Northam to Southern Cross. Line between Narngulu and Mullewa opened. Completion of Midland Railway Company's line, 277 miles in length, from Midland Junction to Walkaway. Towns of Kalgoorlie, Kanowna, Day Dawn and Mullewa declared. Proclamations of Coolgardie and East Coolgardie Goldfields. Port of Esperance Bay and municipalities of Coolgardie and Cue proclaimed.

1895—Railway between Boyanup and Busselton completed. Proclamations of West Pilbara, Yalgoo, East Murchison and North Coolgardie Goldfields. Municipality of Kalgoorlie proclaimed. Norseman, Menzies, Bulong and other goldfields towns declared.

1896—Railway opened from Southern Cross to Boorabbin. Great Southern Railway from Beverley to Albany purchased by Government. Proclamations of Collie Coal Mining District and of Broad Arrow and North-East Coolgardie Goldfields. Peak of immigration stimulated by gold discoveries, net gain by migration being over 35,000. Norseman Municipality proclaimed. Calvert Exploration Expedition, led by L. A. Wells from Lake Way, via Separation Well and Joanna Springs to Fitzroy River, near Mount Tuckfield. Hon. David Carnegie's journey from Coolgardie to Hall's Creek by way of Doyle's Well, Lake Darlot and Alexander and Helena Springs.

1897—Inauguration by Education Department of evening continuation classes. Newly-constructed inner harbour at Fremantle opened to shipping. Commencement of Bunbury Harbour Works. Extension of Eastern Goldfields Railway from Boorabbin to Kalgoorlie. Goldfields of Gascoyne, Peak Hill and Mount Margaret proclaimed. Carnegie's return from Hall's Creek by way of Gregory's Salt Sea, Lake McDonald, Alexander Spring and Lake Darlot to Coolgardie. Townsite of Collie Fields (later, Collie) proclaimed.

1898—Extension of Northern Railway from Mullewa to Cue. Completion of Collie Coalfields Railway from Brunswick Junction. Opening of line between York and Greenhills. South-Western Railway extended from Donnybrook to Bridgetown. Work commenced on Goldfields Water Scheme to supply water to Coolgardie and Kalgoorlie by means of 350 miles of pipe line from Helena River at Mundaring. Branch of Royal Mint established at Perth. First butter factory established in the Colony—at Busselton. Reports of serious inroads by rabbits in the Eucla area.

1899—Inauguration of electric tramway service in Perth. Railway opened between Kalgoorlie and Menzies. Discovery of tin in Pilbara district. Donnybrook Goldfield proclaimed. Departure of first contingent of volunteers from the Colony for service with Imperial forces in Boer War. Enactment of Public Education Act, abolishing fees at Government schools.

1900—Federation Referendum carried by majority of 25,109—votes cast in favour of Western Australia becoming part of the Commonwealth numbering 44,800 and against, 19,691. Proclamation of Phillips River Goldfield. Technical School opened at Perth. Commencement of regular shipments of fresh fruit to London.

1901—Inauguration of Commonwealth of Australia. Seventh census of the State, (the first taken simultaneously in all States on a uniform national basis), disclosing a population of 184,124, made up of 112,875 males and 71,249 females, almost four times as great as that recorded at previous census ten years earlier. Appointment of members of first Court of Arbitration, constituted under Industrial Conciliation and Arbitration Act of 1900. Completion of laying of cable connecting Perth with South Africa. Visit of T. R. H. the Duke and Duchess of Cornwall and York. F. S. Brockman's investigation of rivers and harbours in northern part of Kimberley Division. John Muir's examination of country between Kalgoorlie and Eucla in connection with proposed transcontinental railway.

1902—Opening of railway from Northam to Goomalling. Establishment of Teachers' Training College.

1903—Completion of Goldfields Water Scheme, and supply to Coolgardie and Kalgoorlie commenced. Peak of gold production—2,064,801 fine ounces. Beginning of spectacular development of agriculture, particularly wheat-growing. Area sown to wheat half as great again as in previous year and production doubled. Extension of Eastern Goldfields Railway from Menzies to Leonora and of Northern Railway from Cue to Nannine. Opening of line between Midland Junction and Pickering Brook.

1904—Assumption of office by first Labour Ministry. School of Mines opened at Kalgoorlie. Extension of Goldfields Water Scheme to Kanowna.

1905—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 Murchison district. Opening of railway between Malcolm and Laverton. Unrest in gold and coal mining industries. First quarter million of population attained.

1906—Railways opened between Narrogin and Darkan and from Goomalling to Dowerin.

1907—A. W. Canning's expedition from Wiluna to Hall's Creek to survey stock route linking Murchison and Kimberley Districts. Completion of railway between Fremantle and Armadale and opening of lines from Wagin to Dumbleyung, Katanning to Kojonup, Collie to Darkan and from Wonerup to Jarraewood.

1908—Completion of No. 1 Rabbit Proof Fence, 1,139 miles long from Starvation Harbour on 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 the west coast, a few miles south of the mouth of the Murchison River. Opening of railways between Coolgardie and Widgiemooltha, Greenhills and Quairading and between Donnybrook and Noggerup.

1909—Great advance in agriculture. Wheat harvest 5.6 million bushels, more than double that of previous year. Survey of transcontinental railway from Kalgoorlie to Port Augusta (S.A.), via Tarcoola, completed. Railways opened from Hopetoun to Ravensthorpe, Widgiemooltha to Norseman, Narrogin to Wickepin, Noggerup to Boyup Brook, Jarraewood to Nannup and branch line to Mundaring Weir completed.

1910—Rich gold finds at Bullfinch, about 20 miles north-west of Southern Cross. Opening of railways from Toodyay to Bolgart, Wokarina to Naraling, Pinjarra to Holyoake, Pickering Brook to Canning Mills and extension of Northern Railway from Mt. Magnet to Sandstone and from Nannine to Meekatharra.

1911—First federal census of the Commonwealth. Western Australia's population 282,114—161,565 males and 120,549 females. Considerable reduction in wheat harvest due to dry season. Passage of legislation establishing University of Western Australia. Opening of first government secondary school (Perth Modern School). Inauguration by Education Department of evening continuation classes at fourteen centres. Industrial trouble in mining, transport and building industries. Completion of railway from Southern Cross to Bullfinch, and opening of lines between Dowerin and Merredin, Goomalling and Wongan Hills and Bridgetown and Jarnadup (now Jardee).

1912—Disappearance of s.s. "Koombana" with all hands in cyclone off north-west coast. Drought in pastoral areas, resulting in substantial losses of stock. Construction of transcontinental railway commenced at Port Augusta (S.A.). Completion of railways from Naraling to Yuna, Dumbleyung to Kukerin, Katanning to Nyabing, Tambellup to Gnowangerup, Boyup Brook to Kojonup, Canning Mills to Karra-gullen and from Port Hedland to Marble Bar.

1913—First session of University opened. Commencement of operations in Western Australia of Commonwealth Savings Bank and Commonwealth Bank of Australia. Construction from Kalgoorlie end of transcontinental railway commenced. Opening of railways between Northampton and Ajana, Quairading and Merredin (via Bruce Rock), Gnowangerup and Ongerup and between Holyoake and Dwarda.

1914—Embarkation at Fremantle of first Western Australian contingent for European War. Wide-spread drought conditions, resulting in failure of wheat crop—average yield less than two bushels per acre. Strike in building trades, rendering idle 3,000 men. Completion of railway between Wickiepin and Bruce Rock.

1915—Opening of railways from Wongan Hills to Mullewa, Brookton to Corrigin and from Yillinin-ning to Kondinin.

1916—Buoyant conditions despite wartime interruption of sea-borne trade. Completion of rail-way between Kukerin and Lake Grace.

1917—Opening of transcontinental railway, 1,051 miles in length, connecting Kalgoorlie with Port Augusta (S.A.), 454 miles being in Western Australia. Completion of lines between Bolgart and Cal-ingiri, Wyalkatchem and Bencubbin, Kondinin and Narembeen and between Wagin and Bokal. Strike of waterside workers at Fremantle.

1918—End of World War I. Passage of Discharged Soldiers' Settlement Act. Opening of railway from Bowelling to Bokal.

1919—Serious outbreak of pneumonic influenza causing 540 deaths. Discovery of gold at Hampton Plains. Wyndham Meat Works commenced operations. Waterfront strikes at Fremantle. First modern aeroplane flown in the State. Railway opened from Calingiri to Piawaning.

1920—Visit of H.R.H., the Prince of Wales.

1921—Second Commonwealth census disclosing Western Australian population of 332,732, comprised of 177,278 males and 155,454 females. Satisfactory progress of Soldiers' Settlement Scheme. Inaugura-tion of Group Settlements in South-West with migrants from United Kingdom and other selected classes of settlers. Election to Legislative Assembly of Australia's first woman Member of Parliament (Mrs. Edith Cowan). Railway workers' strike. Establishment of aerial mail service between Geraldton and Derby.

1922—Large immigration scheme launched, involving British, Commonwealth and State Govern-ments. Formation of growers' voluntary wheat pool, following termination of State pool at growers' request. Observation of solar eclipse by international astronomers at Wallal on north-west coast. New-degate area opened for settlement.

1923—Opening of railways between Bencubbin and Lake Brown and from Nyabing to Pingrup. Woollen Mill commenced operations at Albany.

1924—Interstate shipping strike. Greatly increased wheat harvest yielding nearly 24 million bushels. First radio broadcasting station opened at Perth. Completion of railway from Busselton to Witchcliffe.

1925—Appointment by Commonwealth Government of Royal Commission to enquire into financial disabilities of Western Australia under federation. Amendments to Industrial Arbitration Act provid-ing for appointment of permanent President of Court and fixation of annual basic wage. Introduction of compulsory insurance of employees under Workers' Compensation Act. Disruption of shipping ser-vices caused by strike of waterside workers, Australian seamen and British seamen in Australian waters. Railways opened between Piawaning and Miling, Esperance and Salmon Gums, Narembeen and Merredin and between Witchcliffe and Flinders Bay.

1926—Road construction scheme, with Commonwealth Government assistance, commenced. De-claration of first State basic wage by newly-appointed State Arbitration Court, fixing adult weekly rates of £4 5s. 0d. for males, and £2 5s. 11d. for females. Unusually heavy winter rains resulting in flooding of parts of metropolitan area and partial destruction of railway bridge at North Fremantle. Opening of railways from Lake Grace to Newdegate, Dwarda to Narrogin and from Jardee to Pemberton.

1927—Visit of T.R.H. the Duke and Duchess of York. Amalgamation of Western Australian Bank with Bank of New South Wales. Completion of rail link between Norseman and Salmon Gums, thus connecting Kalgoorlie with south coast at Esperance.

1928—Peak of post-war migration, net gain from this source being 10,000 persons attracted by buoyant production in agricultural, pastoral and dairying industries.

1929—Celebration of Western Australia's centenary. City of Perth declared a Lord Mayoralty and Fremantle given status of a city. Gold production (377,176 fine ounces) at lowest level since 1896. Inauguration of regular air service between Perth and Adelaide (S.A.). Railways completed between Lake Brown and Bullfinch, Amery and Kalannie, Burakin and Kulja and from Denmark to Nornalup.

1930—Onset of economic depression. Plans formulated for alleviating effects of unemployment. Some improvement in gold-mining industry due to grant by Commonwealth Government of bonus on production. Wheat harvest (53.5 million bushels), the largest yet recorded. Extension of northern air mail route to Wyndham. Establishment of telephone trunk line between Perth and Adelaide (S.A.).

1931—Decision by meeting of State Premiers to reduce government spending by 20 per cent. and interest rates by 22½ per cent. Passage by State Parliament of Financial Emergency Act giving effect to this decision. Transfer of State Savings Bank to Commonwealth Bank. Discovery at Larkinvilla of Golden Eagle nugget (1,135 ounces), the largest gold nugget unearthed in Western Australia. Wiluna gold mines in production. First overseas export of butter. Inauguration of systematic drainage and irrigation scheme in dairying lands at Harvey and Waroona. Introduction of bulk handling of wheat. Meekatharra-Wiluna railway extension completed as far as Paroo and line opened between Kulja and Bonnie Rock.

1932—Imposition of Financial Emergency Tax of 4½d. in the £. on all income. Appointment of commission to conduct State lotteries to benefit hospitals and charities. Transfer of University to its permanent home, the Hackett Buildings at Crawley. Completion of irrigation works at Harvey. Opening of railway from Paroo to Wiluna.

1933—Third Commonwealth census revealing Western Australian population of 438,852 persons—233,937 males and 204,915 females. Levy by Federal Government of tax on flour at £4 5s. per ton to assist wheat industry, depressed by consistently low market prices. Basic wage at lowest level (£3 8s. for males in metropolitan area) since Court's original declaration of 1926. Opening of Wellington Irrigation Dam (on Collicie River) with capacity of 8,700 million gallons. Commencement of work on Canning Dam, to have ultimate capacity of over 20,550 million gallons, as source of water supply for metropolitan area. Establishment of banana plantations at Carnarvon. Referendum, inspired by dissatisfaction with Federal administration, resulted in two to one majority in favour of State's secession from Commonwealth. Railways opened from Lake Grace to Hyden and from Pemberton to Northcliffe.

1934—Introduction of State tax on gold-mining profits. Presentation of Secession Petition to His Majesty the King, House of Lords and House of Commons. Visit of H.R.H. the Duke of Gloucester. Inauguration of aerial mail service between Australia and England. Racial riots on Eastern Goldfields. Storms and floods in agricultural areas and North-West, causing extensive damage to property and severe stock losses. Township of Onslow devastated by cyclone. Wool clip, 90 million lb.

1935—Drought in pastoral areas and north-eastern agricultural district resulting in heavy losses of stock and crops. Rejection of State's Secession Petition by Select Committee of House of Commons. Strike of goldminers. Establishment of flying doctor service in North-West and Kimberley Divisions, with bases at Port Hedland and Wyndham. Pearling fleet overwhelmed at Lapepede Islands by 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. Exploration and development of low grade auriferous ore bodies, stimulated by increased price of gold.

1937—Improved seasonal conditions, resulting in greatly increased wheat harvest and partial relief of drought in pastoral districts. Commencement of gold-mining operations in large low-grade ore body at Big Bell and rail link with Cue completed. Under stimulus of rising prices, gold production exceeded one million ounces for first time since 1916.

1938—Substantial improvement in pastoral conditions. Great increase in export of fat lamb carcasses. Gold production maintained at high level, value of output exceeding £10 million for first time. Federal embargo on export of iron ore from Yampi Sound. Basic wage increased by 5s. 1d. to £4 per week for males in metropolitan area, following presentation of special evidence at Court's annual enquiry.

1939—Drought broken in pastoral areas. Acquisition by British Government of entire wool clip 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 Statistician. Enactment of legislation to amalgamate Financial Emergency Tax and Income Tax. Passage of other State Acts to control prices, rents and patriotic funds, following outbreak of war.

1940—Subnormal rainfall over greater part of the State produced one of the worst droughts on record. Order issued under National Security Regulations for acquisition by Commonwealth of apple and pear crop. First commercial flax crops. Sum of £115,000 allocated by Commonwealth from funds raised under Commonwealth 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 pastoral industry in Western Australia. Official opening of Canning Dam. Commencement of collection of income tax at source. Civil Defence (Emergency Powers) Act empowering State Government to make regulations for protection of civilian population.

1941—Return to normal seasonal conditions after drought of previous year. 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 with concurrent imposition of payroll tax on employers to finance payments. Samson Brook irrigation dam near Waroona (capacity 1,800 million gallons) opened. Work commenced on interstate road linking Port Augusta (S.A.) and Norseman. Increase in industrial activity, particularly in manufactures for war purposes—engineering, clothing and food processing. German raider "Kormoran" sunk 300 miles west of Carnarvon and resultant loss of H.M.A.S. "Sydney." In December, outbreak of war in the Pacific Zone.

1942—Rural output generally well maintained, following good season in agricultural districts and pastoral areas. Area sown to wheat restricted under Commonwealth Wheat Stabilization Scheme. Actual area 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. Introduction of civilian registration embracing all persons aged sixteen and over. 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, Commonwealth Government becoming sole taxing authority in income tax field, the several State Treasuries being re-imbursed by Commonwealth. Establishment of State Public Trust Office under Public Trustee Act of 1941. Basic wage increased by 4s. 6d. to £4 14s. 11d. by Premier, in exercise of powers conferred by National Security (Economic Organisation) Regulations.

1943—Record wool clip of 98 million lb. Severe decline in gold-mining industry. Japanese raid on Exmouth Gulf—the most southerly point of aerial attack. Second civilian register made. Western Australia exempted from Commonwealth scheme of daylight saving. Enactment of State legislation to provide for raising of school leaving age to fifteen years. Initiation of civil flying boat service linking Australia and Ceylon. Airgraph letter service inaugurated. Rationing of butter introduced. Sale of fresh pork to public suspended.

1944—Drought conditions in pastoral areas and subnormal rainfall in agricultural and dairying districts. Wheat production, 15·9 million bushels, the lowest since 1922. Potash fertilizer plant at Chandler (Lake Campion) and plywood plant at Carlisle brought into production. Introduction of meat rationing. Building of dwellings under Commonwealth Housing Scheme commenced in Western Australia. Passage of legislation establishing Agricultural Bank as a trading bank, to be known as the Rural and Industries Bank. Strike of waterside workers against introduction of roster system.

1945—General demobilisation of fighting forces of Australia begun, following cessation of hostilities. Commencement of efforts to re-establish civilian building industry to overcome acute housing shortage. Restrictions on use of electricity in metropolitan area as a result of coal shortage. Rural output generally satisfactory. Pastoral industry affected by dry summer and in some areas by cyclonic storms. Development of Yampi Sound iron ore deposits proceeding. Canning of salmon from Hopetoun commenced.

State Electricity Commission established for purpose of extending and co-ordinating electricity supply. Occupation survey of population taken by Commonwealth Statistician. 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, a record for any one month. Total Perth rainfall for year 52.67 inches, a record.

1946—New industrial centre established at former munition factory at Welshpool. Plans announced for manufacture of agricultural tractors at that centre. Fish canning factory established at Albany. Re-establishment of gold-mining industry proceeding. Rich gold strikes at Day Dawn, Southern Cross and Burtville. Wheat acreage restrictions no longer operative—area about thirty per cent. greater than that of previous season. Wool sales recommenced following termination of appraisal scheme. Substantial advances in wool prices. Interruptions of electricity supply due to strike of locomotive engine drivers, firemen and cleaners halting coal production at Collie. Resumption of pearling industry at Broome after suspension of five years. Abrolhos Islands officially opened as tourist resort. Interim basic wage adjustment by Commonwealth Arbitration Court increasing Federal weekly basic wage rate in Western Australia by 7s.

1947—Fourth Commonwealth census, showing Western Australian population of 502,480, consisting of 258,076 males and 244,404 females. Expansion in factory activity continued. Building operations increased, with more labour and materials available. Stimulation in mining generally, production in the gold mining industry steadily approaching pre-war level. World shortage of lead and high prices made it profitable to re-open old lead mines in Northampton area; a deposit inland from Derby also producing high grade ore. Expansion in fishing industry; substantial exports of frozen and canned fish to Eastern States and overseas exports of crayfish tails. Experimental air transport of beef from Mt. House Station in Kimberley district to Perth. Interim increase of 5s. in State basic wage. Granting by Court of forty 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. Stirling Irrigation Dam, capacity 12,000 million gallons, completed on Harvey River. Work commenced on construction of new causeway over Swan River at Perth.

1948—Record dairy production—butter 15.6 million lb., cheese 2.3 million lb., and increased output of condensed and dried milk. Decline in value of minerals produced, due principally to decrease in gold production. Previous year's high coal output surpassed, 733,000 tons being mined. House construction further expanded, completions numbering 3,043. Outbreak of poliomyelitis reached epidemic proportions. First pig iron produced in the State, at Wundowie. Other new industries in prospect or in production included tractor manufacture, woolcombing, casein extraction, refrigerator making. Construction of new State timber mill at Shannon River commenced, with rail link from Northcliffe. Intensified fishing activity resulting in greatly increased take of edible fish. Value of output of canned fish almost trebled and quick-freezing process introduced with success. 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 enactment of a price control measure, necessitated by Commonwealth's vacating of the prices control field; Wheat Industry Stabilization Act, authorising operation in Western Australia of Commonwealth Wheat Stabilization Plan following a plebiscite among wheatgrowers which rejected a State plan; Western Australian Marine Act; Matrimonial Causes and Personal Status Code and important amendments to Industrial Arbitration, Workers' Compensation and Mining Acts. Relaxation or removal of controls over most building materials. 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. Conference of Premiers held in Perth for the first time—primarily to discuss Commonwealth-State financial relations—Victoria, South Australia and Western Australia being represented. Federal aid to maintain production of "marginal" goldmines which were threatened with closure on account of rising costs of operation. Agreement by Commonwealth to meet half the cost of £4.3 million water supply scheme for Great Southern and other areas. Increase in fares on government tram, bus and ferry services. Rail freights and fares raised by an overall 20 per cent. to offset increasing railway deficit. Strike of coal miners in July. Protracted interruption of electricity supplies due to breakdown of equipment at East Perth Power Station. Construction of second section of South Fremantle Power Station commenced; estimated cost of complete project £2.5 million. City of Perth electricity and gas undertaking purchased by State

Government for £3 million. Approval of plans for harbour development at Bunbury and Albany. Surveys of rivers of North-West commenced to determine storage and irrigation possibilities. His Excellency, Sir James Mitchell, G.C.M.G., Lieutenant-Governor from 1933, elevated to status of Governor.

1949—Despite a late opening, the season proved to be generally favourable in the agricultural districts and in some pastoral areas. Wheat harvest of 38·5 million bushels, from 2·9 million acres, the highest for ten years. Wool clip 91 million lb. Dairy production almost equal to previous year's record. Further increase in value of State's external trade to £108·5 million in 1948-49 entirely attributable to imports, exports being at the same level as in 1947-48. Recession of average export price of wheat to 15s. 3d. per bushel f.o.b., but wool price advanced to 51·28 pence per lb. High production of Collie coal maintained, the year's output setting a new record of more than 750,000 tons. Employment in manufacturing, 1948-49, reached a new level of 38,354 persons, the net value of factory production being £21·5 million. House building effort resulted in 3,290 completions. At Albany, expansion of export meat trade, and construction of superphosphate works, with State Government assistance, begun. 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 Kimberleys, costs to be shared by the Commonwealth and the State. Major works proposed include 500 miles of all-weather roads, the construction of a high level bridge over the Ord River, the rehabilitation of stock routes, the provision of water supplies on stations, the transfer of the town of Wyndham to a new site and improvement of berthing facilities at the port. First tractors produced in the State. Wool-combing and carbonising works in operation. Manufacture of slag wool and slag cork insulators from waste obtained from charcoal iron industry at Wundowie. English trawlers, based on Albany, commence activity off the South Coast. Greatly increased output of canned fish, and exports of frozen crayfish tails exceeded 1½ million lb.—more than double the quantity in 1947-48. Whaling resumed at full scale after a lapse of over twenty years with reopening of station at Point Cloates, and establishment of treatment plant at Carnarvon by Commonwealth Whaling Commission—season's catch 190 whales. In September, rise in gold price from £10 15s. 3d. to £15 9s. 10d. per fine ounce, following the British Treasury's devaluation of sterling. Increase of £1 million in value of minerals produced. Late in June, strike of Collie coalminers as part of a nation-wide stoppage. Rationing and, at some periods, complete cessation of industrial and domestic power supplies. Resumption of work by Collie miners after three weeks' inactivity resulting in an estimated loss of 50,000 tons of coal. Rejection by Privy Council of Federal Government's appeal against the High Court's unfavourable decision on nationalisation of banking. Successful court challenge of Commonwealth's power to ration liquid fuels—as a result, States invited to assume authority. The necessary enabling legislation 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 Government and assumption by the Rt. Hon. R. G. Menzies of office of Prime Minister as leader of a Liberal-Country Party coalition. Presentation of report of Royal Commission on bran, pollard and stock food concentrates and of the Tydeman report on proposed harbour development at Fremantle. Increase in postal, telegraph and telephone rates operative from the 1st July and in telephone rental and directory charges from the 1st August in anticipation of deficit in Post Office finances. Further increases in railway freight charges and passenger fares. Severe earth tremor reported from Wongan Hills and New Norcia in May. Late in the year, damage to vineyards in the Swan districts from gale-force winds. Mr. President Dunphy of the State Arbitration Court appointed to the Bench of the Commonwealth Court. Mr. L. W. Jackson selected to succeed him as President and to become a Judge of the Supreme Court. Death of Lady Mitchell, wife of the Governor, His Excellency the Hon. Sir James Mitchell, G.C.M.G. Death of Sir John Kirwan, K.C.M.G., President of the Legislative Council for twenty years until his retirement in 1946.

1950—Substantial and widespread rains during May, terminating an unusually long dry period, provided an excellent opening to the season in agricultural districts and relieved partial drought in pastoral areas of the North-West. Wheat harvest of 49·9 million bushels exceeded only by that of 1931 season, but record yield per acre of 15·7 bushels. Reduced yield of apples and pears, citrus and vine fruits due to low rainfall and hot summer conditions. Wool clip 101 million lb. Lower dairy cattle numbers and slight decline in production of butter and cheese. Unfavourable trade balance of £7·6 million for 1949-50, despite increase in value of exports to almost £62 million. Average f.o.b. value of greasy wool advanced to 57·65 pence per lb. and of wheat to 15s. 6½d. per bushel. Increase of nearly £17 million in value of imports attributable mainly to motor cars and trucks and other machinery. Output of

coal reached new level of 814,000 tons. Decline of gold won to 610,333 ounces but value increased to £9·5 million on account of enhanced price. Crayfish taken exceeded 7 million lb.—almost 40 per cent. more than previous year's catch. Establishment of new factory at Lancelin Island for quick-freezing of crayfish, with treatment plant for making of fertiliser as a by-product. Season's take of whales numbered 388. Factory employment 40,733 and net value of production £26 million for 1949–50. New timber mills in production at Shannon River, Quinpinup and Northcliffe. Building activity resulted in completion of 4,363 houses and 750 other buildings. Population increase 28,500 (net gain by migration 19,300 and natural increase 9,200) the greatest since 1896 the peak year of the "gold rush" period. Public accounts showed a small surplus—the first since 1944–45. Abolition of rationing of petrol, tea and butter and lifting of ban on sale of fresh cream. By an amendment to the Industrial Arbitration Act, Court empowered to fix 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. Total increase during year of £1 10s. 7d. in basic wage for males in metropolitan area. State general elections in March resulted in return to office of Liberal and Country League-Country Party Government. Amending legislation to increase membership of State Cabinet from eight to ten. Prohibition poll conducted under provisions of Licensing Act—the first since 1925. Proposals rejected by overwhelming majority. Endowment by Federal Government of "first or only child" of family at rate of 5s. per week. Further increases in postal, telegraph and telephone charges. Judge Curlew of New South Wales appointed a Royal Commission to enquire into allegations of brutality at Claremont Mental Hospital. Appointment of Royal Commission to report upon the Local Government Bill of 1949. Crash of interstate airliner near York with loss of 29 lives. Severe bush fires over large areas of forest and pasture in lower South-West. Destruction by fire of Jarrahwood timber mill. 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, authorising compulsory X-ray examination for tuberculosis of specified classes of persons over the age of fourteen years.

1951—Substantial rains in May and June opened the season in agricultural districts and ended the drought in the Gascoyne region. Gascoyne River reached the sea for the first time in two years, causing widespread flooding and heavy damage, and isolating the town of Carnarvon. Unusual features of the weather during the year were the heavy thunderstorms and hail during the summer months. Early in the year hail caused heavy damage to the apple crop in the Mount Barker district, and in December to the wheat and flax crops, and to the grape vines in the Swan Valley. Wheat harvest was 40 million bushels, with an average yield of 12·9 bushels per acre. Apple crop reduced by hail damage and by outbreak of codlin moth in Nannup district. Wool clip estimated at 114 million lb. Record price of 281 pence per lb. at March, 1951, wool sales, average f.o.b. value for 1950–51 being 143·43 pence per lb. Favourable trade balance of £23·7 million for 1950–51, with record levels of exports (£111·9 million) and imports (£88·2 million). Coal output increased further to 848,475 tons and gold won advanced to 627,779 fine ounces, valued at £9·7 million. Production of lead and silver-lead ores, pyritic ore, asbestos, gypsum and iron ore substantially increased. Crayfish take declined to 6½ million lb. Season's take of whales increased more than threefold to 1,224. Factory employment was 43,761 and net value of production, £34 million. New timber mill opened near Yornup, and new State brickworks at Armadale commenced production. Building activity resulted in completion of 5,731 houses and 792 other buildings. Population increase of 17,700 (net migration 8;200 and natural increase 9,500). Public accounts for 1950–51 showed an increased surplus. Total increase during the year of £1 19s. 2d. in male basic wage for metropolitan area. Female basic wage increased to 65 per cent. of male rates on 1st December, with automatic reductions in margins so that no net increase in wages received as a result of this declaration. Double dissolution of Federal Parliament in March. Liberal-Country Party Government returned with majority in both Houses. Increased post, telegraphic and telephone charges from the 1st July. Rail freights and fares increased 30 per cent. First section of new Power House at South Fremantle began operating. South-West Power Scheme inaugurated with opening of new power station at Collie. Raising of Mundaring Weir wall completed. New Women's Home opened at Mount Henry. New ship—"Kabbarli"—placed in service for North-West trade. Port Hedland-Marble Bar railway closed. First load of iron ore mined at Cockatoo Island, Yampi Sound, shipped to Eastern States. Mining activity caused revival of goldfields town of Bullfinch. First shipment of oats and barley in

bulk successfully handled. The Air Beef Scheme experienced another successful year, the number of cattle slaughtered for air transport to Wyndham being in excess of 4,000. Seasonal meat shortage overcome by Government stock-piling in cool stores. Sir James Mitchell, G.C.M.G., retired as Governor and died shortly afterwards. Lt.-General Sir Charles Gairdner, K.C.M.G., C.B., C.B.E. arrived to take up appointment as Governor. Mr. J. G. Rodger, Director-General of Commonwealth Forestry and Timber Bureau appointed as Royal Commissioner to enquire into West Australian Forestry and Timber matters. Experimental injections of myxomatosis in rabbits conducted by Department of Agriculture. Establishment of 250 Government bursaries for students desirous of becoming teachers in Education Department. Free Milk Scheme for school children commenced, in conjunction with Commonwealth Government. 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. Important amendments made to the Licensing Act, providing for Sunday trading within restricted hours by hotels, and variations of conditions for serving bona-fide travellers. Rent control continued, with provision for increases up to 10 per cent. in rents of dwellings and business premises. Workers' compensation benefits increased, on average by 20 per cent. Act passed to establish a library board to foster the activities of free libraries in the State and to improve library services.

1952—Despite favourable opening rains in most districts in May, the agricultural areas experienced a variable season resulting in reduced wheat harvest of 35.5 million bushels for an average yield of 11.8 bushels per acre. Rainfall for the year deficient throughout greater part of State, particularly in pastoral areas of Kimberley and North-West. Serious cattle losses in Kimberleys brought about by drought conditions. Wool clip, 118 million lb., the highest so far recorded. Decline in factory production of butter and cheese. Unfavourable trade balance for 1951-52 of £24.6 million—a deterioration of more than £48 million since previous year—attributable mainly to sharp rise in external purchases and decline in value of export commodities, notably wool. Timber production, 200 million super feet, the highest for 25 years. Coal output reduced to 830,000 tons. Substantial increase in gold production to 729,975 fine ounces. Value of production of minerals other than gold and coal more than doubled—from £1.1 million to £2.6 million. Season's take of 1,187 whales slightly less than in previous year. Crayfish catch, 8.4 million lb. Export of crayfish tails valued at almost £1 million. Employment in factories in 1951-52 exceeded 45,000 and net value of factory production reached new level of £42.7 million. Further expansion in building activity produced 7,730 new houses—2,000 more than in previous year—and 766 other new buildings. Net population gain, 22,600, of which 12,400 attributable to migration and 10,200 to natural increase. Small deficit revealed in public accounts. Railways deficit of more than £2.8 million. Further substantial increases aggregating £1 12s. 10d. in basic wage for males in metropolitan area. Removal of price control on clothing and textiles. Perth Airport raised to international status. Inauguration of regular air communication via Cocos Island between Perth and Johannesburg and between Perth and Singapore. Explosion of Britain's first atomic bomb at Monte Bello Islands off north-west coast. New causeway over Swan River at Perth opened. Extensive damage to forests and pastures by bushfires at Frankland River, Dwellingup, Dandaragan, Katanning and elsewhere. Damage by hailstorms and wind to crops at Kukerin, Piawaning and Wanneroo. Imposition by Federal Government in March of severe cuts in imports. Curtailment of State works programme following contraction of Commonwealth loan allocations. Rationing of superphosphate to farmers discontinued with improved supplies of sulphur from external sources. Kimberleys Air Beef Scheme has most successful year since inception; almost 5,200 cattle flown from Glenroy abattoirs to Wyndham. Total area of land prepared for irrigation, 1,184 acres, the greatest in any single year. Strikes by waterside workers at Fremantle early in year. 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 also considerable reduction in country service. Increase of 20 per cent. in metropolitan passenger fares following resumption of rail services. Appointment of Royal Commission to enquire into kindergarten administration and pre-school education. Negotiations completed for establishment at Kwinana, on coast ten miles south of Fremantle, of oil refining, steel rolling, and cement manufacturing projects estimated to cost almost £50 million. Plans include provision of port facilities in Cockburn Sound by dredging to ultimate depth of 38 feet, extension of rail system from Robbs Jetty, construction of rail link with Midland Junction, and laying of 12 miles of pipeline for supply of water to Kwinana area. Legislation included agreements between the Government and proprietors relating to establishment and development of these industries. Other enactments were 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 wheatgrowers ; a continuance measure extending for three years the pooled marketing of barley ; an amendment to the Margarine Act authorising 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 horseracing and trotting courses. Death in London of Hon. W. H. Kitson, after nearly six years service as Agent-General. Death of His Majesty King George VI. and accession of Her Majesty Queen Elizabeth II.

1953—A cyclonic disturbance in March produced widespread rain over almost the entire State causing serious flood damage to properties, roads and railways. General rains in April and May resulted in further flooding and numerous road washaways, and a reduction in the acreage of cereal crops. Seasonal conditions generally were suitable both to crops and pastures—wheat yield 39·7 million bushels, oats 9·6 million, barley 2·7 million bushels, wool clip 127 million lb., the highest recorded up to this time. 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. Crayfish catch 8·1 million lb., whales taken, 1,303. Work at Gascoyne Research Station extended to include cultivation of tropical crops. Conditions in dairying industry continued unfavourable, resulting in further decline in factory butter production. Construction of oil refinery at Kwinana begun and work started on jetty to serve a £4 million steel rolling mill in same area. Work begun at South Coogee on cement factory expected to produce 100,000 tons annually. Expenditure of £165,000 approved for the construction of a water pipeline to supply Kwinana industrial area and adjacent townsite. Favourable nominal balance of £14·65 million in State's external trade for 1952-53, compared with an unfavourable balance of £24·65 million in previous year—improvement attributable mainly to oversea trade which showed a decline in imports of £30·4 million and an increase in exports of £8·3 million. Partial relaxation of import restrictions in April and further easement in October. Principal exports were—Wool, £39·6 million ; Wheat, £20·2 million ; Flour, £7·5 million ; Gold Bullion, £12·4 million ; Fresh Fruit, £2·3 million ; Hides and Skins, £2·0 million ; Timber, £2·1 million ; Whale Oil, £0·9 million ; and Crayfish, £1·0 million. The output from Secondary Industries for 1952-53 amounted to £119 million and net production £49 million. Factories numbered 3,424 ; persons employed 45,188—salaries and wages paid £28·3 million. Increase in gold production to 824,000 fine ozs. valued at £13·3 million, highest since 1942. Coal output increased to 886,000 tons. Discovery of oil at Exmouth Gulf announced in December after exploration lasting seven years and costing about £2 million. Activity in building industry maintained ; 7,642 houses and 983 other buildings completed during year. Increases in rail freights of from 20% to 35% and increased fares on Government buses, trams and trolley buses. Recontrol of prices of some items of essential clothing and soft goods in May. Abolition of all prices control in December. Population increase of 18,808, of which 10,790 due to natural increase and 8,018 to migration. Commissioner appointed to examine and report on boundaries of metropolitan local government authorities. State Entertainment Tax imposed in October following withdrawal of Commonwealth Government from this field. Appointment to London of Hon. J. A. Dimmitt as Agent-General for Western Australia. Legislation passed authorizing a new local government authority at Kwinana. Other legislation included an amendment to the Rents and Tenancies Emergency Provision Act ; 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 ; a Pensions Bill providing increases aggregating more than £100,000 annually in pensions of retired Government employees ; and the Wheat Marketing Bill fixing a home consumption price of 14s. per bushel and facilitating orderly marketing on an Australia-wide basis. Among bills which failed was the Prices Control Act Amendment Continuance Bill, the effect of its rejection being the abandonment of all prices control. Death in January of Hon. M. F. Troy, a former Agent-General and for 35 years representative for Mt. Magnet Electorate in the Legislative Assembly. Death in February of Sir Hal Colebatch, Agent-General in London for a number of years, former Premier of State and member of various Governments. Death in March, of Hon. A. A. M. Coverley, representative for the Kimberleys in the Legislative Assembly since 1924. Death in July of Hon. Sydney Stubbs, C.M.G., a former Mayor of Perth and Claremont and member of the Legislative Council and for 35 years representative for Wagin Electorate in the Legislative Assembly.

1954—A year of continued development and improved economic stability, with many signs of growth and change. Kwinana Oil Refinery and associated development at Cookburn Sound practically completed. Reclamation work begun for the bridge-heads and road approaches for the proposed bridge over the Swan River at the Narrows. Peak year of building activity—7,906 houses and 1,220 other buildings completed at cost of more than £28.3 million. New motor vehicles registered 11,657 cars, 6,000 wagons, vans, utilities, 70 buses and 1,267 motor cycles—total registrations at end of year 161,034. Road traffic accidents increased, 7,487 being reported in metropolitan area and 2,698 in country, compared with 6,098 and 2,345 in previous year. Savings bank deposits amounted to £51,586,968 an average of £81.99 per head of population. Factory employment reached new peak of 47,459 and number of factories increased to 3,523. Output from manufacturing industries in 1953-54 valued at £134.6 million and net production at £55.1 million. Salaries and wages of factory workers amounted to £31.6 million. Production of factory butter declined to 13.8 million lb. from 14.5 million lb. in previous year. Superphosphate factory opened at Albany. Timber production 241.3 million super feet. Gold yield 850,540 fine ozs., the highest since 1941. Coal output for the first time exceeded one million tons. Oil drilling continued in vicinity of Exmouth Gulf and commenced in Fitzroy River Basin—further permits granted for exploration in areas in north and south of the State covering about 233,000 square miles. State's external trade for 1953-54 showed favourable balance of £29.1 million with overseas countries, but unfavourable balance of £62.7 million with other Australian States—the largest recorded up to this time. Principal items of export: Wool £41.1 million, Gold bullion £6.6 million, Flour £5.9 million, Wheat £5.6 million, Timber £2.2 million, Fresh Fruit £1.7 million, Hides and Skins £1.6 million, Crayfish £1.2 million, Whale Oil £1.1 million. Easing of import restrictions from non-dollar countries in February, but further limits imposed after review in October. Norwegian steamer "Peter Reed" chartered for two years by State Shipping Service for the North-West run. Introduction of diesel-electric locomotives on State railways in May, supplementing diesel rail cars already operating. Commonwealth Census taken on 30th June revealed State population of 639,771 persons, of whom 348,647 were enumerated in the metropolitan area. Total population increase 17,668 for the year, 10,564 being due to natural increase. Hospitals opened at Morawa and Midland Junction. First inland school to be established in the Kimberleys opened at Halls Creek. Expansion of library services in country areas. Season's take of whales 1,320. Crayfish catch 9,137,500 lb. Record price of 186d. per lb. obtained for W.A. tobacco leaf. Below average rainfall reflected in reduced wheat harvest of 34.3 million bushels. Wool clip 121 million lb. Bushfires in January in Dandaragan and Byford areas causing damage to pastures and hay. Vineyards in Swan Valley swept by gales in January, causing damage estimated at £150,000 to grape and currant crops. Legislation passed to authorise, regulate and control betting. Other legislation included an Act to enable the State to carry out and give effect to war service land settlement; an Act designed to give greater assistance to those of limited income who wish to build their own homes and an Act to enable the State Government Insurance Office to engage in insurance for school children. Among bills which failed were the Industrial Arbitration Act Amendment Bill which provided for automatic quarterly adjustments to the basic wage, and the Prices Control Bill which was designed to reintroduce prices control. Death of Sir Norbert Keenan, Q.C., former Cabinet minister and Party leader. Death of Dr. J. S. Battye, Principal Librarian for 60 years. Death of Mr. J. J. Kenneally, member of the Commonwealth Grants Commission since 1945. Visit of Her Majesty Queen Elizabeth II and His Royal Highness the Duke of Edinburgh.

1955—Freak rains in February caused floods in country towns and damage to railway lines, roads and bridges. Market gardeners faced biggest flood loss in 15 years and serious damage to grape crops in the Swan Valley resulted in reduced production. The season opened with widespread rains throughout the agricultural areas in April, and satisfactory following rains in May. Below average rains fell in June and July and severe frosts were experienced. Abnormal August rains and excellent conditions in September and October produced a remarkable wheat yield of 53 million bushels—an average of 18.3 bushels per acre. Record average yields of oats and barley also obtained. Encouraging reports on experimental crops of sugar cane and rice at the Kimberley Research Station. Season's catch of whales limited to 1,120. Oyster farming experiments carried out by Fisheries Department at Shark Bay to assess possibility of establishing industry there. Severe earth tremors recorded at end of August over wide area extending south from Three Springs to Serpentine and east to Wyalkatchem with the centre of disturbance at Yericoin. Perth's coldest day for 39 years on 22nd June, 34.9 degrees. Record price of 195 pence per lb. for tobacco leaf at W.A. sales. Completion of operations, begun in 1954, of North Kimberley Survey and Mapping Expedition organised by Department of Lands and Surveys—420 miles

of road opened up and 15,000 square miles of country examined. High level of building maintained—8,772 houses and 1,500 other buildings completed at cost of about £36.6 million. Continued increase in road traffic accidents to 8,115 in metropolitan area and 2,950 in the country. Savings bank deposits at 31st December amounted to £54.4 million—an average of £81.06 per head of population. Increase in import restrictions in March, followed by further reduction in import quotas and abolition of State licensing committees in September. Unfavourable trend in State's external trade balance showed further deterioration during 1954-55—favourable balance of £21.4 million recorded for oversea trade but unfavourable balance of £67.0 million for interstate trade. Principal exports were : wool (greasy and scoured) £35.3 million, wheat £13.7 million, gold bullion £9.7 million, flour £3.6 million, meat £2.3 million, timber £1.9 million, fresh fruit £1.9 million, hides and skins £1.5 million and crayfish tails £1.2 million. Whale oil exports valued at £945,000. Increase in State population of 21,335, of which 11,244 was due to natural increase and 10,091 to migration. Slight fall in coal output to 903,792 tons and in gold yield to 842,005 fine ozs. Factory employment during 1954-55 increased to 49,314 and number of factories to 3,727. Value of output from manufacturing industries amounted to £149.6 million, net production to £61.0 million and total wages paid to £34.7 million. Increase in production of sawn timber to 225.6 million super feet, making total timber production 254.5 million super feet. Official opening of the Kwinana Oil Refinery in October after nine months in operation. The 7½ mile railway linking Kwinana with the State railways first used in April. Cue-Big Bell railway closed after 18 years of service, as result of closing down of the Big Bell gold mine earlier in the year. New industrial harbour and large anchorage made available with opening of Cockburn Sound in January. Bitumen production begun in Western Australia, by plant installed at the Kwinana refinery at request of the State Government. Release for publication of Professor Gordon Stephenson's report and recommendations anent the planning of the Metropolitan Region. Plan provides for extension of railway services, provision of major regional highways with responsibility vested in one main highway authority, extension of the port of Fremantle in Cockburn Sound, reservation for needs of future air services, provision for parking areas, marshalling yards, goods yards, a port freight terminal, and warehouses and wholesale markets in the same vicinity away from the central area of Perth, etc. Free library opened in Claremont—the first metropolitan library sponsored jointly by the Library Board of W.A. and a local government authority. In August, for the first time since July, 1953, adjustment made to State basic wage. Changes made to State electoral boundaries as result of 1954 Census. Name of Fremantle Road District changed to Cockburn in January. Merger of Airlines (W.A.), Ltd. and MacRobertson Miller Aviation Co. to form new company from the 1st July. Legislation passed during year included an Act relating to the establishment of a medical school by 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 the Board to plan 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 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 ; a Bill to consolidate Acts relating to local government and a Bill to enable the State Government Insurance Office to undertake all forms of fire and general accident insurance. Deaths in June of the Hon. C. H. Henning, member of the Legislative Council since 1951, and the Hon. R. J. Boylen, member of the Legislative Council since 1947.

1956—In 1956 there were encouraging signs of continued economic vitality. Among important developments were the launching of the Esperance land settlement project with the help of American capital and the decision to enlarge the Kwinana Oil Refinery at a cost of approximately £3½ million—an expansion expected to provide temporary employment for 300-400 men. Extensive office premises construction in central Perth, but decline in building activity generally. Number of houses completed in 1956—6,047, and other buildings—1,667, with a total value of £27.5 million. Increase in savings banks deposits at the 31st December to £61.067 million—an average of £89.17 per head of population. Small decline in number of road traffic accidents, 8,027 being reported in the metropolitan area and 2,970 in the country. Fewer registrations of new motor vehicles, 9,067 cars and 5,724 other vehicles compared with 11,612 and 6,795 in previous year. Marked improvement in State's external trade in 1955-56 with imports totalling £135.5 million, exports £115.7 million and a substantially decreased unfavourable balance of £19.8 million compared with the previous year when the unfavourable balance amounted to £45.6 million. Principal exports were : wool (greasy and scoured) £35.2 million, wheat

£14.4 million, gold bullion £6.4 million, flour £3.9 million, meat £2.8 million, timber £2.8 million, fresh fruit £1.7 million, hides and skins £1.6 million, crayfish tails £1.5 million and whale oil £967,000. Regulations restricting imports of a wide range of non-essential manufactured goods came into force in July. State population advanced 14,085 of which 11,344 was due to natural increase. Decline in net migration, from 10,091 in previous year to 2,741. Continued fall in coal output, to 830,007 tons, and in gold yield, to 812,380 fine ounces. Drilling for oil continued in Exmouth Gulf and Broome areas and extended to Dirk Hartogs Island. Expansion of manufacturing industries maintained. Number of factories increased to 3,871, number employed to 50,108 and total wages paid to £37.2 million. The value of output of factories increased to £175.1 million and the net production to £69.7 million. Production of sawn timber 222.1 million super feet. New industry established at Capel and Bunbury for extracting ilmenite and other heavy minerals from beach sands. In May, new access channels opened in Cockburn Sound to jetty of Broken Hill Proprietary Company's steel-rolling mill. Work continued on the Comprehensive Water Supply Scheme—main pipeline from Wellington Dam reached Narrogin and extension from Goldfields Water Supply main completed to Kondinin. In May, widespread rains fell in the agricultural areas and farmers had one of the best seasonal starts for many years. Favourable conditions did not continue and the wheatbelt experienced the driest August on record, being worse than in 1914 and 1940, the two most severe drought years. Rains in October, however, changed the seasonal prospects and the wheat harvest reached 31.6 million bushels, an average yield of 11.7 bushels per acre in contrast to 18.4 bushels per acre in the previous year. Estimated wool clip, 145 million lbs. Extensive snowfalls recorded in June in the South-West Land Division, the most northerly report being from Cadoux and the most easterly Bruce Rock. Snow also reported at Salmon Gums. Tropical cyclone in March caused damage to banana plantations at Carnarvon and to shipping at Geraldton. A tornado in May cut a swath two chains wide through heavy timber and wrecked four houses at Gosnells. Production of pearlshell at Broome increased to 898 tons valued at £584,000. Three-year lease granted to an Australian company to grow culture pearls in an area of four square miles in Brecknock Harbour some 130 miles north-east of Derby. 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 the river sands and thus conserve supplies for irrigation. Acceleration of reclamation operations and other preparatory work for building of a bridge across the Swan river at the Narrows. In October, concession fares granted to pensioners using Government trains, trams, buses and ferries. Increases in interstate sea freights announced in April and October and increase of 20 per cent. in rail fares to Eastern States also announced in October. New State ship "Koojarra" (4,400 tons) taken over by Government in September. Increased railway charges and closure of some branch lines recommended by Railway Commission to offset continued losses. Extension of water conservation works for supplies to Metropolitan Area by operations at Serpentine River up-stream from Falls; work on first stage, a pipe-head dam, well advanced. Nedlands and South Perth Road Districts granted municipal status in March. Metropolitan traffic area enlarged in January to include Rockingham Road District. Reorganization of State Library following appointment of State Librarian. Continued development of Library services reported in 1955-56, thirteen more local government authorities having applied for the Board's services. Much needed additional accommodation afforded State Civil Service departments with completion of State Government Insurance Office building of twelve storeys. Legislation passed during the year included the Unfair Trading and Profit Control Act; 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, and to encourage independent and competitive trading in such industry. Death in June of the Hon. J. C. Willecock, a former Premier of Western Australia, first elected to Parliament in 1917. Death in July of the Hon. C. W. D. Barker, M.L.C., and death in October of Mr. E. Needham, for 40 years a member of either State or Federal Parliaments.

CHAPTER II—PHYSICAL FEATURES, CLIMATE, FLORA AND FAUNA

PART 1—PHYSICAL FEATURES AND GEOLOGY

Contributed by

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The development of any country depends on its natural resources and the industry of its people, and there can be few more important investigations for any country than those dealing with the productive capacity of its territory. Natural resources—be they power, mineral, or soil resources—are dependent entirely on the climate, physical features and geology. Looking at the pattern of development of Western Australia we see that for nearly seventy years after the foundation of the Swan River colony in 1829 agricultural production barely kept pace with the requirements of the small population. The discovery of gold in the 1890's, however, led to a period of rapid expansion, and Western Australia became one of the major gold-producing areas of the world, and with this increase in mining production there was a corresponding expansion of the agricultural and pastoral industries. We are now experiencing a marked 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 development, 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 a deficiency of some minor element in the fodder which is due to its absence from the soil, and this deficiency, in its turn, is due to the absence of such elements from the parent rocks from which the soil was derived, the significance of the geological environment is 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 only be divided into two physical regions: (1) a tableland (the *Great Plateau*) in various stages of dissection occupying the whole of the interior of the State, (2) 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% 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 feet 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.

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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 districts 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 and portions of the Eastern administrative divisions 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 from 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 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 laterite-covered Darling Peneplain.

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 $31^{\circ} 30'$ and $33^{\circ} 30' S.$, i.e., between Moora and Donnybrook, but it is difficult to recognise farther north or south. In the Kimberley Division the mountain ranges are the 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

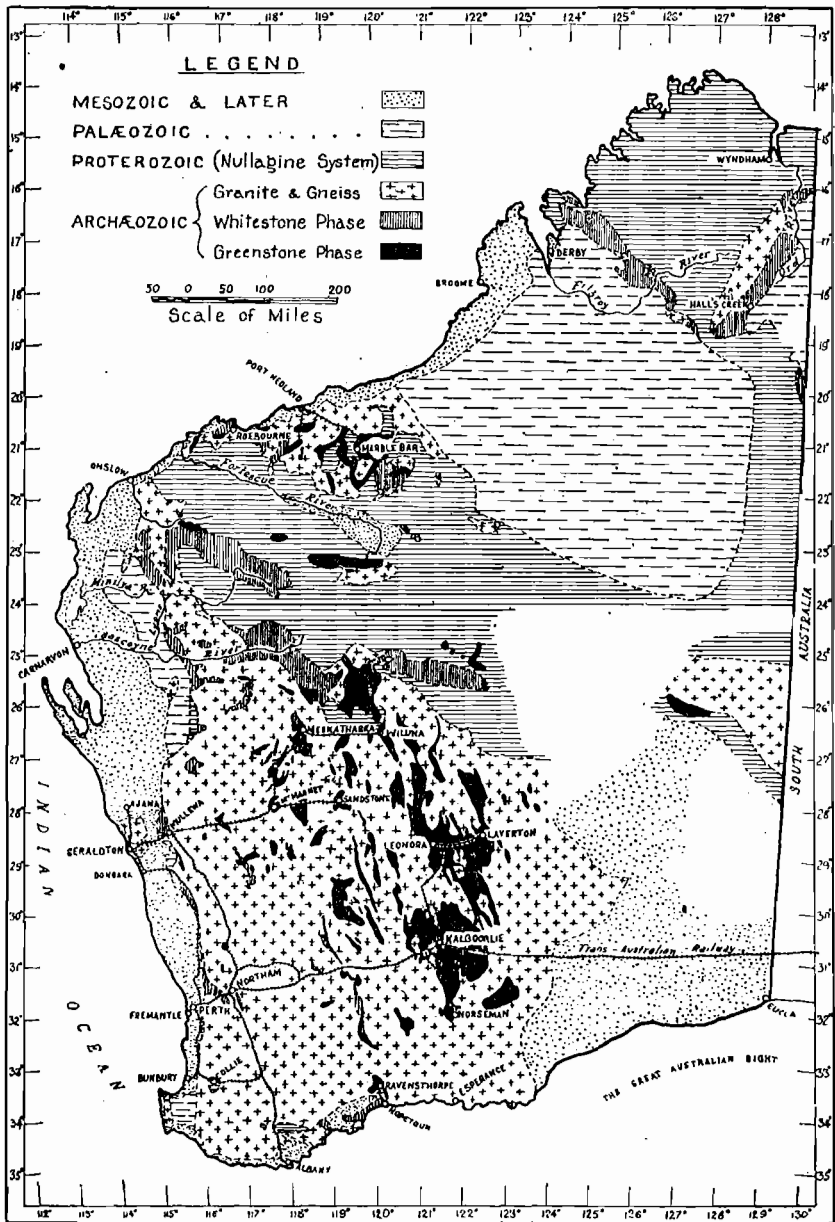
More than two-thirds of Western Australia is occupied by the ancient Australian Pre-Cambrian shield which is composed of a complex of igneous, metamorphic and sedimentary rocks formed more than 500 million years ago. Most of our mineral deposits of economic importance, except coal and water, occur in 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



GEOLOGICAL MAP OF WESTERN AUSTRALIA

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

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 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 and schists are older than the Devonian, which unconformably overlies them.

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) 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° the oldest rocks that are recognised are the greenstones of the various goldmining fields which occur in comparatively narrow belts elongated in a general N.N.W. direction (see geological map). 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 forming 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 Archaean 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 Archaean rocks in Western Australia may contain ore-bodies yielding gold and other minerals of economic value: it seems likely that the formation of these ore-deposits occurred at the time of the second granite invasion.

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.

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 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 given by C. Teichert in "Stratigraphy of Western Australia" (*Journal and Proceedings, Royal Society of New South Wales, Vol. LXXX, pp. 81-142, 1947*) and 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 18° 30' and 16° 15' S. lat., reaching westward from the border for 15 to 75 miles. The Cambrian consists of basalts at the base of the sequence, overlain by Lower Cambrian fossiliferous limestones and shales and Middle Cambrian 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 geological map). 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 and these in turn 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. 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. The age of these igneous rocks is post-Triassic but otherwise not determinable. 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 geological map), 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.

To the west, 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. The marine Miocene 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 Miocene 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 sunkland 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 Tertiary basalts of the sunkland between Bunbury and Cape Gosselin on the south coast.

Very little is known about the structure of this basin. It is bounded to the east by a large fault or monoclinical fold 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 was developed just prior to the formation of the Darling Plateau when it was a gently undulating peneplain lying close to sea-level. Subsequently, in Pliocene times, as evidenced by fossiliferous marine Miocene sediments 900 feet above sea-level at Norseman, this laterite-covered peneplain was uplifted to form the *Darling Plateau*. 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 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.

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 recognised 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 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 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 rock salt. In a few of these lakes hydrated potassium aluminium sulphate (alunite), which is a valuable source of potash for fertilisers, has been formed but its actual mode of formation has not yet been satisfactorily explained.

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 with the sole exception of the Silurian. The geological history of Western Australia begins with the basaltic igneous activity of the Early Archaeozoic some 2,500 to 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-Archæan times there is a record of sedimentation throughout all the main geological periods with the exception of the Silurian. Igneous activity ceased in the Lower Palæozoic and only re-occurred during the Tertiary, 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 W.A. 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 east-west. A little more than one third of the State lies within the tropics, while the remainder extends southward to the temperate zone.

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

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

PRESSURE SYSTEMS

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

In Winter this system moves northward, bringing clear skies with fine sunny days and easterly winds to the tropics. 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 mid-winter the northern fringe of the "Roaring Forties" extends to Western Australia and there are frequent westerly gales in the south coastal belt.

These westerly winds are maintained by a series of depressions (low pressure systems with clockwise winds), which move eastward well south of the West 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 mid-day 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 Kimberleys, westerlies prevail. Winds in both the north and south of the State are then in the opposite direction to those prevailing during the Winter.

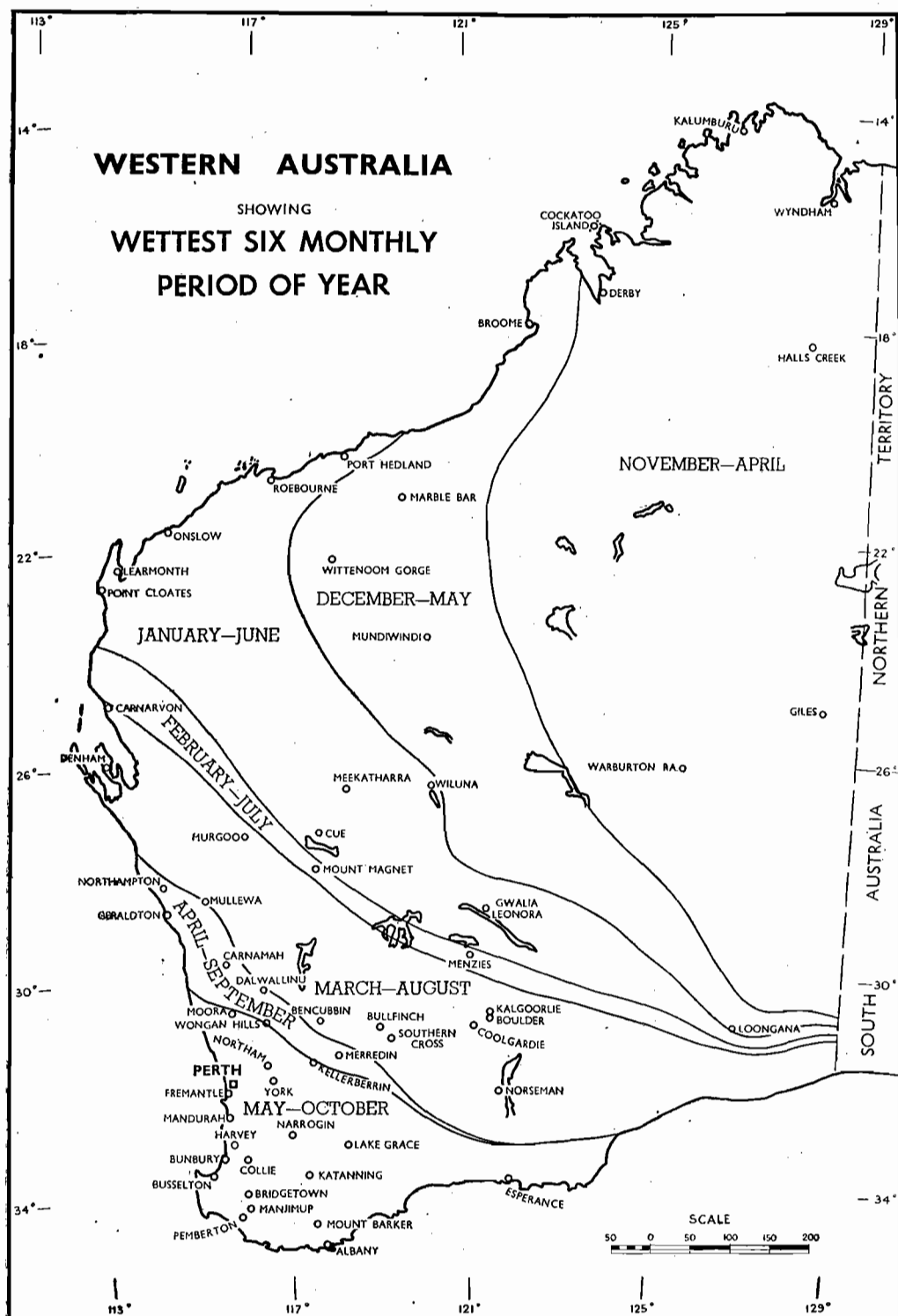
As the sun moves northward again the anticyclonic belt follows it. The monsoonal depression over the tropics dissipates and westerlies again gradually extend northward to the southern part of the State.

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 in 1887 twenty-two vessels and one hundred and forty lives were lost when a cyclone struck a pearling fleet off the 80 Mile Beach.

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 another.

From the map on page 30, which shows the wettest six-monthly period of the year, it can be seen that summer rains extend southward from the Kimberleys to the trans-continental 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 division, the wet period occurs earlier during the year. Across a belt Carnarvon-Menzies-Eucla, there is a more rapid change, and this belt divides the winter rainfall area from that which receives most of its rain in the first six months of the year. Further north, the change is more gradual but continuous, and in the Kimberleys 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.

Average annual rainfall for the State is shown in the map at the back of this 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, viz., Coastal, Wheatbelt and Other Inland.)

Reporting Station and Characteristic.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
COASTAL.													
<i>Wyndham</i> (23 feet)†—													
Rainfall—Average (points)	763	632	467	81	24	17	16	3	9	44	100	418	2,664
Highest (points)	2,824	2,058	1,758	938	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)	1,160	590	1,250	187	247	445	338	42	136	225	335	383	1,250
Wet days—Average number	13	11	9	3	1	0	0	0	0	2	6	10	55
<i>Broome</i> (37 feet)†—													
Rainfall—Average (points)	648	568	393	115	61	96	20	11	5	3	56	325	2,301
Highest (points)	3,256	2,358	1,151	1,019	700	973	232	374	86	48	1,095	1,440	4,307
Lowest (points)	11	42	4	0	0	0	0	0	0	0	0	3	561
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	38
<i>Port Hedland</i> (25 feet)†—													
Rainfall—Average (points)	217	216	344	103	115	129	40	38	5	6	10	33	1,256
Highest (points)	1,969	1,432	1,716	728	873	696	384	584	99	73	336	1,023	4,013
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	125
Highest one day (points)	600	955	1,113	469	638	560	185	364	85	127	304	900	1,113
Wet days—Average number	4	4	4	1	2	2	1	1	0	0	0	1	20
<i>Onslow</i> (14 feet)†—													
Rainfall—Average (points)	96	106	169	98	102	157	76	44	4	2	4	15	933
Highest (points)	1,028	961	1,027	1,100	908	908	872	594	49	61	237	241	2,823
Lowest (points)	0	0	0	0	0	0	0	0	0	0	0	0	85
Highest one day (points)	623	581	1,013	617	937	436	355	251	27	29	117	198	1,013
Wet days—Average number	3	3	4	2	3	3	2	2	0	0	0	1	23
<i>Carnarvon</i> (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	2,536
Lowest (points)	0	0	0	0	0	5	6	0	0	0	0	0	272
Highest one day (points)	358	441	470	197	410	475	322	193	63	104	28	469	475
Wet days—Average number	2	2	2	2	5	6	6	5	2	2	0	1	35
<i>Geraldton</i> (13 feet)†—													
Rainfall—Average (points)	22	28	56	92	274	474	379	279	128	70	26	15	1,843
Highest (points)	379	517	666	457	1,292	1,292	808	952	412	335	167	126	3,365
Lowest (points)	0	0	0	0	0	121	70	33	0	0	0	0	1,136
Highest one day (points)	310	324	369	270	307	430	201	365	169	289	140	84	430
Wet days—Average number	2	2	3	4	10	13	14	13	9	6	3	1	80

† Height above mean sea level.

RAINFALL AT REPRESENTATIVE CLIMATOLOGICAL STATIONS—*continued.*

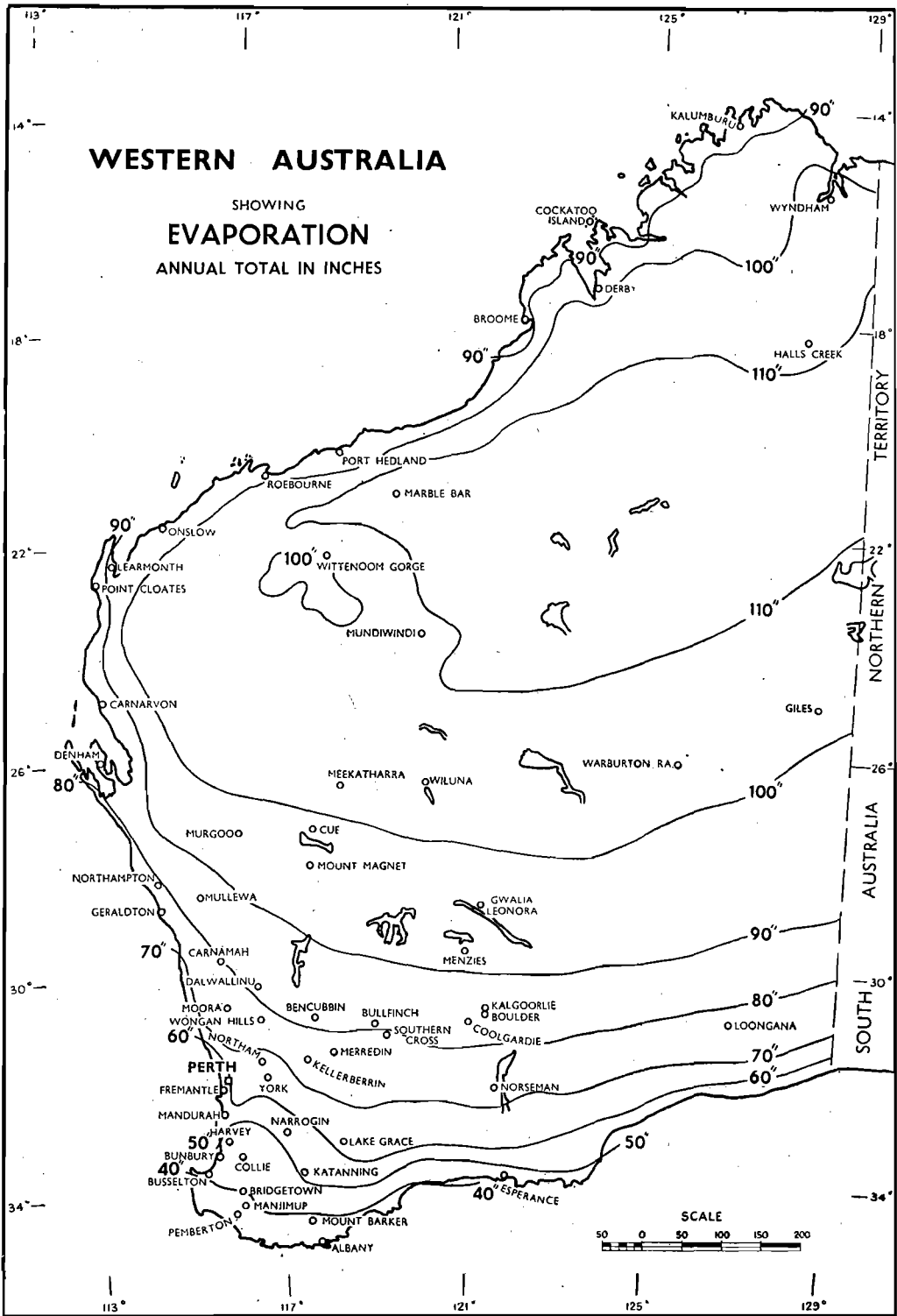
Reporting Station and Characteristic.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
COASTAL—continued.													
<i>Perth</i> —Observatory (197 ft.)—													
Rainfall—Average (points)	31	46	80	180	501	725	678	571	329	220	83	60	3,504
Highest (points)	217	655	571	585	1,213	1,875	1,228	1,253	784	787	278	317	5,267
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	390
Wet days—Average number	3	3	4	7	14	17	18	18	14	12	7	4	121
<i>Pinjarra</i> (32 feet)—													
Rainfall—Average (points)	34	41	82	187	542	760	729	619	389	253	89	59	3,784
Highest (points)	167	862	331	730	998	2,104	1,571	1,494	916	1,017	368	291	5,879
Lowest (points)	0	0	0	0	127	265	330	47	33	11	4	0	2,030
Highest one day (points)	145	443	197	560	337	310	400	350	189	211	159	160	443
Wet days—Average number	3	2	4	6	14	17	18	18	15	11	6	4	118
<i>Bunbury</i> (17 feet)—													
Rainfall—Average (points)	39	49	95	172	513	710	676	516	350	231	93	53	3,497
Highest (points)	340	411	330	690	1,047	1,620	1,640	1,193	793	769	261	316	5,374
Lowest (points)	0	0	0	0	38	287	194	82	0	26	0	0	194
Highest one day (points)	222	338	258	174	317	472	372	263	227	154	205	104	472
Wet days—Average number	3	3	4	7	15	18	20	18	15	12	6	4	125
<i>Pemberton</i> (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	1,436	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	34	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
<i>Mt. Barker</i> (829 feet)—													
Rainfall—Average (points)	90	87	149	209	342	387	418	372	334	289	143	100	2,029
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	206	285	259	175	214	251	165	548
Wet days—Average number	8	7	11	13	18	20	22	21	18	17	11	10	176
<i>Albany</i> (41 feet)—													
Rainfall—Average (points)	100	87	161	275	502	547	559	532	410	325	146	118	3,762
Highest (points)	854	635	653	739	1,140	1,152	1,080	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
<i>Esperance</i> (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
WHEATBELT.													
<i>Carnamah</i> (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	643	757	332	262	357	222	3,078
Lowest (points)	0	0	0	0	0	83	53	51	2	0	0	0	917
Highest one day (points)	380	226	299	232	4	290	241	170	260	129	157	197	380
Wet days—Average number	2	1	3	4	9	11	13	11	7	5	2	2	70
<i>Dalwallinu</i> (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	523	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
<i>Northam</i> (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	776	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

† Height above mean sea level.

RAINFALL AT REPRESENTATIVE CLIMATOLOGICAL STATIONS—continued.

Reporting Station and Characteristic.	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
WHEATBELT—continued.													
<i>Merredin</i> (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	460	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
<i>Narrogin</i> (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	802	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
<i>Lake Grace</i> (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	258	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	89	91	231	175	378
Wet days—Average number	2	2	3	6	9	15	16	13	10	6	4	4	90
<i>Katanning</i> (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	327	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
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	279	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	124	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	188	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	116	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	2,034
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	304	208	318	386	314	1,194	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	151	147	137	174	246	174	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 in. in the far south-west, and to about 8 in. in the northern tropics. In January, when evaporation is highest, it totals about 5 in. on the far south coast and reaches 14 in. in the East Gascoyne and North-Eastern divisions. Further north, evaporation is reduced by the moister air over the tropics.

The map on page 34 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 35 shows the length of such 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).

TEMPERATURE

The hottest month in Western Australia is November in the Kimberleys, 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 temperatures generally commence to fall again 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° and the mean minimum for the coldest month is 66.2° . At Marble Bar the yearly mean maximum of 96.2° is higher, but mean minimum temperatures are consistently lower, falling to 52.5° in the coldest month. The mean maximum at this centre is the highest in Australia, exceeding 100° in five months and reaching 99.9° in another. There are often long spells of hot weather in this region. During one period, from 31st October, 1923, to 7th April, 1924, the maximum temperature at Marble Bar reached or exceeded 100° 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° , 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, and during the Winter temperatures fall at times to below 30° in most of the inland parts of the State south from the tropics. The lowest on record is 20.2° at Booylgoo, near Sandstone; and Mundiwindi, almost in the tropics, has recorded 22.4° .

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 following table shows the mean maximum, mean minimum, and extreme temperatures, the average number of centuries and the number of days of 36° or below during each month.

TEMPERATURES AT REPRESENTATIVE CLIMATOLOGICAL STATIONS

(Stations are arranged from north to south in three groups, viz., Coastal, Wheatbelt and Other Inland.)

Reporting Station and Characteristic.	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
COASTAL.													
<i>Wyndham</i> —													
Temperature :													
Mean max., °F.	95.9	95.5	95.3	94.7	90.1	85.8	85.0	88.5	93.5	96.9	98.5	97.6	93.1
Mean min., °F.	80.2	79.7	79.5	77.2	72.4	68.0	66.2	69.5	74.8	79.7	81.4	81.2	75.8
Highest max., °F.	113.5	108.3	108.0	104.6	102.4	97.5	96.0	102.0	106.0	110.2	111.6	111.0	113.5
Lowest min., °F.	67.2	62.0	65.0	63.5	55.2	50.0	48.0	56.0	60.1	65.0	62.0	62.0	48.0
Number of days 90° and over	29.2	25.6	29.1	26.3	20.2	11.7	13.4	24.1	29.5	30.6	29.3	29.0	304.0
Number of days 100° and over	17.3	12.3	15.6	7.2	0.7	0.0	0.0	0.4	4.3	16.8	21.9	18.3	114.8
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Broome</i> —													
Temperature :													
Mean max., °F.	91.3	91.8	93.1	93.3	88.0	82.5	81.8	85.0	88.8	90.5	92.7	93.2	89.3
Mean min., °F.	79.2	79.1	77.7	71.6	64.8	59.5	57.0	60.0	65.1	72.1	76.7	79.4	70.2
Highest max., °F.	111.5	108.8	107.0	107.0	101.0	96.9	94.0	100.5	103.5	108.6	111.0	112.7	112.7
Lowest min., °F.	68.0	59.0	55.0	54.0	45.1	43.6	40.2	43.0	49.0	52.8	61.8	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	20.0
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Port Hedland</i> —													
Temperature :													
Mean max., °F.	94.3	94.6	95.3	93.3	86.1	80.2	79.3	82.3	86.9	89.7	93.2	94.2	89.1
Mean min., °F.	79.4	79.1	77.6	71.2	63.7	57.9	55.6	58.4	62.5	68.1	73.5	77.5	68.7
Highest max., °F.	117.0	114.0	112.1	113.0	101.0	94.0	92.5	96.2	102.0	110.0	114.0	118.2	118.2
Lowest min., °F.	60.0	66.0	66.7	55.0	47.0	40.4	39.4	44.0	45.0	53.0	58.0	62.2	39.4
Number of days 90° and over	28.1	25.9	29.6	24.3	8.2	0.0	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
<i>Onslow</i> —													
Temperature :													
Mean max., °F.	96.4	96.4	95.4	91.9	84.3	78.0	77.3	80.0	85.1	88.9	93.5	95.4	88.5
Mean min., °F.	74.2	74.7	73.5	67.1	60.3	54.5	51.5	53.5	56.8	61.0	66.3	70.5	63.7
Highest max., °F.	117.8	116.6	115.6	110.9	101.0	89.6	90.2	95.6	101.0	112.2	115.0	117.0	117.8
Lowest min., °F.	60.5	61.9	58.4	50.0	42.0	37.3	37.5	40.0	41.9	45.4	50.0	54.5	37.3
Number of days 90° and over	25.8	24.1	27.8	16.7	2.8	0.1	0.0	0.8	5.2	13.3	19.1	25.2	180.9
Number of days 100° and over	9.1	7.0	8.8	1.5	0.0	0.0	0.0	0.0	0.2	2.0	5.7	9.8	44.1
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Carnarvon</i> —													
Temperature :													
Mean max., °F.	87.2	88.1	86.9	84.4	78.3	73.7	71.7	73.1	75.4	77.4	81.4	84.2	80.2
Mean min., °F.	72.1	72.4	71.6	65.8	58.8	54.0	51.6	53.4	57.2	61.1	65.8	69.2	62.7
Highest max., °F.	117.8	114.4	112.8	105.8	100.4	90.2	86.8	90.2	97.2	104.6	109.1	112.2	117.8
Lowest min., °F.	58.0	61.2	56.8	47.0	42.8	37.0	37.0	38.4	42.0	45.5	50.4	57.4	37.0
Number of days 90° and over	8.0	9.8	11.3	7.0	0.0	0.0	0.0	0.1	0.9	2.1	2.5	3.6	45.7
Number of days 100° and over	3.4	3.8	3.7	1.3	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.9	14.0
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Geraldton</i> —													
Temperature :													
Mean max., °F.	84.5	85.2	83.6	80.5	74.2	69.7	67.7	68.8	71.4	73.6	78.5	82.0	76.6
Mean min., °F.	66.3	66.5	65.0	60.9	56.9	53.8	51.7	52.1	53.0	55.4	60.0	63.4	58.7
Highest max., °F.	117.9	115.5	110.8	102.8	93.8	83.8	81.0	86.0	96.5	104.6	108.8	113.0	117.9
Lowest min., °F.	48.0	47.0	46.0	41.8	38.6	33.6	33.4	37.3	35.9	40.0	44.0	45.8	33.4
Number of days 90° and over	8.2	9.8	9.8	3.9	1.1	0.0	0.0	0.0	0.1	1.3	4.9	5.0	44.1
Number of days 100° and over	3.4	3.5	2.1	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.9	1.8	12.1
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.4
<i>Perth (Observatory)</i> —													
Temperature :													
Mean max., °F.	84.6	85.3	81.8	76.3	69.0	64.4	62.9	64.0	66.7	69.6	75.9	81.2	73.5
Mean min., °F.	63.2	63.6	61.4	57.3	52.6	49.7	48.0	48.3	50.1	52.4	56.7	60.5	55.3
Highest max., °F.	110.7	112.2	106.4	99.7	90.4	81.7	76.4	82.0	90.9	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	37.6	40.0	42.0	47.9	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
<i>Bunbury</i> —													
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	98.4	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	33.2	30.0	33.0	39.2	38.4	28.0
Number of days 90° and over	4.2	3.2	1.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.1	10.5
Number of days 100° and over	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Number of days 36° and under	0.0	0.0	0.0	0.0	0.1	0.4	0.3	0.2	0.3	0.3	0.0	0.0	1.6

TEMPERATURES AT REPRESENTATIVE CLIMATOLOGICAL STATIONS—*continued.*

Reporting Station and Characteristic.	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
COASTAL—<i>continued.</i>													
<i>Albany—</i>													
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.	106.0	112.6	105.4	99.6	85.3	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	35.5	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	0.0	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
WHEATBELT.													
<i>Carnamah—</i>													
Temperature :													
Mean max., °F.	95.7	95.5	89.4	82.3	72.2	67.2	64.2	67.0	71.6	77.9	85.3	90.8	79.9
Mean min., °F.	63.5	63.7	60.5	56.0	49.7	47.3	44.7	44.6	45.5	49.4	54.6	59.2	53.2
Highest max., °F.	114.0	111.0	110.0	99.0	86.4	79.0	82.0	85.0	91.0	98.0	104.0	108.0	114.0
Lowest min., °F.	49.0	52.0	44.1	43.0	36.0	32.0	36.0	35.0	34.0	37.0	43.0	44.0	32.0
Number of days 90° and over	23.8	22.2	18.7	6.5	0.0	0.0	0.0	0.0	0.6	3.5	8.8	16.8	100.9
Number of days 100° and over	12.2	9.4	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	5.9	33.4
Number of days 36° and under	0.0	0.0	0.0	0.0	0.1	0.5	0.8	0.8	0.3	0.0	0.0	0.0	2.5
<i>Wongan Hills—</i>													
Temperature :													
Mean max., °F.	92.7	90.4	87.9	78.4	67.2	62.4	60.4	61.9	68.6	73.5	80.2	85.6	75.7
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	108.9	108.5	92.9	86.6	72.8	76.3	79.6	86.5	99.1	101.0	111.6	112.0
Lowest min., °F.	47.9	49.3	45.4	37.1	35.7	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	0.1	0.2	1.7	13.9
Number of days 36° and under	0.0	0.0	0.0	0.0	0.2	0.8	2.5	2.7	1.1	0.0	0.0	0.0	7.3
<i>Kellerberrin—</i>													
Temperature :													
Mean max., °F.	93.0	92.3	86.4	79.1	69.3	63.4	61.3	64.0	70.2	76.1	85.0	90.5	77.5
Mean min., °F.	61.6	61.4	58.8	52.2	46.5	43.6	41.5	41.9	43.8	47.8	54.5	58.8	51.0
Highest max., °F.	115.0	116.0	112.0	102.6	96.0	80.4	76.0	82.6	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	27.6	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
<i>Wandering—</i>													
Temperature :													
Mean max., °F.	88.3	87.6	82.0	74.9	65.9	60.5	59.2	60.5	64.9	69.6	78.9	84.9	73.1
Mean min., °F.	56.5	55.9	53.6	47.5	43.6	40.5	39.0	39.3	41.4	43.8	48.9	53.5	47.0
Highest max., °F.	111.5	110.8	107.5	97.0	87.0	77.0	71.8	75.0	86.0	98.5	103.5	109.0	111.5
Lowest min., °F.	38.0	37.0	30.9	23.0	26.0	25.0	24.0	29.0	27.0	29.0	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
<i>Katanning—</i>													
Temperature :													
Mean max., °F.	86.0	85.1	79.3	73.2	64.7	59.7	57.9	59.5	64.1	68.8	77.6	82.8	71.6
Mean min., °F.	56.3	56.5	54.7	50.4	46.5	43.6	41.9	42.0	43.7	45.7	50.2	53.8	48.8
Highest max., °F.	110.9	112.3	107.0	96.2	88.4	75.3	71.0	88.0	97.0	100.0	106.0	110.0	112.3
Lowest min., °F.	41.0	37.9	35.0	33.0	30.0	28.3	25.0	28.1	29.8	31.0	35.0	37.6	25.0
Number of days 90° and over	12.3	7.5	5.3	1.1	0.0	0.0	0.0	0.0	0.0	0.3	2.0	5.9	34.4
Number of days 100° and over	2.6	1.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	5.2
Number of days 36° and under	0.0	0.0	0.0	0.2	1.8	3.6	4.4	4.5	2.8	1.1	0.2	0.0	18.6
OTHER INLAND.													
<i>Halls Creek—</i>													
Temperature :													
Mean max., °F.	97.6	97.0	95.6	92.3	85.7	80.6	80.1	85.9	92.7	98.3	100.5	99.5	92.2
Mean min., °F.	75.4	74.2	71.2	63.0	56.0	50.5	47.6	52.1	59.0	69.5	74.2	75.5	64.0
Highest max., °F.	111.3	110.8	107.6	103.8	99.0	95.0	93.2	100.0	104.3	109.0	110.6	111.6	111.8
Lowest min., °F.	60.0	54.0	51.8	45.0	36.4	32.4	30.0	32.8	37.0	48.0	53.0	53.8	30.0
Number of days 90° and over	28.5	24.8	29.1	22.7	9.5	0.8	1.3	7.3	23.2	29.2	29.7	29.0	235.1
Number of days 100° and over	17.8	8.5	9.6	1.6	0.0	0.0	0.0	0.0	0.7	12.7	17.6	19.2	87.7
Number of days 36° and under	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.0	0.0	0.0	0.0	0.0	1.1
<i>Marble Bar—</i>													
Temperature :													
Mean max., °F.	106.2	105.5	102.9	97.0	88.0	80.9	80.6	85.8	93.8	100.1	105.9	107.5	96.2
Mean min., °F.	73.9	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	118.0	120.5
Lowest min., °F.	66.2	67.0	59.6	52.0	42.0	34.0	37.5	38.0	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—continued.													
<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.	112.0	112.0	108.2	103.8	97.6	85.7	87.0	92.5	99.0	105.2	110.0	111.0	112.0
Lowest min., °F.	57.0	55.0	49.0	39.0	28.9	25.0	22.4	26.1	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.	112.3	114.1	110.4	104.2	94.4	85.0	81.0	89.0	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	32.0	32.0	34.0	40.2	43.0	53.6	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.	109.0	110.2	105.4	98.0	86.8	76.0	73.0	79.0	86.6	96.4	101.8	106.2	110.2
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.	101.9	105.0	102.0	92.0	80.0	72.0	67.4	76.4	82.0	88.0	98.2	100.0	105.0
Lowest min., °F.	42.0	40.0	40.0	35.0	34.0	33.0	27.0	30.5	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	42.0	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	80.6	81.0	87.0	96.0	102.3	110.6	113.0	115.0
Lowest min., °F.	47.1	48.0	41.6	35.7	34.6	31.0	30.0	28.9	31.6	33.4	38.2	46.0	28.9
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>Raulinna—</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	82.0	83.0	93.0	102.7	107.0	112.2	113.0	118.0
Lowest min., °F.	42.0	41.0	42.9	34.5	32.0	30.5	27.8	29.6	31.6	33.2	39.0	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

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-Western division 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 wheatbelt. Both winter and summer thunderstorms may be accompanied by tornadic squalls which, however, are infrequent.

INTERSTATE COMPARISONS

In general, humidity and rainfall are lower in Western Australia than in corresponding places in Eastern Australia. The following table shows rainfall, mean humidity and temperature for reporting stations at approximately the same latitude. The height above mean sea level is also included for each station.

INTERSTATE COMPARISONS—HEIGHT, 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.
Albany	41	28.75	8.87	76	73	55.8	64.3
Adelaide (S.A.)	140	14.42	6.87	64	45	56.5	69.6
Swan Hill (Vic.)	230	7.88	5.21	70	54	53.4	69.8
Canberra (A.C.T.)	1,837	11.85	11.45	72	61	47.5	64.0
Bunbury	17	29.96	5.01	77	70	57.0	67.5
Sydney (N.S.W.)	138	21.53	23.27	66	69	58.2	69.3
Perth	197	30.24	4.80	69	55	58.2	70.8
Newcastle (N.S.W.)	112	20.56	20.80	70	74	58.7	69.7
Kalgoorlie	1,247	5.16	4.53	58	48	58.0	74.5
Tarcoola (S.A.)	395	3.18	2.96	57	43	57.2	73.9
Cobar (N.S.W.)	822	5.88	6.73	59	46	56.3	75.2
Geraldton	13	16.04	2.39	67	62	62.3	73.0
Brisbane (Q.)	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 (Q.)	965	6.19	11.78	55	46	61.1	79.5
Carnarvon	15	6.48	2.00	63	63	65.5	77.4
Alice Springs (N.T.)	1,901	2.71	7.22	43	35	60.4	77.9
Bundaberg (Q.)	45	10.86	31.51	73	74	64.5	75.7
Mundibindi	1,840	2.74	8.28	39	30	63.0	82.4
Longreach (Q.)	612	3.92	11.02	50	50	65.7	82.3
Onslow	14	4.45	4.88	55	56	69.3	82.9
Mackay (Q.)	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 (Q.)	73	5.49	37.57	66	73	71.7	80.3
Derby	53	1.67	23.78	51	65	76.9	86.5
Innisfail (Q.)	22	35.88	103.27	85	85	69.7	78.1
Wyndham	23	1.13	25.51	43	59	80.9	88.0
Cooktown (Q.)	17	8.08	59.79	76	78	75.1	81.1

(a) Saturation = 100%.

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 the distinction of having more sunshine and a higher number of clear days during the year than any of the other Australian capitals. It also has the wettest Winter, the driest Summer, and is the windiest of all the capitals.

Details of its climate are shown in the following table:—

CLIMATOLOGICAL DATA—PERTH

(For other data re Rainfall and Temperature see preceding tables.)

Month.	Wind.				Temperature.				Relative Humidity (Saturation = 100%).		Sun-shine.	Cloud. (Proportion of Sky Covered)	Evapora-tion.
	Prevailing Direction.		Speed.		Highest in Sun.	Lowest on Grass.	Mean.	At 3 p.m.	Mean Daily Amount.	Mean of readings at 9 a.m., 3 p.m. and 5 p.m.	Mean Amount.		
	9 a.m.	3 p.m.	Average.	High-est.									
			m.p.h.	m.p.h.	°F.	Date.	°F.	Date.	%	%	hours.	%	inches.
January	E.	S.S.W.	10.9	49	177.3	22/1914	39.5	20/1925	53	43	10.4	29	10.37
February	E.N.E.	S.S.W.	10.4	50	173.7	4/1934	39.8	1/1913	52	43	9.8	31	8.63
March	E.	S.S.W.	9.7	66	167.0	19/1918	36.7	8/1903	57	46	8.8	35	7.52
April	E.N.E.	S.S.W.	8.3	61	157.0	8/1916	31.0	20/1914	60	48	7.5	42	4.62
May	N.E.	W.S.W.	7.9	73	146.0	4/1925	25.3	11/1914	68	58	5.7	54	2.80
June	N.	N.W.	8.1	80	135.5	9/1914	26.3	11/1937	72	63	4.8	59	1.82
July	N.N.E.	W.	8.4	73	133.2	13/1915	25.1	30/1920	73	63	5.4	56	1.76
August	N.	W.N.W.	8.7	77	145.1	29/1921	26.7	24/1935	71	60	6.0	56	2.37
September....	E.N.E.	S.S.W.	9.0	75	153.6	29/1916	29.2	21/1916	64	57	7.2	49	3.44
October	S.E.	S.W.	9.5	61	157.5	31/1936	29.8	16/1931	64	54	8.1	48	5.38
November	E.	S.W.	10.1	63	167.0	30/1925	35.5	(a)	57	47	9.6	39	7.65
December	E.	S.S.W.	10.5	64	168.8	11/1927	39.0	12/1920	54	46	10.4	32	9.69
Year—													
Average....	E.	S.S.W.	9.3	....	....	....	....	....	62	52	7.8	44	....
Extremes	....	....	....	80	177.3	22/1/14	25.1	30/7/20	....	....	....	....	....
Total ....	....	....	....	....	....	....	....	....	....	....	....	....	66.05

(a) Recorded on 6th November, 1910 and on 14th November, 1912.

PART 3—THE VEGETATION OF WESTERN AUSTRALIA

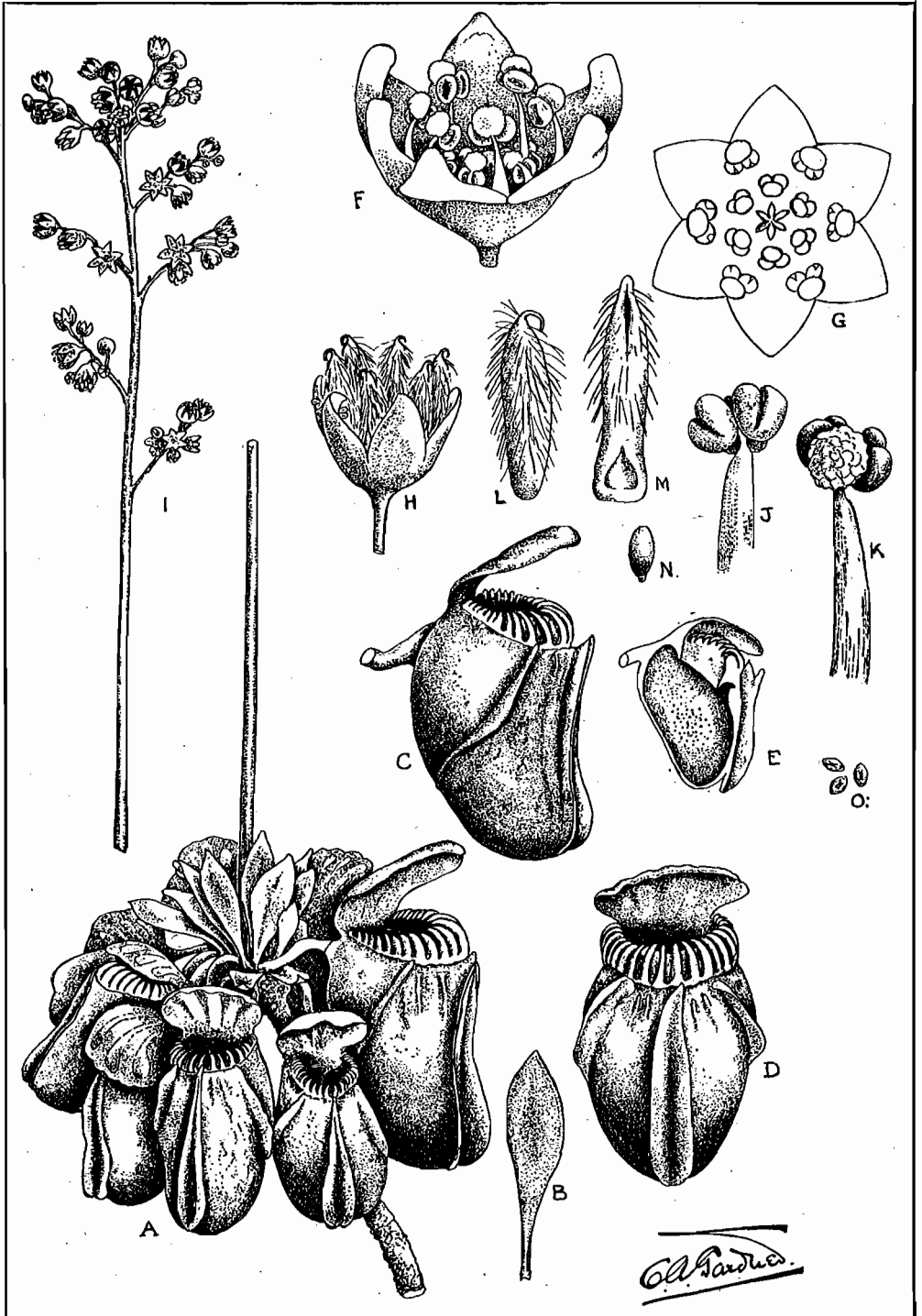
(Contributed by C. A. Gardner, Government Botanist.)

The flora of Western Australia comprises some 6,800 species. This figure excludes 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 (i.e. of plants which are entirely restricted to the area), of which the percentage is remarkably high—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 which serves 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 specialised 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, amongst 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, whilst 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 Asiatic 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 Asiatic 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; but 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 Asiatic or Euro-Asiatic 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; while in the featherflower and wax plant tribe (Chamaelaucaceae) 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 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



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.

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 Asiatic 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 preventing 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). Amongst 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 realise 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 entirely absent in some families, such as the Myrtaceae. Sometimes in one genus alone we get all the primary colours, and in this connection, 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* and the blue and green *L. acutiloba*, the former from Mt. Barren, and the latter from the moist places of the south coastal districts.

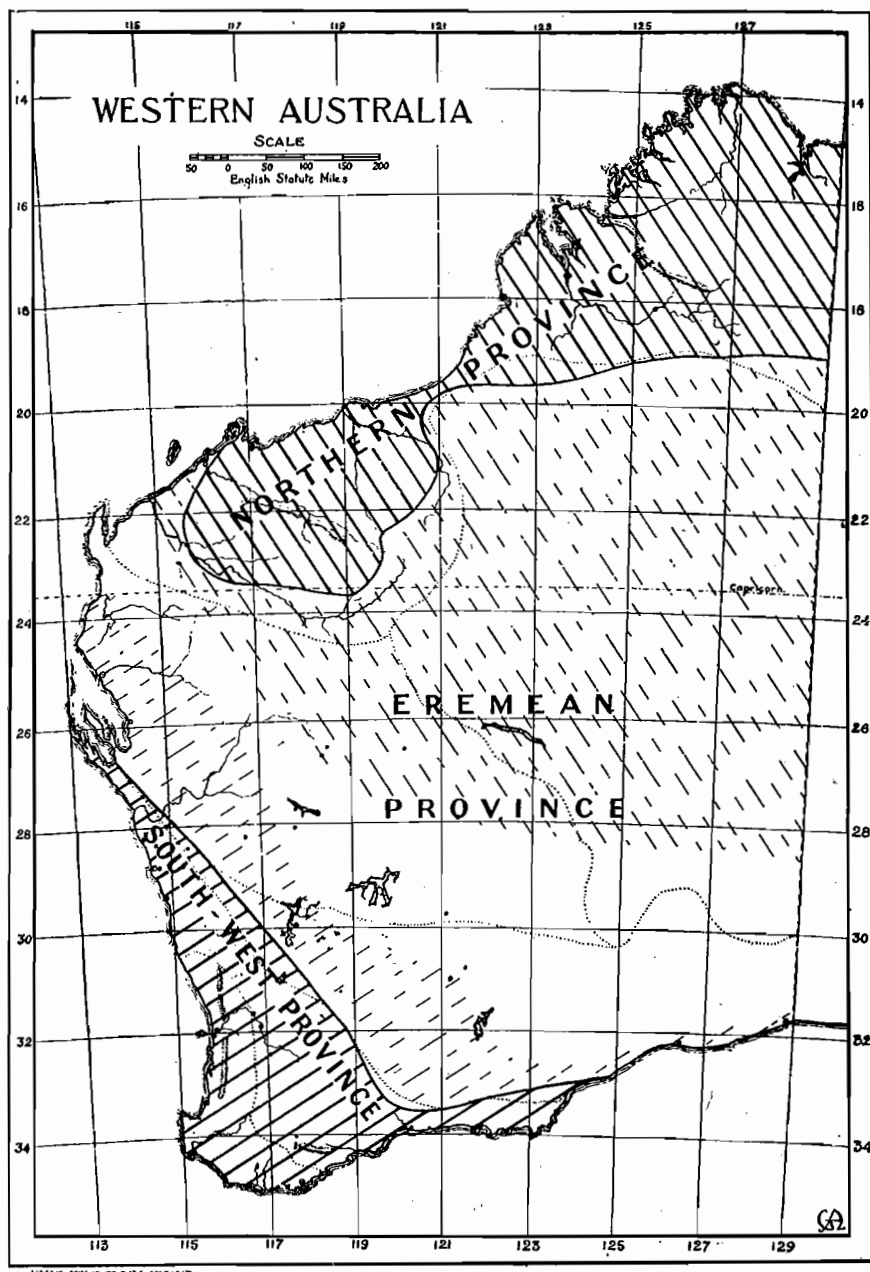
What is true of *Leschenaultia* is also true of many other genera, but nowhere do these colours occur so richly as they do in *Leschenaultia*, although in both Myrtaceae and Papilionaceae we have many charmingly coloured blossoms, in the former family mainly scarlet, orange and yellow; while yellow,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

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 (Boracaceae), typified by *Hibiscus*, the northern Baobab, the tropical Cotton trees and a few others. Otherwise size is achieved by condensed inflorescences—clusters or spikes of flowers in close proximity—whilst in a number of species, especially in Myrtaceae, the coloured and attractive features are not the petals, but the stamens, e.g., tea trees and bottlebrushes. The daisy family (Compositae) is generally regarded as the highest 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. Take the following:—the Qualup Bell with its related species known as Banjine or Rice-flowers, belonging to the Daphne family; the strange *Siegreidia* of the Boxthorn family from Starvation Boat Harbour; the handsome Mountain Bells of the Stirling Range and Mt. 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 specialised flora. It reaches its climax, as one would expect, in the most highly specialised 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 specialised 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 Ereman and the South-West Provinces. They are climatically characterised as follows:—



VEGETATION PROVINCES OF WESTERN AUSTRALIA

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

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, whilst 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 third Province, the Eremean, lies sandwiched between the other two, 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.

Vegetatively the Provinces may be summarized as follows:—

The Northern Province is essentially the savannah-steppe Province, that is, 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, and forests as such do not occur; mulga too is absent. Floristically the Province is characterised by the part played by the "Indo-Melanesian Element" in its constitution. In places this element may predominate to the extent that amongst the trees *Eucalyptus* plays a secondary role, and deciduous trees are prominent. The grotesque Baobab is common, together with various soft-wooded trees, while the herbaceous growth is rich in members of the *Hibiscus* family and several others. With the exception of the river bank and swamp formations, most herbaceous growth is either dead or resting during the winter months.

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

The Eremean Province is again intermediate. Floristically it is characterised by the "Australian Element," recruited from northern and southern influences, and those hardy species which have arisen in response to an adverse environment. Notably there is an increase in the spacing of plants due to root competition between neighbours; the result is a series of "open formations"—Mulga bush, consisting of leafless species of *Acacia* with resinous or stiff leaf-like phyllodes; a predominance amongst 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 closer-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

Eremaea—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

I. PREDOMINANTLY WOODY FORMATIONS

1. Forest formations

(i) *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 to 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 characterised 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*), *Banksia grandis*—the “Bull Banksia,” 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*, *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.

(ii) *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 Mt. 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



BLUE LESCHENAULTIA (*Leschenaultia biloba*)

[From block by courtesy of University of Western Australia Press]

relatively light. The smaller species of the under storey 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.

(iii) *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. They tend to form dense associations with an equally dense thicket-like undergrowth where light is admitted, and 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.

(iv) *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.

2. The Woodland formations

While the forest formations of the South-West Province possess each 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 two last named 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, e.g., salt bush (*Atriplex* spp.) blue bush, (*Kochia* spp.), etc. 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.

3. Shrub formations

(i) *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, amongst 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*).

(ii) *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, Mt. 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 foliated 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 cymorum*), *Velleia rosea* and a wealth of everlasting. The formation lies entirely within the Ereman Province, and occupies the greater part of it.

(iii) *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, e.g., 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.

(iv) *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 cordunata*). 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 chrysosdendron*) 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.

(v) *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 are to be found in the lower reaches of the Prince Regent River, sometimes miles in extent, composed of trees attaining a height of forty or more feet. 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.

II. 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: first the alluvial formations, characterised 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 characterised 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 utilising *Casuarina* for paper making have yet to be explored, but there may be a field for development of an industry here, especially with the quicker 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, but notwithstanding this, the gum is valuable, and under 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 from the timber of the Wandoo tree on a commercial scale. The mangrove species also offer opportunities in this connection.

The principal cabinet woods are found in the Kimberley district, especially the ebony (*Maba humilis*), the Leichardt tree, and the Red Ash, to mention a few, but these are only likely to be developed 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.

Amongst the drug plants, special mention should be made of Eucalyptus oil. No industry exists here today, despite the fact that we possess a variety, *viz.*, *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 enquiries 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 connection 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 so.

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

These are a few aspects of the economic value of the Western Australian flora. In the future doubtless fresh materials will 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 it 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 L. Glauert, Director of W.A. Museum.)

With the shift of the climatic belts many thousands of years ago, during what is popularly known as the "Great Ice Age" when much of the Northern Hemisphere was covered with ice and snow, conditions in Australia differed considerably from those experienced today. The climate was somewhat cooler and there was an abundant rainfall, there were extensive freshwater lakes in the interior and the whole of the continent was covered with rich vegetation, enabling such huge herbivorous marsupials as the Diprotodon and the Nototherium to roam the country-side in large numbers. We know that the Diprotodon existed in the Kimberleys, the North-West, the Eastern Goldfields and the Balladonia district, whilst remains of the Nototherium are common in the bone breccia of the Mammoth cave in the lower South-West.

Further, certain smaller southern types of herbivorous marsupials ranged as far north as Shark Bay, the lower sea-level of those days enabling them to reach both Dorre and Bernier Islands, where some of them have managed to survive in spite of altered conditions.

It was owing to the former lower level of the ocean that so many members of our island fauna managed to reach the islands where they exist to-day. This explains the presence of the Tammar on the Abrolhos and Garden Island, the Quokka on Rottnest Island and the various Wallabies on certain islands off our south coast, as well as reptiles, frogs and many land invertebrates to whom the sea is an insuperable barrier.

During those pleasant times there were no restrictions to the distribution of species and no doubt many were common to both eastern and western Australia; the Koala and the Wombat ranged as far as our west coast and the Tasmanian Wolf and Devil were familiar members of our fauna, leaving their remains in caves, lakes and swamps.

But the conditions were not permanent; slowly the rainfall decreased, the water in the lakes became mineralized and eventually disappeared as permanent waters, their margins becoming death traps for the creatures that endeavoured to reach the water.

As the dessication proceeded the surviving species were forced towards the coast unless they were able to adapt themselves to the change. They thus became cut off from their relatives in the East.

Today many of our forms have evolved differences as a result of which specialists can recognise distinct western sub-species, species, and in one or two cases even genera.

In the south the link is with south-eastern Australia and in our North-West with the Kimberleys.

FAUNA ASSEMBLAGES

A glance at the composition of the fauna of the State, though our knowledge is still far from perfect, reveals the fact that it may be divided into three main assemblages:—

- (1) The NORTHERN, closely related to that of the Northern Territory of which it is actually a part (there are several indications that this at one time extended as far west and south as the Fortescue River and the Hammersley Range).
- (2) The vast encroaching EREMEAN, which covers most of the interior, reaching the coast at the Eighty Mile Beach in the north and the shore of the Great Australian Bight in the south. Advance guards have penetrated into the Kimberleys, reached the north-west coast and can be recognised even in the fauna of the South-West.
- (3) The SOUTH-WESTERN, whose distribution is more or less confined to the higher rainfall area west of the 20 inch isohyet, though the more hardy species manage to range as far inland as Southern Cross and Salmon Gums.

The fauna of the South-West is the most interesting, because it is the most truly Australian, having suffered less from contamination by foreign invaders. At the same time intense specialization has developed in certain types, which suggests a long period of separation from the East. This is illustrated by two monotypic genera; the Noolbenger or Honey mouse (*Tarsipes spenserae*), the smallest of our Phalangerids which has no close relatives either within or without this State; and another marsupial, a small wallaby called the Quokka (*Setonix brachyurus*), once common in the swamps of the South-West and now practically confined to Rottnest Island where it is reasonably abundant. Basing his opinion upon the nature of the dentition, Prof. F. Wood Jones would link this remarkable macropod with the Tree Kangaroo of Queensland and New Guinea.

Species of genera also represented in the East include the Western Grey Kangaroo, the Brush Wallaby, the Western Ringtail Possum, the Mundarda or Pigmy Possum, the Dunnarts and the Red-tailed Wambenger or Ballard. The attractive aberrant Numbat or Banded Anteater and the Echidna, which still survive in parts of the South-West, are also to be found in the Ereamea.

The birds of the South-West include but one genus peculiar to the area, the monotypic W.A. King Parrot (*Purpureicephalus*) whose exact relationship is still a matter of dispute. Another genus, the Ring-necked Parrot (*Barnardius*), is an excellent illustration of what biologists term a "cline." This bird ranges from the lower South-West, where it is represented by the greenish "Twenty-eight," to the North-West, where it seems to be an entirely different bird, yet if we arrange a series of skins from these and intervening localities it is very difficult to draw any lines of separation between well recognised forms.

Of rarities there are several: the Noisy Scrub Bird (*Atrichornis clamosus*), now considered to be extinct, the very rare Ground Parrot (*Pezoporus wallicus*), the Western Bristle Bird (*Dasyornis brachypterus longirostris*), the Bristle Bird (*Dasyornis broadbenti litoralis*) and the Black-throated Whip Bird (*Psophodes nigrogularis*), which have their nearest relatives in south-eastern Australia.

It is pleasing to be able to report that our white-tailed Black Cockatoo (*Calyptorhynchus baudinii*) is more than holding its own, even in the vicinity of Perth. The rest of the bird fauna is either identical with Eastern States species or differs sufficiently to be accorded sub-specific or even specific rank.

Among the Reptiles, whose powers of dispersal are less efficient than those of birds, there are more local forms which are confined to the area. There are no endemic Blind Snakes (*Typhlops*, spp.) and there are no Pythons peculiar to the South-West, but when we turn to the Elapine snakes we find several which do not occur outside south-western Australia. The Western Tiger Snake (*Notechis scutatus occidentalis*) is endemic and so also are Mueller's Snake (*Rhinophiocephalus bicolor*) the little Brown Snake (*Elapognathus minor*) and the Black-striped Snake (*Vermicella calonota*), which is confined to the vicinity of Perth. Several others range into the Ereamea to a greater or lesser extent.

Our lizards have few endemic species, the most interesting being the Slender Snake Lizard (*Pletholax gracilis*), one of our rarest species, of which few individuals are known. The most recently discovered specimens were found in the stomach of a Western magpie. A number of Lizards extend their range into the western Ereamea.

The Western Swamp Tortoise (*Chelodina oblonga*) is confined to the rivers of the South-West from the vicinity of Moora to Albany in the south. Inland it is found in the rivers of the Avon system and others that flow into the Indian Ocean and the Southern Ocean west of Albany. The rare Swan River Tortoise (*Pseudemidura umbrina*) occurs only in the Swan River near Upper Swan.

Limited more or less by atmospheric conditions are the frogs, which nevertheless show some remarkable adaptations. The curious Whiteant-eater (*Myobatrachus gouldii*) seems to be entirely terrestrial, its toes are not webbed and it is unable to swim. It is assumed, also, that the eggs develop inside the parent body and are not laid in water. Of equal interest, if not more so, is the little frog known as Nicholl's Toadlet (*Metacrinia nicholli*) which is often found in the nest of the Bull Ant (*Myrmecia regularis*) where it is a welcome guest. This little frog makes a nest under a stone or log like Guenther's Toadlet (*Pseudophryne guentheri*), remaining there to protect it, but whereas the eggs of Guenther's Toadlet have to hatch in water those of the Nicholl's species appear to develop in the nest and not in water as is normal. This curious habit was noticed by an American collector, W. S. Brooks, who wrote "the eggs are large and develop directly, without a tadpole stage."

Western Australia seems to be the headquarters of the burrowing frogs of the genus *Heleioporus*, as of the ten known species occurring in this State six are confined to the South-West or practically so. Froglets of the genus *Crinia* are common near permanent fresh water, no less than four being peculiar to the South-West.

Another large burrowing frog (*Limnodynastes*) with eight species, which is dependant upon water for the development of the Tadpole stage, has only one form, a sub-species of *Limnodynastes dorsalis*, included in the South-Western fauna. It would appear that this is a fairly recent arrival from the headquarters in the East.

Only one of the known Australian Tree Frogs (*Hyla cyclorhynchus*) is peculiar to the area. It was at one time regarded as a sub-species of *Hyla aurea*, which also occurs in the South-West, but was granted full specific rank by H. W. Parker a few years ago.

True Toads are entirely absent.

The fresh water systems of the area are noted for the paucity of their fish fauna. One species with a wide range, the Night Fish or Mud Fish (*Bostockia porosa*), has no close relations anywhere. It is fairly plentiful but not often seen because of its nocturnal habits. The W.A. Minnow (*Galaxias occidentalis*) is confined to the South-West, whilst a second, the so-called Mountain Trout (*Galaxias truttaceus hesperius*), is merely a variety of a well-known Eastern fish. Other local species are the Freshwater Cobbler (*Tandanus bostocki*), the Hardy Head (*Graterocephalus edelensis*), the King River Perchlet (*Nannatherina balstoni*) and the pretty little Pigmy Perch (*Edelia vittata*).

Many of the rivers abound with fresh water crayfish; one, the fine Marron (*Cheraps tenuimanus*), rivals the marine "Crayfish" in size, while the other two, *Cheraps bicarinatus* (the Koonak) and *Cheraps quinquecarinatus* (the Gilgie), are much smaller but quite as tasty. The small prawn (*Palaemonetes australis*) and several species of the remarkable Isopod *Phreatoicus* (s.l.) are the food of introduced game fish, of which several species now thrive in the permanent rivers. The fresh-water mussel, *Westralunio ambiguus*, and the Gastropods (*Plotiopsis incerta*), several species of *Coxiella* as well as a number of *Lenameries* are related to others in the Eastern States. The fresh-water sponge (*Ephydatia multiformis*) has been found to flourish in several of the lakes on the Coastal Plain near Perth.

Among the land mollusca the genus *Bothriembryon* deserves special mention, as one of its species (*dux*) may grow to a height of nearly 2½ inches (60 m.m.). Western Australia is the headquarters of this genus, only three species having as yet been found to exist outside the boundary of this State.

That remarkable invertebrate *Peripatoides occidentalis*, whose exact position in the Animal Kingdom is still a matter of discussion, has been found in the Darling Range near Perth and in several localities to the south. Scorpions are well-known members of the fauna; the two species of *Cercophonium* represent a family, the Bothriuridae, whose range is restricted to Southern Australia, Tasmania and South America. Another scorpion (*Urodacus novae-hollandiae*) is the south-western species of a genus ranging throughout Australia but whose headquarters are in this State, the home of most of the recognised species.

The remaining assemblages, the NORTHERN and the EREMEAN, being intimately connected with Eastern Australia, have few characteristic species. Outstanding is the curious Long-tailed Dunnart (*Sminthopsis longicaudata*) with a tail more than twice as long as the head and body. An inhabitant of the North-West, the Golden Bandicoot (*Isodon auratus*), the Rothschild's Rock Wallaby (*Petrogale rothschildi*), the Barrow Island Wallaroo (*Osphranter isabellinus*) and Bligh's Phascogale (*Dasygaleus blighi*) complete the list. Whether the Western Marsupial Mole (*Notoryctes caurinus*) is actually distinct from the Central Australian *N. typhlops* is open to dispute, as its different coloration may be due to the fact that the "type" was preserved in whisky by the finder. The Scaly-tailed Possum (*Wyulda squamicaudata*), a remarkable Phalangerid, is widely distributed in East and West Kimberley but it is rarely seen.

It would seem that the only birds given full rank are the Black Grass Wren (*Amytornis housei*), peculiar to the Kimberley area, and the Western Shrike Thrush (*Colluricincla rufiventris*) of the Erema.

The snakes of the Kimberley have never been collected in any systematic manner, so may eventually produce forms peculiar to the area. In the Erema, which is better known, there is one endemic species, Rosen's Snake (*Denisonia fasciata*), whilst two south-western forms, the Black-naped Snake (*Vermicella bimaculata*), and the Bardick (*Brachyaspis curta*) have been collected as far inland as Kalgoorlie.

When the lizards of the regions are better known there is no doubt that species peculiar to them will be found. It is known that the Murchison River Tortoise (*Chelodina steindachneri*) ranges from the Murchison to the DeGrey and inland as far as Lake Way in the neighborhood of Wiluna.

Space does not permit the many interesting amphibians to be dealt with in detail. The small Hylid, *Hyla rubella* which ranges from the Murchison to the Kimberley, has the habit of turning up in most unexpected places; and the little Russell's Toadlet (*Glauertia russelli*) has on the other hand been recorded only from Landor Station on the Gascoyne.

The Spangled Perch (*Terapon unicolor*) is found throughout the regions, but the remarkable little Blind Gudgeon (*Milyeringa veritas*) is known only from several wells in the North-West. Eels, which are absent in the South-West, are represented in the northern and north-western rivers by the species *Anquilla bicolor*. The remarkable affinity of many of the fish found in the Fitzroy and other northern rivers has often been the subject of speculation and discussion.

Much has still to be learnt concerning the invertebrates of these regions, which have as yet not been the subject of systematic investigation.

PART 5—ENTOMOLOGY IN WESTERN AUSTRALIA

WITH PARTICULAR REFERENCE TO AGRICULTURE

(Contributed by C. F. H. Jenkins, 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 Kimberleys 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 Western Australia about 1910 from the Eastern States. 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 utilised for wheat growing have now reverted to grazing, these uncultivated tracts periodically give rise to serious grasshopper swarms, which menace the adjacent wheat lands. The Australian Plague Locust (*Chortoicetes terminifera*) so troublesome in the Eastern States occurs in Western Australia but not as a plague species. In the Kimberley districts 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 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, their colouring harmonises 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 only occur and amongst 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 *Eutermes triodiae* are characteristic of certain landscapes in the pastoral areas.

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, *Microphanus 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.

One native aphis (*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. Numerous introduced species occur as pests on vegetables, garden plants and fruit trees, e.g., *Myzus persicae* (peaches, potatoes, etc.), *Toxoptera aurantii* (citrus), *Brevicoryne brassicae* (cabbages, cauliflowers, etc.), *Eriosoma lanigerum* (Woolly Aphis of apples).

Amongst the native coccids the gall-forming members of the genus *Apiomorpha* are amongst 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*).

Citrus Red Scale (*Aonidiella aurantii*).

Olive Scale (*Saissetia oleae*).

African Wax Scale (*Ceroplastes destructor*).

Soft Brown Scale (*Coccus hesperidum*).

ORDER COLEOPTERA (Beetles)

This order is the dominant one amongst existing insects and is represented by many and varied forms in Western Australia. 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. Amongst 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 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.

The Cockchafers or Scarabs (Scarabaeidae) are represented by a great diversity of forms. Several species may swarm onto 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 areas. It is also growing in importance as a pest of vegetables in certain areas.

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.

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 the Commonwealth from the South of France and liberated in Victoria with very satisfactory results. The local colonies were obtained from the latter source and have carried over several seasons; their control effects upon the weed, however, cannot yet be fairly estimated.

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 specialised group characterised by the presence of a rostrum or "snout" which bears the mouth and antennae. The genus *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 limaxina*) 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. Amongst 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*), common in the Metropolitan Area and Albany, and the Singapore Ant (*Monomorium destructor*) with a much wider distribution.

A five year control scheme against the Argentine Ant based upon an annual expenditure of £105,000 was inaugurated in 1954. The Scheme involves the spraying with dieldrin of all known infested areas, which are estimated to cover approximately 40 square miles.

The Social Wasps (Vespidae) were, until recently, known only from the northern portion of the State. In recent years, however, colonies of *Polistes variabilis* have been located in various parts of the suburban area, although 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 Wasps the black and white *Ephutomorpha cribricollis* is the best known.

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* has assisted 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.

Of the many useful flies may be mentioned the Blowfly-like Tachinids which parasitise caterpillars, grasshoppers and other pests and the Bee Flies (Bombyliidae) which parasitise the eggs of other insects. The maggots of the Bombylid Fly (*Cyrtomorphia 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 cheopsis*), the Human Flea (*Pulex irritans*) and the Cat and Dog Fleas (*Ctenocephalides felis* and *C. canis*) are amongst 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 and grass pastures. It is controlled by planting on clean fallow, but the recent trend towards reduced fallowing for soil conservation reasons has increased the hazard from this insect.

A family of considerable interest to the orchardist is the Eucosmidae, for to this group belongs the Codling Moth (*Cydia pomonella*). Outbreaks of the pest 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 (*Euxoa rufans*) 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 (*Orthreis materna*) also belongs to this group and causes heavy losses in citrus fruit grown around pastoral homesteads.

Other common moth pests are the Cabbage Moth (*Plutella maculipennis*), the Potato Moth (*Gnori-moschema operculella*) and the Apple Looper (*Chlorochystis 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 (*Lycenidae*) 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 local Caper White (*Belenois java*) has been observed to carry out mass migrations of remarkable proportions on the eastern side of the continent.

In almost all cases where moths and butterflies are regarded as pests, it is only the earlier (larval) stage which is destructive. The Orange Piercing Moth, however, has a rasp-like proboscis capable of piercing orange and other fruit skins and then sucking up the juice. Fortunately the creatures do not normally range to the citrus areas of the South-West.

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

Creatures grouped under the above heading are, of course, not true insects and will only be dealt with 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 recognised by the conspicuous red streak down the centre of the abdomen.

Scorpions of various kinds are widely distributed over the State and the larger ones may be able to inflict a painful sting. There are few, if any, records however of serious results following a scorpion "bite" and, generally speaking, the group is of little local importance.

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 1898-99 Year Book 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 50 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 "Fauna Sudwest Australiens" by Michaelsen & 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.

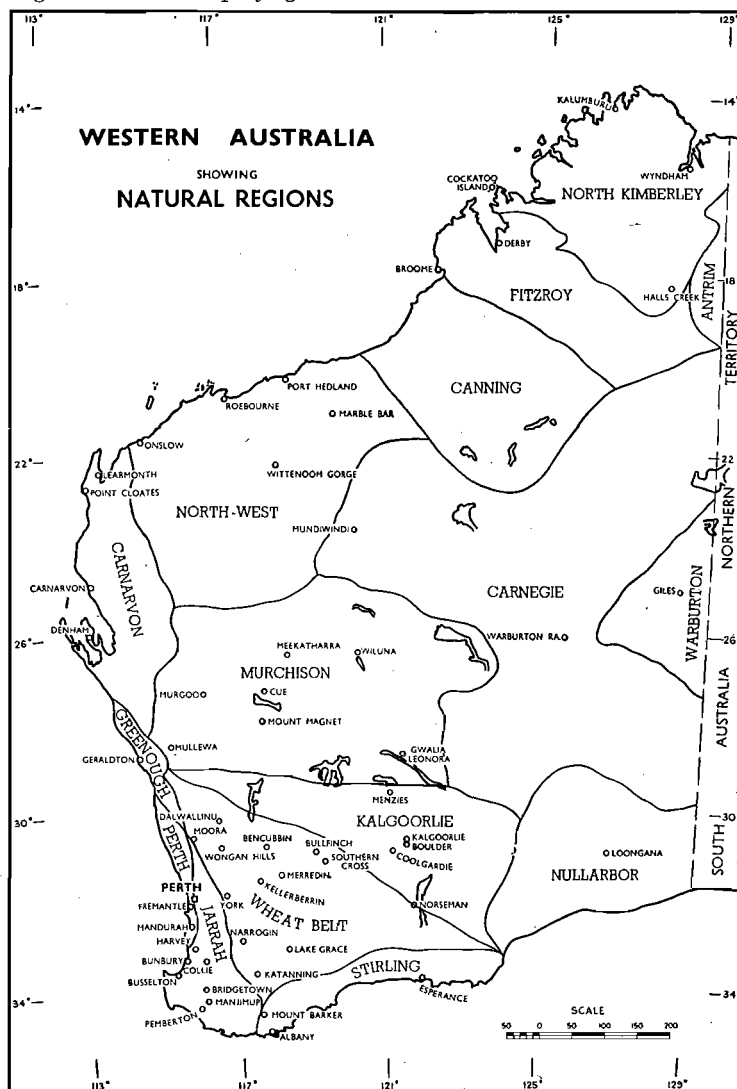
CHAPTER II — continued

PART 6 — NATURAL REGIONS

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



NATURAL REGIONS OF WESTERN AUSTRALIA

(after E. de C. Clarke, *Jour. Roy. Soc. of West. Aust., vol. XXII*)

CHARACTERISTICS OF THE NATURAL REGIONS OF WESTERN AUSTRALIA

NATURAL REGION.	TOPOGRAPHY.	GEOLOGY.	RAINFALL.	WATER SUPPLY.†	VEGETATION, ETC.
ANTRIM (geographic)	Tableland	Cambrian sediments and lavas	Summer, monsoonal 20 in. to 40 in.	Catchments, wells and artesian	Grassland and savannah
NORTH KIMBERLEY (geographic)	Dissected stony tableland	Younger Pre-Cambrian	Summer, monsoonal 30 in. or more	Streams, springs, catchments	Luxuriant in valleys, sparse on tableland
FITZROY (chief river)	Very wide valleys and low hills	Palaeozoic (largely Permian)	Summer, monsoonal 20 in. to 30 in.	Catchments and artesian	Grassland and savannah
CANNING ... (A. W. Canning, surveyor and explorer)	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 ... (David Carnegie, explorer)	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 (Warburton Range)	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 (common usage)	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 (common usage)	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 "green-stones"	Winter, reliable, 10 in. to 20 in.	Similar to Kalgoorlie Region, but ground water potable in many places; therefore wells frequent	Eucalypt forest — Salmon Gum, Gimlet, and Morrel
JARRAH (chief timber)	More dissected than Wheat Belt Region, especially near Darling Scarp	Like Wheat Belt Region but there is an extensive outcrop of laterite	Winter, reliable, 25 in. to 40 in.	Streams and springs	Forest of Jarrah (<i>E. marginata</i>), Wandoo (<i>E. rediviva</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 Territories, constitute the Commonwealth of Australia. Thus the State has two parliamentary systems and two forms of executive government (Commonwealth and State) operating side by side. In addition there is an extensive system of local government through Municipal Councils and Road District Boards. These systems are briefly outlined under their respective titles in the following pages.

Australian parliamentary procedure in both Commonwealth and State legislatures is based on the British practice and in the field of executive government the British Cabinet system has also been adopted. The members of the Cabinets must hold seats in the respective legislatures as elected members and they are collectively responsible for the government of the country to the popularly-elected "Lower" House, *i.e.*, the House of Representatives in the case of the Commonwealth and Legislative Assembly in the case of the State. Cabinet continues in office only while it holds the confidence of Parliament. In effect, though not in form, because of the fact that all Cabinet Ministers are members of the Executive Council (the supreme group of advisers to the Crown) the Cabinet is the dominant element in the executive government of the country.

CONSTITUTIONAL HISTORY

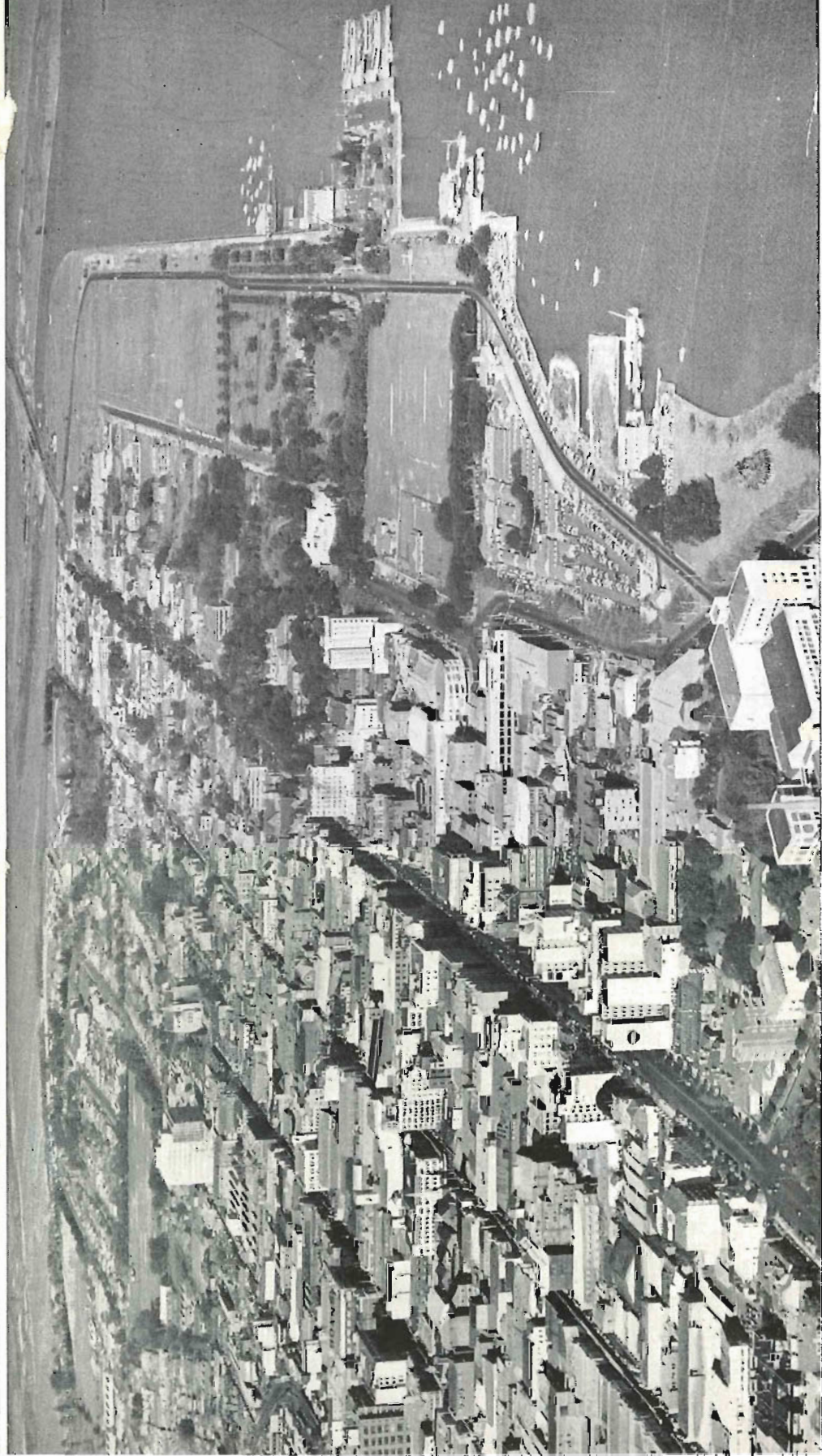
A Legislative Council was established in Western Australia shortly after the State's foundation as a Crown Colony. The Council was non-elective and consisted of the Governor and four senior officials. Some ten years later the membership was increased by the appointment of four non-official members—*i.e.*, persons not otherwise holding office under the Crown. Having been nominated by the Governor these members took their seats on the Council in March, 1839 and during succeeding years a small number of members was popularly elected from a list which had first to receive the Governor's approval. A two-thirds elected Legislative Council was provided for under an Imperial Act of 1850 but no advantage was taken of the Act until 1870 when 12 members were added by election. The Council then consisted of 18 members, six being nominated.

During the next 20 years several increases were made in both nominated and elected representation. In 1890, by the Constitution Act of 1889 which was virtually an enabling Imperial enactment, full self-government became effective in the Colony and provision was made for two Houses of Parliament, the Legislative Council and the Legislative Assembly, to replace the old Council. No change has been made in the numbers of members since 1899 when they were increased by the Constitution Acts Amendment Act of that year to 30 for the Legislative Council and 50 for the Legislative Assembly.

On 1st January, 1901, Western Australia and the five other States were federated under the name of the Commonwealth of Australia. Authority for this union derived from an enactment of the British Parliament in 1900 entitled the "Commonwealth of Australia Constitution Act."

VICE-REGAL REPRESENTATION

Under the Commonwealth Constitution ultimate executive power is vested in the Crown and is exercisable by the Governor-General as the direct representative of Her Majesty the Queen. Appointments to this Vice-Regal office are made by the Crown after consultation with the Prime Minister of the Commonwealth. The present Governor-General is Field-Marshal Sir William Joseph Slim, G.C.B., G.C.M.G., G.C.V.O., G.B.E., D.S.O., M.C., K.St.J. Similarly, in the State sphere of government, Vice-Regal authority is vested in the Governor of the State, at present Lieut-General Sir Charles Gairdner, K.C.M.G., K.C.V.O., C.B., C.B.E. During any absence of the Governor-General the senior State Governor usually acts as Administrator of the Commonwealth. In Western Australia, in the absence of the Governor, the Vice-Regal duties are performed by a Lieutenant-Governor or an Administrator. The present Lieutenant-Governor is the Chief Justice of the State.



CITY OF PERTH—AERIAL VIEW LOOKING EAST

The Governors and Administrators of Western Australia since the foundation of the Colony have been as follow :—

Name.	From.
Captain J. Stirling, R.N., Lieut-Governor, ....	.... (a) 30th Dec., 1828.
Captain F. C. Irwin, Lieut-Governor ....	.... Sept., 1832.
Captain R. Daniell, Lieut.-Governor ....	.... 14th Sept., 1833.
Captain P. Beete, Lieut.-Governor ....	.... 11th May, 1834.
Captain R. Daniell, Lieut.-Governor ....	.... 24th May, 1834.
Captain Sir James Stirling, Governor ....	.... 19th Sept., 1834.
John Hutt, Esq., Governor ....	.... 3rd Jan., 1839.
Lieut-Colonel A. Clarke, K. H., Governor ....	.... 27th Jan., 1846.
Lieut-Colonel F. C. Irwin, Governor ....	.... 12th Feb., 1847.
Captain C. Fitzgerald, R.N., Governor ....	.... 12th Aug., 1848.
A. E. Kennedy, Esq., Governor ....	.... 23rd July, 1855.
Lieut-Colonel Jno. Bruce, Acting Governor ....	.... 20th Feb., 1862.
J. S. Hampton, Esq., Governor ....	.... 28th Feb., 1862.
Lieut-Colonel Jno. Bruce, Acting Governor ....	.... 2nd Nov., 1868.
F. A. Weld, Esq., Governor ....	.... 30th Sept., 1869.
W. C. F. Robinson, Esq., C.M.G., Governor ....	.... 11th Jan., 1875.
Lieut-Colonel E. D. Harvest, Acting Governor ....	.... 7th Sept., 1877.
†Major-General Sir Harry St. G. Ord, R.E., K.C.M.G., C.B., Lieut.-Governor ....	.... 12th Nov., 1877.
Sir W. C. F. Robinson, K.C.M.G., Governor ....	.... 10th April, 1880.
H. T. Wrenfordsley, Esq., Administrator ....	.... 14th Feb., 1883.
Sir F. N. Broome, K.C.M.G., Governor ....	.... 2nd June, 1883.
A. C. Onslow, Esq., Administrator ....	.... 13th Nov., 1884.
Sir F. N. Broome, K.C.M.G., Governor ....	.... 18th June, 1885.
Sir Malcolm Fraser, K.C.M.G., Administrator ....	.... 21st Dec., 1889.
Sir W. C. F. Robinson, G.C.M.G., Governor ....	.... 20th Oct., 1890.
A. C. Onslow, Esq., Administrator ....	.... 21st Sept., 1891.
Sir W. C. F. Robinson, G.C.M.G., Governor ....	.... 9th July, 1892.
Sir A. C. Onslow, Kt., Administrator ....	.... 18th Mar., 1895.
Sir Gerard Smith, K.C.M.G., Governor ....	.... 23rd Dec., 1895.
Sir A. C. Onslow, Kt., Administrator ....	.... 23rd Mar., 1900.
Edward A. Stone, Esq., Administrator ....	.... 4th Mar., 1901.
Hon. Sir A. Lawley, K.C.M.G., Governor ....	.... 1st May, 1901.
Sir E. A. Stone, Kt., Administrator ....	.... 14th Aug., 1902.
Admiral Sir F. G. D. Bedford, G.C.B., Governor ....	.... 24th Mar., 1903.
Sir E. A. Stone, Kt., Administrator ....	.... 23rd April, 1909.
Sir G. Strickland, K.C.M.G., Governor ....	.... 31st May, 1909.
Sir E. A. Stone, K.C.M.G., Lieut.-Governor ....	.... 4th Mar., 1913.
Major-General Sir H. Barron, K.C.M.G., Governor ....	.... 17th Mar., 1913.
Sir E. A. Stone, K.C.M.G., Lieut.-Governor ....	.... 27th Feb., 1917.
Rt. Hon. Sir W. G. Ellison-Macartney, P.C., K.C.M.G., Governor ....	.... 9th April, 1917.
Sir F. A. Newdigate-Newdigate, K.C.M.G., Governor ....	.... 9th April, 1920.
Sir R. F. McMillan, Kt., Administrator ....	.... 3rd April, 1922.
Sir F. A. Newdigate-Newdigate, K.C.M.G., Governor ....	.... 15th Dec., 1922.
Sir R. F. McMillan, Kt., Lieut.-Governor ....	.... 17th June, 1924.
Colonel Sir W. R. Camplin, K.C.M.G., Governor ....	.... 28th Oct., 1924.
Sir R. F. McMillan, K.C.M.G., Lieut.-Governor ....	.... 7th Jan., 1929.
Colonel Sir W. R. Camplin, K.C.M.G., Governor ....	.... 7th May, 1929.
Sir J. A. Northmore, K.C.M.G., Administrator ....	.... 9th June, 1931.
Sir J. A. Northmore, K.C.M.G., Lieut.-Governor ....	.... 30th June, 1932.
Sir James Mitchell, K.C.M.G., Lieut.-Governor ....	.... 11th July, 1933.
Sir James Mitchell, G.C.M.G., Governor ....	.... 4th Nov., 1948.
Hon. Sir John Dwyer, K.C.M.G., Administrator ....	.... 2nd July, 1951.
Lieut.-General Sir Charles Gardner, K.C.M.G., K.C.V.O., C.B., C.B.E., Governor ....	.... 6th Nov., 1951.

(a) Letter of Appointment issued 30th December, 1828 ; first Commission granted, 4th March, 1831, from which date he became Governor and Commander-in-Chief.

† Appointed Governor and Commander-in-Chief, 30th January, 1878.

FEDERAL PARLIAMENT AND EXECUTIVE GOVERNMENT

Parliamentary System

As determined by the Commonwealth of Australia Constitution Act of 1900, the legislative power of the Commonwealth is vested in a Federal Parliament which consists of Her Majesty the Queen (through her Vice-Regal representative), a Senate and a House of Representatives. The Senate is composed

of 60 Senators, 10 for each State, directly chosen by the people of the State. It was designed as a House of Review and a "States House" with a mission to watch the interests of the State partners of Federation. The House of Representatives is composed of 124 members (including two members for the internal territories) there being, as nearly as practicable, twice the number of the Senators. This House introduces most of the legislation and controls the Treasury. State representation is determined on a population basis and at present Western Australia has nine members. Adult suffrage applies to elections for both the Senate and the House of Representatives; the system of voting is proportional representation for the former and preferential for the latter. Voting is compulsory.

The Senators representing Western Australia on 31st December, 1956, were as follow :—

Cooke, J. A.
Fraser, Hon. J. M.,
Harris, J.
Paltridge, Hon. S. D.
Robertson, Agnes R.,
Scott, M. F.,
Seward, Hon. H. S.,
Tangney, Dorothy M.,
Vincent, V. S.,
Willesee, D. R.

The normal term of office of a Senator is six years.

At the same date the following Members of the House of Representatives represented Western Australian electorates :—

Beazley, K. E. (Fremantle).
Chaney, F. C. (Perth).
Cleaver, R. (Swan).
Freeth, G. (Forrest).
Hamilton, L. W. (Canning).
Hasluck, Hon. P. M. C. (Curtin).
Johnson, Hon. H. V. (Kalgoorlie).
Leslie, H. A. (Moore).
Webb, C. H. (Stirling).

Members of the House of Representatives hold office for the life of the parliament to which they are elected—normally three years.

Legislative Powers

Subject to the Constitution, the Commonwealth Parliament is empowered to make laws concerning, *inter alia*, defence, external affairs, trade and commerce with other countries and between the States, customs and excise, taxation, borrowing of money on public credit, currency and coinage, banking, insurance, navigation, fisheries, quarantine, postal and telegraph services and the like, census and statistics, immigration, naturalization and aliens, copyrights and trade marks, bankruptcy, social services (pensions, child endowment, unemployment, sickness and hospital benefits, medical services and the like) 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 latter shall prevail and the former shall, to the extent of its inconsistency, be invalid. The High Court of Australia constitutes a Court of Appeal wherein the legislative and administrative acts of the Commonwealth Parliament may be protested within the terms of the Constitution.

STATE PARLIAMENT AND EXECUTIVE GOVERNMENT

Both Houses of the Western Australian Parliament are elective—the Legislative Council on a property franchise and the Legislative Assembly on the basis of adult suffrage. Electors must also be natural-born or naturalized British subjects and have resided in the State for at least six months. Voting is compulsory for the Legislative Assembly elections but not for the Legislative Council. The State is divided into ten Provinces, for each of which three members are elected to the Legislative Council. Election is for six years and members retire in rotation every two years. Members of the Legislative Assembly are elected for the duration of the parliament concerned (normally three years) and represent single-member constituencies of which there are 50.

Eligibility for election to either House is governed by similar provisions. Candidates must be natural-born or naturalized British subjects and must have resided within the State for prescribed periods prior to nomination. A minimum age of 30 years applies in connection with Legislative Council nominations and of 21 years in respect of the Legislative Assembly. Judges of the Supreme Court, ministers of religion, undischarged bankrupts or debtors against whose estates there are sequestration orders may not be candidates for either House.

A Court of Disputed Returns—consisting of a Judge of the Supreme Court of Western Australia sitting in open Court—hears and determines disputes arising out of elections. Under the Electoral Districts Act, 1947-1955 provision is made for the periodic review of the State's electoral districts in order to ensure reasonable consistency in the number of electors comprising each electorate. Three Electoral Commissioners are directed by the Governor to carry out a review whenever the need arises.

Membership of the State Houses

The following was the membership of the Legislative Council on 31st December, 1956 :—

LIST OF MEMBERS AND OFFICERS OF THE LEGISLATIVE COUNCIL OF WESTERN AUSTRALIA

TWENTY-SECOND PARLIAMENT, 1956

Member.	Province.	Date of Election.	Date of Retirement.
Baxter, Hon. Norman Eric	Central	1952	1958
Bennetts, Hon. George	South-East	1952	1958
Cunningham, Hon. John Michael Adrenne	South-East	1956	1962
Davies, Hon. Evan Morris	West	1956	1962
Diver, Hon. Leslie Charles	Central	1956	1962
Fraser, Hon. Gilbert	West	1954	1960
Garrigan, Hon. James Joseph	South-East	1954	1960
Griffith, Hon. Arthur Frederick	Suburban	*1953	1958
Hall, Hon. William Reaper	North-East	1952	1958
Heenan, Hon. Eric Michael	North-East	1956	1962
Hislop, Hon. James Gordon, M.B., Ch.B., F.R.C.P., F.R.A.C.P.	Metropolitan	1952	1958
Hutchison, Hon. Ruby Florence	Suburban	1954	1960
Jeffory, Hon. George Edward	Suburban	1956	1962
Jones, Hon. Arthur Raymond	Midland	1956	1962
Latham, Hon. Sir Charles George, Kt.	Central	1954	1960
Lavery, Hon. Frederick Richard Hugh	West	1952	1958
Logan, Hon. Leslie Arthur	Midland	1954	1960
Loton, Hon. Anthony Lloyd	South	1952	1958
MacKinnon, Hon. Graham Charles	South-West	1956	1962
Mattiske, Hon. Reginald Clair	Metropolitan	*1956	1960
Murray, Hon. James	South-West	1952	1958
Roche, Hon. Hugh Lewis	South	1954	1960
Simpson, Hon. Charles Horbert	Midland	1952	1958
Strickland, Hon. Harry Charles	North	1956	1962
Teahan, Hon. John Denis	North-East	1954	1960
Thomson, Hon. Jack McIntosh	South	1956	1962
Watson, Hon. Henry Keith	Metropolitan	1956	1962
Willesee, Hon. William Francis	North	1954	1960
Willmott, Hon. Francis Drake	South-West	*1955	1960
Wise, Hon. Frank Joseph Scott	North	*1956	1958

* Elected at By-election.

OFFICERS

<i>President</i>	The Hon. Anthony Lloyd Loton.
<i>Chairman of Committees</i>	The Hon. William Reaper Hall.
<i>Clerk of the Council and Clerk of the Parliaments</i>	John Bertram Roberts, M.B.E.
<i>Clerk Assistant and Usher of the Black Rod</i>	William George Browne.
<i>Clerk of Records and Accounts</i>	Jonathan Gordon Charles Ashley.

At the same date the membership of the Legislative Assembly was as follows :—

LIST OF MEMBERS AND OFFICERS OF THE LEGISLATIVE
ASSEMBLY OF WESTERN AUSTRALIA

TWENTY-SECOND PARLIAMENT, 1956

Name of Member.	Party.	Constituency.
Ackland, John Hugh	C.P.	Moore
Andrew, Hugh David	Lab.	Victoria Park
Bovell, William Stewart	L.C.L.	Vasse
Brady, Hon. John Joseph	Lab.	Guildford-Midland
Brand, Hon. David	L.C.L.	Greenough
Cornell, George Meredith	C.P.	Mt. Marshall
Court, Charles Walter Michael, O.B.E.	L.C.L.	Nedlands
Crommelin, Harold William	L.C.L.	Claremont
Evans, Thomas Daniel	Lab.	Kalgoorlie
Gaffy, William James	Lab.	Canning
Graham, Hon. Herbert Ernst	Lab.	East Perth
Grayden, William Leonard	Lib.	South Perth
Hall, Jack	Lab.	Albany
Hawke, Hon. Albert Redvers George	Lab.	Northam
Heal, Stanley	Lab.	West Perth
Hearman, John Merrifield	L.C.L.	Blackwood
Hegney, Hon. James	Lab.	Middle Swan
Hegney, Hon. William, A.F.I.A.	Lab.	Mt. Hawthorn
Hoar, Hon. Ernest Knight	Lab.	Warren
Hutchinson, Ross, D.F.C.	L.C.L.	Cottesloe
Jamieson, Colin John	Lab.	Beeloo
Johnson, Stephen Edward Ingram	Lab.	Leederville
Kelly, Hon. Lionel Francis	Lab.	Merredin-Yilgarn
Lapham, Stanley Edward, A.A.S.A.	Lab.	North Perth
Lawrence, Phillip Richard	Lab.	South Fremantle
Mann, James Isaac	L.C.L.	Avon Valley
Manning, Iven Wemyss	L.C.L.	Harvey
Manning, William Allan, A.A.S.A., A.C.I.S.	C.P.	Narrogin
Marshall, Frederick	Lab.	Wembley Beaches
May, Harry	Lab.	Collie
McLarty, Hon. Sir Duncan Ross, K.B.E., M.M.	L.C.L.	Murray
Moir, Arthur McAllister	Lab.	Boulder
Nalder, Crawford David	C.P.	Katanning
Norton, Daniel	Lab.	Gaseoyne
Nulsen, Hon. Emil	Lab.	Eyre
O'Brien, Everard McDonnell	Lab.	Murchison
Oldfield, Edward Peate	Lib.	Mt. Lawley
Owen, Raymond Cecil, B.Sc. (Agric.)	C.P.	Darling Range
Perkins, Charles Collier	C.P.	Roe
Potter, Percival George Charles	Lab.	Subiaco
Rhatigan, John Joseph	Lab.	Kimberley
Roberts, George Frederick	L.C.L.	Bunbury
Rodoreda, Aloysius Joseph	Lab.	Pilbara
Sewell, William Hawkins	Lab.	Geraldton
Sleeman, Hon. Joseph Bertram	Lab.	Fremantle
Thorn, Hon. Lindsay	C.P.	Toodyay
Toms, John Mervin	Lab.	Maylands
Tonkin, Hon. John Trezise	Lab.	Melville
Watts, Hon. Arthur Frederick, C.M.G.	C.P.	Stirling
Wild, Gerald Percy, M.B.E.	L.C.L.	Dale

L.C.L.—Liberal and Country League.

C.P.—Country Party.

Lab.—Labour.

Lib.—Liberal.

OFFICERS

<i>The Speaker</i>	Hon. James Hegney
<i>Chairman of Committees</i>	Arthur McAllister Moir
<i>Clerk of Assembly</i>	Frederick Ernest Islip, J.P.
<i>Clerk-Assistant of Assembly and Librarian</i>	Leonard Philip Hawley
<i>Sergeant-at-Arms</i>	John Christian Watson O'Connor
<i>Clerk of the Records and Accounts</i>	Jocelyn Coyte Bartlett, D.F.M.
<i>Assistant Clerk of the Records and Accounts</i>	Bruce Lefroy Okely

The Cabinet

By convention, at least one Minister of the Cabinet is selected from Government Members in the Legislative Council. Predominantly, however, Cabinet consists of members of the Legislative Assembly chosen for the Ministry from the party or coalition of parties commanding a majority in that House. On 31st December, 1956, the State Cabinet consisted of the following Ministers—each controlling the departmental organisations comprising their short portfolio titles and a number of associated government activities as well.

<i>Premier, Treasurer, and Minister for Child Welfare</i>	The Hon. Albert Redvers George Hawke, M.L.A.
<i>Minister for Works, and Water Supplies</i>	The Hon. John Trezise Tonkin, M.L.A.
<i>Minister for Transport, Housing and Forests</i>	The Hon. Herbert Ernst Graham, M.L.A.
<i>Chief Secretary and Minister for Local Government and Town Planning</i>	The Hon. Gilbert Fraser, M.L.C.
<i>Minister for Lands and Agriculture</i>	The Hon Ernest Knight Hoar, M.L.A.
<i>Minister for Health and Justice</i>	The Hon. Emil Nulsen, M.L.A.
<i>Minister for Education and Labour</i>	The Hon. William Hegney, M.L.A.
<i>Minister for Mines, Industrial Development, and Fisheries</i>	The Hon. Lionel Francis Kelly, M.L.A.
<i>Minister for Railways, the North-West and Supply and Shipping</i>	The Hon. Harry Charles Strickland, M.L.C.
<i>Minister for Native Welfare and Police</i>	The Hon. John Joseph Brady, M.L.A.

Since the granting of responsible government in 1890 the following ministries have held office in Western Australia :—

Ministry and Party Designation.†		Date of Assumption of Office.	Duration.	
No.	Name of Premier.		yrs.	m. d.
1	Forrest (†)	29th December, 1890	10	1 17
2	Throssell (†)	15th February, 1901	0	3 12
3	Leake (†)	27th May, 1901	0	5 25
4	Morgans (†)	21st November, 1901	0	1 2
5	Leake (†)	23rd December, 1901	0	6 8
6	James (†)	1st July, 1902	2	1 9
7	Daglish (Lab.)	10th August, 1904	1	0 15
8	Rason (Lib.)	25th August, 1905	0	8 12
9	Moore (Lib.)	7th May, 1906	4	4 9
10	Wilson (Lib.)	16th September, 1910	1	0 21
11	Seaddan (Lab.)	7th October, 1911	4	9 20
12	Wilson (Lib.)	27th July, 1916	0	11 1
13	Lefroy (Lib.)	28th June, 1917	1	9 20
14	Colebatch (Lib.)	17th April, 1919	0	1 0
15	Mitchell (Nat.)	17th May, 1919	4	10 29
16	Collier (Lab.)	16th April, 1924	6	0 8
17	*Mitchell (Nat. and C.P.)	24th April, 1930	3	0 0
18	Collier (Lab.)	24th April, 1933	3	4 27
19	Willcock (Lab.)	20th August, 1936	8	11 12
20	Wise (Lab.)	1st August, 1945	1	8 0
21	*McLarty (L.C.L. and C.P.)	1st April, 1947	5	9 22
22	Hawke (Lab.)	23rd February, 1953	In office.	

† Abbreviations—[Lab.] Labour. [Lib.] Liberal. [Nat.] Nationalist. [C.P.] Country Party. [L.C.L.] Liberal and Country League. ‡ No specific party designation. * Coalition.

State Government Functions

Notwithstanding Federation on 1st January, 1901, the Parliament of Western Australia has continued to exercise all the rights and powers of a sovereign State—except those expressly reserved to the Commonwealth under the Federal Constitution, e.g., those relating to external affairs, defence, external trade, customs and excise, currency and coinage, postal and telegraph services, naturalization, etc. Some indication of the range of State governmental functions is given by the details of ministerial portfolios outlined under “The Cabinet.”

Oversea Representation

Besides deriving benefit from the operations of the Australian High Commissioner's Office in London and the embassies and consulates in other countries, the State maintains an Agent-General's Office at Savoy House, the Strand, London, W.C. 2. The Agent-General for Western Australia is the accredited United Kingdom representative of the State Government and conducts a wide range of government business there, including the purchasing of stores and equipment, the arranging of assistance to Western Australian business interests in London and extensive services of a personal nature to citizens of the State who are visiting the United Kingdom.

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—This Court, which is the principal Commonwealth Court, has both original and appellate jurisdiction. Consisting of the Chief Justice and such other Justices as are appointed (at present, six), the Court sits in the State capital cities as occasion requires. It is the ultimate Court of Appeal in Australian jurisdiction except where leave is given for an appeal to the Privy Council in London. The Chief Justice and Justices of the High Court are appointed, as need arises, by the Governor-General in Council.

The Commonwealth Industrial Court was constituted in 1956, under an amendment to the Commonwealth Conciliation and Arbitration Act, to carry out judicial and award enforcement functions empowered by the Act. It comprises a Chief Judge and not more than two other Judges.

The Federal Court of Bankruptcy—The business of this Court is conducted in certain instances by the Judge of the Federal Court of Bankruptcy and in others by a Judge of the Supreme Court of the particular State concerned. Under the latter procedure, the sitting of the State Supreme Court Judge is designated a sitting of the Federal Bankruptcy Court for that Bankruptcy Division (e.g., Western Australia).

State Courts of Western Australia

The Full Court—This Court consists of at least two judges of the Supreme Court; three, if sitting in appellate criminal jurisdiction. It is essentially a Court of Appeal. The Supreme Court judiciary comprises the Chief Justice of the State and four puisne judges, one of whom is at present also the President of the State Arbitration Court. Persons who have been admitted to the Supreme Court Bar and have practised as defined in the Legal Practitioners' Act, 1893–1955 for a period of not less than 8 years are eligible for appointment to the judiciary. Appointments are made by the Governor in Council.

The Supreme Court—Either the Chief Justice or any one of the puisne judges (sitting, usually, in association with a jury) conducts a hearing of the Supreme Court. Trial by jury is obligatory in connection with criminal charges but is optional in certain civil actions.

The Court of Arbitration—The Court comprises three members appointed by the Governor in Council; one on the recommendation of the industrial unions of employers or Employers' Federation, one on the recommendation of the industrial unions of employees and the third member who is a person qualified for appointment as a judge of the Supreme Court. The last-mentioned member is the President of the Arbitration Court and the present occupant of the position is the fourth puisne Judge. A brief reference is made to the powers and functions of the Court on page 134 in Chapter V, "Social Condition."

LOCAL GOVERNMENT

Two main Acts provide for the conduct of local government in Western Australia—the Municipal Corporations Act, 1906–1956 and the Road Districts Act, 1919–1956. On 30th June, 1956, there were 21 municipalities constituted under the first Act and 126 road districts established under the latter. The operation of both Acts is supervised by the Local Government Department. Under the provisions of the Municipal Corporations Act any municipality which has a population of at least 20,000 and an annual revenue of not less than £20,000 can be constituted a city. The three cities of Western Australia—Perth, Fremantle and Subiaco—are all situated in the metropolitan area.

Electoral Provisions

With certain exclusions, similar to those applying to State elections, every owner or occupier of rateable land which lies within the area of the local authority concerned is eligible for election as mayor or councillor of a municipality or as a board member for a road district. The chairman of a road board is chosen annually by the board from its own membership, whereas a mayor is elected for a two-years' term by direct vote of the ratepayers. Municipal councillors and members of road boards are elected for three-year terms and one-third of them retire each year in rotation.

There is plural voting in both the municipalities and the road districts, the number of votes allotted being dependent upon the rateable value of property owned or occupied by the elector. In the municipalities a maximum of four votes is exercisable by any ratepayer in his own right when electing the mayor or auditors. Not more than two votes can be claimed by him in any one ward when electing the councillors. Four is the maximum number of votes which can be exercised in a road board election, irrespective of the number of wards in which property is held.

The ward system of representation is widely used. In the case of the municipalities there is a provision that, where the total municipal population exceeds 5,000, three councillors shall be elected to represent each ward. Subject to this special rule the provisions of the Municipal Corporations Act concerning the composition of municipal councils are as follow :—

In addition to the mayor there shall be :

for a population not exceeding 1,000	....	....	....	6 councillors ;
for a population between 1,000 and 5,000	....	....	....	9 councillors ; and
for a population above 5,000	....	....	....	12 councillors ; or more as the ward representation pro- vision requires.

Road District boards may consist of not less than 5 and not more than 13 members. Road district wards may, in appropriate circumstances, be represented by varied numbers of members.

Audit Arrangements

Two auditors are elected by the ratepayers for each municipality and one of these officials retires each year in rotation. Only persons who are members of a recognised accountancy institute or are deemed by the Minister for Local Government to be suitable for office may be elected as auditors. They are eligible for re-election. The accounts of road districts are audited by officers of the Local Government Department; half of the cost involved is borne by the State Government and the other half by the road districts, on a zonal basis.

Functions of Local Authorities

Municipal councils and Road District boards have similar functions, such as the development and maintenance of roads, assisted by the Main Roads Department ; the provision of parks and gardens ; the maintenance of sanitation services and—in some cases—the operation of electric lighting plants. In addition, a small number provide public transport services. The country municipal councils and road boards assist in administering the Traffic Act and the Vermin Act. Local governing bodies are also entrusted with the administration of appropriate provisions of the Health Act and regulations.

As well as the foregoing functions, powers contained in the main Acts enable local authorities to provide or supervise various public services such as water supplies, jetties and bathing houses, hospitals and nursing systems, quarries, bush fire brigades, town planning schemes, etc., and to enforce regulations in respect to buildings and hoardings, dogs and cattle, noxious weeds and other matters. In short, local government bodies, consisting of elected representatives, provide a wide range of services necessary for the welfare of their own communities.

CHAPTER IV.—POPULATION AND VITAL STATISTICS

PART I.—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 48,500 at the end of 1890 to 180,000 in 1900.

Indeed, the history of the growth of the population of Western Australia and of its distribution is broadly the story of the discovery of gold, the development of the goldfields and their decline, with the accompanying transition to agricultural and pastoral pursuits, and a gradually expanding manufacturing industry.

For this reason the following observations on population changes have been based upon a division of the State into (a) Metropolitan Area, (b) Agricultural Area, (c) Goldfields Area, (d) North-West, and (e) the Kimberley.

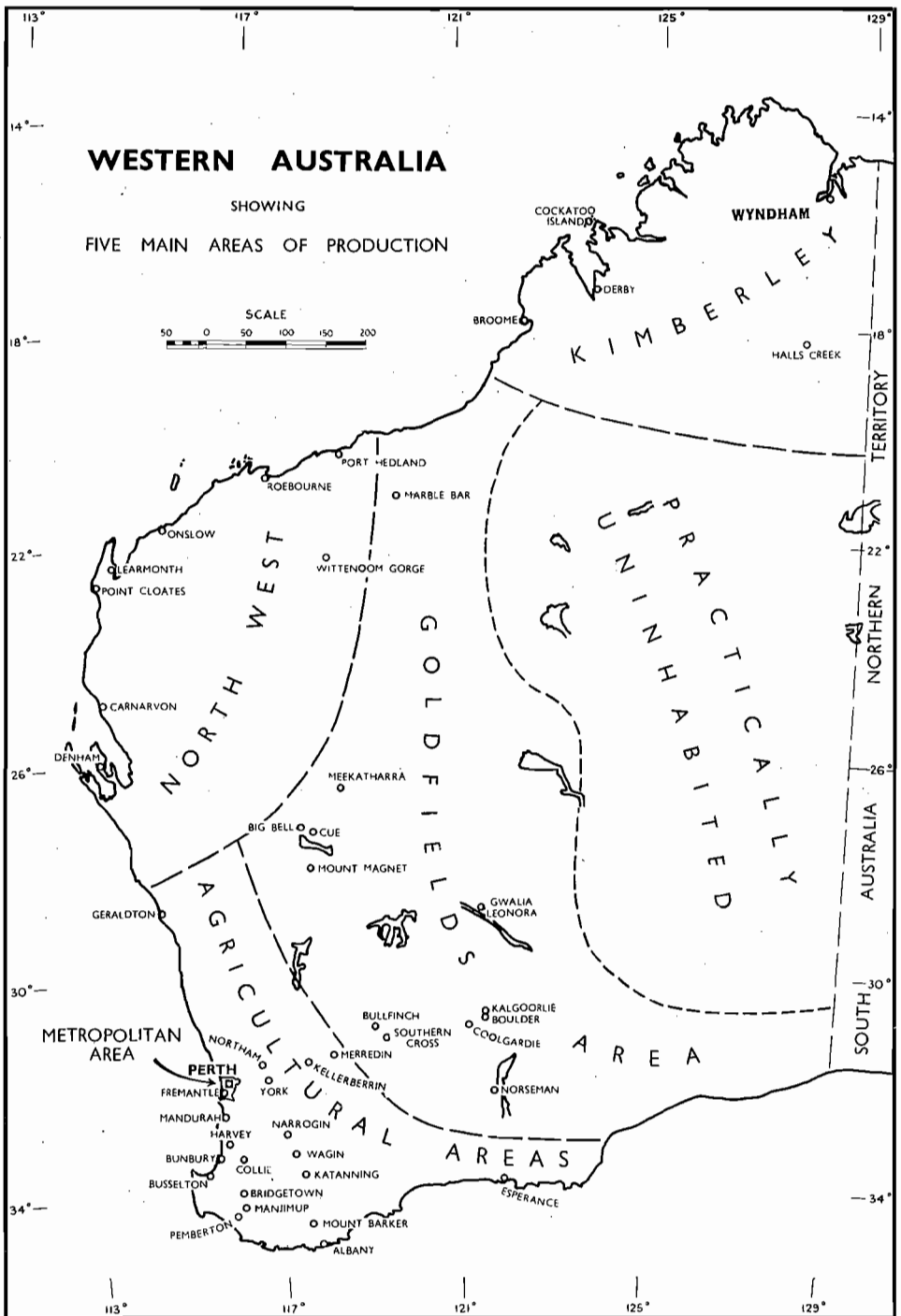
The Metropolitan Area (191 square miles) is the centre of the State's manufacturing activity, its industrial establishments employing 74 per cent. of the State's total of 50,000 factory workers, and having a net value of factory production of £46 million compared with £70 million for the whole State.

The Agricultural Area (116,000 square miles) produces the whole of the State's cereal and temperate fruit crops (including table and wine grapes). Cattle- and sheep-raising are other important activities, almost all of the State's dairy cattle, more than one-fifth of the beef cattle and about three-quarters of the sheep being located there. Timber and coal are major items of production. There is a well-established fishing industry, and whaling has been resumed in recent years. The factories of the area, which include saw mills, wineries, woollen mills, flour mills, superphosphate works, fruit processing establishments, fish canneries, meat works, butter, cheese and milk processing factories, and oil-refining, cement-making and steel-rolling enterprises, provide employment for 11,700 persons, about 23 per cent. of the people employed in the factories of the State.

The Goldfields Area (596,000 square miles) though primarily utilized for gold and other mining, contributes also to pastoral output, the area containing about one-ninth of the sheep and one-sixteenth of the beef cattle of the State.

The North-West (125,000 square miles) and the Kimberley (139,000 square miles) are principally pastoral, production of minerals (including gold) being an important subsidiary activity, while oil drilling is currently being carried out in the Exmouth Gulf and adjacent areas and in the Fitzroy River Basin. The North-West has one-eighth of the State's sheep and some beef cattle, with tropical agriculture at Carnarvon, asbestos mining at Wittenoom Gorge, and a whaling station at Carnarvon, while the Kimberley has two-thirds of the beef cattle, other pursuits in the area being pearl-shell fishing at Broome, iron mining at Cockatoo Island (Yampi) and meat freezing at Wyndham and Broome.

The following table and the diagram on page 75 show the population in each of these areas at the 1901 census and later enumerations, together with the proportion which each bears to the State total.



**POPULATION IN FIVE MAIN AREAS OF PRODUCTION
CENSUSES, 1901-1954**

Area.	1901.		1911.		1921.		1933.		1947.		1954.	
	'000 persons.	% of total.	'000 persons.	% of total.	'000 persons.	% of total.	'000 persons.	% of total.	'000 persons.	% of total.	'000 persons.	% of total.
Metropolitan	65.6	35.6	106.8	37.9	154.9	46.5	207.4	47.2	272.5	54.2	348.7	54.5
Agricultural	51.9	28.2	100.2	35.5	128.7	38.7	180.0	41.2	176.3	35.0	239.9	37.5
Goldfields	50.8	32.2	63.1	22.3	38.5	11.5	41.1	9.4	44.0	8.8	38.8	6.1
North-West	2.1	1.1	3.0	1.1	3.2	1.0	4.2	1.0	3.9	0.8	6.6	1.0
Kimberley	1.1	0.6	2.0	0.7	2.2	0.7	2.1	0.5	2.8	0.6	3.5	0.6
Migratory (a)	4.2	2.3	7.0	2.5	5.2	1.6	3.2	0.7	3.0	0.6	2.3	0.3
Whole State	184.1	100.0	282.1	100.0	332.7	100.0	438.9	100.0	502.5	100.0	639.8	100.0

(a) Persons on board ships, long-distance trains and aircraft.

It will be seen that in 1901 the Goldfields were almost as important numerically as the Metropolitan Area, each having about one-third of the total population, while the Agricultural Area had rather more than one-quarter. By 1911 the Agricultural population had almost doubled and represented about one-third at the date of the census, while the Goldfields, despite an increase of almost 4,000 persons, had declined to less than one-quarter.

In the succeeding ten years the Agricultural population continued to increase, while that of the Goldfields had fallen to below 39,000 in 1921. By 1928 the Goldfields figure had decreased to 30,000 but rose thereafter to 41,000 at the 1933 census, representing about one-tenth of the State total, while the Agricultural Area, with a population of more than 180,000, accounted for over two-fifths. Under the stimulus of rising gold prices, mining activity was intensified to such a degree that at the outbreak of war 60,000 persons were on the Goldfields. War time restrictions and post-war difficulties reduced this population to 44,000 at the 1947 census. The Agricultural Area, too, showed a decline—to 176,000 in 1947. The Metropolitan Area, on the other hand, with a population of more than 272,000, had gained 65,000 in the intercensal period. The 1954 census disclosed a sharp fall (12 per cent.) in the Goldfields population, and a marked rise (36 per cent.) in the Agricultural Area. The Metropolitan population had increased by 28 per cent. since the previous census, and represented more than 54 per cent. of the State total. This proportion, although showing a rise at each succeeding census from about 36 per cent. in 1901, had increased at a much slower rate than in earlier intercensal periods.

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

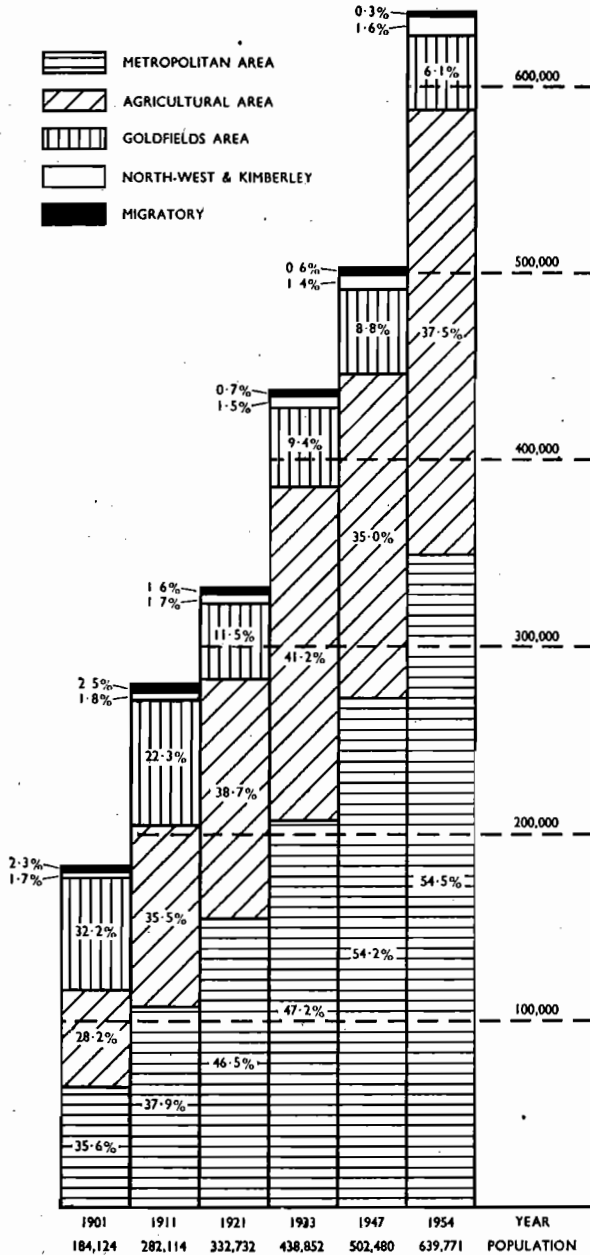
Intercensal Period.	Population at Beginning.	Population at End.	Increase.			
			By Natural Increase. (a)	By Migration. (b)	Total.	Annual Rate %
1st April, 1901—3rd April, 1911	184,124	282,114	44,246	53,744	97,990	4.36
4th April, 1911—4th April, 1921	282,114	332,732	51,851	— 1,233*	50,618	1.66
5th April, 1921—30th June, 1933	332,732	438,852	80,127	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	161,023	455,647	2.37

(a) Excess of births over deaths.

(b) Excess of arrivals over departures.

* Minus sign denotes decrease.

POPULATION OF WESTERN AUSTRALIA
at each census since 1901
GEOGRAPHICAL DISTRIBUTION



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. The rates for Western Australia were 16·99 in 1952, 17·37 in 1953 and 16·50 in 1954, compared with 13·90, 13·84 and 13·40 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. The average annual increases from this source 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.

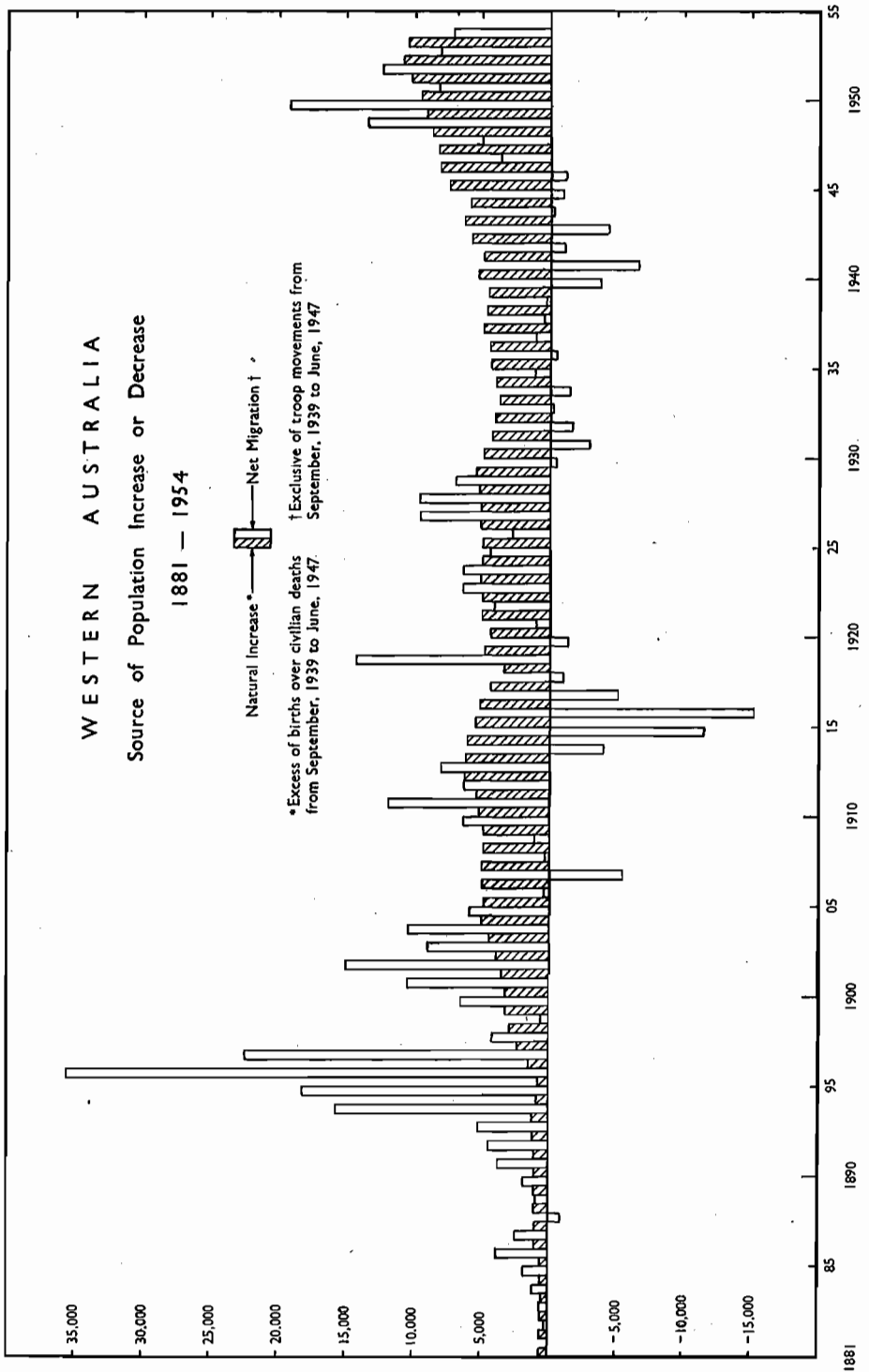
The effect of migration between the censuses of 1911 and 1921 was negligible, the accretion between these dates being due entirely to the natural increase of the population.

Since the census of 1947, Western Australia has 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.

ARRIVALS, DEPARTURES AND NET MIGRATION, 1947–1954

Period.	Arrivals.			Departures.			Excess of Arrivals over Departures.		
	Inter-state.	Over-seas.	Total.	Inter-state.	Over-seas.	Total.	Inter-state.	Over-seas.	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

In each of these years 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. The rates, together with the absolute gains, for Western Australia, the other States and Territories, and for Australia as a whole, are set out in the following table.



MIGRATION—WESTERN AUSTRALIA AND AUSTRALIA 1948-1954

Year.	Migration (Excess of Arrivals over Departures).					
	Western Australia.		Other States and Territories.		Australia.	
	Number.	Rate (a).	Number.	Rate (a).	Number.	Rate (a).
1948	5,203	10·11	49,912	6·94	55,115	7·15
1949	13,764	25·84	136,237	18·47	150,001	18·97
1950	19,686	35·29	132,819	17·43	152,505	18·65
1951	8,425	14·52	103,008	13·14	111,433	13·23
1952	12,677	21·11	81,355	10·12	94,032	10·89
1953	8,258	13·30	34,639	4·23	42,897	4·86
1954	7,228	11·29	60,979	7·30	68,207	7·59

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

Total Increase—The buoyant rate of natural increase, combined with these large migration gains, has resulted in high rates of total increase. Between the censuses, 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 between the censuses of 1947 and 1954, Western Australia accounted for 137,291, or 9·8 per cent., although the State's population is only 7·1 per cent. of the Australian total.

GEOGRAPHICAL DISTRIBUTION

The State's natural increase between the censuses of 1947 and 1954 was 65,500, of which the Metropolitan Area contributed 29,000 and the rest of the State 36,500.

In addition to a high rate of natural increase, the rest of the State gained over 25,000 persons by migration, making a total increase of almost 62,000, compared with an actual loss of population in the previous intercensal period.

The growing urbanization noted in other States is apparent in Western Australia. The Metropolitan Area added to its natural increase of 29,000 a net gain by migration of 47,000. The municipalities and larger towns of the Agricultural Area showed substantial increases, the greatest gains being those of the ports of Bunbury, Albany and Geraldton and the coal-mining town of Collie. The population of the Metropolitan Area 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.

Outside the Metropolitan Area, 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)	3,279	York (M)	1,720
Kalgoorlie Suburbs (a)	6,596	Harvey	1,625
<i>Total</i>	22,837	Mandurah	1,623
Bunbury (M)	9,889	Gosnolls	1,613
Collie	8,667	Wagin (M)	1,526
Geraldton (M)	8,309	Armadale	1,496
Albany (M)	8,265	Carnarvon (M)	1,453
Northam (M)	5,725	Kwinana New Town	1,299
Narrogin (M)	5,763	Pemberton	1,257
Katanning	3,764	Mount Barker	1,242
Norseman	2,639	Kellerberrin	1,145
Busselton	2,449	Broome	1,095
Merredin	2,342	Safety Bay	1,070
Kalamunda-Gooseberry Hill	2,282	Rockingham	1,022

(M) Indicates Municipality.

(a) The urban portion of Kalgoorlie Road District.

Density—Western Australia is the most sparsely populated of the Australian States, having only 0·66 persons per square mile, compared with 27·90 in Victoria, the most densely populated State, and 3·02 persons per square mile in Australia as a whole. At the 1954 census, the Metropolitan Area had 1,825 persons per square mile and the Kimberley only one person to every 40 square miles.

The total population at the 30th June, 1954, and its density in each of five main areas of production in the State is shown in the table below.

DENSITY OF POPULATION IN FIVE MAIN AREAS OF PRODUCTION
CENSUS—30th JUNE, 1954

Area.	Population.			Area in square miles.	Persons per square mile.
	Males.	Females.	Persons.		
Metropolitan	171,832	170,815	348,647	191	1,825
Agricultural	123,756	111,161	239,917	115,336	2·08
Goldfields	21,250	17,572	38,822	595,850	0·07
North-West	4,312	2,263	6,575	125,483	0·05
Kimberley	2,303	1,240	3,543	139,060	0·03
Total	328,453	309,051	637,504	975,920	0·65
Migratory	1,905	362	2,267	....	....
Whole State	330,358	309,413	639,771	975,920	0·66

Of the 38,822 persons in the Goldfields Area, 32,062 were living in or near the towns of Kalgoorlie-Boulder (22,837), Norseman (2,623), Coolgardie (1,137), Bullfinch (1,079), Gwalia-Leonora (959), Big Bell (854), Southern Cross (764), Meekatharra (694), Mount Magnet (648) and Cue (467). Less than 7,000 persons, therefore, were resident in the remainder of the area, representing a density of one person to every 88 square miles. The low rainfall of this region renders much of it virtually uninhabitable, and desert or near-desert conditions prevail over an extensive area in the north and east. Almost no part of the Goldfields Area has an annual rainfall greater than 10 inches, and a considerable proportion has much less.

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 the Kimberley, almost all of the North-West, and a large part of the Goldfields Area, is 529,486 square miles in extent. It is therefore somewhat greater than half the entire State (975,920 square miles), 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—a density of one person to every 113 square miles.

ABORIGINALS

Attempts have been made, from time to time, to obtain a reliable indication of the numbers of aboriginals living in the various States. Generally, these enquiries 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. The latest official estimate made by the Department of Native Welfare—at the 30th June, 1956—places the native population of the State at 21,300, comprising 8,400 full-bloods and 6,900 caste people living within the confines of civilization, and some 6,000 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 8,400 full-bloods accounted for by the Department, one-half were in the Kimberley and almost all of the remainder in the North-West and Goldfields Area. About one-half of the caste people were recorded in the Agricultural Area.

Comparison of these figures with earlier estimates suggests that the full-blood population is declining, while the number of caste people is increasing.

Throughout this chapter, full-blood aboriginals have been excluded from all population and vital statistics in accordance with Australia-wide practice.

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	17,002	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	6.83	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 States. 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 bears to the Australian total 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. The high levels 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 continues to be high and, indeed, shows 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. (Age data for the censuses of 1848 and 1854 are not presented in sufficient detail to permit of such a dissection.) These divisions have been chosen as representing the juvenile population, those of working age, and those beyond working age. The proportion of minors in the population is also shown.

PROPORTION OF POPULATION IN CERTAIN AGE-GROUPS—CENSUSES, 1859-1954

Year of Census.	Under 15 years.	15 years and under 65.	65 years and over.	Under 21 years.	21 years and over.
<i>Males.</i>					
	per cent.	per cent.	per cent.	per cent.	per cent.
1859	25.3	74.7		31.2	68.8
1870	30.0	70.0		37.0	63.0
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

<i>Females.</i>					
	per cent.	per cent.	per cent.	per cent.	per cent.
1859	46.0	54.0		57.7	42.3
1870	48.3	51.7		59.3	40.7
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

<i>Persons.</i>					
	per cent.	per cent.	per cent.	per cent.	per cent.
1859	32.7	67.3		40.7	59.3
1870	36.9	63.1		45.4	54.6
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

Noteworthy features of the table are the decrease between 1921 and 1947 in the proportion of juveniles 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.

The next table shows the numbers of males, females and persons in five-year age groups and in some other significant groupings as disclosed by the census of the 30th June, 1954. The proportion of the numbers in each group to the total population is also shown.

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

Age Last Birthday. (years)	Number.			Proportion of Total.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
0-4	38,092	36,886	74,978	per cent. 11.53	per cent. 11.92	per cent. 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	2.23	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	300,413	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	300,413	639,771	100.00	100.00	100.00

Birthplace—In the following table, the population at the census is classified according to birthplace.

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

Birthplace.	Number.			Proportion of Total.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
Australia	244,106	245,593	489,699	per cent. 73.89	per cent. 79.37	per cent. 76.54
Great Britain	43,010	35,406	78,416	13.02	11.44	12.26
Italy	11,735	5,560	17,295	3.55	1.80	2.70
Netherlands	4,866	3,624	8,490	1.47	1.17	1.33
Ireland (a)	2,994	2,404	5,398	0.91	0.78	0.84
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	2,959	1,816	4,775	0.90	0.52	0.72
India, Pakistan, Ceylon	1,956	1,785	3,741	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	835	669	1,504	0.25	0.22	0.24
Ukraine	688	444	1,132	0.21	0.14	0.18
Total	322,031	304,000	626,031	97.48	98.25	97.85
Other Countries (b)	8,327	5,413	13,740	2.52	1.75	2.15
Grand Total	330,358	300,413	639,771	100.00	100.00	100.00
Summary—						
Australia and New Zealand	245,197	246,579	491,776	74.2	79.7	76.9
Europe	79,327	58,341	137,668	24.0	18.9	21.5
Asia	4,062	3,153	7,215	1.2	1.0	1.1
Africa	823	717	1,540	0.3	0.2	0.3
America	840	525	1,365	0.3	0.2	0.2
Other (b)	109	98	207	0.0	0.0	0.0
Grand Total	330,358	300,413	639,771	100.0	100.0	100.0

(a) Including Northern Ireland.

(b) Including persons born at sea.

It will be seen that 76.5 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 only 2.0 per cent. who gave as their birth-place countries outside Australia or Europe.

The table has been compiled on the basis of total population, of whom 2,267 were migratory. Of this migratory (largely non-resident) population, 1,016 were born in Australia and 30 in New Zealand, 867 in Europe, 328 in Asia, 11 in America and 12 in Africa.

The non-migratory population born outside Australia numbered 148,821. About 56 per cent. of these (83,350) were born in the United Kingdom or the Republic of Ireland, and almost 36 per cent. (53,451) in other European countries, of which Italy (17,087), the Netherlands (8,397), Germany (5,341) and Poland (5,124) were the largest contributors. Numbers and percentages born outside Europe were :—Asia, 6,887 (4.6 per cent.), New Zealand, 2,047 (1.4 per cent.), America, 1,354 (0.9 per cent.) and Africa, 1,528 (1.0 per cent.).

Nationality—Of the resident population, 594,201, or 93.2 per cent., were of British or Irish nationality, the remainder, 43,303, being principally of Italian (12,293), Dutch (8,635), Polish (5,241), Yugoslav (2,630) 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 abstaining 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.
Christian—				per cent.
Baptist	3,475	3,761	7,236	1.25
Brethren	331	403	734	0.13
Catholic, Roman (a)	48,301	39,710	88,011	15.20
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	48.50
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)	2,900	2,892	5,492	0.95
Total, Christian	291,259	278,534	569,793	98.81
Non-Christian—				
Hebrew	1,811	1,244	2,555	0.44
Other Non-Christian	297	77	374	0.07
Total, Non-Christian	1,808	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.
<i>Males.</i>						
Never Married	99,426	60,088	7,264	1,348	2,786	170,912
Married (a)	78,753	43,419	8,215	13,650	144,087	
Married but Permanently Separated	1,795	1,483	386	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	142,604	54,952	11,024	22,262	330,358
<i>Females.</i>						
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
<i>Persons.</i>						
Never Married	194,750	95,902	11,264	2,319	4,761	308,906
Married (a)	169,102	78,694	14,841	22,476	285,113	
Married but Permanently Separated	4,114	2,619	668	1,180	8,787	
Widowed	1,789	6,815	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 bear 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

Conjugal Condition.	Age Last Birthday (Years).				
	15-44.	45-59.	60-64.	65 and over.	15 and over.
<i>Males.</i>					
Never Married	per cent. 26.02	per cent. 3.15	per cent. 0.58	per cent. 1.21	per cent. 30.06
Married (a)	34.10	18.80	3.56	5.01	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	61.70	23.80	4.77	9.64	100.00
<i>Females.</i>					
Never Married	per cent. 16.73	per cent. 1.87	per cent. 0.45	per cent. 0.02	per cent. 19.97
Married (a)	42.20	16.48	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
<i>Persons.</i>					
Never Married	per cent. 21.55	per cent. 2.53	per cent. 0.52	per cent. 1.07	per cent. 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.

PART 2.—BIRTHS, DEATHS AND MARRIAGES

Registration System—For the administration of the Registration of Births, Deaths and Marriages Act, 1894-1948, 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 still-birth must be registered both as a birth and a death. (A still-born 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.

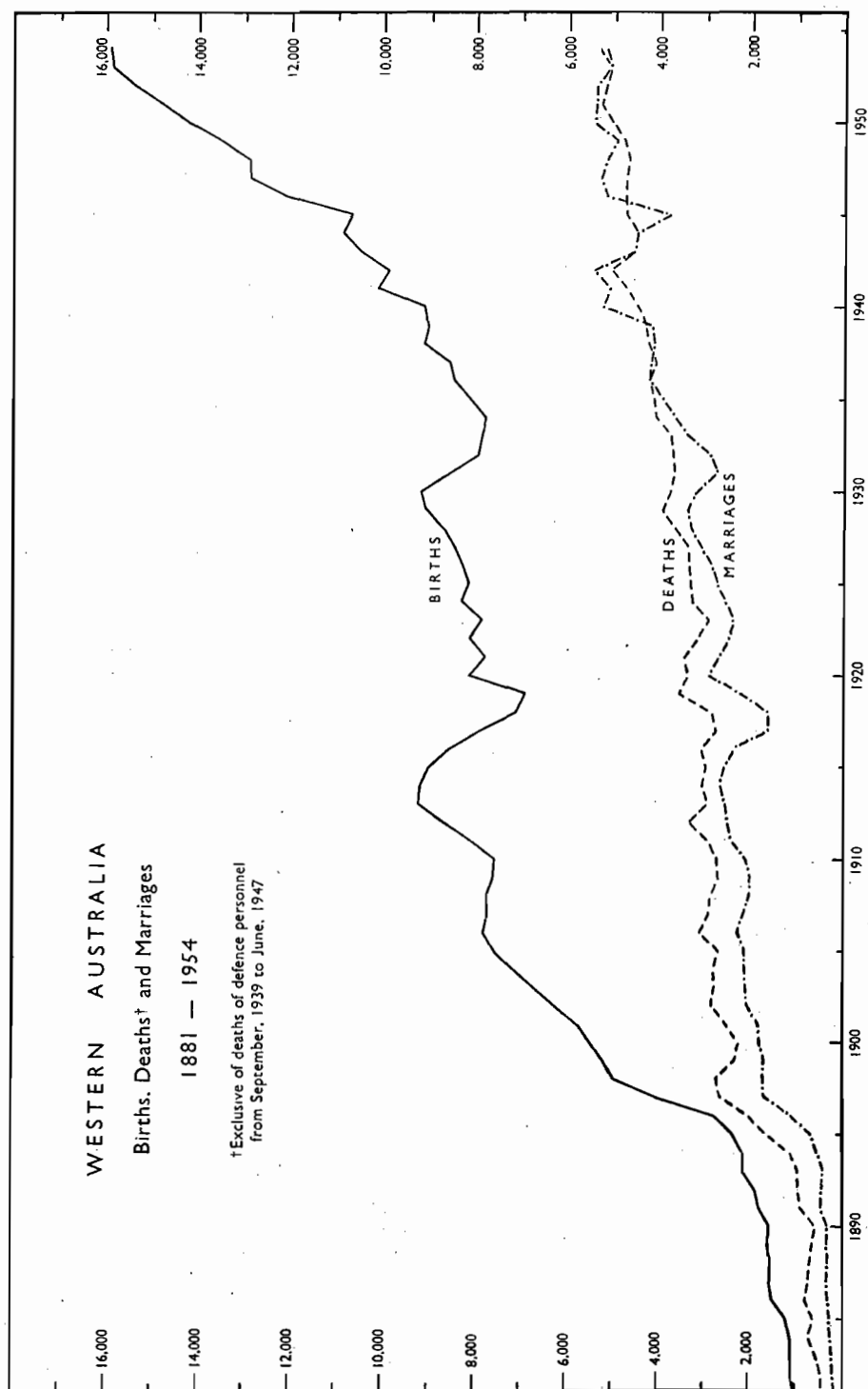
BIRTHS

Statistics of births in each of the last five years for the Metropolitan Area, the remainder of the State, and for Western Australia as a whole are shown in the table below.

BIRTHS—METROPOLITAN AREA AND WHOLE STATE, 1950-1954

Year.	Births.*			Ex-Nuptial Births.*	Multiple Births.*	Still-Births.
	Males.	Females.	Persons.	Persons.	Persons.	Persons.
<i>Metropolitan Area.</i>						
1950	3,668	3,415	7,083	233	160	121
1951	3,654	3,359	7,013	266	164	144
1952	3,865	3,754	7,609	265	155	125
1953	3,906	3,827	7,733	304	157	135
1954	4,029	3,781	7,810	302	181	129
<i>Remainder of State.</i>						
1950	3,625	3,520	7,145	288	167	119
1951	4,030	3,751	7,781	346	205	153
1952	3,971	3,833	7,804	369	163	159
1953	4,150	3,979	8,129	403	190	133
1954	4,107	4,011	8,118	410	171	141
<i>Whole State.</i>						
1950	7,293	6,935	14,228	521	327	240
1951	7,684	7,110	14,794	612	369	297
1952	7,826	7,587	15,413	634	318	284
1953	8,056	7,806	15,862	707	347	268
1954	8,136	7,792	15,928	712	352	270

* Excluding still-births.



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 from 1901 to 1950 and for the period 1951 to 1954, and the rates for single years from 1944 to 1954 for Western Australia and Australia as a whole, are shown in the following table.

CRUDE BIRTH RATES—WESTERN AUSTRALIA AND AUSTRALIA, 1901–1954

Period.	Average Annual Rate.		Year.	Annual Rate.	
	Western Australia.	Australia.		Western Australia.	Australia.
1901–1905	30.56	26.35	1944	22.58	20.98
1906–1910	29.53	26.67	1945	21.89	21.73
1911–1915	28.62	27.78	1946	24.67	23.62
1916–1920	24.49	25.35	1947	25.60	24.07
1921–1925	22.85	23.86	1948	25.13	23.09
1926–1930	21.54	20.98	1949	25.37	22.92
1931–1935	18.86	16.94	1950	25.50	23.31
1936–1940	19.16	17.52	1951	25.49	22.96
1941–1945	21.72	20.28	1952	25.66	23.35
1946–1950	25.24	23.39	1953	25.54	22.94
1951–1954	25.39	22.93	1954	24.88	22.50

It will be seen that throughout the period Western Australia's crude birth rate has been higher than that of the Commonwealth, with the exception of the later years of World War I and the years immediately following.

In Western Australia, the rate showed a marked and almost continuous decline from the beginning of the century to the depression of thirty years later when the unprecedentedly low rate of 17.64 was recorded in 1934. Since then the improvement has been well maintained, the rate reaching the high average annual levels of 25.24 for the post-war quinquennium and 25.39 during the last four years. The rate for the year 1952 was 25.66 and for 1954, 24.88 per thousand of mean population.

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 for these factors, are therefore generally to be preferred to the crude birth rate as measures of fertility.

The gross reproduction rate is based primarily upon 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 sum of these varying fertility rates is known as the gross reproduction rate, and 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 1.683 and 1.478, respectively.

DEATHS

Statistics of deaths in each of the last five years for the Metropolitan Area, the remainder of the State, and for 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—METROPOLITAN AREA AND WHOLE STATE, 1950-1954

Year.	Deaths.*			Infant Deaths.†		
	Males.	Females.	Persons.	Males.	Females.	Persons.
<i>Metropolitan Area.</i>						
1950	1,689	1,327	3,016	103	77	180
1951	1,777	1,410	3,187	116	69	185
1952	1,711	1,346	3,057	96	83	179
1953	1,736	1,306	3,042	103	77	180
1954	1,849	1,398	3,247	98	55	153
<i>Remainder of State.</i>						
1950	1,333	709	2,042	114	92	206
1951	1,309	792	2,101	123	117	240
1952	1,366	786	2,152	115	90	205
1953	1,272	758	2,030	115	83	198
1954	1,354	763	2,117	127	79	206
<i>Whole State.</i>						
1950	3,022	2,036	5,058	217	169	386
1951	3,086	2,202	5,288	239	186	425
1952	3,077	2,132	5,209	211	173	384
1953	3,008	2,064	5,072	218	160	378
1954	3,203	2,161	5,364	225	134	359

* 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 1901 to 1954 are compared in the following table.

CRUDE DEATH RATES—WESTERN AUSTRALIA AND AUSTRALIA, 1901-1954

Period.	Average Annual Rate.		Year.	Annual Rate.	
	Western Australia.	Australia.		Western Australia.	Australia.
1901-1905	12.49	11.75	1944 (a)	9.30	9.52
1906-1910	11.01	10.74	1945 (a)	9.67	9.50
1911-1915	9.86	10.73	1946 (a)	9.65	10.00
1916-1920	9.93	10.78	1947 (a)	9.39	9.69
1921-1925	9.17	9.52	1948	9.10	9.97
1926-1930	8.91	9.26	1949	8.99	9.52
1931-1935	8.83	9.00	1950	9.07	9.56
1936-1940 (a)	9.22	9.63	1951	9.11	9.71
1941-1945 (a)	9.86	9.96	1952	8.67	9.45
1946-1950 (a)	9.23	9.74	1953	8.17	9.09
1951-1954	8.57	9.33	1954	8.38	9.10

(a) Excludes deaths of members of defence forces from September, 1939 to June, 1947.

Western Australia's crude death rate for the year 1902 was 13.79 per thousand of the mean population. By 1931, it had fallen to 8.51. The decrease had been fairly consistent throughout the period, apart from a rise in 1919 and 1920 due mainly to the influenza epidemic of those years. After 1931, the rate increased until it reached 10.65 in 1942, since when there has been a gradual but fairly well sustained decline.

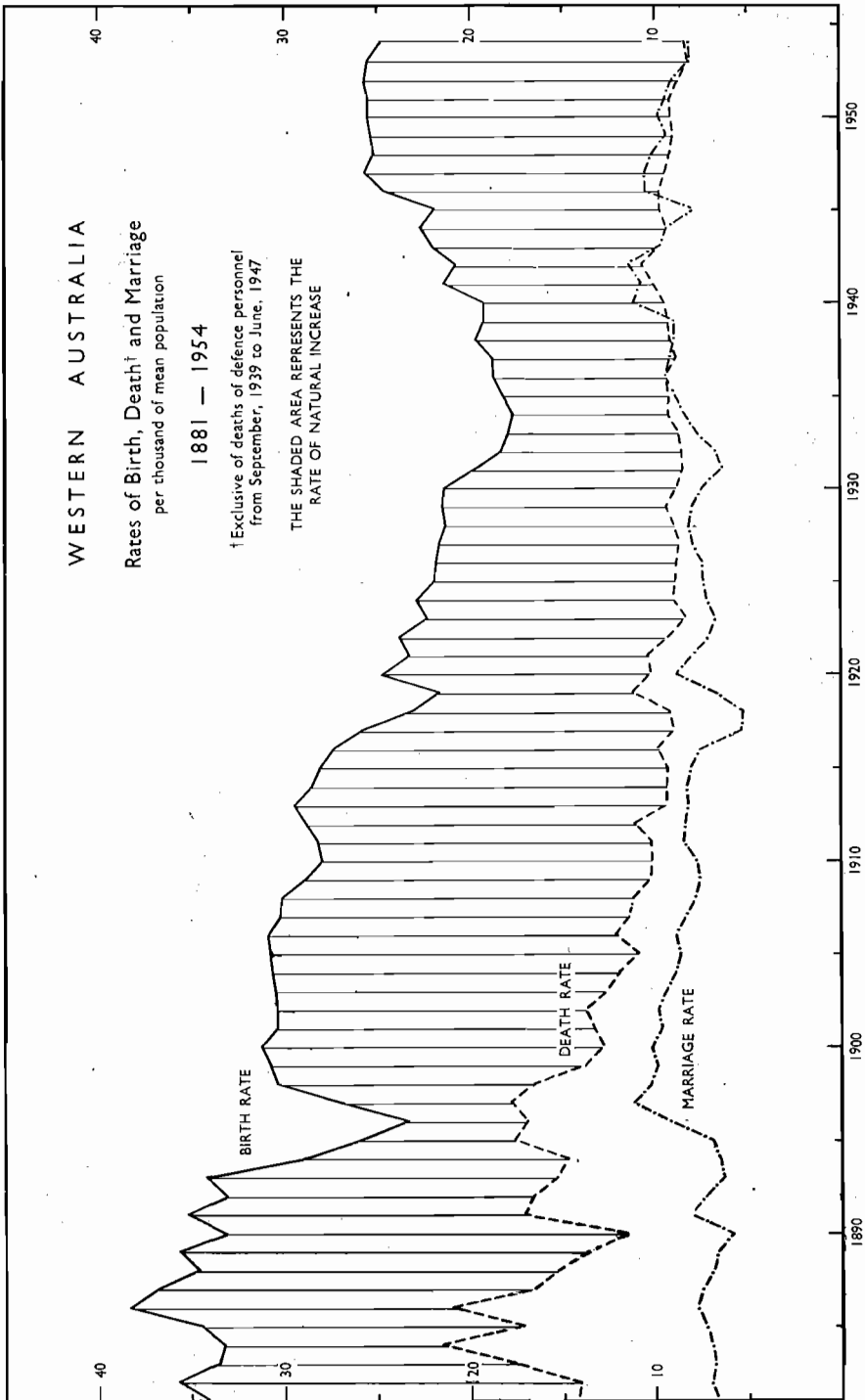
In the early years of the century, the Western Australian rate was higher than that for Australia as a whole, but fell below the Australian average in 1909. Since that time, the rate for Western Australia has, with few exceptions, remained lower than that for the Commonwealth.

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.

WESTERN AUSTRALIA

Rates of Birth, Death[†] and Marriage
per thousand of mean population

1881 — 1954

[†]Exclusive of deaths of defence personnel
from September, 1939 to June, 1947THE SHADED AREA REPRESENTS THE
RATE OF NATURAL INCREASE

The rates for Western Australia and for the Commonwealth in the period 1901-1954 are shown in the table below.

INFANT MORTALITY RATES—WESTERN AUSTRALIA AND AUSTRALIA, 1901-1954

Period.	Average Annual Rate.		Year.	Annual Rate.	
	Western Australia.	Australia.		Western Australia.	Australia.
1901-1905	124.79	96.91	1944	32.57	31.34
1906-1910	89.80	77.61	1945	29.52	29.38
1911-1915	72.43	70.32	1946	31.06	29.01
1916-1920	61.73	64.67	1947	30.92	28.52
1921-1925	59.14	57.88	1948	25.60	27.77
1926-1930	49.27	51.99	1949	26.42	25.31
1931-1935	40.81	41.27	1950	27.13	24.48
1936-1940	39.70	38.81	1951	28.73	25.24
1941-1945	33.30	34.97	1952	24.91	23.79
1946-1950	28.15	26.98	1953	23.83	23.30
1951-1954	24.94	23.68	1954	22.54	22.47

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 several States. Since then both the Western Australian and the Australian rates have shown a substantial decrease. Despite the improvement in the Western Australian rate, the experience of the last ten years reveals a less favourable situation than for the Commonwealth as a whole. Western Australia's average annual rate for the period was 26.82 compared with the Australian rate of 25.77 and was greater than that for any other State, except New South Wales (27.49).

Causes of Infant Deaths—The causes of death in the first year of life, in certain broad groups, during the period 1901-1954 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 (a), 1901-1954

Year.	Cause of Death.											
	Diseases of Early Infancy. (b)		Congenita Malformation.		Diseases of Digestive System.		Infective and Parasitic Diseases		All Other Causes.		Total.	
	No.	Rate. (c)	No.	Rate. (c)	No.	Rate. (c)	No.	Rate. (c)	No.	Rate. (c)	No.	Rate. (c)
1901	249	43.55	6	1.05	277	48.44	51	8.92	154	26.93	737	128.80
1911	222	27.43	19	2.35	213	26.34	30	3.71	133	16.44	617	76.26
1921	195	24.98	28	3.59	197	25.23	(d)	(d)	191 (d)	24.66 (d)	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
1950	227	15.95	54	3.80	31	2.18	16	1.12	58	4.08	386	27.13
1951	204	17.85	61	4.12	25	1.69	9	0.61	60	4.46	425	28.73
1952	234	15.18	69	4.48	13	0.84	4	0.25	64	4.15	384	24.91
1953	227	14.31	49	3.09	12	0.76	16	1.01	74	4.67	378	23.83
1954	220	13.81	60	3.77	19	1.19	12	0.75	48	3.01	359	22.54

(a) Excluding still-births.

(b) Including premature births.

(c) Rate per 1,000 live births.

(d) "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 1954, when there were 16 infant deaths from diarrhoea and enteritis, was 1.00.

Still-births—The infant mortality rate discussed above is that most commonly used, and takes no account of still-births. It is informative, however, to examine these two factors in relation, as in the next table. The importance of still-births is evident from the fact that, in the period 1945-1954, the average annual number of still-births registered was 271, compared with an average of 371 deaths in the first year of life.

STILL-BIRTHS AND INFANT DEATHS, 1945-1954

Year.	Still-births.				Deaths under One Year of Age.			
	Males.	Females.	Persons.	Masculinity (a).	Males.	Females.	Persons.	Masculinity (a).
1945	117	107	224	109.3	191	124	315	154.0
1946	156	137	293	113.9	208	168	376	123.8
1947	151	153	304	98.7	213	185	398	115.1
1948	151	115	266	131.3	185	140	331	126.7
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	150	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

(a) Number of males to each hundred females.

The relationship between still-births and infant deaths during the same period is further examined in the following tables, which show the numbers of still-births and of infant deaths at various ages. The rates shown represent the number of still-births, or of infant deaths, per thousand of total births (i.e., including still-births).

STILL-BIRTHS AND INFANT DEATHS—NUMBERS AND RATES, 1945-1954

Year.	Still-births.	Infant Deaths.			Still-births and Infant Deaths.
		Under One Week.	Under One Month.	Under One Year.	
<i>Number.</i>					
1945	224	196	218	315	539
1946	293	213	256	376	669
1947	304	223	257	398	702
1948	266	220	247	331	597
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	266	359	629
<i>Rate.*</i>					
1945	20.56	17.90	20.01	28.91	49.47
1946	23.63	17.18	20.65	30.33	53.96
1947	23.07	16.92	19.50	30.20	53.27
1948	20.16	16.67	18.72	25.08	45.24
1949	19.45	16.69	18.77	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

* Rate per thousand of total births (i.e., including still-births).

Of the failures to complete the first year of life, due either to still-birth or to death during the first year, 42.3 per cent. on the average, were attributable to still-birth.

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 below. 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 arithmetic average of these results represents what would have been the death-rate in the standard population if it had been exposed to the same risks of mortality.

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

STANDARDIZED DEATH RATES—WESTERN AUSTRALIA AND AUSTRALIA, 1921-1954.

Year.	Western Australia.	Australia.
1921	11.88	10.68
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 sixth 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 93.

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 under the direction of the Commonwealth Statistician after each national census, form a comprehensive series covering the experience of six separate periods, 1881-90, 1891-1900, 1901-10, 1920-22, 1932-34 and 1946-48.

The expectation of life of males and females at various ages as disclosed by these investigations is shown in the following table.

EXPECTATION OF LIFE—AUSTRALIA, 1881-90 TO 1946-48.

Age last birthday (years)	Males.						Females.					
	1881-90.	1891-1900.	1901-10.	1920-22.	1932-34.	1946-48.	1881-90.	1891-1900.	1901-10.	1920-22.	1932-34.	1946-48.
	Years.	Years.	Years.	Years.	Years.	Years.	Years.	Years.	Years.	Years.	Years.	Years.
0	47.20	51.08	55.20	59.15	63.48	66.07	50.84	54.76	58.84	63.31	67.14	70.63
1	53.34	56.88	59.96	62.67	65.49	67.25	56.44	59.89	62.89	66.03	68.67	71.45
2	54.26	57.41	60.04	62.60	65.00	66.47	57.39	60.40	62.95	65.86	68.12	70.66
3	54.01	56.98	59.45	61.99	64.25	65.60	57.16	59.98	62.34	65.21	67.34	69.77
4	53.49	56.33	58.71	61.25	63.43	64.70	56.03	59.35	61.60	64.44	66.50	68.84
5	52.86	55.61	57.91	60.43	62.57	63.77	56.00	58.64	60.80	63.64	65.64	67.91
10	48.86	51.43	53.53	56.01	58.02	59.04	51.95	54.46	56.39	59.20	61.02	63.11
15	44.45	46.98	49.03	51.44	53.36	54.28	47.54	49.97	51.86	54.55	56.29	58.27
20	40.58	42.81	44.74	46.99	48.81	49.64	43.43	45.72	47.52	50.03	51.67	53.47
25	37.10	38.90	40.60	42.70	44.37	45.04	39.67	41.69	43.36	45.71	47.19	48.74
30	33.64	35.11	36.52	38.44	39.90	40.40	36.13	37.86	39.33	41.48	42.77	44.08
35	30.06	31.34	32.49	34.20	35.46	36.79	32.58	34.14	35.37	37.28	38.37	39.46
40	26.60	27.65	28.56	30.05	31.11	31.23	29.08	30.49	31.47	33.14	34.04	34.91
45	23.04	23.99	24.78	26.03	26.87	26.83	25.56	26.69	27.59	28.99	29.74	30.45
50	19.74	20.45	21.16	22.20	22.83	22.67	22.06	22.93	23.69	24.90	25.58	26.14
55	16.65	17.08	17.67	18.51	19.03	18.84	18.64	19.29	19.85	20.95	21.58	22.04
60	13.77	13.99	14.35	15.08	15.57	15.36	15.39	15.86	16.20	17.17	17.74	18.11
65	11.06	11.25	11.31	12.01	12.40	12.25	12.27	12.75	12.88	13.60	14.15	14.44
70	8.82	8.90	8.67	9.26	9.60	9.55	9.70	9.89	9.96	10.41	10.98	11.14
75	6.72	6.70	6.58	6.87	7.19	7.23	7.24	7.37	7.59	7.73	8.23	8.32
80	5.11	5.00	4.96	5.00	5.22	5.36	5.27	5.40	5.73	5.61	6.01	6.02
85	3.86	3.79	3.65	3.62	3.90	3.84	3.90	4.12	4.19	4.06	4.30	4.32
90	2.91	2.91	2.64	2.60	2.99	2.74	2.98	3.07	2.99	2.91	3.05	3.08
95	2.16	2.16	1.88	1.86	2.11	1.93	2.25	2.18	2.10	2.07	2.00	2.14
100	1.32	1.29	1.18	1.17	1.10	....	1.37	1.23	1.24	1.24	1.02	....

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 66.07 years. The anticipated life-span of females at birth has increased from 50.84 years to 70.63 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.

DEATHS CLASSIFIED ACCORDING TO PRINCIPAL CAUSES, 1901-1954

Rates are calculated per 1,000 of mean population

Cause of Death.	1901.		1911.		1921.		1931.		1941.		1951.		1952.		1953.		1954.	
	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	....	0.02	1	0.00	....	0.00	1	0.00
Diphtheria	10	0.05	37	0.13	44	0.13	19	0.04	20	0.04	11	0.00	2	0.00	1	0.00	3	0.00
Tuberculosis of respiratory system	151	0.80	190	0.66	277	0.83	223	0.52	185	0.39	73	0.13	75	0.12	43	0.07	57	0.09
Other forms of Tuberculosis	40	0.21	42	0.15	23	0.07	22	0.05	23	0.05	10	0.02	7	0.01	3	0.00	4	0.01
Cancer	83	0.44	182	0.63	281	0.84	416	0.96	584	1.23	686	1.18	689	1.15	738	1.19	781	1.22
Rheumatic fever	10	0.05	8	0.03	8	0.02	9	0.02	29	0.06	9	0.02	5	0.01	5	0.01	8	0.01
Diabetes mellitus	9	0.05	13	0.05	34	0.10	47	0.11	83	0.18	58	0.10	42	0.07	45	0.07	55	0.09
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	28	0.05	20	0.03	16	0.02
Cerebral haemorrhage, etc.	41	0.22	105	0.37	162	0.48	196	0.46	417	0.88	594	1.02	612	1.02	577	0.98	629	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	1,696	2.82	1,725	2.78	1,852	2.89
Bronchitis	66	0.35	42	0.15	56	0.17	48	0.11	57	0.12	46	0.08	40	0.07	47	0.08	48	0.07
Pneumonia	166	0.88	195	0.68	223	0.67	239	0.55	331	0.70	188	0.32	181	0.30	189	0.30	167	0.26
Enteritis and Diarrhoea	312	1.66	273	0.95	302	0.90	81	0.19	114	0.24	64	0.11	41	0.07	23	0.04	39	0.06
Other diseases of digestive system	143	0.76	185	0.47	156	0.47	174	0.40	186	0.39	166	0.28	142	0.23	157	0.25	164	0.26
Nephritis	49	0.26	98	0.34	104	0.31	176	0.41	203	0.43	88	0.15	88	0.15	76	0.12	80	0.13
Other diseases of genito-urinary system	17	0.09	29	0.10	56	0.17	74	0.17	85	0.18	94	0.16	96	0.16	66	0.11	78	0.12
Maternal causes	119	0.10	39	0.14	24	0.07	35	0.08	24	0.05	16	0.03	18	0.03	9	0.01	12	0.02
Suicide	40	0.21	58	0.20	72	0.22	107	0.25	42	0.09	81	0.14	82	0.14	64	0.10	76	0.12
Homicide	6	0.03	8	0.03	1	0.00	17	0.04	4	0.01	7	0.01	10	0.02	10	0.02	10	0.02
Automobile accidents	236	1.26	265	0.92	227	0.68	69	0.16	97	0.20	174	0.30	191	0.32	186	0.30	182	0.29
Other accidents	857	4.57	903	3.15	1,168	3.50	1,377	2.47	1,017	2.14	209	0.36	216	0.36	200	0.32	194	0.30
All other causes	2,519	13.39	2,954	10.20	3,480	10.42	3,681	8.51	4,769	10.06	5,288	9.11	5,209	8.67	5,072	8.17	5,364	8.38
Total	2,519	13.39	2,954	10.20	3,480	10.42	3,681	8.51	4,769	10.06	5,288	9.11	5,209	8.67	5,072	8.17	5,364	8.38

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 1901-10, Western Australians, both males and females, had the lowest expectancy at birth in the Commonwealth. Their investigation of the data for the 1946-48 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.

MARRIAGES

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

MARRIAGES—METROPOLITAN AREA AND WHOLE STATE, 1950-1954

Year.	Marriages Celebrated by		All Marriages.	Proportion Celebrated by Registrars (per cent.).	Number of Minors Married.		
	Ministers.	Registrars.			Males.	Females.	Persons.
Metropolitan Area.							
1950	2,535	620	3,155	19.7	192	892	1,084
1951	2,543	575	3,118	18.4	193	877	1,070
1952	2,549	602	3,151	19.1	215	863	1,078
1953	2,352	546	2,898	18.8	211	918	1,129
1954	2,552	554	3,106	17.8	221	1,035	1,256
Remainder of State.							
1950	1,830	449	2,279	19.7	146	769	915
1951	1,831	441	2,272	19.4	175	772	947
1952	1,823	415	2,238	18.5	178	816	994
1953	1,742	392	2,134	18.4	147	773	920
1954	1,708	390	2,098	18.6	158	801	959
Whole State.							
1950	4,365	1,069	5,434	19.7	338	1,661	1,999
1951	4,374	1,016	5,390	18.8	368	1,649	2,017
1952	4,372	1,017	5,389	18.9	393	1,679	2,072
1953	4,094	938	5,032	18.6	358	1,691	2,049
1954	4,260	944	5,204	18.1	379	1,836	2,215

The statistics of minors marrying shown above during the five-year period reveal that 32.20 per cent. of brides were minors, compared with only 6.94 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 quinquennium from 1901 to 1950, and in the period 1951-1954, appear in the table below. Rates for each of the years 1944 to 1954 are also shown.

MARRIAGE RATES*—WESTERN AUSTRALIA AND AUSTRALIA, 1901-1954

Period.	Average Annual Rate.		Year.	Annual Rate.	
	Western Australia.	Australia.		Western Australia.	Australia.
1901-1905	9.26	7.10	1944	9.36	9.33
1906-1910	8.06	7.89	1945	7.77	8.50
1911-1915	8.26	8.86	1946	10.49	10.65
1916-1920	6.80	7.82	1947	10.50	10.09
1921-1925	7.27	8.04	1948	10.08	9.72
1926-1930	7.80	7.52	1949	9.30	9.23
1931-1935	7.58	7.16	1950	9.74	9.24
1936-1940	9.49	9.35	1951	9.29	9.18
1941-1945	9.74	9.94	1952	8.97	8.59
1946-1950	10.01	9.77	1953	8.10	8.01
1951-1954	8.61	8.41	1954	8.13	7.92

* Number of marriages celebrated per thousand of mean population.

CHAPTER V—SOCIAL CONDITION

PART I—EDUCATION

PRIMARY AND SECONDARY EDUCATION

The first schools in Western Australia were under the direction of local Boards, the salaries of certain of the schoolmasters being met by the Colonial Government. In 1846 a set of regulations for the conduct of the Board schools was gazetted. Under the regulations fees could be charged, 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 attendance was not compulsory.

The first Elementary Education Act was passed in 1871 and established a Central Board of Education which was empowered "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 duty of the Central Board to apportion and distribute funds set apart for educational purposes by the Legislature and to fix a scale of fees for the attendance of children in Government schools as established by the Act. Compulsory attendance was introduced for all children in the age group, six to thirteen years, who resided within three miles of a school. The Act also provided for non-government elementary schools to receive grants-in-aid from the Government; these were designated "assisted" schools. District Boards were established to inspect and supervise both government and "assisted" denominational and other schools in their areas and to keep the Central Board duly informed.

The Elementary Education Act Amendment Act, 1893 abolished the Central Board of Education and set up the Department of Education, controlled by the Minister for Education. The District Boards were continued but they now acted as Boards of Advice. 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. Legislation which is at present operative (the Education Act, 1928-1955) is very largely a development from the Act of 1899, but there have been many amendments to keep the law abreast of modern educational requirements. A state-endowed University was opened in 1913 and its activities are described later in this chapter.

School Attendance

Attendance is compulsory for all children aged six years and upward to their fourteenth birthday residing within reasonable access of a government or approved private school. However, children aged from six to eight years may (subject to the availability of transport) be exempted if they live more than two miles from a school. Correspondence classes are provided for children unable to attend school. The Education Act was amended in 1943 to extend the school-leaving age to 15 years but the legislation has not been proclaimed, mainly because of the shortage of staff and accommodation.

In primary schools the subjects taught are English, arithmetic, history, geography, citizenship and an appropriate selection of the special subjects which are set out on page 97. At the post-primary level, mathematics, languages, science subjects, home science, woodwork, metalwork and technical drawing are introduced. Although education in the government schools is predominantly secular, periods are set aside during which representatives of the various religious bodies attend and impart religious instruction. In addition, instruction in scripture stories is given by the teacher.

The general curriculum varies slightly between urban and rural areas but is sufficiently consistent to ensure a uniform standard of education throughout the State. Adjustments made in the curricula of rural schools are designed to ensure an adequate grasp of agricultural problems. One aspect of this is the teaching of elementary agricultural science.

The Education Department's policy of consolidating country schools is tending to concentrate teaching in the larger towns of the country districts. Pupils are transported to and from the schools by motor bus at government expense. By this means it has been possible to close a number of small rural schools and to use teaching staff more effectively in the better-equipped "consolidated" schools. As a result of the consolidation policy the number of primary schools fell from 800 at the end of 1940 to 466 on 31st December, 1955.

In the following table are shown the numbers of children receiving education at the various grades (in both private and government schools) at the middle of the 1955 school year.

Grade of Education.	Number of pupils receiving instruction in :		
	Private schools.	Government schools.	Total.
Kindergarten	3,515	.....	3,515
Primary	19,318	78,554	97,872
Secondary—			
Years I to III (a)	6,168	15,325	21,493
Years IV and V (b)	1,173	1,004	2,177
Total	30,174	94,883	125,057

(a) Children preparing for the Junior Certificate examination or doing work of a comparable standard. (b) Children preparing for the Leaving Certificate examination or doing comparable work.

Kindergartens

Kindergarten facilities are available in the closer-settled districts, notably the metropolitan area. The ages of attendance range from about three to six years. A training college for kindergarten teachers is maintained by the Kindergarten Union of Western Australia and many schools are staffed and controlled by this organisation. In view of its services to the mothers and infants of the community the Union is subsidized by the State Government. Several of the denominational schools also maintain kindergartens, while there are many smaller establishments providing kindergarten facilities for a weekly fee.

Government Primary and Secondary Schools

Primary Schools numbered 466 at the end of 1955 and included 26 of the Junior High School type ; reference to which is made at the end of the subsection "*Secondary Schools*." Pupils on the rolls at that time totalled 78,562 and the staff comprised 2,382 teachers, of whom 466 were head teachers. Of the total of all categories of scholars, 889 were enrolled with the Education Department's Correspondence School. This service extends to all children living remote from an established school ; secondary students in smaller country schools ; sick children who are temporarily prevented from attending schools and adults in the country areas who wish to further their education in specific subjects.

The Education Department has a travelling teacher service in operation through the sparsely-settled areas of the State beyond Geraldton, northward to the West Kimberley district and inland as far as the Wiluna district. Three teachers, following individual itineraries, go from homestead to homestead by motor van, supplementing 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 three visits annually to every homestead, with each visit of up to three days' duration.

Special classes have been established for Rubella-affected, Spastic, Post-poliomyelitis and Slow-learning children.

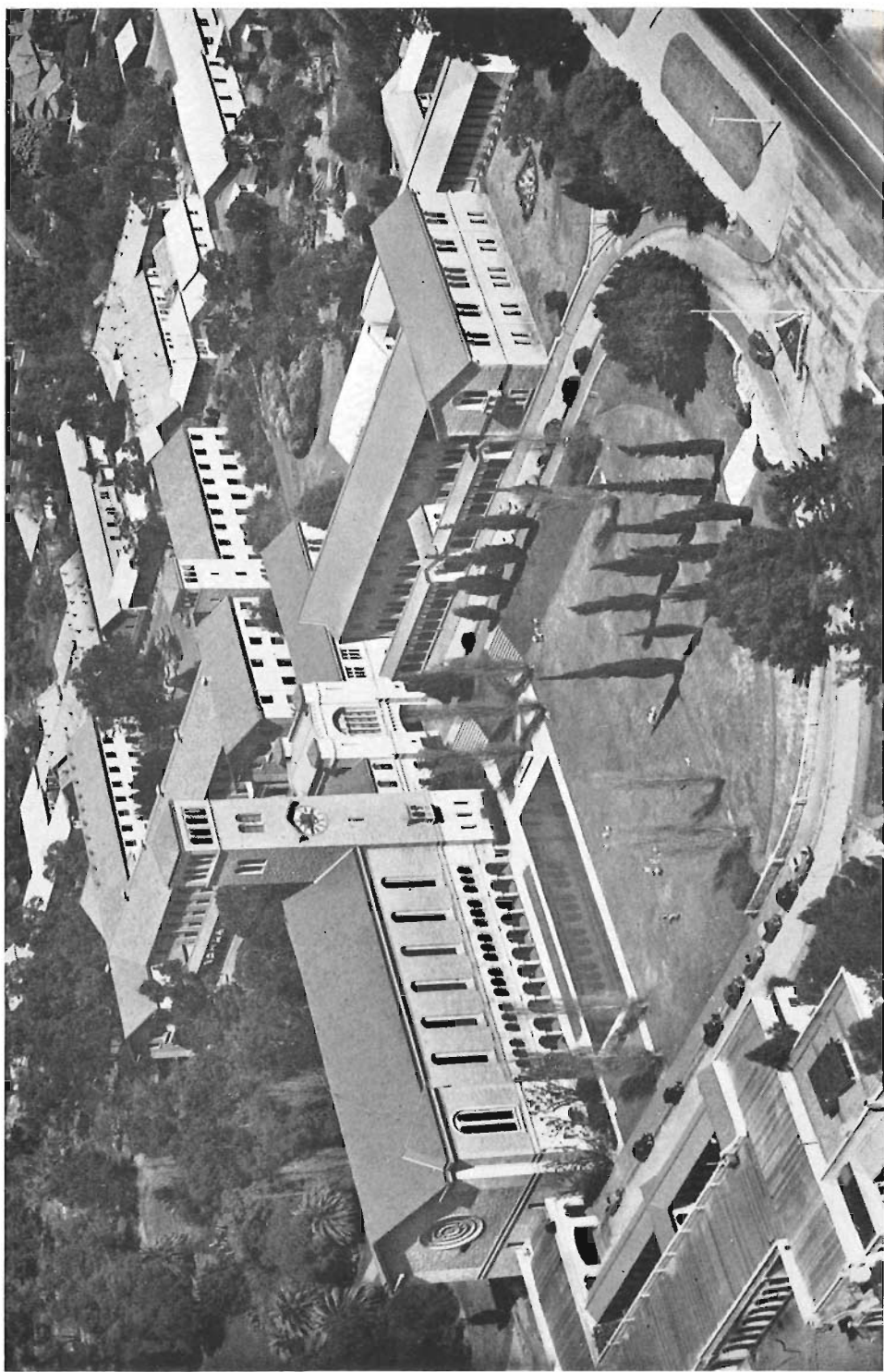
Secondary Schools comprise two types—the three-year and the five-year High Schools. Details of their operations are shown in the following table :—

GOVERNMENT HIGH SCHOOLS (a), 1955

Schools at end of Year.		Teachers.			Scholars on Roll at end of Year. (b)			Average Weekly Enrolment. (b)	Average Daily Attendance. (b)
Type.	No.	Males.	Females.	Total.	Males.	Females.	Total.		
Five Year Course	10	262	118	380	3,543	2,648	6,191	6,587	6,237
Three Year Course	11	135	142	277	2,756	3,413	6,169	6,750	6,359
Total	21	397	260	657	6,299	6,061	12,360	13,337	12,596

(a) Excluding Junior High Schools.

(b) Including some 700 primary scholars attending High Schools.



VIEW OF UNIVERSITY MAIN BUILDINGS CAMPUS

It should be noted that there are many secondary scholars who are attending Junior High Schools and Primary and Correspondence Schools. In consequence they are not included in the preceding table; the number of such scholars at the end of 1955 was 3,208. Further reference is made to this feature in the following paragraphs.

In general, a pass out of Standard VI is required for entry into the secondary schools, so that most children enter in the year of their 13th birthday. The three-year High Schools give tuition to the Junior Certificate level, while the five-year schools prepare students for both the Junior and the Leaving Certificate examinations. Pupils of the three-year High Schools who are successful in the Junior Certificate examination may then go to the five-year Schools to further their studies.

Combined Primary and Secondary schools.—At some country centres where numbers are not sufficient for a full High School, secondary pupils are taught in the Primary School. At the end of 1955, 26 of these schools had the status of Junior High Schools; *i.e.*, Primary Schools in which special provision for post-primary pupils is also made. Of the 2,382 teachers previously referred to under the heading "Primary Schools," 244 were then teaching "Primary" subjects in the Junior High Schools and 143 others were teaching subjects of "Secondary School" grade.

The total of all secondary enrolments in High Schools, Junior High Schools and Primary and Correspondence Schools rose from 9,792 in July, 1945 to 16,329 in July, 1955.

Private Schools

Education is given by private schools at all levels. Their curricula are substantially the same as those used in government schools. The majority of private schools are conducted by religious bodies. Details of the operations of the recognised private schools during the year 1955 are given in the following table. The relatively large enrolment of pupils at Roman Catholic schools is due to the preponderance of primary school attendances in this denomination.

PRIVATE SCHOOLS INCLUDING KINDERGARTENS, 1955

Denomination.	Schools.	Teachers		Scholars on Roll last School Day.								Grand Total.	Average weekly Enrolment.	Average daily Attendance.
				Boys.				Girls.						
		M.	F.	Under 6 years.	6 years and under 14.	14 years and over.	Total.	Under 6 years.	6 years and under 14.	14 years and over.	Total.			
Roman Catholic	156	131	530	451	8,758	1,626	10,835	486	9,410	1,581	11,477	22,312	22,072	20,829
Church of England	8	38	70	37	368	392	797	48	685	633	1,366	2,163	2,158	1,890
Presbyterian	2	24	28	15	220	315	550	32	247	241	520	1,070	1,071	1,028
Methodist	3	19	27	20	187	268	475	14	221	226	461	936	934	906
Seventh Day Adventist	5	11	6	3	96	47	146	1	107	60	168	314	319	304
Undenominational	88	16	159	1,530	169	229	1,928	1,534	21	....	1,555	3,483	3,459	2,830
Total, 1955	262	239	820	2,056	9,798	2,877	14,731	2,115	10,691	2,741	15,547	30,278	30,013	27,786
Total, 1954	252	221	780	2,058	9,325	2,582	13,965	2,179	9,976	2,512	14,667	28,632	28,021	26,299

Special subjects taught at primary and secondary levels

These comprise physical education, handicrafts, general science, music and art. Physical education is a specialized division of the curriculum—consisting basically of hygiene and physical training and supplemented by organized sports. Handicrafts in the primary schools consist of needlework for girls and such crafts as leatherwork, bookbinding, papiermache work and cane work for boys. In the secondary schools, girls are taught home science and the boys learn woodwork, metalwork and technical drawing wherever the students are sufficiently numerous.

Teaching of general science aims at a better understanding of the child's physical environment. Nature study is emphasized in the Primary Schools and tuition in this subject is adapted to the conditions of the particular neighbourhood—*e.g.*, town or countryside. Choral singing is the branch of musical expression which receives the most attention. Art classes are concerned mainly with free-hand drawing and design. Special sciences, *e.g.*, chemistry and physics are introduced at the secondary school stage.

Advisory teachers, under the direction of specialist superintendents, assist teachers in the home science, handicrafts, physical education, art and music fields.

Government scholarships and bursaries

The Education Department confers four types of secondary school scholarships under examinations taken at the end of primary school tuition. Summarized, these are as follow :—

- (a) Secondary school scholarships—tenable at government or private secondary schools ;
- (b) Perth Modern School entrance awards ;
- (c) District High School entrance awards ;
- (d) Fallen and disabled soldiers' children's scholarships.

One qualifying examination is used for all of these scholarships and selections are made on a competitive basis. The fifty most successful candidates are eligible for scholarships under class (a) which confer a moderate monetary benefit. Entrance awards under classes (b) and (c) are next allotted. Certain of the awards in classes (c) and (d) are made on the recommendations of the District Superintendents of Education.

Lodging allowances are paid to all secondary school pupils who are obliged to reside away from their homes while attending school. The Department also confers bursaries upon selected students who, having passed the Junior Certificate examination, are willing to study for the Leaving Certificate preparatory to entering the teaching service. The bursaries are at present valued at £80 per year and are tenable for two years at either government or private secondary schools.

Radio and Film Aids

Extensive use is made of radio and films as methods of aural and visual education. Most schools are equipped with radio receivers as well as 16 mm. film projectors and ancillary sound equipment. The Australian Broadcasting Commission co-operates with the Education Department in providing suitable radio programmes and the Parents and Citizens' Associations have assisted in buying the necessary equipment. The Visual Education Branch of the Department maintains an extensive film library as well as a mobile film projector which is made available when schools are not suitably equipped.

Technical Education

The senior and largest institution of the Technical Education Division in Western Australia is the Perth Technical College. 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 Leederville Technical School caters primarily for the building industry and associated trades, and the Wembley Trade School for apprentices in the Heavy Metal Trades. Leederville Technical School also accommodates a matriculation group. Area schools are located at Fremantle, Kalgoorlie, Midland Junction (biased towards the needs of railway apprentices) and Collie (biased towards mining). Each seeks to provide as far as possible for education in any subject for which there is sufficient local demand. There are also at present technical centres located at twelve country and three metropolitan schools at which evening classes are conducted. Technical Extension Classes are conducted in smaller towns where a centre is not warranted. The Technical Extension Service has the major function of providing correspondence instruction for those unable to attend classes, mainly residents of country areas.

The Division has a Psychology and Counselling Service which, in addition to its other activities, is available to students wishing advice and assistance in choosing their studies and progressing in them.

The teaching work of the Division may be considered under five headings :—

(i) *Full-time professional and vocational education*

The highest qualification provided is that of Associateship which generally occupies 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 levels are also offered on a full-time basis.

(ii) *Part-time day and evening vocational classes*

These include part-time study for the Diplomas and Certificates in such fields as Applied Science, Art, Commerce, Engineering, Management, Pharmacy and Public Administration. Also included are part-time studies of individual subjects in a great variety of fields which are intended to increase occupational efficiency. Part-time classes are made available at all technical schools and centres according to demand and the availability of qualified staff.

(iii) *Part-time training of apprentices*

Compulsory day training of apprentices extends to about 5,000 apprentices in approximately 50 different trades. Where these apprentices live within reach of a technical school providing suitable instruction they are required to attend classes for eight hours per fortnight or its equivalent. Correspondence courses, sometimes carried out in supervised study groups, are provided for country apprentices, and in some cases intensive courses in the metropolitan area are also available.

(iv) *Home-making and hobby classes*

These classes, in subjects like dressmaking, cookery, home-furnishing, etc., for women, and wood-work, motor maintenance, etc., for men, are made available at all technical schools and centres where there is sufficient demand and qualified staff.

(v) *Correspondence instruction*

A wide variety of courses is offered, exceptions being subjects such as those for which laboratory practice is necessary and those at a higher technical level for which demand outside the metropolitan area is extremely limited.

The Associateships of the Perth Technical College and certain of the Diplomas are recognised by various professional institutes. Some Diplomas or groups of subjects are accepted by the Public Service and other employing organisations for promotional purposes, whilst the University accords recognition to certain individual subjects in connection with degree qualification.

The rapid growth of technical education in the post-war years is shown by the following figures, which are the averages of three terms in the year concerned :—

	1945.	1950.	1955.
Individual enrolments	6,993	11,349	17,287
Correspondence enrolments	5,181	7,585	6,695
Apprentice enrolments	†1,584	†1,571	†5,168
Number of subjects offered	166	(not available)	370

† Included in "Individual enrolments."

During the last term in 1955 the Technical Education Division was staffed by 200 full-time and 337 part-time teachers.

Schools of Mines, controlled by the Mines Department, are maintained at Kalgoorlie and Norseman. They provide technical training in subjects relating to the goldmining industry and the mining of other minerals.

Agricultural Education

Boys aged 14 to 16 years who have passed Standard VI are eligible to enter the agricultural wings of the High School at Narrogin and the Junior High Schools at Denmark, Harvey, Pinjarra and Margaret River for two-year courses in practical farming and associated subjects. Preference is given to the sons of farmers, but other well-qualified boys, physically fitted for farm work, are also admitted. In addition to activities of particular use in farming, general education by way of certain ordinary school subjects is provided at post-primary level.

The Muresk Agricultural College, which is controlled by the Department of Agriculture, gives a different type of training. It provides a three-year course for a Diploma in Agriculture as well as a two-year course for a Diploma in Dairy Science.

Advanced courses in agriculture are available at the University of Western Australia.

Teachers' Training Colleges

The two Teachers' Colleges maintained by the Education Department have four principal courses, viz. :

- (a) The two-year course, for which the Leaving or Matriculation Certificates are entrance qualifications ;
- (b) Extended fields in which selected students study for three or four years and obtain other qualifications such as a University Degree ;
- (c) The one-year graduate course, for which the necessary qualification is a University degree ;
- (d) The three-year course, for which a Junior Certificate is qualification.

Student counselling and vocational guidance

Guidance officers appointed by the Department are available to discuss with parents the best courses of study for their children. In addition, qualified officers of the Department give vocational guidance to pupils leaving the High Schools. These officers also investigate cases of handicapped or educationally retarded children and recommend suitable courses of education.

Special schools and classes

The Education Department conducts classes at institutions which operate for the benefit of the physically handicapped. Such institutions are the Western Australian Institute and Industrial School for the Blind, the Deaf and Dumb School, the Princess Margaret Hospital and the Post-poliomyelitis Centre. In each instance, ordinary educational work is carried out by government-appointed teachers but the institutions themselves care for the students in other directions.

A number of classes in primary schools have been established to cater for slow-learning children and special methods and curricula are used.

Business colleges and correspondence schools

Several private organisations of this nature are functioning in Western Australia. They provide a supplementary commercial education and, in some cases, technical tuition for persons of the age of 14 years and over. In this way they offer alternative tuition to that obtainable through the Technical Education Division.

UNIVERSITY EDUCATION

Establishment of University of Western Australia

In the year 1910, as the result of considerable public demand, a Royal Commission was appointed under the Chairmanship of Dr. (later Sir) John Winthrop Hackett, to enquire into the question of establishing a University in Western Australia, at that time the only State in the Commonwealth without such an institution. The report of this Royal Commission, presented in 1910, was favourable to the proposal and in February, 1911 an Act was passed, establishing and incorporating the University of Western Australia. Notice of appointment of the University Senate was gazetted on 13th February, 1912—the date which is usually regarded as marking the foundation of the institution—but lectures did not commence until the 1913 academic year. In its report the Commission urged that lectures should be given in subjects relating to the two most important fields of activity in the State—agriculture and mining—as well as the usual studies in the Faculty of Arts. Thus, the faculties originally established were those of Arts, Science (including the applied science of agriculture) and Engineering—with Chairs of English, History and Economics, Mathematics and Physics, Biology, Geology, Chemistry, Agriculture, and Mining and Engineering.

Expansion

Since its foundation, the University has steadily extended the field of studies offering, by the establishment of Faculties of Law in 1927, Agriculture in 1937, Dental Science in 1946, Education in 1948 and Economics in 1954. In 1929 a Diploma in Education was established as a post-graduate course in the Faculty of Arts but this Diploma course was abolished after the establishment of the Faculty of Education. It was reintroduced under the auspices of the Faculty of Education in 1956. For a short period, diploma courses were available in Commerce and Journalism but these have been discontinued. The University provides a course in physical education as part of the Course leading to the degree of Bachelor of Education and assists in the training of physiotherapists and optometrists. A Medical School has been established, teaching in which commenced in 1957.

Private bequests to the University

Much benefit accrued to the University from the late Sir John Winthrop Hackett, whose high ideals and zealous work as Chairman of the Royal Commission of 1910 had great influence on the University's eventual establishment. During the time when the Commission was sitting he undertook to endow a Chair of Agriculture and in his will made a very large bequest which has enabled the erection of a ceremonial hall, library, lecture rooms and administrative block, together with a group of buildings for the use of the Guild of Undergraduates.

As part of his major bequest, Sir John Winthrop Hackett, who became the first Chancellor of the University, provided the means to endow undergraduate bursaries and post-graduate studentships which are awarded annually. The latter are valuable travelling awards. Mr. Robert Gledden also endowed fellowships for research in the applied sciences, chiefly in the fields of engineering, surveying and mining.

From time to time other bequests and donations have been received, to provide for research as well as the award of prizes in specified subjects.

The Senate

The government of the University is vested in the Senate which is the only body with power to initiate the administrative statutes of the institution. By a 1944 amendment of the University of Western Australia Act, the State Parliament altered the composition of the University Senate to the present total of twenty-one members, comprising the following :—

Six members nominated by the Governor ;

Six members elected by the Convocation of the University ;

Two members elected by the Academic staff from among their own number ;

The Under Treasurer and the Director of Education of the State and the Vice-Chancellor of the University—*ex officio* ;

Four persons elected by the members of the Senate who comprise the above groups. At least one of these four persons must be an ex-serviceman or woman of the first or second World Wars and at least two of their number must be persons who are members of Convocation.

The Chancellor is the titular head of the University and is elected annually by the Senate from within its own ranks. The Chief Executive Officer is the Vice-Chancellor, who is the intermediary between the Senate, the Professorial Board and interests outside the University. He is also responsible for general supervision of the administrative and academic work as well as of the maintenance staff. Other executive officers of the University are the Registrar and the Accountant. On the academic side the Deans are the chairmen of their respective faculties.

Convocation

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, 1911-1955. Convocation is the "second chamber" of the University government and is required to see all statutes which have been initiated or amended by the Senate, before such statutes are referred to the Governor for his consent. It may not, however, prevent the passage of a statute which has been approved by the Senate.

Guild of Undergraduates

The government of the student body, apart from the necessary disciplinary powers of the Vice-Chancellor, is vested in the Guild of Undergraduates. This organisation is the recognised means of communication between the student body and the University authorities and between the student clubs, etc., and outside interests. The Guild is constituted by the University of Western Australia Act; having power to make regulations for its own internal administration and organisation and thus exercising a measure of control over student activities. These regulations are subject to the approval of the Senate. The Guild being a body corporate, its functions are exercised through its Council. Two members of this are appointed by the Senate—the remainder being elected by the members of the Guild, subject to regulations framed for that purpose.

Student fees and scholarships

In the report of the 1910 Royal Commission much emphasis was placed on the desirability of having a "free" university. The principle was adopted when the University was founded and, as far as possible, has been adhered to ever since. University lecture fees are charged to overseas students (*i.e.*, those whose normal place of residence is outside Australia) but not to students having or intending Australian domicile. However, all students in the Western Australian College of Dental Science (an institution which is affiliated with the University) pay lecture fees to the College. Including the overseas students who pay the special fees mentioned above, all students at the University pay composite faculty service charges covering the use of the library, provision of lecture synopses in certain faculties, use of laboratory equipment, annual examination fees, etc. Subscriptions to the Guild of Undergraduates and to certain faculty clubs are payable with the composite charge.

To assist those who would not otherwise be able to avail themselves of a university education a number of bursaries from the Hackett Bequest are offered each year. The Education Department also provides a limited number of University Exhibitions for competition among students taking the Leaving Certificate examination. A more recent innovation is the Commonwealth Scholarship Scheme which developed out of the war-time financial assistance scheme. About one-third of the present full-time students of the University are assisted under the Scheme, the amount of assistance (apart from fees which are remitted) depending on the financial position of the student and his or her parents. An increased allowance is paid to those who are unable to live at home.

Tuition

Tuition is so arranged as to make university education widely available. In addition to the normal day-time lectures for full-time students there are evening lectures for internal part-time students who may be employed during the day. Lectures for part-time students are not available in technical subjects which require practical laboratory work in addition to formal lectures. However, the four educational institutions which are affiliated with the University, *viz.* :—Perth Technical College; Western Australian School of Mines, Kalgoorlie; Western Australian College of Dental Science and the Claremont Teachers' College—provide tuition in certain subjects at standards appropriate to sections of the degree courses. A feature of the University's teaching activities is the group of courses for students who live outside the metropolitan area and are thus unable to attend lectures. Those working under this system receive lecture synopses and reference works from the library. They are required to submit written work which is corrected by external tutors in the various subjects and returned by mail with suggestions and advice.

Residential Colleges

In addition to the regular lectures and tutorials given at the University, further instruction is available to resident students in the three University Colleges. Saint George's College for men is conducted by the Church of England and has a staff of resident and visiting tutors. Although it is primarily an Anglican denominational college, students of other denominations are admitted. The University Women's College of Western Australia is undenominational and at present occupies temporary accom-

modation in the University Hostel. Tutorials are given in a variety of subjects. A third college (St. Thomas More), under the auspices of the Roman Catholic Church, has been affiliated and has received a grant of land on which buildings have been erected and the first quota of resident students admitted. Like St. George's College, this College is for male students.

Degrees conferred and research undertaken

In all faculties the initial degree awarded is that of Bachelor, or Bachelor with Honours, the latter generally taking a year longer than the former. Further studies, together with approved research, lead to Masters' and Doctors' degrees, including the Ph.D. degree. In addition to its usual academic and research programme the University collaborates with the Commonwealth Scientific and Industrial Research Organisation and State agencies in special research work. The Institute of Agriculture, within the University, co-operates extensively with the State Department of Agriculture in research into the problems of Western Australian rural industry. For some time the Faculty of Engineering has acted as the Western Australian representative of the Standards Association, by testing and calibrating various engineering devices.

Extra-curricular activities

An interesting feature of the University's work lies in its extra-curricula functions which are exercised through the Adult Education Board, the Australian Music Examinations Board and the Public Examinations Board.

The Adult Education Board developed towards the end of the 1920's from the foundations laid by the Workers' Educational Association. During the period ending with the outbreak of the second World War the Board's activities were assisted by successive grants from the Carnegie Corporation of New York, first for a "Box Scheme" serving discussion groups, primarily in country districts; then for a "Readers' Counsellor" project; and thirdly, for the establishment of an Adult Education Library. The Board's activities have extended considerably since the war and now include a broader library service and a large annual "Summer School" incorporating lectures, music, drama, ballet and exhibitions of foreign films. The Summer School forms part of the yearly Festival of Perth, major activities of which are conducted in the open-air Somerville Auditorium and also the Sunken Garden at the University. During the year the Adult Education Board organises courses in arts and crafts as well as on social topics. A number of the Board's entertainment ventures are taken on tours of the country districts.

In 1915, all the Australian Universities, with the exception of Sydney, entered into an agreement for the conduct of public examinations in music. As a result the Music Advisory Board at the University of Western Australia (subject to the authority of the Senate) arranges for public examinations in music and in the art of speech to be held in accordance with the regulations of the Australian Music Examinations Board. The examinations are conducted at various dates during the academic year.

The University conducts public examinations for the Junior Certificate and the Leaving Certificate, which are designed to maintain a uniform standard of examinations at the secondary school level. These examinations are controlled by the Public Examinations Board under the University Senate. The University, the State Education Department and the private secondary schools are represented on the Board.

University finance

From its inception, the University has received financial support from the State Government. The amount of this assistance has increased steadily since 1913, when the original grant of £13,500 per annum (a statutory minimum) was made under the provisions of the University of Western Australia Act, 1911. During the second World War the Commonwealth Government, also, began to subsidise the University—as part of an Australia-wide scheme to provide an adequate number of graduates for all kinds of national service. This assistance, given under an arrangement with the State, included the provision of additional buildings; some permanent and some of a temporary nature.

When the war ended and demobilisation began, the Commonwealth Reconstruction Training Scheme came into operation and the benefits of a university education were extended to ex-service personnel. Assistance to individual students by such means as the reimbursement of fees, provision of special tutors, purchase of books and payment of living allowances were the main features of this scheme. The net result was a heavy increase in university enrolments and a marked rise in expenditure and revenue.

As from 1st January, 1951, the general form of Commonwealth assistance was modified, the Reconstruction Training Scheme largely disappearing and the Commonwealth Financial Assistance Scheme (already mentioned) becoming the Commonwealth Scholarship Scheme. The purpose of this latter scheme is to lessen inequality of educational opportunity at the tertiary level and to ensure a flow of trained professional personnel from universities and institutions of similar standing in Australia. Three thousand scholarships are provided annually and these are allocated between the States on a population basis. For the University of Western Australia this has meant an increase of activity in all faculties.

Statistical Data

The following table shows features of the University's development since 1920 :—

UNIVERSITY OF WESTERN AUSTRALIA—TUITION

Particulars.	1920.	1930.	1940.	1950.	1955.
Staff—	No.	No.	No.	No.	No.
Professors	7	9	8	14	16
Associate Professors	5	5	10	....	....
Readers/Lecturers-in-Charge	3	5	2	7	16
Lecturers (a)	19	34	40	92	112
Assistants, Demonstrators, Tutors, etc.	16	24	13	27	31
Total Staff	45	77	73	140	175
Students Enrolled—					
Internal, full-time	332	693	375	1,073	1,042
" part-time			486	525	656
External			123	242	260
Total Students	332	693	984	1,840	1,958
Sex of Students { <i>Males</i>	(b)	(b)	599	1,390	1,491
{ <i>Females</i>			385	450	467
Degrees Conferred— (c)					
Arts—M.A.	1	2	4	8	2
B.A.	27	35	42	108	93
Law—LL.B.	3	6	6	20	13
Education—M.Ed. ....	....	....	....	....	1
B.Ed. ....	....	....	....	4	10
Science (including Forestry)—D.Sc. ....	....	....	....	1	1
Ph.D. ....	....	....	....	1	3
M.Sc. ....	....	....	2	4	5
B.Sc.	8	17	22	69	55
Engineering—M.E. ....	....	....	....	1	....
B.E.	1	6	13	44	25
B.Sc. (Eng.)	13	....	....	3	....
Agriculture—D.Sc. (Agric.) ....	....	....	....	....	1
Ph.D. (Agric.) ....	....	....	....	....	1
M.Sc. (Agric.) ....	....	....	....	....	2
B.Sc. (Agric.)	1	5	5	9	15
Dental Science—B.D.Sc. ....	....	....	....	....	6
Medicine—M.B.B.S. ....	....	....	....	†3	....
Total	51	68	94	275	233
Sex of Graduates { <i>Males</i>	30	31	61	220	178
{ <i>Females</i>	21	37	33	55	55
Diplomas Awarded—					
Agriculture—Dip. Agric.	1	1	....	....	....
Education—Dip. Ed. ....	....	14	....	13	....
Commerce—Dip. Com. ....	....	....	7	....	....
Journalism—Dip. J. ....	....	....	1	....	....
Certificates Awarded—					
Teachers' .....	....	....	....	....	18
Educational Administration .....	....	....	....	....	3

(a) Includes "part-time" as well as "full-time" Lecturers. (b) Not available. (c) These do not comprise the full range of degrees available in the University, being only those conferred in the stated years. † Honorary degrees.

The financial statistics of the University are divided into two sections: "General University Activities" and "Extra-University Activities." Because the detailed nature of the receipts and payments under each section has altered considerably since 1920, only broad comparisons are possible.

UNIVERSITY OF WESTERN AUSTRALIA—FINANCIAL STATEMENT OF GENERAL UNIVERSITY ACTIVITIES

Particulars.	1920.	1930.	1940.	1950.	1955.
	£	£	£	£	£
Receipts—					
Government Grants :					
State	14,248	32,320	34,600	173,077	401,501
Commonwealth .....	.....	.....	.....	31,667	133,577
Interest, Rents, Dividends and Donations	640	35,791	5,204	2,551	10,592
Students' Fees	2,294	4,105	3,193	11,475	22,848
Engineering and other Testing Fees	(a)	(a)	1,684	1,515	4,792
Other Receipts	2,207	9,544	6,983	13,447	1,597
Total	19,389	†81,760	51,664	233,732	574,907
Payments—					
Administration :					
Salaries	817	4,291	2,744	15,002	29,717
Other	(b)	(b)	1,496	3,931	17,013
Teaching Departments :					
Salaries	11,224	23,483	29,897	114,546	314,484
Other	(b)	(b)	2,174	32,050	94,124
Library :					
Salaries	(b)	(b)	1,355	4,298	10,017
Other	(b)	(b)	1,689	6,398	16,053
Maintenance of Premises :					
Salaries and Wages	(b)	(b)	3,225	12,607	25,392
Other	(b)	(b)	1,825	25,731	58,624
Other General Expenditure	10,200	†121,498	3,552	17,756	28,275
Total	22,241	†149,272	47,957	232,319	593,699

(a) Included in "Other receipts." (b) Included in "Other general expenditure."

† Figures affected by construction and equipment activities at new site (Crawley).

UNIVERSITY OF WESTERN AUSTRALIA—FINANCIAL STATEMENT OF EXTRA-UNIVERSITY ACTIVITIES (a)

Particulars.	1940.	1950.	1955.
	£	£	£
Receipts—			
Government Grants :			
State—Adult Education	300	1,850	1,850
Commonwealth—Research	3,250	16,710	9,412
Non-Government Research Grants	3,075	.....	38,075
Interest, Rents, Dividends and Donations	10,890	18,307	†335,273
Candidates Fees for Public Examinations	6,484	15,367	27,092
Adult Education and Extension Fees	1,575	17,813	16,296
University of Western Australia Press	3,340	24,014	38,117
Other Receipts	353	71	3,679
Total	20,276	94,132	469,794
Payments—			
Expenses—Public and Music Examinations	5,594	14,711	26,061
Adult Education and Extension Activities	1,875	19,663	29,000
University of Western Australia Press	2,835	22,846	34,186
Scholarships, Bursaries, Prizes, etc.	7,535	17,335	20,469
Special Research Expenses	3,679	16,843	39,845
Other Payments	435	219	6,128
Total	21,953	91,617	155,698

(a) Extra-University activities—such as those of the Adult Education Board—first reached major proportions during the decade from 1931 to 1940. Receipts and payments relating to Extra-University activities of longer standing (e.g., Public and Music Examinations) are included, for years prior to 1940, in the "other" receipts and payments sections of the preceding table.

† Includes proceeds of Medical School Appeal £305,663.

CHAPTER V—*continued*

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

PUBLIC LIBRARIES

The Library Board of Western Australia, comprising thirteen members appointed by the State Government, is responsible for all forms of public library services which are financed from public funds or assisted at State expense. The major functions of the Board are to administer the State Library of Western Australia, to encourage local authorities throughout the State to establish public libraries and to provide all books and bibliographical services for such libraries when established. The Board also advises the Government on all matters relating to libraries and provides for the training of librarians.

In 1944, prior to the establishment of the Library Board, the State Government appointed a Country Free Lending Libraries Committee to make small grants to local authorities for library purposes. That Committee has now been merged with the Board and its activities will cease in about 1962, to be replaced by the full service of the Board.

The book-stock of the Board at the 31st December, 1956, comprised approximately 200,000 bound volumes in the State Library and about 80,000 volumes in lending library services, including local public libraries.

A Union Catalogue of Periodicals currently received in the libraries of all types in the metropolitan area has recently been published by the Board.

State Library of Western Australia

The State Library was established in 1887 in commemoration of Queen Victoria's Golden Jubilee. It is now the reference division of the Library Service of Western Australia and, in addition to providing the normal services of a reference library for the metropolitan area, extends its service throughout the State, through local public libraries. The four subject departments into which the State Library is divided are The J. S. Battye Library of West Australian History, The Library of Business, Science and Technology, The Library of Social Sciences, Philosophy and Religion and The Library of Literature and the Arts.

The State Bibliographical Centre is housed at the State Library and there is also a Commercial Information Centre. The management of the deposited archives of the State Government is a separate function of the Battye Library now being developed from the former Archives Section, which was also concerned with local history generally. The State Library is fully equipped with microfilm and photo copy apparatus.

Local Public Libraries

Local government authorities conducting public libraries provide accommodation and staff, while the Library Board provides all books and bibliographical services. If the Board's expenditure in respect of a local public library exceeds that of the local authority, an amount to equalize the expenditure is payable to the Board from the local authority.

Books are provided on a minimum basis of one volume per head of the population of the district concerned and all books in public libraries throughout the State are available at any library on request to the Board. All cataloguing is done by the Board. The first library under this scheme was opened in 1954 and at the 31st December, 1956, eighteen libraries had been established.

MUSEUM AND ART GALLERY

The Museum and Art Gallery of Western Australia are controlled by a Board of Trustees appointed by the State Government. Both institutions are housed in the one building, but each is under the supervision of a separate Director.

The Museum is mainly devoted to natural history, ethnology, mining and geology, the collections being mostly of Australian origin. Exhibits of the Art Gallery comprise 298 oil paintings, 177 water colours, 533 black and white, 280 statuary and 1,601 ceramic and other art objects.

SCIENTIFIC INSTITUTIONS

Observatories

The *State Government Observatory*, which was established in September, 1896, on a site overlooking Perth from the west, carries out the usual time-service, astronomical and seismological functions. In research work connected with the Astrographic Catalogue, the Observatory was allotted the section 31° – 41° south declination, in which section nearly half a million stars have been observed. Time signals are given twice daily for transmission to ships and aircraft from Applecross, the principal telecommunications radio station in Western Australia. Hourly time signals are provided to control the time services of most of the Radio Broadcasting Stations, the Post Office and the Railway Commission, while time to the nearest half minute can be obtained by telephone. Tide tables for the northern ports of the State are prepared annually. The Perth Observatory is the only seismological station in Australia west of Adelaide and makes important contributions to the investigation of earthquakes in this part of the world. A continuous photographic record is made of all seismograph movements and tabulations from the records are distributed to 55 reciprocating stations throughout the world.

The *Commonwealth Government Magnetic Observatory*, located west of Watheroo and some 115 miles north of Perth, is used for geophysical research, the work including investigations of magnetic variations as well as ionosphere observations. It was first established by the Carnegie Corporation but has since passed to Government control.

State Government Laboratories

In addition to the Department of Agriculture's Animal Health and Nutrition Laboratory and the Pathological Laboratories of the Royal Perth Hospital, the State has an integrated group of Government Chemical Laboratories. This group comprises divisions for Foods, Drugs and Toxicology ; Agriculture, Water Supply and Forestry ; Mineralogy, Mineral Technology and Geochemistry ; Industrial Chemistry ; and Fuel Technology. Research investigations and analyses are conducted for Government departments, local government authorities and the public generally.

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 in 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 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 wheatbelt 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, the attempt has been made to discover and develop useful salt-tolerant plants and to produce a high-yielding virus-resistant tomato. Problems of the vine-growers have been also 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 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 is 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 wheatbelt are being examined in a series of regional trials.

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 a view to 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 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. A statistical assessment has been made of the crayfishery at the Houtman Abrolhos Islands covering the years 1943 to 1956, 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 from other Divisions on matters relating to the design of experiments and the analysis and interpretation of data. Assistance is frequently given to research workers of the University and the State Department of Agriculture.

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

Other Divisions—In addition to 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.

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

HEALTH SERVICES

The Commonwealth and State Departments of Health, together with Boards of Health under local government administration, co-operate in maintaining health services in Western Australia.

The Commonwealth Department of Health administers the National Health Services in this State and is responsible for quarantine of persons, animals and plants entering Australia from overseas. It also conducts a Health Laboratory at Kalgoorlie where miners are required to undergo periodical X-ray examinations for silicosis and other industrial diseases. Further information relating to the National Health Services appears in Part 5 of this Chapter.

The State Health Department operates mainly in the fields of curative and preventive medicine, enforcement of sanitation and of pure food standards. Certain of the latter activities are undertaken in conjunction with the Local Boards of Health.

The resources of the Departments of Health and local health authorities are largely directed to the prevention and control of infectious diseases.

Infectious Diseases

A joint campaign of tuberculosis control has been undertaken by the Commonwealth and State Governments under the provisions of the Commonwealth Tuberculosis Act, 1948. The Commonwealth reimburses the State for capital expenditure incurred after 1st July, 1948, and for net maintenance expenditure insofar as it exceeds that of the base year 1947–48. In addition, the Commonwealth Government pays allowances to tuberculosis sufferers and their dependents as set out in Part 5 of this Chapter. Western Australia, like the other States, carries out the actual work of diagnosis and treatment. X-ray examination is compulsory and is carried out at the Perth and Fremantle Chest Clinics or by mobile units operated by the Tuberculosis Control Branch.

Poliomyelitis and diphtheria are other notifiable diseases which have received special attention during recent years. Major epidemics of poliomyelitis occurred in 1948, 1954 and during the early months of 1956. Salk vaccine produced by the Commonwealth Serum Laboratories, Melbourne, became available in July, 1956, and mass immunization of children began in Western Australia during that month. It is anticipated that all children under the age of fifteen years will have received free injections by the end of 1957. A gratifying response to the departmental campaign for immunization against diphtheria has greatly assisted in combating this disease.

Leprosy and trachoma are endemic amongst the aboriginal natives in the Kimberley Division in the far north of the State, but fortunately are rare among the white population. The State Health Department is taking action to control these diseases.

The incidence of notifiable infectious diseases during five recent years is shown in the following table.

INFECTIOUS DISEASES NOTIFIABLE IN WESTERN AUSTRALIA—CASES REPORTED
(Excluding Venereal Diseases, for which see next table.)

Disease.	1952.	1953.	1954.	1955.	1956.
Ankylostomiasis	8	2	2	1	1
Brucellosis	6	7	8	5	3
Chorea	3	6	6	4	1
Dengue Fever ....	.....	1	2	.....	.....
Diphtheria	124	170	119	480	145
Dysentery	83	48	56	136	87
Encephalitis, Acute Infectious ....	.....	2	.....	.....	2
Erythema Nodosum ....	.....	1	.....	.....	1
Hepatitis, Infective	654	443	105	254	181
Hydatid Disease ....	.....	.....	.....	1	.....
Infantile Diarrhoea	15	4	29	30	48
Lead Poisoning	4	5	2	3	13
Leprosy (a)	37	20	47	29	34
Malaria	13	25	20	5	6
Meningococcal Infection	35	25	48	13	13
Paratyphoid Fever	3	1	1	4	.....
Pleurisy	20	8	4	12	5
Poliomyelitis, Acute	37	44	436	33	401
Puerperal Fever	3	3	2	5	1
Purulent Ophthalmia	58	163	52	35	31
Rheumatism, Acute	9	24	60	39	21
Rubella	147	1,053	627	227	85
Salmonella Infections	22	17	32	58	27
Scarlet Fever	125	93	91	68	57
Tetanus	13	12	4	9	16
Trachoma (a)	1	1,201	3,686	1,470	280
Tuberculosis—					
Pulmonary	488	370	344	401	419
Other	49	33	34	39	44
Typhoid Fever	6	7	12	13	8
Typhus Fever (Brill's Disease)	25	18	19	22	10
Total	1,988	3,814	5,918	3,306	1,946

(a) Aboriginals account for the vast majority of these cases.

Venereal diseases—The Health Act, 1911–1956, confers wide powers on the State Commissioner of Public Health in connection with the control of venereal disease. The Commissioner 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.

The following table shows the number of cases of venereal disease reported to the Department during five recent years. 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.	1952.	1953.	1954.	1955.	1956.
Syphilis—					
Primary	15	17	3	5	4
Secondary	6	9	9	1	5
Tertiary	14	17	7	8	3
Congenital	4	.....	2	.....	.....
Total Syphilis	39	43	21	14	12
Gonorrhoea	173	189	188	188	188
Chancroid	2	1	2	.....	.....
Grauloma (a)	4	2	1	1	.....
Grand Total	218	235	212	203	200

(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 from the Correspondence Nursing Scheme. The following table illustrates the activities of the Infant Health Centres and Correspondence Nursing Scheme during each of five recent years.

INFANT HEALTH CENTRES AND CORRESPONDENCE NURSING SCHEME

	1951.	1952.	1953.	1954.	1955
	No.	No.	No.	No.	No.
<i>Infant Health Centres—</i>					
Centres	44	44	44	45	52
Attendances of Infants	186,679	197,207	191,491	190,463	193,677
Visits to Households	19,995	18,644	18,176	18,714	20,514
<i>Correspondence Nursing Scheme (not included above)—</i>					
Infants on Roll	936	1,026	1,056	856	607
Letters Received	2,430	2,205	2,120	1,926	932
Letters Despatched	2,524	2,412	2,210	2,068	1,366
<i>Receipts and Payments—(a)</i>	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.
Receipts :	£	£	£	£	£
Government Aid	27,291	31,374	34,326	38,275	56,292
Local Government Aid	2,310	2,375	2,370	2,295	2,227
Lotteries Commission	4,650	4,650	4,692	4,812	2,706
Total	34,251	38,399	41,388	45,382	61,225
Payments :					
Salaries and Wages	26,753	30,273	31,270	34,868	48,652
Travelling Expenses, etc.	7,498	8,126	10,109	10,514	12,573
Total	34,251	38,399	41,388	45,382	61,225

(a) Infant Welfare Centres Government Trust Account only. Particulars of receipts and expenditure of local committees (e.g., certain expenditure on buildings and motor vehicles) are not available.

From available statistics, it appears certain that a large proportion of infants in the State are taken to a Centre at least once in their first year of life. In addition, Infant Health Sisters 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 three times 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 troubles 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 may consent to their children being treated without charge by the schools dentists.

HOSPITALS (OTHER THAN MENTAL HOSPITALS)

Commonwealth Government Hospitals

The Repatriation General Hospital, 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 be provided with free medical treatment.

Serving members of the Armed Services, including National Service Trainees, are, by arrangement with the Service Department concerned, treated at the Hospital; the cost of treatment being met by the appropriate Service Department. In addition, treatment is provided for British, Canadian, New Zealand and certain other ex-servicemen, by arrangement with the respective Governments; the cost of treatment being met by the country concerned.

The Edward Millen Home is also a Repatriation Department hospital. It 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, an "assisted" hospital has its own board of management and is subsidised by the State from the Hospital Trust Fund.

The four large metropolitan hospitals, comprising Royal Perth Hospital, Fremantle Hospital, Princess Margaret Hospital for Children and King Edward Memorial Hospital for Women, are all assisted hospitals. Other assisted 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, 38 departmental and 52 assisted hospitals are located throughout the State.

Staff and Accommodation—Shortages of hospital beds and nursing staff have been experienced for some time. Much of the difficulty of hospital management has been due to the wide variation in the density and growth of population in different parts of the State. As a result, there is need for the expansion of hospitals in the Metropolitan Area and in some of the larger country towns to provide for the rapidly increasing population, while some rural hospitals have to be fully maintained even though there may be an irregular local demand for hospital treatment.

In an endeavour to improve the Government hospital system, the Department has commenced the establishment of regional hospitals to be operated in conjunction with smaller rural hospitals. Substantial additions to the metropolitan hospital system are also contemplated. Owing to lack of finance the provision of new buildings falls short of requirements, but more success has been achieved in overcoming staff problems. The setting up of a special organization for the training of nurses and the provision of better pay and working conditions have effected considerable improvement in this direction.

Particulars of the medical and nursing staffs during the five years ended 30th June, 1956 are shown in the following table.

MEDICAL AND NURSING STAFFS OF DEPARTMENTAL AND ASSISTED HOSPITALS

Date.	Medical Staff.			Nursing Staff.				
	Honorary.	Salaried.	Total.	Matrons.	Nurses.	Trainees.	Nursing Assistants.	Total.
30th June :—	No.	No.	No.	No.	No.	No.	No.	No.
1952	230	66	296	100	474	872	460	1,906
1953	234	79	313	105	511	936	530	2,082
1954	264	88	352	100	495	905	595	2,095
1955	264	88	352	103	494	1,013	647	2,257
1956	309	107	416	109	509	1,031	727	2,376

The following table shows the number of beds and cots in departmental and assisted hospitals in five recent years.

BEDS AND COTS IN DEPARTMENTAL AND ASSISTED HOSPITALS

Date.	Beds and Cots in Departmental Hospitals (a).	Beds and Cots in Assisted Hospitals.		Total Beds and Cots.
		Metropolitan.	Country.	
30th June :—	Number.	Number.	Number.	Number.
1952	1,836	1,225	1,095	4,156
1953	1,955	1,168	1,097	4,220
1954	1,936	1,164	1,152	4,252
1955	1,965	1,219	1,074	4,258
1956	1,700	1,494	1,097	4,291

(a) Mainly in country. Includes Woorloo Sanatorium.

Patients—With a rapidly increasing population in Western Australia in recent years, there has been increased demand for hospital accommodation. At the same time some private hospitals have closed, imposing additional pressure on the government hospital services. The following table illustrates the activities of departmental and assisted hospitals during five years ended 30th June, 1956.

PATIENTS TREATED IN DEPARTMENTAL AND ASSISTED HOSPITALS

Year.	Admissions.		Discharges.		Deaths.		Patients at end of year.			Average Daily Number in Hospital.	Out-Patients Total Attendances.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Persons.	Persons.	Number
1951-52	33,097	37,212	31,843	36,511	1,265	825	1,197	1,217	2,414	2,589	350,413
1952-53	31,076	37,156	29,736	36,205	1,313	888	1,224	1,280	2,504	2,474	327,342
1953-54	32,863	37,444	31,515	36,677	1,263	760	1,309	1,287	2,596	2,511	315,002
1954-55	34,393	41,145	33,018	40,199	1,334	859	1,350	1,374	2,724	2,626	351,708
1955-56	35,709	42,838	34,496	42,041	1,307	857	1,256	1,314	2,570	2,648	363,180

Finance—Departmental and assisted hospitals collect fees from patients able to pay for accommodation and receive Commonwealth hospital benefit payments provided under Part V. of the National Health Act, 1953-1956, but are financed mainly from State Government funds.

The effect of the marked increase in costs experienced by all hospitals in recent years is reflected in the following table which shows the receipts and payments of departmental and assisted 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 ASSISTED HOSPITALS

	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.
Receipts—	£	£	£	£	£
From Government Funds	2,884,468	3,380,435	3,638,272	3,693,271	4,266,014
Local Government Aid	591	437		532	332
Public Subscriptions, Legacies, etc.	103,173	98,403	31,662	77,793	211,131
Fees	221,836	771,199	761,697	869,155	902,116
Other	12,814	19,662	87,640	83,530	91,972
Total	3,222,832	4,270,136	4,510,271	4,724,281	5,471,565
Payments—					
Salaries and Wages	1,572,811	1,966,286	2,171,294	2,403,697	2,728,406
Maintenance of Buildings and Grounds	72,979	134,997	217,027	229,336	239,419
Other Maintenance	1,138,220	1,258,200	1,427,798	1,590,175	1,826,848
Capital Expenditure	435,856	881,558	591,887	548,802	626,549
Total	3,210,866	4,241,041	4,408,006	4,772,010	5,421,222

Special Hospitals for Tuberculosis and Leprosy

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 Sanatorium at Wooroloo in the Darling Range. In the preceding statistical tables Wooroloo Sanatorium is included as a departmental hospital.

A large hospital is in course of construction at Hollywood in the vicinity of the University of Western Australia. The new hospital, which is expected to be completed in 1958, is to provide treatment for tuberculosis and other chest ailments and is to be conducted by the State, but will be financed by the Commonwealth Government.

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

Private Hospitals

In addition to the government hospitals there are a number of private general and maternity hospitals. Private hospitals are registered and inspected by the State Health Department. Prominent among them are the hospitals established by religious bodies in the metropolitan area and the principal country towns. These include the Hospitals of St. John of God at Subiaco, Belmont, Bunbury, Geraldton, Kalgoorlie and Northam; St. Anne's Hospital, 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, 1953-1956, but receive no other government financial assistance.

MENTAL HOSPITALS

All mental hospitals in Western Australia are administered by the Inspector-General of Mental Health Services under the authority of the Minister for Health. Four institutions provide for patients certified as insane, the largest being the Claremont Mental Hospital.

Patients are usually admitted to the mental hospitals on certification by two medical practitioners. A magistrate may commit to a mental hospital for observation any person charged with an offence if it appears that mental illness is a cause of the offence. Within a limited period the Medical Superintendent is required to report on the condition of the person concerned. Adults may voluntarily submit themselves for treatment in a mental hospital, while children may be admitted on the application of parents or guardians.

An encouraging degree of success attends modern methods of treatment. Qualified male and female mental nurses assist the medical staff, and patients who show sufficient improvement are allowed to leave the hospitals on trial leave. Several periods of leave may be necessary before it is proved to the satisfaction of the hospital authorities that a patient is suitable for discharge.

Under the provisions of the Inebriates Act, 1912-1919, persons may be committed to a mental hospital for treatment in accommodation set aside for the purpose. At the 31st December, 1956, there were 18 patients who had been admitted to these institutions under the Act.

The following table shows particulars of certified inmates of mental hospitals during each of the five years 1952-1956.

CERTIFIED PATIENTS OF MENTAL HOSPITALS
(Includes voluntary patients)

Admissions, Discharges, Deaths, etc.	1952.		1953.		1954.		1955.		1956.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Admissions and Re-admissions	127	102	122	107	138	120	117	112	158	108
Discharges—										
Recovered	4	6	7	4	...	4	1	3	11	4
Relieved	10	11	26	16	33	20	44	22	34	20
Not improved	7	3	8	4	13	4	17	5	15	4
Not insane	2	1	1	...	3	...	...	...	3	...
Deaths	69	49	61	47	52	52	91	54	76	66
Total	92	70	103	71	101	80	153	84	139	103
Number remaining at 31st December—										
In hospital	922	614	949	650	979	681	943	697	953	681
On trial leave	65	65	57	65	64	74	64	86	73	107
Total	987	679	1,006	715	1,043	755	1,007	783	1,026	788

The Heathcote Reception Hospital provides for patients who are suffering from nervous or mental disorders but who have not been certified as insane.

Details of patients of the Heathcote Reception Hospital during the five years ended 31st December, 1956, are shown in the next table.

PATIENTS OF HEATHCOTE RECEPTION HOSPITAL

Admissions, Discharges, Deaths, etc.	1952.		1953.		1954.		1955.		1956.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Admissions and Re-admissions	338	289	348	314	359	295	350	338	474	440
Discharges—										
Recovered	191	167	155	140	155	135	144	154	138	228
Relieved	61	72	68	96	102	94	122	110	205	136
Not improved	53	22	42	26	40	29	30	27	82	33
Deaths	17	10	13	3	14	6	11	4	5	4
Transfers to other Mental Hospitals	35	15	49	28	45	41	38	45	54	34
Total	357	286	327	293	356	305	351	340	484	435
Number remaining at 31st December—										
In hospital	56	57	55	65	55	61	53	50	53	55
On leave	38	47	60	60	63	54	64	63	54	63
Total	94	104	115	125	118	115	117	113	107	118

The Nathaniel Harper Homes have been established at Guildford for the treatment of mentally afflicted children, the number of inmates at the 31st December, 1956, being 45.

HOMES FOR THE AGED AND INFIRM

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

Although accommodation in the homes has been increased in recent years, further expansion is urgently required to meet a growing demand. In view of this, the State Government plans to extend "Mt. Henry" to provide for both men and women. At present, "Sunset" is the only State institution for aged men.

The following table shows particulars of inmates of the State institutions during five recent years.

STATE HOMES FOR THE AGED AND INFIRM

Year.	Admissions.		Discharges.		Deaths.		Inmates at End of Year.		
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Persons.
1951-52	258	91	115	18	141	46	443	222	665
1952-53	238	123	109	18	111	68	461	259	720
1953-54	217	79	99	19	87	56	492	263	755
1954-55	243	163	129	28	116	74	490	324	814
1955-56	215	226	79	18	129	115	497	417	914

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 part of a house or other building. It can be completely closed off and includes both cooking and bathing facilities.

"Other" private dwelling is part of a building. It is not a self-contained unit and may be an apartment, room(s), etc.

"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 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 2 inmates increased by 46·5 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 3, 4 and 5 inmates were 28 per cent., 34 per cent., and 35 per cent. respectively. The number of dwellings with 9 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 5 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	9,146	2,164	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	28,303	522	28,825	1,683	1,025	340	31,873
4	23,155	916	589	112	24,772	30,984	441	31,425	1,038	598	153	33,214
5	16,530	406	212	55	17,203	22,041	300	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	778	10	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	531,499	10,551	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	2.36	3.74	2.80	2.56	2.27	3.64

(a) Includes Sheds, Huts, etc.

Dwellings According to Number of Rooms

The largest numerical increase in the numbers of occupied private houses since the 1947 Census occurred in 5- and 6-roomed private houses which increased by 23,529 or nearly 45 per cent. The greatest proportional gain, 72 per cent., occurred in respect of 7-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 4, 5 or 6 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 4 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.

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	398	905	48	48,632
6	18,600	209	173	4	18,986	29,162	.....	29,162	570	296	19	30,047
7	5,354	61	48	.....	5,493	9,262	.....	9,262	191	87	16	9,556
8	1,848	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	5.02	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.

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	8,711	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

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 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 Instalments	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.

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.

**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	1,521	187	753	41	2,502
Not Stated	6,428	1,827	1,599	944	10,798	8,030	2,304	2,049	1,202	13,645
Total	38,497	4,323	3,503	1,470	47,853	32,020	4,718	4,184	1,681	42,603

(a) The figures shown for 1954 exclude dwellings occupied by "Tenants (Governmental Housing)."

(b) Includes Sheds, Huts, etc.

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

Government housing is primarily the responsibility of the State Housing Commission, whose functions include the construction, letting for rent and sale of houses and flats built under the Commonwealth-State Housing Agreement, the implementation in Western Australia of the War Service Homes programmes of the Commonwealth Government and the construction and sale of houses under the authority of the State Housing Act.

The Commission was established under the provisions of the State Housing Act of 1946 and consists of a chairman and six members. The Act requires that three members of the Commission shall be officers of the State Public Service. Of the remaining four, one must be a woman and the others, a returned serviceman, a registered builder (or a person qualified to be so registered) and a representative of the building trades unions. The Commission is staffed by officers of the State Public Service.

Operations under the Commonwealth-State Housing Agreement—Following the Commonwealth-State Housing Agreement of November, 1945, and the passage of the ratifying Act by the State Parliament, an extensive building programme has been carried out. Housing units built under the Agreement comprise mainly detached and semi-detached houses and some flats. Conditional provision is made for the sale of houses to tenants if they so elect.

Funds for the scheme are provided by the Commonwealth Government, and the State Housing Commission is required to observe certain conditions regarding rentals, notably one which prescribes a formula for calculating an "economic" rental. The formula is designed to cover the long-term repayment, with interest, of the capital cost, rates and taxes, insurance, maintenance and administrative charges. The rent so determined may be partially rebated in the case of a family with income at the basic wage level if it exceeds one-fifth of the family income. The Commonwealth bears three-fifths, and the State two-fifths, of losses resulting from this rental rebate system.

The State is required to repay with interest advances made by the Commonwealth Government.

War Service Homes Administration—Although the provision of War Service Homes is a function of the Commonwealth Government, the State Housing Commission participates in the administration in Western Australia of the War Service Homes Act, 1918-1956. Assistance towards home ownership

is given 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 Services.

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.

Other Government Housing Activity

The State Housing Commission is empowered to build houses for sale under the State Housing Act, 1946-1956, and thus provides housing facilities additional to those under the Commonwealth-State Agreement. Certain work is undertaken for the Mc Ness Housing Trust which administers a privately-endowed housing scheme.

Independent and relatively minor schemes are operated by certain Government and Local Government authorities for the purpose of housing their staffs.

CONTROL OF BUILDING

Local governing authorities are of two types in Western Australia, Municipal Councils and Road District Boards. Each of these Councils and Boards, numbering in all 147 at the 30th June, 1956, 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, 1928-1956, the Municipal Corporations Act, 1906-1956 and the Road Districts Act, 1919-1956.

The Town Planning and Development Act, 1928-1956, gives local authorities the right to make by-laws covering such aspects of town planning as the purchase or reservation of land for thoroughfares or for other purposes, the density of dwelling accommodation per acre, the classification of areas for residential, commercial and industrial use, the enforcement 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, 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 shops, offices, factories 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.		Fibro-Cement.		Other Material.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
		£'000		£'000		£'000		£'000		£'000
1947-48—										
Contract-Built	1,137	1,464	308	239	1,011	971	9	7	2,465	2,681
Owner-Built	52	46	29	12	219	149	6	4	306	211
Total	1,189	1,510	337	251	1,230	1,120	15	11	2,771	2,892
1948-49—										
Contract-Built	1,226	1,837	208	193	1,078	1,213	22	27	2,534	3,270
Owner-Built	148	173	69	34	475	310	18	9	710	526
Total	1,374	2,010	277	227	1,553	1,523	40	36	3,244	3,796
1949-50—										
Contract-Built	1,229	2,037	167	154	1,170	1,434	25	33	2,591	3,658
Owner-Built	258	321	82	60	560	439	18	9	918	829
Total	1,487	2,358	249	214	1,730	1,873	43	42	3,509	4,487
1950-51—										
Contract-Built	1,492	2,888	262	272	1,606	2,181	101	102	3,461	5,443
Owner-Built	469	774	137	118	1,073	1,168	20	13	1,699	2,073
Total	1,961	3,662	399	390	2,679	3,349	121	115	5,160	7,516
1951-52—										
Contract-Built	1,655	3,964	376	580	2,018	3,338	159	271	4,208	8,153
Owner-Built	837	1,924	129	163	1,379	1,974	24	19	2,369	4,080
Total	2,492	5,888	505	743	3,397	5,312	183	290	6,577	12,233
1952-53—										
Contract-Built	1,897	5,605	831	2,174	2,138	4,215	66	131	4,932	12,125
Owner-Built	1,178	3,396	90	170	1,760	3,297	5	6	3,083	6,869
Total	3,075	9,001	921	2,344	3,898	7,512	71	137	7,965	18,994
1953-54—										
Contract-Built	1,385	4,628	619	1,711	2,559	5,700	6	19	4,569	12,058
Owner-Built	1,230	4,011	56	117	1,767	3,692	5	6	3,058	7,826
Total	2,615	8,639	675	1,828	4,326	9,392	11	25	7,627	19,884
1954-55—										
Contract-Built	1,826	6,478	180	479	3,760	8,925	....	....	5,766	15,882
Owner-Built	1,280	4,376	29	56	1,714	3,894	3	3	3,026	8,329
Total	3,106	10,854	209	535	5,474	12,819	3	3	8,792	24,211
1955-56—										
Contract-Built	2,073	7,339	123	348	3,170	7,583	4	10	5,370	15,230
Owner-Built	1,189	4,429	29	90	1,168	2,735	4	8	2,390	7,262
Total	3,262	11,768	152	438	4,338	10,318	8	18	7,760	22,542

The table below 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, in addition to dwellings attached to shops, such establishments as hotels and boarding-houses.

OTHER NEW DWELLINGS COMPLETED

Year.	Dwellings Other Than Houses.			
	Flats.		Other.	
	Number.	Value.	Number.	Value.
1947-48	£'000	15	£'000
1948-49	8	43
1949-50	8	26
1950-51	3	35
1951-52	5	13
1952-53	5	19
1953-54	5	254
1954-55	33	181
1955-56	36	357
	584	1,282	32	187

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 table below relates to the nine years from the 1st July, 1947, to the 30th June, 1956. Actual completions and the average annual rates per thousand of mean population are shown for each State. Percentage figures of population growth during the period are also given.

NEW HOUSES AND FLATS (†) COMPLETED AND POPULATION INCREASE SIX STATES : 1ST JULY, 1947, TO 30TH JUNE, 1956

State.	New Houses and Flats (†) Completed.				Population.			
	Houses.	Flats (†).	Total.	Average annual rate per 1,000 of mean population.	Census, 30th June, 1947.	Estimated, 30th June, 1956.	Increase.	
							Number.	Per cent.
					Persons.	Persons.	Persons.	%
New South Wales	201,264	8,869	210,133	7.12	2,984,838	3,553,432	568,594	19.0
Victoria	176,342	4,965	181,307	8.73	2,054,701	2,605,088	550,387	26.8
Queensland	84,963	862	85,825	7.71	1,106,415	1,370,697	264,282	23.9
South Australia	57,844	354	58,198	8.72	646,073	848,526	202,453	31.3
Western Australia	53,405	1,833	55,238	10.43	502,480	677,389	174,909	34.8
Tasmania	25,741	215	25,956	9.89	257,078	319,648	62,570	24.3
Total—Six States	599,559	17,098	616,657	8.12	7,551,585	9,374,780	1,823,195	24.1

(†) Individual dwelling-units.

Western Australia's rate of completions, 10.43, was higher than that of any other State and significantly greater than the average of the six States, 8.12. Its population increase of 34.8 per cent. was also the highest and compared with an average of 24.1 per cent. over all States. New South Wales had the lowest rate of completions, 7.12 per thousand of mean population, and experienced the smallest proportional increase in population, 19.0 per cent.

PART 5—SOCIAL BENEFITS, RELIEF PAYMENTS AND CHILD WELFARE

COMMONWEALTH SOCIAL BENEFITS

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, 1947–1956, provides for the payment of age and invalid pensions, widows' pensions, unemployment and sickness benefits, maternity allowances and child endowment; the Repatriation Act, 1920–1956, 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, 1953–1956, and the Pharmaceutical Benefits Act, 1947–1952.

War pensions, child endowment, maternity allowances and health services, 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. Except in the case of war pensioners, those receiving a pension or an allowance under one category are ineligible for benefit under any other.

A summary of the main provisions relating to payment of benefits appears on the following pages.

The tables throughout this section relate only to expenditure in Western Australia.

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, however, does not apply 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 twenty 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 permanently blind.

The present maximum rate, payable since the 27th October, 1955, is £4 per week, but a pensioner who is an invalid may receive an additional 10s. per week for each child other than the first.

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.

The wife of an invalid pensioner or of an age pensioner who is permanently incapacitated for work or permanently blind may be granted a maximum allowance of £1 15s. per week and an additional allowance of 11s. 6d. per week where there are dependent children.

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.
1930	16,278	5,116	21,394	346	109	£ s. d. 1 18 1	£ s. d. 1 18 10	£'000. 1,062	£ s. d. 2 5 6
1952	24,782	3,964	28,746	413	66	5 14 0	5 15 2	4,106	6 19 3
1953	25,679	3,906	29,675	414	64	6 8 4	6 9 8	4,842	7 18 5
1954	27,248	4,101	31,349	426	64	6 14 0	6 16 7	5,375	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

† 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—A rehabilitation service is 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. In the year ended 30th June, 1956, an amount of £61,426 was spent by the Commonwealth Government in respect of the Rehabilitation Service in Western Australia.

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. During the year ended 30th June, 1956, funeral benefit payments in Western Australia amounted to £22,530.

Widows' Pensions

Widows' pensions have been paid since the 1st July, 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 their husbands.

The following maximum rates have applied since the 18th October, 1955. A widow having the care of one or more children under 16 years of age may receive £4 5s. 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 7s. 6d. per week. Those aged under 50 and having no children under 16 years of age are not entitled to a pension unless in necessitous circumstances, when a weekly pension of £3 7s. 6d. 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 7s. 6d. 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.

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.
1952	2,676	45	£ 5 0 1	£'000, 366	s. d. 12 5
1953	2,686	43	5 18 5	404	13 3
1954	2,753	43	6 4 0	435	13 10
1955	2,848	43	6 4 7	451	13 11
1956	3,015	45	7 2 8	531	15 10

Unemployment and Sickness Benefits

Payments to persons unemployed or temporarily incapacitated for work by sickness or accident were introduced in July, 1945, and are subject to a means test and residential qualifications.

Since the 22nd September, 1952, the maximum weekly rates of benefit have been £2 10s. per week for a single claimant over 21 years of age, with progressively lower rates for claimants under 21 years of age. A married claimant with dependent wife receives £4 10s. per week, with an additional 5s. per week if there are children under 16 years of age. An income of £1 per week is allowed in addition to the benefit but any income in excess of £1 is deducted from the benefit. 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 is also disregarded. Where the income exceeds the appropriate permissible amount, the rate of benefit is reduced by the amount of the excess.

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 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.
Year ended 30th June :—				£	s. d.
1952	57	236	3.9	4,374	0 2
1953	844	691	11.1	123,732	4 1
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
Quarter ended :—				(a)	(a)
30th September, 1955	255	256	3.9	(a)	(a)
31st December, 1955	240	377	5.6	(a)	(a)
31st March, 1956	441	536	8.0	(a)	(a)
30th June, 1956	972	1,606	23.7	(a)	(a)

(a) Not applicable.

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.
Year ended 30th June :—				£	s. d.
1952	461	451	7.5	48,691	1 8
1953	433	497	8.0	84,682	2 9
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
Quarter ended :—					
30th September, 1955	455	432	6.5	(a)	(a)
31st December, 1955	415	371	5.5	(a)	(a)
31st March, 1956	421	398	5.9	(a)	(a)
30th June, 1956	422	410	6.1	(a)	(a)

(a) Not applicable.

Special Benefits—A Special Benefit may be granted to a person not qualified for unemployment or sickness benefit and who receives no other 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.

Maternity Allowances

Maternity allowance payments were introduced in 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 since 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.
1952	15,074	241,426	16 0 4	8 2
1953	15,535	248,925	16 0 6	8 2
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

Child Endowment

Child endowment was introduced in July, 1941. Payment is made to any person having the care and custody of children under the age of sixteen years. Endowment is not subject to a means test, but a residential qualification generally applies to claimants and children not born in Australia.

From the 20th June, 1950 the rate has been 5s. per week for the first or only child under 16 years of age in a family, with an additional 10s per week for each other child under that age.

Approved institutions receive 10s. per week for each child inmate.

CHILD ENDOWMENT—WESTERN AUSTRALIA

Year ended 30th June :—	Endowed families at 30th June.		Number per 10,000 of population.		Amount paid during year.	
	Number of claims in force.	Number of endowed children (a).	Claims.	Endowed children.	Total.	Per head of population.
					£'000	£ s. d.
1952	85,971	183,257	1,433	3,055	3,478	5 17 11
1953	89,671	192,991	1,445	3,110	4,053	6 12 8
1954	93,117	202,093	1,455	3,159	3,883	6 3 2
1955	96,621	212,025	1,467	3,220	4,069	6 5 5
1956	100,047	220,792	1,477	3,259	4,684	7 0 0

(a) Excludes endowed children in approved institutions.

Reciprocal Arrangements with Other Countries

Reciprocal arrangements in respect to 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 1st July, 1949 and between Australia and the United Kingdom since 7th January, 1954.

WAR AND SERVICE PENSIONS

War Pensions

The Repatriation Act, 1920-1956 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—Since the 20th October, 1955, partially incapacitated members who are able to engage in employment may, according to the degree of incapacity, receive a pension of up to £9 10s. per fortnight (or higher according to rank) with an additional amount of £3 11s. for a wife and £1 7s 6d. for each child under sixteen years of age. Lesser amounts may be awarded, depending on the Repatriation Commission's assessment of degree of incapacity.

Totally and permanently incapacitated members and the totally blinded receive a pension of £19 10s. per fortnight. 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.

Provision is made for pensions to members who contracted tuberculosis during or after service in a theatre of war and for supplement of pensions for specified disabilities.

Pensions for Death—Widows of deceased members receive pensions based on the rank of the member. From the 20th October, 1955 the minimum rate has been £9 per fortnight, with an additional allowance of £3 9s. where there are dependent children and the widow is permanently unemployable or aged over 50 years.

The rate of pension for the eldest child under 16 years of age of a deceased member is £2 13s. per fortnight and for each younger child, £1 17s. In addition to the pension, an amount of 12s. per fortnight may be paid in certain circumstances. Where both parents are dead, a payment of £4 16s. per fortnight is made in respect of each child.

Widowed mothers may receive a war pension ranging from £4 10s. to £8 6s. per fortnight, 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. Subject to the amount of other income, a further allowance may be granted which permits payment of a total pension ranging from £12 10s. to a maximum of £15 per fortnight, depending on the rank of the deceased son. The value of property possessed by the mother is not considered.

Service Pensions

The payment of service pensions is provided for in the Repatriation Act, 1920-1956 and has operated since the 1st January, 1936. A means test is applied in respect of both income and property.

Members or former members of the Forces, qualified under the Act, are entitled to receive a pension, at rates conforming to those which apply to age and invalid pensions, if they are :—

- (a) sixty years of age or more, provided the member served in a theatre of war, but eligibility on this ground applies only to the member and not to his wife or children. In the case of female members of the Forces, the qualifying age is 55 years and service abroad, not necessarily in a theatre of war, is sufficient.
- (b) permanently unemployable, provided the member served in a theatre of war or, in the case of a female member, served abroad.
- (c) sufferers from pulmonary tuberculosis, whether the member served in a theatre of war or not.

Pensioners under classes (b) and (c) may receive additional allowances of up to £3 10s. per fortnight in respect of a wife, £1 3s. per fortnight for the first child under 16 years of age and 5s. per fortnight for each other child under sixteen years of age up to three in number.

Only pensioners under class (c) are entitled to receive both service and invalid pensions at the same time.

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.

WAR PENSIONS—WESTERN AUSTRALIA

Year ended 30th June :—	Number of War Pensions current at 30th June.				Average fortnightly rate of pensions.			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.
1939	7,030	13,362	2,225	22,617	£ s. d. 1 19 3	£ s. d. 16 1	£ s. d. 1 3 3	£'000 697	£ s. d. 1 9 10
1952	17,700	30,255	4,056	52,071	3 5 1	1 5 2	1 18 9	2,715	4 12 0
1953	17,747	30,877	3,983	52,607	3 12 7	1 7 4	2 2 7	2,921	4 15 7
1954	17,878	31,579	3,895	53,352	3 17 3	1 7 10	2 4 5	3,087	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	6 7 1	3 5 4	4 11 11	(a) 3,933	(a) 5 17 7

(a) Includes Service Pensions.

SERVICE PENSIONS—WESTERN AUSTRALIA

Year ended 30th June :—	Number of Service Pensions current at 30th June.						Average fort- nightly rate of pensions.	Expenditure during year.	
	Age.	Permanently unemployable.		Sufferers from pulmonary tuberculosis.		Total.		Total.	Per head of popu- lation.
		Members of Forces.	Members of Forces.	Depend- ants.	Members of Forces.					Depend- ants.
1939	349	434	510	62	99	1,454	£ s. d. 1 6 3	£'000 46	s. d. 2 0
1952	923	612	545	29	27	2,136	4 4 6	225	7 7
1953	1,043	646	596	30	28	2,343	4 12 9	278	9 1
1954	1,159	661	593	31	24	2,468	5 2 0	303	9 7
1955	1,200	698	624	38	42	2,692	5 6 0	(a)	(a)
1956	1,522	986	918	101	121	3,648	5 13 5	(a)	(a)

(a) Included with War Pensions.

NATIONAL HEALTH SERVICES

The National Health Act, 1953-1956, 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 all 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 of 4s. per day is paid in the case of patients who are contributing to an approved hospital benefit fund. This payment is made through the benefit organization and is normally paid to the patient with the amount payable by the organization.

Australian residents who are temporarily living overseas and their dependants who receive hospital treatment are eligible to receive the benefit of 8s. a day.

Medical Benefits

A Medical Benefits Scheme commenced to operate as from 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 support of voluntary insurance of individuals against the costs of medical attention. The scheme provides for the payment of benefits by the Commonwealth, through medical insurance organizations that have been 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 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, 1953-1956.

Under this scheme, pensioners and their dependants, as defined in the section below 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 September, 1950, under the provisions of the Pharmaceutical Benefits Act, 1947-1952, and the National Health Act, 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 within Australia.

The number of drugs listed as available as general pharmaceutical benefits has steadily increased and at present about 250 separate preparations are supplied. Before a drug is listed as being available it must first be approved by the Pharmaceutical Benefits Advisory Committee.

All drugs listed in the British Pharmacopoeia, and other drugs as specified, are supplied free to pensioners receiving age, invalid, widows' or service pensions and persons receiving a tuberculosis allowance and to their dependants.

Free Milk to School Children

The States Grants (Milk for School Children) Act, 1950, provides for the distribution of free milk to school children throughout the Commonwealth, with the object of improving their diet. All children

under the age of thirteen years attending school are eligible to receive this issue. The cost of the milk plus half the capital or incidental costs, including expenses incurred in administering the scheme, is reimbursed by the Commonwealth to the State, which arranges for the distribution.

NATIONAL HEALTH SERVICES—WESTERN AUSTRALIA

Year ended 30th June :—	Hospital Benefits.	Medical Benefits. (a)	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.
1952	511	(a)	75	473	30	67	16	1,172	1 19 9
1953	551	(a)	119	505	49	92	17	1,333	2 3 7
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

(a) The Medical Benefits Scheme commenced to operate as from July, 1953.

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 completed an arrangement with the States, whereby each State required to conduct an effectual 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 on and after 1st July, 1948, 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 is provided and is an important factor in the campaign against the disease. Payments under the scheme were commenced on the 13th July, 1950. The rates of allowance from the 27th October, 1955, were £9 12s. 6d. a week for a married sufferer with a dependent wife, £6 2s. 6d. a week for a sufferer without dependants, reducible to £4 when maintained free of charge in an institution, and 10s. a week additional to child endowment for each dependent child under the age of sixteen. There is a means test, generous to the sufferer, which has regard only to income and not to property.

The cost to the Commonwealth for the campaign in Western Australia, including allowances and reimbursements to the State of capital expenditure, was £508,644 for the year ended 30th June, 1956.

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 on or after the 1st July, 1955. Under the Act the Commonwealth liability in Western Australia is limited to £720,000.

RELIEF PAYMENTS AND CHILD WELFARE**Relief Payments**

The State Government, through the Child Welfare Department, makes relief payments which in most cases supplement the social benefits granted by the Commonwealth. Those assisted include deserted wives and unmarried mothers, widows having the care of children and women with husbands unable to support them because of sickness, unemployment, age or imprisonment.

Other assistance provided by the State for indigent persons includes rail passes for country people requiring hospital treatment in the metropolitan area and provision of school books for the children of women in receipt of financial assistance. In certain circumstances, burials of indigent persons are arranged by the Department.

Deserted wives and unmarried mothers seeking assistance from the Department are officially advised of the legal redress available to them and it is usual for application to be made to a Police or Children's Court for an order requiring the husband or father to provide maintenance. Orders may be enforced anywhere in Australia or in certain oversea countries.

State monetary assistance to deserted wives, women with husbands in prison and widows who are not in receipt of Commonwealth widows' pensions is at the rate of 67s. 6d. per week, plus 30s. per week for the first dependent child and 15s. per week for each other dependent child. A widow receiving a Commonwealth pension is paid 12s. 6d. per week for the first child and 15s. for each additional child. A woman whose husband is an age or invalid pensioner may be paid a weekly allowance of 35s. from the Commonwealth. Where there are dependent children, the Commonwealth allowance is increased to 46s. 6d. and the State allows 10s. per week for the first child and 15s. for each additional child. Where Commonwealth sickness or unemployment benefits are payable to married men with children, the State allows 31s. 6d. 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. State assistance may be reduced if parents have other income or if children of the family are gainfully employed.

WOMEN IN RECEIPT OF STATE RELIEF PAYMENTS

Description.	Number at 30th June—				
	1952.	1953.	1954.	1955.	1956.
Widows	105	116	127	122	
Unmarried Mothers	22	27	21	19	
Deserted Wives	121	145	168	160	
Other Married Women—					
Husband Pensioner	46	38	43	47	
Husband Sick or Unemployed	16	6	20	17	
Husband Imprisoned	29	40	22	29	
Divorced Women	13	12	10	5	
Foster Mothers	37	40	36	36	37
Special Cases	22	36	7	9	10
Total Women	411	460	454	444	682

Child Welfare

The State Department of Child Welfare is responsible for the care of State wards and of children released on probation or placed under supervision by Children's Courts. In addition, licensed foster-mothers and institutions caring for children come under the supervision of the Department, which also supervises children brought to Western Australia under child migration schemes. Other functions include the arranging of legal adoptions of children and the licensing of children for employment for the purpose of entertainment or street trading.

Children's Courts are established at Perth and at other centres throughout the State and have jurisdiction in all cases where children under eighteen are involved whether as offenders or as injured parties. The Court may declare a child to be a destitute or neglected child and may order the child to be committed to the care of the Child Welfare Department, to be sent to an institution or to be released on probation. Children guilty of minor offences may be cautioned, fined, bound over, or dismissed without a conviction being recorded. A child found guilty of an offence punishable by imprisonment may be sent to an institution, released on security given by the parent or after suitable punishment by a relative, or released on probation under the supervision of the Department. Uncontrollable children may be committed to institutions or be released on probation. Those guilty of first or less serious offences are generally placed in the care of their parents or suitable guardians under appropriate departmental supervision. Supervision and probation cases, other than State wards, numbered 729 at the 30th June, 1956. Only repeated and more serious offenders are placed in corrective institutions.

State Wards—A child committed by a Children's Court to an institution or to the care of the Child Welfare Department becomes a State ward. A child committed to the care of the Department may be sent to an institution, apprenticed, boarded out with a relative or other suitable person or placed out in employment. Of a total number of 1,456 State wards on the 30th June, 1956, 407 were in institutions, 397 were boarded out, 92 were in service or apprenticed and 560 were on parole.

Private Children under the age of 6 years in institutions or in the care of licensed foster mothers come under the supervision of the Department. On the 30th June, 1956 there were 45 private children under six years in the care of licensed foster mothers and 179 in institutions under the supervision of departmental officers. The total number of private children in institutions was 626.

Institutions—The State Government subsidises homes for children in Western Australia and most of these institutions are conducted by religious organizations. Several of the homes provide for children brought from Great Britain, Ireland and Malta under child migration schemes. All institutions having the care of wards, migrant children or private children under 6 years of age are under the supervision of the Department.

CHILDREN IN INSTITUTIONS AT 30TH JUNE, 1956

Institutions.	State Wards.		Migrant Children.		Private Children.		Total.		
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Children.
ANGLICAN—									
Parkerville Children's Home, Parkerville	39	30	....	....	39	24	78	54	132
Swan Girls' Home, Middle Swan .....	....	11	....	47	....	26	....	84	84
Swan Boys' Home, Middle Swan	10	....	50	....	63	....	123	....	123
Anglican Farm School, Stoneville	35	....	....	....	....	....	35	....	35
Total	84	41	50	47	102	50	236	138	374
METHODIST—									
Methodist Children's Home, Victoria Park	2	6	....	3	9	18	11	27	38
Tom Allan Memorial Home for Boys, Werribee	3	....	....	....	21	....	24	....	24
Total	5	6	....	3	30	18	35	27	62
PRESBYTERIAN—									
Burnbrae Children's Home, Byford	1	3	....	....	9	13	10	16	26
Benmore Boys' Home, Caversham	6	....	....	....	11	....	17	....	17
Total	7	3	....	....	20	13	27	16	43
ROMAN CATHOLIC—									
Castledare Junior Orphanage, Queens Park	21	....	72	....	29	....	122	....	122
Clontarf Boys' Orphanage, Victoria Park	30	....	126	....	31	....	187	....	187
Home of the Good Shepherd, Leederville .....	....	18	....	....	....	....	....	18	18
St. Joseph's Orphanage, Wembley .....	....	20	....	16	....	67	....	103	103
St. Vincent's Foundling Home, Wembley	12	24	8	....	57	43	77	67	144
St. Mary's Agricultural School, Tardun .....	....	....	53	....	4	....	57	....	57
St. Joseph's Farm and Trade School, Bindoon .....	....	....	84	....	8	....	92	....	92
Nazareth House, Geraldton .....	....	....	....	38	....	41	....	79	79
St. Joseph's Preventorium, Kellerberrin .....	....	....	6	....	....	....	6	....	6
Total	63	62	349	54	129	151	541	267	808
SALVATION ARMY—									
Boys' Home, Hollywood	35	....	....	....	59	....	94	....	94
Girls' Home, Cottesloe .....	....	25	....	....	....	54	....	79	79
Total	35	25	....	....	59	54	94	79	173
UNDENOMINATIONAL—									
Kingsley Fairbridge Farm School, Pinjarra .....	....	....	141	41	....	....	141	41	182
Shiloh College, Broomehill	9	....	....	....	....	....	9	....	9
Total	9	....	141	41	....	....	150	41	191
GRAND TOTAL	203	137	540	145	340	286	1,083	568	1,651

In addition to the children shown in the preceding table, there were 42 State wards in the Child Welfare Reception Home at Mt. Lawley and 25 in government corrective institutions and hospitals.

Maintenance of Children—On the 30th June, 1956, payments from the Child Welfare Department to foster parents having the care of State wards were at the rate of 45s. per week for each child. Institutions were paid subsidies at the rate of 35s. 9d. per week for each ward attending school on the premises and 34s. 9d. for wards attending outside schools. The British Government pays 12s. 6d. per week for each 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. In addition to the above, grants of 7s. 6d. per week are paid by the State Lotteries Commission to institutions for each child maintained. Where

assistance from the Lotteries Commission is refused by the institution on religious grounds, an equivalent grant is payable by the State Government in respect of wards. All institutions and foster parents having the care of children receive Commonwealth child endowment payments.

Parents of State wards and private children in institutions or boarded out are required to contribute towards the maintenance of their children.

The Director of Child Welfare has authority to place out in employment or apprenticeship State wards of employable age. Where wards are required to reside at the place of employment, service agreements covering wages and working conditions are made between employers and the Department, which continues to watch their interests.

Employment of Children—Children are not permitted to engage in street trading unless duly licensed under the provisions of the Child Welfare Act, 1947–1956. Usually licences are issued for the purpose of selling newspapers. Licences may not be issued to children under twelve.

Children under the age of sixteen 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 a view to adoption must notify the Director of Child Welfare. Legal adoptions may be arranged by the Department or privately by solicitors. In either case an order for adoption must be obtained from a Judge of the Supreme Court. During the year ended 30th June, 1956, 262 adoption orders were granted by the Judges.

EXPENDITURE OF CHILD WELFARE DEPARTMENT

Expenditure.	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.
	£	£	£	£	£
Departmental	65,640	75,683	81,698	93,504	122,034
Maintenance of Wards—					
Payments to Institutions	32,191	37,282	36,024	36,691	31,674
Payments to Private Persons	22,355	28,164	29,239	34,455	42,575
Other Expenditure on Wards	7,149	7,940	6,878	7,916	8,347
Maintenance of Migrant Children—					
Payments to Institutions	17,737	26,950	35,632	42,531	43,707
Payments to Private Persons	1,022	1,383	3,190	3,260	3,419
Other Expenditure on Migrant Children	1,928	2,943	4,132	5,245	6,780
Outdoor Relief for Indigent—					
Payments to Widows and Women with Children	43,053	51,090	53,674	60,759	87,494
Other Expenditure on Relief	1,104	1,053	1,580	1,845	2,619
Burials of Indigent Persons	1,782	2,080	2,551	2,352	2,849
Total Expenditure	193,961	234,568	254,598	288,558	351,498
Total Revenue	23,259	25,445	29,587	34,910	34,140
Net Expenditure	170,702	209,123	225,011	253,648	317,358
Per head of mean Population	s. d. 5 9	s. d. 6 10	s. d. 7 2	s. d. 7 10	s. d. 9 6

PART 6—LAW COURTS, POLICE AND PRISONS

LAW COURTS

The principal Courts operating in Western Australia are the High Court of Australia, the State Full Court, the State Supreme Court, the Session Courts of the State, the Magistrates' and Coroners' Courts, the State Arbitration Court and the State Licensing Court.

High Court of Australia

The High Court of Australia is constituted under the Commonwealth of Australia Constitution Act and its powers are defined therein and in the Judiciary Act, 1903–1955. At the end of 1956, the High Court Bench consisted of the Chief Justice of Australia and six other judges. 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.

State Full Court

Two or more members of the Supreme Court Bench exercising appellate jurisdiction constitute a sitting of the State Full Court for civil cases, but criminal appeals must be heard by three judges. The Full Court sits at least five times in every year with additional sittings when necessary. Appeals are heard against judgments given in the Supreme, Circuit and Session Courts and also against decisions of the magistrates in the Lower Courts.

State Supreme Court

Sittings of the civil sessions of the Supreme Court may be conducted by the Chief Justice of the State or by one of the four Puisne Judges, alone or with a jury. Criminal cases must be heard before a jury. Criminal sittings of the Supreme Court commence at Perth on the first Tuesday in every month from February to December and civil sittings are held concurrently but from March to December. In addition, the Eastern Goldfields Circuit Court sits at Kalgoorlie four times a year. The Resident 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. Criminal cases are heard before a jury, in accordance with Supreme Court procedure.

The Supreme Court is responsible for the administration in Western Australia of the Commonwealth Bankruptcy Act, 1924-1955. The administration of the Bankruptcy Act is supervised throughout Australia by the Inspector-General of Bankruptcy, whose office is in Melbourne, Victoria.

Session Courts of the State

The Session Courts are also referred to as the Courts of Quarter Session because they are held four times a year at the principal court houses of each of the fourteen session divisions. The Resident Magistrate stationed at the centre at which a Court is held usually presides. Juries are required at all sittings as only criminal cases are dealt with. Major criminal issues may be reserved for hearing before a Supreme Court judge. 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. 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 and special courts dealing with traffic offences are also held in Perth and Fremantle.

Minor offences are dealt with summarily in Police Courts, but a person charged with an indictable offence is committed to a Higher Court for trial or sentence if the Court decides that 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 almost any offence affecting children. The public is excluded from Children's Court hearings and names of juvenile offenders are withheld from publication.

Coroners' Courts may be held to inquire into the circumstances of sudden or unnatural deaths or the cause and origin of fires. A person found guilty of a major offence may be committed for trial at a Higher Court.

Local Courts are held throughout the State to determine minor civil issues, largely the recovery of small debts.

Proceedings in Civil Courts

Civil Cases—Particulars of civil cases dealt with by the courts in the ten years ended 31st December, 1955 are shown in the following table.

CIVIL CASES

Year.	Higher Courts.				Lower Courts.			
	Writs.		Judgments Signed and Entered.		Plaints.		Judgments. (a)	
	Number.	£	Number.	£	Number.	£	Number.	£
1946	486	88,170	121	49,892	13,876	193,420	3,634	67,129
1947	575	121,560	154	68,842	14,067	215,617	4,222	99,242
1948	590	141,203	139	65,593	15,263	269,368	4,810	138,078
1949	595	179,967	131	51,677	15,245	245,616	4,619	103,768
1950	725	169,486	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

(a) Although these figures are not absolutely complete, they should provide a reliable measure of trends.

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 1946 to 1955.

DIVORCE

Year.	Writs.	Final Orders for—		
		Dissolution of Marriage.	Nullity of Marriage.	Judicial Separation.
1946	1,017	725	6	....
1947	808	807	7	....
1948	710	690	6	....
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

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 President of the Arbitration Court must be a person qualified to be appointed a Judge of the Supreme Court. The full Arbitration Court Bench comprises the President, a representative of the employers' organizations registered with the Court, and a representative of the employees' unions. The President is assisted by a Conciliation Commissioner.

The Arbitration Court 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 Commonwealth Conciliation and Arbitration Act, 1904-1956 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.

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. In addition Conciliators are appointed for the purposes of the Act. The Commission is empowered to prevent or settle by conciliation or arbitration only those industrial disputes which extend beyond the limits of any one State. The principal registry of the Commission is in Melbourne, Victoria, and there are Deputy Industrial Registrars in each State.

State Licensing Court

The Licensing Court is constituted by three members appointed by the Governor to administer the Licensing Act and to issue licenses for the manufacture and sale of alcoholic liquor.

Crime Statistics

Statistics appearing in this section exclude particulars of aborigines unless otherwise stated.

Magistrates' Courts

The following table shows particulars of offences dealt with in Magistrates' Courts, including Children's Courts, during the year 1955.

MAGISTRATES' COURTS—CHARGES AND CONVICTIONS, 1955

(Inclusive of concurrent offences.)

Offence.	Charges.			Summary Convictions.			Committals to Higher Courts.		
	M.	F.	Persons.	M.	F.	Persons.	M.	F.	Persons.
I.—Offences against the Person—									
Murder	4	2	6	....	....	....	4	2	6
Attempted murder	2	2	4	....	....	....	2	....	2
Manslaughter	14	....	14	....	....	....	14	....	14
Attempted suicide	13	7	20	12	7	19	....	....	....
Rape	4	....	4	....	....	....	4	....	4
Incest	6	1	7	....	....	....	5	1	6
Unlawful carnal knowledge	28	....	28	11	....	11	16	....	16
Indecent assault	14	....	14	3	....	3	10	....	10
Indecent dealing	21	....	21	9	....	9	12	....	12
Unnatural offences	22	....	22	1	....	1	21	....	21
Rigamy	3	....	3	....	....	....	3	....	3
Assault, wounding, etc.	453	39	492	327	19	346	15	1	16
Total, Class I.	584	51	635	363	26	389	106	4	110
II.—Offences against Property—									
Robbery	8	....	8	1	....	1	7	....	7
Breaking, entering and stealing	701	2	703	508	2	510	181	....	181
Unlawfully on premises	117	....	117	111	....	111	....	....	....
Stealing, receiving, etc.	2,769	346	3,115	2,537	302	2,839	113	8	121
Willful damage	183	5	188	168	5	173	2	....	2
Unlawfully using vehicles, etc.	387	4	391	334	3	337	24	....	24
Other offences	8	....	8	8	....	8	....	....	....
Total, Class II.	4,173	357	4,530	3,667	312	3,979	327	8	335
III.—Forgery, Uttering, and Offences against Currency—									
Forgery	1	....	1	....	....	....	1	....	1
Uttering	1	....	1	....	....	....	1	....	1
Total, Class III.	2	....	2	....	....	....	2	....	2
IV.—Offences against Good Order—									
Drunkenness	5,331	421	5,752	5,307	413	5,720	....	....	....
Disorderliness	795	53	848	771	44	815	1	....	1
Vagrancy, etc.	355	31	386	324	31	355	....	....	....
Escaping, resisting, and hindering police	356	21	377	343	20	363	....	....	....
Indecent behaviour	61	....	61	58	....	58	1	....	1
Other offences	20	15	35	18	15	33	....	....	....
Total, Class IV.	6,918	541	7,459	6,821	523	7,344	2	....	2
V.—Other Offences—									
Breach of:									
Traffic Act	44,081	2,460	46,541	43,229	2,430	45,659	....	....	....
State Transport Co-ordination Act	472	1	473	454	1	455	....	....	....
Liquor Laws	1,066	60	1,126	1,040	60	1,109	....	....	....
Health Laws	235	15	250	229	15	244	....	....	....
Gaming	1,888	9	1,897	1,858	9	1,867	....	....	....
Maintenance offences	852	3	855	453	2	455	....	....	....
Industrial offences	241	2	243	169	2	171	....	....	....
Taxation offences	472	25	497	418	20	438	....	....	....
Other offences	3,000	231	3,231	2,795	213	3,008	5	....	5
Total, Class V.	52,307	2,806	55,113	50,654	2,752	53,406	6	....	5
GRAND TOTAL	63,984	3,755	67,739	61,505	3,613	65,118	442	12	454

The next two tables show a marked increase in convictions in Magistrates' Courts during the ten years ended 31st December, 1955.

It is important to note, however, that the population increased by 36·9 per cent. in the same period, males by 37·3 per cent. and females by 36·4 per cent.

Total convictions increased by 42,076, from 23,042 in 1946 to 65,118 in 1955. Convictions for offences other than traffic offences rose from 12,922 to 19,459, an increase of 6,537 or 50·6 per cent. In the same period convictions for traffic offences increased from 10,120 to 45,659.

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. (a)		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Persons.
1946	270	32	2,318	144	3	....	5,067	484	14,002	722	21,660	1,382	23,042
1947	268	30	2,008	135	....	....	5,174	522	12,363	595	19,813	1,282	21,095
1948	284	24	2,111	155	4	....	5,531	517	15,096	638	23,026	1,334	24,360
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

(a) Including traffic offences.

CONVICTIONS IN MAGISTRATES' COURTS FOR CERTAIN OFFENCES

Year.	Assault, Wounding, etc.		Stealing, Receiving, etc.		Drunkenness.		Disorderliness.		Gaming.		Traffic Offences.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1946	250	14	1,422	134	3,665	387	893	30	1,554	7	9,689	431
1947	231	16	1,409	123	3,834	416	796	46	1,707	2	7,276	190
1948	247	16	1,463	140	3,971	396	989	59	2,095	6	9,801	314
1949	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	830	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	1,853	9	43,229	2,430

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.

Juvenile Crime

Statistics of convictions of juvenile offenders during 1955, classified according to age, sex and nature of offence, are shown in the following table.

CONVICTIONS OF JUVENILE OFFENDERS, 1955

Offence.	Age (in Years).																								Total.		
	7		8		9		10		11		12		13		14		15		16		17		Not stated				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Unlawful carnal knowledge	10	...
Unnatural Offences	1	...
Indecent dealing	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...
Indecent assault	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...
Assault	34	...
Robbery	1	...
Breaking, entering and stealing
Stealing, receiving, etc.	8	...	16	...	7	...	...	...	...	...	52	...	...	...	...	...	...	...	...	...	...	...	...	...	...	502	2
Wilful damage	2	...	10	...	21	...	34	2	46	3	70	1	121	2	156	25	156	31	136	27	157	20	37	4	946	116	
Unlawfully using vehicles etc.	1	...	3	...	4	...	2	...	8	...	16	...	6	...	6	...	3	...	1	...	7	...	16	...	73	...	
Unlawfully on premises	1	...	1	...	1	...	2	...	8	...	13	...	37	...	53	...	61	1	3	...	178	2	
Drunkenness	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	35	...
Disorderliness	16	...
Uncontrollable	1	...
Indecent behaviour	47	...
Escaping, resisting, hindering police	1	...
Vagrancy	9	...
Traffic offences	27	...
Licensing Act	3	...
Gaming Laws	1,359	74
Firearms and Guns Act	1	...
Other offences	12	...
	57	...
	51	...
Total	11	...	32	...	35	1	63	2	118	3	155	6	258	8	390	32	480	49	608	44	893	42	393	19	3,436	206	

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 stealing and receiving rose substantially.

In examining these statistics, it should be borne in mind that the numbers in the population aged under eighteen years increased during the period by about one-half.

CONVICTIONS OF JUVENILES

Year.	Breaking, Entering, and Stealing.		Stealing, Receiving, etc.		Wilful Damage.		Traffic Offences.		Other Offences.		Total.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Persons.
1946	368	1	490	43	48	....	745	34	354	16	2,005	94	2,099
1947	221	....	383	43	68	1	537	21	264	13	1,473	78	1,551
1948	255	3	543	25	39	2	851	62	360	22	2,048	114	2,162
1949	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

Higher Courts

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, 1955

Offences.	Distinct Persons Charged.			Distinct Persons Convicted.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
I.—Offences against the Person—						
Murder	4	2	6	3	1	4
Attempted murder	2	....	2	2	....	2
Manslaughter	13	....	13	5	....	5
Negligent driving causing death	1	....	1	1	....	1
Rape	4	....	4	1	....	1
Incest	6	1	6	4	....	4
Unlawful carnal knowledge	16	....	16	7	....	7
Indecent dealing	10	....	10	6	....	6
Indecent assault	8	....	8	8	....	8
Unnatural offences	17	....	17	14	....	14
Bigamy	3	....	3	3	....	3
Assault, wounding, etc.	15	1	16	9	....	9
Total, Class I.	98	4	102	63	1	64
II.—Offences against Property—						
Robbery	7	....	7	7	....	7
Breaking, entering and stealing	98	....	98	96	....	96
Stealing, receiving, etc.	80	4	84	66	3	69
Unlawfully using vehicles	18	....	18	18	....	18
Arson	1	....	1	....	....	....
Total, Class II.	204	4	208	187	3	190
III.—Forgery, Uttering, and Offences against Currency						
Forgery	1	....	1	1	....	1
Uttering	1	....	1	1	....	1
Total, Class III.	2	....	2	2	....	2
IV.—Offences against Good Behaviour—						
Indecent behaviour	1	....	1	1	....	1
Disorderly conduct	1	....	1	1	....	1
Total, Class IV.	2	....	2	2	....	2
V.—Other Offences—						
Conspiracy	2	....	2	....	....	....
Perjury	1	....	1	1	....	1
Breach of Births, Deaths and Marriages Act	1	....	1	1	....	1
Total, Class V.	4	....	4	2	....	2
GRAND TOTAL	310	8	318	256	4	260

Details of penalties inflicted by the Higher Courts during the ten years ended 31st December, 1955, are shown below.

HIGHER COURTS—NATURE OF PUNISHMENT OF DISTINCT PERSONS

Year	Bound over.		Fined.		Imprisoned.		Sentenced to Death.		Total.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Persons.
1946	12	1	8	....	68	2	2	1	90	4	94
1947	22	....	4	....	73	1	2	....	101	1	102
1948	20	1	7	....	75	3	1	....	103	4	107
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

Only one execution was carried out during the period. All other death sentences were commuted to life imprisonment.

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 1955.

It will be seen that about two-thirds of the charges are in connection with the consumption of alcoholic liquor which is denied to natives by law.

OFFENCES BY ABORIGINES, 1955

(Inclusive of concurrent offences.)

Offence.	Magistrates' Courts—						Higher Courts—		
	Charges.			Summary Convictions.			Convictions.		
	M.	F.	Persons.	M.	F.	Persons.	M.	F.	Persons.
I.—Offences against the Person—									
Murder	3	....	3	....	....	....	2	....	2
Murder on person	2	1	3	....	....	....	....	....	....
Unlawful carnal knowledge	1	....	1	....	....	....	1	....	1
Indecent assault	3	....	3	3	....	3	....	....	....
Assault, wounding, etc.	72	11	83	57	9	66	2	1	3
Total, Class I.	81	12	93	60	9	69	5	1	6
II.—Offences against property—									
Robbery	4	....	4	....	....	....	2	....	2
Stealing from person	2	1	3	2	1	3	....	....	....
Breaking, entering and stealing	15	....	15	12	....	12	1	....	1
Stealing, receiving, etc.	101	7	108	88	7	95	1	....	1
Wilful damage	20	3	23	18	3	21	....	....	....
Unlawfully using vehicles	32	3	35	32	3	35	....	....	....
Unlawfully on premises	5	....	5	5	....	5	....	....	....
Total, Class II.	179	14	193	157	14	171	4	....	4
IV.—Offences against Good Order—									
Drunkenness	1,000	235	1,235	996	230	1,226	....	....	....
Disorderliness	250	114	364	242	112	354	....	....	....
Escaping, resisting and hindering police	55	9	64	55	9	64	....	....	....
Other offences	2	....	2	2	....	2	....	....	....
Total, Class IV.	1,307	358	1,665	1,295	351	1,646	....	....	....
V.—Other Offences—									
Native Administration Act:									
Being on prohibited area	4	....	4	4	....	4	....	....	....
Loitering in town	22	....	22	20	....	20	....	....	....
Receiving liquor	308	74	382	298	74	372	....	....	....
Supplying liquor to natives	64	4	68	60	3	63	....	....	....
Breaches of:									
Traffic Act	85	1	86	72	1	73	....	....	....
Liquor laws	19	7	26	18	7	25	....	....	....
Gaming	2	....	2	2	....	2	....	....	....
Maintenance offences	7	....	7	3	....	3	....	....	....
Other offences	33	3	36	32	3	35	....	....	....
Total, Class V.	544	89	633	509	88	597	....	....	....
GRAND TOTAL	2,111	473	2,584	2,021	462	2,483	9	1	10

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.

The five branches are the Criminal Investigation Branch, the Uniformed Branch, the Traffic Branch, the Plainclothes Branch, each headed by an Inspector-in-Charge, and the Women Police.

On the 30th June, 1956, the Police Force had one Chief Inspector, 28 inspectors, 171 sergeants and 760 constables. Of these, four were detective inspectors, 24 detective sergeants and 41 detective constables. The Women Police comprised one sergeant 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. Foot and cycle police patrol closely-settled areas, particularly the business centres in the cities and towns. In the remote areas of the State, mounted police make long patrols.

Officers of the Uniformed Branch may be required to act as Clerks of Courts in country areas and to perform special duties for other government authorities.

The Criminal Investigation Branch is centred in Perth, with sub-branches at Fremantle, 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 connection with gold stealing, pillaging and thefts from retail shops.

The Traffic Branch is responsible for the regulation of traffic and the licensing of motor vehicles in the Metropolitan Traffic Area. These functions are performed by the local government authorities in other parts of the State. Licences to drive motor vehicles are issued by police officers throughout the State.

The Plainclothes Branch is mainly employed to control gaming, enforce the liquor laws and suppress vice. Work in connection with the licensing of firearms and the inspection of weights and measures is also the 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.

PRISONS

There are two common gaols and seventeen police gaols in Western Australia, the principal State prison being at Fremantle and the other common gaol at Broome. The prison at Barton's Mill and the Pardelup Prison Farm are outstations of the Fremantle Prison.

A portion of the Fremantle Prison is reserved for the accommodation of female prisoners. The main prison is divided into separate sections for prisoners on remand or awaiting trial, reformatory prisoners and others. Facilities include workshops for printing, bootmaking, carpentry and blacksmithing, where opportunity is provided for long-term prisoners to learn trades. 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. In fact the number of escapes from all gaols averaged only six per year during the five years ended 30th June, 1956, and 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, 1956, a prisoner is counted once for each time he is received.

PRISONERS RECEIVED FOR PENAL IMPRISONMENT

Year.	Prisoners other than Aboriginals.			Aboriginals.			Total.		
	M.	F.	Persons.	M.	F.	Persons.	M.	F.	Persons.
1951-52	2,187	164	2,351	396	43	439	2,583	207	2,790
1952-53	2,540	187	2,727	392	75	467	2,932	262	3,194
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

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.		
	M.	F.	Persons.	M.	F.	Persons.	M.	F.	Persons.
1951-52	1,447	87	1,534	257	33	290	1,704	120	1,824
1952-53	1,451	84	1,535	213	47	260	1,664	131	1,795
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

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 1952 to 1956.

PRISONERS IN GAOL

Date.	Prisoners other than Aboriginals.			Aboriginals.			Total.		
	M.	F.	Persons.	M.	F.	Persons.	M.	F.	Persons.
30th June :—									
1952	350	12	362	35	2	37	385	14	399
1953	359	15	374	29	5	34	388	20	408
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

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, 1956.

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.
1951-52	6	1	7	18	26	4	48
1952-53	6	9	15	19	25	7	51
1953-54	6	9	15	17	26	12	55
1954-55	9	14	23	23	23	11	62
1955-56	12	26	38	39	31	12	82

CHAPTER VI—FINANCE

PART 1—PUBLIC FINANCE

The collection and expenditure of public moneys in Western Australia, as in the other Australian States, are in the hands of three groups of authorities, viz. :—the State Government (including semi-Governmental bodies such as the State Electricity Commission, Fremantle Harbour Trust, etc.), the Commonwealth Government and the local governing bodies (Municipal Councils and Road District Boards). The components of these groups vary, however, as between the States so that strict comparisons of financial details are not always possible.

Moneys collected and expended by the State Government are dealt with through accounts based on three funds—Consolidated Revenue Fund, Trust Fund and Loan Fund. Disbursements from the Consolidated Revenue and Loan Funds require parliamentary approval each year under Appropriation Acts or periodically under Special Acts. Among the standing appropriations by Special Acts are such items as the salaries of the Governor, the Judiciary and Ministers of the Crown, interest charges on the public debt, contributions to the Public Debt Sinking Fund and payments to the State Superannuation Fund.

In the following text, certain aspects of the revenue and expenditure of the Commonwealth Government are dealt with under the general heading of "Commonwealth-State financial relations" and reference to Local Government finance follows the section relating to the State Government.

COMMONWEALTH-STATE FINANCIAL RELATIONS

(i) *Operations under the Financial Agreement of 1927 and associated legislation*

Under appropriate sections of the Agreement the Commonwealth took over from the States their public debts existing on 30th June, 1927, and made itself responsible for all loans raised by the Australian Governments from that date forward. The Commonwealth also agreed to contribute, for a period of 58 years from 1st July, 1927, the annual sum of £7,584,912 towards the interest payable on the State debts, Western Australia's portion being £473,432. A sinking fund of 7s 6d. per cent. per annum was created in respect of the net public debts of the States at 30th June, 1927. The Commonwealth pays one-third of this figure (2s 6d per cent.) and the States the remaining two-thirds—each according to the amount of its net indebtedness at the date of transfer. A National Debt Commission was established to direct the service of the national debt and the Commission was given charge of all pre-1929 sinking funds which could legally be transferred to it. In addition it is authorized to create sinking funds for the repayment of future loans.

(ii) *The Australian Loan Council*

This Council was an outcome of the Financial Agreement and was established to co-ordinate the public borrowings of the Commonwealth and the States. Each of the Governments has one representative on the Loan Council—the Prime Minister of the Commonwealth (or his deputy) sitting as Chairman and the Premiers of the States (or Ministers nominated in their stead) as members. Each representative submits his Government's envisaged programme of loan expenditure for the ensuing year—including the amounts of any revenue deficits requiring funding—and the Loan Council determines whether the total amount sought can be borrowed on satisfactory terms. If the total loan programme has to be reduced, attempts are made to reach a unanimous decision concerning the allocation of the loan raisings between the several Governments. Where unanimity cannot be reached the Commonwealth Government may secure a proportion not exceeding one-fifth of the revised total. The balance may then be divided between the States in the ratio of their individual net loan expenditures during the preceding five years. Borrowings by the Commonwealth for defence purposes and small-scale borrowings by local government and semi-government bodies are exempt from the operations of the Council. However, by a "gentlemen's agreement," a proposal by any such body to raise £100,000 or more in a single year needs to be programmed by the Government of the State in which it operates.

(iii) *The Commonwealth Grants Commission*

As one of the States experiencing relative financial disadvantages under Federation, Western Australia has been obliged to make regular applications for Commonwealth assistance under section 96 of the Australian Constitution. Until 1933, applications for assistance under this section were dealt with by officers of the Commonwealth Treasury. In that year the Commonwealth Grants Commission was set up to advise the Federal Parliament concerning the extent of the grants which should be made to the claimant States from time to time. The Commission has developed a specialised set of statistical measures to aid comparisons of the budgetary positions of the claimant and non-claimant States. Each year a searching comparison is made of the financial and economic conditions in each of the States during the previous financial year—the achievements of the claimant States being compared with those of the “standard” (non-claimant) States. Sitings are held in the capital cities and the Commission makes its ultimate recommendations to the Governor-General of the Commonwealth. Bills to enable the payment of grants are then introduced in the Federal Parliament.

(iv) *Uniform taxation and taxation reimbursement*

Prior to 1942, Western Australia levied the following taxes on incomes :—income tax (including general company tax), financial emergency tax, hospital tax and a tax on the profits of gold-mining companies. With the introduction of the uniform tax scheme in 1942–43, whereby the Commonwealth Government became the sole taxing authority in the field of income tax, it was necessary to compensate the States for lost taxation revenues. Accordingly the Commonwealth has undertaken to pay to the individual States—in every year during which the Commonwealth Treasurer is satisfied that the State has not imposed a tax on income—an amount calculated in accordance with the provisions of the States Grants (Tax Reimbursement) Acts. A formula provides for an annual aggregate reimbursement which is based upon the total grant paid in 1947–48, plus an increase proportionate to the aggregate increase in the population of the six States since 1st July, 1947, and with a further adjustment in accordance with the percentage change since 1945–46 in average wages per person employed. The aggregate reimbursement grant thus arrived at has been and is to be divided amongst the States in the following proportions :—

- (a) 1948–49 to 1956–57 :—(i) The following percentages of the grant are prescribed to be distributed in the proportion indicated by the distribution of the aggregate reimbursement grant in 1946–47 and 1947–48, viz :—1948–49, 90 per cent. ; 1949–50, 80 per cent., and thus decreasing by 10 per cent. each year to 10 per cent. in 1956–57 and (ii) the remainder in the proportion indicated by the “adjusted” population for each State.
- (b) 1957–58 and subsequent years :—the proportion indicated by the “adjusted” population for each State.

In calculating the “adjusted” populations, allowances are made for differences in the proportionate numbers of school children and for the relative density of population in each State.

Under the States Grants (Entertainments Tax Reimbursement) Act, 1942, annual payments, based on State collections for 1941–42, were also made by the Commonwealth to compensate the States for loss of revenue from Entertainments Tax. By agreement this tax was levied by the Commonwealth alone from 1942 to 1946. Thereafter the States were free to re-enter this field and Western Australia did so in October, 1953.

(v) *Applications for special grants*

Scope for special grants—which differ from those secured under section 96 of the Constitution—was provided by section 6 of the States Grants (Income Tax Reimbursement) Act, 1942. The need for them derives from the fact that State taxation revenues are restricted by the operation of the uniform taxation law. Periodically, submissions are made to the Commonwealth Grants Commission on behalf of the State, pointing out that the reimbursements received under this or amending Acts are, for the time being, insufficient to meet the minimum expenditure needs. Where the Commonwealth Grants Commission concurs in the submission a recommendation is made to the Commonwealth Treasurer for legislative endorsement in due course.

(vi) *Payments to special trust funds*

Amounts received from the Commonwealth Government for expenditure on specific purposes are generally paid to trust funds and the corresponding expenditure is made therefrom. A recurring example is the payment received annually under the Commonwealth Aid Roads legislation. Under the current statute a certain proportion of the customs and excise duties levied by the Commonwealth authorities on petroleum products is made available to the States for the construction and maintenance of roads. Other moneys received from the Commonwealth Government and paid into trust funds include such items as payments of hospital and pharmaceutical benefits, assistance for primary industry, advances for housing and funds for war service land settlement. Details of the operations of these and other trust funds are given in the table on page 149.

(vii) *Commonwealth Government expenditure and taxation collections relating specifically to Western Australia*

The following table shows the total amounts disbursed by the Commonwealth Government, from Consolidated Revenue Fund, to or on behalf of the Government of Western Australia, during five recent financial years.

COMMONWEALTH-STATE FINANCE

PAYMENTS BY COMMONWEALTH GOVERNMENT FROM CONSOLIDATED REVENUE
TO OR FOR THE GOVERNMENT OF WESTERN AUSTRALIA

Particulars.	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.
Under Financial Agreement—	£	£	£	£	£
Contribution towards interest on State Debts	473,432	473,432	473,432	473,432	473,432
Contribution towards Sinking Fund on State Debts	272,572	310,458	355,917	396,750	423,240
Commonwealth Aid Roads	2,812,168	2,900,555	3,159,747	4,190,181	5,177,359
Special Grants	5,088,000	8,041,000	7,800,000	7,450,000	8,900,000
Other Grants—					
Tax Reimbursement	6,999,753	8,741,392	9,623,017	10,238,101	11,251,429
Special Financial Assistance	2,390,051	2,110,215	1,717,514	1,566,422	1,060,354
Financial Assistance to University	131,440	86,545	114,757	122,130	134,014
For State Waterworks	283,609	224,420	333,047	366,223	681,796
Assistance for Primary Producers—					
Dairying Industry	1,040,374	590,346	583,596	585,535	506,000
Other Assistance	208,288	277,311	228,970	165,416	197,347
National Health Services—					
Hospitals and Pharmaceutical Benefits	571,613	563,514	466,360	534,981	604,919
Other (including nutrition of children)	(a)	92,333	108,252	130,354	139,987
Tuberculosis Financial Aid (b)	226,736	484,002	493,986	576,300	613,093
Mental Institution Benefits (b)	17,527	17,723	18,280	9,453	9,984
Other Payments	417,001	415,765	233,697	287,408	267,281
Total	21,027,564	25,329,011	25,710,572	27,091,686	30,445,735

(a) Included with Hospitals and Pharmaceutical Benefits.

(b) Includes contribution to Capital Expenditure.

In addition to the reimbursements, grants, etc. to the State Government as shown in the preceding table, the Commonwealth Government annually expends large sums in this State, directly through its own channels. Such expenditure includes :—

(a) Social Services payments—Pensions, Child Endowment, etc. ;

(b) National Health Services benefits ;

(c) Other amounts spent from Consolidated Revenue Fund by Commonwealth departments : notably the Postmaster General's and Repatriation Departments and those of Civil Aviation ; Taxation ; Customs and Excise ; and Health.

Expenditure on social and health services is fully dissected on a State basis, the Western Australian figures for five recent years being as follow :—

COMMONWEALTH GOVERNMENT EXPENDITURE IN WESTERN AUSTRALIA ON SOCIAL AND HEALTH SERVICES

(From National Welfare Fund and includes payments and reimbursements to the State Government.)

Item.	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.
Social Services—	£	£	£	£	£
Age and Invalid Pensions	4,106,291	4,842,153	5,374,974	5,759,382	6,681,441
Funeral Benefits	19,406	17,755	18,604	20,872	22,530
Child Endowment	3,477,916	4,052,859	3,882,899	4,069,037	4,684,167
Maternity Allowances	241,426	248,925	253,442	261,129	276,123
Widows' Pensions	366,483	404,072	435,154	451,002	530,751
Unemployment and Sickness Benefits (a)	58,846	222,097	199,679	142,794	187,033
Community Rehabilitation	39,627	52,679	52,862	54,014	61,426
National Health Services—					
Hospital Benefits	511,332	550,965	656,803	745,259	779,293
Medical Benefits			158,308	413,165	532,501
Medical Benefits for Pensioners	75,283	118,634	136,468	164,587	198,243
Pharmaceutical Benefits	472,701	505,378	634,897	686,175	717,498
Pharmaceutical Benefits for Pensioners	29,448	48,590	62,967	82,304	95,553
Nutrition of Children	66,950	92,333	106,475	126,302	136,361
Miscellaneous Services	15,837	17,002	18,395	14,618	10,863
Tuberculosis Financial Aid (b)	313,604	600,591	607,244	483,585	508,644
Mental Institution Benefits (b)	17,527	17,723	18,280	9,453	.....
Total for Western Australia	9,812,677	11,791,756	12,617,451	13,483,678	15,422,427
Per Head of Mean Population	16.63	19.29	20.01	20.78	22.86
Comparative Australian Total	137,607,996	165,511,396	176,564,604	189,318,867	214,865,677
Per Head of Mean Population	16.14	18.95	19.84	20.83	23.06

(a) Includes Special Benefits.

(b) Figures exclude contributions to Capital Expenditure.

For the departments enumerated under (c), expenditure in Western Australia during the year ended 30th June, 1956, was as follows :—Postmaster General's, £4,878,752 ; Repatriation, £6,019,536 (including £4.11 million for War and Service Pensions) ; Civil Aviation, £830,418 ; Taxation, £590,170 ; Customs and Excise, £341,155 ; and Health, £109,597. These figures exclude expenditure on Capital Works as well as miscellaneous and special appropriations.

Taxation collections, which are fully dissected, are shown hereunder. It should be noted, however, that while the figures in this table represent the amounts collected in Western Australia they do not necessarily indicate the amount contributed by the people of the State, as moneys are collected in one State in respect of goods consumed in, or assessments made on account of, other States.

COMMONWEALTH GOVERNMENT TAXATION COLLECTIONS IN WESTERN AUSTRALIA

Tax.	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.
Customs Duties	£ 6,652,154	£ 4,374,886	£ 5,822,363	£ 5,668,059	£ 3,630,068
Excise Duties	8,151,276	9,186,243	9,718,454	10,900,515	12,032,979
Sales Tax	5,382,046	5,310,767	5,868,735	5,637,960	5,652,058
Land Tax	254,815	(b) 5,044	(b) 202	(b) 70	.....
Income Taxes (a)	32,960,240	34,940,934	32,265,082	28,578,554	26,376,217
Pay Roll Tax	2,184,094	2,489,832	2,588,423	2,578,132	2,732,959
Estate Duty	233,139	434,909	637,246	618,183	601,948
Gift Duty	44,480	88,400	129,165	108,114	124,362
Entertainments Tax	352,508	395,354	114,275	(d) 52	(d) 18
Wool Tax .....	.....	68,919	81,843	70,142	92,491
Wool Contributory Charge (c)	183,905	3,409	.....	.....	.....
Stevedoring Industry Charge (c)	44,958	101,221	143,613	86,226	87,306
Wool Deduction	289,942	.....	.....	.....	.....
Export Charges .....	.....	6,666	6,334	8,400	13,626
Total	56,733,557	57,406,584	57,375,735	54,263,407	51,844,032
Per Head of Mean Population	96.18	93.93	90.97	83.62	76.74

(a) Includes Social Services Contribution. (b) Commonwealth Land Tax abolished from 1st July, 1952—later collections represent arrears. (c) Paid to Trust Fund for the purposes of the industry concerned. (d) Represents arrears Commonwealth Entertainments Tax, which was abolished 1st October, 1953. Tax levied by State as from that date.

STATE GOVERNMENT FINANCE

Consolidated Revenue Fund

The main sources of revenue are :—taxation receipts ; territorial leases, licenses and royalties ; the income of public utilities ; amounts transferred from the separate accounts of State Trading Concerns ; grants and reimbursements from the Commonwealth Government ; and ordinary departmental revenues. The principal fields of taxation remaining available to the State since income tax rights have been reserved to the Commonwealth are stamp duties, probate and succession duties, land tax and racing taxes (*e.g.*, Bookmakers' licenses, turnover and totalisator taxes). Entertainment tax was reintroduced as a State tax on 1st October, 1953, and revenue from Starting Price betting transactions (license fees and turnover tax) has been derived since 1st July, 1955.

Territorial revenues are obtained mainly from the sale and leasing of Crown land, from the granting of timber rights and leases (including royalties) and, to a lesser degree, from mining activities. Public utilities (principally the State Railways, Tramways and Water Supply undertakings) provide an aggregate revenue which broadly approximates, in total, the proceeds of taxation. However, as expenditure is correspondingly high in the case of these concerns a net deficit rather than a surplus usually results from their operations.

The annual expenditure figures for the ordinary Departments of the Government also usually exceed their revenue totals. This is due to the fact that the Departments are concerned mainly with the general processes of administration and are fee-collecting to only a limited extent. Parliament exercises budgetary control over finances of such Departments, as it does also in respect to public utilities. The financial transactions of Departments, business undertakings and other governmental authorities are subject to examination and report by the State Auditor General who is responsible direct to Parliament.

The first of the following tables indicates the course of Consolidated Revenue Fund collections during five recent years and the second gives similar information concerning expenditure.

SUMMARY OF STATE REVENUE

Year.	Taxation. (a)	Land, Timber, and Mining.	Public Utilities.		Commonwealth Grants. (b)	Other Sources.	Total State Revenue.	Mean Popula- tion.	Revenue per head of Popula- tion.
			Railways and Tramways.	Other.					
1951-52	£ 11,716,390	£ 650,062	£ 10,133,268	£ 2,180,082	£ 5,561,432	£ 3,713,923	£ 33,955,157	No. 589,887	£ 57.56
1952-53	13,478,095	756,378	8,980,290	2,381,595	8,073,432	4,614,446	38,884,236	611,191	63.62
1953-54	14,581,503	964,421	12,404,000	2,833,377	7,823,432	4,539,107	43,145,840	630,705	68.41
1954-55	15,435,088	1,007,040	13,456,025	3,162,535	7,573,432	5,085,726	45,719,846	648,930	70.45
1955-56	16,331,246	1,248,828	14,003,369	3,376,725	9,373,432	5,278,806	49,612,406	669,040	74.15

(a) Includes amounts paid by the Commonwealth under the States Grants (Special Financial Assistance) Acts but treated as Tax Reimbursement by the State Treasury, *viz.*, £2,390,051 in 1951-52, £2,110,215 in 1952-53, £1,717,514 in 1953-54, £1,566,422 in 1954-55, and £1,060,354 in 1955-56. (b) Includes interest contributions under Financial Agreement but excludes Income Tax Reimbursements. (c) Affected by Metal Trades strike of February to August, 1952.

SUMMARY OF STATE EXPENDITURE

Year.	Public Debt Interest and Sinking Funds.	Lands, Surveys, Forests, and Mines.	Public Utilities.		Education.	All other.	Total State Expendi- ture.	Expenditure Per head of Popula- tion.
			Railways and Tramways.	Other.				
1951-52	£ 4,870,602	£ 1,074,513	£ 12,054,141	£ 1,690,820	£ 3,630,893	£ 11,225,790	£ 34,546,768	£ 58.57
1952-53	5,305,493	1,312,496	13,957,317	2,064,785	4,342,770	12,409,258	39,392,119	64.45
1953-54	6,073,652	1,485,241	15,500,364	2,144,309	4,798,989	13,236,964	43,248,519	68.57
1954-55	6,928,473	1,512,963	15,633,842	2,410,869	5,608,684	14,109,058	46,203,889	71.20
1955-56	7,725,391	2,073,289	16,878,369	2,713,619	6,240,768	15,811,801	51,443,237	76.89

Two features which are disclosed by these tables are the dominant place of Railways and Tramways in State Government finance and the importance of amounts received from the Commonwealth Government in the figures of Revenue.

State Trading Concerns, comprising Sawmills, Shipping Service, Engineering Works, Brickworks, Meatworks and Hotels, are included in the annual estimates submitted to Parliament. However, the Consolidated Revenue Fund is affected by their operations to a limited extent only, viz., by the receipt of interest and sinking fund contributions, certain departmental charges and profits; or—in the case of the State Brickworks and State Shipping Service—by recoups from the Fund to meet losses.

Some important business undertakings such as the State Electricity Commission are not subject to budgetary control within Consolidated Revenue Fund but obtain appropriations under Special Acts and, together with other undertakings similarly outside the Budget, e.g., the State Government Insurance Office and the Rural and Industries Bank, operate on special trust accounts—see later reference under "Trust Funds" in this chapter.

Analysis of taxation collections.—Taxation continues to account for approximately one-third of the State's annual revenue. The following table shows net collections under the principal headings during five recent years. It should be noted that "Total (paid to Consolidated Revenue Fund)" does not agree with "Taxation" in the preceding table "Summary of State Revenue", as Drivers' and Riders' licenses and certain licenses n.e.l. are not treated as Taxation in the Public Accounts and thus are included under "Other Sources."

STATE GOVERNMENT TAXATION COLLECTIONS

Tax.	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.
	£	£	£	£	£
Income (a)	9,400,000	10,854,544	11,347,415	11,806,004	12,313,308
Probate and Succession Duties	682,552	842,955	857,669	1,040,474	1,083,922
Stamp Duties, n.e.l.	915,750	944,415	1,196,932	1,248,898	1,194,188
Land	207,950	269,062	292,387	384,760	517,389
Entertainment (b)			165,218	225,054	255,922
Liquor Licenses	215,550	236,076	268,694	286,714	300,544
Racing	281,377	322,622	420,417	405,791	621,503
Drivers' and Riders' Licenses, etc. (c)	38,897	51,070	88,147	98,277	103,859
Licenses, n.e.l. (c)	23,797	24,732	25,601	37,260	40,429
Total (paid to Consolidated Revenue Fund) (e)	11,765,873	13,545,476	14,662,480	15,542,241	16,431,064
Paid to Trust and Special Accounts—					
Vermin Tax (d)	44,751	68,927	82,952	90,023	98,431
Vehicle Licenses (motor and other)	1,033,741	1,149,913	1,252,710	1,363,075	1,414,521
Grand Total Collections	12,844,365	14,764,316	15,998,142	16,995,339	17,944,016

(a) Amounts received under States Grants (Tax Reimbursement) Acts and supplementary Commonwealth Grants.
 (b) Collected by State from 1st October, 1953. (c) See comments preceding this table. (d) Includes collections under the Fruit Fly Eradication Fund.

An informative grouping of expenditure items is given by a dissection according to function. The classification used in the following table was originally determined by a Conference of Statisticians for standard treatment by all States. Consideration is now being given to a revision of the classification but a final decision has not yet been reached by the Commonwealth and States.

EXPENDITURE FROM CONSOLIDATED REVENUE ACCORDING TO FUNCTION†

Classification.†	1950-51.	1951-52.	1952-53.	1953-54.	1954-55.
	£	£	£	£	£
Legislative and General Administration	2,201,286	2,528,864	2,678,401	2,922,308	3,087,640
Law, Order and Public Safety	1,155,164	1,478,236	1,704,562	1,853,465	1,975,894
Regulation of Trade and Industry	154,696	180,246	182,651	156,000	120,719
Education	3,136,197	4,235,510	5,008,576	5,454,064	6,453,949
Encouragement of Science, Art and Research	35,024	43,099	54,954	91,230	113,632
Promotion of Public Health and Recreation	2,252,471	3,166,030	3,485,516	3,905,146	4,080,377
Social Amelioration	513,282	640,560	739,333	844,642	1,053,388
Local Government	16,921	22,019	36,660	34,962	23,321
Development and Maintenance of State Resources other than Business Undertakings	1,930,477	2,402,004	2,682,252	2,781,322	2,844,912
Business Undertakings	11,712,393	14,552,725	17,090,885	18,717,562	19,118,117
Public Debt Charges	4,889,023	5,297,475	5,728,329	6,487,818	7,328,940
Total	27,996,834	34,546,768	39,392,119	43,248,519	46,203,889

† Figures for 1955-56 not available in terms of classification used in this table.

Loan Fund and Public Debt

Loan moneys are expended principally on the "business undertaking" and "developmental" sections of government activity, viz. :—the State railways and bus services ; water supply, sewerage, irrigation and drainage schemes ; State Electricity Commission's undertakings and the Rural and Industries Bank. Other activities which have been financed substantially from loan funds are the building of port facilities, forestry (regeneration and pine planting), the capitalization of State Trading Concerns and the erection of government buildings. Land settlement and measures for the development of agriculture have, in the past, involved large-scale loan fund outlays, especially in connection with the Group Settlement Scheme of the nineteen twenties.

The following table is a summary of the net loan expenditure incurred between 1872 (when the first Loan Act was passed) and 30th June, 1956.

NET LOAN EXPENDITURE FROM 1872

(Includes expenditure from Loan Suspense Account)

Year.	Railways, Tramways, and Electricity Supply.	Harbours, Rivers, etc.	Public Buildings.	Water Supply and Sewerage, etc. (a)	Development of Goldfields and Mineral Resources.	Development of Agriculture. (b)	Miscellaneous. (c)	Total. (d)
To 30-6-51	£ 42,043,230	£ 9,035,622	£ 6,377,282	£ 24,382,704	£ 5,148,416	£ 27,546,820	£ 13,400,362	£ 127,934,445
1951-52	10,940,953	1,346,808	1,364,556	2,401,331	304,949	Cr. 35,928	1,435,626	17,758,295
1952-53	6,856,306	1,210,975	2,716,163	2,429,186	297,067	325,559	3,771,081	17,606,337
1953-54	6,350,511	1,163,776	1,572,045	1,969,720	143,016	1,124,192	1,870,714	14,193,974
1954-55	5,580,814	960,011	1,996,616	2,830,321	68,886	Cr. 13,347	3,307,669	14,730,970
1955-56	4,094,339	819,147	2,093,645	2,758,108	73,360	801,748	2,673,968	13,314,315
Total	75,866,162	14,536,339	16,120,307	36,771,370	6,035,694	29,749,044	26,459,420	205,538,336

(a) Including Irrigation and Country Water Supplies. (b) Including funds provided for the Rural and Industries Bank, and Land Settlement, etc. (c) Including State Trading Concerns and, in *ab initio* to 1951, Roads, Bridges and Immigration. (d) Exclusive of Flotation Expenses and Revenue Deficits.

Some major undertakings have been developed during the period under review. These are the bringing into service of the new Electricity Generating Station at South Fremantle ; a growing rehabilitation programme for the Government Railways ; various harbour improvements and a considerable extension of the metropolitan water supply reservoirs and services. Similar water supply extensions are in progress in the Great Southern and other country districts and a large-scale electrification scheme is being implemented in the South-Western portion of the State.

On 30th June, 1956, Western Australia had a net public indebtedness of £188,610,363, compared with the figure of £123,178,420 on 30th June, 1951.

Redemptions through the medium of the National Debt Sinking Fund have been made in Australia, London and New York. The Financial Agreement Validation Act, 1929, and the Financial Agreement Act, 1944, prescribe the sinking fund contributions which must be made by each State in respect of current borrowing. As already mentioned in this chapter, the rates of contribution for loans floated before 1st July, 1927 were fixed when the financial agreement was effected.

The following table gives details of the State public debt during five recent years. It should be noted that the annual amounts shown as accrued sinking fund are, in fact, the fluctuating balances at 30th June each year held on behalf of the State by the National Debt Commission.

PUBLIC DEBT, 1952 TO 1956 ; ALSO INDEBTEDNESS PER HEAD OF POPULATION

As at 30th June.	Amount Maturing.				Sinking Fund available for further Debt Redemption.	Net Indebtedness.	
	In London.	In New York.	In Australia.	Total.		Total.	Per head of Population.
1952	£ 35,986,808	£ 2,015,243	£ 100,286,480	£ 138,288,531	£ 323,313	£ 137,965,218	£ 230.0
1953	35,970,308	2,008,667	115,093,195	153,072,170	930,677	152,141,493	245.2
1954	35,819,608	1,359,499	128,603,438	165,782,545	410,841	165,371,704	258.6
1955	35,770,204	1,037,812	141,073,233	177,881,349	221,058	177,660,291	269.8
1956	35,770,204	1,125,244	151,837,292	188,732,740	122,377	188,610,363	278.4

Certain adjustments are necessary to reconcile the gross public debt on 30th June, 1956, with the aggregate net loan expenditure on the same date, as shown in the table on page 148. These adjustments are as follow :—

RECONCILIATION OF AGGREGATE NET LOAN EXPENDITURE WITH PUBLIC DEBT AS
AT 30TH JUNE, 1956

Aggregate Net Loan Expenditure—	£	£	£	£
Total Public Works, Services, etc.	6,141,041	205,538,336		
Discounts and Flotation Expenses	12,333,039			
Revenue Deficits		18,474,080		
Add—Inscribed Stock issued under Agricultural Bank Act			224,012,416	
			1,566,000	
Less—Redemptions	30,729,991			225,578,416
Debit Balance of General Loan Fund	115,685			36,845,676
PUBLIC DEBT, 30th June, 1956				188,732,740

Trust Funds

These accounts frequently have a statutory basis—the method of operation being prescribed by either a State or a Commonwealth Act. They comprise “Governmental” and “Private” accounts, the former being the working accounts of semi-government authorities or inter-governmental media. Private trust accounts record collections from, disbursements to, and holdings in trust for, private persons; or transactions on their behalf by government authorities.

The operations of several important government instrumentalities such as the Rural and Industries Bank, the State Electricity Commission, the State Insurance Office, Public Hospitals, Main Roads Department, Fremantle Harbour Trust and the State Housing Commission are financed from Trust Funds (and Loan Funds) and not from Consolidated Revenue Fund. Amounts debited and credited annually to the accounts of such instrumentalities are high in comparison with those of other trust funds, as shown in the following table of major Governmental trust funds.

SUMMARY OF GOVERNMENTAL TRUST FUNDS
YEAR ENDED 30th JUNE, 1956

Account.	Receipts.	Expenditure.	Balance at 30th June, 1956
	£	£	£
Agriculture Protection Board	155,747	158,983	75,726
Argentine Ant Control Committee	152,472	149,900	10,046
Commissioners of Rural and Industries Bank	1,077,369	1,054,356	27,184
Commissioners of Rural and Industries Bank—Reserve Account	3,230,000	2,845,000	385,000
Commonwealth Grant—Private Hospitals Benefit	138,086	143,246	15,931
Commonwealth Grant—Public Hospitals Benefit	481,682	464,282	42,915
Forests—Improvement and Reforestation	1,033,776	974,145	59,875
Fremantle Harbour Trust	2,677,053	2,675,463	45,553
Hospital Building and Equipment	227,699	249,710	167,848
Hospital Fund	3,671,141	3,671,141	
Government Fire and Marine Insurance †	134,466	148,516	159,672
Government Workers' Compensation (Insurance)	402,303	422,812	82,254
State Insurance†	1,040,597	1,029,799	111,122
Midland Junction Abattoir Board	490,622	441,301	85,363
Commonwealth Aid Roads	6,076,223	6,515,069	Dr. 21,482
Narrows Bridge Construction	432,593	92,890	642,948
Main Roads	646,209	678,807	169,249
Main Roads Contribution	128,083	109,000	154,817
Metropolitan Traffic	638,387	637,335	106,650
The Charcoal Iron and Steel Industry	591,343	609,272	Dr. 35,848
The Electricity Commission	15,795,788	16,114,122	Dr. 122,974
Tourist Bureau	308,476	306,039	22,465
Transport Co-ordination	204,715	220,714	84,983
Kwinana Housing Scheme	234,481	147,908	52,917
War Service Homes Commission—Receipts in Suspense	1,700,377	1,716,995	32,279
Commonwealth-State Housing Agreement	6,705,384	5,770,784	149,145
State Housing Commission	5,228,174	4,851,475	193,574
Other Governmental Trust Funds‡	11,216,565	11,010,268	3,556,292
Total	64,819,811	63,209,332	6,253,504

† Excludes Reserve and Deposit Accounts. ‡ Excludes trust amounts recorded by State Treasury for balance of Public Debt Sinking Fund held by National Debt Commission at the end of the financial year viz : £122,377 at 30th June, 1956.

Accounts which record the State Government's trust transactions on behalf of external persons and interests predominate amongst the "Private" trust funds. The following table contains details of several such accounts.

SUMMARY OF PRIVATE TRUST FUNDS

YEAR ENDED 30th JUNE, 1956

Account.	Receipts.	Expenditure.	Balance at 30th June, 1956.
	£	£	£
Charitable Institutions	54,793	50,187	41,985
Clerk of Courts	815,525	809,270	36,288
Coal Mining Industry Long Service Leave	18,079	27,897	3,875
Coal Mine Workers' Pensions	173,397	170,969	8,491
Coal Mine Workers' Pensions Reserve	87,728	9,826	494,672
Commonwealth Advance Migration Education	30,093	26,478	4,939
Commonwealth Advance Scholarship Scheme	34,671	34,481	1,290
Commonwealth Reconstruction Training	19,222	18,563	3,357
Contractors' Deposits	158,811	134,134	180,962
Deposits on Land Application	92,182	103,287	25,220
Federal Income Tax Departmental Collections	3,179,192	3,236,874	299,115
Lotteries Commission	86,331	106,331	296,537
Pay Roll Tax	904,693	907,031	5,246
Public Trustee—Common Fund	1,073,613	1,084,024	10,692
Purchase of Tailings	29,431	38,645	9,395
State Electricity Commission Sinking Fund	74,768	75,249	12,327
Superannuation Fund	1,203,898	1,198,744	28,894
Superannuation Board Reserve	369,499	12	3,817,113
War Service Homes	3,825,354	3,849,951	12,721
Commonwealth Soldiers' Settlement—Acquisition of Properties	2,225,679	2,164,864	382,135
War Service Land Settlement—Advances to Settlers	361,478	358,817	100,814
War Service Land Settlement—Settlers Proceeds	627,584	626,731	94,808
Other Private Trust Funds	459,721	462,636	564,609
Total	15,905,742	15,494,001	6,435,475

LOCAL GOVERNMENT FINANCE

The financial activities which are legally within the scope of local governing bodies in Western Australia are broadly similar, irrespective of whether control is exercised by a municipal council or a road district board. Hereunder is a summary of the classes of revenue and expenditure common to these authorities.

Revenue

Five major subdivisions, viz :—taxation; revenues from public works and services; government reimbursements and grants; business undertakings (predominantly electricity supply); and traffic fees are dealt with in some detail in the following text.

(i) Taxation

Rates yield the highest proportion of this form of revenue. They comprise, mainly, general and loan rates and—to a lesser degree—health, vermin, fire brigade and lighting rates. Local health and vermin boards as well as water boards levy rates to finance their activities besides making specific charges for supplementary services. Health, water, fire brigade and vermin rates are levied under special statutory provisions but the "general" and "loan" rating levies are provided for in either the Municipal Corporations Act, 1906–1956 or the Road Districts Act, 1919–1956.

Subject to statutory maxima which apply to certain types of rates, the method of striking the rate consists of dividing the aggregate annual financial commitment on the particular rate account by the total rateable value of the district concerned. Rateable values are assessed as either the "unimproved capital value" or the "annual value". "Unimproved" valuations are based on the conjectural price

which the land would bring if sold in the open market. As the term implies, the worth of any improvements is excluded. "Annual value", on the other hand, is an estimated annual rental value of the property including improvements, less deductions to cover rates and taxes, maintenance, insurance, repairs and other appropriate expenditure. "Unimproved" values are mainly but not invariably used by road district boards and "annual" values by municipal councils, while in the case of some authorities both systems are in operation.

Other sources of taxation revenue include permits issued under the building by-laws, dog licenses, and licenses and permits issued under the Health Act, 1911-1956 and Regulations. Vehicle license fees are not treated as taxation in the tables which follow; they are dealt with separately in section (v).

(ii) *Revenue from public works and services*

This group accounts for about one-fifth of the aggregate income. Revenue from properties and from sanitary and disposal of garbage services are the two largest items. The former includes rents and hire charges for buildings, plant and recreational facilities as well as sales of land, vehicles and plant. A substantial amount is also received for private road construction, including driveways, etc. Other regular sources of income are charges (other than rates) by water and vermin boards.

(iii) *Government reimbursements and grants*

The main items in this group are two forms of recoups by the State Government. One is reimbursements for road construction and maintenance undertaken principally for the Main Roads Department, but also for other authorities, e.g. the State Housing Commission. Such reimbursements include moneys made available for the purpose from Commonwealth funds and paid out through State Government authorities. The other is the system whereby local governing bodies paying bonuses for the destruction of wild dogs, foxes and other vermin are later reimbursed by the Department of Agriculture.

(iv) *Business undertakings*

The only class of business undertaking which has had any substantial effect on local government finances is Electricity Supply. However, with the expansion of the activities of the State Electricity Commission and the progressive taking over of the municipal and road district generating plants in the south-western portion of the State, there must ultimately be some decline in the importance of this field of local government activity. The other business undertakings, all comparatively small, are quarries, abattoirs and ice and cold storage works.

In the table hereafter the figures for "profits from other business undertakings" represent amounts appropriated to general revenue and are not necessarily the exact working profits for the year stated. They include any allocations of profits made to individual municipalities by the two Transport Boards mentioned later in this chapter under "Municipal Transport Services".

(v) *Traffic fees*

This is a very important item for all local authorities, irrespective of whether they are situated in the country districts or within the metropolitan traffic area. Country local government authorities receive directly into their revenues all proceeds of vehicle licensing in their districts. Metropolitan local authorities receive proportionate allocations from the vehicle licenses revenue collected by the Police Traffic Department in the metropolitan traffic area. These disbursements are made from the Metropolitan Traffic Trust Account, into which the license fees of vehicles registered in the metropolitan traffic area are first paid.

Details of revenue for an aggregation of municipal councils, road district boards, local boards of health, vermin boards and water boards are shown in the following table :—

SUMMARY OF LOCAL GOVERNMENT REVENUE
(Excluding Loan Receipts)

Particulars.	1950-51.	1951-52.	1952-53.	1953-54.	1954-55.
Taxation—	£	£	£	£	£
Rates : General	853,789	1,031,942	1,262,539	1,447,133	1,533,556
Loan	242,530	291,455	336,734	397,135	515,198
Health and Sanitation	170,448	231,089	272,201	266,448	256,001
Vermin	34,411	36,774	39,742	46,802	50,070
Other	62,431	75,610	86,840	90,002	102,939
Total Rates	1,363,609	1,666,870	1,998,056	2,247,520	2,457,764
Licenses and Fees (a)	33,244	36,162	41,288	56,287	59,115
Total Taxation (a)	1,396,853	1,703,032	2,039,344	2,303,807	2,516,879
Public Works and Services—					
Sanitary Services, including Garbage Collection	222,574	273,824	355,440	386,300	408,952
Water Supply	14,591	9,557	8,064	9,898	14,712
Vermin Eradication	9,733	14,070	15,737	13,230	10,571
Income from Property and Plant :					
Halls and Other Buildings	87,679	87,841	102,871	115,886	120,746
Parks, Gardens and Recreational Facilities	42,116	44,870	58,007	61,221	70,133
Vehicles and Plant	(b)	111,962	115,515	130,573	156,991
Other Properties	303,464	271,043	333,426	363,257	382,039
Road Construction	73,095	108,530	158,533	165,969	225,833
Other Works and Services	32,696	36,407	34,821	24,625	21,320
Total Works and Services	785,948	958,104	1,180,414	1,270,959	1,411,297
Government Reimbursements and Grants—					
Roads	497,611	651,652	824,096	741,152	923,483
Vermin Destruction Bonus	19,662	20,409	25,653	20,966	21,388
Other	(c) 118,281	28,353	34,362	49,212	28,897
Total Reimbursements and Grants	635,554	700,414	884,111	811,330	973,768
Electricity Undertakings (d)	519,688	408,679	436,397	466,258	513,534
Profits from Other Business Undertakings	2,704	27,158	3,208	15,709	12,529
Traffic Fees (e)	708,691	766,876	835,509	913,474	987,640
Fines and Penalties	5,540	6,703	8,787	8,684	10,674
Other Ordinary Revenue	122,268	115,312	177,100	189,080	180,825
Total, all Heads of Revenue	4,177,226	4,686,278	5,564,870	5,979,301	6,607,146

(a) Excludes vehicle licenses, see note (e). (b) Included in "Other properties." (c) Mainly for Road Plant purposes. (d) Includes associated Gas Works at Geraldton. (e) Includes vehicle license fees received directly into revenue where the local authority is outside the Metropolitan Traffic Area, as well as disbursements to metropolitan local authorities from the Metropolitan Traffic Trust Fund in respect of vehicle licenses.

Expenditure (Other than Loan Expenditure)

Similarly to revenue, the general heads of expenditure differ little between municipalities and road districts. The four main categories of expenditure are :—general administration and debt services ; public works and services ; grants and donations ; and expenditure of electricity undertakings. A broad dissection of these major headings is as follows :—

(i) General administration and debt services

This form of expenditure includes all debt redemption charges, interest payable under hire purchase agreements and interest charges on loans or overdrafts. Health, water and vermin boards administration costs are listed under "other works and services" because of the specialised nature of these activities.

(ii) Public works and services

Expenditure items in this group comprise, chiefly, the costs of constructing and maintaining roads, paths and bridges ; all general outlay on health, sanitation and garbage services ; capital and maintenance expenditure on local authorities' property and the purchase of vehicles and other plant. Certain of these items are financed only partly from revenue, the balance of expenditure being from loan funds.

(iii) Grants and donations

Many of the local authorities, under a statutory requirement, make annual grants towards the maintenance of fire brigades. Grants are also made, by some authorities, to hospitals and ambulances, infant health clinics and sundry other local organizations.

(iv) *Expenditure of electricity undertakings*

As previously indicated, the expanding activities of the State Electricity Commission are effecting a reduction in the number of local authorities conducting electricity supply systems. During the last few years the Commission has acquired the City of Perth Electricity and Gas Supply Undertaking (in 1948-49) and the electricity supply system of the Fremantle Municipal Tramways and Electric Lighting Board (1951-52) and those of several other local authorities. However, in the aggregate of local government expenditure, the amount expended on electricity undertakings is still one of the most substantial items.

Most of the before-mentioned activities are carried out under the provisions of the Municipal Corporations Act, 1906-1956 or the Road Districts Act, 1919-1956. Certain others, notably those coming within the purview of the local boards of health, function under the Health Act, 1911-1956 and Regulations while vermin eradication is provided for in the Vermin Act, 1918-1956. Vehicle licensing functions are exercised under the Traffic Act, 1919-1956. Local authorities do not possess the power to license drivers and riders of motor vehicles—this function being the statutory responsibility of the Commissioner of Police.

Details of expenditure for an aggregation of municipal councils, road district boards, local boards of health, vermin boards and water boards are shown in the following table:—

SUMMARY OF LOCAL GOVERNMENT EXPENDITURE
(Excluding Loan Expenditure)

Particulars.	1950-51.	1951-52.	1952-53.	1953-54.	1954-55.
	£	£	£	£	£
General Administration	431,251	549,878	604,432	639,177	701,560
Debt Services—					
Interest and Other Charges	81,708	96,860	117,941	144,542	183,337
Redemptions	200,123	238,369	271,917	325,339	407,321
Total Debt Services	281,831	335,219	389,858	469,881	590,658
Public Works and Services—					
Roads, Paths and Bridges :					
Construction and Maintenance	1,085,673	1,313,823	1,568,445	1,530,708	1,740,739
Other Road Work (a)	95,150	120,366	171,789	170,561	189,121
Street Lighting	61,325	68,136	72,139	77,092	79,991
Special Divisions of Administration :					
Health Boards	96,019	120,061	138,167	152,996	160,470
Water Boards	4,093	5,336	6,105	6,200	6,069
Vermin Boards	11,712	13,829	15,966	14,621	15,119
Expenditure on Property and Plant :					
Parks, Gardens and Recreational Facilities	240,499	296,019	362,357	394,105	419,992
Halls and Other Buildings	148,444	174,550	207,301	235,740	269,464
Vehicles and Plant	380,141	471,577	416,596	461,426	666,433
Other Property	191,965	232,517	224,602	300,346	403,786
Other Works and Services :					
Sanitary and Garbage Services	295,651	374,362	426,890	424,983	456,164
Vermin Destruction	49,086	58,225	65,320	64,901	62,833
Water Supply Services	33,466	36,176	37,787	39,239	38,137
Other Services	55,363	51,788	67,325	50,234	50,368
Total Works and Services	2,698,587	3,336,770	3,780,792	3,923,152	4,558,686
Grants and Donations—					
Fire Brigades	39,872	50,298	57,349	60,908	66,600
Hospitals and Ambulances	4,209	3,446	3,522	5,004	7,760
Other	6,939	5,613	8,307	14,456	14,352
Total Grants	51,020	59,357	69,178	80,368	88,712
Electricity Undertakings (b)	488,831	408,453	419,110	450,962	484,229
Other Expenditure	97,274	130,130	107,215	182,501	167,254
Total, all Heads of Expenditure	4,048,794	4,819,807	5,370,585	5,746,041	6,591,099

(a) Includes cleaning and watering of thoroughfares, construction of private carriages, provision of street name-plates and seats, and tree planting. (b) Includes expenditure of associated Gas Works at Geraldton but excludes any transfers to municipal or road district revenue accounts.

Municipal Transport Services

Two groups of local governing bodies, constituting the Fremantle Municipal Transport Board and the Eastern Goldfields Transport Board, operate omnibus services in the Fremantle and Kalgoorlie-Boulder districts respectively. Administration is by special boards of management and their accounts

are kept separate from those of the relevant local government authorities. In consequence the financial returns of the Transport Boards are not included in the preceding tables, except in so far as amounts are appropriated from profits to the general revenue of the municipalities concerned. The financial operations of each of these Transport Boards for a five year period are summarized in the two following tables :—

FREMANTLE MUNICIPAL TRANSPORT BOARD (a)

Year ended 31st August.	Revenue.				Expenditure.				
	Tram† and Omnibus Traffic	Sale of Elec- tricity. (a)	Other	Total.	Traffic	Power and Lighting (a)	General Repairs and Main- tenance.	Other	Total.
	£	£	£	£	£	£	£	£	£
1951	105,806	245,004	4,089	354,899	101,618	134,246	68,357	22,551	326,772
1952	149,182	205,900	4,871	359,953	121,579	116,007	68,988	23,687	330,261
1953	155,067	.....	2,927	157,994	115,429	.....	21,704	17,383	154,516
1954	164,233	.....	2,106	166,339	111,615	.....	23,185	17,449	152,249
1955	165,083	.....	1,976	167,059	113,905	.....	23,813	17,936	155,654

(a) Electricity Supply Undertaking disposed of to the State Electricity Commission on 18th April, 1952. In December, 1952, the Board's title was amended from Fremantle Municipal Tramways and Electric Lighting Board to that of Fremantle Municipal Transport Board. † Tramways ceased operations in November, 1952.

EASTERN GOLDFIELDS TRANSPORT BOARD

Year ended 30th November	Revenue.			Expenditure.			
	Tram† and Omnibus	Other	Total.	Traffic	General Repairs and Main- tenance.	Other	Total.
	£	£	£	£	£	£	£
1951	33,420	678	34,098	21,019	7,239	4,641	32,899
1952	38,081	479	38,560	24,546	6,525	5,374	36,445
1953	39,295	534	39,829	27,226	6,004	5,104	38,334
1954	36,565	445	37,010	24,788	6,881	4,623	36,292
1955	36,419	442	36,861	23,247	6,992	4,357	34,596

† Tramways ceased operations in March, 1952.

Loan Operations

Municipal councils and road district boards are constituted as corporate bodies and are authorized to raise and repay loans under the provisions of the respective enabling Acts. Borrowing powers are limited, to the extent that individual local governing bodies may not at any time have a net total debt for works and undertakings which exceeds ten times the average annual ordinary revenue of the authority based on the two financial years last preceding the date of gazetted intention to borrow. In computing the net total debt, allowance is made for amounts which have been paid off the existing loans and for the balances standing to the credit of sinking funds. There is a degree of State Government surveillance over loan transactions and, where loans are repayable in full at the due dates, sinking fund accounts are kept at the State Treasury. Where a local governing body wishes to raise more than £100,000 in any one year (and the amount is within its borrowing power) its requirements need to be scheduled by the State Government for reference to the Australian Loan Council. This is not a common occurrence in Western Australia, borrowings being generally of a lesser order than the figure cited.

Loans are raised mainly from banks, insurance companies and superannuation funds (government and private). The proceeds may be used for works and undertakings as specified in the enabling Acts. Typical headings of expenditure provided for in the Acts are street and road construction (including bridges); installation of septic tanks, sewers and drains; and the purchase of land, buildings and materials. Certain other undertakings, such as the acquisition of plant and equipment (including vehicles) and the provision of housing need the approval of the Governor in Council.

The Municipal Corporations Act and the Road Districts Act provide that the respective types of local governing authorities shall observe certain requirements when levying loan rates. In particular, municipalities are required to adhere to loan rates which are constant over the whole of the territory administered by the individual authority. However, road boards may apply differential loan rates—commensurate with the value of loan monies expended in particular wards or districts of the road board area.

The proceeds of loan rates are credited to a special account from which interest is paid to debenture holders at prescribed intervals. Two types of debenture repayment are used, viz :—"sinking fund" and "reducible principal". Under the former, payments are credited to a general sinking fund from which repayments are made upon maturity of the loans. Under the latter, the local authorities undertake to pay both principal and interest in a series of fixed moieties. Irrespective of the method of loan repayment adopted, the loan liabilities incurred are collaterally secured upon the general revenues of the individual municipalities or road districts concerned.

The next two tables give particulars of loan raisings and loan indebtedness of the combination of municipal councils, road district boards, local boards of health and water boards over a five year range :—

LOCAL GOVERNMENT LOAN RAISINGS

Particulars.	1950-51.	1951-52.	1952-53.	1953-54.	1954-55.
	£	£	£	£	£
Raised for :—					
Ordinary services	569,089	674,278	759,458	1,153,741	1,456,867
Health services	8,700	500	10,000	....	18,000
Water supplies	27,350	15,000	8,500	6,000	11,400
Business undertakings, viz :—					
Electricity and gas supplies	78,850	27,400	39,050	84,340	81,600
Ice works and cold storage ....	....	....	....	5,000	....
Total	683,989	717,178	817,008	1,249,081	1,567,867

LOAN INDEBTEDNESS OF LOCAL GOVERNMENT BODIES

Particulars.	1950-51.	1951-52.	1952-53.	1953-54.	1954-55.
	£	£	£	£	£
Loans current at the end of the year	2,710,710	3,159,168	3,679,925	4,601,060	5,703,323
Less Sinking Funds in hands of Trustees	229,226	229,438	223,012	199,866	147,120
Net loan indebtedness	2,481,484	2,929,730	3,456,913	4,401,194	5,556,203
Apportionment of net loan indebtedness :					
Ordinary services	2,109,208	2,544,408	3,042,552	3,922,166	4,987,361
Electricity supply	253,621	266,921	288,045	352,100	410,974
Health services (a)	40,798	34,522	39,187	39,417	53,792
Water supply (b)	77,857	83,879	87,129	87,451	103,876
Total	2,481,484	2,929,730	3,456,913	4,401,194	5,556,203

(a) Mainly sewerage systems.

(b) Includes expenditure from General Loan Fund.

The following table gives details of the Loan Expenditure of the combination of municipal councils, road district boards, local boards of health and water boards during the same period :—

LOCAL GOVERNMENT EXPENDITURE FROM LOANS

Particulars.	1950-51.	1951-52.	1952-53.	1953-54.	1954-55.
Works and Services—	£	£	£	£	£
Roads, paths and bridges....	292,341	347,119	347,859	428,690	574,101
Property (including vehicles and plant)	263,824	277,152	325,082	347,055	458,152
Parks, gardens and recreational facilities	22,658	32,961	27,797	35,683	80,990
Water supplies	22,750	16,450	8,228	3,964	9,479
Other works	7,563	35,676	14,522	31,792	7,933
Redemptions	7,523	8,659	394	2,151	107
Other expenditure	1,636	12,296	3,870	6,416	21,292
Total Works and Services	618,295	730,313	727,752	855,751	1,152,054
Business Undertakings—					
Light and power supplies (electricity and gas)	64,174	46,992	40,968	70,751	76,332
Sewerage .....	.....	.....	2,980	.....	13,938
Redemptions	1,056	.....	.....	.....	363
Ice works and cold storage .....	.....	.....	.....	5,000	.....
Total Business Undertakings....	65,830	46,992	43,948	75,751	90,422
Grand Total	684,125	777,305	771,700	931,502	1,242,687

PART 2 – PRIVATE FINANCE

MONEY AND BANKING

Currency

Being modelled on the system used in the United Kingdom, the Australian monetary system has as its unit the pound (£), divided into 20 shillings (s.), each of which amounts to 12 pence (d.). Until 1931 the Australian pound was, with minor fluctuations, at parity with the pound Sterling. Since 3rd December, 1931 the exchange rate has been stabilized at £125 Australian = £100 Sterling. Enactments of the Federal Parliament, as empowered by the Commonwealth Constitution, give the Commonwealth Government control over currency, legal tender and the issue of paper and metallic money throughout Australia. Australian currency notes are issued exclusively by the Commonwealth Bank through its Note Issue Department and the coinage is issued by the same institution after manufacture at the Melbourne and Perth Branches of the Royal Mint.

Australian notes (legal tender to any amount in Australia) are in common use in denominations of 10s., £1, £5, and £10, but are also issued as £20, £50, £100 and £1,000. The value of notes in circulation on the 27th June, 1956 was £372.5 million, of which £42 million was held by the banks and £330.5 million by the public. Gold coins are not now in circulation, minting having ceased in 1931. Silver alloy coins (legal tender up to forty shillings) circulate in the following denominations :—florin (2s.), shilling, sixpence and threepence. Bronze is used for the penny and halfpenny and these coins are legal tender up to one shilling.

General Banking

Exclusive of Savings Banks, which are dealt with further on in this chapter, banking in Western Australia is conducted by two Commonwealth Government banks, a State Government bank and seven private trading banks.

The Commonwealth Bank and The Commonwealth Trading Bank are constituted under enactments of the Federal Parliament and are controlled by a board, the Chairman of which is the Governor of the Bank and one member is the Secretary of the Department of the Treasury. The former Bank is Australia's Central Bank and it is also responsible for foreign exchange control arrangements. Other functions are exercised by a Note Issue Department, Rural Credits Department, Mortgage Bank Department and Industrial Finance Department. The Commonwealth Trading Bank, which functions in like manner as the private trading banks, was separately constituted by Federal enactment in 1953 and took over the business of the former General Banking Division of the Commonwealth Bank.

The Private Trading Banks are all branches of cheque-paying banks whose Australian Head Offices are in one of the other Commonwealth States.

The Rural and Industries Bank of Western Australia is the State Government bank. In addition to general banking facilities in the Rural Department, this bank has an entirely separate Government Agency Department which is concerned with governmental assistance for land settlement and development by way of advances to farmers; a large amount of this business was taken over from its predecessor, the Agricultural Bank. Periodically, sound securities are transferred to the Rural Department. The Rural and Industries Bank is also an appointed credit authority for the War Service Land Settlement Scheme transactions in this State and assists both Commonwealth and State Governments by administering the sections of the Commonwealth Re-establishment and Employment Act which relate to loans and allowances to eligible exservicemen for agricultural purposes.

Summary of general banking business.—The principal statistics concerning banking activity during five recent years are as follow :—

BANK CLEARINGS—WEEKLY AVERAGES FOR PERTH.

Year.	Quarter Ended.				Year.
	March.	June.	September.	December.	
	£'000	£'000	£'000	£'000	£'000
1952	12,311	11,951	10,037	11,598	11,466
1953	12,337	11,851	11,502	13,723	12,341
1954	13,924	13,635	12,964	13,820	13,692
1955	14,467	13,729	12,808	14,287	13,798
1956	14,970	14,319	13,898	14,163	14,538

CHEQUE-PAYING BANKS—AVERAGES OF CUSTOMERS' BALANCES AND BANK ADVANCES IN W.A.

Averages based on Amounts as at close of business each Wednesday.

Period.	Customers' Balances.						Loans, Advances, and Bills Dis-counted.	Ratio of Loans, Advances etc., to Total Balances.
	Not Bearing Interest.		Bearing Interest.			Total.		
	Aus-tralian Govts.	Other.	Aus-tralian Govts.	Other.				
				Current.	Fixed.			
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	%
1951-52	1,426	70,111	186	1,385	12,353	85,461	41,676	48.77
1952-53	1,297	70,318	273	1,176	12,053	85,117	43,676	51.31
1953-54	1,166	74,026	6	1,324	14,410	90,932	53,214	58.52
1954-55	1,315	73,798	11	1,346	13,978	90,448	68,915	76.19
1955-56	835	70,204	9	2,273	13,929	87,250	71,293	81.71

The foregoing figures concern the activities of all cheque-paying banks, *viz.* :—Australia and New Zealand Bank; Bank of Adelaide; Bank of New South Wales; Commercial Bank of Australia; Commercial Banking Company of Sydney; Commonwealth Trading Bank of Australia; English, Scottish and Australian Bank; National Bank of Australasia; and Rural and Industries Bank of Western Australia (Rural Department).

The discount rates on commercial bills, as well as rates of interest on overdrafts and on fixed deposits, which had remained steady for several years, were varied on 1st August, 1952, when all but one of the banks raised the discount rate on bills and the interest rate on overdrafts from $4\frac{1}{2}$ to 5 per cent. The Commonwealth Bank was the exception as it maintained its rates at $4\frac{1}{4}$ per cent. for bills and $4\frac{3}{4}$ per cent. for overdrafts. At the same time the interest rates on fixed deposits were raised by $\frac{1}{2}$ per cent. on three, six and twelve months deposits and $\frac{1}{4}$ per cent. on those of longer duration—the new rates being 1, $1\frac{1}{2}$, $1\frac{1}{2}$ and $1\frac{3}{4}$ per cent. respectively. These rates were maintained until 1st January, 1955 when, by another increase they became $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$ and 2 per cent. for corresponding periods. Further increases of one per cent. were made to most rates from the March and June quarters of 1956.

Savings Bank facilities

A State Government Savings Bank (preceded, in the first instance, by a Post Office Savings Bank which was established in 1863) operated from 1906 to 1931, when it was taken over by the Commonwealth Savings Bank. Up to the end of 1955 this Commonwealth Government Bank was the only savings bank carrying on business in Western Australia. Its facilities include a school savings bank scheme which is conducted in conjunction with the Education Department. Early in 1956 the Bank of New South Wales, the Australia and New Zealand Bank and the Rural and Industries Bank of Western Australia commenced operations in Western Australia in the savings bank field. The following table contains details of savings bank activity during 1938-39 and five recent years :—

SAVINGS BANK TRANSACTIONS IN WESTERN AUSTRALIA

Period.	Amount deposited during period. (a)	Amount withdrawn during period. (a)	Excess of Deposits over Withdrawals.	Interest.	Number of Accounts (at end of period).	Due to Depositors (at end of period).		
						Total Amount.	Average to credit of each account.	Average per head of population.
	£	£	£	£	No.	£	£	£
1938-39	10,602,936	10,285,055	317,881	224,773	232,564	12,396,191	53.30	26.4
1951-52	44,022,005	42,285,902	1,736,103	762,405	403,678	47,170,835	116.8	78.6
1952-53	46,660,295	44,929,393	1,730,902	892,551	414,288	49,794,288	120.2	80.2
1953-54	51,541,986	49,679,397	1,862,589	957,502	422,480	52,614,379	124.5	82.2
1954-55	53,085,856	53,116,590	(b) 30,734	1,045,294	426,637	53,628,939	125.7	81.4
1955-56	57,628,452	54,490,986	3,137,466	1,167,385	446,419	57,933,790	129.8	85.5

(a) Exclusive of transfers from and to other States of the Commonwealth.

(b) Excess of withdrawals over deposits.

INSURANCE

Life Assurance

The transaction of life assurance business throughout Australia is regulated by the Life Assurance Act, 1945-1953. This Commonwealth Act requires each insuring company or organisation to separate its life assurance business from other business and to set up special statutory funds relating to life assurance transactions. The purpose of the Act, which superseded State legislation, was to place life assurance cover on a uniform basis throughout the Commonwealth and to afford the greatest possible protection to the policy holders. Under a previous Commonwealth Act (the Insurance Act, 1932-1937) the companies were required to deposit money or approved securities with the Commonwealth Treasurer in order to guarantee the claims of insured persons and this requirement is continued in the later Act. State law had compelled the lodgment of similar deposits before these Commonwealth Acts were passed.

Thirteen life assurance companies or societies are now operating in Western Australia—the local offices being branches of organizations which also conduct business in the Eastern States. Life assurance policies current in this State are, in terms of value, mainly ordinary endowment or whole-life policies, although a considerable volume of industrial business is being written. Details of these two types of life assurance transactions for five recent years are contained in the following table :—

LIFE ASSURANCE ORDINARY AND INDUSTRIAL BUSINESS IN WESTERN AUSTRALIA

Year. (a)	No. of Companies	New Policies (issued during the year).			Policies Existing (at end of Financial Year).		Net Increase (during the year).	
		No. of Policies.	Sum Assured.	Single and Annual Premiums.	No. of Policies.	Sum Assured.	No. of Policies.	Sum Assured.
		£'000	£'000		£'000		£'000	
ORDINARY								
1952	12	19,482	14,637	579	172,153	85,504	12,719	11,142
1953	12	19,854	16,034	637	184,044	97,750	11,891	12,246
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	14,088
1956	13	20,703	23,289	813	213,686	141,069	8,549	15,297
INDUSTRIAL								
1952	7	19,426	2,556	117	239,516	17,628	4,541	1,398
1953	7	18,581	2,630	119	243,205	19,055	3,689	1,427
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

(a) Actual period covered varies according to financial years of Assurance companies.

Annuity business is written in some volume, but no statistics relating thereto are available for publication.

General Insurance

Insurance of this nature is available in Western Australia from approximately 100 companies and—in a limited field—from the State Government Insurance Office. Most of the insurance companies are tariff offices, *i.e.*, members of the Fire and Accident Underwriters' Association, and issue the standard policies of the Association at appropriate premium rates. There are also several non-tariff companies which effect insurances at competitive rates and re-insure directly with Lloyds or other Underwriters. The majority of the companies have their Head Office abroad, mainly in the United Kingdom, while about one-third are Australian companies.

The insurance organisations support various measures designed to lessen the risk of loss. Prominent amongst these are the fire brigades, contributions to which are made through the Western Australian Fire Brigades Board. These payments figure substantially in the combined annual expenditure statistics of the private companies and the Government Office.

The State Government Insurance Office covers fire, marine and general insurance risks for State Government instrumentalities and semi-government as well as local government authorities. In addition it provides employers' liability (including workers' compensation) and comprehensive motor vehicle insurance for the general public. Until 1st July, 1949 it participated, as an individual office, in third party motor vehicle insurance business. Since that date the State Insurance Office operations of this nature have been merged with those of the insurance companies under the procedure of the Motor Vehicle Insurance Trust. In 1954 the State Government Insurance Office Act was amended to permit the State Office to issue policies under the school insurance scheme. These policies, issued to parents and guardians, cover medical and surgical treatments, funeral expenses, etc., arising from accidents to pupils attending primary and secondary schools, colleges and the University. Some 70,000 pupils are covered by the scheme.

The Motor Vehicle Insurance Trust was constituted under the Motor Vehicle (Third Party Insurance) Act Amendment Act, 1948 to co-ordinate the administration of third party insurance against motor vehicle accidents. This form of insurance was made compulsory under the original legislation, the Motor Vehicle (Third Party Insurance) Act, 1943. The Trust consists of five members, all of whom are appointed by the Governor, *viz.* :—the manager of the State Government Insurance Office, three members nominated by the Fire and Accident Underwriters' Association of W.A. (Inc.), and one nominee of those approved insuring organisations which are not members of this Association.

The State Government Insurance Office and the respective insurance companies contribute to the Trust's motor vehicle insurance fund in the ratio that their individual gross premium receipts bore to the combined gross premium receipts from this form of insurance during the year ended 30th June, 1948. Premiums received and other revenue constitute annual "pools", and after deduction of claims and other

expenses appropriate to the individual "pool" the balance of the profit, or loss, is shared by the contributing insurance companies. It is usually several years before a pool has met all the claims attributable to it, and, of course, ascertained the profit or loss, hence each company's share cannot be finally determined until the last claim is paid. In consequence, figures given in the accompanying table are subject to revision each year in respect to any unfinalized pools.

The following table gives detailed information for 1955-56, and totals for the four previous years, concerning the combination of companies and the State Government Insurance Office. Owing to the special nature of its accounts, details for the Motor Vehicle Insurance Trust are shown in a separate table.

TRANSACTIONS OF COMPANIES AND STATE GOVERNMENT INSURANCE OFFICE

Exclusive of the Motor Vehicle Insurance Trust

Class of Insurance.	Revenue from Premiums. (b)	Expenditure on—				
		Claims.	Contributions to Fire Brigades.	Commission and Agents' Charges.	Expenses of Management.	Taxation.
	£	£	£	£	£	£
Fire (a)	1,802,352	527,889	163,302	348,301	600,677	106,979
Householders' Comprehensive	208,630	37,980				
Sprinkler Leakage	1,891	238				
Loss of Profits	86,280	39,923	60	20,634	57,695	12,335
Hailstone (a)	376,332	160,468				
Marine	264,890	99,598				
Motor Vehicles	2,190,707	1,401,727	7,225	238,990	383,706	48,204
Employers' Liability (c)	1,243,158	1,081,768	49,429	51,118	237,301	56,474
Personal Accident	305,453	122,534				
Public Risk Third Party	65,715	15,727				
General Property	4,628	2,897	274	40,461	72,616	5,005
Plate Glass	19,690	13,025				
Boiler	720	160				
Livestock	27,174	12,669	274	40,461	72,616	5,005
Burglary	64,532	13,588				
Guarantee	14,352	3,953				
Pluvius	3,273	3,669	102,646	453,524	873,312	195,993
Aviation	16,187	2,107				
All Risks	28,181	9,053				
Other	48,713	13,923	170,861	748,933	1,434,284	238,508
Total, 1955-56	6,772,858	3,562,896				
Total, 1954-55	6,281,459	3,140,606	152,970	696,057	1,249,576	214,439
Total, 1953-54	5,713,329	2,637,919	135,957	604,676	1,219,486	151,846
Total, 1952-53	5,368,019	2,726,318	124,722	539,524	1,080,600	175,102
Total, 1951-52	4,678,956	2,630,471	102,646	453,524	873,312	195,993

(a) Particulars of Comprehensive Policies covering Crops for Fire and Hailstone have been shown according to the allocations made by the Insurance Companies.

(b) Other revenue, being interest, dividends, rents, etc. (net of expenses), amounted to £79,467; £95,202; £114,838; £134,306 and £165,992 for the years 1951-52, 1952-53, 1953-54, 1954-55 and 1955-56, respectively.

(c) Includes Workers' Compensation.

THE MOTOR VEHICLE INSURANCE TRUST (a) COMPULSORY THIRD PARTY (MOTOR VEHICLE) INSURANCE BUSINESS

Pool. (b)	Revenue.			Expenditure.				
	Net Premiums.	Interest Received.	Total.	Claims Paid (inc. Estimated Out-standings).	Commission.	Management Expenses.	Taxation.	Total.
	£	£	£	£	£	£	£	£
1949-50	184,337	3,449	187,786	237,978	2,860	10,723	505	252,066
1950-51	210,543	5,227	215,770	303,956	3,257	9,273	556	317,042
1951-52	296,398	11,578	307,976	308,290	3,689	12,479	752	325,210
1952-53	410,910	26,636	437,546	359,109	4,041	11,959	920	376,029
1953-54	510,435	36,900	547,335	458,738	4,393	14,572	1,048	478,751
1954-55	571,896	37,071	608,967	519,532	5,004	16,993	1,206	542,735
1955-56	588,683	26,450	615,133	500,904	5,086	19,857	1,199	527,046

(a) Commenced operations 1st July, 1949. (b) See foregoing letterpress.

Other forms of Insurance

In addition to the registered Friendly Societies, which operate Sickness and Death Benefit Schemes, there are several organisations whose members are reimbursed for medical (including surgical) and/or hospital expenses. Members make weekly, monthly or quarterly contributions for a range of benefits. In the case of the Friendly Societies, contributions are on an age basis and sick pay and payments on death are according to scales set out in the rules. As with the life assurance companies, these societies are subject to periodical actuarial valuations.

The organisations which cater for medical, surgical and hospital benefits do not use an age basis for their contributions, which are determined solely by the benefits required. Actuarial valuations are not applicable, but such organisations must be approved by the Commonwealth Government before supplementary benefits are payable to members from the National Health Services Fund. One of these latter organisations is composed of a group of the Friendly Societies which have combined to provide medical, surgical and hospital benefits for any of their members who are prepared to pay the additional contributions.

Data are not available regarding the operations of organisations other than the Friendly Societies, for which details are shown in the following table :—

FRIENDLY SOCIETIES

Year.	Registered Societies.	Branches.	Benefit Members at end of year.	Honorary Members at end of year. (a)	Members who received sick pay during year.	Weeks for which sick pay was allowed.	Sick and Funeral Fund.			Total Funds at end of year.
							Revenue.	Expenditure.	Funds at end of year.	
	No.	No.	No.	No.	No.	No.	£	£	£	£
1951-52	13	306	26,279	4,342	5,026	61,208	75,483	47,343	776,753	983,509
1952-53	13	300	23,915	4,493	4,358	59,506	76,787	55,686	797,854	1,057,371
1953-54	13	295	23,279	11,388	4,349	58,101	76,078	51,343	822,589	1,124,741
1954-55	13	282	22,585	19,165	4,088	57,036	145,915	44,528	923,976	1,233,977
1955-56	13	277	21,949	20,895	3,907	56,546	87,368	121,982	889,362	1,277,155

(a) Since 1952-53 mainly members who have joined for Medical and Hospital Benefits only.

BUILDING SOCIETIES

There are two types of building societies operating in Western Australia and both are subject to the provisions of the Building Societies Act, 1920.

The Starr-Bowkett Societies, which are of the "terminating" type, enroll members in a series of consecutively numbered "groups" or investment schemes. Each group periodically conducts a ballot for an interest-free loan to a member for the building of a home. The Society is secured by a mortgage on the property. The member pays a weekly or a monthly subscription over a period of 15 years and must also repay the loan by instalments. When all members have received a loan and all loans have been repaid the group terminates and the Society returns to the members of the group all subscriptions less working expenses, together with a proportion of any net profit from investments.

In the other type, the "permanent" societies, shares are taken up generally for a period of 8 years and may be purchased by "investing" members: either as fully paid up or by contributions weekly or monthly over the whole period. Interest is credited annually and after 8 years the investing member is paid the value of his shares plus interest, together with any bonus which may be declared. In the interim, shares may be realized upon by withdrawal or on the decease of the member but no bonus is payable. The Societies' funds are applied to assisting members to acquire freehold or leasehold property and to making advances to members and others on the security of freehold or leasehold property. A notable feature of certain of these societies is that money can be placed with them on fixed deposit at a rate of interest comparable with the current bank rate.

The following table summarises the activities of both types of building societies :—

BUILDING SOCIETIES

Particulars.	1955-56.		
	Permanent.	Terminating.	Total.
	No.	No.	No.
Societies	6	2	8
Members	20,192	4,957	25,149
Borrowers	3,385	1,057	4,442
	£	£	£
Working Expenses	30,605	14,097	44,702
Subscriptions and Deposits received	596,407	274,037	870,444
Repayments (including Interest)	549,020	228,363	777,983
Loans granted	555,394	251,892	807,286
Liabilities—			
Paid-up Capital or Subscriptions	2,365,369	374,835	2,740,204
Bank Overdraft	61,252	....	61,252
Net Accumulated Profits	83,471	78,914	162,385
Reserve Funds	73,050	10,253	83,303
Deposits	525,133	407,443	932,576
Other Liabilities	8,069	2,055	10,124
Total	3,116,344	873,500	3,989,844
Assets—			
Mortgages	2,985,063	778,452	3,763,515
Land and House Property	26,041	46,676	72,717
Cash in Hand or on Deposit	21,456	44,863	66,319
Government Securities	78,436	....	78,436
Other Assets	5,348	3,509	8,857
Total	3,116,344	873,500	3,989,844

BANKRUPTCY

Under the provisions of the Commonwealth Bankruptcy Act, which is administered by the Attorney General, the State of Western Australia is a proclaimed Bankruptcy District and judges of the Supreme Court have jurisdiction in bankruptcy matters. There is a Registrar in Bankruptcy, controlled by the Court, whose duties comprise the holding of public sittings for examination of bankrupts, the examination of witnesses, the issuing of bankruptcy notices and creditors' petitions, as well as such other duties of an administrative nature as are imposed on him by the Act or delegated to him by the Court. Another bankruptcy officer is the Official Receiver, who acts under the general authority and directions of the Court and whose duties relate to the conduct of the debtor and to the realization and administration of his estate.

Bankruptcy statistics for five recent years are as follow :—

BANKRUPTCY DURING THE YEARS ENDED 31ST JULY, 1951 TO 1956

Particulars.	1951-52.	1952-53.	1953-54.	1954-55.	1955-56. (a)
<i>Under Commonwealth Bankruptcy Act, 1924-1955—</i>					
<i>Orders—Sequestration, Administration, etc.—</i>					
Petitions { Creditors No.	13	20	21	23	15
Debtors No.	10	17	31	41	46
Assets £	43,366	81,045	83,087	63,614	39,443
Liabilities £	50,095	147,687	120,815	151,816	124,015
<i>Under Parts XI. and XII.—</i>					
Compositions, Deeds of Assignment and Deeds of Arrangement No.	22	27	22	35	59
Assets £	50,698	216,879	269,006	173,304	240,126
Liabilities £	61,299	199,148	209,236	162,118	255,651

(a) Figures are for the eleven months ended 30th June, 1956.

As the first section of this table shows, sequestration orders may be the outcome of petitions by either the debtor or creditors. In cases where it appears certain that the assets of a deceased estate will realise insufficient to meet the debts, it is open to the executor or a petitioning creditor to have the estate administered as in bankruptcy.

Compositions, schemes of arrangement or deeds of assignment under Part XI and deeds of arrangement under Part XII of the Act are not valid until filed in the Court. Subject to this proviso 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 upon a scheme of arrangement with them whereby he may be given a certain 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 who must be registered under the Bankruptcy Act) or to file his petition in bankruptcy.

Until discharged from bankruptcy or until any composition with his creditors has been satisfactorily fulfilled the debtor suffers certain civil disabilities, including ineligibility for election to either House of the Commonwealth or the State Parliament.

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 connection 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 judgment 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 slackening in the 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 1842 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 1868 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 partly representative government which had been in force, to an increasing degree, 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 repurchasing 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, 1933-1956, 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 Acts 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, in addition to the Surveyor-General's Division, the Roads and Reserves and Land Settlement Branches, 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 Boards, which deal 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, 1933-1956 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, with the 1,000 acres limit of cultivable land, 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 ten years. Expenditure on prescribed improvements is required to equal at least one-fifth of the purchase money during each of the first ten 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 ten 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, 1933-1956 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 forty 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 connection 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 require-

ments 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 ; church sites, hospitals and other institutions ; 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 ten 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. Subject to certain conditions, freehold title may be acquired by individual occupiers, 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 200 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 a pastoral lease may not exceed fifty years and as the date of expiry of all such leases has now been fixed as 31st December, 1982, it may be for a much shorter term depending on the date on which it was granted. Rents are determined by the Minister for Lands on the advice of a Board of Appraisalment and are subject to re-appraisalment 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 ten 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 ten 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 wool-clip due to drought 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 ten years, prior notice must be inserted in the *Government Gazette*.

Leases of Reserves—Reference has already been made on page 167 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 ten 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 approve of any town or suburban lands being offered for leasing during a period not normally exceeding 99 years and on such terms as he thinks fit. Elasticity of the legislative provisions is necessary because of the widely-varying conditions encountered in different parts of the State and, to adjust for changes in these conditions during the term of the lease, rentals may be re-assessed at intervals of not less than ten years. The possession of town or suburban lots on lease does not presuppose the ultimate issue of a Crown grant, but the lessee is entitled, under the Land Act, to apply for a renewal of tenure and enjoys priority over other applicants by virtue of his previous lease.

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 ten 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.

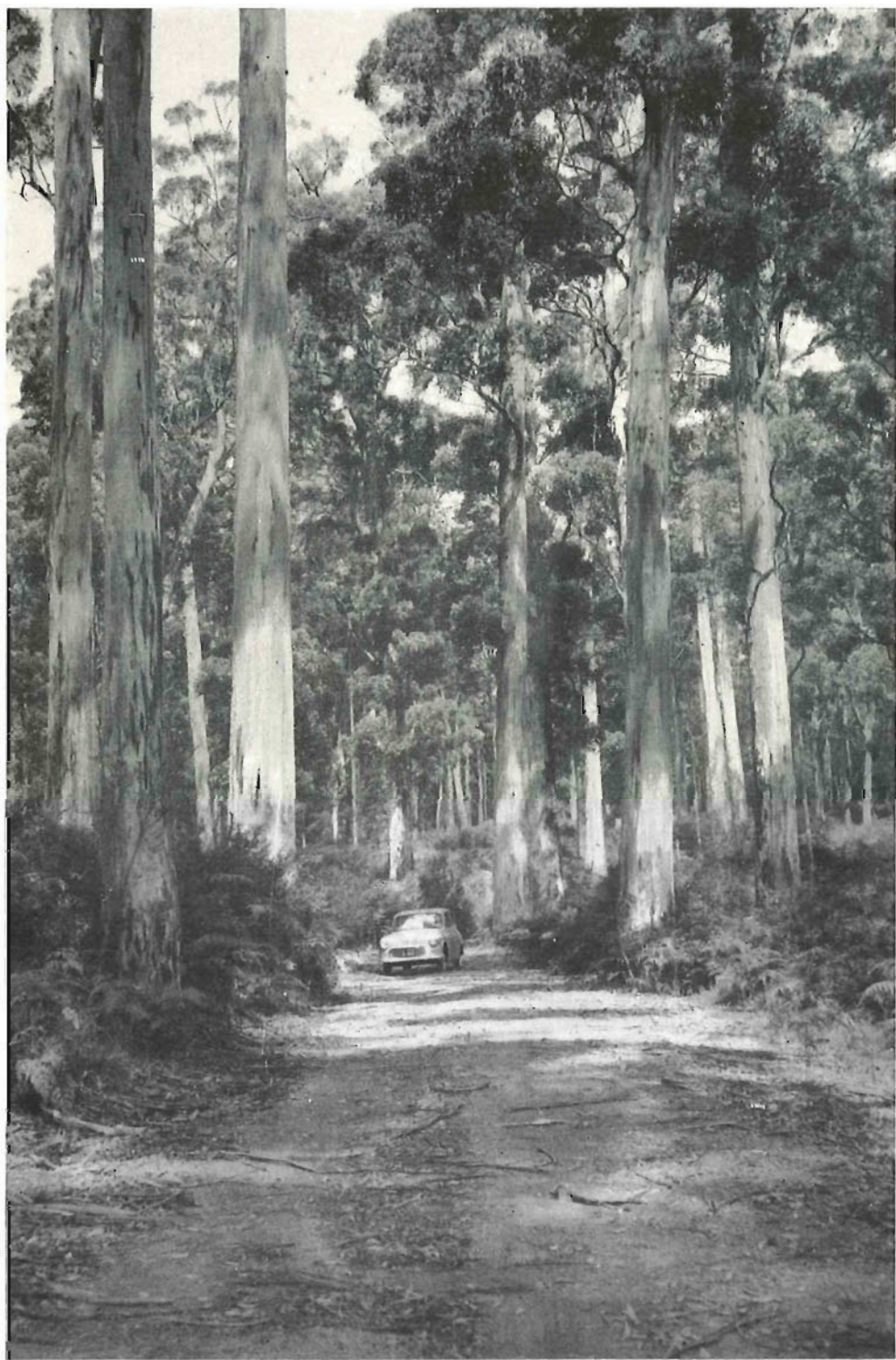
Mines Department

Under the provisions of the Mining Act, 1904-1955 and the Petroleum Act, 1936-1954, various special tenures, of which gold-mining leases, mineral leases, coal-mining leases and oil-search permits or licences are the most important, are granted by the Governor in connection with the mining of gold, coal and other minerals.

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. Land occupied as a claim by virtue of a Miner's Right may not be leased without the consent of the holder. Also 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.

A lease may be held for up to 21 years, with 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 at least by 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 possession 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 coal and 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 initial term is 21 years, extensible for a further 21 years if required. 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 occupied as a claim by virtue of a Miner's Right may not be leased without the consent of the holder, nor may land which is proved to the satisfaction of the Minister to consist of payable alluvial ground be normally made the subject of a mineral lease. If, however, a



KARRI FOREST NEAR PEMBERTON

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 depth. 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 five shillings per acre is charged. Leases may, at the discretion of the Minister, be amalgamated in working, but 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 and are tenable for 21 years, with the option 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 six pence an acre and a royalty of three pence per ton is payable on all coal raised during the first ten years of the lease, rising to six pence per ton during the remainder of the term. The Mining Act, 1904–1955 provides for certain royalty rebates on newly-discovered coal deposits, while the Mining Regulations contain special provisions regarding development of the deposits in the Collic district, the only area where coal is being mined in the State.

Miners' Homestead Leases—A miner who is not less than eighteen 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 twenty acres within two miles of the nearest boundary of a townsite or suburban area, or 500 acres elsewhere. During the first twenty years of the lease an annual rent of two shillings per acre is charged where the total area does not exceed twenty acres and for larger areas the annual rental is six pence per acre. An annual rent of one shilling may be charged for a lease if it is continued after the expiration of twenty years. 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 ten shillings 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 or less than 8 square miles and the licensee must put up a bond of not less than £1,000. The licence is valid for four years and the Minister may grant two successive renewals for further periods of one year each. For an annual fee, based on the rate of five shillings per square mile during the first year of the licence (maximum fee, £12 10s.) and on ten shillings 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 not more than half the land as a "Petroleum Lease". 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, be less than 4 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 by the Forests Department, 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 thirty 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 fifty 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 twenty 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-farming and who have at least twenty-five 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 fifty 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 twenty 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
1950	21,263,085	11,514,531	226,005,162	365,806,022
1951	22,013,900	11,967,117	†203,939,527	386,668,256
1952	22,636,334	12,129,588	205,606,700	384,216,178
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

† At 31st December.

‡ Decrease in area mainly due 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 eighteen 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 sixteen years, a similar provision is contained in the Land Act, 1933-1956, and, 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 1910 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 ten years of farmland (mainly for dairying) in the south-west of the State under the Group Settlement Scheme. These holdings were individually much smaller than those in the wheat-growing districts, because of the type of farming and the heavy clearing costs, but the numbers involved made the total area taken up under the Scheme of some significance.

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 slackened 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 further on in this Chapter. The trend is illustrated by the figures in the table on page 171 and the next following table.

Details of land conditionally alienated and taken up under lease or licence during each of the years 1950 to 1956 are given in the following table.

PRINCIPAL CROWN LANDS TRANSACTIONS—AREAS FOR WHICH APPLICATIONS
HAVE BEEN APPROVED

Year.	Conditional Alienation.					Leases and Licences.			
	Condi- tional Pur- chases.	Free Home- stead Farms.	Selections, Land Purchase Act.	Town Lots.	Total.	Pastoral Leases and Licences.	Special Leases.	Miscel- laneous Leases.	Total.
	acres.	acres.	acres.	acres.	acres.	acres.	acres.	acres.	acres.
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	4,568	881	1,045,813	5,427,697	224,870	106,746	5,759,313
1955	796,157	....	11,672	845	808,674	8,431,745	139,828	41,948	8,613,521
1956	704,052	617	182	1,018	705,869	3,523,487	152,298	204,881	3,880,666

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 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 monies 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 re-settlement 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 (still in operation) 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 Lands and the State Government is responsible for Western Australia's proportion of any losses incurred. Settlers are required to invest in their holdings a proportion of their own financial or other resources. Adequate guidance and technical advice is made available to settlers through the Department of Agriculture extension services and, where applicants are without farming experience or need refresher courses, instruction is given at special centres.

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 ten 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 re-settlement, but the present policy is to develop available areas of Crown Land. Up to the 30th June, 1956, a total of 932 ex-Servicemen had been placed on farms in Western Australia under the scheme.

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 ten 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.

Smaller settlement schemes designed to relieve unemployment, such as those at Hamel, Yorkkrakine and Kodj-Kodjin, have been instituted from time to time.

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 saleable or leaseable 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, so 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 in the earlier part of this Chapter to land set aside by the Government for public purposes. Some of this land is reserved for public recreation and amusement, national and other public parks, or flora and fauna sanctuaries and the reserves are controlled by statutory bodies, the more important of which are dealt with in the following text.

The National Parks Board has under its control a number of parks and reserves, the total area of which is about 328,000 acres. In the neighbourhood of Perth there are National Parks at Yanchep and Hovea and Reserves at Lesmurdie and Serpentine Falls, while sections of the Swan River foreshore are set aside for sporting and general recreational purposes. In the southern part of the State are the Stirling Range Reserve and the Porongorups National Park. On the south coast is the Emu Point Reserve near Albany and, in the forest country further to the west, the Nornalup National Park. Recreational and camping facilities are provided in some of these areas and indigenous flora and certain fauna are protected in all of them.

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.

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 of Control administers as a tourist and holiday resort a reserve comprising almost the whole of Rottnest Island, which is situated about ten 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 and Margaret River.

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 and at Bickley in the Darling Range.

PART 2—WATER CONSERVATION AND SUPPLY

The main undertakings for the conservation and supply of water are the Metropolitan Water Supply, the Goldfields Water Supply, the Comprehensive Water Supply Scheme, those which serve the South-West Irrigation Districts and schemes for other agricultural areas and towns. With the exception of a few small independent schemes controlled by local Water Boards in country areas, all of the foregoing are State Government undertakings. In addition, water is pumped from subterranean sources for irrigation purposes at Carnarvon, and 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.

The principal catchments are located in the south-western part of the State. Storage on a large scale is possible only in the river valleys of the Darling Range escarpment and the more capacious of these have already been dammed or are sites of construction work or testing for future use.

There are five main conservation systems in the area. Canning Dam, with supplementary catchments at Victoria Reservoir, Churchman Brook and Wungong Brook, serves the metropolitan area and environs. Mundaring Weir, linked to Kalgoorlie by pipeline, serves the more populous parts of the Eastern Goldfields as well as areas along 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 and Samsons Brook storages are also used for this purpose. Wellington Dam, on the Collic River, is a major undertaking which is being enlarged to meet not only the needs of the southern parts of the irrigation area but also of towns and agricultural districts along the Great Southern Railway. These extensions form part of the Comprehensive Water Supply Scheme.

METROPOLITAN WATER SUPPLY

Water for the metropolitan area and environs is drawn mainly from the Canning Dam and associated sources, supplemented as necessary from artesian bores near Perth. 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. This is very different from the position some forty years ago, when bores accounted for the bulk of supplies and the Victoria Reservoir (completed in 1891, with a capacity of 189 million gallons) supplied a little more than one-third of metropolitan requirements.

In 1921, a reservoir to provide storage for 23 million gallons was commenced at Bickley Brook, to replace a pipehead dam, and in 1923 one with a capacity of 480 million gallons was begun 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 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, Churchman Brook and Wungong Brook Reservoirs, water is conveyed to service reservoirs at Mqunt Yokine, Mount Eliza, Mount Hawthorn, Richmond, Melville, Buckland Hill and Greenmount, which serve an area of approximately 1,200 square miles, including the whole of the metropolitan area. On the 30th June, 1956, the number of consumer services was 113,437.

The system of bores can provide a daily maximum of 11.9 million gallons, but the four bores in use are drawn upon to only one-third of this output. Bore capacity is held in reserve against the possibility of breaches in the mains or channels through which water is conveyed from the reservoirs in the Darling Range. To meet the increasing demands on metropolitan supplies, a new bore was sunk in 1954 at Attadale on the south side of the Swan River. The following table shows the quantities of water which were drawn from the various sources during each of the five years ended 30th June, 1952 to 1956.

METROPOLITAN WATER SUPPLY—QUANTITIES DRAWN, ACCORDING TO SOURCE (a)

Source.	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.
	'000 gals.	'000 gals.	'000 gals.	'000 gals.	'000 gals.
Canning Dam	8,320,700	8,611,910	9,363,170	9,918,850	9,279,620
Victoria Reservoir	522,000	531,000	463,500	518,550	630,000
Churchman Brook	732,310	625,904	977,935	682,190	725,720
Wungong Brook	1,121,180	933,968	953,978	741,801	1,193,719
Mundaring Weir .....	.....	.....	.....	646,990	1,422,300
Metropolitan Bores	773,455	560,774	1,107,964	1,499,366	1,210,385
Total	11,469,645	11,263,556	12,866,547	14,003,747	14,462,244

(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 above table that the consumption of water in the metropolitan area shows a general upward tendency. Recent increases in population and industrial activity are mainly responsible for this, and major works are being undertaken to ensure adequate supplies for future expansion, the most important being the construction of a reservoir on the Serpentine River about thirty miles south-east of Perth. This project is being carried out in two stages and should provide a pipehead dam of 850 million gallons by 1957 and a main dam of 39,000 million gallons by 1962.

GOLDFIELDS WATER SUPPLY

The original purpose of this undertaking was to supply water to Coolgardie and the Kalgoorlie-Boulder area. To provide conservation, the Helena River was dammed near Mundaring, and on completion of the reservoir in 1903 it had a capacity of 4,650 million gallons. Subsequently, however, extensive branch reticulations to country towns and agricultural areas, from various points along the 350 mile pipeline connecting Mundaring Weir with Kalgoorlie, and the increasing demand for water on the goldfields made it necessary to increase the capacity of the reservoir to 15,100 million gallons. This was achieved in 1951 by raising the wall 32 feet to a new height of 132 feet. 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 are being replaced by electric installations. Reticulation to more country towns and farming areas is being undertaken by further off-takes from the Goldfields trunk pipeline, to serve the northern section of the Comprehensive Water Supply Scheme. Important extensions have already been completed from the main pipeline, southwards to serve Narembene and Kondinin and the surrounding farming areas and northwards to link up the Waddouring Reservoir as well as to serve the districts north of Kellerberrin.

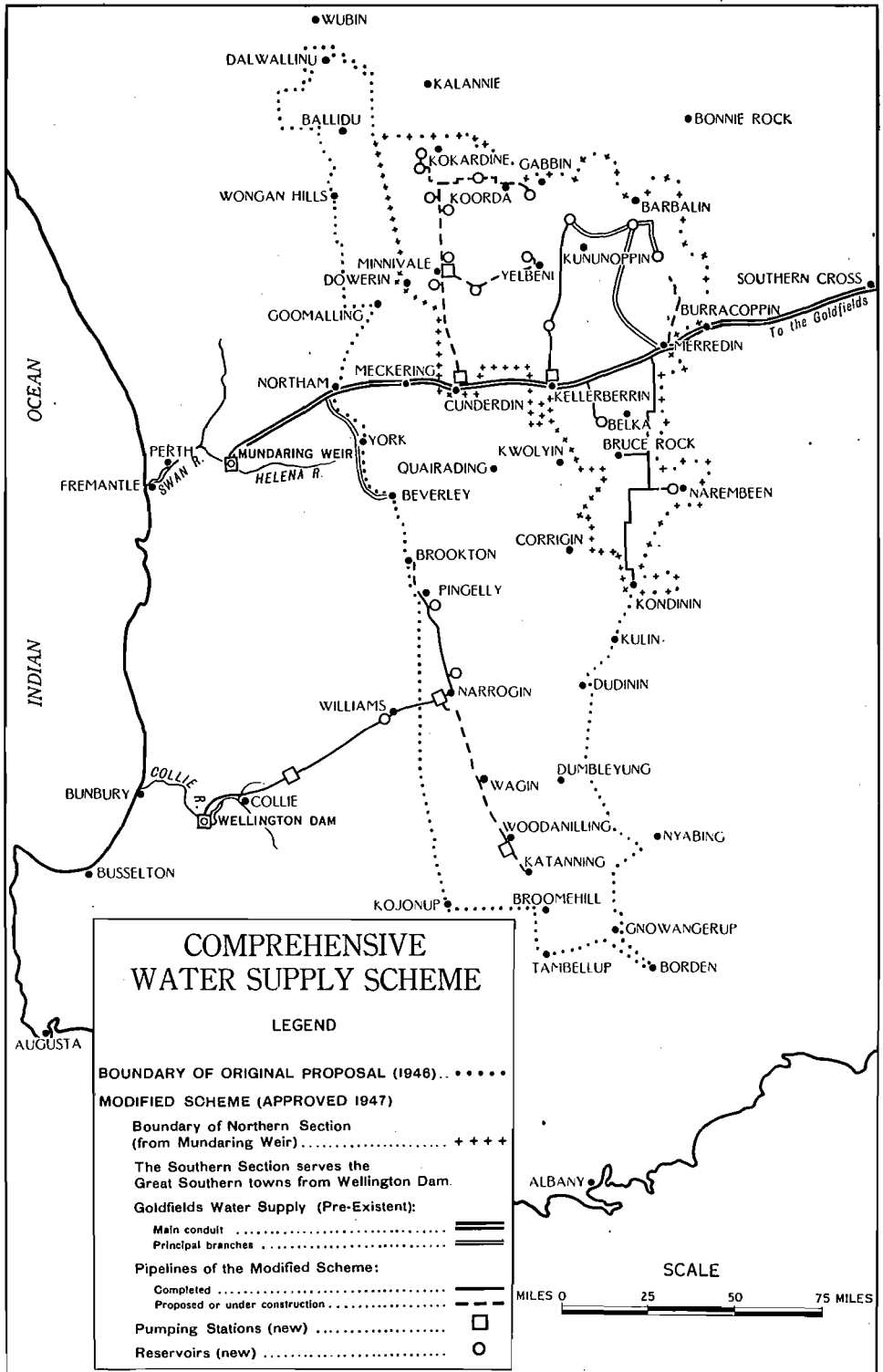
WATER DRAWN FROM MUNDARING WEIR (a)

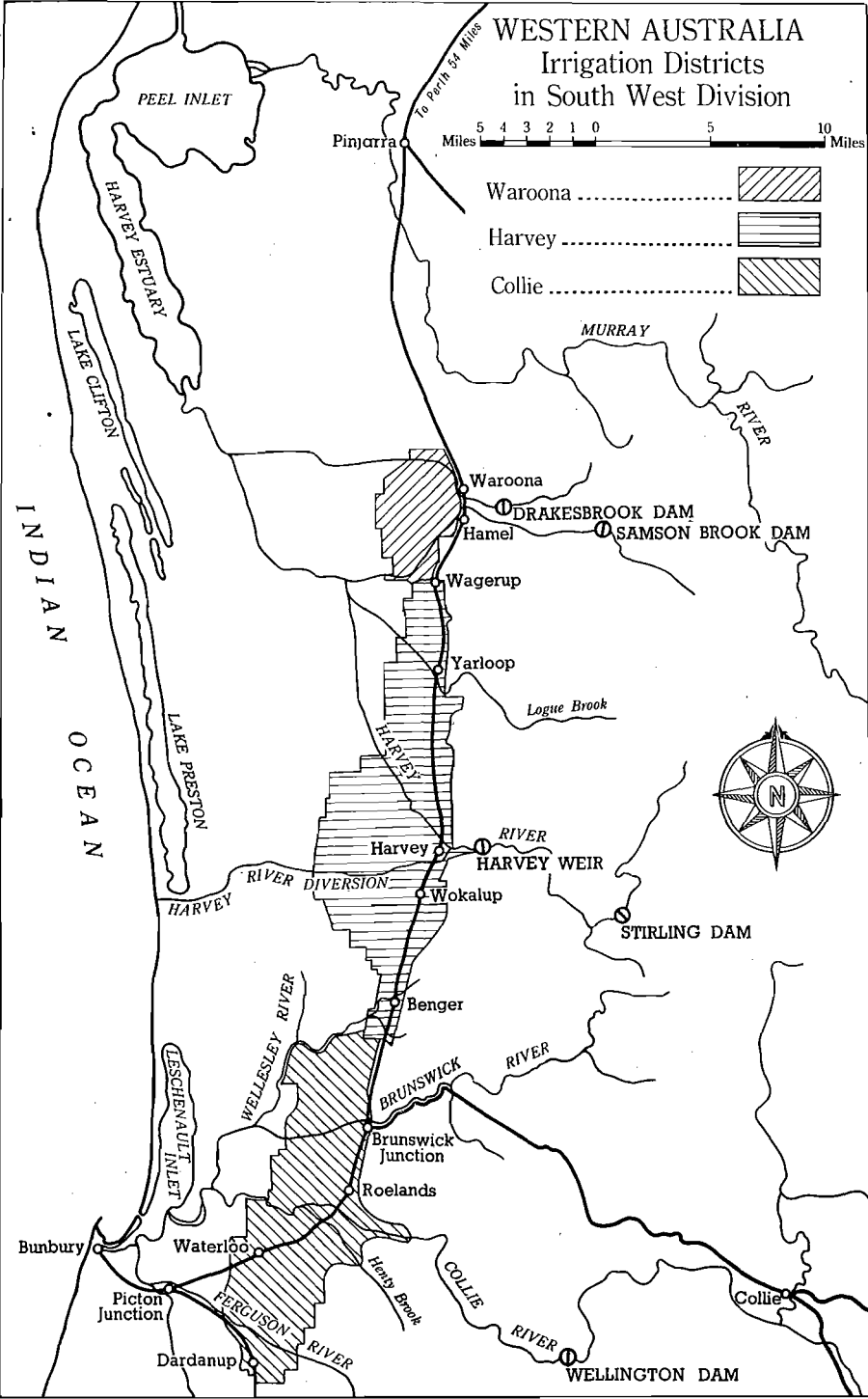
Year.	Quantity.	Year.	Quantity.
	'000 gals.		'000 gals.
1946-47	1,974,098	1951-52	2,314,223
1947-48	2,027,961	1952-53	2,374,051
1948-49	2,131,306	1953-54	2,564,690
1949-50	2,208,274	1954-55	2,535,923
1950-51	2,161,835	1955-56	2,812,263

(a) For consumption on Goldfields and in other areas served by Goldfields Water Supply. Excludes amount used by Metropolitan Water Supply—see preceding table.

COMPREHENSIVE WATER SUPPLY SCHEME

Since it was first proposed in 1946, the intended scope of the Comprehensive Water Supply 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 wheatbelt. In its modified form, however, the scheme is still of considerable magnitude and is being progressively implemented. Substantial results have already been achieved.





The map on page 177 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 revised proposals agreed to by both Governments and introduced in October, 1947.

The raising of the walls of Mundaring Weir and Wellington Dam was recognised as an essential preliminary step and the measures taken at Mundaring, also the progress made in the northern section of the Scheme, are outlined under "Goldfields Water Supply." The capacity of the Wellington Dam is being increased from 8,700 million to 40,800 million gallons and there will be several new pumping stations. Two pumping stations have been completed, the first being at the Wellington Dam and the second some 28 miles east of it. Approximately eighty miles of mains have been put down and two reinforced concrete regulating tanks have been built, each with a capacity of two million gallons. The trunk pipeline to Narrogin is completed and being drawn upon for town and district supplies while a northerly extension, under construction, reached Pingelly in June, 1957.

Reference has been made to the work undertaken to increase the capacity of mains and pumping stations of the goldfields pipeline. This is of major importance as the new farming reticulation to be provided under the revised Comprehensive Scheme is to be supplied from this source, which at present barely meets the demands already made upon it.

SOUTH-WEST IRRIGATION SCHEMES

Extensive irrigation schemes have been established by the State Government on the coastal plain south of Perth in the Waroona, Harvey and Collie Irrigation Districts between Waroona and Dardanup, the water being channelled from dams in the adjacent Darling Range. See map on page 178.

The Harvey No. 1 District was the first large-scale project, being opened in 1916. The Harvey Weir, with a capacity of 520 million gallons, was constructed as the source of water supply and the service initially provided was for 3,000 acres of land for citrus growing.

The success of dairying and stock-raising and to a lesser extent potato-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 of Samsons Brook in 1940 provided a storage capacity of 2,304 million gallons for the irrigation of 2,950 acres in the Waroona District. In 1931 the capacity of the Harvey Weir was increased to 2,250 million gallons and in 1947 the Stirling Dam, largest of the irrigation reservoirs and with a capacity of 12,000 million gallons, was completed further up-stream on the Harvey River. These works enabled the Harvey Irrigation District to be extended northward to link with the Waroona District and the irrigable area of the former to be increased to nearly 13,000 acres.

Concurrent with developments in the Harvey and Waroona Districts, action was taken to conserve water for the projected Collie Irrigation District and the Wellington Dam on the Collie River was completed at the end of 1933. In view of its importance, both to the Comprehensive Water Supply Scheme for country areas and to irrigation projects, the wall of this reservoir is being raised, but already from its present capacity of 8,700 million gallons it serves an irrigable area of 9,132 acres in the Collie 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.

NORTHERN IRRIGATION SCHEMES

Although not comparable in size with the South-West undertakings, the irrigation areas at Carnarvon and the Ord River 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, with considerable quantities of early beans and some tomatoes for the metropolitan market. This agricultural development has been made possible only by irrigation, as the rainfall is unreliable 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 the surface flow does not occur regularly each year, but there is a substantial subterranean flow. 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 sixty 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 sown 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.

A detailed soil survey has been carried out over 86,000 acres and as 56,000 acres of this area appear to be suitable for irrigation, representations are being made to the Commonwealth Government for financial assistance in implementing a developmental programme, with initial emphasis on the growing of sugar-cane and rice.

OTHER SCHEMES TO SUPPLY WATER TO COUNTRY AREAS AND TOWNS

Country areas and towns which are not supplied from the mains of the Goldfields Water Supply or the Comprehensive Water Supply Scheme rely upon such local resources as earth or rock catchments, bores, wells and tanks; and individual farms and pastoral stations generally provide their own requirements by similar means.

District storages of this type are controlled either by the Country Water Supplies Division of the Public Works Department or by local Water Boards. As the area served by the major schemes is extended, such storages are connected to main pipelines, so that the number of districts which are dependent on local supplies is being gradually reduced.

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, particularly the pastoral, agricultural, and mining and quarrying sectors.

Farming was carried on from the earliest years of settlement but its development was restricted by inadequate transport, shortage of labour and a limited local consumption. These difficulties were partly overcome by the introduction of convict labour 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 the subsequent spectacular finds in the Coolgardie and other eastern goldfields. Between 1890 and 1905 the population increased from 48,502 to 250,138 and, in spite of an increase from 69,700 acres under crop to 364,700 during the same period, agricultural production remained insufficient to meet local demands.

A decline which occurred in goldmining after 1903 created an increased interest in farming as an alternative occupation and by 1911 the area under crop had risen above 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 million acres of which about three million are sown to wheat for grain.

Similar circumstances also 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 of the State and in parts of the eastern goldfields. Between 1890 and 1910 the number of cattle increased from 130,970 to 825,000 and sheep from 2,525,000 to 5,159,000. With the development of mixed wheat and sheep-farming the number of sheep has now risen to 14,100,000, but less than a quarter are located in the traditional pastoral areas of the north and east, the bulk of them now being in the agricultural areas of the South-West Land Division. Beef production has also made considerable progress in the south-west, but the 673,313 head of beef cattle in the State in 1956 were located predominantly in the Kimberley division, which still remains by far the principal producer.

The importance of gold production in the State's economy has greatly diminished but is still of considerable significance. It remains the principal activity in the mining industry, with the mining of coal, iron ore, asbestos, manganese and pyritic ores ranking next in importance.

Dairying, with an annual milk production of over 50 million gallons, has reached significant proportions in primary industry and in 1955-56 the production of butter and cheese was 16,859,458 lb. and 1,822,486 lb., respectively.

The demand for jarrah and karri hardwoods has been consistent throughout the State's existence and disregard of the need for preservation and regeneration at one time threatened depletion of the forest areas. However, the introduction of governmental controls over forestry operations and a policy of reforestation have averted this danger and the industry is now established on a firm basis and makes a considerable contribution to primary production.

The creation in post-war years of an oversea demand for crayfish gave considerable impetus to the fishing industry, which is now of noteworthy magnitude. Interest is being stimulated in several aspects of the industry and present research may provide the means of further expansion. It should be noted that, as a primary industry, fishing includes only that part of whaling activity which is concerned with the catching of the whales and their transport to the factory for treatment. Their processing for the production of oil and the various by-products is treated as a factory activity, which is dealt with in Part 2 of this Chapter.

Compared with primary industry, manufacturing development has been relatively slow. Isolation from the more populous eastern States has been a major factor in retarding growth, and secondary industries have mainly been restricted to those which may be operated economically for local demand only. However, a significant change has occurred in recent years and the establishment of a major oil refinery and a steel-rolling mill, together with a new deep-water channel and harbour facilities to serve them, has introduced a new conception of the industrial potentialities of the State and future development should be much 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 1951-52 to 1955-56. An effective comparison of their relative importance is provided by the five-yearly averages also quoted as these minimise the effect of unusual seasonal or other conditions occurring in individual years.

NET VALUE OF RECORDED PRODUCTION

Industry.	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.	Average for five years.
VALUE (£'000)						
Agriculture	31,027	28,977	28,119	23,482	37,350	29,701
Pastoral and Trapping	34,686	38,873	44,088	36,363	36,734	38,149
Dairying	4,003	3,911	3,695	3,225	3,867	3,740
Poultry Farming	1,147	1,449	1,635	1,363	816	1,282
Bee Farming	115	100	211	97	202	145
Forestry	3,690	3,328	3,616	3,850	4,877	3,872
Fishing and Whaling	1,058	1,514	1,742	2,019	2,225	1,712
Mines and Quarries	9,775	12,410	13,998	14,776	14,143	13,020
Total Primary	85,501	90,562	97,104	85,175	100,214	91,711
Manufacturing	42,745	49,191	55,147	60,966	69,733	55,555
Total Primary and Manufacturing	128,246	139,753	152,251	146,131	169,947	147,266

PROPORTION OF TOTAL (PER CENT.)

Agriculture	24.19	20.73	18.47	16.07	21.98	20.23
Pastoral and Trapping	27.05	27.82	28.96	24.88	21.61	25.91
Dairying	3.12	2.80	2.43	2.21	2.28	2.54
Poultry Farming	0.89	1.04	1.07	0.93	0.48	0.87
Bee Farming	0.09	0.07	0.14	0.07	0.12	0.10
Forestry	2.88	2.38	2.38	2.64	2.87	2.63
Fishing and Whaling	0.83	1.08	1.14	1.38	1.31	1.16
Mines and Quarries	7.62	8.88	9.19	10.11	8.32	8.84
Total Primary	66.67	64.80	63.78	58.29	58.97	62.28
Manufacturing	33.33	35.20	36.22	41.71	41.03	37.72
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.

PART 1—PRIMARY PRODUCTION

LAND UTILIZATION ON RURAL HOLDINGS

In 1955-56 there were 21,323 rural holdings in the State, comprising 229,734,380 acres of land or 37 per cent. of the total area of Western Australia.

The total area of rural holdings consisted of 21,464,341 acres of cleared land and 208,270,039 acres uncleared, the latter being mainly pastoral leases held by sheep and cattle stations. Of the cleared land, 5,233,501 acres were used for crop, 5,384,321 acres were under established pastures, 743,565 acres were newly cleared during the season and 1,711,361 acres were in fallow. The balance of the cleared area totalled 8,391,593 acres and comprised land which was used for grazing or was resting during the season.

Land development in the post-war period has been stimulated by favourable prices for agricultural and pastoral commodities and by a taxation system designed to encourage investment in land improvement. 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 land clearing methods using heavy equipment. As a result, the area of cleared land on rural holdings has risen from 14,621,424 acres in 1946-47 to 21,464,341 acres in 1955-56, an increase of 47 per cent. In the same period land used for crops has increased from 3,532,445 acres to 5,233,501 acres and the area under established pastures from 2,092,279 acres to 5,384,321. 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 1,711,361 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.	Total Number.	Total Area.
	acres	acres	acres	acres	acres	acres		acres
1946-47	3,532,445	2,092,279	257,076	2,070,076	6,669,548	14,621,424	19,064	211,689,053
1947-48	3,936,118	2,459,112	334,442	2,243,715	6,249,941	15,223,328	19,141	208,693,488
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	20,376	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

(a) Excluding Meadow Hay.

EMPLOYMENT AND POPULATION

The permanent male work force on rural holdings in the State has remained almost stationary over 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 8,129 in 1947 to 22,191 in 1956. The result has been that, in spite of greatly increased production, the work force has declined from 29,524 in 1947 to 29,460 in 1956. The total in 1956 consisted of 20,053 owners, lessees, tenants and share-farmers, 1,546 farmers' relatives who were not receiving wages and 7,861 paid employees. The number who were temporarily employed, including contractors and their employees, was 5,321. Full information is not available regarding casual or seasonal employment, as figures relate only to the 31st March 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 and farm activities.

Population on rural holdings at the 31st March, 1956, totalled 84,527 or 12½ per cent. of the State total.

RURAL HOLDINGS—MALE EMPLOYMENT, POPULATION AND TRACTORS

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.	
	No.	No.	No.	No.	No.	No.	No.	No.	No.
1947	18,548	2,397	8,579	29,524	(a)	(a)	(a)	(a)	8,129
1948	18,355	2,379	9,107	29,841	(a)	(a)	(a)	(a)	9,051
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	19,728	1,796	8,281	29,803	4,147	48,222	37,221	85,443	19,870
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

(a) Not available.

VALUE OF PRODUCTION

For primary production the *gross value* is based on the wholesale price realised "at the principal market." Where primary products are consumed at the place of production or where they are consumed as raw material in secondary industry, 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 1955-56. 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, 1955-56

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	54,854,648	7,894,721	46,959,927	9,609,568	37,350,359
Pastoral (a)	44,646,442	2,875,536	41,770,906	5,192,925	36,577,981
Trapping	180,444	24,520	155,924	....	155,924
Dairying	8,446,701	371,879	8,074,822	4,208,064	3,866,758
Poultry Farming	2,553,002	319,674	2,233,328	1,417,479	815,849
Beef Farming	216,686	14,833	201,853	....	201,853
Forestry	5,236,982	359,810	4,877,172	....	4,877,172
Fisheries	2,457,393	51,462	2,405,931	180,750	2,225,181
Mining and Quarrying	20,599,437	853,666	19,745,771	5,603,026	14,142,745
Total, Primary (a)	139,191,735	12,766,101	126,425,634	26,211,812	100,213,822

(a) Excludes £898,545 paid as an interim distribution of profits from Wool Disposal Plan.

Only net values of production should be aggregated to arrive at a total value of all production as the aggregate of gross values contains a substantial element of duplication. For example, fodder crops grown and valued as agricultural products would also, if fed to milch cows, be included in the value of dairying production. Gross values do, however, represent a very reliable measure of the value of production of any particular item or industry and are quoted in the following table of major items for the five years 1951-52 to 1955-56.

GROSS VALUES OF PRINCIPAL PRIMARY PRODUCTS

Item.	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.
	£'000	£'000	£'000	£'000	£'000
Wool (Shorn and Dead) (a)	31,502	37,115	40,739	33,529	34,384
Wheat	29,492	27,597	27,712	21,827	34,420
Gold (b)	9,725	11,848	13,299	13,314	13,375
Livestock Slaughterings	10,255	10,208	12,171	12,290	12,496
Whole Milk (b)	4,957	5,591	5,796	6,050	6,192
Oats	4,087	3,762	2,925	3,093	5,287
Forest Products	2,892	3,577	3,839	4,058	5,350
Orchard Fruit, including Plantation and Berry Fruit	3,441	3,780	3,111	4,201	5,237
Vegetables	1,717	3,076	3,628	3,572	4,074
Coal	1,438	2,457	3,073	3,589	3,089
Hay (c)	553	1,118	2,946	2,781	3,076
Barley	1,871	2,241	1,266	1,554	2,135
Eggs	645	1,107	2,337	2,054	2,016
Quarry Products	629	802	1,344	1,564	1,606
Crayfish	49	182	922	1,091	1,228
Vine Fruits	299	607	572	578	623
Fish (including Crabs, Prawns, and Oysters) (d)	299	421	487	519	601
Iron Ore	49	231	710	654	540
Poultry	599	617	593	551	537
Asbestos	237	595	707	556	502
Pearls and Pearlshell	176	177	287	358	416
Tobacco	206	353	414	407	380
Honey and Beeswax	130	116	234	106	217
Whales	192	203	207	224	210

(a) The value of fellmongered wool and wool exported on skins is included in the value of livestock slaughterings which have been computed from livestock prices "on hoof" and therefore include a value for wool on skins.

(b) Includes Commonwealth Government Subsidy.

(c) Prior to 1953-54 figures do not include the value of meadow hay produced.

(d) Excluding crayfish.

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 (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 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 widespread areas in the southern part of the State and as far east as the Merredin district, an area with an average annual rainfall of only 13 inches. An outstanding factor in this development was the introduction and increasing use of phosphate fertilizer (superphosphate) to correct the widespread phosphorous deficiency of the wheatbelt soils of Western Australia.

The decline in gold production which commenced in 1904 lessened interest in mining and caused increasing numbers to take up land for farming. This contributed to a rapid increase in wheat-farming in the following years and a peak of 1,734,117 acres was sown for grain in 1915. The first World War caused a serious decline but recovery was fairly rapid from 1920, and by 1925 the area sown for grain had risen above two million acres.

Following the war, a policy of expanding land settlement was resumed and the administration of a soldiers' settlement scheme was added to the functions of the Agricultural Bank and Industries Assistance Board. With liberal 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 tractor farming, which greatly increased the area which could be worked with relatively low manpower, 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 particular significance in the growth of wheat-farming in Western Australia, but the importance of other technical development received early recognition and experimental farms were established by the Department of Agriculture in areas where special difficulties were anticipated. 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 disclosed 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.

The yield of 53,504,149 bushels from 3,955,763 acres sown for grain in 1930 represents the State's highest wheat production in any one year. Low prices subsequently caused the acreage to decline 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 drastically reduced during the second World War and dropped to 1,515,800 acres in 1944. In the post-war years, however, it has steadily increased and with favourable seasons good yields have been maintained. In 1955, an average yield of 18.4 bushels was obtained from 2,899,585 acres for a total of 53,250,000 bushels. This has been exceeded only by the record yield of 1930, which was greater by a quarter of a million bushels but was produced from an area one million acres greater in extent.

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 most important purchasers of Australian wheat have been the United Kingdom, Germany and India. The largest exports of flour have been to Indonesia, Singapore and Malaya. Fuller details of exports appear in Chapter IX.

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 nearly all wheat produced in Western Australia is now handled in bulk.

EXPORTS OF WHEAT AND FLOUR
(Including Ships' Stores.)

Year.	Wheat.	Flour.	Estimated Total Wheat Equivalent.
	bushels.	tons (2,000 lb.)	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
1949-50	21,510,390	116,199	26,971,743
1950-51	30,510,360	160,228	38,041,039
1951-52	26,822,960	161,974	34,435,663
1952-53	23,318,935	176,630	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

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.

The following table gives the more important details of wheat production since 1900.

WHEAT FOR GRAIN—AREA AND PRODUCTION

Season.	Area Sown.	Production.		
		Total Yield.	Average Yield per acre.	Gross Value.
	acres	bushels	bushels	£
1900-01	74,308	774,653	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	2,540,606	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
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	34,014,273

In the following tables, holdings growing wheat for grain and acreages sown in 1955-56 are classified in area groups according to the total acreage of the holding and to the acreage sown to wheat for grain. Of the 21,323 rural holdings of all types, wheat for grain was grown on 8,295. Holdings of between 1,000 and 4,999 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 999 acres for 66 per cent. of the number and 79 per cent. of the area.

HOLDINGS GROWING WHEAT FOR GRAIN, CLASSIFIED ACCORDING TO ACREAGE SOWN AND SIZE OF HOLDING—SEASON 1955-56

Area Series—Area Under Wheat for Grain. (Acres).																Total All Holdings.	
Area Series—Total Area of Holding. (Acres.)		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	8	8	4	2	1	3	1	1	1	1	1	1	1	1	7
50-99	...	1	2	3	1	2	...	...	...	...	...	...	...	...	...	...	12
100-149	1	4	4	5	4	2	...	...	...	...	...	...	...	...	...	...	688
150-199	1	4	2	4	4	2	...	...	...	...	...	...	...	...	...	...	10
200-299	3	4	5	3	6	6	...	...	...	...	...	...	...	...	...	...	728
300-399	4	1	3	5	6	9	2	13	2	...	...	...	...	...	...	...	24
400-499	3	5	...	6	5	5	7	23	4	...	...	...	...	...	...	...	32
500-599	4	7	3	5	5	5	7	11	11	...	...	...	...	...	...	...	804
600-699	4	6	6	6	10	9	10	22	29	...	...	...	...	...	...	...	45
700-799	6	5	5	10	13	11	12	30	36	...	...	...	...	...	...	...	588
800-899	7	11	5	12	12	9	28	30	27	...	...	...	...	...	...	...	57
900-999	10	9	12	12	12	9	28	30	27	...	...	...	...	...	...	...	84
1,000-1,399	25	30	23	51	61	56	123	121	71	...	...	...	...	...	...	...	333
1,400-1,999	26	30	29	54	58	59	138	99	390	...	...	...	...	...	...	...	149
2,000-2,999	30	29	35	60	60	65	135	147	374	...	...	...	...	...	...	...	382
3,000-3,999	14	18	11	15	19	13	60	59	184	...	...	...	...	...	...	...	1,535
4,000-4,999	4	9	3	7	10	10	41	26	88	...	...	...	...	...	...	...	1,976
5,000-9,999	4	7	3	8	8	9	28	18	76	...	...	...	...	...	...	...	2,679
10,000 and over	1	1	3	2	2	1	2	6	12	...	...	...	...	...	...	...	1,458
Total	151	182	162	271	278	288	648	568	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— Total Area. Holding. (Acres.)	Area Series—Area Under Wheat for Grain (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.	
1-49	18	....	66	....	....	....	....	....	....	....	....	....	....	....	....	84
50-99	....	70	65	140	....	....	....	....	....	....	....	....	....	....	....	275
100-149	4	10	50	45	110	....	....	....	....	....	....	....	....	....	....	322
150-199	8	70	58	174	110	....	....	....	....	....	....	....	....	....	....	954
200-299	14	63	115	146	116	147	....	....	....	....	....	....	....	....	....	1,301
300-399	22	15	65	194	332	180	100	330	270	....	....	....	....	....	....	2,345
400-499	21	17	....	325	515	235	847	190	200	300	....	....	....	....	....	3,231
500-599	24	82	70	195	325	557	1,448	645	1,401	690	....	....	....	....	....	5,499
600-699	20	72	125	194	287	566	1,520	1,825	2,035	....	....	....	....	....	....	7,663
700-799	26	64	125	378	532	726	1,258	2,019	2,340	900	400	500	970	....	....	10,238
800-899	37	143	124	521	606	803	1,258	4,771	6,601	2,845	....	500	770	....	....	20,246
900-999	53	98	257	420	502	864	3,360	5,130	17,938	8,938	3,270	....	....	....	....	40,880
1,000-1,999	151	412	511	1,954	3,389	4,605	14,469	20,555	64,030	41,398	14,989	5,298	....	....	....	172,626
2,000-2,999	158	373	698	2,055	3,285	4,755	16,095	16,705	78,963	117,161	83,728	50,190	4,288	....	....	378,422
3,000-3,999	154	364	742	2,238	3,385	5,226	15,676	25,019	89,417	140,920	167,643	199,967	5,352	....	....	713,453
4,000-4,999	63	233	246	528	1,080	2,673	6,886	9,783	39,421	73,155	74,852	158,718	95,978	....	....	483,841
5,000-5,999	28	109	65	255	550	1,070	4,540	4,332	21,434	38,337	44,717	86,775	19,275	....	....	329,155
6,000-6,999	20	93	139	328	370	714	3,203	2,986	18,223	27,591	39,715	93,352	152,329	....	....	525,418
7,000-7,999	8	10	60	68	50	90	220	1,048	2,695	5,372	4,349	13,278	27,536	....	....	193,682
8,000-8,999	20	93	139	328	370	714	3,203	2,986	18,223	27,591	39,715	93,352	152,329	....	....	525,418
9,000-9,999	8	10	60	68	50	90	220	1,048	2,695	5,372	4,349	13,278	27,536	....	....	193,682
10,000 & over	8	10	60	68	50	90	220	1,048	2,695	5,372	4,349	13,278	27,536	....	....	193,682
Total	829	2,346	3,573	10,158	15,498	23,274	75,036	95,798	344,968	457,907	433,661	609,608	440,913	284,256	91,760	2,889,585

AUSTRALIA: WHEAT FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE

Season.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australian Capital Territory.	Australia.
AREA SOWN TO WHEAT FOR GRAIN ('000 ACRES)								
1951-52	2,753	2,464	455	1,613	3,094	4	1	10,384
1952-53	2,702	2,232	724	1,544	2,999	7	1	10,209
1953-54	3,357	2,389	580	1,525	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
PRODUCTION OF WHEAT ('000 BUSHELS)								
1951-52	39,689	45,995	6,632	27,301	40,000	94	14	159,725
1952-53	56,670	50,335	18,662	33,919	35,458	156	8	195,208
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
YIELD PER ACRE (BUSHELS)								
1951-52	14.4	18.7	14.6	16.9	12.9	26.1	14.0	15.4
1952-53	21.0	22.6	25.8	22.0	11.8	23.4	12.8	19.1
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	25.5	19.2

Oats

Although oats have been grown in Western Australia since the early development of wheat-farming, their 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 1,090,901 in 1955.

In addition to their importance as local stock feed, oats are also exported in substantial quantities, particularly to the United Kingdom and Western Germany. 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—AREA AND PRODUCTION

Season.	Area.	Production.		
		Total Yield.	Average Yield per acre.	Gross Value.
	acres.	bushels.	bushels.	£
1951-52	656,559	7,689,222	11.7	4,086,678
1952-53	832,170	10,439,880	12.5	3,762,412
1953-54	733,122	9,590,643	13.1	2,925,024
1954-55	873,588	9,584,559	11.0	3,092,929
1955-56	1,090,901	16,515,679	15.1	5,350,339

Barley

Barley grows well on the lighter soils of the wheatbelt. It is also successful as a first crop on newly developed land, and the opening up of new areas for farming accounts partly for the remarkable increase in the area sown for grain from 56,574 acres in 1951-52 to 336,966 in 1955-56. While a large amount of the grain produced is retained on farms for stock feed a substantial surplus is available for export. The principal oversea buyer is the United Kingdom, but important shipments were made to Ireland and Western Germany in 1954-55 and to the Netherlands in 1955-56. Although both "two-row" and

"six-row" varieties are grown, only six-row grain is exported in any substantial quantity, predominantly for stock feed, nearly all two-row grain which is marketed being consumed locally for malting.

The marketing of barley, both for export and for local consumption, is controlled by the Western Australian Barley Marketing Board.

BARLEY—AREA, PRODUCTION AND GROSS VALUE

Season.	Two-Row.			Six-Row.			Gross Value of Grain.
	Area.	Total Yield.	Average Yield per acre.	Area.	Total Yield.	Average Yield per acre.	
	acres.	bushels.	bushels.	acres.	bushels.	bushels.	£
1951-52	19,043	230,472	12.1	37,531	464,613	12.4	583,214
1952-53	24,873	380,808	15.3	82,088	1,361,568	16.6	1,118,426
1953-54	32,812	405,759	12.4	176,479	2,327,418	13.2	1,266,207
1954-55	55,300	625,566	11.3	204,388	2,179,140	10.7	1,554,247
1955-56	70,300	993,907	14.1	266,666	3,659,143	13.7	2,134,810

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—AREA AND PRODUCTION

Season.	Rye.				Field Peas.			
	Area.	Production.			Area.	Production.		
		Total Yield.	Average Yield per acre.	Gross Value.		Total Yield.	Average Yield per acre.	Gross Value.
	acres.	bushels.	bushels.	£	acres.	bushels.	bushels.	£
1951-52	5,884	34,854	5.9	29,626	7,135	30,702	4.3	66,009
1952-53	10,287	69,945	6.8	41,384	6,081	28,683	4.7	57,366
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

Hay

Oats is the principal hay crop and 178,520 tons were cut in 1955-56 from 133,082 acres. Wheat is the only other cereal crop which is used extensively for this purpose and in 1955-56 the production was 82,316 tons from 58,005 acres. Substantial quantities of meadow hay are cut from clover and grass pastures, production in 1955-56 being 119,386 tons from 75,711 acres. Barley, rye, lucerne and field peas are also used for hay making but they are of minor importance only.

HAY—AREA CUT 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.
1951-52	84,244	91,138	48,597	59,173	39,486	59,384	1,528	1,934	173,855	211,629
1952-53	119,505	136,802	55,754	68,635	49,755	82,589	2,068	2,270	227,082	290,296
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	383,754

(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 1955-56 the total area of crops used as green feed was 666,458 acres, of which 557,564 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.
1951-52	495,510	20,090	19,401	18,385	10,385	833	9,203	573,807
1952-53	479,024	19,869	20,378	10,641	7,214	880	7,880	545,886
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

(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 wheatgrowing 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 to four 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 5.4 million acres in 1955-56. 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 overseas 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 1955-56 being 721,426 lb. from 1,235 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 Yield.	Average Yield per acre.	Gross Value.
	acres.	lb.	lb.	£
1951-52	1,229	1,079,435	878.3	296,330
1952-53	1,525	1,068,226	700.5	382,704
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

Flax

Although flax had been grown 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 a comparable level throughout the 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. Sufficient seed for the next season's planting is retained each year and the remainder is sold for milling into linseed oil and meal. During the war, attempts were made to cultivate those varieties which yield linseed as the principal product but they were largely unsuccessful and were abandoned. Further attempts are again being considered but the purpose of cultivation at present is the production of flax straw, the seed produced being merely a by-product.

Although diseases and insect pests have limited the yield per acre, the Western Australian Department of Agriculture has achieved considerable success in breeding rust-resisting varieties and these, used in conjunction with newly developed insecticides, have resulted in a significant improvement in recent years.

FLAX—AREA AND PRODUCTION

Season.	Area.	Production.		
		Total Yield.	Average Yield per acre.	Gross Value.
	acres.	tons.	tons.	£
1951-52	1,065	1,573	0.8	18,876
1952-53	2,423	2,856	1.2	39,984
1953-54	3,105	4,470	1.4	57,091
1954-55	464	500	1.1	6,867
1955-56	1,594	1,875	1.2	26,813

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 Area, irrigation land in the Drakesbrook and Harvey 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 quantities to Singapore and Malaya. The Delaware variety is grown almost exclusively and average yields per acre as high as 6 to 7 tons are obtained, which is almost twice the Commonwealth average. 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, 1946-1956, by the W.A. Potato Marketing Board, which is the sole marketing authority for potatoes produced for local consumption. The object of this provision is to ensure the adequacy of supplies for local consumption and the effective marketing of crops.

POTATOES—AREA AND PRODUCTION

Season.	Area.	Production.		
		Total Yield.	Average Yield per acre.	Gross Value.
	acres.	tons.	tons.	£
1951-52	8,885	49,930	7.3	1,587,166
1952-53	8,079	52,759	6.5	1,684,203
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

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 Kalgoorlie district. The total area sown to onions has declined from the post-war peak figure of 499 acres in 1948-49. In 1955-56 the area sown was 321 acres for a production of 3,548 tons, or an average of 11.1 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 W.A. 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 production.

ONIONS—AREA AND PRODUCTION

Season.	Area.	Production.		
		Total Yield.	Average Yield per acre.	Gross Value.
	acres.	tons.	tons.	£
1951-52	334	3,855	11.5	139,429
1952-53	414	5,409	13.1	152,693
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

Tomatoes

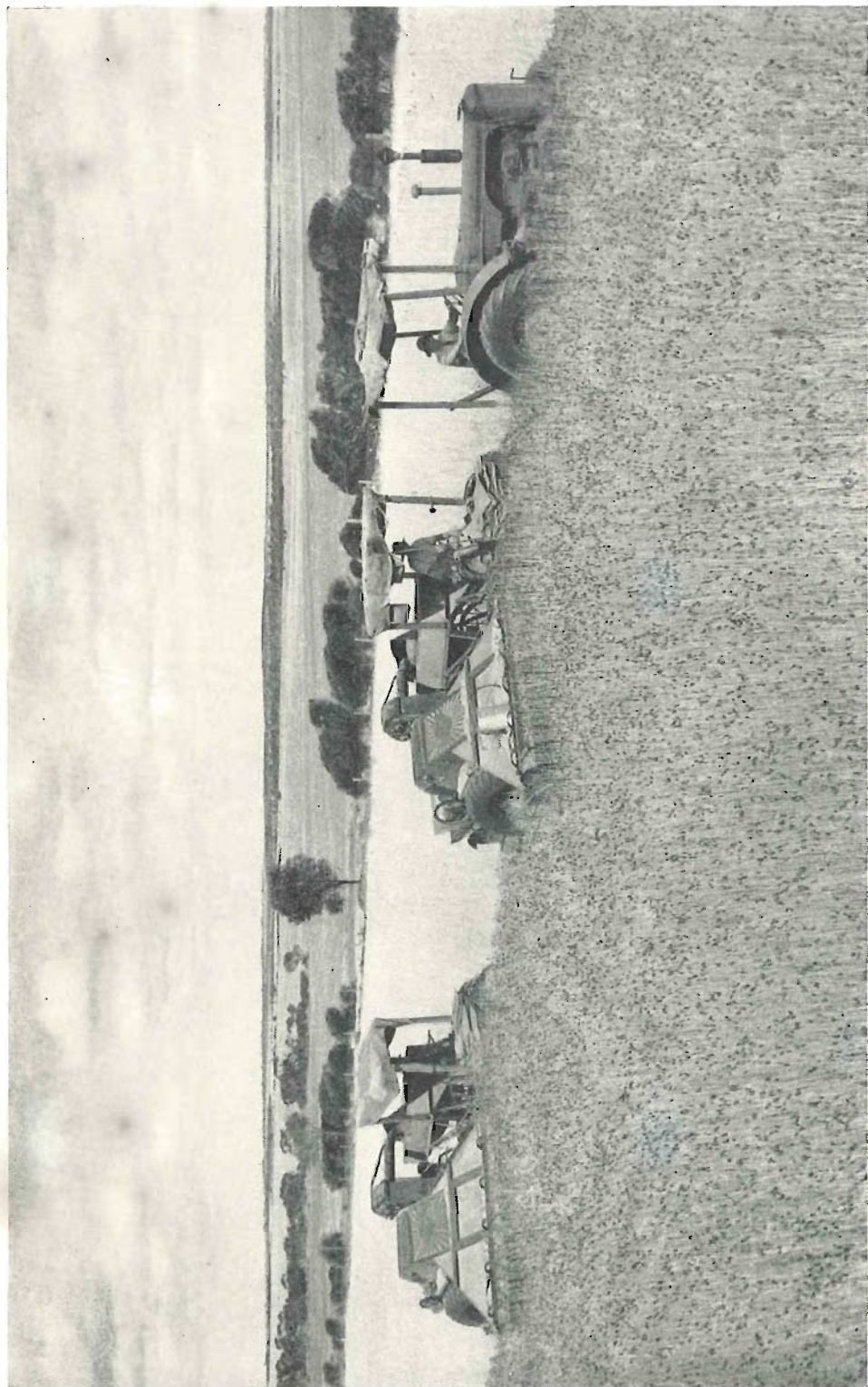
The main centres of production of tomatoes are at Geraldton and in the districts around Perth. At Geraldton, because of the warm winter climate, growers are able to produce early crops and take advantage of the high prices ruling on the Melbourne market during the winter and spring. They also supply substantial quantities to the Perth market and in recent years have established an export trade with Singapore.

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 1955-56 was 7,812 tons from 1,047 acres, an average of 7.46 tons per acre.

TOMATOES—AREA AND PRODUCTION

Season.	Area.	Production.		
		Total Yield.	Average Yield per acre.	Gross Value.
	acres.	tons.	tons.	£
1951-52	996	5,693	5.7	574,532
1952-53	978	6,672	6.8	740,451
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



HARVESTING AT BINDI BINDI (NORTHERN WHEATBELT)

Other Vegetables

In addition to the cultivation of potatoes, onions and tomatoes, previously mentioned, a wide variety of other vegetables is produced, the bulk of them in the Metropolitan Area where growers not only benefit from close proximity to the principal market but also have 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 1951-52 to 1955-56 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.	
		Quantity.	Gross Value.		Quantity.	Gross Value.		Quantity.	Gross Value.		Quantity.	Gross Value.
	acres.	cwt.	£	acres.	cwt.	£	acres.	cwt.	£	acres.	cwt.	£
1951-52	338	26,137	30,840	330	56,552	143,755	166	19,822	49,912	169	21,534	47,709
1952-53	339	25,768	36,087	334	56,655	108,268	157	19,487	57,945	165	21,429	25,211
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

PUMPKINS, BEANS, GREEN PEAS—AREA AND PRODUCTION

Season.	Pumpkins.			Beans.						Green Peas.		
	Area.	Production.		Runner.			French.			Area.	Production.	
		Quantity.	Gross Value.	Area.	Quantity.	Gross Value.	Area.	Quantity.	Gross Value.		Quantity.	Gross Value.
	acres.	cwt.	£	acres.	cwt.	£	acres.	cwt.	£	acres.	cwt.	£
1951-52	1,005	64,973	53,220	571	29,956	169,291	81	2,605	12,971	682	12,869	82,336
1952-53	1,005	58,195	84,887	508	30,259	153,917	70	3,246	16,239	704	15,613	90,347
1953-54	995	58,057	61,824	538	40,429	268,853	79	3,234	17,477	751	18,352	120,071
1954-55	1,243	76,136	121,475	636	41,757	390,901	85	2,829	15,275	966	19,293	135,321
1955-56	1,222	65,305	82,529	707	46,262	313,040	73	2,798	16,322	964	19,317	153,248

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.	£
1951-52	517	76,958	103,216	558	84,781	169,839	303	54,005	108,875
1952-53	455	72,942	65,006	601	94,332	155,802	379	67,949	140,156
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	178,958

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

and pears are grown extensively while in the districts around Perth the principal crops are stone fruits, citrus fruit and grapes.

In addition to this main fruit-growing area, substantial banana plantations have been established at Carnarvon in the north-west of the State.

The following table shows details of production of the principal groups of orchard fruit during the years 1951-52 to 1955-56.

FRUIT SUMMARY(†)—AREA AND GROSS VALUE OF YIELD

Season.	Pome. (a)		Citrus. (b)		Stone. (c)		Other. (d)		Total Fruit.†	
	Area. (e)	Gross Value of Yield.	Area. (e)	Gross Value of Yield.	Area. (e)	Gross Value of Yield.	Area. (e)	Gross Value of Yield.	Area. (e)	Gross Value of Yield.
	acres.	£	acres.	£	acres.	£	acres.	£	acres.	£
1951-52	13,361	1,804,737	4,777	468,518	2,374	309,072	1,207	309,185	21,719	2,891,512
1952-53	13,354	2,459,806	4,723	560,601	2,350	391,218	1,115	377,471	21,492	3,789,096
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	760,030	2,484	461,338	1,004	293,785	21,943	4,073,550

(†) Excluding Grapes

(a) Apples, pears and quinces.

(b) Oranges, mandarins, lemons and grapefruit.

(c) Apricots, peaches, nectarines, plums and cherries.

(d) Bananas, loquats, figs, passionfruit, almonds and other minor fruits.

(e) Includes area under young non-bearing trees.

Apples

Apples, which are the principal fruit crop, account for more than half the total orchard area. Bridgetown, Mt. 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 1955-56 the total area of bearing trees was 11,252 acres which produced 1,516,231 bushels, the principal varieties being Granny Smith, Cleopatra, Yates and Jonathan.

The export trade, which declined during the war, has now been re-established and overseas shipments have averaged almost one million bushels annually over the past three years. The United Kingdom is the most important overseas 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 Yield.	Average Yield per acre.	Gross Value.
	acres.	acres.	bushels.	bushels.	£
1951-52	11,078	1,230	1,127,733	101.8	1,669,869
1952-53	10,988	1,320	1,650,634	150.2	2,275,844
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

Pears

Pears are usually grown in conjunction with apples but the area planted and the quantity produced are much less, the total area in 1955-56 being 1,013 acres and the production 99,443 bushels.

Although small quantities are exported, the bulk of the crop is consumed locally.

PEARS—AREA AND PRODUCTION

Season.	Area.		Production.		
	Trees of Bearing Age.	Young Trees not Bearing.	Total Yield.	Average Yield per acre.	Gross Value.
	acres.	acres.	bushels.	bushels.	£
1951-52	864	147	85,554	99·0	132,326
1952-53	856	152	114,852	134·2	181,154
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

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 75 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, a considerable export trade has been developed, particularly with Singapore.

The following tables give details of production of each type for the years 1951-52 to 1955-56.

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.	£
1951-52	3,052	750	407,322	379,119	181	59	16,756	24,435
1952-53	3,076	710	375,107	451,088	176	48	16,995	31,346
1953-54	3,197	587	449,379	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

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.	£
1951-52	473	91	93,657	49,518	164	27	25,031	15,446
1952-53	455	87	87,279	60,869	157	14	21,569	17,298
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

(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 1955-56 was 2,484 acres, comprising 968 acres of plums, 845 of peaches, 423 of apricots, 211 of nectarines and 37 of cherries. Almost the entire crop is consumed locally but small shipments of plums are sent to Singapore.

The following tables give details of production of the principal stone fruits for the five years 1951-52 to 1955-56.

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.	£
1951-52	749	146	89,020	116,456	667	134	77,478	98,103
1952-53	713	156	68,602	133,616	654	126	73,588	122,619
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

(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.	£
1951-52	379	50	50,181	54,084	172	38	21,037	30,503
1952-53	366	43	48,160	84,413	170	35	21,367	38,816
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

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. Investigations are proceeding in an attempt to remove this hindrance to expansion of the industry.

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 Yield.	Average Yield per acre.	Gross Value.
	acres.	acres.	bushels.	bushels.	£
1951-52	374	166	73,276	195·9	274,787
1952-53	377	140	68,903	182·8	344,613
1953-54	368	188	41,757	113·5	187,907
1954-55	430	133	76,674	178·3	345,093
1955-56	401	89	68,538	170·9	248,448

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 five years but it still represents more than half the total area under grapes. Currants are the

principal 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. Approximately 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.
1951-52	3,389	478	5,181	340,553	4,730	762	2,913	288,734	456,312
1952-53	3,505	490	5,701	346,562	4,554	684	2,763	260,285	545,048
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	258,358	539,712

(a) Packed weight.

PASTORAL

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, commencing with Captain George Grey's visit to the West Kimberley area in 1837, increasing exploration drew attention to the pastoral possibilities of large sections of the present Kimberley, Pilbara and North-West Statistical Divisions and after Alexander Forrest, in 1879, made an extensive exploratory journey through the Kimberleys and reported favourably on the area, widespread pastoral development ensued. Some cattle were shipped from the other Australian States, but stocking was accomplished mainly by remarkable overland droving feats, notably from Queensland and New South Wales. Expeditions by the Gregory brothers, Ernest Giles, John (later Lord) Forrest and other explorers also led to the opening up for sheep- and cattle-grazing of large areas in the present North-West Statistical Division and adjacent parts of the Pilbara and Central Divisions.

The pastoral industry is now the most important of the rural industries in Western Australia and, as mentioned earlier, is no longer confined to the northern areas originally developed for this purpose but extends over a great part of the State, including the agricultural areas and the eastern goldfields.

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 since the war. In the agricultural, or farming, areas however, the sheep population has steadily risen. Factors contributing to this, particularly during the past ten years, 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 has encouraged farmers to clear and develop new land, the present 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, 1956, the State total was 14.1 million or 4.4 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 just under 11 million or 78 per cent. They also increased in the pastoral areas from 2.7 million to 3.2 million, but as a percentage of the State total this represents a decline from 28 per cent. to 22 per cent.

SHEEP NUMBERS AND DISTRIBUTION

As at 31st March—	In Agricultural Areas.		In Pastoral Areas.		State Total.
	Number.	Percentage of State Total.	Number.	Percentage of State Total.	
1946	7,029,761	72.0	2,736,222	28.0	9,765,983
1947	6,990,766	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	8,174,640	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

Merinos account for 92 per cent. of the total number of sheep. Corriedales, Polwarths and British breeds (the most important of which are Romney Marsh, South Down, Dorset Horn, Border Leicester and English Leicester) comprise 3 per cent. and the remaining 5 per cent. is 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 lambs 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, now comprising about 15 per cent. of the rams in the State. However, the high wool prices offering since the war have concentrated the attention of farmers on the production of wool, and the "fat lamb" industry has declined from its pre-war peak.

The following table shows the numbers of each breed of sheep at the 31st March, 1956.

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.

In the following tables, sheep flocks and sheep numbers in 1955-56 are classified according to the total area of the holding and the size of the flock. Of the 21,323 rural holdings of all types, sheep were carried on 11,602. Holdings of between 1,000 and 4,999 acres accounted for 66 per cent. of the flocks and for 54 per cent. of all sheep, and those which carried between 500 and 1,999 sheep for 62 per cent. of the flocks and for 52 per cent. of all sheep.

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.	
	1-49.	50-99.	100-199.	200-299.	300-399.	400-499.	500-699.	700-999.	1,000- 1,999.	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.
NUMBER OF FLOCKS.																	
1-99	206	44	28	3	...	1	...	...	...	...	...	...	...	...	...	...	282
100-199	81	46	67	22	11	3	...	1	...	...	...	...	...	...	...	...	231
200-299	80	38	57	38	12	7	...	1	...	...	...	...	...	...	...	...	240
300-399	68	28	47	33	25	3	...	1	...	...	...	...	...	...	...	...	234
400-499	56	22	33	41	30	18	...	6	...	...	...	...	...	...	...	...	229
500-599	32	14	25	31	25	33	...	3	...	...	...	...	...	...	...	...	210
600-799	35	28	47	52	71	53	...	17	...	...	...	...	...	...	...	...	472
800-999	33	23	47	50	86	87	...	68	...	...	...	...	...	...	...	...	424
1,000-1,399	28	25	30	50	86	87	...	52	...	...	...	...	...	...	...	...	749
1,400-1,999	23	11	30	58	71	109	...	99	...	...	...	...	...	...	...	...	592
2,000-2,999	20	12	37	77	80	102	...	307	...	...	...	...	...	...	...	...	1,320
3,000-4,999	15	11	27	54	67	83	...	348	...	...	...	...	...	...	...	...	1,535
5,000-9,999	12	7	22	37	54	67	...	379	...	...	...	...	...	...	...	...	1,976
10,000-19,999	6	3	7	10	12	17	...	379	...	...	...	...	...	...	...	...	2,679
20,000-49,999	...	...	...	2	4	1	...	265	...	...	...	...	...	...	...	...	2,307
50,000 and over	2	...	...	...	...	1	...	35	...	...	...	...	...	...	...	...	921
Total	674	292	487	489	566	647	1,492	2,293	2,102	1,314	631	290	201	97	25	2	11,602
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	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.
	1-49.	50-99.	100-199.	200-299.	300-399.	400-499.	500-699.	700-999.	1,000- 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.	
NUMBER OF SHEEP.																
1-99	2,899	3,151	3,478	680	3,703	4,52	500	....	....	....	....	....	....	....	....	10,660
100-199	1,544	3,170	9,575	5,379	3,133	1,256	3,285	800	1,045	....	....	....	....	....	....	25,127
200-299	1,675	2,740	7,967	9,305	4,133	3,044	8,006	2,446	1,000	....	....	....	....	....	....	33,994
300-399	1,294	2,008	6,617	8,106	8,539	8,006	6,277	4,952	4,359	....	....	....	....	....	....	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	615	1,079	3,868	7,869	8,359	14,571	17,184	13,400	2,245	....	....	....	....	....	....	69,190
600-799	702	2,112	7,080	12,757	24,409	23,466	39,498	42,022	14,813	7,730	....	....	....	....	....	174,569
800-999	681	817	4,421	12,415	29,996	38,333	92,295	80,727	33,673	12,699	....	....	....	....	....	306,067
1,000-1,999	700	1,868	8,679	17,811	37,643	75,801	206,063	250,174	163,894	83,849	16,109	....	....	....	....	862,591
2,000-2,999	460	877	5,528	9,318	27,378	45,802	229,286	493,920	417,965	215,385	57,592	....	....	....	....	1,503,511
3,000-4,999	441	782	4,992	13,438	23,330	36,759	159,661	597,505	868,196	536,662	255,157	15,361	....	....	....	2,564,095
5,000-9,999	299	571	3,211	10,658	11,519	22,748	95,242	345,605	694,074	797,117	480,411	139,888	....	....	....	2,876,401
10,000-19,999	215	252	1,004	2,503	4,070	7,506	20,533	71,142	215,028	385,430	492,523	218,982	....	....	....	1,702,577
20,000-49,999	....	143	297	463	1,378	429	4,174	6,003	16,837	68,075	83,301	133,126	45,936	....	....	543,208
50,000 and over	65	....	....	459	374	440	1,733	2,523	4,731	30,178	262,243	966,699	1,219,219	677,416	121,991	3,350,053
Total	12,687	21,116	71,734	121,085	194,986	287,212	886,439	1,913,939	2,441,498	1,490,515	1,094,167	1,379,585	1,265,155	677,416	121,991	14,128,168

Wool

During the ten years from 1946 to 1955 the total wool production rose from 90·3 million lbs. to 156·5 million lbs. Shorn wool in 1955 amounted to 146·2 million lbs. and was a record for the State. It was shorn from 14·89 million sheep, the average weight per fleece being 9·8 lbs. or 1·4 lbs. higher than the average for 1954. The balance of the 1955 production consisted of 93,000 lbs. of dead wool, 3,475,000 lbs. of fellmongered wool and 6,690,000 lbs. of wool exported on skins.

During the war years wool was compulsorily acquired by the Commonwealth Government in accordance with an agreement with the United Kingdom. The scheme was administered by the Central Wool Committee and the price paid was determined by a system of appraisement which, however, operated within limits agreed upon by the two governments. During this period large stocks of wool were accumulated and after the war an organization was formed with the object of selling this surplus with the least possible disturbance to ruling prices. Government control of wool ceased after the war and wool auctions operated by members of the National Council of Wool Selling Brokers were resumed in 1946. These sales, which are attended by Australian and oversea 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 directly with producers.

Although the greater proportion of the woolclip is exported in the grease, some scouring is done in the State and scoured wool is an appreciable item in the external wool trade. During 1955-56 exports of greasy and scoured wool were 113·3 million lbs. and 16·7 million lbs. respectively. The United Kingdom was the most important buyer but France, Italy, West Germany, Poland, Japan, the United States of America and Czechoslovakia provided valuable markets. Exports to the other States of the Commonwealth are not of major importance and in 1955-56 shipments were under five million lbs.

SHEEP SHORN AND WOOL PRODUCTION

Year.	Sheep Shorn. (a)			Average Weight per Fleece.	Wool Production (In the grease).				
	Sheep.	Lambs.	Total.		Shorn. (a)	Dead Wool. (a)	Fell-mongered. (b)	Exported on Skins.	Total. (c)
	thousands.	thousands.	thousands.	lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
1946	8,612	1,948	10,560	7·6	79,811	89	524	9,731	90,256
1947	8,805	2,164	10,969	8·1	88,911	89	528	5,883	95,411
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) 4,269	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) 6,478	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

(a) From 1949, year ended 31st March of the year following.

(b) Year ended 30th June of the year following.

(c) See notes (a) and (b).

GROSS VALUES OF WOOL PRODUCTION

Year.	Shorn and Dead Wool. (a)	Fellmongered Wool. (b)	Wool Exported on Skins.	Total. (c)
	£	£	£	£
1946	7,990,000	56,766	1,053,966	9,100,732
1947	14,549,113	89,331	961,713	15,600,157
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	1,038,598	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	38,528,921	463,643	(b) 1,020,168	39,012,732
1955	34,383,966	436,981	(b) 1,059,795	35,880,742

(a) From 1949, year ended 31st March of the year following.

(b) Year ended 30th June of the year following.

(c) See notes (a) and (b).

Beef Cattle

The main centres of beef production are in the Kimberley Statistical Division, which in 1956 carried 457,918 head of beef cattle or 68 per cent. of the State total. Other pastoral areas carried 57,147 head and agricultural areas 158,248.

The cattle which were originally shipped or driven overland from the Eastern States to start the industry in the northern pastoral areas were preponderantly shorthorn breeds, and these still form the great bulk of all beef cattle. Carcase weights, however, have been increased by importing better type bulls and by improving watering facilities, both on the cattle stations and on the stock routes.

Killing and freezing works are maintained at Wyndham and Broome and these ports ship most of the beef exported oversea, either direct or by transshipment at Fremantle. There have also been some recent shipments of cattle on hoof from Derby to the Philippines.

A serious problem in the northern areas is the substantial loss of weight which is sustained in droving to the ports, and to minimise this loss some stations slaughter their own cattle and transport the carcasses to the freezing works by air.

Although considerable numbers of beef cattle are shipped from northern ports for slaughtering and consumption in the metropolitan area, a high proportion of the local demand in the southern part of the State is supplied from the agricultural and dairying areas, much of it from fattened cattle of the Friesian, Jersey, Guernsey and other dairying breeds. This source of beef production has expanded very appreciably over the past ten years as indicated in the following table.

BEEF CATTLE—NUMBERS AND DISTRIBUTION

As at 31st March—	In Agricultural Areas.		In Pastoral Areas.		State Total.
	Number.	Percentage of State Total.	Number.	Percentage of State Total.	
1947	87,126	14.8	501,271	85.2	588,397
1948	87,897	14.9	502,239	85.1	590,136
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	133,900	22.3	466,188	77.7	600,178
1955	136,904	21.7	495,335	78.3	632,329
1956	158,248	23.5	515,065	76.5	673,313

In the tables on page 202, beef cattle herds and cattle numbers in 1955-56 are classified according to the total area of the holding and the size of the herd. Of the 21,323 rural holdings of all types, beef cattle were carried on 4,735. Holdings of between 1,000 and 4,999 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 following table gives details of slaughterings both in abattoirs and on stations and farms.

LIVESTOCK SLAUGHTERED FOR HUMAN CONSUMPTION

Year ended 30th June—	Sheep.	Lambs.	Cattle.	Calves.	Pigs.
	No.	No.	No.	No.	No.
1951 (a)	710,390	462,544	143,580	13,937	127,686
1952 (a)	1,123,433	597,525	136,835	14,827	129,519
1954	1,000,651	557,833	154,753	14,594	114,859
1955	1,115,502	504,801	168,790	13,368	182,505
1956	1,157,517	641,782	174,915	17,137	160,807

(a) Year ended 31st December.

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.	150-199.	200-299.	300-499.	500-999.	1,000- 1,999.	2,000- 4,999.	5,000- 9,999.	10,000 & over.	Total Herds.
Acres.																
1-99	149	57	18	8	4	1	1	1	1	1	1	1	1	1	1	239
100-199	155	66	39	39	14	6	2	2	2	2	2	2	2	2	2	321
200-299	119	55	35	32	15	13	6	6	6	6	6	6	6	6	6	327
300-399	91	43	27	36	10	20	7	9	3	3	3	3	3	3	3	237
400-499	78	34	23	23	18	15	11	11	3	3	3	3	3	3	3	200
500-599	58	38	24	21	16	11	11	19	5	5	5	5	5	5	5	189
600-799	90	46	38	26	26	19	19	15	3	3	3	3	3	3	3	275
800-999	81	41	22	28	20	19	15	15	3	3	3	3	3	3	3	237
1,000-1,399	164	84	51	48	30	19	12	12	6	6	6	6	6	6	6	431
1,400-1,999	329	166	98	86	49	27	25	25	13	13	13	13	13	13	13	500
2,000-2,999	226	110	78	56	30	21	24	24	15	15	15	15	15	15	15	674
3,000-4,999	254	80	36	55	41	20	16	16	11	11	11	11	11	11	11	7
5,000-9,999	101	53	16	31	10	19	14	14	6	6	6	6	6	6	6	1
10,000-19,999	21	6	6	10	4	6	5	5	4	4	4	4	4	4	4	1
20,000-49,999	6	3	1	2	....	3	2	2	1	1	1	1	1	1	1	5
50,000 and over	25	32	19	23	10	13	16	10	13	10	21	13	16	23	14	258
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	290	80	103	151	...	...	...	...	...	...	...	2,574
100-199	...	597	904	939	1,486	503	451	243	...	...	...	...	...	...	...	...	5,423
200-299	...	437	769	815	1,486	807	1,051	767	310	...	...	...	...	...	...	...	6,247
300-399	...	303	509	648	1,187	597	1,695	826	537	...	...	...	...	...	...	...	6,682
400-499	...	303	462	383	876	1,051	1,202	1,040	512	...	...	...	...	...	...	...	7,519
500-599	...	196	518	571	840	893	1,331	1,026	480	...	...	...	...	...	...	...	7,519
600-799	...	331	665	924	1,029	1,495	1,538	2,419	816	...	...	...	...	...	...	...	10,718
800-999	...	285	538	538	1,042	1,123	1,577	1,728	480	...	...	...	...	...	...	...	10,105
1,000-1,399	...	642	1,177	1,259	1,867	1,778	1,513	1,376	1,016	...	...	...	...	...	...	...	15,548
1,400-1,999	...	861	1,234	1,157	1,825	1,532	2,048	1,622	1,092	...	...	...	...	...	...	...	18,766
2,000-2,999	...	1,264	1,521	1,879	2,100	1,664	1,742	2,331	975	...	...	...	...	...	...	...	20,814
3,000-4,999	...	965	1,084	840	2,000	2,383	1,720	1,961	1,876	...	...	...	...	...	...	...	19,276
5,000-9,999	...	428	703	386	1,210	604	1,583	1,598	1,008	...	...	...	...	...	...	...	13,246
10,000-19,999	...	102	146	135	241	513	621	668	258	...	...	...	...	...	...	...	8,394
20,000-49,999	...	25	49	21	77	...	562	243	180	...	...	...	...	...	...	...	3,524
50,000 and over	...	139	457	468	841	594	1,092	1,881	1,679	...	...	...	...	...	...	...	517,532
Total	...	7,503	11,525	11,374	18,475	15,862	18,974	20,590	13,120	19,218	22,347	25,593	19,004	55,748	165,847	249,133	673,313

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 difficulties associated with the clearing of heavily timbered country in the South-West and the need for special methods of pasture establishment, but these problems have been progressively overcome and it is now a significant feature of primary production, although only limited progress has been made 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 further 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 fairly static.

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, should benefit materially as a result.

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. Since 1946 the butter section of the dairying industry in this State has been included in the operations of the Commonwealth Dairy Produce Equalisation Committee Ltd., of which four members of the State Dairy Products Marketing Board are member-shareholders. In addition the market prices of butter and cheese are subsidised by the Commonwealth Government to allow payment of a guaranteed price to the dairy farmer up to a specified level of production.

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.	£
1947	66,011	65,700	40,766	32,057	13,149	5,869	223,552	45,814,001	2,177,094
1948	68,134	64,171	40,536	33,958	12,551	6,124	225,474	50,097,819	2,604,342
1949	65,631	67,588	40,859	36,635	13,398	5,882	229,093	50,875,852	3,086,629
1950	60,383	68,982	42,263	36,058	12,892	5,835	226,413	50,074,307	3,440,941
1951	60,873	66,671	41,365	35,633	12,464	5,869	222,375	50,807,056	3,858,178
1952	60,092	70,533	40,292	38,408	15,148	5,996	230,469	49,970,808	4,956,758
1953	57,805	76,118	42,370	37,594	13,800	6,173	233,869	49,769,106	5,591,320
1954	58,621	75,508	41,836	35,060	12,426	6,056	229,516	49,173,673	5,795,994
1955	60,432	74,264	39,703	35,302	12,689	5,850	225,245	52,918,308	6,049,881
1956	59,176	75,341	38,894	33,439	11,215	5,469	223,584	55,373,097	6,192,400

(a) Details of Butter and Cheese Production appear in Part 2 of this Chapter. and includes Milk used for processing into Butter, Cheese and Condensery Products.

(b) For year ended 31st March

In the following tables, dairy herds and dairy cattle numbers in 1955-56 are classified according to the total area of the holding and the size of the herd. Of the 21,323 rural holdings of all types, dairy cattle were carried on 11,314. Holdings of between 1,000 and 4,999 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 ten 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 $3\frac{1}{2}$ per cent. of the holdings carrying dairy cattle, accounted for over 25 per cent. of the total number carried.

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. They are reared for the production of bacon and ham as well as for pork and although by far the greater part is consumed locally there is also a moderate interstate and oversea export trade. In 1955-56 this amounted to 948,220 lb. of bacon and ham, the principal oversea buyer being Singapore, and 1,636,927 lb. of pork, oversea shipments being mainly to the United Kingdom and Singapore.

PIGS

As at 31st March.	Boars.	Breeding Sows.	Baconers and Porkers.	Suckers, Weaners, Slips.	Other Pigs.	Total.
	No.	No.	No.	No.	No.	No.
1947	2,395	11,693	33,319	40,052	14,260	101,719
1948	2,422	12,269	28,057	39,920	10,512	93,180
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

PIGS SLAUGHTERED FOR HUMAN CONSUMPTION, PRODUCTION AND EXPORTS OF BACON AND HAM

Year ended 30th June :	Pigs Slaughtered.		Production of Bacon and Ham.	Exports of Bacon and Ham (including Ships' Stores).
	Number.	Value. (a)		
		£	lb.	lb.
1947	172,784 (b)	1,090,988 (b)	10,309,931	1,872,625
1948	134,534 (b)	989,188 (b)	9,480,505	1,350,929
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	2,506,905
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

(a) Value "on hoof" at principal market or at factory door.

(b) For year ended 31st December of preceding year.

In the following tables, pig herds and pig numbers in 1955-56 are classified according to the total area of the holding and the size of the herd. Of the 21,323 rural holdings of all types, pigs were raised on 3,864. Holdings of between 1,000 and 4,999 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.

PIG HERDS AS AT 31st MARCH, 1956, CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF HERD

Area Series— Total Area of Holding.		Size of Pig Herd (Numbers).										Total All Rural Holdings.		
		NUMBER OF HERDS.												
		1-4.	5-9.	10-14.	15-19.	20-29.	30-39.	40-49.	50-69.	70-99.	100-199.	200 and over.		
Acres.														
1-19	45	12	12	10	6	5	6	13	6	5	6	126	3,300	
20-29	18	5	5	4	4	3	3	4	3	3	3	59	631	
30-40	19	9	5	4	5	3	3	4	8	2	2	65	574	
50-60	15	6	3	1	2	4	2	2	2	2	2	38	324	
70-99	18	7	9	4	8	2	2	2	2	1	1	54	364	
100-149	53	25	16	12	21	12	2	2	2	3	3	150	728	
150-199	66	34	24	10	15	10	1	4	6	3	2	175	729	
200-299	108	58	37	37	40	21	15	9	7	3	2	361	1,136	
300-399	72	42	33	19	32	15	7	10	5	3	2	238	804	
400-499	47	30	25	18	26	5	7	6	3	1	1	178	588	
500-699	48	31	25	18	29	15	10	11	3	3	3	195	868	
700-999	46	38	28	24	28	16	10	18	3	3	1	216	1,082	
1,000-1,399	64	43	44	24	40	29	17	20	10	4	4	295	1,535	
1,400-1,999	71	55	56	34	59	38	23	32	16	7	2	393	1,976	
2,000-4,999	153	129	121	106	173	113	61	84	49	43	6	1,038	4,986	
5,000 and over	48	36	31	18	25	35	22	29	17	18	4	283	1,698	
Total	891	573	501	340	513	326	191	251	140	107	31	3,864	21,323	

PIGS AS AT 31st MARCH, 1956, CLASSIFIED ACCORDING TO SIZE OF HOLDING AND SIZE OF HERD

Area Series— Total Area of Holding.		Size of Pig Herd (Numbers).										Total.
		1-4.	5-9.	10-14.	15-19.	20-29.	30-39.	40-49.	50-69.	70-99.	100-199.		200 and over.
NUMBER OF PIGS.												
Acres.	1-19	20-29	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120	120-130
1-19	86	81	139	165	148	160	266	766	512	789	1,596	4,708
20-29	41	62	56	19	102	101	140	240	229	1,043	...	2,033
30-40	39	59	64	69	114	105	92	220	682	272	1,346	3,062
40-50	28	44	33	16	45	133	95	123	144	111	...	772
50-60	38	50	38	67	183	64	83	110	...	115	...	1,135
60-70	123	171	183	204	511	402	49	167	178	435	200	2,663
70-80	159	215	279	176	362	328	49	226	504	344	1,531	4,173
80-90	237	290	689	622	936	705	648	525	582	250	441	6,064
90-100	169	290	383	311	740	514	300	557	418	314	...	3,996
100-110	109	282	297	306	601	166	305	376	252	181	551	3,426
110-120	127	196	373	301	718	511	435	668	244	456	217	4,246
120-130	98	247	324	413	680	554	474	1,044	253	419	210	4,716
130-140	150	295	533	413	969	984	749	1,177	789	453	...	6,512
140-150	189	380	666	559	1,410	1,288	1,016	1,866	1,280	896	509	10,059
150-160	399	884	1,413	1,813	4,200	3,902	2,658	4,868	3,971	5,599	1,669	31,376
160-170	115	252	370	302	591	1,190	974	1,680	1,398	2,262	1,022	10,156
Total	2,107	3,937	5,914	5,756	12,310	11,107	8,373	14,613	11,436	13,939	9,605	99,097

LIVESTOCK IN AUSTRALIA

The following table gives details of livestock numbers in each State at the 31st March, 1956, together with Australian totals.

AUSTRALIA : LIVESTOCK NUMBERS ACCORDING TO STATES

As at 31st March, 1956

State.	Horses.	Dairy Cattle.	Beef Cattle.	Total Cattle.	Sheep.	Pigs.
	'000	'000	'000	'000	'000	'000
New South Wales	247	1,258	2,421	3,679	62,988	343
Victoria	119	1,662	954	2,616	23,343	227
Queensland	261	1,384	5,946	7,330	22,116	373
South Australia	44	264	302	566	13,585	73
Western Australia	46	224	673	897	14,128	99
Tasmania	15	184	148	332	2,073	50
Northern Territory	37	....	1,028	1,028	33	}
Australian Capital Territory	1	3	6	9	258	
Australia	770	4,979	11,478	16,457	139,124	1,166

POULTRY FARMING

Poultry farming in Western Australia is now largely a specialist industry and a large percentage of the egg production is on properties which carry sufficient birds to make the activity the sole or predominant source of income. The poultry farms are mainly situated within a 30-mile radius of Perth, in the Metropolitan and Swan Statistical Divisions, but a substantial number of birds are also kept on orchards, dairying holdings 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 commercial poultry industry is now largely based on this stock.

Under the Marketing of Eggs Act, 1945-55 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 the 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 overseas market for eggs in the shell, the United Kingdom and Saudi Arabia also buying substantial quantities. The United Kingdom has been an important buyer of egg pulp, but purchases have declined seriously in recent years from over 3,000,000 lb. in 1952-53 and 1953-54 to less than 1,000,000 lb. in 1955-56.

POULTRY

As at 31st March—	Fowls.	Ducks.	Turkeys.	Geese.
	No.	No.	No.	No.
1947	1,176,439	33,039	13,451	2,108
1948	1,266,393	48,210	15,007	1,358
1949	1,163,628	40,974	14,677	1,365
1950	1,089,454	40,075	13,530	1,417
1951	1,012,338	34,734	12,747	1,780
1952	1,026,893	30,423	12,210	1,107
1953	971,683	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

EGG PRODUCTION, POULTRY SLAUGHTERED FOR TABLE USE AND EXPORT

Year ended 31st March—	Egg Production. (a)		Poultry Slaughtered for Table Purposes.	Exports. (b)	
	Quantity.	Gross Value.	Gross Value.	Eggs. (c)	Dressed Poultry.
	doz.	£	£	£	£
1947	6,023,407	522,473	303,351	2,11,825	78,788
1948	6,780,620	645,574	276,841	2,35,077	168,513
1949	7,063,741	796,867	525,863	369,399	204,214
1950	6,732,719	881,257	467,403	376,485	168,368
1951	6,875,598	987,236	573,267	426,911	190,910
1952	7,219,560	1,321,791	598,866	513,897	258,062
1953	7,577,620	1,605,268	617,179	1,021,203	172,946
1954	8,113,717	1,788,625	593,378	1,090,500	112,762
1955	7,802,232	1,544,668	551,326	779,968	135,330
1956	7,093,451	1,472,560	537,497	597,615	113,164

(a) Excludes non-commercial production.

(b) Year ended 30th June.

(c) In shell, pulped and dried.

BEE FARMING

Commercial producers of honey in the State 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 a considerable number of 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.

Much of the honey produced is marketed through the Honey Pool of Western Australia but substantial amounts are sold direct by individual producers. Exports in 1955-56 amounted to 3,461,508 lb., the principal buyers being the United Kingdom and West Germany.

BEEHIVES AND HONEY AND BEESWAX PRODUCTION

Year.	Beehives. (a)		Honey Production.		Beeswax Production.	
	Productive. (b)	Unproductive. (c)	Quantity.	Gross Value.	Quantity.	Gross Value.
	No.	No.	lb.	£	lb.	£
1951-52	25,951	3,617	3,479,935	122,044	44,860	7,851
1952-53	26,024	4,898	3,393,559	108,717	39,912	7,533
1953-54	27,476	5,067	6,325,108	219,956	72,833	14,443
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

(a) Number at 30th June.

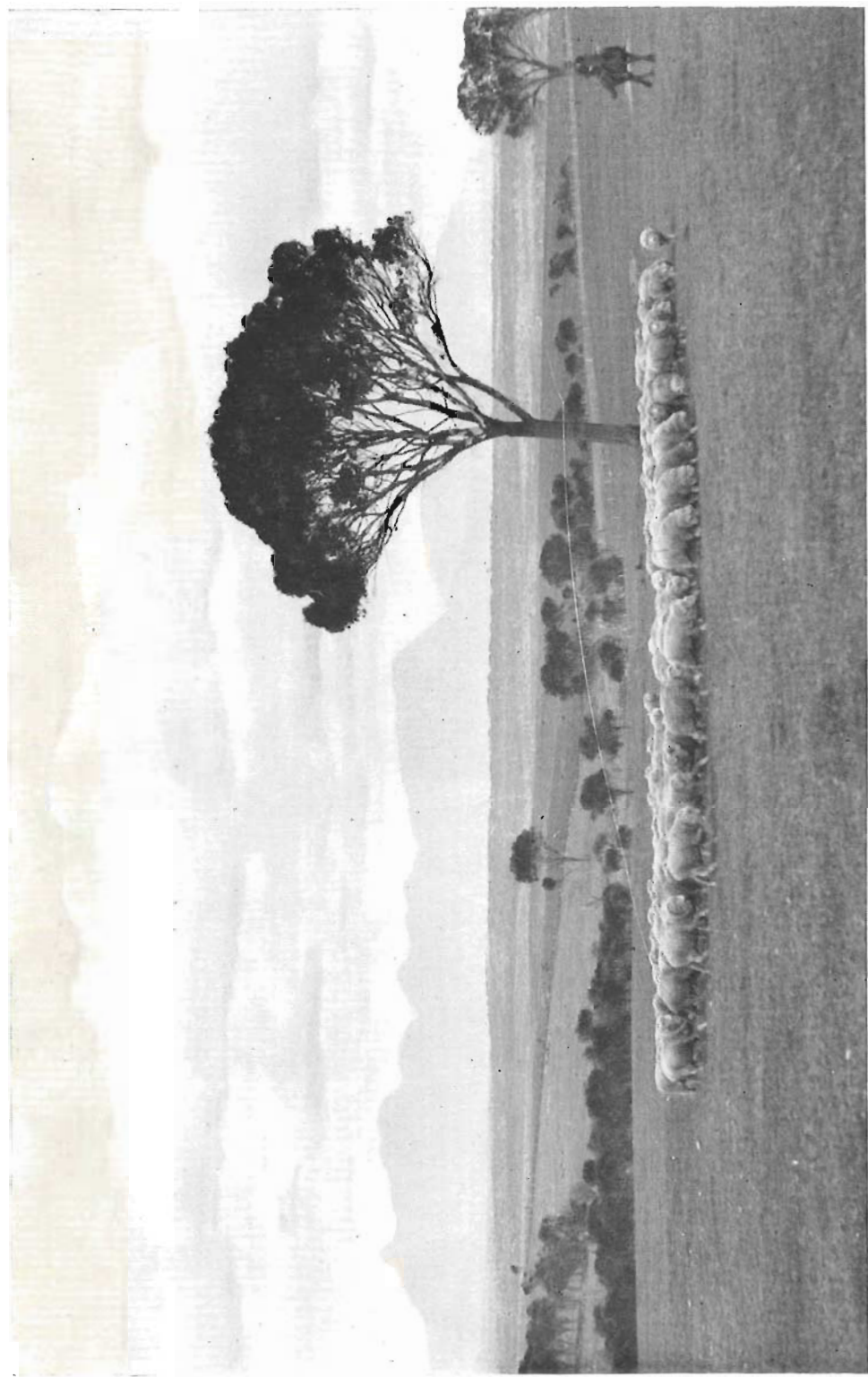
(b) Hives from which honey was taken.

(c) Includes hives kept for production but from which no honey was taken, young hives and nuclei.

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 Wheat and Sheep (including



SHEEP FLOCK NEAR BORDEN—STIRLING RANGES IN BACKGROUND

a section for Seed Certification and Weeds), Animal (including Veterinary), Dairying, Horticultural, Soil Conservation and Plant Research. In addition there are Branches for North-West, Vermin Control, Entomology, Plant Pathology and Botany.

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 yet 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 20 years in connection with the growing of potatoes, fruit, cereals, hops, fodder crops and pasture, and some success was achieved with wheat breeding.

Government farms were opened at Narrogin in 1901 and at Nabawa, 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 further "research stations," as the experiment farms came to be called, were established and they now number 18.

Research Stations at Nabawa, Wongan Hills, Merredin, Avondale, 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 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 1955-56 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 250 broadcasts are given by Departmental officers each year.

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, Esperance, Geraldton, Harvey, Katanning, Manjimup, Moora, Narrogin, Northam, Waroona and at the Wyndham and Carnarvon 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 the last five years to about twenty per cent. 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 enabled 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 cincturing, for currant vines, is a noteworthy change in agricultural practice resulting from investigations by the Department. The selection of the rust-resistant runner bean variety, "Westralia," has greatly reduced one of the hazards with which the bean-grower has to contend.

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 50 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.

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 1.8 million acres have been established as Timber Reserves.

Jarrah (*Eucalyptus marginata*) is the State's principal timber and the prime forest covers over 3 million acres of the State Forests. Karri (*E. diversicolor*) is next in importance 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 212.

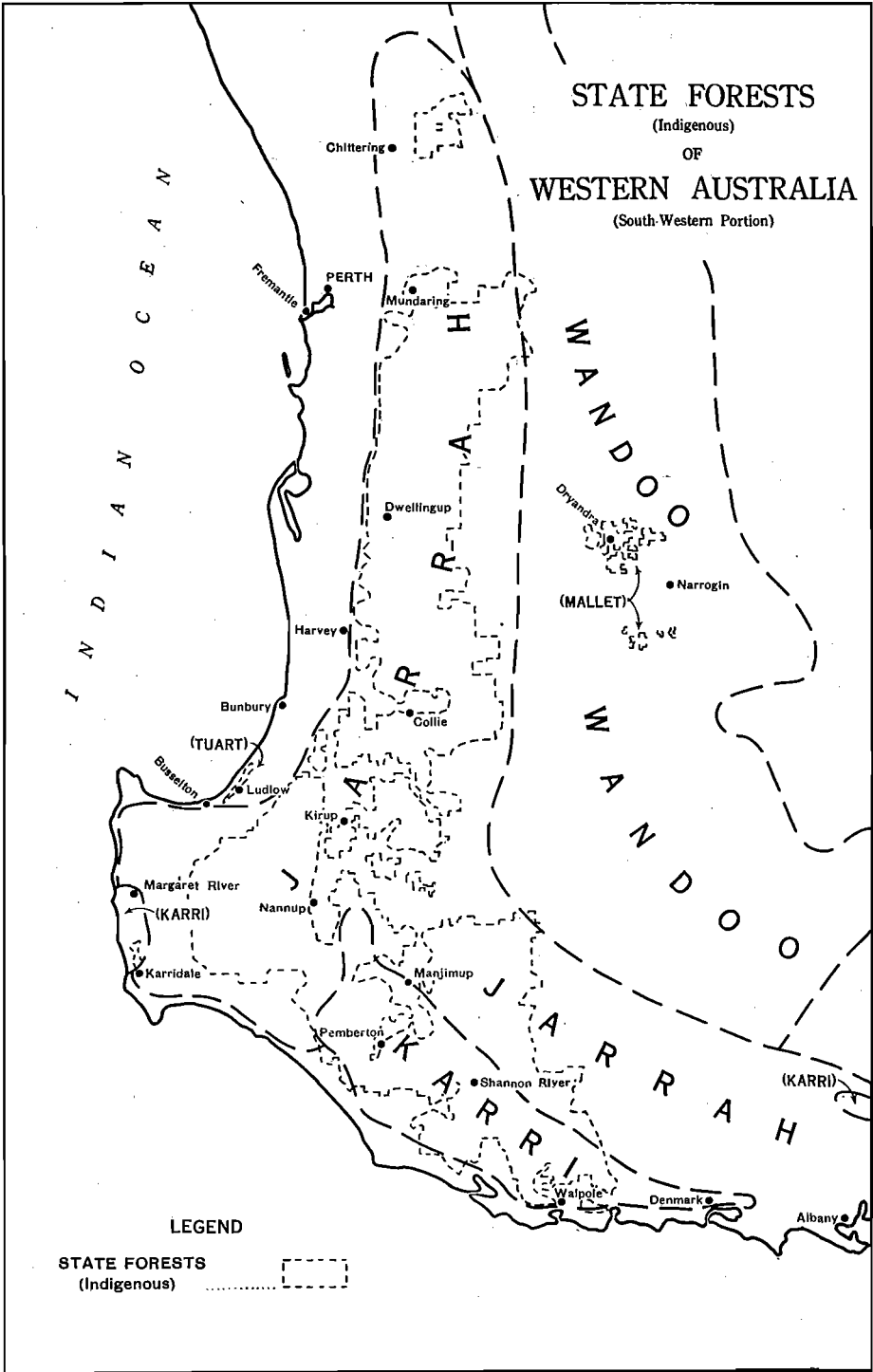
The Inland Forests

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, 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 recognised. The Forests Department maintains a staff to exercise these controls and to advise on tree planting.

Forestry Administration

Scientific forestry was given considerable impetus in Western Australia with the passing of the Forests Act in 1918. Extensive cutting over the previous 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 $\frac{9}{10}$ ths of the net annual revenue from forestry sources. The sum received, together with various other grants, is used for regeneration, fire control and associated purposes.

The forests are now managed on a long range working plan to ensure continuity of the industry, trees being approved for cutting and marked accordingly by trained foresters, who work under the direction of the Conservator of Forests and closely control both the indigenous forest and the mallet and pine plantations.

Mallet (*Eucalyptus astringens*), the bark of which is an important source of tannin, once covered large areas on the fringe of the inland forests but was practically exterminated by clearing for farms and by excessive exploitation. It is now being regenerated and the total area of Mallet plantations exceeds 18,000 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. Eleven plantations, with a planted area of approximately 20,000 acres, have been established and a planting programme of 2,000 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 minimise 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, page 170.

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. The Wandoo is also 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 1946-47 to 1955-56, with comparable figures for 1938-39. It shows a large increase in sawn timber but an overall decline in hewn timber, which nevertheless has risen substantially since the immediate post-war years. The hewn timber consists mainly of sleepers, piles and poles, mining timber, and fencing posts and rails.

TIMBER PRODUCTION (a)
(Thousand super. feet)

Item.	1933-39	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56
Timber—Sawn	125,452	124,238	131,597	126,866	138,089	156,827	178,290	203,314	216,021	225,795	222,398
Timber—Hewn	35,863	15,604	17,098	15,401	15,735	19,390	21,157	20,011	24,990	25,698	22,740

(a) From local logs and includes plywood veneers in terms of super. feet.

Saw milling is dealt with in greater detail under Secondary Industry, in Part 2 of this Chapter.

In 1955-56 almost 54.6 million super. feet of timber were exported, most of it to the other Australian States, but over 18 million super. feet were shipped to oversea markets, principally the United Kingdom, New Zealand and South Africa.

FISHERIES (INCLUDING WHALING AND PEARLING)

The fishing industry in Western Australia consists of three distinct activities, the catching of edible species, whaling and pearlshell production.

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 1951 to 1956.

PRODUCTION OF FISH

Species—Common Name.	1951 (a).	1952 (a).	1953-54 (b).	1954-55 (b).	1955-56 (b).
	lb.	lb.	lb.	lb.	lb.
Bream, Black	17,325	13,508	4,945	5,583	12,867
Bream, Yellow-fin	56,925	44,409	60,216	55,139	28,444
Bream, Silver or Tarwhine	11,501	7,087	12,346	6,626	5,880
Cobbler	252,543	503,359	450,538	593,511	550,235
Flathead	27,154	20,971	23,128	27,271	66,116
Garfish	51,988	53,970	61,073	45,551	51,025
Groper	8,906	12,235	12,401	12,534	10,475
Herring, Perth	25,023	21,273	7,860	12,699	20,494
Jewfish, Westralian	201,433	267,266	220,996	332,884	214,869
Kingfish, Sea (Samson Fish)	26,045	30,320	21,782	48,827	28,277
Mackerel, Spanish	6,289	10,858	12,079	13,524	35,761
Mullet	560,861	529,990	355,051	435,650	495,218
Mullet, Yellow-eye	327,166	253,042	336,129	295,843	376,000
Mulloway (River Kingfish)	5,878	5,556	3,538	3,900	4,121
Ruff (Sea Herring)	737,299	780,249	756,336	888,673	715,124
Salmon, Australian	3,404,492	3,008,837	6,010,640	4,434,678	4,771,027
Shark	158,606	128,297	200,151	275,748	248,132
Snapper	764,078	679,801	856,475	1,228,560	1,476,909
Tailor	158,468	127,030	88,736	93,104	97,668
Trevally, Silver (Skipjack)	81,126	65,133	80,975	78,097	68,691
Whiting, Sand and School	367,929	351,650	303,980	335,552	355,795
Whiting, King George	35,035	22,690	90,908	83,043	30,376
Other Fish	(e) 802,896	(c) 431,512	109,991	100,056	121,258
Crayfish	7,794,931	8,415,425	9,223,519	10,906,561	10,529,539
Crabs	39,841	21,403	16,477	18,565	21,276
Prawns	23,597	28,213	45,305	25,978	74,600
Total	15,947,315	15,834,084	19,365,575	20,358,157	20,410,180

(a) Year ended 31st December.

(b) Year ended 30th June.

(c) Includes trawled fish for which details of catch according to species are not available.

Since the end of the second World War, crayfish have become the most important 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 crays, but in 1941 production was stimulated by the canning of crayfish for the armed forces. Although canning continued until 1950, by 1947 it had become far less important than another development—the freezing of crayfish tails for export, mainly to the United States of America. This activity has increased remarkably and in 1956 the production of crayfish

amounted to 94,014 cwt., valued at £1,228,446. The species caught is *Panulirus longipes*, which occurs in the vicinity of the Abrolhos Islands, Geraldton, Dongara, Lancelin and Fremantle, and is protected from over-fishing 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 ciliata*), sea mullet (*Mugil dobula*) and trevally or skipjack (*Usacaranx georgianus*). The great bulk of this is sold as wet fish on the local market, although small quantities of sea herring are canned and there are some exports, principally 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 at present no trawling is being carried out from bases in Western Australia.

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 of significant magnitude in recent years.

The first fishing grounds to be exploited were the estuaries and rivers, and although they are not now so important, when compared with other grounds, they still provide substantial quantities of fish of a fairly wide variety. The principal species are cobbler (*Tandanus bostocki*) and yellow-eye mullet (*Aldrichetta forsteri*), most of which are caught in the Mandurah and Swan estuaries. Other species include garfish (*Reporhamphus regularis* and *R. melanochir*), Perth herring or gizzard shad (*Nematolosa come*), sea mullet, tailor, sand whiting, King George whiting (*Sillaginodes punctatus*), flathead and snapper. Crabs (*Portunus pelagicus*), king prawns (*Penaeus plebejus*) and school prawns (*Metapenaeus macleayi*) are also caught commercially.

Apart from a small crustacean, the marron (*Cheraps 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 successfully into the streams of the southern districts.

GENERAL FISHERIES (a)

Year.	Boats Licensed.	Value of Boats and Equipment.	Fishermen Licensed.	Total Take.		Value of Take.	
				Fish. †	Crayfish.	Fish. †	Crayfish.
	Number.	£	Number.	cwt.	cwt.	£	£
1945	569	143,872	1,086	39,001	5,811	200,208	16,850
1946	731	277,823	1,483	44,956	11,408	209,796	42,589
1947	674	248,757	1,479	62,081	20,856	289,709	77,861
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 (b)	600	1,055,232	1,125	90,002	82,353	473,551	922,353
1955 (b)	616	1,245,461	1,069	(a) 83,942	97,380	510,200	1,090,656
1956 (b)	687	1,413,573	1,159	(c) 87,268	94,014	580,904	1,228,446

(a) From 1950 figures relate only to the operations of professional fishermen. (b) Year ended 30th June.
(c) Round weight. † Excludes Oysters, Crabs and Prawns.

Whaling

Whaling has been conducted spasmodically along the Western Australian coast since the first years of settlement and whale oil and whale bone were among the first exports from the Colony. Its development as a major established industry, however, may be regarded as commencing in the 1949 season

when shore-based whaling was carried out 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 1951 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 1,210 whales.

Whaling operations of a minor nature had been carried out from Albany in 1947, and in 1952 they were resumed on a much larger scale. This brought the number of operating concerns to three and these continued to function each season until 1956, when the company operating from Point Cloates purchased the Commonwealth Government's station at Carnarvon and transferred its headquarters to that base. In consequence, whaling along the Western Australian coast is now confined to the two companies.

WHALING

Season.	Whales Processed.	Production.		
		Whale Oil.	Fertilizers.	Stock and Poultry Meals.
	Number.	ton.	ton.	ton.
1949	190	1,106	233	56
1950	347	2,583	87	1,640
1951	1,210	9,438	100	5,580
1952	1,187	11,088	1,252 (a)	6,595
1953	1,301	11,284	150	4,951
1954	1,320	10,539	160	4,429
1955	1,125	9,318	143	3,515

(a) Including carry-over from previous years.

The whales, which pass northward along the western coast from about May and return south by the end of October, are predominantly of the Humpback species. They 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.

Pearlshell Fishing

Pearl and pearlshell fishing has been a valuable industry for many years. 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 and although production has increased in recent years it has not yet reached the pre-war level, which in some years exceeded 1,000 tons. Two of the main difficulties which retarded recovery were the shortage of suitable craft, many of which were destroyed during the war, and a lack of trained divers.

PEARL AND PEARLSHELL FISHERIES

Year.	Vessels.			Persons employed.										Pearlshell Produced.		Value of Pearls.	
				Europeans.	Australian Aboriginals.	Asiatic.											Total.
	No.	Total Tonnage.	Value (including Equipment).			Chinese.	Japanese.	Koopangers.	Malays.	Filipinos.	Others.	Total Asiatic.					
													Quantity.	Value.			
			£	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	tons.	£	£	
1947	28	428	63,500	41	38	17	....	76	68	3	24	188	267	320	196,365	1,294
1948	30	466	85,300	36	28	17	....	109	58	3	....	187	251	336	168,191	1,930
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

MINING AND QUARRYING

The history of mining in Western Australia dates back to the discoveries, in the Northampton district, of copper in 1842 and of lead in 1848. Its development as a major industry, however, may be regarded as an outcome of the discoveries of gold, first in the Kimberley in 1885 and later, with finds of increasing importance, in other areas, including the remarkably rich strikes in the Murchison and Coolgardie districts from 1891 to 1893. The effect on the State's economy and development was tremendous and although some decline in goldmining occurred after 1903 mining in conjunction with quarrying still ranks third in the primary industries in value of production. It is exceeded only by the pastoral and agricultural sections and indeed these received a considerable stimulus to their development by the increased population and other favourable conditions which followed the discovery of gold.

Although gold production is by far the most important mining activity, the mineral wealth of the State is extremely varied and under the pressure of wartime demands considerable work was carried out on minerals which had not previously been produced commercially. This work revealed that, if necessary, the State could be practically self-supporting in most of its mineral requirements.

The following table gives details of production of minerals and ores during the calendar years 1953 to 1956.

PRODUCTION OF MINERALS AND ORES

Item.	1953.		1954.		1955.		1956.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold (a)	fine ozs.	£	fine ozs.	£	fine ozs.	£	fine ozs.	£
Silver (b)	823,912	13,299,092	850,540	13,313,618	842,005	†13,374,688	812,380	†13,202,400
Asbestos—	214,776	84,618	222,446	85,433	232,667	91,642	207,478	88,274
Crocidolite	tons.		tons.		tons.		tons.	
Chrysotile	3,795	641,595	3,794	542,203	4,487	486,032	7,286	800,710
Beryl	606	65,769	303	13,474	275	15,997	761	25,366
Chromite	125	22,223	132	22,607	199	34,430	310	57,113
Clays (c)	1,968	29,717	4,270	48,957	.....	.....	6,096	97,526
Coal	23,134	16,621	23,781	32,792	42,559	35,284	31,245	39,165
Copper Ore	886,182	3,073,073	1,018,343	3,588,818	903,792	3,089,311	830,007	2,723,981
Cupreous Ore (d)	50	3,302	.....	.....	12	1,021	212	12,891
Diatomaceous Earth	1,948	21,004	4,748	50,381	7,731	101,731	7,713	113,442
Felspar ....	.....	.....	1,053	1,579	.....	.....	.....	.....
Glass Sand	2,127	8,860	3,226	14,491	3,565	16,660	3,781	17,719
Glaucanite	6,906	4,690	7,803	5,541	6,759	4,801	7,343	5,153
Gypsum	320	11,217	258	9,012	197	7,407	85	3,360
Ilmenite Concentrates	40,247	30,178	41,142	31,620	39,946	30,335	27,121	20,928
Iron Ore ....	.....	.....	.....	.....	.....	.....	3,293	15,150
Lead and Silver-Lead Ore and Concentrates	707,383	709,655	651,744	654,323	528,630	540,363	336,890	337,536
Magnesite	6,425	364,384	2,167	102,683	1,416	96,311	7,613	645,804
Manganese Ore	20	73	92	258	.....	.....	804	1,978
Ochre	16,324	150,991	40,581	608,215	44,194	497,588	56,234	737,569
Pyritic Ore and Concentrates	307	2,887	429	4,109	345	3,913	444	4,349
Talc	59,248	489,985	56,150	441,466	49,485	397,269	60,969	420,052
Tantalite Concentrates (including Tantalite-Columbite)	2,228	30,932	2,020	45,851	2,587	37,767	4,456	54,438
Tin Ore and Concentrates	lb.		lb.		lb.		lb.	
Tungsten Ores and Concentrates—	18,124	20,200	116,719	76,445	26,848	25,762	159,655	127,663
Scheelite	tons.		tons.		tons.		tons.	
Wolfram	113	63,120	121	62,976	180	94,912	358	208,273
Vermiculite	lb.		lb.		lb.		lb.	
Other (Value only)	6,520	3,361	8,279	3,361	17,365	7,417	.....	.....
	7,773	4,473	.....	.....	.....	.....	.....	.....
	tons.		tons.		tons.		tons.	
	29	348	.....	.....	.....	.....	1	9
	.....	12,412	.....	9,423	.....	2,471	.....	6,857
Total Values	£19,164,789		£19,769,636		£18,993,112		£19,767,706	

(a) Comprises Gold refined at the Mint and that contained in Gold-bearing materials exported.

(b) By-product in treatment of auriferous ore, and excludes Silver contained in Lead and Silver-Lead Ores and Concentrates exported, for which see table on page 220.

(c) Incomplete. (d) For fertiliser.

† Includes Commonwealth net subsidy paid to gold producers, £199,129 in 1955 and £496,819 in 1956.

In addition to the production shown in the preceding table, there have recently been interesting developments in the search for oil in the State. An extensive programme of exploration was commenced in 1951 and oil was found in the Exmouth Gulf area in 1953. Since then no further successful wells have been drilled, but the search has been intensified and an increasing area is being scientifically

examined. Geological and geophysical surveys are being carried out in the Carnarvon, Canning and Perth Basins, in addition to active drilling in the Exmouth Gulf area and near Broome. Several exploratory bores were sunk at Dirk Hartogs Island during 1956 and early 1957.

Another recent development in mineral production is the treatment of beach sands at Bunbury and Capel for the extraction of ilmenite concentrate. The estimated capacity of the plants already installed is 120,000 tons of concentrate annually and projected expansion should increase this figure substantially. The sands being treated also contain rutile, zircon and monazite which will eventually be recovered as by-products, but the ilmenite content is of particular importance because, unlike the deposits being worked on the eastern coasts of Australia, it is virtually chrome free and no difficulty is experienced in producing a concentrate of high quality. Other deposits are also being investigated along the coast from the beaches near Perth to east of Albany and in scattered areas as far north as Broome. As a result, substantial reserves appear to be assured and, with continued expansion of the titanium pigment industry and requirements for titanium alloys for jet engines, increased long term production is probable.

The mining industry is still a large employer of labour although, as the following table shows, post-war figures are very much lower than in 1939, when 16,199 men were employed, compared with 7,767 in 1956.

MEN WORKING AT MINES

Description.	1939.	1947.	1948.	1949.	1950.	1951.	1952.	1953.	1954.	1955.	1956.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Gold Mining (a)	15,216	7,649	7,178	6,800	7,080	6,766	6,394	6,359	6,128	5,845	5,628
Coal Mining	752	1,032	1,064	1,044	1,099	1,125	1,281	1,463	1,560	1,386	1,219
Other Mining	231	450	578	615	534	765	964	936	886	850	920
Total	16,199	9,131	8,820	8,459	8,713	8,656	8,639	8,758	8,574	8,081	7,767

(a) Includes alluvial diggers.

The mining laws of the State have been designed to encourage as well as to control the exploitation of its mineral wealth. In the framing of them experience of other countries has been considered and they are regarded as equitable and offering all reasonable incentives to mining development. The various tenures are described in detail in Chapter VII.

Gold

Although there were reports of gold having been found in earlier years, it was not until 1885 that it was discovered in payable quantities. This first discovery occurred in the Kimberley area and, although disappointing in itself, led to the rich finds and established goldfields of later years. With further discoveries of gold in the Yilgarn, Pilbara and Murchison areas, prospecting became general over a large part of the State. In consequence, other finds quickly followed, the most notable being at Coolgardie in 1892 and at Kalgoorlie in 1893, with the development of the famous Golden Mile between Kalgoorlie and Boulder as an outcome. This field is still the State's major producer. Thus by 1900 all the present proclaimed Goldfields had been opened up. They range from Phillips River in the south to Kimberley in the north, a distance of 1,400 miles of which nearly 1,000 are more or less auriferous.

Gold production reached a maximum of 2,064,800 fine ounces in 1903, but then gradually declined to 377,176 fine ounces in 1929, due mainly to exhaustion of surface deposits. In succeeding years various economic factors stimulated activity in the industry and production rose to 1,214,238 fine ounces in 1939. The advent of the second World War, and particularly the entry of Japan, caused a rapid decline in gold-mining which was one of the first industries to be affected by the introduction of a rigid control of manpower. It has not yet fully recovered, although the following table shows that substantial progress has been made on the important Coolgardie Goldfields and that production in the Yilgarn and Dundas fields is now greater than in 1939.

GOLD PRODUCTION (†), CLASSIFIED TO GOLDFIELD

Goldfield.	1939.	1947.	1948.	1949.	1950.	1951.	1952.	1953.	1954.	1955.	1956.
	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.
Kimberley	824	351	438	272	1,136	104	328	186	72	179	173
Pilbara	17,192	10,380	6,494	5,880	5,449	7,729	15,083	8,800	3,394	4,273	1,587
West Pilbara					109	13	14		10	2	8
Ashburton	926	151	11	60	56	6		69	29	14	1
Gascoyne	39								21		
Peak Hill	1,638	1,086	847	286	398	145	5,296	8,466	8,105	103	22
East Murchison	145,868	22,662	16,552	7,218	2,894	654	1,245	1,246	234	111	340
Murchison	138,670	89,718	99,827	85,810	71,232	65,932	83,973	98,507	121,122	81,998	81,258
Yalgoo	8,732	1,141	1,195	682	710	1,175	506	283	9	2	
Mt. Margaret	108,437	28,747	23,375	28,907	29,625	22,590	24,722	25,725	24,367	26,398	26,051
North Coolgardie	24,012	6,763	5,167	5,146	5,282	11,221	18,561	18,839	19,791	19,528	21,767
Broad Arrow	20,413	7,783	3,593	4,063	3,391	3,242	3,618	1,741	2,384	1,635	1,806
North-East Coolgardie											
East Coolgardie	1,192	828	390	98	139	162	454	120	146	109	128
Coolgardie	585,155	463,865	449,668	446,084	424,468	439,193	457,193	493,832	496,003	513,776	492,413
Yilgarn	26,076	13,641	8,125	13,474	18,069	26,097	42,317	40,312	35,786	35,109	10,851
Dundas	61,873	20,169	10,797	6,736	6,783	4,662	7,820	57,435	59,402	70,030	86,425
Phillips River	69,209	35,646	37,675	42,798	39,581	44,132	68,104	66,780	78,669	88,031	88,670
Outside Proclaimed Goldfields	2,528	29	29	38	89	21	222	899	438	3	1
Total	1,214,238	703,886	664,986	648,426	610,333	627,779	729,975	823,912	850,540	842,005	812,380

† Refined at the Mint plus that contained in gold-bearing materials exported.

Since 1886, gold production has totalled 58·15 million fine ounces valued at £389·86 million, but in considering these figures due allowance should be made for the major price changes which have occurred in this period.

GOLD PRODUCTION FROM 1886

Period.	Quantity.			Value. (b)
	Refined Outside the State (a).	Refined at Perth Mint.	Total.	
Prior to 1947	fine ozs. 11,522,467	fine ozs. 39,312,345	fine ozs. 50,834,812	£ 282,936,744
1947	5,220	698,666	703,886	7,575,574
1948	4,654	660,332	664,986	7,156,909
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	113,374,688
1956	2,331	810,049	812,380	113,202,400
From 1886 to 31st December, 1956	11,570,779	46,578,255	58,149,034	£389,861,363

(a) Comprises Gold in Ores and Concentrates exported. (b) In Australian Currency and including premiums realised by Gold Producers' Association Ltd. † Includes Commonwealth net subsidy paid to gold producers, £190,129 in 1955 and £496,819 in 1956.

Since the war a general increase has occurred in the quantity of ore treated annually, although the 1955 and 1956 figures were lower than those for preceding years. This increase has been attained with a decreasing work force by the introduction of new methods and improved tools and machinery. From 1946 to 1956 the ore treated rose from 2,194,477 tons to 2,870,273 but the number of men employed, including alluvial diggers, declined from 6,961 to 5,628.

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. Details of the activities of 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. (b)		Other Crush- ing Mills.	Cyaniding.		Above ground.			Under ground.		
			Num- ber.	Head of Stamps.		Leach- ing and Agitat- ing Vats.	Vacuum Filters and Presses.						
1939	No. 1,591	acres. 27,117	188	No. 1,141	No. 263	No. 1,082	No. 100	£ 7,268,479	ton. 4,095,257	No. 6,610	No. 8,351	No. 255	
1947	1,464	24,946	114	754	308	646	89	4,532,963	2,507,306	3,563	4,037	49	
1948	1,394	24,217	100	609	(c)238	498	76	3,726,567	2,447,545	3,366	3,762	50	
1949	1,390	24,085	99	597	(c)241	481	65	4,061,771	2,468,297	3,222	3,540	38	
1950	1,562	28,620	94	574	(c)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	2,471,670	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	

(a) Includes Leases taken up on Private Property.

(b) Including Government Batteries.

(c) Particulars incomplete.

Silver

Western Australia has produced over eight 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.	
	Quantity.	Value.	Quantity.	Value.
	fine ozs.	£	fine ozs.	£
1946	171,452	42,792	....	....
1947	199,302	47,814	....	....
1948	187,818	44,198	5,987	952
1949	194,721	49,246	9,992	1,792
1950	198,210	57,984	6,893	1,660
1951	188,942	77,096	7,801	2,126
1952	186,441	76,569	12,712	3,556
1953	214,776	84,618	14,598	4,783
1954	222,446	85,433	5,931	1,500
1955	232,667	91,642	3,128	1,139
1956	207,478	88,274	9,769	2,699

Asbestos

Several types of asbestos occur in the State but only two have been produced in significant quantities. Blue asbestos or crocidolite is mined at Wittenoom Gorge in the West Pilbara Goldfield and, in 1956, production was 7,286 tons, valued at £800,710. The production of chrysotile, which occurs at a number of places in the Pilbara district, was 761 tons valued at £25,366 in 1956.

PRODUCTION OF ASBESTOS

Year.	Crocidolite.		Chrysotile.		Other Types.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	£	tons.	£	tons.	£	tons.	£
1946	366	13,404	....	....	8	121	374	13,525
1947	889	30,226	79	6,179	75	988	1,043	37,393
1948	607	27,997	72	5,591	284	4,173	963	37,761
1949	1,156	116,828	141	8,504	....	....	1,297	125,332
1950	1,018	143,496	211	9,156	1	25	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

Beryllium

Production of beryl was negligible until stimulated by the wartime demand for beryllium-copper alloys. This resulted in 548 tons being produced in 1943 and 387 tons in 1944. Production then declined, but recovered to some extent in 1951 when 91 tons were produced. In 1956, production was 310 tons valued at £57,113. Most of the beryl is obtained from the Pilbara area, although it occurs in many other localities scattered throughout the State.

PRODUCTION OF BERYL

Item.	1947.	1948.	1949.	1950.	1951.	1952.	1953.	1954.	1955.	1956.
Quantity (tons)	45	35	20	17	91	85	125	132	199	310
Value (£)	1,525	2,034	1,497	1,431	11,174	14,562	22,223	22,607	34,430	57,113

Coal

Coal was discovered in Western Australia as early as 1846 at the Irwin River near Mingenew but the only commercial coal mining is at the Collie field which was discovered in 1883. This field embraces an area of about 88 square miles and the reserves of coal (sub-bituminous) are of considerable magnitude.

Annual production exceeded one million tons for the first time in 1954, but in 1956 it fell to 830,007 tons.

Open-cut mining was commenced at Collie in 1943 and, as shown in the following table, 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 have produced much more than open-cuts.

COAL PRODUCTION

Year.	Quantity.			Value.
	Deep Mines.	Open-Cuts.	Total.	
	ton.	ton.	ton.	£
1939	557,535	....	557,535	362,811
1946	487,895	154,392	642,287	730,104
1947	582,161	148,345	730,506	840,249
1948	586,900	145,948	732,938	880,236
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

Employment in coalmining has shown a steady increase since the war and, principally due to the expansion of open-cut mining, the proportion of men working above ground has risen steeply to over 36 per cent., compared with about 21 per cent. in 1939.

MEN WORKING AT COAL MINES

Description.	1939.	1947.	1948.	1949.	1950.	1951.	1952.	1953.	1954.	1955.	1956.
Above Ground	No. 155	No. 287	No. 296	No. 328	No. 374	No. 436	No. 564	No. 647	No. 708	No. 582	No. 443
Below Ground	597	745	768	716	725	689	717	816	852	804	776
Total	752	1,032	1,064	1,044	1,099	1,125	1,281	1,463	1,560	1,386	1,219

Copper (Metallic)

The first mining on a commercial scale in Western Australia was the production of copper ore at Northampton, the first consignment being shipped in 1845 for smelting in Wales. One of the richest deposits, discovered some thirty years later, is the Whim Well lode near Roebourne, from which 75,000 tons of ore have been mined for a yield of 10,000 tons of metallic copper. Substantial quantities have also been produced in the Northampton and Ravensthorpe areas, in the former associated with lead and in the latter, with gold. Another important producer has been the Murrin Murrin district in the Mt. Margaret Goldfield. Due to low prices, rising costs of mining and treatment and the exhaustion of rich secondary ores near the surface, production has been on a very small scale since 1925.

PRODUCTION OF COPPER ORE (a) (For Smelting to Metallic Copper)

Item.	1939.	1947.	1948.	1949.	1950.	1951.	1952.	1953.	1954.	1955.	1956.	From 1845 to 1956.
Quantity (tons)....	25	....	....	49	2	43	17	50	....	12	212	253,893
Value (£)	1,373	....	....	630	183	799	1,200	3,302	....	1,021	12,891	1,756,087

(a) For production of cupreous ore for fertiliser *see* following section.

Cupreous Ore (For Fertilizer)

Until recently, the production of copper ore with less than a 10 per cent. copper content was uneconomical because of high transport and smelting costs. The present demand for copper to remedy trace element deficiencies in the soil, however, has created a market for low grade ores for use in chemical fertilizers, and production, which commenced for this purpose in 1947, rose to 7,713 tons, valued at £113,442, in 1956. The Pilbara, Peak Hill and Murchison areas are the principal sources of supply.

PRODUCTION OF CUPREOUS ORE FOR FERTILIZER

Item.	1948.	1949.	1950.	1951.	1952.	1953.	1954.	1955.	1956.
Quantity (tons)	259	254	970	1,337	1,644	1,948	4,748	7,731	7,713
Value (£)	2,204	2,821	8,867	16,104	21,595	21,004	50,381	101,731	113,442

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 to 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 the ore is of high-grade. Three years earlier, in 1948, there had

occurred another important development ; pig iron was produced for the first time in Western Australia. 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 a local eucalypt, the Wandoo. 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.

PRODUCTION OF IRON ORE

Item.	1949.	1950.	1951.	1952.	1953.	1954.	1955.	1956.
Quantity (tons)	12,524	14,895	35,652	223,788	707,383	651,744	528,630	336,890
Value (£)	4,365	18,104	48,827	230,739	709,655	654,323	540,363	337,536

Lead

Lead ore was discovered near the lower Murchison River in 1848, at what became known as the Geraldine Mine. Thus, after copper, lead was the second valuable mineral to be found in the State. 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 has fluctuated very widely and almost ceased entirely over the war years, but a substantial increase has occurred in the post-war years.

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.	1947.	1948.	1949.	1950.	1951.	1952.	1953.	1954.	1955.	1956.
Quantity (tons)	22	2,192	2,922	1,866	2,539	7,449	6,425	2,167	1,416	7,613
Value (£)	937	114,268	154,777	113,308	242,262	938,743	364,384	102,683	96,311	645,804

Manganese

Deposits of manganese ore occur in several parts of the State but up to the end of 1947 only 252 tons had been mined. Since then production has risen rapidly, reaching a peak of 56,234 tons valued at £737,569 in 1956. The deposits which are being mined at present occur in the Peak Hill and Nullagine districts.

PRODUCTION OF MANGANESE ORE

Item.	1949.	1950.	1951.	1952.	1953.	1954.	1955.	1956.
Quantity (tons)	9,420	11,962	5,257	5,045	16,324	40,581	44,194	56,234
Value (£)	56,289	65,459	33,789	35,634	150,991	608,215	497,588	737,569

Iron Pyrites

The mining of iron pyrites was developed during the war to provide a source of sulphur, to replace overseas supplies, required for the manufacture of sulphuric acid and superphosphate. Production commenced in 1942 and has been continued in post-war years. The ore is mined at Norseman and has a sulphur content of between 30 and 40 per cent.

PRODUCTION OF IRON PYRITES (ORE AND CONCENTRATES)

Item.	1947.	1948.	1949.	1950.	1951.	1952.	1953.	1954.	1955.	1956.
Quantity (tons)	44,337	37,499	31,299	35,213	46,615	53,577	59,248	56,150	49,485	60,969
Value (£)	187,621	164,203	125,857	163,514	296,988	422,029	489,985	441,466	397,269	420,052

Tin

Tin ore was first discovered at Greenbushes in 1888. It has since been found at several other places, but the Greenbushes and Pilbara fields are the only major producers. Output declined during the war, but has increased substantially since 1949. In 1956, the last year reviewed, 358 tons were produced valued at £208,273.

PRODUCTION OF TIN ORE AND CONCENTRATES

Item.	1939.	1946.	1947.	1948.	1949.	1950.	1951.	1952.	1953.	1954.	1955.	1956.
Quantity (tons)	28	29	24	37	35	51	61	98	113	121	180	358
Value (£)	3,871	5,838	5,565	12,985	13,079	25,496	39,493	68,716	63,129	62,976	94,912	208,273

Other Minerals

The other minerals listed in the table on page 217 include 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 and increased slightly 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, zircon is a constituent of many beach sands, and small amounts of minerals containing uranium, rubidium and caesium have been found. Deposits of Bentonite, Graphite, Mica, Kyanite, Sillimanite, Spodumene and Barytes are also known and a small production occurs.

Quarrying

The following table gives details of the production of various quarry products from 1946 to 1956.

SELECTED ITEMS OF QUARRY PRODUCTION

Year.	Building and Monumental Stone.		Other Stone (a).		
	Calcareous Sandstone (including Limestone).	Granite.	Granite, Diorite, Quartzite, Basalt, etc.	Ironstone Gravel (b).	Limestone (including Shell) (c).
	ton.	ton.	ton.	ton.	ton.
1945-46	2,713	673	87,994	2,804	53,903
1946-47	15,086	810	144,735	20,293	81,273
1947-48	19,361	747	175,042	39,049	101,787
1948-49	26,681	693	196,924	105,420	99,283
1949-50	43,863	865	244,858	114,933	111,576
1950-51	71,606	694	306,452	128,487	139,480
1951-52	106,890	625	363,287	171,553	119,853
1952-53	91,495	859	403,580	185,372	141,614
1953-54	93,799	812	436,365	174,262	178,710
1954-55	117,582	754	511,877	224,508	189,642
1956 (d)	79,506	570	489,505	262,112	319,098

(a) Excepting Limestone, principally for roads, concrete aggregate, filling, etc.

(b) Incomplete, as the output of many country gravel pits is not available.

(c) Principally for manufacture of lime and cement.

(d) Year ended 31st December.

The increased post-war demand for building and road construction materials is revealed by the preceding table, but in considering these figures due allowance should be made for the fact that certain materials used for manufacturing purposes, e.g. clays, etc., are not included, as their production forms an integral part of factory operations and separate details concerning them are not available.



ILLYARRIE (*Eucalyptus erythrocorys*)

[From block by courtesy of University of Western Australia Press]

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. The terminology used is in accordance with resolutions adopted by official conferences of the Statisticians of Australia.

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 at any period during the year or motive 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 six months of the year only 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, such as fallers and haulers employed by sawmills, and all persons engaged in selling and distribution.

Salaries and Wages

Salaries and wages quoted exclude the value of working proprietors' services.

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, including by-products. In addition, it 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.

Statistics of Values and Costs

Wherever values and costs are quoted, consideration should be given to price changes occurring during the period under review. This is particularly important when examining figures for years subsequent to 1944-45.

Confidential Provisions of the Statistics Act, 1907-1956

In some tables it has been necessary to combine details in order to comply with the provisions of the Statistics Act, 1907-1956, which requires that information supplied on any individual return must be treated as confidential, unless permission for its publication is granted by the informant.

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 size of factories operating has occurred since 1945. Major developments during this period have been the recent construction of an oil refinery, a second Portland cement works and a steel-rolling mill. The progressive linking of electricity generating stations in the South-West of the State by a grid system constitutes an important factor in the development of secondary industry, by providing adequate power for further industrial activity in this area.

In 1900 there were 632 factories operating in Western Australia. By 1905, 1910, 1915 and 1920, the total number of factories had risen to 777, 822, 983 and 998 respectively. Progress during the first World War was comparatively slow, mainly because the more advanced manufacturing facilities already existing in the Eastern States were better suited to urgent development. During the decade 1921-1930, however, strenuous 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. Some decline occurred in the depression years of 1930 to 1933, but recovery had commenced by 1935 when 1,658 factories were in operation, and by 1940 the figure stood at 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. Concurrently there was a falling off in those classes of production which were purely for civilian purposes, with the result that, although employment and output were both substantially increased, the number of factories in 1945 had dropped to 1,931.

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. Their transfer to civilian uses facilitated the expansion of the metal industries in the State and influenced the establishment of a factory producing several types of tractors and farm machinery, and the increased production of small to medium-sized machine tools.

Such advances have enlarged the scope of Western Australian secondary industry and by 1954-55 the number of factories had increased to 3,727, but net production per head of population is still low in comparison with the Eastern States, particularly New South Wales and Victoria. These States also derived benefits from the increased skill and capacity achieved during the war and have increased rather than diminished their lead in industrial production. Manufacturing net production per head of population in each of the States during the year ended the 30th June, 1955, was as follows :—New South Wales, £168 11s. ; Victoria, £181 15s. 1d. ; Queensland, £90 11s. 7d. ; South Australia, £137 9s. 8d. ; Western Australia, £93 18s. 10d. ; and Tasmania, £121 15s. 3d.

The average number of persons employed in Western Australian factories has risen steadily, as illustrated by the following :—1900, 11,166 persons ; 1905, 13,481 ; 1910, 14,894 ; 1915, 15,882 ; 1920, 16,942 ; 1925-26, 19,063 ; 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. The figure for 1925-26 represents the average employment during the 18 months ended 30th June, 1926. It should also be noted that prior to that period the numbers of fallers and haulers in sawmills were included. As from 1st July, 1926, employment figures quoted are for the year ended the 30th June, while earlier figures are for the calendar year.

Except that they do not indicate the level to which factory employment declined during the depression years, when the lowest annual average was 13,392, in 1931-32, these figures may be regarded as showing the normal progress of factory employment in this State.

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 DURING
THE CENSUS YEARS 1901 TO 1954**

Year. (Census date in parenthesis.)	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 in Adjusted Total Work Force.
				%
1901 (31st March, 1901)	(a) 12,198	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	187,036	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.

In the foregoing text, factory numbers and employment have been reviewed in five-yearly stages since 1900. A more detailed quinquennial summary of manufacturing progress is given in the following table :—

HISTORICAL SUMMARY—SELECTED ITEMS

Year.	Factories.	Persons employed. (a)			Book values of :—		Engines used to drive machinery. (b)	Net production.
		Males.	Females.	Total.	Land and Buildings.	Plant and Machinery.		
	No.	No.	No.	No.	£	£	h.p.	£
1900	632	10,261	905	11,166	1,204,326	1,252,927	7,270	(c)
1905	777	11,829	1,652	13,481	1,789,612	1,869,753	11,151	(c)
1910	822	12,464	2,490	14,954	1,822,768	1,939,273	11,378	2,736,000
1915	983	13,453	2,429	15,882	2,635,523	2,733,582	21,997	3,233,935
1920	998	14,311	2,631	16,942	3,563,777	3,411,248	26,481	4,854,075
1925-26(d)	1,170	17,393	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	18,331	4,636	22,967	6,863,468	7,958,495	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
1954-55	3,727	42,294	7,020	49,314	30,229,913	54,958,205	204,848	60,955,829

(a) Inclusive of working proprietors and, prior to 1925-26, of fallers and haulers employed by sawmills. (b) Excludes engines used in electricity generating stations. (c) Figures not available. (d) Period of 18 months ended 30th June, 1926.

The relatively small increase in factory employment during the first World War, the moderate improvement in the middle 1920's, the decline in the early 1930's and the buoyant conditions during and after the second World War are the principal variations revealed by the preceding table and have already been mentioned. However, some additional features should be noted, particularly the changes between 1944-45 and 1954-55 in the employment figures and in the numbers of factories operating. The increased numbers of factories include many establishments such as motor-repair workshops, dry-cleaning works, bakeries and other businesses of small to moderate size. The transition from war-time to peace-time conditions was a factor in the spread of these establishments.

However, increases in the other aspects of factory activity were influenced not only by the growth of such establishments, which individually tend to be small employers of labour and capital equipment, but also by several relatively large concerns which began to operate during the latter war-time and post-war years. Sharp rises in the total horsepower of engines used to drive machinery are indicative of this increase in the number of highly mechanized works. Enhanced values of land and buildings and plant and machinery are also significant, but when considering these figures, and those of net production, allowance should be made for price changes which occurred during the period.

DEPARTMENT OF INDUSTRIAL DEVELOPMENT

With the aim of fostering secondary industry, the State Government established at the end of the first World War a Council of Industrial Development, which now functions as the Department of Industrial Development. At its inception the objects of the organization were to advise the Government on the best means of encouraging new industries, whether primary or secondary, and of assisting existing ones. It was also to advise private industry on such matters as the best methods of production and marketing. In due course the further function of recommending financial assistance to industries was added and the Department now has an extensive field of activity.

Since its formation assistance has been given to a wide variety of industries and the establishment of several large-scale industries encouraged. A notable example was the erection of a wood-treatment plant and blast furnace at Wundowie, situated 41 miles from Perth in the Darling Range. This undertaking smelts local iron ores with charcoal derived from adjacent hardwood forests. The Wundowie project 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. An output of approximately 10,000 tons of pig iron per annum is possible from this plant, as well as large quantities of acetic acid and methanol, and these products, which have been manufactured in quantity since 1948, have found a ready market. The Department of Industrial Development was also associated with the initial arrangements for the establishment of the oil-refining, steel-rolling and cement-making industries at or in the neighbourhood of Kwinana.

DETAILED SURVEY- 1945-46 TO 1954-55

Location of Secondary Industry

The State's secondary industries are largely concentrated in the Metropolitan Statistical Division, in which there occurs the greatest total population and the greatest density of population. The principal factories, with a few notable exceptions, are located in this area, as well as a preponderance of the small to moderate-sized establishments. The South-West Division ranks next in order of total population and also in net production, employment and numbers of factories. The Swan Division, however, ranks next to the Metropolitan in density of population, and the recent establishment of major industries in its area also places it next in manufacturing activity, by such standards as values of land and buildings and machinery and plant, the consumption of power, fuel and light, the value of materials used and the gross value of output.

The concentration of industry in these areas is due also to the easier availability of raw materials, fuel and power. Adequate electric power is distributed in the Metropolitan and Swan Divisions by the State Electricity Commission, and a grid system which is being constructed will eventually distribute power over the greater part of the South-West Division. Moreover, the most highly-developed sections of the road and railway systems lie within these Divisions and adjoining portions of the Central Agricultural and Southern Agricultural Divisions. The only coal deposits at present being worked are in the Collie area, some 120 miles to the south of Perth.

Each of these factors and the location of well-developed ports at Fremantle, Bunbury and Albany combine to influence the geographical pattern of Western Australian secondary industry. The next table shows the distribution of factories and employment during the ten years ended 1955. In the second table immediately following are shown details of factory operations for the year 1954-55, classified by Statistical Divisions. Particulars are grouped in the Statistical Divisions operative from 1st January, 1954 and coinciding with the Regional Divisions of the State recognised for Governmental purposes. A map showing these Statistical Divisions appears at the back of this book.

Employment and Wages

For statistical purposes, secondary industry is divided into the sixteen classes shown in the table on page 231. 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 1954-55 an average over the year of 6,260 persons, and Government factories constructing and repairing tram-cars and railway rolling stock employed 3,570. Another large employer of labour is the class which covers Sawmilling, Woodworking and Basketware. Sawmills cutting logs employed 3,833 persons, and those engaged only in resawing and dressing of rough-sawn timber, 712. In the class covering Food, Drink and Tobacco, there were 1,036 persons engaged in bakeries and 1,043 in meat- and fish-preserving factories. In chemical fertiliser works, within the class covering Chemicals, Dyes, Explosives, Paints, Oil and Grease, employees numbered 1,004 and in brick and tile works, in the class covering Bricks, Pottery, Glass, etc., there were 1,056.

The table on page 231 gives detailed employment data in each class for June, 1955, and in total for June, 1950, and June, 1945. 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 only for that month in each year.

FACTORIES AND EMPLOYMENT(†) IN EACH STATISTICAL DIVISION

Year.	Metropolitan		Swan.		South-West.		Southern Agricultural.		Central Agricultural.		Northern Agricultural.		Eastern Goldfields.		Central.		North-West.		Pilbara.		Kimberley.		State Total.	
	Factories.		Persons Employed.		Factories.		Factories.		Factories.		Factories.		Factories.		Factories.		Factories.		Factories.		Factories.		Factories.	
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
	<div style="display: flex; justify-content: space-between;"> <div> (a) Factories. No. 682 </div> <div> (b) Persons Employed. No. 6,234 </div> <div> (c) Persons Employed. No. 1,298 </div> </div>																							
1945-46(a)	1,426	23,874	783	682	6,234	186	1,298	2,280	31,406															
1946-47(a)	1,666	26,855	840	783	6,307	189	1,391	2,615	34,574															
1947-48(a)	1,759	27,860	901	7,839	7,381	198	1,475	2,788	36,682															
1948-49(a)	1,826	29,640	943	8,382	7,839	192	1,406	2,925	38,954															
1949-50(a)	1,888	31,635	983	8,923	8,382	186	1,437	3,023	41,423															
1950-51(a)	1,942	34,037	1,073	9,442	8,923	191	1,479	3,111	44,397															
1951-52(a)	2,003	34,733	1,151	10,110	9,442	199	1,415	3,267	45,654															
1952-53(a)	2,074	34,383						3,424	45,908															
1953-54	2,122	36,003	154	1,926	411	4,507	203	1,339	293	1,677	136	670	140	833	23	65	14	175	8	20	19	244	3,523	47,459
1954-55	2,244	37,047	162	2,591	449	4,583	232	1,552	295	1,593	142	643	137	814	22	58	14	167	11	26	19	240	3,727	49,314

(a) Prior to 1953-54, employment figures represent the average over period worked (not in all cases for the full 12 months).
 years 1951-52 and 1953-54 composite figures are quoted.

† Inclusive of working proprietors.

(b) Owing to revisions of Divisional boundaries in

PRINCIPAL ITEMS ACCORDING TO STATISTICAL DIVISIONS, YEAR 1954-55

Division.	Factories.	Book Values of—		Employment (including working proprietors)†		Salaries and Wages (excluding value of proprietors' services).		Power, Fuel and Light (including Water and Lubricating Oil).	Repairs to Buildings and Plant.	Materials Used (including Containers).	Output.	Net Production.
		Land and Buildings.	Plant and Machinery.	Males.	Females.	Males.	Females.					
No.	No.	£	£	No.	No.	£	£	£	£	£	£	£
Metropolitan	2,244	21,172,212	20,647,274	30,954	6,093	23,487,222	2,601,283	4,704,019	1,875,001	50,147,708	101,744,516	45,017,788
<i>Percentage of State Total</i>	60.21	70.04	37.57	73.19	86.79	73.98	87.01	58.47	63.28	64.61	68.02	73.85
Swan	162	2,787,611	24,947,522	2,409	182	1,939,624	78,213	1,008,310	250,476	11,843,074	16,788,310	3,686,450
South-West	449	2,110,669	2,654,153	4,355	228	3,037,111	89,198	503,810	371,964	6,916,828	13,148,446	5,355,844
Southern Agricultural	232	1,256,641	1,647,553	1,305	247	846,689	112,889	173,420	90,284	2,520,887	4,645,205	1,963,664
Central Agricultural	295	1,035,299	1,401,680	1,488	105	972,449	38,520	339,682	112,217	3,443,829	5,663,817	1,768,039
Northern Agricultural	142	540,093	483,276	592	51	385,138	18,409	84,681	69,862	1,047,424	2,014,985	813,018
Eastern Goldfields	137	413,389	1,561,549	737	77	541,537	31,932	929,218	105,038	521,168	2,677,342	1,121,918
Central	66											
North-West		913,999	1,615,198	454	37	538,538	19,079	302,273	88,285	1,179,208	2,898,824	1,329,058
Pilbara												
Kimberley												
Total Other Divisions	1,483	9,057,701	34,310,931	11,340	927	8,261,086	388,240	3,341,894	1,088,126	27,472,368	47,839,929	15,938,041
<i>Percentage of State Total</i>	39.79	29.96	62.43	26.81	13.21	26.02	13.99	41.53	36.72	35.39	31.98	26.15
STATE TOTAL	3,727	30,229,913	54,958,205	42,294	7,020	31,748,308	2,989,523	8,045,413	2,963,127	77,690,076	149,584,445	60,955,829

† Average over whole year.

FACTORY EMPLOYMENT FOR THE MONTH OF JUNE, 1955

(Excluding Working Proprietors)

Class of Industry.	Fac-tories.	Employees.			Age Groups.					
		Male.	Female.	Total.	Under 16 years.		16 years and under 21.		21 years and over.	
					M.	F.	M.	F.	M.	F.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
I.—Treatment of Non-Metalliferous Mine and Quarry Products	119	1,851	47	1,898	28	1	163	15	1,660	31
II.—Bricks, Pottery, Glass, etc.	51	1,492	129	1,621	11	3	83	16	1,398	110
III.—Chemicals, Dyes, Explosives, Paints, Oils, Grease	59	2,524	236	2,760	9	4	94	71	2,421	161
IV.—Industrial Metals, Machines, Conveyances	1,881	17,311	827	18,138	423	31	2,546	293	14,342	503
V.—Precious Metals, Jewellery, Plate	67	176	26	202	2	....	29	5	145	21
VI.—Textiles and Textile Goods (inclusive of Knitted Goods)	43	437	429	866	6	16	33	138	398	275
VII.—Skins and Leather (not Clothing or Footwear)	33	509	128	637	12	2	33	34	464	92
VIII.—Clothing (except Knitted)	410	893	2,548	3,441	25	158	129	862	739	1,528
IX.—Food, Drink and Tobacco	604	4,589	1,327	5,916	66	42	418	381	4,105	904
X.—Sawmilling, Woodworking and Basketware	487	6,343	79	6,422	144	4	666	23	5,533	52
XI.—Furniture of Wood, Bedding, etc.	171	1,142	144	1,286	63	4	270	43	809	97
XII.—Paper, Stationery, Printing, Bookbinding, etc.	116	1,795	566	2,361	68	46	261	184	1,466	336
XIII.—Rubber	31	186	17	203	6	....	27	4	153	13
XIV.—Musical Instruments	6	24	1	25	....	....	7	....	17	1
XV.—Miscellaneous Products	51	256	120	376	9	8	46	46	201	66
Total, Classes I. to XV.	3,629	39,528	6,624	46,152	872	319	4,805	2,115	33,851	4,190
XVI.—Heat, Light and Power	98	1,124	18	1,142	4	....	53	7	1,067	11
TOTAL, ALL CLASSES { June, 1955	3,727	40,652	6,642	47,294	876	319	4,858	2,122	34,918	4,201
{ June, 1950	3,023	32,901	7,164	40,065	716	362	4,111	2,632	28,074	4,170
{ June, 1945	1,931	22,060	6,600	28,660	763	338	3,275	2,665	18,022	3,597

The ratio of male to female employment was higher in 1955 than in either of the other years reviewed. Excluding working proprietors, the proportion in 1954-55 was 6.1 males to every female worker, whereas it was 4.6 : 1 in 1950 and 3.3 : 1 in 1945 near the end of the war enlistment period. Over the same eleven-year period there have also been some noteworthy changes in the age-grouping of workers in secondary industry. The numbers in each age-group are expressed below as percentages of total factory employment for each sex.

PROPORTION 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					
1945	per cent.	per cent.	per cent.	per cent.	per cent.
1950	3.46	14.85	18.31	81.69	100.00
1955	2.18	12.49	14.67	85.33	100.00
	2.15	11.95	14.10	85.90	100.00
FEMALES					
1945	per cent.	per cent.	per cent.	per cent.	per cent.
1950	5.12	40.38	45.50	54.50	100.00
1955	5.05	36.74	41.79	58.21	100.00
	4.80	31.95	36.75	63.25	100.00

Notable features of the above comparisons are the marked rise in the proportion of adult females employed and the decline among junior workers of both sexes.

Over manufacturing industry as a whole there have been increases each year since 1946 in the average amount of salary and wages paid per employee and this upward movement was accelerated at the end of 1950 by the granting of a basic wage increase in all industries 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 over the ten years ended 1955, together with comparative totals for the whole of Australia.

**AVERAGE ANNUAL AMOUNT OF SALARY AND WAGES PAID PER EMPLOYEE
IN EACH CLASS OF INDUSTRY**

Class of Industry.	Year ended 30th June :—									
	1946.	1947.	1948.	1949.	1950.	1951.	1952.	1953.	1954.	1955.

MALES										
	£	£	£	£	£	£	£	£	£	£
I.—Treatment of Non-Metalliferous Mine and Quarry Products	264	294	339	371	421	471	640	716	793	815
II.—Bricks, Pottery, Glass, etc.	289	291	322	367	433	517	680	720	781	847
III.—Chemicals, Dyes, Explosives, Paints, Oils, Grease	334	357	385	436	491	608	799	867	877	932
IV.—Industrial Metals, Machines, Implements and Conveyances	304	303	345	383	422	505	623	682	730	781
V.—Precious Metals, Jewellery, Plate	293	301	332	398	444	500	676	716	736	797
VI.—Textiles and Textile Goods (Inclusive of Knitted Goods)	281	315	343	393	418	555	679	736	830	815
VII.—Skins and Leather (not Clothing or Footwear)	302	334	364	419	467	533	658	747	777	790
VIII.—Clothing (except Knitted)	294	291	312	369	404	495	623	714	703	753
IX.—Food, Drink, and Tobacco	339	347	377	423	477	579	723	797	822	838
X.—Sawmilling, Wood-working and Basketware	267	286	314	353	386	459	567	650	701	724
XI.—Furniture, Bedding, etc.	262	282	302	348	393	457	564	610	660	689
XII.—Stationery, Paper, Printing, Bookbinding, etc.	345	360	388	415	473	538	653	742	801	875
XIII.—Rubber	258	290	308	366	447	546	676	729	739	827
XIV.—Musical Instruments	216	265	286	246	314	387	497	575	590	673
XV.—Miscellaneous Products	236	246	275	322	355	455	546	605	683	705
XVI.—Heat, Light and Power	370	384	431	482	528	621	775	905	911	994
Average per Male Employee—										
Western Australia—										
All Classes	307	315	349	390	433	516	644	712	754	798
Australia—										
All Classes	327	345	394	446	492	596	726	783	821	878

FEMALES										
	£	£	£	£	£	£	£	£	£	£
VI.—Textiles and Textile Goods (Inclusive of Knitted Goods)	164	170	183	213	244	273	366	423	430	441
VII.—Skins and Leather (not Clothing or Footwear)	144	166	196	192	235	295	359	394	417	424
VIII.—Clothing (except Knitted)	132	154	174	215	236	283	353	404	428	436
IX.—Food, Drink, and Tobacco	146	156	171	206	235	280	340	391	414	424
XI.—Paper, Printing, Bookbinding, etc.	132	143	163	187	205	262	339	376	408	426
XV.—Miscellaneous Products	130	125	134	161	185	246	309	360	383	381
All other Classes	162	163	178	207	228	282	363	407	422	447
Average per Female Employee—										
Western Australia—										
All Classes	143	155	173	208	232	280	351	400	422	434
Australia—										
All Classes	172	188	214	247	274	338	422	468	493	510

ALL EMPLOYEES										
	£	£	£	£	£	£	£	£	£	£
I.—Treatment of Non-Metalliferous Mine and Quarry Products	260	290	335	367	418	467	634	708	783	808
II.—Bricks, Pottery, Glass, etc.	271	282	315	358	419	504	664	700	749	814
III.—Chemicals, Dyes, Explosives, Paints, Oils, Grease	308	332	361	409	459	571	755	826	832	888
IV.—Industrial Metals, Machines, Implements and Conveyances	296	297	337	375	413	495	611	669	717	766
V.—Precious Metals, Jewellery, Plate	283	294	325	387	428	512	632	671	700	756
VI.—Textiles and Textile Goods (Inclusive of Knitted Goods)	223	242	262	305	334	411	529	589	644	624
VII.—Skins and Leather (not Clothing or Footwear)	274	306	338	382	427	493	608	691	711	719
VIII.—Clothing (except Knitted)	166	185	207	254	279	337	421	487	499	514
IX.—Food, Drink, and Tobacco	292	305	330	375	420	507	632	704	726	744
X.—Sawmilling, Wood-working and Basketware	266	284	313	351	384	457	564	647	697	721
XI.—Furniture, Bedding, etc.	246	268	289	334	374	437	546	586	632	661
XII.—Stationery, Paper, Printing, Bookbinding, etc.	282	303	330	358	406	468	573	655	707	766
XIII.—Rubber	251	279	298	355	425	517	646	702	698	793
XIV.—Musical Instruments	216	265	286	246	314	387	497	575	590	664
XV.—Miscellaneous Products	206	209	233	275	304	385	471	532	590	599
XVI.—Heat, Light and Power	370	383	429	480	526	614	771	900	901	987
Average per Employee—										
Western Australia—										
All Classes	273	284	316	357	397	474	595	665	703	744
Australia—										
All Classes	285	305	349	396	437	526	651	710	743	789

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.	Factories.		Engines used to drive machinery. †	Book values of—			
	Using manual labour only.	Using power-driven machinery.		Land and Buildings.		Plant and Machinery.	
				Additions during the year.	Total at the end of the year.	Additions during the year.	Total at the end of the year.
	No.	No.	H.P.	£	£	£	£
1945-46	178	2,102	86,337	297,519	8,282,694	793,104	8,507,705
1946-47	198	2,417	94,677	260,649	8,756,924	872,925	8,430,574
1947-48	212	2,576	101,506	389,100	9,482,660	1,235,264	9,189,910
1948-49	212	2,713	111,628	580,291	10,054,598	1,696,703	9,800,130
1949-50	199	2,824	120,380	593,707	11,055,002	2,343,757	11,456,767
1950-51	158	2,953	130,188	1,261,704	13,380,566	4,674,383	14,712,662
1951-52	151	3,116	144,726	2,349,848	16,747,352	6,673,769	20,715,509
1952-53	155	3,269	160,103	3,512,762	20,959,603	5,028,987	24,034,814
1953-54	137	3,386	169,694	2,094,380	24,738,939	5,367,984	28,194,983
1954-55	115	3,612	204,848	3,863,474	30,229,913	29,820,021	54,958,205

† Excludes engines used in Electricity Generating Stations and reserve or idle engines in other factories.

Motive Power and Fuel Consumed

Electricity is the most economical and convenient source of power in the principal manufacturing districts of the State and progressively, during recent years, the larger long-established factories have converted their plants to its use in place of oil, gas and steam engines. The changeover is increasing as the installation of new major generating stations extends the area in which adequate electric power is assured.

Electric motors are consequently the main source of motive power in factories. Oil engines are next in order of total horsepower produced and are extensively used in those country districts which are not yet supplied with power from the central generating stations. They also served as a substitute source of power in the metropolitan area during a period when the major generating system was heavily overloaded, but as this difficulty has been overcome they are now used only rarely in this capacity.

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 following tables show the proportions in which the various types of motive power have been used during the past ten years and the quantities and values of fuel used. It should be noted that 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 and electric motors.

HORSEPOWER OF ENGINES(†) ORDINARILY IN USE IN FACTORIES

Year.	Steam.		Internal Combustion.			Motors driven by Electricity.		Total. (a)
	Reciprocating.	Turbine.	Gas.	Light Oils.	Heavy Oils.	Purchased.	Own Generation.	
	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
1945-46	9,169	80	2,281	2,059	7,716	65,032	7,509	86,337
1946-47	9,057	87	2,180	2,062	8,663	72,628	6,810	94,677
1947-48	8,778	121	2,289	2,056	9,825	78,437	7,155	101,506
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

† Excludes engines used in electricity generating stations.
(a) Excludes particulars shown under "Own generation."

QUANTITY AND VALUE OF FUELS USED IN FACTORIES

Year.	Coal.		Coke.		Wood (a).		Fuel Oil.		Elec- tricity.	Coal Gas.
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Value.	Value.
	tons.	£	tons.	£	tons.	£	'000 gals.	£	£	£
1945-46	262,003	478,377	19,649	48,651	399,222	362,553	8,065	425,500	338,405	18,867
1946-47	309,538	559,323	22,353	54,933	442,845	406,206	9,232	445,505	382,347	17,868
1947-48	347,655	644,937	24,188	62,358	440,880	473,614	9,193	453,514	433,899	20,180
1948-49	362,520	828,534	15,875	53,639	456,502	548,600	10,251	576,853	471,560	24,119
1949-50	399,866	965,240	21,786	71,353	473,530	575,143	10,113	653,564	598,920	26,604
1950-51	459,130	1,134,895	21,493	97,162	435,111	579,877	11,210	849,799	723,139	40,748
1951-52	452,510	1,665,076	26,280	133,216	473,810	657,801	13,627	1,215,884	1,031,073	59,622
1952-53	443,783	2,137,504	22,378	129,214	429,556	644,352	14,120	1,369,600	1,382,211	69,443
1953-54	568,130	2,891,657	17,922	147,102	358,599	462,256	15,518	1,392,205	1,534,571	72,068
1954-55	602,871	3,225,076	18,135	144,288	345,326	429,094	23,978	1,640,168	1,710,148	70,943

(a) Complete figures for forest sawmills are not available.

Output and Net Production

The basis on which each of these values is computed has been defined in "Explanatory Notes and Definitions" on page 225.

In the following table 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. Annual variations in these percentages are relatively small but the figures shown, taken at five yearly intervals, provide adequate long term comparisons.

ITEMS OF OUTLAY AS A PROPORTION OF VALUE OF OUTPUT

Item.	1929-30.	1934-35.	1939-40.	1944-45.	1949-50.	1954-55.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Materials	47.05	47.65	44.64	48.05	48.03	48.87
Containers (non-returnable)	3.38	3.12	3.18	3.79	4.35	3.62
Repairs and Replacements	1.58	1.51	1.92	2.15	1.94	1.98
Fuel, Power and Light	3.34	4.37	5.35	4.76	4.66	5.13
Lubricating Oil and Water	0.32	0.42	0.55	0.42	0.32	0.25
Salaries and Wages (a)	24.60	21.25	22.53	23.99	23.90	23.22
Margin for all other Expenditure and Profit	19.73	21.68	21.93	16.84	16.80	17.53
Total	100.00	100.00	100.00	100.00	100.00	100.00

(a) Excludes value of working proprietors' services.

At the same intervals over this period the annual values of output, net production and of net production per person employed have been as follows :—

GROSS OUTPUT AND NET PRODUCTION

Year.	Output.	Net Production.	
		Total.	Per person employed (a).
	£	£	£
1929-30	16,891,482	7,488,060	381
1934-35	14,641,680	6,284,923	354
1939-40	20,307,286	9,027,728	393
1944-45	31,740,740	12,960,009	445
1949-50	63,978,037	26,044,026	639
1954-55	149,584,445	60,955,829	1,236

(a) Average over the whole year and inclusive of Working Proprietors.

The following table gives summarized financial data for 1954-55 for each of the sixteen classes of industry and details for the industries within those classes.

Factories Summary According to Industry, 1954-55

Nature of Industry.	Book Values of—		Salaries and Wages (Excluding value of proprietors' services).		Fuel, Power and Light used.	Lubricating Oil and Water used.	Repairs to Buildings and Plant, etc.	Non-Returnable Containers, etc.	Materials used.	Output.	Net Production (being value added in course of manufacture) [Col. II = 10 minus 5 to 9 inclusive.]
	Land and Buildings.	Plant and Machinery.	Males.	Females.							
					£	£	£	£	£	£	£
Class I.—Treatment of Non-Metalliferous Mine and Quarry Products.											
Lime, Plaster of Paris, Asphalt	80,144	62,317	136,120	2,727	70,770	574	14,173	55,117	301,186	738,810	296,990
Fibrous Plaster and Products	168,493	57,187	321,147	7,414	9,758	2,041	10,969	733	427,534	901,034	449,999
Marble, Slate, etc.	24,377	15,152	48,349	1,294	1,558	267	4,443	136	33,981	121,895	81,510
Cement, Portland	301,585	633,479	940,685	12,162	641,537	12,604	166,393	111,932	1,676,076	4,370,509	1,761,967
Asbestos Cement Sheets and Mouldings	...	...	...	...	...	...	...	...	...	...	...
Other Cement Goods	20,735	31,055	41,758	...	6,983	418	6,856	8,519	111,086	200,817	66,955
Total, Class I.	595,334	799,190	1,488,059	23,597	730,806	15,904	202,834	176,437	2,549,863	6,333,065	2,657,421
Class II.—Bricks, Pottery, Glass, etc.											
Bricks and Tiles	891,607	1,007,111	885,957	3,691	455,424	8,633	125,462	345	227,987	2,303,954	1,486,103
Faithenware, China, Porcelain, Terra Cotta	80,480	79,336	90,022	53,072	29,009	393	6,761	9,167	24,400	272,245	202,515
Glass Bottles	157,109	132,940	282,425	6,756	88,033	2,176	30,732	10,107	385,155	1,112,060	595,857
Glass (other than bottles)	...	...	...	...	...	...	...	...	...	...	...
Total, Class II.	1,129,196	1,219,387	1,258,404	63,519	572,466	11,202	162,955	19,619	637,542	3,688,259	2,284,475
Class III.—Chemicals, Dyes, Explosives, Paints, Oils, Grease.											
Industrial and Heavy Chemicals and Acids	...	...	...	...	...	...	...	...	...	...	...
Pharmaceutical and Toilet Preparations	...	...	...	...	...	...	...	...	...	...	...
Oils, Mineral	...	...	...	...	...	...	...	...	...	...	...
Oils, Animal	...	...	...	...	...	...	...	...	...	...	...
Oils, Vegetable	...	...	...	...	...	...	...	...	...	...	...
Soaps and Candles	...	...	...	...	...	...	...	...	...	...	...
Inks, Polishes, etc.	...	...	...	...	...	...	...	...	...	...	...
Matches	...	...	...	...	...	...	...	...	...	...	...
White Lead, Paints, Varnishes	193,783	43,658	63,322	6,178	3,475	373	3,404	77,323	370,528	687,016	231,913
Rolling Down, Tallow Refining	125,826	110,652	97,050	1,399	56,078	18,772	18,772	24,060	134,878	456,182	220,515
Chemical Fertilisers	1,817,357	2,253,581	867,534	7,332	131,690	9,771	348,639	732,604	3,801,552	6,968,260	1,944,004
Total, Class III.	4,127,504	26,753,033	1,957,190	87,291	886,937	44,131	514,397	1,084,567	12,647,382	19,795,994	4,618,580
Class IV.—Industrial Metals, Machines, Conveyances.											
Smelting, Converting, Refining, Rolling of Iron and Steel	20,000	96,221	23,958	...	102,816	3,767	11,986	...	72,581	222,201	31,051
Foundries (Ferrous)	126,512	126,279	327,135	4,433	88,678	1,480	12,477	...	257,062	856,940	497,060

† Particulars of individual industries not available for publication. See note on Confidential Provisions, page 225.

Factories Summary According to Industry, 1954-55—continued

Nature of Industry.	Book Values of—		Salaries and Wages (Excluding value of proprietors' services).		Fuel, Power and Light used.	Lubricating Oil and Water used.	Repairs to Buildings and Plant, etc.	Non-Returnable Containers, etc.	Materials used.	Output.	Net Production (being value added in course of manufacture) (Col. 11 = 10 minus 5 to 9 inclusive.)
	1.	2.	Males.	Females.							
Plant, Equipment and Machinery (including Machine Tools)	£	£	£	£	£	£	£	£	£	£	£
Other Engineering	1,649,266	1,281,480	2,141,773	68,382	89,965	9,308	90,227	5,063	2,743,764	6,394,210	3,455,883
Electrical Machinery, Cables and Apparatus	495,113	274,757	563,225	11,033	27,238	2,900	31,311	76	649,062	1,713,397	1,007,810
Construction and Repair of Vehicles—	402,035	118,372	515,429	37,313	17,056	1,692	13,790	3,483	699,336	1,682,067	946,705
Tramcars and Railway Rolling Stock—											
Government and Municipal	374,579	974,038	2,630,860	7,744	79,445	4,602	85,009	....	1,406,206	4,774,730	3,199,468
Other	97,543	57,388	187,177	874	8,286	1,062	8,604	....	481,969	869,571	368,650
Motor Vehicles—											
Construction and Assembly	395,981	230,640	1,072,034	16,487	65,427	4,277	143,982	1,109	1,926,552	4,084,432	1,983,085
Repairs	2,673,365	990,632	2,663,400	72,454	70,886	14,342	75,901	8,912	3,353,751	7,793,214	4,269,422
Motor Bodies	590,060	105,858	485,050	10,606	12,971	2,371	9,665	32	644,847	1,547,882	877,996
Horse-drawn Vehicles	642	630	1,130	....	57	11	32	....	2,400	5,234	2,734
Motor Accessories	68,803	18,817	49,454	4,587	4,089	414	1,696	309	49,053	159,233	103,672
Aircraft	120,762	38,120	185,180	6,176	4,915	194	5,882	....	76,926	343,022	255,105
Cycles, Foot and Hand Driven and Accessories	45,326	6,715	38,603	380	2,445	203	1,151	300	62,047	140,833	74,687
Ship and Boat Building and Marine Engineering	76,945	53,205	193,535	1,246	2,845	406	4,331	....	129,391	423,388	286,415
Cutlery and Small Hand Tools	24,127	21,513	47,614	1,718	1,529	218	2,610	274	25,138	107,302	77,533
Agricultural Machines and Implements	349,455	108,759	287,385	3,928	7,838	3,057	13,722	902	209,325	631,648	396,804
Non-Ferrous Metals—											
Founding, Casting, etc.	74,421	62,828	203,884	6,118	17,156	769	8,934	213	278,311	658,221	352,838
Galvanised Iron Working and Tinsmithing—											
Sheet Metal Working, Pressing and Stamping	391,762	322,036	641,862	59,175	30,222	2,978	44,208	27,194	1,626,056	3,084,303	1,303,645
Pipes, Tubes and Fittings—Ferrous	37,341	75,499	195,298	1,250	15,252	611	26,534	....	661,657	1,135,819	431,765
Wire and Wire Working (including Nails)	116,976	104,033	297,417	15,111	21,621	1,476	34,322	3,149	677,980	1,274,122	545,374
Stoves, Ovens and Ranges	94,300	132,958	285,314	6,990	27,489	594	11,160	3,500	379,549	932,950	510,658
Wireless and Amplifying Apparatus	49,988	8,645	51,913	1,103	1,398	13	748	30	28,756	103,236	72,291
Extracting and Refining of other Metals: Alloys											
Gas Fittings and Meters											
Sewing Machines	169,860	65,669	148,532	12,342	6,915	776	5,363	605	230,449	494,363	250,255
Other Metal Work											
Total, Class IV.	8,445,162	5,274,092	13,237,142	349,430	706,539	57,521	638,645	55,339	16,672,168	39,387,318	21,257,100
Class V.—Precious Metals, Jewellery, Plate.											
Jewellery	29,890	3,370	27,898	2,138	793	222	330	418	29,095	88,810	57,982
Watches and Clocks (including Repairs)	61,275	10,254	47,235	1,873	1,086	77	401	21	53,161	111,859	97,113
Electroplating (Gold, Silver, Chromium, etc.)	54,960	31,223	67,578	8,233	9,449	650	3,666	10	29,867	183,453	193,811
Total, Class V.	146,125	44,847	142,711	12,244	11,328	949	4,397	449	72,123	384,122	294,876

Class VI.—Textiles and Textile Goods (Inclusive of Knitted Goods).

Wool—Carding, Spinning, Weaving	223,950	224,748	184,875	79,081	31,215	2,364	41,449	8,837	1,619,609	2,225,952	522,478
Rope and Cordage	78,982	43,997	29,087	70,853	3,183	173	4,406	3,957	234,699	409,891	163,473
Hosiery and other Knitted Goods	30,000	20,000	39,634	485	1,921	188	1,221	1,732	38,688	93,958	50,208
Flax Mills	87,412	32,157	63,054	83,605	1,840	328	2,346	180	397,440	566,285	164,151
Canvas Goods (Tents, Tarpaulins, etc.)	11,410	5,682	9,156	10,638	285	109	1,885	11	204,037	259,937	53,610
Bags and Sacks	33,229	26,396	21,213	310	2,018	137	2,491	420	116,079	193,836	72,691
Other	470,963	352,980	346,999	194,922	40,462	3,299	53,798	15,137	2,610,552	3,749,859	1,025,611
Total, Class VI.											

Class VII.—Skins and Leather (Not Clothing or Footwear).

Furs, Skins, Leather:—	12,285	2,266	7,231	9,093	215	232	90	80	22,602	52,057	28,838
Furriers and Fur-dressing	58,369	116,744	198,283	11,159	39,816	766	21,295	2,879	684,318	1,153,055	403,981
Wool-scouring and Feltmongery	43,123	52,424	144,568	570	10,463	797	9,041	387	389,580	616,949	206,701
Tanning, Currying and Feltmongery											
Saddlery, Harness, Bags, Trunks and other Goods of Leather and Leather Substitutes (not Clothing or Footwear):—	13,043	1,416	14,824	2,756	209	83	323	....	26,655	51,104	23,834
Saddlery, Harness and Whips	66,861	14,931	50,580	30,273	1,038	397	1,484	623	125,242	263,019	134,235
Bags, Trunks and other Goods of Leather and Leather Substitutes	192,681	187,781	415,486	53,851	51,741	2,275	32,233	3,969	1,248,377	2,136,184	797,589
Total, Class VII.											

Class VIII.—Clothing (Except Knitted).

Tailoring and Ready-made Clothing	351,699	42,259	122,400	294,336	10,862	738	4,687	1,234	665,701	1,347,004	663,782
Waterproof and Oilskin Clothing	32,529	2,286	7,034	29,011	321	11	415	99	43,714	97,241	53,681
Dressmaking, Hemstitching	249,079	42,866	18,209	339,718	7,209	249	6,164	1,086	406,142	945,977	525,127
Millinery	12,815	2,552	8,920	8,920	292	2	123	18	17,107	33,964	16,422
Shirts, Collars, Underclothing	119,463	51,707	30,601	232,756	3,965	590	4,331	3,626	414,908	792,463	365,043
Hats and Caps	36,091	2,799	15,560	37,074	1,043	145	608	1,125	57,606	141,079	80,552
Boots and Shoes (not Rubber)	149,267	132,424	278,666	116,392	7,283	631	20,573	6,371	454,170	1,029,869	540,841
Foot and Shoe Repairing	196,145	37,632	61,814	3,329	2,088	143	1,594	1,137	81,510	271,917	185,445
Foundation Garments											
Boot and Shoe Accessories	2,273	402	2,335	958	22	....	4	13	12,988	20,143	7,116
Umbrellas and Walking Sticks											
Dyeing and Cleaning (including Renovating and Repairing)	260,353	232,061	170,920	165,560	44,565	1,832	21,275	9,935	55,921	743,632	610,104
Total, Class VIII.	1,409,714	546,988	707,539	1,223,054	77,650	4,341	59,774	24,644	2,209,767	5,423,289	3,047,113

Class IX.—Food, Drink and Tobacco.

Flour Milling	755,517	602,791	403,854	12,345	106,226	4,176	35,861	502,449	5,711,997	7,066,426	705,717
Cereal Foods and Starch	88,395	95,168	45,230	20,037	17,773	593	5,291	83,802	167,209	422,731	151,063
Animal and Bird Foods	106,002	112,113	112,370	2,972	19,168	1,009	15,867	71,111	995,209	1,351,288	248,924
Bakeries (including Cakes and Pastry)	780,804	468,804	454,976	59,330	96,380	4,180	34,148	23,083	1,913,610	3,306,552	1,235,151
Biscuits	295,241	235,965	155,479	142,183	41,013	1,958	27,298	162,010	617,906	1,220,793	370,008
Ice Cream	73,889	74,755	103,672	63,876	16,318	964	7,539	63,659	387,323	789,460	313,657
Confectionery (including Chocolate and Icing Sugar)	58,530	25,532	27,578	15,445	2,548	621	2,641	41,884	89,746	204,605	67,165
Jam, Fruit and Vegetable Canning	76,228	12,443	22,331	10,862	1,944	209	1,655	33,842	49,801	153,927	66,476
Pickles, Sauces, Vinegar	101,887	43,251	169,066	20,079	32,446	904	11,683	14,643	1,803,807	2,298,546	430,063
Bacon Curing											

† Particulars of individual industries not available for publication. See note on Confidential Provisions, page 225.

FACTORIES SUMMARY ACCORDING TO INDUSTRY, 1954-55—continued

Nature of Industry.	Book Values of—			Salaries and Wages (Excluding value of proprietors' services).		Fuel, Power and Light used.	Repairs to Buildings and Plant, etc.	Non-Returnable Containers, etc.	Materials used.	Output.	Net Production (being value added in course of manufacture) [Col. 11 = 10 minus 5 to 9 inclusive.] 11.
	Land and Buildings.		Plant and Machinery.	Males.	Females.						
	1.	2.		3.	4.							5.	6.	7.	8.	9.	10.
	£	£	£	£	£	£	£	£	£	£	£
Butter Factories	201,096	336,187	192,348	20,023	67,994	2,115	37,962	165,079	3,083,234	3,899,864	543,480
Cheese Factories	8,750	6,061	5,888	2,611	881	55	542	3,229	104,934	136,400	26,759
Condensed and Dried Milk Factories	1,593,367	726,686	835,115	49,373	104,929	8,948	77,922	342,082	2,427,697	4,434,517	1,472,939
Margarine	298,505	102,650	173,031	89,454	9,738	952	15,706	408,415	664,955	1,628,226	528,460
Meat and Fish Preserving	544,152	444,243	226,946	12,582	93,562	6,409	47,795	88,207	133,053	822,546	453,520
Ice and Refrigerating	4,936	4,546	4,163	364	627	66	1,251	3,942	17,163	40,299	17,163
Salt Works	166,058	185,972	153,882	16,873	13,551	3,056	22,505	137,509	291,324	919,420	394,501
Aerated Waters, Cordials, etc.	677,146	1,138,558	488,930	1,885	149,477	15,548	61,851	680,768	1,291,324	3,769,935	1,570,967
Breweries	52,624	41,969	24,348	2,785	1,886	368	3,727	21,675	84,990	193,370	80,724
Wine-making	263,318	143,104	237,381	2,898	92,522	1,912	24,260	82,177	2,206,878	2,878,464	470,715
Sugar Refining	33,952	31,947	57,824	2,393	1,058	799	2,739	142,884	43	257,076	109,553
Malt	157,480	81,117	43,319	36,542	2,839	464	4,045	49,505	341,033	487,672	89,786
Sausage Skins											
Bottling											
Tobacco, Cigars and Cigarettes	6,307,677	4,913,662	3,938,231	585,512	873,480	55,306	442,288	3,121,955	22,445,210	36,285,117	9,346,878
Total, Class IX.											
Class X.—Sawmilling, Woodworking and Basketware.											
Sawmills—Sawing from the Log	1,017,592	1,366,799	2,636,477	10,096	188,139	43,977	300,694	1,773	3,166,527	7,958,049	4,256,939
Sawmills—Resawing, Dressing, etc.	92,749	128,757	479,587	4,025	31,871	4,159	58,275	259	1,534,045	2,412,467	783,858
Plywood Mills	678,880	466,269	1,217,020	12,390	40,151	3,514	46,920	590	1,880,155	3,982,988	2,011,658
Joinery	4,956	725	2,635	...	61	79	322	1,302	19,588	28,872	7,520
Bark Mills	22,666	8,496	37,106	...	696	86	1,276	...	36,230	98,249	59,961
Cooperage	58,712	22,475	95,182	2,207	2,576	254	4,766	...	115,754	231,282	157,982
Boxes and Cases	10,196	5,135	7,961	...	232	35	407	...	9,683	29,848	19,491
Woodturning, Woodcarving, etc.											
Basketware and Wickerware (including Seagrass and Bamboo Furniture)	37,422	1,566	39,977	3,585	275	152	366	80	32,144	93,991	60,974
Perambulators (including Pushers and Strollers)											
Total, Class X.	1,918,123	2,000,222	4,515,945	32,303	264,001	52,256	413,026	4,004	6,794,126	14,885,746	7,358,333
Class XI.—Furniture of Wood, Bedding, etc.											
Cabinet & Furniture Making and Upholstery	540,096	179,774	652,093	17,878	16,368	2,053	15,088	281	1,147,645	2,284,237	1,102,802
Bedding and Mattresses (not wire)	96,578	57,585	95,550	18,850	3,348	396	5,035	604	375,445	616,158	231,330
Furnishing Drapery	5,880	651	441	7,319	133	...	38	...	17,480	31,516	13,865
Picture Frames	3,210	76	4,738	290	64	...	...	...	6,730	15,237	8,443
Window and Verandah Blinds	49,402	16,854	37,620	15,428	882	22	900	419	205,360	339,856	132,273
Total, Class XI.	695,166	254,940	790,442	59,765	20,795	2,471	21,061	1,304	1,752,660	3,287,004	1,488,713

Class XII.—Paper, Stationery, Printing, Bookbindings, etc.												
Newspapers and Periodicals	317,070	615,583	615,716	13,623	31,794	2,524	27,234	1	1,096,512	2,465,111	1,307,046	
Printing, Government	41,700	151,340	152,193	28,763	118,144	385	11,774	...	118,144	417,879	282,238	
Printing, General, including Bookbinding	491,087	463,799	517,985	145,183	17,073	2,973	31,739	3,063	2,110,855	1,243,483	1,243,483	
Stationery and Paper Products	15,624	10,098	7,040	11,507	5,154	108	822	1,874	13,498	39,524	292,479	
Process and Photo-engraving	61,283	30,251	181,233	5,119	2,616	200	2,616	109	235,882	195,665	195,665	
Cardboard Boxes, Cartons and Containers	23,236	20,881	27,080	8,605	1,473	125	1,257	1,710	115,103	292,580	102,912	
Paper Bags	55,851	40,189	27,066	21,486	1,999	298	3,296	395	349,089	89,028	89,028	
Paper Making	9,400	9,920	19,455	...	4,887	102	2,521	358	6,596	35,152	20,688	
Total, Class XII.	1,015,251	1,332,001	1,508,618	284,286	68,461	6,715	81,259	7,500	2,451,598	5,876,072	3,260,539	
Class XIII.—Rubber.												
Rubber Goods (including Tyre making)	253,159	145,687	147,120	7,559	17,099	807	15,368	64	207,471	543,465	302,656	
Tyre Retreading and Repairing	...	...	...	...	...	...	...	...	...	...	...
Total, Class XIII.	253,159	145,687	147,120	7,559	17,099	807	15,368	64	207,471	543,465	302,656	
Class XIV.—Musical Instruments.												
Pianos, Piano Players, Organs, etc.	21,415	2,490	16,149	440	163	...	66	...	1,866	24,695	22,600	
Other	...	...	...	...	...	...	...	...	...	...	...
Total, Class XIV.	21,415	2,490	16,149	440	163	...	66	...	1,866	24,695	22,600	
Class XV.—Miscellaneous Products.												
Plastic Moulding and Products	20,476	8,654	12,839	6,171	1,363	49	732	54	24,702	58,429	31,559	
Brooms and Brushes	19,648	14,667	58,009	15,783	1,491	121	1,859	1,447	49,822	143,170	88,430	
Optical Instruments and Appliances	34,275	7,759	36,282	2,379	739	526	710	174	56,295	118,791	60,347	
Surgical and Other Scientific Instruments and Appliances	59,040	15,395	52,471	4,019	1,659	56	1,381	12	23,898	107,753	80,747	
Photographic Material, Developing, etc.	30,627	5,970	9,707	17,278	765	261	503	789	14,533	46,893	46,893	
Toys, Games, etc.	4,182	1,273	2,780	...	86	4	42	20	4,559	10,645	5,934	
Other	7,725	10,735	5,476	...	898	227	853	80	3,154	22,716	16,997	
Total, Class XV.	175,973	64,453	177,564	46,528	7,508	1,244	6,080	2,546	176,963	525,248	330,907	
Total, Classes I. to XV.	26,903,443	43,892,253	30,647,599	2,979,301	4,329,236	258,421	2,643,131	4,517,534	72,477,668	142,325,437	58,094,397	
Class XVI.—Heat, Light and Power.												
Electric Light and Power:												
Government	2,950,607	7,409,872	606,528	8,892	2,164,071	23,770	185,603	...	436	4,194,593	1,840,713	
Local Authority	45,440	304,294	84,063	463	136,120	11,186	25,229	...	19	388,219	215,665	
Companies	190,472	1,796,948	222,531	787	946,845	70,858	108,796	...	6,354	1,679,445	546,592	
Gas Works:												
Government	126,188	1,016,080	150,157	...	76,449	3,252	12,250	...	473,896	735,910	170,063	
Local Authority	307	13,957	3,953	80	948	52	734	...	6,598	13,920	5,588	
Companies	13,456	523,001	33,477	...	23,602	603	2,334	...	137,571	246,921	92,811	
Total, Class XVI.	3,326,470	11,065,952	1,100,709	10,222	3,348,085	109,721	314,946	...	634,874	7,259,008	2,861,432	
GRAND TOTAL	30,229,913	54,953,205	31,743,308	2,989,523	7,677,271	368,142	2,963,127	4,517,534	73,102,542	149,584,445	60,955,829	

† Particulars of individual industries not available for publication. See note on Confidential Provisions, page 225.

Government Factories

As well as those establishments which operate 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.

Statistics relating to government factories are included in the tables appearing earlier in this Part but are segregated in the tables immediately following, in order to show their development from 1945-46 to 1954-55, with comparative figures for 1938-39.

PARTICULARS OF GOVERNMENT FACTORIES

TABLE A

Year.	Factories.	Employees (Average over Period Worked).			Salaries and Wages Paid.		
		Males .	Females.	Total.	Males.	Females.	Total.
1938-39	No. 51	No. 3,443	No. 82	No. 3,525	£ 864,988	£ 10,971	£ 875,959
1945-46	66	5,361	500	5,861	1,690,301	66,030	1,756,331
1946-47	71	5,332	167	5,499	1,696,470	23,064	1,719,534
1947-48	70	5,623	148	5,771	2,002,535	26,573	2,029,108
1948-49	79	6,263	146	6,409	2,459,099	30,598	2,489,697
1949-50	82	6,438	147	6,585	2,785,189	34,632	2,819,821
1950-51	88	6,575	154	6,729	3,364,960	39,650	3,404,610
1951-52	85	6,749	158	6,907	4,260,857	56,148	4,317,005
1952-53	86	6,020	151	7,071	4,921,224	65,516	4,986,740
1953-54	92	7,286	158	7,444	5,442,440	72,349	5,514,789
1954-55	100	7,705	163	7,868	6,172,691	79,342	6,252,033

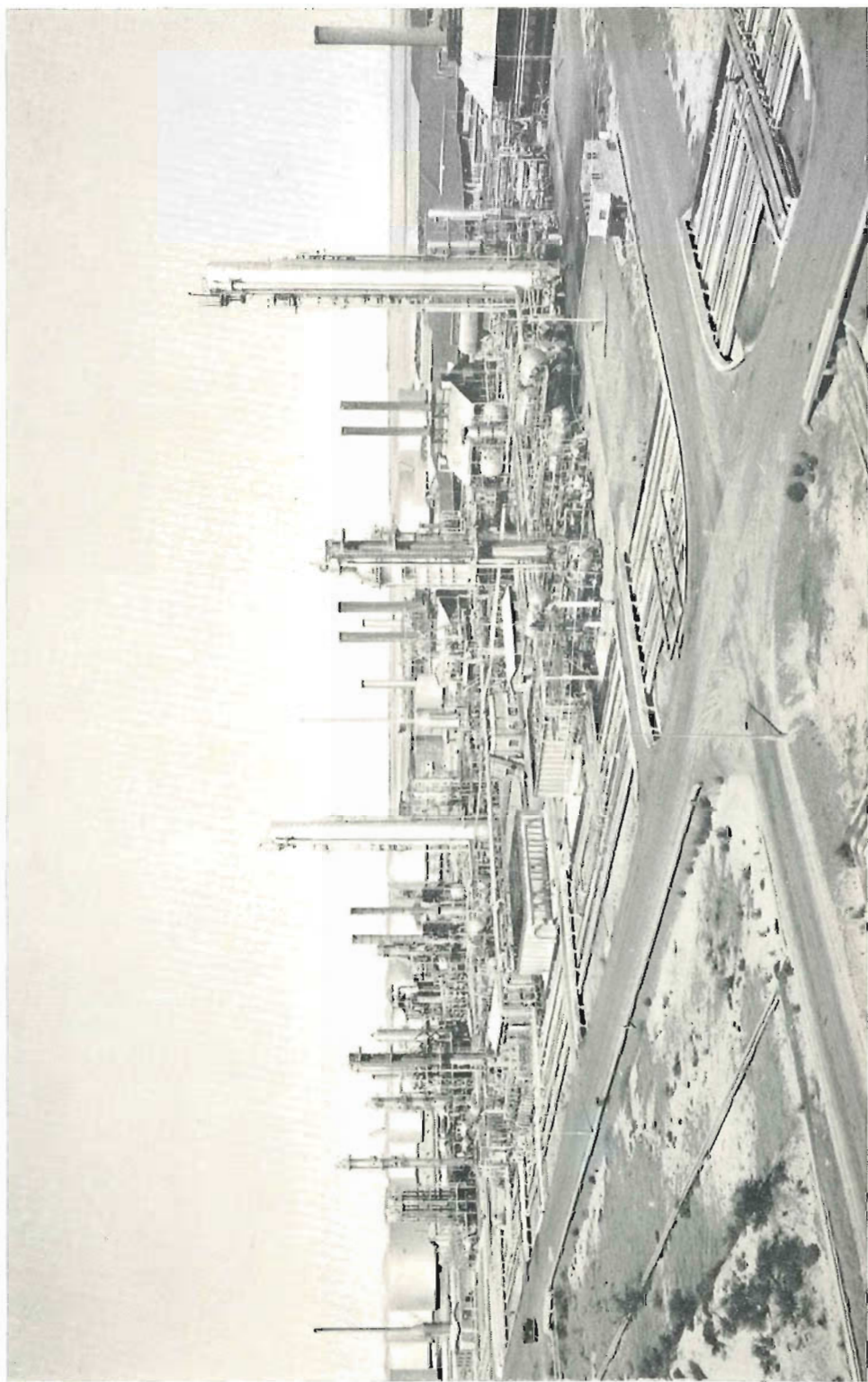
TABLE B

Year.	Power, Fuel, Light, Lubri- cating Oil and Water.	Materials used (including Containers, and Repairs to Plant and Machinery).	Net Production.	Output.	Book Values of—	
					Land and Buildings.	Plant and Machinery
1938-39	£ 259,010	£ 804,311	£ 1,318,231	£ 2,381,552	£ 1,327,724	£ 2,140,010
1945-46	522,244	1,743,109	2,510,182	4,775,625	2,038,221	3,046,156
1946-47	579,706	1,679,490	2,331,413	4,590,609	1,883,147	2,617,910
1947-48	695,603	1,961,772	2,776,588	5,133,963	1,886,294	2,725,216
1948-49	916,481	2,489,177	3,048,179	6,453,837	1,767,789	2,532,605
1949-50	1,056,893	3,024,788	3,605,301	7,686,982	1,753,814	3,190,128
1950-51	1,224,870	3,796,931	5,115,743	10,137,544	2,004,556	4,376,949
1951-52	1,933,312	4,431,096	6,069,911	12,434,319	3,485,854	8,364,148
1952-53	2,144,909	4,615,230	7,507,868	14,268,007	5,258,135	9,660,402
1953-54	2,484,466	4,951,639	8,261,294	15,697,399	5,784,878	11,162,565
1954-55	2,850,341	5,206,954	9,263,485	17,320,780	6,578,604	11,952,216

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 1950-51 to 1954-55, with comparative figures for 1938-39. 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 quantities are expressed in terms of physical units, the production of individual items may be compared over the years reviewed without the reference to price changes which must be made when comparing figures expressed in monetary terms.

Cigarette production increased from 25,117 lb. in 1938-39 to 459,970 lb. in 1954-55. In 1952-53 and 1953-54 it was even higher. Production of canned meat increased from 71,880 lb. to 4,230,395 lb. and paints (excluding water paints) from 14,432 gallons to 225,399 gallons. Expressed as percentages, other substantial increases since 1938-39 which are revealed by the table include aerated waters, 227 per cent.; beer and stout, 140 per cent.; clay bricks, 101 per cent.; portland cement, 151 per cent.; cheese, 148 per cent.; electricity, 129 per cent.; fibrous plaster sheets, 186 per cent.; town gas, 158 per cent.; margarine, 888 per cent.; beverage wine, 122 per cent.; and scoured wool, 332 per cent. Decreases have occurred in such items as cycles, jams, sauce and manufactured tobacco.



SECTION OF DISTILLATION AREA OF BP REFINERY (KWINANA) LTD.—ON COCKBURN SOUND

ITEMS OF FACTORY PRODUCTION †

Commodity.	Unit.	Quantity.					
		1938-39.	1950-51.	1951-52.	1952-53.	1953-54.	1954-55.
Acids—							
Acetic	cwt.	584	6,737	2,161	5,085	3,524	3,975
Hydrochloric	cwt.	588	1,138	1,109	1,244	1,377	1,394
Nitric	ton	14	19	25	20	11	12
Sulphuric	ton	108,280	148,197	150,335	142,339	148,166	168,660
Aerated Waters	gal.	1,221,919	3,405,896	3,576,856	3,209,562	3,503,029	4,000,423
Bacon and Ham	lb.	4,212,970	7,069,883	8,243,124	8,272,455	7,722,949	7,427,758
Beer and Stout	gal.	7,288,503	16,478,979	17,433,390	17,783,571	17,844,069	17,410,951
Boots and Shoes	pair.	358,603	556,360	579,006	476,279	524,614	416,787
Bran	ton (2,000lb.)	34,467	47,377	48,837	49,283	41,793	37,640
Bread (2 lb. loaf)	No.	24,557,372	45,864,989	48,277,461	50,737,046	52,667,286	52,815,251
Bricks (Standard Size)—							
Clay	'000	53,062	64,628	72,417	82,521	96,174	106,672
Cement	'000 (f)		2,684	4,467	3,522	5,066	8,740
Butter	lb.	14,654,760	15,224,913	15,020,018	14,516,018	13,757,468	16,005,099
Cardigans, Pullovers (All Types)	dozen.	4,300	8,026	6,868	8,196	10,304	12,284
Cases—Fruit (including Shooks)	ton	2,571,890	2,114,111	2,366,805	3,068,324	2,828,401	2,659,010
Cement (Portland)	ton	56,520	72,075	74,680	97,418	125,466	141,690
Cheese	lb.	977,092	1,675,238	1,397,265	2,004,514	2,699,531	2,426,524
Cigarettes	ton	25,117	257,239	270,834	478,868	580,551	459,970
Coke (including Coke Broeze)	lb.	14,104	28,217	30,689	23,930	21,111	22,068
Confectionery (not Chocolate)	lb.	2,869,397	3,582,333	3,879,947	3,887,845	3,451,985	3,824,736
Confectionery (not Chocolate)	gal.	106,531	168,729	201,598	214,043	220,440	268,133
Cordials and Syrups	No.	12,231	9,004	8,859	7,037	8,407	7,777
Cycles	'000 K.W.H.	307,002	469,914	529,701	568,677	626,851	702,272
Electricity (a)	gal.		37,974	35,127	35,867	47,543	39,084
Enamels	sq. yd.	881,649	2,067,752	2,574,632	2,430,220	2,348,624	2,517,204
Fibrous Plaster Sheets							
Flour—							
Ordinary	ton (2,000lb.)	138,583	217,345	221,846	224,330	187,958	165,767
Self raising	cwt.	77,392	110,359	122,948	89,518	89,000	96,948
Gas (Town) (b)	'000 cub. ft.	561,002	1,392,023	1,429,602	1,443,304	1,442,802	1,447,705
Ice	ton	27,625	51,586	52,418	46,281	40,528	35,399
Iron—Pig Iron	ton		9,047	11,087	10,280	10,515	11,243
Jams	lb.	1,062,987	1,355,779	1,285,968	1,119,212	733,451	597,451
Leather—							
For sale by weight	lb.	1,536,209	3,394,619	3,582,434	3,195,256	3,032,434	2,927,524
For sale by measurement	sq. ft.	246,400	1,852,110	1,983,040	1,899,099	2,114,220	1,757,815
Line (Quicklime)	ton	17,056	20,121	22,480	25,384	22,594	25,505
Macaroni, Spaghetti, etc.	cwt.	4,061	14,448	14,380	16,804	12,656	22,381
Margarine	lb.	125,070	281,457	609,873	1,408,584	1,214,080	1,236,256
Mattresses—							
Woven Wire, Link Mesh, etc.	No.	15,897	30,687	31,753	27,419	27,980	32,924
Soft Filled	No. (f)		61,272	50,635	44,574	44,721	41,751
Inner Spring	No.	400	11,612	9,251	12,615	20,448	21,775
Meat, Canned	lb.	71,880	2,633,380	3,949,911	4,193,834	4,066,807	4,230,395
Methanol	gal.		42,995	55,272	52,116	37,093	46,237
Nails	ton	484	757	691	679	884	941
Oil—Whale	ton		2,583	9,438	11,088	11,284	10,539
Paints (excluding Water Paints)	gal.	14,432	187,887	163,839	144,689	201,214	225,399
Pickles and Chutneys	pint.	236,778	455,630	446,398	527,461	673,583	663,607
Plaster of Paris	ton	8,526	28,855	21,804	23,654	21,950	22,485
Pollard	ton (2,000lb.)	23,745	34,907	35,771	38,364	31,314	27,118
Pyjamas—Woven Fabric—							
Men's and Boys'	dozen	14,164	10,464	11,234	5,993	12,173	14,673
Women's and Girls'	dozen (f)		1,657	1,900	1,437	1,955	2,811
Sauce (All Types)	pint.	841,636	878,790	972,229	830,499	692,397	654,566
Shirts	dozen	43,313	52,401	57,525	37,307	51,334	50,234
Sleepers—Sawn	'000 sup. ft.	20,598	17,252	16,299	28,171	34,335	34,971
Soap and Soap Substitutes (c)	cwt.	50,018	72,622	69,171	68,149	75,289	74,776
Stock and Poultry Foods—							
Meat and Bone Meal	cwt.		72,655	153,455	178,464	139,339	143,431
Other (Prepared)	ton (2,000lb.)		21,375	25,381	33,042	49,516	42,832
Suits—Men's—3 piece	No.		17,525	11,394	8,605	5,321	3,816
2 piece	No. (f)		29,371	23,357	24,904	25,901	22,247
Superphosphate	ton	306,738	416,997	421,511	417,727	428,314	472,787
Tallow (Raw and Refined)	cwt.	30,420	49,108	56,679	85,441	66,533	67,048
Tiles (Roofing)—Cement	'000	1,834	5,688	10,352	11,738	9,588	11,082
Timber (from Local Logs)—							
Sawn (including Sleepers) (d)	'000 sup. ft.	125,452	156,827	178,290	203,314	216,021	225,795
Hewn (e)	'000 sup. ft.	3,383	19,396	21,157	20,011	24,990	25,698
Tobacco	lb.	240,388	181,411	209,606	143,360	79,648	21,665
Tractors (All Types)	No.		663	444	337	534	385
Trousers—Men's—							
Sports	No. (f)		75,367	61,952	52,492	55,361	50,503
Work	No. (f)		123,559	129,477	106,960	156,051	147,150
Wine (Beverage)	gal.	167,645	331,760	331,226	381,963	368,625	372,283
Wool—Scoured	lb.	3,688,615	12,849,475	12,971,705	13,584,494	15,241,703	15,930,051

(a) Total generated—no deduction being made for losses in transmission, etc.

(c) Excludes agencies compounded and synthetic detergents.

(d) Includes plywood veneers in terms of super feet.

(e) Produced by agencies other than factories.

(f) Not available for publication.

See note on Confidential Provisions, page 225.

† Aggregate production of each commodity. Figures in tables on pages 243 to 250 are confined to the "Industries" stated.

The consumption of various materials in specific industries is shown in the following table for the years 1950-51 to 1954-55, with comparable figures for 1938-39. As in the preceding table, quantities are expressed in terms of physical units and figures for individual items may therefore be directly compared over the period reviewed without reference to price changes which occurred.

MATERIALS USED IN FACTORIES

Item.	Industry or Process in which used.	Unit.	Quantity.					
			1938-39.	1950-51.	1951-52.	1952-53.	1953-54.	1954-55.
Bark—Ground	...	ton	677	391	367	330	248	300
Canvas and Duck—Cotton	...	sq. yds.	(a)	231,978	263,409	308,557	226,342	271,947
Cement	...	ton	(a)	19,305	27,151	28,632	28,913	39,407
Coal—Fuel	...	ton	254,210	459,130	452,510	443,783	568,130	602,871
Gas making	...	dozen	25,726	59,494	64,621	63,750	56,240	55,167
Eggs	...	150lb. bag	...	1,531,740	2,288,308	2,630,848	2,931,736	1,474,749
Flour—Ordinary	471,239	495,490	512,237	534,828	547,518
Fruit (excluding Grapes for Wine)	258,860	39,659	38,659	39,055	39,055
Grapes	...	cwt.	25,021	36,515	16,707	18,773	17,400	18,054
Gypsum	...	cwt.	2,893	78,624	88,838	64,557	63,418	69,571
Hides (all kinds)	...	ton	59,440	38,438	61,064	41,111	49,335	26,509
Leather—By weight	...	ton	4,357	2,925	2,781	3,350	3,145	3,327
By measurement	...	No.	1,658	51,042	32,907	38,980	44,353	45,260
Limestone	...	lb.	13,309	139,465	141,090	132,153	143,691	122,840
Linseed Oil	...	sq. ft.	184,383	385,460	396,729	381,628	403,955	439,199
Logs	...	ton	757,919	1,783,823	1,717,825	1,568,027	1,578,722	1,330,289
Malt	...	gal.	1,070,477	2,253,964	2,555,579	1,992,586	2,555,618	1,957,645
Muriate of Potash	...	sup. ft. (b)	52,384	60,547	62,002	64,190	60,035	56,741
Paper—Newsprint	...	ton	11,670	41,903	41,906	31,277	35,686	42,567
Cigarette	...	bushel	330,007	350,851	397,439	459,902	488,424	511,674
Cardboard	...	ton	306,842	594,030	638,583	619,595	614,617	637,606
Phosphate Rock	276	1,064	1,070	1,050	1,386	1,705
Rubber	7,893	8,586	6,894	7,746	10,147	11,899
Soda Ash	25	27	27	24	22	23
Sugar—Refined	561	1,044	1,114	974	1,850	1,917
Supphate—of Ammonia	188,948	260,310	288,891	264,949	270,121	296,554
Suphur	...	lb.	192,662	579,748	748,473	674,009	737,118	889,784
Tallow	...	cwt.	5,380	45,238	43,095	43,095	51,165	59,876
Tanning Extract	...	70lb. bag	15,740	55,964	56,726	54,181	56,273	64,570
Tobacco—Cured Leaf	10,739	20,297	20,497	19,983	19,980	23,679
Tomatoes	59,572	103,579	101,931	101,755	101,422	79,514
Vegetables	18,305	62,222	63,257	63,619	64,376	67,584
Whales	30,020	48,266	48,934	46,855	48,370	46,855
Wheat	...	ton	8,016	33,387	33,542	33,302	35,835	40,064
Yarn—Cotton	2,362	2,188	2,255	2,029	2,661	2,881
Worsted	964	208	215	226	359	250
	...	cwt.	36,356	34,243	32,025	27,629	26,924	31,470
	...	lb.	22,090	32,526	29,183	33,906	31,257	30,174
	825,377	2,310,440	2,354,240	2,103,360	2,132,480	2,011,520
	...	cwt.	247,967	402,215	438,406	577,327	635,257	573,501
	6,819	37,707	17,286	14,581	15,957	18,002
	...	No.	1,156	14,958	12,284	5,136	9,264	13,919
	...	bushel	...	348	1,217	1,187	1,301	1,320
	...	lb.	6,669,491	10,096,458	10,410,240	10,601,417	9,092,341	8,370,714
	52,821	73,626	50,717	68,795	91,017	100,826
	(a)	162,779	107,333	120,209	159,094	169,801

(a) Not available. (b) Hoppus.

GROWTH OF CERTAIN INDUSTRIES

In the treatment of manufacturing activity so far presented in this Part it has not been possible to give a detailed account of the growth of each industry in the sixteen classes. However, the following tables give a review of the ten years ended 1954-55, compared with 1938-39, for particular industries which have been selected because of the employment they provide for labour and capital or for other features of special interest or significance.

WORKS PRODUCING LIME, PLASTER AND PLASTER SHEETS

Year.	Factories.	Book values of :—		Persons employed.	Salaries and Wages.	Materials used. (a)	Output.	Net Production.	Raw Materials used.		Fibrous Plaster sheets produced.	Lime (Quicklime) produced.
		Land and Buildings.	Plant and Machinery.						Sisal Hemp and Substitutes.	Gypsum.		
	No.	£	£	No.	£	£	£	£	Ton.	Ton.	Sq. Yd.	Ton.
1938-39	25	37,379	39,346	360	51,520	81,469	173,405	91,936	346	11,639	381,649	17,056
1945-46	24	39,341	18,764	269	60,326	107,907	209,596	101,619	389	8,829	653,735	9,928
1946-47	26	43,298	20,976	269	94,324	169,992	331,121	131,120	533	19,864	1,098,587	11,323
1947-48	33	43,295	20,184	257	116,821	213,918	415,050	201,132	632	21,917	1,211,338	15,743
1948-49	34	63,310	50,739	433	147,421	277,040	499,730	222,680	738	23,680	1,445,625	18,733
1949-50	41	75,317	50,666	466	152,278	344,068	624,503	250,495	805	26,936	1,654,761	14,462
1950-51	45	123,887	82,238	543	262,685	497,057	930,904	442,847	1,066	43,506	2,067,752	20,121
1951-52	48	120,984	85,918	547	342,927	717,759	1,239,113	571,354	1,339	31,083	2,511,030	22,480
1952-53	46	126,581	71,458	577	372,751	777,105	1,343,335	563,250	1,260	31,732	2,338,233	25,384
1953-54	46	136,651	96,236	593	422,057	835,175	1,452,324	616,773	1,443	33,615	2,338,504	25,594
1954-55	49	245,637	119,504	632	467,408	892,835	1,658,644	746,989	1,475	33,870	2,487,841	23,565

(a) Includes basic materials ; fuel, power and light ; lubricating oil and water ; repairs to buildings and plant ; and value of non-returnable containers.

WORKS PRODUCING CLAY PRODUCTS (BRICKS, TILES AND EARTHENWARE)

Year.	Factories.	Book values of :—		Persons employed.	Salaries and Wages.	Materials used. (a)	Output.	Net Production.	Bricks produced. (b)
		Land and Buildings.	Plant and Machinery.						
	No.	£	£	No.	£	£	£	£	'000.
1938-39	27	82,158	131,051	516	111,233	95,879	283,450	187,571	53,062
1945-46	18	73,236	100,536	415	105,362	78,297	230,329	152,532	19,087
1946-47	27	78,936	121,652	630	120,010	399,531	329,521	249,521	35,055
1947-48	27	97,925	160,627	711	215,385	173,295	492,423	319,128	42,389
1948-49	32	131,683	194,590	799	275,969	183,454	417,696	47,761	56,437
1949-50	36	166,252	247,400	888	367,029	238,918	827,387	563,469	56,437
1950-51	32	205,154	311,795	985	490,721	364,388	1,120,744	756,356	64,628
1951-52	34	298,567	376,987	991	654,364	481,330	1,466,143	984,813	72,417
1952-53	37	856,147	773,704	1,075	764,328	629,534	1,909,946	1,271,412	82,521
1953-54	38	878,523	898,002	1,202	904,749	766,157	2,355,089	1,588,932	96,174
1954-55	37	972,087	1,087,047	1,273	1,032,742	887,581	2,576,199	1,688,618	106,672

(a) Includes basic materials ; fuel, power and light ; lubricating oil and water ; repairs to buildings and plant ; and value of non-returnable containers. (b) Excludes Firebricks.

CHEMICAL FERTILIZER WORKS

Year.	Factories.			Book values of :—		Persons Employed.	Salaries and Wages.	Materials Used. (a)	Output.	Net Production.	Principal Raw Materials Used.			Super-phosphate Produced.
	No.	£	£	Land and Buildings.	Plant and Machinery.						Phosphate Rock.	Sulphur.	Pyrites.	
1938-39	5	501,704	656,000	No.	402	No.	£	£	£	£	ton	ton	ton	ton
1945-46	6	546,431	838,685	699	240,471	2,131,366	2,585,219	1,123,141	453,853	317,158	188,948	36,356	....	306,738
1946-47	6	572,878	807,343	703	252,811	2,064,115	2,477,514	1,123,141	453,853	317,158	188,948	36,356	....	306,738
1947-48	6	576,979	839,670	758	315,748	2,636,642	3,264,208	1,123,141	453,853	317,158	188,948	36,356	....	306,738
1948-49	6	595,744	857,796	788	332,241	3,106,108	3,881,297	1,123,141	453,853	317,158	188,948	36,356	....	306,738
1949-50	6	589,485	823,295	730	372,935	3,266,234	4,029,784	1,123,141	453,853	317,158	188,948	36,356	....	306,738
1950-51	5	586,287	731,350	762	459,958	3,551,544	4,274,653	1,123,141	453,853	317,158	188,948	36,356	....	306,738
1951-52	5	615,446	736,918	848	669,451	5,244,332	6,466,751	1,123,141	453,853	317,158	188,948	36,356	....	306,738
1952-53	5	643,757	875,803	901	755,571	5,216,485	6,791,432	1,123,141	453,853	317,158	188,948	36,356	....	306,738
1953-54	5	1,518,466	1,530,319	889	769,629	4,953,866	6,514,091	1,123,141	453,853	317,158	188,948	36,356	....	306,738
1954-55	6	1,817,357	2,253,581	1,004	874,866	5,024,256	6,968,260	1,123,141	453,853	317,158	188,948	36,356	....	306,738

(a) Includes basic materials ; fuel, power and light ; lubricating oil and water ; repairs to buildings and plant and value of non-returnable containers.

ENGINEERING, METAL-WORKING, CONSTRUCTION AND REPAIR OF VEHICLES AND MACHINES

Year.	Factories.	Book values of :—		Persons Employed.	Salaries and Wages.	Materials Used. (a)	Output.	Net Production.
		Land and Buildings.	Plant and Machinery.					
1938-39	No. 628	£ 1,740,632	£ 1,063,409	No. 7,003	£ 1,607,655	£ 1,650,883	£ 3,953,161	£ 2,332,278
1945-46	688	2,385,627	1,749,748	10,869	3,074,708	3,485,999	8,211,781	4,725,782
1946-47	818	2,415,091	1,532,112	11,500	3,232,484	3,812,383	8,512,656	5,000,572
1947-48	804	2,645,939	1,750,371	12,422	3,945,708	4,557,045	10,704,569	6,442,824
1948-49	928	3,066,475	2,170,126	13,442	5,758,070	5,392,549	15,044,116	8,651,969
1949-50	948	3,364,475	2,459,247	14,418	5,643,427	6,987,373	15,383,792	8,396,419
1950-51	994	3,714,049	2,487,735	15,971	7,518,344	10,591,584	22,596,356	12,004,772
1951-52	1,067	4,545,697	3,076,587	16,376	9,495,583	13,376,761	27,054,979	14,078,518
1952-53	1,189	5,982,163	3,959,262	16,888	10,678,834	14,055,921	30,682,066	16,067,139
1953-54	1,264	7,288,090	4,642,606	18,241	12,408,098	17,912,066	36,906,519	18,967,447
1954-55	1,351	8,445,162	5,274,092	18,726	13,586,572	18,130,212	39,387,318	21,257,106

(a) Includes basic materials ; fuel, power and light ; lubricating oil and water ; repairs to buildings and plant and the value of non-returnable containers.

TANNERIES

Year.	Factories.	Book Values of :—		Persons Employed.	Salaries and Wages.	Materials Used. (a)	Output.	Net Production.	Hides Tanned.	Skins Tanned.	Leather Produced :—	
		Land and Buildings.	Plant and Machinery.								By Weight.	By Measurement.
	No.	£	£	No.	£	£	£	£	No.	No.	lb.	sq. ft.
1938-39	7	39,859	26,229	89	18,338	75,410	122,405	46,995	52,047	4,965	1,536,209	246,400
1945-46	5	40,729	30,506	154	46,968	174,465	263,007	88,542	95,577	1,585	2,875,870	671,614
1946-47	5	40,730	30,570	174	58,618	210,473	312,966	102,493	111,265	2,249	3,092,850	1,010,895
1947-48	5	40,978	35,978	189	71,131	233,395	363,353	129,958	130,340	1,921	2,728,956	2,093,332
1948-49	5	42,887	37,706	209	84,456	239,290	381,935	142,645	183,232	6,890	3,300,478	1,513,530
1949-50	5	43,111	42,189	218	95,330	262,286	428,517	166,231	137,422	5,263	3,397,393	1,627,687
1950-51	5	43,652	44,676	295	115,521	284,294	495,464	211,170	139,465	5,151	3,394,619	1,852,110
1951-52	5	43,462	43,371	293	141,747	352,298	596,142	243,844	141,090	7,918	3,582,434	1,983,040
1952-53	5	45,293	47,480	203	152,783	369,150	642,574	273,424	132,153	6,016	3,195,256	1,899,099
1953-54	5	37,993	50,222	209	156,791	412,429	641,746	229,317	143,691	4,746	3,032,434	2,114,220
1954-55	5	43,123	52,424	197	145,135	410,248	616,949	206,701	122,840	1,116	2,927,524	1,757,815

(a) Includes basic materials; fuel, power and light; lubricating oil and water; repairs to buildings and plant.

FOOTWEAR (OTHER THAN RUBBER) MANUFACTURERS

Year.	Factories.	Book values of :—		Persons Employed.	Salaries and Wages.	Materials Used. (a)	Output.	Net Production.	Footwear Produced.	
		Land and Buildings.	Plant and Machinery.						Boots and Shoes.	Slippers and Sandals.
	No.	£	£	No.	£	£	£	£	Pairs.	Pairs.
1938-39	9	41,971	34,896	363	50,731	98,001	169,812	71,811	356,881	255,726
1945-46	10	53,571	47,466	515	116,655	194,272	350,297	155,955	318,629	513,224
1946-47	11	57,501	52,753	608	145,142	232,021	424,958	192,937	324,303	667,845
1947-48	11	53,495	59,835	638	165,294	239,545	463,041	223,496	337,175	517,742
1948-49	13	77,175	91,714	749	228,124	315,211	614,394	299,183	454,758	597,005
1949-50	12	72,199	90,067	770	262,303	360,584	691,808	331,224	466,060	633,122
1950-51	12	83,080	120,146	887	368,351	465,129	991,014	525,885	555,237	773,355
1951-52	12	109,817	127,046	898	474,697	621,787	1,251,465	629,668	577,206	732,870
1952-53	10	111,799	129,724	738	427,187	546,348	1,086,129	539,781	474,626	552,152
1953-54	11	138,068	134,291	767	444,048	605,388	1,203,179	597,791	523,711	739,945
1954-55	11	149,267	135,424	634	395,058	489,028	1,029,869	540,841	415,377	524,686

(a) Includes basic materials; fuel, power and light; lubricating oil and water; repairs to buildings and plant and the value of non-returnable containers.

FLOUR MILLS

Year.	Factories.	Book values of:—		Persons employed.	Salaries and Wages.	Materials used. (a)	Output.	Net Production.	Wheat used.	Production of:—		
		Land and Buildings.	Plant and Machinery.							Flour.	Bran.	Pollard.
	No.	£	£	No.	£	£	£	£	bushels.	ton (2000lb.)	ton (2000lb.)	ton (2000lb.)
1938-39	...	255,030	222,053	410	101,155	977,246	1,239,125	261,879	6,622,410	138,583	34,467	23,745
1945-46	...	239,774	198,660	487	166,582	1,932,390	2,228,391	296,001	8,182,919	166,791	38,671	26,803
1946-47	...	240,454	220,812	538	183,965	2,048,543	2,378,365	329,822	176,726	176,726	40,061	28,256
1947-48	...	250,555	254,038	526	224,105	3,439,138	3,439,428	391,290	8,936,286	195,497	43,105	32,508
1948-49	...	260,749	274,571	515	246,552	3,186,039	3,672,357	486,318	8,277,775	181,466	40,136	29,736
1949-50	...	270,604	294,328	483	249,118	2,931,869	3,431,040	499,171	7,350,608	159,495	34,117	26,849
1950-51	...	636,778	607,935	546	346,395	4,684,587	5,341,363	656,776	9,885,810	217,345	47,377	34,907
1951-52	...	661,604	610,071	559	427,180	6,155,480	7,004,411	848,931	10,142,012	221,546	48,337	35,771
1952-53	...	663,572	599,248	571	407,792	8,025,194	8,851,068	851,068	10,382,390	224,330	49,283	38,364
1953-54	...	697,789	602,736	543	439,385	6,877,750	7,712,595	834,845	8,838,076	187,958	41,793	31,314
1954-55	...	755,517	602,791	507	416,199	6,360,709	7,066,426	705,717	8,078,907	165,767	37,640	27,118

(a) Includes the value of grain used ; fuel, power and light ; lubricating oil and water ; repairs to buildings and plant and the value of non-returnable containers.

BACON FACTORIES

Year.	Factories.	Book values of:—		Persons employed.	Salaries and Wages.	Materials used. (a)	Output.	Net Production.	Pigs Killed† (All Purposes).	Bacon and Ham produced.
		Land and Buildings.	Plant and Machinery.							
	No.	£	£	No.	£	£	£	£	No.	lb.
1938-39	...	26,403	14,159	94	21,211	225,759	265,407	39,648	51,218	4,212,970
1945-46	...	56,356	31,914	333	95,202	1,271,751	1,437,215	165,464	162,862	10,243,198
1946-47	...	51,804	33,044	295	97,378	1,219,443	1,382,985	163,542	127,170	10,305,931
1947-48	...	57,468	31,711	309	103,726	1,225,293	1,371,450	146,157	105,378	9,480,505
1948-49	...	55,009	34,742	311	117,141	1,423,262	1,591,082	167,820	101,596	8,412,342
1949-50	...	51,563	35,309	273	109,896	1,296,747	1,562,557	265,810	88,275	7,934,110
1950-51	...	66,308	38,749	258	136,888	1,559,922	1,845,505	285,583	85,444	7,969,883
1951-52	...	67,706	37,940	253	176,372	1,943,657	2,224,450	280,793	96,356	8,243,124
1952-53	...	127,480	46,979	268	180,727	2,047,705	2,307,390	259,685	89,166	8,272,455
1953-54	...	103,174	33,845	215	166,553	2,065,373	2,237,656	172,283	84,223	7,722,949
1954-55	...	101,687	43,251	254	189,145	1,868,483	2,296,546	430,063	116,689	7,427,758

(a) Includes the value of carcasses, etc. ; fuel, power and light ; lubricating oil and water ; repairs to buildings and plant and the value of non-returnable containers.
† Excluding pigs condemned.

BUTTER FACTORIES

Year.	Factories.	Book values of:—		Persons employed.	Salaries and Wages.	Materials used. (a)	Output.	Net Production.	Cream used.		Butter made.
		Land and Buildings.	Plant and Machinery.						lb.	£	
1938-39	17	£ 70,375	£ 64,596	No. 166	£ 35,151	£ 851,255	987,121	£ 135,866	29,774,686	lb. 14,654,760	
1945-46	10	49,746	55,557	172	47,072	799,502	923,635	124,133	25,876,011	12,553,346	
1946-47	12	51,962	58,199	176	53,470	921,023	1,046,418	125,395	27,449,407	13,340,493	
1947-48	11	51,883	67,236	167	51,499	1,254,706	1,389,054	134,348	32,053,936	15,620,935	
1948-49	11	53,613	82,105	190	61,390	1,507,761	1,785,439	277,678	32,010,615	15,604,314	
1949-50	11	63,150	94,681	213	85,047	1,577,918	1,765,721	188,703	31,151,896	15,162,602	
1950-51	9	50,452	84,014	188	92,609	1,547,512	1,795,678	248,166	31,458,796	15,224,913	
1951-52	8	56,369	92,431	198	129,883	1,980,689	2,242,631	261,942	29,498,207	15,020,018	
1952-53	6	49,942	111,217	170	123,962	2,324,152	2,633,844	309,692	29,337,419	14,516,018	
1953-54	6	43,441	116,090	140	105,535	2,305,190	2,571,526	266,336	28,204,720	13,757,468	
1954-55	7	73,002	181,772	145	104,185	2,653,267	2,965,799	312,532	32,233,022	16,005,099	

(a) Includes the value of cream used ; fuel, power and light ; lubricating oil and water ; repairs to buildings and plant and the value of non-returnable containers.

BREWERIES

Year.	Factories.	Book values of:—		Persons employed.	Salaries and Wages.	Materials used. (a)	Output.	Net Production.	Materials used.			Beer and Stout made.
		Land and Buildings.	Plant and Machinery.						Sugar.	Malt.	Hops.	
1938-39	No. 6	£ 292,832	£ 390,465	No. 443	£ 154,603	£ 343,540	£ 908,230	£ 559,690	70lb. bags, 18,035	bushels, 306,842	lb. 184,383	gallons, 7,268,503
1945-46	6	276,614	226,573	490	189,355	591,845	1,316,156	724,311	49,245	366,462	238,367	10,552,015
1946-47	6	271,245	193,900	479	188,973	652,235	1,436,392	784,157	50,344	414,401	263,015	11,802,169
1947-48	6	267,614	200,558	479	216,631	662,869	1,472,925	810,056	47,811	434,214	255,098	11,999,415
1948-49	6	296,376	216,363	532	264,411	818,455	1,677,775	859,320	50,274	479,264	293,040	12,307,420
1949-50	4	257,387	221,180	546	303,820	1,128,548	2,139,974	1,011,426	55,298	554,651	337,088	15,250,125
1950-51	4	269,952	324,109	577	373,693	1,374,578	2,470,750	1,096,172	62,222	594,030	385,460	16,478,979
1951-52	4	310,366	388,867	623	514,350	1,645,551	2,996,914	1,354,363	63,257	638,583	396,729	17,433,390
1952-53	4	384,264	534,464	624	590,001	2,017,139	3,471,305	1,454,166	63,619	619,595	381,628	17,783,571
1953-54	3	588,942	855,501	616	536,589	2,243,966	3,758,919	1,514,953	64,876	614,617	403,955	17,844,069
1954-55	3	677,146	1,138,558	569	490,815	2,198,963	3,769,935	1,570,967	67,534	637,606	439,199	17,410,951

(a) Includes the value of raw materials ; fuel, power and light ; lubricating oil and water ; repairs to buildings and plant and the value of non-returnable containers.

SAWMILLS

(Operating on Logs)

Year.	Factories.	Book values of :—		Persons employed.	Salaries and Wages.	Materials used. (a)	Output.	Net Production.	Logs Sawm (Hoppus Measure).	Timber Produced.
		Land and Buildings.	Plant and Machinery.							
	No.	£	£	No.	£	£	£	£	Super. feet.	Super. feet.
1938-39	109	120,680	340,358	1,890	396,633	564,606	1,142,298	577,692	329,556,308	123,601,365
1945-46	94	120,938	337,860	1,863	470,638	693,838	1,417,534	724,196	959,012,667	105,579,982
1946-47	115	123,915	344,998	2,089	564,313	831,397	1,690,778	839,381	999,876,295	122,099,507
1947-48	135	158,192	383,322	2,253	661,803	994,372	2,040,729	1,045,837	301,368,189	127,958,250
1948-49	134	151,443	384,241	2,446	787,375	1,126,575	2,376,566	1,250,011	299,556,332	124,043,750
1949-50	172	259,731	716,795	2,707	965,491	1,418,697	3,005,176	1,586,479	313,594,651	136,398,849
1950-51	179	394,449	817,593	2,910	1,237,678	1,772,311	3,950,018	2,177,707	347,331,664	154,549,846
1951-52	231	653,875	1,291,101	3,335	1,744,550	2,357,719	5,556,042	3,174,323	396,680,685	176,170,310
1952-53	223	806,582	1,278,073	3,880	2,073,865	2,977,316	7,038,310	4,235,794	454,487,129	201,042,255
1953-54	224	811,191	1,274,478	3,723	2,528,570	3,380,647	7,610,750	4,930,103	481,721,483	213,171,795
1954-55	231	1,017,592	1,366,799	3,833	2,046,373	3,761,110	7,998,049	4,256,939	509,056,395	224,126,735

(a) Includes the value of logs treated ; fuel, power and light ; lubricating oil and water ; repairs to buildings and plant and the value of non-returnable containers.

FURNITURE(†) AND UPHOLSTERY MANUFACTURERS

Year.	Factories.	Book values of :—		Persons employed.	Salaries and Wages.	Materials used. (a)	Output.	Net Production.
		Land and Buildings.	Plant and Machinery.					
	No.	£	£	No.	£	£	£	£
1938-39	88	117,426	31,355	690	145,737	187,572	362,375	174,803
1945-46	105	153,663	45,375	708	151,434	248,352	523,827	275,475
1946-47	127	184,239	60,241	987	227,783	380,282	760,754	380,472
1947-48	141	220,411	90,015	1,115	275,932	525,363	1,009,482	484,119
1948-49	138	232,384	95,305	1,160	337,529	574,780	1,130,136	555,356
1949-50	141	254,846	115,138	1,182	390,406	692,724	1,335,778	643,054
1950-51	141	295,736	139,755	1,500	489,751	893,770	1,685,741	791,971
1951-52	143	367,313	164,023	1,263	603,138	1,015,066	2,008,875	994,809
1952-53	144	406,495	167,574	1,178	596,906	957,410	1,926,845	969,435
1953-54	153	443,452	177,078	1,179	646,524	1,121,430	2,189,951	1,068,521
1954-55	151	540,096	179,774	1,170	669,971	1,181,435	2,284,237	1,102,802

(a) Includes the value of raw materials ; fuel, power and light ; lubricating oil and water ; repairs to buildings and plant.

† Excludes cane and metal furniture.

WOOLSCOURING AND FELLMONGERY WORKS

Year.	Factories.	Book values of :—		Persons employed.	Salaries and Wages.	Materials used (a)	Output.	Net Production.	Scoured Wool obtained.
		Land and Buildings.	Plant and Machinery.						
	No.	£	£	No.	£	£	£	£	lb.
1938-39	5	20,486	23,924	59	14,168	39,493	60,238	20,745	3,688,615
1945-46	7	45,807	58,536	193	60,058	43,052	123,184	80,132	8,596,388
1946-47	6	43,373	61,071	206	71,912	101,674	197,151	95,477	11,942,306
1947-48	6	43,392	64,518	225	84,974	138,997	262,519	123,522	11,685,754
1948-49	6	44,704	73,142	235	107,996	197,263	371,771	174,508	14,089,830
1949-50	6	47,620	74,370	249	129,791	907,061	1,222,313	315,252	15,490,566
1950-51	5	45,000	78,616	223	129,606	1,661,207	1,904,238	243,031	12,849,475
1951-52	7	76,785	139,657	242	172,613	632,166	956,259	324,093	12,971,705
1952-53	6	77,168	167,120	258	195,165	756,230	1,038,768	282,538	13,584,494
1953-54	6	87,027	119,965	255	204,369	833,585	1,165,705	332,120	15,241,703
1954-55	6	53,369	116,744	250	209,442	749,074	1,153,055	403,981	15,930,051

(a) Includes the value of raw materials ; fuel, power and light ; lubricating oil and water ; repairs to buildings and plant and the value of non-returnable containers.

ELECTRICITY AND TOWN GAS UNDERTAKINGS

Statistics relating to the operation of electricity and town gas undertakings have been included in the preceding general tables appearing in this Part, and details of those which are owned and operated by government agencies are included in the table on page 240 dealing with government factories.

Electricity Generation and Transmission

The areas supplied with adequate industrial power have been restricted to a certain extent by the absence of conditions suitable for the generation of hydro-electric power and by the localized nature of the developed coalfields. The requirements of the Metropolitan Statistical Division and adjacent areas have been met by conveying coal to central power stations, but supplies in some of the less centrally situated areas have been inadequate.

A new policy of linking decentralized power stations in a grid system is now being implemented and will do much to remedy existing deficiencies over the great part of the south-west of the State. Major steam turbine generating stations are at present operating at South Fremantle, East Perth and Collie, and a fourth is under construction at Bunbury. The Collie and Bunbury stations are intended as important feeder units in the system. Minor systems, served by local government authorities or privately-owned plants and supplying either direct or alternating current of various voltages, are being absorbed as the Grid system's transmission lines extend.

This work, which is being carried out as part of a long term developmental scheme by the State Electricity Commission of Western Australia, is expected, within the next ten years, to provide a large area of the State with electric power at standard frequency and voltage.

Town Gas Production

Town gas production in Western Australia is now limited to three establishments, located at Perth, Albany and Fremantle. The first two of these are operated by the State Electricity Commission and that at Fremantle by a limited company. A fourth establishment was controlled by the Municipality of Geraldton until the gas works were closed down in 1956.

The following tables give details of electricity and town gas undertakings during 1938-39 and the period 1945-46 to 1954-55.

ELECTRICITY GENERATING STATIONS
(*Excluding details relating to transmission and distribution*)

Year.	Establishments.	Book Values of:—		Engines used to drive Generators.	Persons Employed.	Salaries and Wages.	Materials Used. (a)	Output.	Net Production.	Electricity Generated. Units (K.W.H.).	Electricity Distributed. Units (K.W.H.).
		Land and Buildings.	Plant and Machinery.								
No.	No.	£	£	H.P.	No.	£	£	£	£	Units (K.W.H.).	Units (K.W.H.).
1938-39 ...	109	461,885	2,740,936	150,053	538	199,503	677,935	1,247,770	569,835	299,593,615	270,106,988
1945-46 ...	109	464,130	2,097,516	156,930	687	252,890	903,960	1,506,985	513,723	330,773,427	393,998,379
1946-47 ...	114	518,403	2,023,783	155,448	817	308,083	1,198,690	1,759,368	537,703	371,607,506	332,160,465
1947-48 ...	113	517,470	1,923,604	159,497	860	335,507	1,232,972	1,747,806	528,834	394,730,968	350,652,257
1948-49 ...	116	316,643	1,386,960	161,945	915	432,249	1,507,567	2,171,940	694,833	383,281,936	344,692,524
1949-50 ...	113	355,934	1,731,966	168,410	1,029	325,414	1,676,186	2,430,501	734,312	409,459,265	360,330,987
1950-51 ...	113	927,126	3,343,971	203,902	1,023	617,881	1,968,616	2,897,501	858,885	461,283,839	392,925,611
1951-52 ...	100	1,699,935	7,553,167	263,955	1,108	836,272	2,641,993	2,774,441	1,135,448	514,626,136	412,951,313
1952-53 ...	95	2,643,965	7,452,180	258,151	1,063	916,568	2,900,714	2,774,459	1,135,448	532,689,317	454,701,073
1953-54 ...	93	3,048,293	8,293,465	278,017	961	843,712	3,354,717	2,688,381	2,308,621	613,267,312	506,716,193
1954-55 ...	94	3,186,519	9,512,914	323,119	945	923,264	3,659,287	6,262,257	2,602,970	689,772,263	570,187,968

(a) Includes fuel, power and light ; lubricating oil and water ; repairs to buildings and plant, etc.

TOWN GAS WORKS

Year.	Factories.	Book values of:—		Persons Employed.	Salaries and Wages.	Materials Used. (a)	Output.	Net Production.	Coal Carbonised.	Gas Made. '000 cub. ft.	Coke Produced. ton.
		Land and Buildings.	Plant and Machinery.								
No.	No.	£	£	No.	£	£	£	£	ton.	'000 cub. ft.	ton.
1938-39 ...	4	59,261	240,845	120	31,087	95,675	169,986	74,311	25,726	561,002	14,104
1945-46 ...	4	65,270	413,438	193	60,523	236,742	334,666	97,924	46,166	1,091,501	26,903
1946-47 ...	4	70,089	399,011	184	63,041	250,736	343,034	92,288	50,413	1,127,125	29,630
1947-48 ...	4	71,871	415,844	180	73,324	305,342	354,303	48,961	54,631	1,206,612	28,844
1948-49 ...	4	70,810	554,270	191	84,004	313,027	399,207	86,180	55,824	1,250,404	22,604
1949-50 ...	4	75,178	646,962	191	98,227	383,054	479,252	96,228	48,312	1,189,147	33,009
1950-51 ...	4	94,067	780,769	183	104,158	483,180	589,010	105,850	59,494	1,392,023	28,217
1951-52 ...	4	125,208	967,714	201	153,207	690,773	871,734	180,961	64,621	1,429,602	30,689
1952-53 ...	4	144,338	1,212,277	212	156,397	772,862	960,940	188,068	63,750	1,443,304	23,930
1953-54 ...	4	143,578	1,464,789	201	180,647	777,546	1,003,168	225,632	56,240	1,442,802	22,068
1954-55 ...	4	139,951	1,553,038	200	187,667	738,289	996,751	258,462	55,167	1,447,705	21,111

(a) Includes cost of coal ; fuel, power and light ; lubricating oil and water ; repairs to buildings and plant, etc.

CHAPTER IX—TRADE, TRANSPORT AND COMMUNICATION

PART 1.—TRADE

Early Records and Historical Summary

Statistics concerning the external trade of the Colony of Western Australia during the early years of settlement were obtained firstly from the records of the Harbour Masters and subsequently from information compiled by the Collectors of Customs. The earlier entries were not detailed—thus the recorded imports of 1829 (the first year of the Colony), totalled some £50,000, but no information is available regarding the type of goods or their precise origin. From 1846 fuller details are available, the total for that year being £25,959, and the principal items as follow :— apparel and haberdashery, flour, biscuits, grain, tea, coffee and sugar. The goods came, mainly, from the United Kingdom and the British Colonies, which included the Colonies of Eastern Australia.

Customs procedure was regulated by Imperial Acts until the enactment of the Customs Ordinance of 1860 which remained in force until 1892 when—following the granting of self-government—the State Parliament passed the Customs Consolidation Act. During this pre-Federation period Customs duties were levied on imports from the other Australian Colonies as well as those from oversea countries.

No separate records of imports from the other Australian colonies are available for years prior to 1857, when the value of goods from those sources was only £9,472, compared with £87,135 from the United Kingdom and £94,532 for total imports. During the next thirty years the most notable feature of inward trade was the increasing importance of Eastern Australia as a source of supplies. In 1877, imports from the other Australian colonies overtook purchases from the United Kingdom and comprised nearly one-half of the total.

The annual value of all imports was still below £1 million in 1890, but the total for the year 1900 (after which the control of Customs and Excise passed to the Commonwealth Parliament) was slightly less than £6 million, £2·7 million of which were from the Eastern States and £2·2 million from the United Kingdom. In the course of this 10 years' period, and principally because of the population increases which followed the gold finds, the range of commodities coming into the State broadened considerably. Besides normal consumer requirements, such as foodstuffs, beer, tobacco, apparel and drapery, some of the principal imports were mining machinery, live animals, railway stores and rolling stock, iron and steel products.

Wool was the predominant export from the State until 1890 when gold and, to a lesser extent, timber assumed increasing importance. The first records of exports additional to ships' stores appeared in 1837 and placed the total for that year at £6,906, comprising £5,394 to the United Kingdom and the balance to other British Colonies. By 1860 the total had risen to £89,247, and the principal items were wool, sandalwood, timber and some horses and sheep. Following the discovery of payable gold in the Kimberley District during 1885, gold bullion valued at £1,207 was sent to Melbourne in 1886. Meanwhile the Pearl-shell Industry had been established for nearly twenty years, and the export of pearls and pearl-shell (£126,292) ranked second after wool (£261,352) in 1890. For that year gold exports were worth £86,664 and timber £82,052.

The State's export trade expanded rapidly between 1890 and 1900 when a total of almost £7 million was reached. Eighty-one per cent. of this represented exports of uncoined and coined gold, whilst 7% was attributable to timber and about 4% to wool. Thus, the pre-Federation period in the State's history ended with gold as the predominant export commodity and the United Kingdom (62%), the other Australian States (16%) and other British Countries (18%) forming the principal export destinations.

Post-Federation Trade

In the period between the establishment of the Commonwealth and the outbreak of the second World War, import and export trade developed steadily, with some setback during the first World War and the financial depression of the early nineteen-thirties. From 1901 to 1909 annual imports remained fairly constant at levels between £6 and £7 million, but by 1913, the figure was almost £10 million. This period is notable for the emergence of wheat as an important export commodity, although gold was still the principal item exported. During the last pre-war year (1913) the value of bullion and specie sent out

of the State was £4.3 million, and total exports were valued at more than £9 million. In the same year the *quantity* of timber exported from the State (272,397 loads) reached a figure not previously or since attained.

During the 1914-18 War both imports and exports declined—to the extent that in 1917-18 the value of the latter had fallen below £6 million and the total of imports to less than £8 million. Following the cessation of hostilities trade recovered rapidly and by 1920-21 the value of imports had risen almost to £15 million. Similarly, the total value of exports rose sharply during the early post-war years, exceeding £16 million in 1919-20. From 1921-22, the value of imports continued to increase steadily until the £20 million mark was passed in 1928-29. Then followed a steep decline with the onset of the financial depression, bringing the import figure to less than £11.4 million by 1931-32—the lowest level since the first World War.

Meanwhile, strenuous efforts were made to maintain a high aggregate export income—principally by increasing production of primary products such as gold and wheat. As a result the total export income rose to nearly £18 million in 1930-31, only to fall again under the impact of depressed world prices until it reached a figure of £15.5 million during 1932-33. One result of the depression years was an increasing dependence by Australian consumers on goods manufactured within the Commonwealth. This is reflected in the larger proportion of Eastern States goods—compared with those from the United Kingdom or other overseas countries—imported into Western Australia up to 1938-39. In that year, the proportions were £12.1 million (64.1%) from the Eastern States, and £2.7 million (14.1%) from Britain, out of the total imports value of £18.8 million, compared with percentages of 44.9 and 37.3 in 1900. Exports for 1938-39 totalled £23 million, gold (worth more than £10.6 million) being the leading commodity and wool and wheat the next most important items.

TRADE SINCE 1939 (†)

Changes in the nature and direction of the State's external trade followed the outbreak of the second World War, and certain changes in the method of expressing import values were introduced in 1947. Dealing first with the valuation changes; these were brought about by an amendment of the Customs Act whereby, from 15th November, 1947, the values of overseas imports were required to be stated in "Australian Currency". This replaced "British Currency" which had been the valuation medium since the passing of the Customs Act in 1901. At the same time the opportunity was taken to abolish the statutory 10% addition to the value f.o.b. at port of shipment in the exporting country. This had been included for some 46 years—possibly to cover freight and insurance to port of entry into Australia.

In effect, the values of overseas imports are now assessed at their cost f.o.b., at the port of shipment, expressed in Australian currency. Using this new valuation basis, adjustments to import figures have been made retrospective to 1938-39 in the official publications of the Commonwealth and State Statisticians. Interstate imports on the other hand are valued at "landed cost" at the port or railway station of entry into Western Australia—that is a c.i.f. valuation. Exports, whether overseas or interstate, have always been valued in Australian Currency, f.o.b., at the port of shipment, except export commodities shipped on consignment. These are valued at the Australian f.o.b. equivalent of the ruling market prices in the importing State or Country.

Comparisons between the pre-1939 values of imports and the corresponding war-time and post-war figures need to take account of the above changes in the valuation basis. It is also necessary to make allowance for the considerable depreciation in the value of money during this period. Trade figures for the war period do not include supplies brought into or sent out of the State by the Australian and Allied Forces. They do, however, include goods imported by private firms for supply to the defence forces in this State and commodities exported by local manufacturers or suppliers for use by the Allied Forces.

War-time and Post-war Imports

In the year immediately preceding the outbreak of war (1938-39), import values totalled £18.8 million or £40.3 per head of the mean population. During 1939-40 the war had little apparent effect on the State's import trade; in fact the value of goods obtained from all sources rose to £20 million. However, in the following three years, imports from the other States of the Commonwealth declined from £13.1 million to £12.5 million, while overseas imports fell sharply, following Japan's entry into the Pacific War. Total imports which had fallen to £16.1 million in 1942-43 again rose in 1943-44, and thereafter continued to increase at an accelerated rate.

(†) The text which follows refers to the period up to 1953-54, but certain tables for the years 1954-55 and 1955-56 are given in a special supplement on pages 267 to 271.

IMPORTS ACCORDING TO STATISTICAL CLASSES

Class No.	Name of Class.	1938-39.	1949-50.	1950-51.	1951-52.	1952-53.	1953-54. †
I	Foodstuffs of Animal Origin...	£ 803,885	£ 1,532,246	£ 2,037,437	£ 2,376,019	£ 2,755,243	£ 3,149,811
II	Foodstuffs of Vegetable Origin...	1,704,954	4,403,447	5,948,577	6,129,354	7,041,089	8,103,675
III	Spirituous and Alcoholic Liquors	332,952	338,004	435,921	557,145	526,298	767,309
IV	Tobacco and Preparations thereof	918,112	1,707,856	1,979,410	2,326,786	2,342,971	2,864,812
V	Live Animals	203,984	460,067	507,821	599,498	511,737	725,863
VI	Animal Substances not Foodstuffs	132,142	781,670	1,362,852	880,755	649,890	633,859
VII	Vegetable Substances and Fibres	983,952	1,930,268	1,643,048	773,230	638,205	733,900
VIII	Yarns and Manufactured Fibres	1,922,856	4,930,495	1,828,980	3,787,756	1,472,304	1,512,147
VIII C	Textiles	1,982,951	5,430,083	6,395,906	8,467,696	3,931,960	6,981,934
IX	Apparel	1,191,701	6,980,974	8,191,525	9,286,775	7,890,218	10,382,319
X	Oils, Fats and Waxes	1,161,985	1,538,984	1,767,309	927,417	8,411,686	8,558,425
XI	Pigments, Paints and Varnishes	200,938	1,233,277	1,372,452	1,132,928	873,526	1,261,928
XII	Rocks and Minerals (including Ores and Concentrates)	2,996,222	14,323,406	18,476,121	26,832,714	1,223,431	1,581,554
XII A	Metals and Metal Manufactures	2,993,628	10,538,162	13,356,114	26,832,714	22,012,763	29,693,769
XII B	Dynamo Electrical Machinery and Appliances	376,710	10,538,162	11,976,000	18,536,642	3,986,062	5,145,391
XII C	Machines and Machinery, N.E.I.	98,549	1,862,174	2,776,300	4,426,497	1,861,500	20,154,899
XIII	Rubber and Rubber Manufactures	98,549	1,862,174	2,776,300	4,426,497	3,442,129	3,638,655
XIII A	Leather and Leather Manufactures	98,549	1,862,174	2,776,300	4,426,497	3,442,129	3,638,655
XIII B	Wood and Wicker—Raw and Manufactured	98,549	1,862,174	2,776,300	4,426,497	3,442,129	3,638,655
XIV	Earthenware, Cements, China, Glass, etc.	98,549	1,862,174	2,776,300	4,426,497	3,442,129	3,638,655
XV	Pulp, Paper and Board	98,549	1,862,174	2,776,300	4,426,497	3,442,129	3,638,655
XVI	Paper Manufactures and Stationery	98,549	1,862,174	2,776,300	4,426,497	3,442,129	3,638,655
XVI A	Sporting Materials, Toys, Fancy Goods, etc.	98,549	1,862,174	2,776,300	4,426,497	3,442,129	3,638,655
XVII	Optical, Surgical and Scientific Instruments	98,549	1,862,174	2,776,300	4,426,497	3,442,129	3,638,655
XVIII	Drugs, Fertilizers and Chemicals	98,549	1,862,174	2,776,300	4,426,497	3,442,129	3,638,655
XIX	Miscellaneous	98,549	1,862,174	2,776,300	4,426,497	3,442,129	3,638,655
XX	Gold and Silver	98,549	1,862,174	2,776,300	4,426,497	3,442,129	3,638,655
XXI	Gold and Silver; Bronze Specie	98,549	1,862,174	2,776,300	4,426,497	3,442,129	3,638,655
	Total Imports	18,801,957	69,443,677	88,172,421	122,341,420	98,480,531	125,212,340

† For later years see page 267.

Many of the important commodities imported are recorded only in terms of value (e.g., machinery, apparel, etc.), but the following supplementary table shows the principal imports for which quantities are available.

PRINCIPAL IMPORTS FOR WHICH QUANTITIES ARE RECORDED

Commodities.	Unit.	1938-39.	1949-50.	1950-51.	1951-52.	1952-53.	1953-54. ‡
Meats, Preserved in Tins	lb.	888,556	2,410,874	3,513,689	2,708,168	1,106,118	1,204,886
Milk and Cream, Preserved, Condensed, Concentrated, etc.	lb.	1,019,076	652,684	821,964	1,022,417	1,646,911	2,352,007
Milk, Dried or in Powdered Form and Malted	lb.	1,890,457	3,240,343	2,844,967	2,101,125	3,006,821	2,981,167
Butter	lb.	2,107,642	524,572	2,560,154	3,074,663	3,405,226	4,230,953
Butter Substitutes	lb.	1,745,368	2,131,085	2,212,541	2,218,718	2,455,121	2,832,657
Cheese	lb.	1,413,471	2,271,326	2,893,981	2,394,845	2,763,151	2,387,168
Fish, Preserved in Tins	lb.	1,817,545	1,255,307	1,199,122	1,496,097	431,038	1,038,610
Barley	bushel	7,457	53,142	346,602	205,266	421,071	367,447
Macaroni, Vermicelli and Spaghetti	lb.	230,267	922,481	930,096	786,066	762,142	1,157,705
Biscuits	lb.	257,216	282,061	206,142	159,211	177,902	183,578
Onions	cwt.	30,670	50,494	14,462	26,086	41,689	27,000
Potatoes	cwt.	1,328	19,435	64,005	31	11	2
Vegetables, Preserved in Liquid	lb.	(a)	3,071,996	3,930,546	2,375,583	2,122,477	2,465,347
Fruits, Fresh	cental.	48,101	19,603	30,453	12,850	12,414	41,388
Fruits, Dried	lb.	2,560,981	2,822,758	2,662,800	3,467,477	2,532,597	2,652,443
Fruits, Preserved in Liquid	lb.	(a)	4,619,337	5,001,386	5,919,790	6,186,044	5,660,349
Jams and Jellies	lb.	4,983,395	3,931,331	5,570,555	4,215,173	3,174,653	4,561,187
Jelly Crystals and Powders	lb.	321,866	183,981	287,165	310,548	299,802	128,628
Pickles and Sauces	lb.	104,456	1,907,693	2,015,654	1,891,058	1,633,266	2,050,525
Spices	lb.	443,616	242,840	307,101	262,629	261,762	285,935
Tea	lb.	4,508,671	3,662,715	4,484,028	4,108,802	4,522,368	4,277,784
Confectionery	lb.	4,367,559	4,913,298	5,465,453	5,490,790	6,118,400	6,861,347
Hops	lb.	181,648	393,386	394,385	450,845	348,863	361,936
Ale and Beer	gal.	660,324	11,777	16,877	21,464	17,814	23,455
Wine	gal.	197,520	383,980	407,553	485,268	455,771	634,489
Spirits (Beverages)	gal.	95,334	129,138	154,336	139,071	88,072	140,856
Tobacco, Unmanufactured	lb.	66,163	230,966	183,172	242,334	308,053	522,717
Tobacco, Manufactured	lb.	1,124,874	1,422,991	1,393,034	1,491,797	1,558,434	1,687,694
Cigarettes	lb.	511,077	1,056,925	1,101,838	1,289,743	987,467	1,341,303
Cigars	lb.	12,856	10,097	13,565	10,397	15,931	16,640
Wool, Greasy	lb.	13,528	3,512,914	2,316,875	1,347,835	864,284	612,015
Wool, Scoured and Carbonised	lb.	91,227	261,836	39,060	86,445	66,313	42,532
Wool Tops	lb.	46,911	170,386	240,317	237,693	240,012	343,085
Kapok	lb.	777,059	778,706	851,706	657,428	512,280	569,795
Bags and Sacks	doz.	601,794	806,346	759,962	817,526	458,839	555,431
Yarns	lb.	88,187	388,591	441,474	329,014	438,903	361,256
Petroleum and Shale Spirit (Petrol, etc.)	gal.	27,016,507	43,789,667	50,457,629	54,587,041	54,184,427	64,118,121
Kerosene and the Like	gal.	6,699,276	12,555,538	13,566,306	12,796,844	12,616,565	12,893,511
Solar Oil	gal.	1,089,065	5,003,053	5,733,067	9,572,329	10,021,056	10,080,052
Residual Oil	gal.	47,652,085	92,861,413	124,819,702	115,110,936	94,860,009	92,892,504
Lubricating (Mineral) Oil	gal.	1,490,157	4,127,392	3,758,354	5,058,466	3,313,174	1,805,777
Coal	ton	72,985	103,648	79,703	94,322	70,068	65,508
Asphalt, Bitumen, Tar and Pitch	cwt.	190,479	104,790	189,475	206,754	378,374	212,638
Sulphur	cwt.	887,736	777,938	685,993	601,370	410,556	728,075
Plywood and Veneers	sq. ft.	(a)	3,959,854	2,559,665	9,464,428	2,180,908	3,679,894
Timber (b)	sup. ft.	7,751,317	4,510,674	5,994,427	5,876,172	3,377,991	7,586,673
Rock Phosphates	cwt.	4,160,163	5,837,082	5,499,709	6,266,900	6,531,855	5,460,220
Other Fertilisers	cwt.	311,120	186,690	261,651	340,538	209,395	200,733
Cyanides of Potassium and Sodium	cwt.	57,509	38,857	41,478	60,902	53,167	38,541

(a) Weight not recorded.
not recorded in super feet.

(b) Excludes imports of palings, pickets, laths, mouldings and other types of timber
‡ For later years see page 268.

The steep rise in prices since 1938-39 precludes the use of records in terms of value for comparisons in the volume of imports. Approximate increases in the volume of imports per year can be deduced, however, from an examination of oversea and interstate cargo tonnages discharged at Western Australian ports (see following table). In the case of interstate imports it must be noted that the value of goods received from this source by rail, road, air and post during 1953-54 represented about 17% of the total imports, compared with only 3% in 1938-39. While records of overland interstate trade were not as complete in 1938-39 as they now are, it can be safely assumed that the volume of goods received, particularly by road transport, from the Eastern States has expanded considerably in the post-war years. It follows, therefore, that the upward trend in the volume of imports from the other States has been somewhat steeper than cargo tonnages indicate.

VALUE OF IMPORTS AND INWARD CARGO TONNAGES RECORDED

Year.	Imports.	Inward Cargo Tonnage (a).		
		Oversea.	Interstate.	Total.
	£	Tons.	Tons.	Tons.
1938-39	18,801,957	749,216	340,190	1,089,406
1939-40	20,008,720	748,922	359,083	1,108,005
1940-41	18,614,730	572,940	366,666	939,606
1941-42	18,250,537	617,525	411,638	1,029,163
1942-43	16,093,080	473,068	485,352	958,420
1943-44	17,199,337	474,294	441,622	915,916
1944-45	18,039,357	639,786	372,504	1,012,290
1945-46	21,628,149	624,631	405,966	1,030,597
1946-47	30,591,097	657,513	404,491	1,062,004
1947-48	42,819,781	741,289	419,997	1,161,286
1948-49	52,628,846	957,979	446,321	1,404,300
1949-50	69,443,677	1,279,068	421,270	1,700,338
1950-51	88,172,421	1,449,444	480,273	1,929,717
1951-52	122,341,420	1,585,288	505,635	2,090,921
1952-53	98,480,531	1,208,339	536,760	1,745,099
1953-54 ‡	125,212,340	1,285,386	564,773	1,850,159

(a) Combines both "measurement" and "weight" tonnages and relates to sea-borne freight only.

‡ For later years see page 268.

Of the total imports during 1953-54, just under two-thirds came from or via other States of the Commonwealth. The principal groups of imports (Interstate and Oversea combined), were:—Metals and Metal Manufactures (£29,693,769), of which motor vehicles and parts accounted for £11,738,789, a considerable proportion being from oversea; Machines and Machinery (£20,154,899), including tractors and parts £3,282,498 (mainly from oversea), refrigerating machines and appliances £2,492,275, and agricultural machinery £3,445,176; Electrical Appliances and Equipment (£5,145,391); Apparel and Textiles (£17,364,253); Foodstuffs (£11,252,986) and Petroleum Products, mainly from oversea, (£8,310,281).

War-time and Post-war Exports

Exports from the State during the first three war years were maintained at about £25 million per annum by heavy shipments of gold bullion, most of which was consigned to the other States of the Commonwealth. In 1942-43, because of the disruption of the State's oversea markets and interference with shipping, consignments of primary products declined sharply and the total value of exports (including ships' stores) amounted only to £16.4 million, of which £7.9 million represented gold bullion. As a war-time measure wool, wheat, apples, pears, dried fruit and a number of other primary products were acquired by the Commonwealth Government, the producers being paid at prices fixed under agreements made with the United Kingdom Government. In 1943-44 and 1944-45 the shipping position improved somewhat and, despite the slackening of exports of gold bullion, the annual export yields in those years rose to over £19 million—the principal items being wheat and wool.

The following table gives export values (including ships' stores) for each of the years, 1938-39 to 1953-54, together with the tonnages of outward cargo handled during the same years.

VALUE OF EXPORTS AND OUTWARD CARGO TONNAGES RECORDED.

Year.	Exports.	Outward Cargo Tonnage (a).		
		Oversea.	Interstate.	Total.
	£	Tons.	Tons.	Tons.
1938-39	23,006,410	957,209	117,816	1,075,025
1939-40	24,576,754	699,432	112,572	812,004
1940-41	24,839,479	669,043	171,815	840,858
1941-42	25,351,484	521,450	159,265	680,715
1942-43	16,362,003	272,632	141,687	414,319
1943-44	19,532,146	553,331	189,187	742,518
1944-45	19,403,033	630,796	388,474	1,019,270
1945-46	26,544,880	496,722	323,200	819,922
1946-47	29,720,015	474,597	199,826	674,423
1947-48	55,731,230	898,944	155,844	1,054,788
1948-49	55,593,830	827,273	132,763	960,036
1949-50	61,865,636	862,809	129,170	991,979
1950-51	111,857,881	1,224,759	130,840	1,355,599
1951-52	97,602,527	1,094,310	210,857	1,305,167
1952-53	113,132,804	1,139,711	727,567	1,867,278
1953-54 ‡	91,652,608	(b) 627,076	743,914	1,370,990

(a) Combines both "measurement" and "weight" tonnages and relates to sea-borne freight only.

(b) Low figure mainly due to considerable decline in shipments of wheat. ‡ For later years see page 268.

The State's principal exports during recent years and a comparison with 1938-39 are shown in the following table :—

QUANTITY AND VALUE OF THE MORE IMPORTANT EXPORTS FROM WESTERN AUSTRALIA
AND OF SHIPS' STORES

Commodities.	Unit.	1938-39.	1949-50.	1950-51.	1951-52.	1952-53.	1953-54.†
Beef (preserved by cold process)	{ lb. £	16,501,339 248,321	18,993,314 590,718	16,060,592 609,816	13,289,965 567,712	11,058,475 718,691	13,555,097 873,785
Mutton and Lamb (preserved by cold process)	{ lb. £	11,774,994 318,927	5,274,277 242,556	2,070,449 108,603	2,300,953 150,526	14,527,244 731,536	7,294,910 437,440
Pork (preserved by cold process)	{ lb. £	1,278,045 39,883	358,571 29,646	616,359 56,424	933,788 116,212	1,019,862 151,736	474,349 76,077
Milk and Cream, Preserved, Condensed, Concentrated, etc.	{ lb. £	2,289,954 81,684	6,441,360 360,912	9,282,459 629,038	5,533,880 369,691	5,168,452 479,317	7,172,039 681,257
Butter	{ lb. £	4,133,697 231,102	3,251,478 431,862	1,095,158 155,920	316,784 46,610	342,580 62,814	374,423 70,315
Eggs in Shell	{ doz. £	734,900 45,704	2,052,330 285,729	1,541,880 217,008	1,643,364 304,499	2,470,315 550,983	2,321,864 525,802
Eggs not in Shell	{ lb. £	6,322 335	941,283 90,756	1,480,180 209,903	1,730,021 209,398	3,147,751 470,220	3,452,776 564,698
Fish	{ lb. £	62,098 1,705	3,306,551 423,955	5,149,754 935,342	4,813,560 1,144,485	5,292,603 1,304,159	5,271,417 1,398,712
Wheat	{ bush. £	22,613,525 3,027,703	21,510,390 16,692,007	30,510,360 25,843,906	26,882,885 22,864,041	23,318,935 20,173,406	6,800,140 5,635,764
Flour (Wheaten)	{ cental £	1,780,586 582,495	2,316,287 4,167,598	3,194,796 5,887,141	3,231,614 6,834,290	3,524,814 7,545,146	2,956,983 5,851,806
Potatoes	{ cwt. £	294,492 141,028	198,617 192,051	262,082 253,173	266,020 366,727	253,147 375,073	315,470 650,233
Fruits, Fresh—Apples	{ bush. £	1,233,066 503,492	707,138 670,686	724,712 865,034	655,087 1,071,184	1,375,092 1,980,269	845,754 1,309,399
Fruits, Fresh—Other	{ cental £	54,664 84,216	44,973 219,387	63,851 282,630	60,721 355,079	56,675 352,771	48,784 340,609
Currants	{ lb. £	5,657,184 99,813	2,578,242 86,406	2,772,720 138,662	4,876,169 252,151	4,488,576 199,148	4,014,368 180,727
Tobacco and Preparations there-of	£	111,703	149,348	231,648	420,765	380,411	426,581
Live Animals	£	52,147	255,708	385,674	363,832	297,020	344,909
Skins (other than sheep skins)	£	47,187	64,682	139,729	118,816	39,829	61,762
Hides †	£	61,509	65,062	113,534	173,724	130,640	120,410
Sheep Skins	£	258,443	1,003,306	2,374,583	1,304,391	1,800,352	1,465,271
Wool, Greasy	{ lb. £	68,408,797 3,035,890	83,405,237 20,035,466	80,731,643 48,246,541	91,455,408 28,645,328	100,908,701 33,879,266	100,701,099 35,672,828
Wool, Scoured or Washed, and Carbonised	{ lb. £	3,605,920 234,681	17,490,562 5,426,116	11,054,717 8,032,936	11,352,904 5,194,466	12,603,629 5,681,628	11,918,274 5,457,140
Pearls, and Pearlshell	£	110,777	124,859	117,188	213,021	305,992	353,780
Tallow—Inedible	{ cwt. £	31,383 25,262	33,088 53,089	22,633 71,368	34,766 126,937	31,615 91,984	60,347 194,571
Marine Animal (Whale) Oil	{ gal. £	..... .....	193,148 85,965	700,100 363,540	2,181,503 1,360,706	2,558,697 936,473	3,182,299 1,093,332
Rocks and Minerals, including Ores and Concentrates	£	177,397	430,131	566,893	1,449,899	2,363,277	1,905,390
Leather	£	44,317	216,961	244,225	189,814	247,829	248,221
Timber	{ sup. ft. £	68,439,684 717,641	34,295,340 974,493	23,109,902 891,522	28,658,991 1,087,688	47,585,440 2,073,593	46,318,277 2,240,042
Palings, Pickets, Laths, Mouldings, etc.	{ lb. £	4,300 (a)	28,445 91,973	27,359 162,399	2,721 188,156	2,198 100,462	10,107 206,673
Oils, Essential	{ lb. £	25,550 1,169,151	78,763 1,169,151	126,016 76	120,061 394,984	73,470 759,291	58,082 418,069
Gold Bullion	{ F. ozs. £	10,620,221 206,869	1,177 179,578	..... 2,237,150	6,571,284 177,019	12,399,246 183,334	6,615,109 219,225
Silver—Bar, Ingot, Sheet	{ F. ozs. £	22,632 1,526,076	55,050 5,972,706	910,586 9,217,256	71,080 11,465,935	70,080 12,153,760	84,421 13,070,754
All Other Articles	£	.....	.....	.....	.....	.....	.....
Total Exports	£	22,482,156	59,505,596	108,233,203	93,483,072	107,972,307	88,019,525
Ships' Stores	£	524,260	2,360,040	3,024,678	4,209,455	5,160,497	3,633,083
TOTAL EXPORTS INCLUDING SHIPS' STORES	£	23,006,416	61,865,636	111,857,881	97,692,527	113,132,804	91,652,608

† Principally Cattle and Calf, with some Horse and Buffalo Hides.

(a) Weight not available.

‡ For later years, see page 269

In the post-war years export incomes rose rapidly, reaching peak totals of £111.9 million in 1950-51 and £113.1 million in 1952-53 before declining to £91.7 million in 1953-54. Continued strong overseas demands for Australian wool and wheat were the main factors contributing to the very high external trade yield. No gold bullion was exported from the State between 1943-44 and 1947-48, when £3.8



FREMANTLE HARBOUR—CHIEF PORT OF WESTERN AUSTRALIA

million was despatched, but £6·6 million was derived from this export in 1951-52; £12·4 million in 1952-53 and £6·6 million in 1953-54. Other important items of export during 1953-54 included Flour (£5,851,806); Fish (£1,398,712); Timber (£2,250,149); Fruit—mainly apples—(£1,650,199); Hides and Skins (£1,647,443); Eggs (£1,090,500) and Beef (£873,785). It will be noted that these items are processed or unprocessed primary products. The State has comparatively little export trade in factory products. An export trade in fish has been built up during the post-war period, consisting of frozen crayfish tails (mainly to the United States of America), and frozen and canned fish sent to the Eastern States.

The preceding table discloses considerable variations in the quantities of the principal products which were exported annually during the period under review. There were also very great changes in their monetary yield, due largely to price rises caused by the world-wide financial inflation which followed the second World War. Some of the more important exports are now dealt with in greater detail :—

Wool.—This is mainly exported in the grease although substantial quantities of scoured wool are also shipped. The export trade in both types of wool fluctuated fairly widely between 1938-39 and 1945-46 when 108·2 million lb. of greasy wool (valued at £8·57 million) and 11·7 million lb. of scoured wool (£1·39 million) were sent abroad, principally to the United Kingdom and to the United States of America. Although the total quantity involved (just under 120 million lb), comprised the largest annual wool export yet reached by this State, it should be remembered that some clearance of war-accumulated stocks helped to produce an abnormally high figure in relation to the wool clip. Post-war exports have continued at high levels but did not again pass the 100 million lb. mark until 1949-50. Under the influence of increasing demands for Australian wool by the United States of America, and several other countries which had returned to the market after many years, viz., France, Belgium, Germany, Italy and Poland; and by the United Kingdom, prices rose sharply after 1946-47. They reached the unprecedented figure of 143·43 pence per lb. for greasy wool as the average f.o.b. value for 1950-51. Then followed a substantial fall, with prices for the next three years ranging from 75 to 85 pence.

The following summary gives the average annual f.o.b. values during 1938-39 and five recent years :—

Description.	Average f.o.b. value per lb. during the year ended 30th June :—					
	1939.	1950.	1951.	1952.	1953.	1954.
Greasy Wool	pence 10·65	pence 57·65	pence 143·43	pence 75·17	pence 80·58	pence 85·02
Scoured Wool	15·62	74·46	174·40	109·81	108·19	109·89

Wheat.—In 1938-39 wheat exports were at the moderately high figure of 22·6 million bushels, although much below the State's peak export of 42·4 million bushels in 1930-31, following the largest harvest on record. The wheat trade declined sharply during the war period, but there was a temporary return to pre-war levels during 1944-45, when the export total reached 23·6 million bushels by release of stored wheat. During the three years commencing 1947-48, export totals showed moderate annual fluctuations, ranging from 18·4 to 21·5 million bushels. In 1950-51, the total rose to 30·5 million bushels, but fell successively to 26·8, 23·3 and 6·8 million bushels in the next three years—ending with 1953-54 when there was a considerable carry-over of wheat not shipped. Wheat prices rose sharply from 1945-46 to 1947-48 when a peak average f.o.b. value per bushel of 17s. 6d. was reached. A moderate recession in the next two years was followed by a steady rise to 17s. 3½d. in 1952-53. Since then prices have again receded. Prices for 1938-39 and five recent years are shown in the following table :—

WHEAT—AVERAGE F.O.B. VALUE PER BUSHEL

1938-39.	1949-50.	1950-51.	1951-52.	1952-53.	1953-54.
s. d. 2 5½	s. d. 15 6½	s. d. 16 11½	s. d. 17 0½	s. d. 17 3½	s. d. 16 7

The United Kingdom is the chief purchaser of Western Australian wheat, except that in 1949-50 India (consistently a substantial purchaser), acquired 10,302,995 bushels, compared with 3,730,761 bushels sent to the United Kingdom. Exports to the United Kingdom increased to approximately 8 million bushels annually in 1950-51 and 1951-52; rising further to 11.3 million in 1952-53 but falling to 4.8 million in 1953-54. In addition to the regular trade with India, large shipments of wheat have usually been sent to the Republic of Ireland, Egypt, Italy, Germany and the Netherlands, but some of these countries have not made imports from this State in recent years, and there is a large carry-over of wheat unshipped.

Gold Bullion.—Exports of this commodity were a regular feature of Western Australia's external trade during the pre-war years and the 1938-39 figure of £10.6 million was a higher value than any previous year. However, greater quantities had previously been exported—lower prices per fine ounce being responsible for the lesser total proceeds in earlier years. The 1,169,151 fine ounces exported in 1938-39 were sent mainly to the United States of America. A decrease in gold-mining activity followed the outbreak of war and no exports of gold bullion were made from 1944-45 to 1946-47. They were partially resumed during 1947-48 when 355,649 fine ounces (valued at £3,827,850) were shipped to the United Kingdom, but exports were then discontinued until 1951-52. For the years 1951-52, 1952-53 and 1953-54 exports of gold bullion were respectively £6.6 million, £12.4 million and £6.6 million.

Since December, 1951, in accordance with an arrangement approved by the Commonwealth Government, a considerable percentage of the current Australian gold production has been sold overseas on premium markets—i.e., at an average price per fine ounce somewhat higher than the fixed price ruling under international agreement for monetary gold (£15 12s. 6d. in December, 1954). This gave some stimulus to gold production in Western Australia and output rose steadily during the three years ended 1954. However, the premium market has now declined to the point where the price is only a few pence above the international rate. The 418,069 fine ounces which were exported in 1953-54 brought an average price of £15 16s. 6d. compared with the September, 1939 price of £10 11s. 0d.

Flour (Wheaten).—As the table on page 256 shows, annual exports of this commodity during the post-war years have been substantially above the 1938-39 total, in terms both of quantities and values. Since the 1938-39 figures are fairly typical of the immediate pre-war years the considerable expansion of this trade is clearly indicated. The principal countries of destination during 1953-54—arranged in order of the magnitude of their purchases—were Indonesia, Singapore, Malaya, the United Kingdom, Burma and Mauritius. Purchases by these and other countries vary in proportion from year to year.

Fresh Fruit (mainly Apples).—The export trade in apples is from three to five times as important, in value, as the trade in other sorts of fresh fruit. The export fruits which rank next in importance after apples are grapes and citrus fruits. Apple exports during 1938-39 should not be regarded as typical of pre-war export volume because consignments in that year were high as a result of especially good growing conditions. In more normal pre-war years exports of apples fluctuated in the region of 700,000 to 900,000 bushels—depending primarily on the seasonal conditions, but also on the strength of overseas demand. Over a long period the State's best customers have been the United Kingdom, Singapore and Sweden, in that order. During 1953-54, however, Sweden took 287,000 bushels, the United Kingdom 235,000 and Singapore 224,000. Considerable quantities are sent to the other Australian States in some years.

Of the other fruits exported, citrus fruits and grapes go mainly to Singapore, and pears to the same destination and to the United Kingdom. There is a relatively small export trade in stone fruits (e.g., plums and peaches), mainly to Singapore.

Beef (frozen and chilled).—While the quantities of cold-processed beef exported annually have been reasonably consistent over a number of years, there has been some change in the principal export markets. The United Kingdom has always been the State's best customer for beef, taking annually about nine-tenths of the total exported. Belgium formerly ranked next after Britain as an important customer,

but the Singapore market has risen to this position in recent years. Out of the total 1953-54 export of 13,555,097 lb., 12,512,390 lb. went to the United Kingdom; 826,247 lb. to Singapore; 199,298 lb. to the Eastern States and only 17,162 lb. to other destinations.

Lamb and Mutton (frozen).—As in the case of beef, the United Kingdom is the predominant purchaser of lamb and mutton from Western Australia. Singapore is another regular customer, but the amounts are considerably less than those to the United Kingdom, while in some years significant quantities are shipped to the other Australian States.

Prior to the war the export of prime lamb carcasses far outweighed the trade in mutton. In 1938-39, for instance, 11,699,922 lb. of lamb were shipped, compared with 75,072 lb. of mutton. More recently, however, mutton has accounted for a much higher proportion. During 1953-54, for example, 4,078,404 lb. of lamb were shipped, compared with 3,216,506 lb. of mutton.

Fish.—Exports of this commodity were not of great consequence prior to the war, but they have now reached considerable proportions. In 1938-39 approximately 62,000 lb. of fresh and preserved fish—exported mainly to the other Australian States and to British Malaya—comprised the principal fish trade. Crustaceans were not exported to any significant degree. Since the war, the position has altered considerably and the despatch of cold-processed crayfish tails (predominantly to the United States of America) now comprises the greater part of the State's export trade in fish. During the post-war years which are reviewed in the main table on page 256, the following development took place in the export fish trade:—

Fish from Western Australian Waters.		1949-50.	1950-51.	1951-52.	1952-53.	1953-54.
Crayfish tails shipped oversea:—						
To United States of America	{ lb.	1,058,355	3,066,793	2,849,502	2,897,910	3,152,565
	{ £	220,750	744,321	924,130	1,035,069	1,155,296
To other oversea countries (a)	{ lb.	84,880	98,262	41,161	30,672	27,539
	{ £	10,909	14,385	6,592	6,839	5,466
Total	{ lb.	1,143,235	3,165,055	2,890,663	2,928,582	3,180,104
	{ £	231,659	758,706	930,722	1,041,908	1,160,762
Other Fish Exports (b)	{ lb.	2,163,316	1,961,864	1,902,751	2,316,963	2,057,687
	{ £	192,296	173,615	211,322	258,341	233,825
Total Fish Exports†	{ lb.	3,306,551	5,126,919	4,793,414	5,245,545	5,237,791
	{ £	423,955	932,321	1,142,044	1,300,249	1,394,587

(a) Mainly to Singapore. (b) Mainly canned Australian salmon to the Eastern States; also includes relatively small consignments of crayfish tails to that destination—in 1953-54: 42,062 lb., valued at £10,459. † Excludes fish of Oversea or Interstate origin.

Eggs.—Before the second World War, practically the only form of egg exports was eggs in the shell and the United Kingdom was the only significant market. War time developments gave an impetus to egg processing and since 1945-46, there have been substantial and increasing shipments of eggs in liquid or powder form, almost entirely to the United Kingdom. In 1953-54 the total exports of processed eggs exceeded in value those of eggs in the shell. Up to 1952-53, the United Kingdom continued to be the State's principal customer for eggs in the shell. However, trade with Singapore had been considerable and steadily growing for many years, and, in 1953-54, exports of shell eggs to that destination (1,346,000 dozen), were more than double those to the United Kingdom (591,000 dozen).

Hides and Skins.—Exports of this group consist predominantly of sheep and lamb skins, mainly with wool. The other items are cattle hides, horse hides and the skins of certain wild fauna (principally kangaroos and rabbits). Although considerably reduced during the war period the sheepskin trade has now been regained and France is once more the principal market. The United Kingdom is next in importance, followed by Belgium, Italy and the Netherlands—all making substantial purchases. There is a regular trade with the other Commonwealth States.

The trade in cattle hides is chiefly with Turkey, India, the United Kingdom, Japan and the Australian States.

Timber.—The annual quantity of timber exports fell to comparatively low levels during the years 1950–51 and 1951–52 but, because of rising prices, the proceeds of sale did not show a commensurate decline. In the last two years, however, there has been an upturn towards the total export quantities recorded during 1938–39 and much of the immediate pre-war period when consignments amounted, annually, to between 60 and 70 million super feet. In 1937–38, exports totalled 90·5 million super feet, but that year was an exceptional one, being noteworthy for the shipment of 46 million super feet of railway sleepers including 14·5 million super feet to Iraq.

The other Australian States are the principal buyers of Western Australian timber and the demand from that quarter (approximately 20 to 30 million super feet per annum), has not been, until the last two years, greatly different from pre-war levels. In the case of oversea exports, however, the quantities are still considerably below the 1938–39 level, as the following table discloses :—

TIMBER EXPORTS BY COUNTRY OF DESTINATION

Country of Destination. (a)	1938–39.	1949–50.	1950–51.	1951–52.	1952–53.	1953–54.
	super ft. '000	super ft. '000	super ft. '000	super ft. '000	super ft. '000	super ft. '000
United Kingdom	12,190	3,863	3,222	3,153	7,457	5,242
Union of South Africa	11,291	4,302	3,954	1,138	2,541	2,737
New Zealand	10,188	.....	.....	.....	.....	.....
Ceylon (b)	5,848	.....	.....	.....	.....	2,275
Egypt (b)	4,915	.....	.....	.....	.....	.....
Belgium	1,286	.....	.....	.....	.....	.....
Iraq (b) ....	.....	.....	.....	.....	.....	2,772
Iran (Persia) (b) ....	.....	1,018	.....	.....	.....	.....
Other Oversea Exports	2,922	2,141	1,727	324	1,544	2,667
Commonwealth States	19,799	22,971	19,207	24,044	36,043	30,625
Total	68,439	34,295	23,110	28,659	47,585	46,318

(a) Export quantities are attributed to individual countries in the years when such quantities exceeded 1 million super feet. Lesser annual quantities are included in "Other Oversea Exports". (b) Shipments to these countries consist mainly of railway sleepers.

Whale Oil.—A whaling industry is now firmly established at two* land-based stations on the North-West coast of Western Australia and at another near Albany on the south coast. Whaling quotas are observed under the international convention and the annual whale oil production figures must be regarded in this light. The following summary covers the principal post-war period of whaling. No whaling was conducted from Western Australian land bases for many years prior to the war and activity between the end of the war and the commencement of the year 1949–50 was insignificant when compared with the latest five years.

Exports.	1949–50.	1950–51.	1951–52.	1952–53.	1953–54.
Whale Oil { gals. £	193,148 85,905	700,100 363,540	2,181,503 1,300,705	2,558,697 936,473	3,182,298 1,093,332

Shipments are mainly to the Netherlands, with considerable quantities going also to the Western Zone of Germany and to Sweden.

Ships' Stores

Records of stores, including bunker coal and oil, supplied to oversea vessels are compiled by the Commonwealth Statistician using warrants obtained from suppliers by the Department of Customs and Excise. Similar information regarding supplies to interstate vessels is recorded by the Government Statistician. The record of interstate ships' stores, however, does not take into account supplies to State Shipping Service vessels operating between Fremantle and Darwin as it is considered that this service is primarily intrastate.

The following is a statement of stores purchased by oversea and interstate vessels during 1953–54 :—

* From 1956 only one land-based station operating in the North-West.

EXPORTS OF SHIPS' STORES DURING THE YEAR ENDED 30th JUNE, 1954.

TRADE

261

Articles.	Oversea.				Interstate.				Total.	
	Quantity.		Value.		Quantity.		Value.		Quantity.	Value.
	Australian Produce.	Oversea Produce.	Australian Produce.	Oversea Produce.	Australian Produce.	Oversea Produce.				
Ale, Beer, Porter, etc.	gal.	10,216	£	4,227	11,314	£	7,686	21,530	11,913	
Biscuits	lb.	9,932	1,280	14,248	1,563	24,190	2,843	24,190	2,843	
Brushware	...	...	125	...	32	...	157	...	157	
Butter	lb.	61,696	12,405	5,992	5,992	67,688	13,638	67,688	13,638	
Cheese	...	14,049	2,504	2,478	428	16,527	2,932	16,527	2,932	
Coal (Bunker)	ton	468	4,188	4,651	4,651	5,119	47,122	5,119	47,122	
Coffee, Cocoa, Chocolate	lb.	5,371	2,248	409	153	6,398	2,656	6,398	2,656	
Cordage and Twine	...	...	1,805	711	...	2,65	2,781	...	2,781	
Eggs in Shell	doz.	115,601	30,423	15,045	15,045	130,646	34,166	130,646	34,166	
Fish—Fresh	...	170	35,003	13,382	1,956	255,160	37,219	255,160	37,219	
Fish—Preserved	...	375	2,437	155	1,956	21,75	295	16,867	2,815	
Fruits—Preserved	...	14,381	2,174	89	89	15,134	2,263	15,134	2,263	
Fruits—Fresh	cnl.	6,316	29,805	936	3,502	33,307	7,252	7,252	33,307	
Fruits and Vegetables (in liquid, etc.)	lb.	17,153	1,536	6,126	519	23,279	2,055	23,279	2,055	
Vegetables, Fresh	...	...	51,165	6,083	...	57,248	...	...	57,248	
Grain and Pulse—	...	...	...	...	...	...	...	...	...
Beans and Peas	cnl.	39	183	...	...	...	...	39	183	
Barley, etc.	...	36	40	...	...	...	...	36	40	
Flour, Wheat	...	12,221	15,601	135	262	12,356	15,863	12,356	15,863	
Rice	...	2,479	9,295	7	21	2,486	9,316	2,486	9,316	
Hay and Chaff	...	9,835	10,613	...	...	9,835	10,613	9,835	10,613	
Jams and Jellies	lb.	6,149	557	1,322	117	7,471	674	7,471	674	
Live Animals—Sheep	No.	2	9	...	...	...	...	2	9	
Meats—	...	...	...	...	...	...	...	...	...
Bacon and Hams, etc.	lb.	299,255	64,221	67,854	13,682	367,109	77,903	367,109	77,903	
Fresh and Smoked	...	869,011	81,539	325,483	28,890	1,194,494	110,429	1,194,494	110,429	
Frozen (other than Rabbits and Hares)	...	...	4,359	...	...	39,563	4,359	39,563	4,359	
Rabbits and Hares	pair	1,309	331	112	20	1,421	351	1,421	351	
Potted and Concentrated	...	...	108	...	...	108	...	108	...	
Preserved in tins	lb.	4,044	716	164	16	4,208	732	4,208	732	
Other (including Salted)	...	...	899	...	...	899	...	899	...	
Milk (Preserved)	lb.	67,085	2,980	2,983	370	70,068	6,380	70,068	6,380	
Oils, Fuel for Vessels	gal.	650,039	28,419	2,582,960	5,052,424	61,133,709	2,882,249	61,133,709	2,882,249	
Oils, Other	...	2,223	1,161	54,270	...	245,105	56,378	245,105	56,378	
Onions	...	1,162	336	85	41	411	1,015	411	1,015	
Paints and Colours	...	2,200	4,923	371	238	2,285	5,314	2,285	5,314	
Potatoes	...	24,531	43,087	3,719	6,263	28,250	49,350	28,250	49,350	
Salt	...	29	46	4	...	33	50	33	50	
Soap	lb.	14,254	925	6,961	413	21,215	1,338	21,215	1,338	
Spirits	gal.	251	491	...	...	339	762	339	762	
Sugar	...	992	3,486	35	139	1,027	3,625	1,027	3,625	
Tea	...	...	1,533	1,290	241	5,996	1,774	5,996	1,774	
Tobacco	lb.	314	357	502	728	1,352	1,284	1,352	1,284	
Cigars	...	536	...	...	...	...	...	...	...
Cigarettes	...	2,611	349	919	1,855	3,932	4,112	3,932	4,112	
Wine	...	402	1,924	7	...	9,931	24,066	9,931	24,066	
All other Articles	...	24,961	106,601	6,044	...	12,187	...	...	...
Total	...	...	575,861	2,648,271	137,600	271,351	3,633,083	...	3,633,083	
			3,224,132		408,951					

Direction of Trade

Western Australia's trade with the other States of the Commonwealth has followed a similar pattern for some years past and is a very important factor in the State's economy. There is always a very high adverse trade balance with the Eastern States. Imports from that source usually amount in value to two-thirds or more of the State's total imports and comprise a wide range of commodities, including processed foodstuffs, tobacco and cigarettes, textiles and textile manufactures, apparel, paints, metals and metal manufactures, motor vehicles and parts, machinery, rubber goods, drugs and chemicals. The other States of the Commonwealth, however, do not provide an equal market for Western Australia's products. Imports therefrom in 1953-54 totalled £82,687,077, while exports thereto amounted to £19,594,967 only, including £6,614,707 worth of gold bullion sent to New South Wales for re-export overseas. Some of the other important exports to the Eastern States are wool (much of which is for trans-shipment overseas), and wool tops, timber, foodstuffs, ores and minerals, tractors and other machinery.

Trade with the United Kingdom is next in importance and usually results in a nominal trade balance which is heavily in favour of Western Australia. However, in 1951-52, a substantial rise in the value of imports from this source coincided with a decline in export income—resulting in an adverse balance of £5.23 million. The condition was Australia-wide and import restrictions had to be imposed. These measures, assisted by an improvement in export incomes, corrected the deterioration in London funds and favourable balances were achieved in 1952-53 (£23.82 million), and 1953-54 (£5.18 million). Wheat, wool and meat are the principal exports to the United Kingdom with oats, barley, flour, eggs, fruit, timber and hides and skins accounting for significant amounts. A wide range of manufactured goods is imported.

Amongst other British countries with which trade is carried on in large volume are India, Singapore and Malaya; and—to a lesser degree—Ceylon, Canada and South Africa. During 1953-54 the principal exports to India were wheat, wool tops (and a small quantity of scoured wool), tallow and cattle hides, while the main imports were jute bags and sacks, jute and cotton piecegoods and kapok. Exports to Singapore and Malaya included flour, sheep, eggs, wheat, bacon and ham, condensed milk, fresh fruits, breakfast foods, onions, potatoes, and other fresh vegetables, while mineral oil was the principal item imported. Until very recently Ceylon was an important market for the State's flour; it is still the principal source of tea supplies. Motor vehicles and parts are obtained from Canada and wool is largely supplied in return. South Africa purchases mainly wool and timber and sends to this State processed fish, tanning substances and asbestos.

Trade with the United States of America is next in significance to that of the United Kingdom and is, of course, also important because of the post-war shortage of dollar exchange. It has, however, never assumed a volume comparable with that carried on with the United Kingdom. In recent years trade with the United States has resulted in a nominal balance favourable to Western Australia. The principal commodities supplied to the United States of America during 1953-54 were wool, crayfish tails, hides and skins, pearlshell, manganese ore and asbestos. Important purchases therefrom were machinery, motor vehicles and parts, and mineral lubricating oil.

France, Belgium, Germany and Italy predominate in the group of European countries with which the State has trade relations. Miscellaneous manufactured goods are imported from France to which country there are large exports of wool and skins. Belgium sends to this State wire netting and galvanised iron, cotton piece goods and glass; and is an important market for wool, skins, lead scrap, lead and silver-lead ores, and timber. Metal manufactures, machinery, and vehicles and parts are important imports from Germany which takes from Western Australia wool, wheat, oats and barley, apples, whale oil and pearlshell. Italy is a substantial market for wool and, in return, supplies mainly residual oil, motor vehicles (including tractors) and parts.

In addition to these, Sweden, the Netherlands and Poland are important markets for some of the State's products. Wool and apples are sent to Sweden from which are received timber, tools, and paper. To the Netherlands are exported whale oil, wool and timber, and to Poland, wool.

Japan and Indonesia are two other countries with which there is a substantial trade. Japan purchases wool, wheat and scrap iron and steel, and supplies cotton piecegoods. Flour, apples, grapes and pig iron are sent to Indonesia from which come a large proportion of the imports of petroleum and mineral oils and substantial quantities of coffee, tea and vegetable fibres, including kapok.

The following table shows the import and export trade of Western Australia with the principal British and foreign countries, as well as with the other Commonwealth States, over some recent years compared with 1938-39.

VALUES OF IMPORTS AND EXPORTS ACCORDING TO COUNTRIES OF ORIGIN
AND DESTINATION

Countries of Origin and Destination.	1938-39.		1951-52.		1952-53.		1953-54.†	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
<i>United Kingdom</i>	£'000. 2,653	£'000. 7,229	£'000. 31,027	£'000. 25,796	£'000. 12,951	£'000. 36,772	£'000. 22,820	£'000. 28,000
<i>Australian States*—</i>								
New South Wales	4,362	3,761	21,686	8,976	24,585	15,719	31,028	9,923
Victoria	5,605	953	25,639	4,810	31,720	3,805	36,894	4,334
Queensland	642	96	2,266	487	2,420	577	2,773	553
South Australia	1,151	523	8,501	2,718	8,550	3,925	10,453	3,521
Tasmania	211	20	852	165	945	50	1,195	296
Northern Territory	81	54	323	546	386	753	344	968
Total	12,052	5,407	59,267	17,702	68,606	24,829	82,687	19,595
<i>Other Commonwealth—</i>								
Borneo, British	18	....	242	16	96	36	246	25
Canada	465	1	913	271	867	373	797	347
Ceylon	93	102	705	1,148	751	1,612	1,082	306
Christmas Island†	....	....	943	148	874	202	834	211
Hong Kong	2	12	53	68	12	62	37	72
India, Republic of	239	607	4,119	4,684	1,346	4,063	1,637	1,326
Ireland, Republic of	1	224	22	908	4	1,476	15	108
Malaya, Federation of	(a)	(a)	217	1,285	34	1,761	57	1,831
New Zealand	36	104	51	7	27	45	41	103
Pakistan	(b)	(b)	4	17	1	2,237	3	12
Singapore	11	250	1,812	3,600	2,145	4,387	2,208	3,616
South Africa	16	123	243	152	308	514	222	459
Other	362	126	444	613	463	1,283	224	524
Total	1,243	1,558	9,768	12,917	6,928	18,051	7,403	8,940
<i>Foreign—</i>								
Austria	(c)	(c)	1,036	12	9	38	40	33
Bahrein Islands	(d)	(d)	1,113	63	999	69	980	120
Belgium	52	670	1,844	2,340	568	3,719	498	3,148
Egypt	38	111	22	2,485	2	58	1	103
France	44	578	1,129	4,296	215	5,645	225	5,700
Germany, Fed. Republic of	} 202	197	1,316	3,475	344	3,147	659	2,830
Germany, (Eastern Zone)			5	....	1	....	20	6
Indonesia, Republic of	(e)1,019	(e)154	2,095	1,150	2,505	1,431	1,738	2,425
Italy	24	16	1,115	6,556	232	3,522	943	2,963
Japan	177	1	2,872	861	164	1,774	216	1,537
Netherlands	23	36	668	3,584	409	1,533	462	744
Iran (Persia)	55	3	399	36	7	....	....	4
Poland ....	....	16	83	904	2	253	3	677
Soviet Russia	5	198	33	....	10	195	15	1,898
Sweden	56	64	996	1,040	335	456	404	767
United States of America	876	5,626	4,765	7,642	2,963	4,906	4,369	5,724
Other	161	618	2,788	2,624	1,230	1,574	1,727	2,811
Total	2,732	8,288	22,279	37,068	9,995	28,320	12,300	31,485
<i>Miscellaneous Countries (f)....</i>	121	....	....	....	....	....	2	....
<i>Ships' Stores</i> ....	....	524	....	4,209	....	5,160	....	3,633
GRAND TOTAL	18,801	23,006	122,341	97,692	98,480	113,132	125,212	91,653

* Imports refer to State of purchase and not necessarily to State of origin. † Indian Ocean. (a) Combined with Singapore in 1938-39. (b) Combined with India in 1938-39. (c) Included with Germany in 1938-39. (d) Included with "Other British" in 1938-39. (e) Recorded as Netherlands East Indies in 1938-39. (f) Outside packages. ‡ For later years see page 270.

Trade of Ports

Although Western Australia has a fairly extensive system of ports along the west coast, as well as Albany and Esperance on the south coast, almost the entire inward and most of the outward sea cargo of the State passes through Fremantle. In 1953-54, on a value basis, this port handled 98 per cent. of the total imports and 86 per cent. of exports.

Albany and Esperance are now the only two active ports on the south coast. Oil supplies from overseas and a small tonnage of general cargo from the Eastern States are discharged at Esperance, mainly for use on the goldfields, but outward cargo from that port is confined to occasional shipments of salt. Oil supplies from overseas and general cargo from the other Commonwealth States are also landed at Albany. Export cargoes from this port include wool, apples and lamb carcasses for overseas destinations.

and apples, tallow, hides, mallet bark, canned fish and woollen piecegoods for the Eastern States. Bunbury is the most important timber port, the bulk of the oversea timber shipments and a considerable proportion of those to the Eastern States being shipped from there. Other exports include wheat, sent oversea, and—occasionally—potatoes shipped interstate. Supplies of sulphur and rock phosphates for the superphosphate works at Picton Junction are the main cargo items regularly discharged at Bunbury. Busselton is now used almost solely for the shipment of timber to the Eastern States, although occasional consignments of potatoes are sent interstate.

Geraldton, the principal port north of Fremantle, receives from oversea mainly sulphur and rock phosphates, for its superphosphate works, and oil for bunkering as well as local consumption. Wheat, flour and wool are the chief items of oversea export but a significant trade with Malaya and Singapore is carried on in respect of livestock (mainly sheep), tomatoes and oats. Frozen crayfish tails are sent to the United States of America. Manganese ore is the only interstate export worthy of special note—tomatoes to the Eastern States are not sent by ship.

Food, oil supplies and general household and station needs are the only cargoes of any moment discharged at the other northern ports of Wyndham, Derby, Broome, Port Hedland, Point Samson, Onslow and Carnarvon. Exports from these ports comprise frozen beef from Wyndham and Broome; sheep from Derby, Carnarvon and Onslow; wool from Carnarvon, Derby, Onslow and Point Samson and pearlshell from Broome. Yampi imports cargoes required for the iron ore extraction establishment there and exports the ore to the Eastern States.

The following table gives the total values of imports and exports (oversea and interstate combined) dealt with at the several ports of Western Australia during the years ended 30th June, 1953 and 1954.† It also includes figures for goods sent or received by rail, road, air freight or parcel post.

TRADE BY PORTS

Ports, etc.	Year ended 30th June, 1953.		Year ended 30th June, 1954.†	
	Imports.	Exports.†	Imports.	Exports.†
	£	£	£	£
Fremantle	81,392,788	(b)83,361,607	100,665,602	72,055,178
Albany	984,882	1,784,690	1,021,774	1,261,008
Broome	15,511	214,793	15,036	265,789
Bunbury	237,634	5,617,869	360,311	4,545,022
Busselton .....	.....	357,980	.....	342,649
Carnarvon	68,396	800,495	12,471	(b)1,288,443
Derby	15,792	253,897	1,381	81,588
Esperance	369,448	45	483,283	121
Geraldton	469,044	5,989,945	453,278	2,234,374
Onslow	62,072	129,083	29,562	.....
Point Samson	14,983	17,963	.....	7,832
Port Hedland	14,718	105,949	170	227,994
Wyndham	45,989	642,363	6,943	806,106
Yampi	57,991	540,215	61,800	578,602
By Rail	8,486,500	403,902	15,499,422	716,257
By Road	(c)1,434,206	63,150	(c)575,071	2,090
By Air Freight	3,237,271	12,826,790	4,185,015	7,217,317
By Parcel Post (Interstate only) (a)	1,573,306	16,068	1,841,221	21,338
Total	98,480,531	113,132,804	125,212,340	91,652,608

† Including Ships' Stores. (a) Oversea Imports and Exports included under Fremantle. (b) Includes value of whale oil shipped from Maud's Landing. (c) Includes value of Cattle overlanded from the Northern Territory to Wyndham. ‡ For later years see page 271.

CUSTOMS AND EXCISE

The powers to levy Customs and Excise duties are conferred on the Commonwealth Government by the Customs Act, 1901–1957, and the Excise Act, 1901–1957 which, in turn, are based upon enabling provisions of the Commonwealth Constitution. These Acts may be termed the “machinery” acts and apply conjointly with the Customs Tariff Acts and the Excise Tariff Acts.

Three distinct Customs Tariffs are in operation, namely the British Preferential Tariff, an Intermediate Tariff, and a General Tariff. The British Preferential Tariff is applied, basically, to goods which are the produce or manufacture of the United Kingdom—provided that those importations fulfil certain requirements such as direct consignment to Australia. The rates under this Tariff may also be extended, either wholly or in part, to any British non-self-governing colony, British protectorate, or territories under British mandate. By means of separate trade agreements, certain goods produced in the Dominions of Canada and New Zealand have been brought under the provisions of the British Preferential Tariff.

Rates ruling under the Intermediate Tariff are levied on imports from what are termed "Proclaimed Countries". Such countries include the United Kingdom, the Dominions and British Colonies in respect of goods which do not qualify for the lower British Preferential Tariff. Other countries which may enjoy the benefits of the Intermediate Tariff are those with which "most favoured nation" agreements have been reached. A notable example is the United States of America. All imports which do not come under the scope of the British Preferential Tariff or the Intermediate Tariff are automatically subject to the General Tariff.

Amending Customs Tariff Acts have been passed by the Commonwealth Parliament whenever broad changes in economic conditions have warranted such action. Such measures have consisted mainly of particular adjustments to the tariff schedules or of ad valorem primage duties imposed on a wide range of goods. Legislative changes of this sort are frequently the result of recommendations made to the Minister for Customs and Excise by the Tariff Board.

This Board, which is established under the Tariff Board Act, 1921-1953, consists of seven members, two of whom are required to have been officers of the Department of Customs and Excise. Members are appointed for terms of not less than one year and not more than five years. The Tariff Board conducts public hearings to deal with proposed changes in the tariff schedules and after hearing sworn evidence from persons or organisations concerned, makes appropriate recommendations to the Minister. Disputes arising out of the interpretation of the Customs law are also heard.

Administrative control of the Department of Customs and Excise is exercised, under the authority of the Minister, by the Comptroller-General of Customs in Canberra. A Collector of Customs with delegated powers is appointed to each State.

A summary of Customs and Excise collections in Western Australia during each of the four financial years, 1950-51 to 1953-54, compared with 1938-39, is given in the first of the following tables. More detailed information concerning Excise collections for the year 1953-54 appears in the second table.

NET CUSTOMS AND EXCISE COLLECTIONS UNDER EACH TARIFF DIVISION DURING THE YEARS ENDED 30th JUNE, 1939 AND FROM 1951 TO 1954

Division.	Tariff Headings.	1938-39.	1950-51.	1951-52.	1952-53. (a)	1953-54.†
		£	£	£	£	£
	<i>Customs.</i>					
1	Alc, Spirits and Beverages	50,461	70,527	104,704	99,215	150,289
2	Tobacco and Manufactures thereof	11,662	734,300	1,060,822	648,254	746,069
3	Sugar	310	223	46	-13	790
4	Agricultural Products and Groceries	109,488	93,278	95,950	76,863	107,518
5	Textiles, Felts, Furs, etc.	107,159	382,138	529,692	110,030	404,892
6	Metals and Machinery	106,713	155,322	935,907	444,146	703,694
7	Oils, Paints and Varnishes	788,889	1,965,600	2,150,359	2,338,171	2,371,311
8	Earthenware, China, etc.	23,267	61,222	130,551	32,833	94,086
9	Drugs and Chemicals	11,924	24,631	29,316	15,115	13,293
10	Wood, Wicker and Cane	21,067	18,488	32,202	5,841	21,353
11	Jewellery and Fancy Goods	12,717	59,565	80,213	12,028	49,805
12	Hides, Leather and Rubber	6,180	31,054	68,023	13,283	24,208
13	Paper and Stationery	16,370	12,590	36,576	6,550	26,563
14	Vehicles	124,627	390,781	595,094	121,098	392,523
15	Musical Instruments	2,146	12,798	13,254	2,507	4,724
16	Miscellaneous	43,059	74,743	117,974	-87,117	66,617
	Primage	190,100	455,077	617,560	481,183	593,973
	Post Office Collections	5,079	2,784	3,234	2,276	5,687
	Ships' Stores	5,284	8,865	12,593	11,095	9,041
	Wool Duty .....	.....	.....	2,735	80	.....
	Tea Duty .....	.....	.....	1,029	1,034	795
	Other	2,798	5,437	7,667	22,004	15,859
	Total, Tariff Act	1,649,300	4,569,401	6,635,161	4,356,494	5,803,780
	Collections not under Tariff Act	4,606	12,537	16,993	18,392	18,583
	Total, Customs	1,653,906	4,581,938	6,652,154	4,374,886	5,822,363
	<i>Excise.</i>					
	Beer	605,583	3,756,202	5,462,457	6,092,427	6,104,584
	Spirits	98,094	348,274	376,766	315,067	321,776
	Cigarette Papers	55,818	88,619	83,130	79,888	80,325
	Coal .....	.....	20,995	25,396	26,057	31,077
	Other Excise Duty (Tobacco, Cigars, Cigarettes, Matches and Licenses)	349,180	1,762,541	2,203,518	2,672,805	3,180,692
	Total, Excise	1,108,675	5,976,631	8,151,276	9,186,244	9,718,454
	Total, Customs and Excise	2,762,581	10,558,569	14,803,430	13,561,130	15,540,817

(a) Minus signs indicate that refunds exceeded collections by the amount shown.

† For later years see page 271.

STATEMENT SHOWING THE QUANTITY OF BEER, SPIRITS, TOBACCO AND OTHER ARTICLES
ON WHICH EXCISE DUTY WAS PAID, ALSO THE AMOUNT COLLECTED DURING THE YEAR
ENDED 30th JUNE, 1954.

Articles.	Rate of Duty.	Quantity.	Excise Collected.†
<i>Beer</i>	s. d. per gallon 7 2	gallon. 17,049,003	£ 6,109,226
<i>Spirits—</i>	per pf. gal. 63 6	pf. gal. 26,301	83,506
<i>Brandy</i>	84 6	3,598	15,201
Total Brandy ....	....	29,899	98,707
<i>Gin</i>	66 6 87 6	11,583 919	38,513 4,022
Total Gin ....	....	12,502	42,535
<i>Liqueurs</i>	65 6 86 6	1,553 192	5,088 831
Total Liqueurs ....	....	1,745	5,919
<i>Rum</i>	66 6 87 6	6,418 1,204	21,339 5,266
Total Rum ....	....	7,622	26,605
<i>Whisky</i>	64 6 85 6	33,744 4,996	108,824 21,357
Total Whisky ....	....	38,740	130,181
Spirits for Fortifying Wine	4 0	50,525	10,105
Spirits for Making Vinegar	2 0	10,970	1,097
Spirits for Industrial Purposes	25 0	3,957	4,946
....	....	65,452	16,148
Spirits for the Manufacture of Essences	10 0 12 0	982 1,410	491 846
Total ....	....	2,392	1,337
Spirits for the Manufacture of Scents and Toilet Preparations	15 9 16 0	86 275	68 220
Total ....	....	361	288
Spirits, N.E.I.	96 6	18	84
Total Spirits ....	....	158,731	321,304
<i>Tobacco—</i>	per lb. 6 11		
For Consumption by Australian Aborigines	13 9	(a)	(a)
Manufactured entirely from Australian Leaf	14 5	(a)	(a)
Manufactured from Imported Leaf or Australian and Imported Leaf mixed	16 11	(a)	(a)
<i>Cigars—Hand Made</i>	25 10	(a)	(a)
<i>Cigarettes—Machine Made</i>	per 60 papers or tubes 0 1½	(a)	(a)
<i>Cigarette Tubes and Papers</i>	per gross boxes. 6 6	(a)	(a)
<i>Matches</i>	per ton. 0 8	ton. 932,310	31,077
<i>Coal</i> ....	....	....	3,261,387
Other Excise Duty (Tobacco, Cigars, Cigarettes, Cigarette Papers, Matches, Petrol and Licenses) ....	....	....	9,723,494
Total, Gross Excise Duty ....	....	....	....

† For net Amount collected, see previous table—Excise.
Excise Duty."

(a) Not available for publication—included in "Other

TRADE SUPPLEMENT: YEARS 1954-55 AND 1955-56

As indicated on page 252, the following tables have been added to show the broad aspects of external trade during years later than those dealt with in detail in the preceding section of this Chapter.

IMPORTS ACCORDING TO STATISTICAL CLASSES

Class No.	Name of Class.	1954-55.	1955-56.
		£	£
I	Foodstuffs of Animal Origin	3,260,917	3,092,586
II	Foodstuffs of Vegetable Origin	9,008,315	8,721,698
III	Spirituous and Alcoholic Liquors	857,508	947,257
IV	Tobacco, Cigarettes, Cigars and Snuff	3,026,216	2,676,656
V	Live Animals	609,555	560,395
VI	Animal Substances not Foodstuffs	537,747	536,345
VII	Vegetable Substances and Fibres	711,145	549,374
VIII A	Yarns and Manufactured Fibres	2,024,054	1,474,242
VIII B	Textiles	6,983,000	6,597,073
VIII C	Apparel	10,741,129	10,235,256
IX	Oils, Fats and Waxes	15,976,293	18,305,200
X	Pigments, Paints and Varnishes	1,396,885	1,467,067
XI	Rocks and Minerals (including Ores and Concentrates)	1,662,279	1,447,316
XII A	Metals and Metal Manufactures	32,230,242	28,907,503
XII B	Dynamo Electrical Machinery and Appliances	5,478,529	5,724,473
XII C	Machines and Machinery (except Dynamo Electrical)	21,125,563	17,298,585
XIII A	Rubber and Rubber Manufactures	3,758,240	3,955,443
XIII B	Leather and Leather Manufactures	407,504	363,905
XIV	Wood and Wicker—Raw and Manufactured	816,052	839,581
XV	Earthenware, Cement, China, Glass, etc.	1,704,439	1,654,993
XVI A	Pulp, Paper and Board	2,587,996	2,329,000
XVI B	Paper Manufactures and Stationery	2,627,102	2,686,901
XVII	Sporting Materials, Toys, Fancy Goods, etc.	1,406,450	1,513,148
XVIII	Optical, Surgical and Scientific Instruments and Apparatus	915,518	973,259
XIX	Drugs, Fertilizers and Chemicals	6,732,608	6,759,693
XX	Miscellaneous	5,117,190	5,840,669
XXI	Gold and Silver ; Bronze Specie	65	47
	Total Imports	141,702,541	135,457,665

PRINCIPAL IMPORTS FOR WHICH QUANTITIES ARE RECORDED

Commodities.	Unit.	1954-55.	1955-56.
Meats, Preserved in Tins (Including Potted and Concentrated)	lb.	1,572,524	1,513,138
Milk and Cream, Condensed or Concentrated	lb.	2,763,038	2,378,346
Milk, Dried or In Powdered Form or Malted	lb.	3,165,544	3,135,449
Butter	lb.	3,353,984	2,643,896
Butter Substitutes	lb.	3,113,031	3,430,553
Cheese	lb.	2,300,564	2,487,729
Fish, Preserved in Tins	lb.	1,580,452	1,549,055
Barley	bushel	427,630	90,409
Macaroni, Vermicelli and Spaghetti	lb.	1,450,786	1,587,623
Biscuits	lb.	241,526	124,415
Onions	cwt.	37,012	31,752
Potatoes	cwt.	7,760	1,950
Vegetables, Preserved in Liquid	lb.	4,083,553	4,644,708
Bananas	cental	23,278	67,492
Fruits, Dried	lb.	3,194,594	3,623,266
Fruits, Preserved in Liquid	lb.	7,273,750	7,429,377
Jams and Jellies	lb.	4,928,163	5,995,544
Jelly Crystals and Jelly Powders	lb.	158,775	93,702
Pickles and Sauces	lb.	2,330,367	2,333,840
Spices	lb.	344,164	387,329
Tea	lb.	4,329,376	4,475,589
Confectionery	lb.	7,087,569	6,904,982
Hops	lb.	470,349	394,687
Ale, Beer, Porter, Cider and Perry	gal.	24,369	17,937
Wine	gal.	658,683	731,849
Spirits (Beverages)	pf. gal.	170,818	181,113
Tobacco, Unmanufactured	lb.	552,078	48,968
Tobacco, Manufactured	lb.	1,581,763	1,432,150
Cigarettes	lb.	1,358,448	1,539,339
Cigars	lb.	16,451	17,164
Wool, Greasy	lb.	868,857	1,142,516
Wool, Scoured or Carbonised	lb.	21,738	27,474
Wool Tops	lb.	313,744	282,876
Kapok	lb.	572,158	371,055
Yarns	lb.	455,624	380,002
Bags and Sacks	doz.	748,844	560,566
Crude Petroleum	gal.	218,244,500	561,446,089
Petroleum and Shale Spirit (Petrol, etc.)	gal.	61,845,041	31,096,640
Kerosene and the like	gal.	19,838,610	20,965,967
Solar Oil	} gal.	85,844,628	18,072,580
Residual Oil			
Lubricating (Mineral) Oil	gal.	4,439,144	3,516,445
Coal	ton	62,173	74,628
Asphalt, Bitumen, Tar and Pitch	cwt.	153,667	38,238
Sulphur	cwt.	703,040	629,139
Plywood and Veneers	sq. ft.	3,029,417	2,571,839
Timber (a)	super. ft.	8,118,272	9,440,627
Rock Phosphates	cwt.	5,582,842	5,836,740
Other Fertilizers	cwt.	302,118	246,584

(a) Excludes imports of palls, pickets, laths, mouldings and other types of timber not recorded in super feet.

VALUE OF IMPORTS AND INWARD CARGO TONNAGES RECORDED

Year.	Imports.	Inward Cargo Tonnage (a).		
		Oversea.	Interstate.	Total.
	£	Tons.	Tons.	Tons.
1954-55	141,702,541	2,047,279	701,508	2,748,787
1955-56	135,457,665	2,996,415	518,811	3,515,226

(a) Combines both "measurement" and "weight" tonnages and relates to sea-borne freight only.

VALUE OF EXPORTS AND OUTWARD CARGO TONNAGES RECORDED

Year.	Exports.	Outward Cargo Tonnage (a).		
		Oversea.	Interstate.	Total.
	£	Tons.	Tons.	Tons.
1954-55	96,094,094	1,027,698	992,106	2,019,804
1955-56	115,671,798	1,377,623	1,732,795	3,110,418

(a) Combines both "measurement" and "weight" tonnages and relates to sea-borne freight only.

QUANTITY AND VALUE OF THE MORE IMPORTANT
EXPORTS FROM WESTERN AUSTRALIA, AND OF
SHIPS' STORES

Commodities.	Unit.	1954-55.	1955-56.
Beef and Veal (preserved by cold process)	{ lb. £	14,939,112 1,018,832	16,757,378 1,171,613
Mutton and Lamb (preserved by cold process)	{ lb. £	7,108,748 664,048	14,556,055 1,077,932
Pork (preserved by cold process)	{ lb. £	2,313,361 266,129	1,636,927 241,145
Milk and Cream, Preserved (Condensed, Concentrated, etc.)	{ lb. £	3,316,471 309,726	3,907,225 304,292
Butter	{ lb. £	370,964 70,813	561,861 103,221
Eggs in Shell	{ doz. £	2,921,935 612,251	2,213,175 481,595
Eggs not in Shell	{ lb. £	1,378,020 167,717	972,384 116,020
Fish (including Crayfish)	{ lb. £	5,826,256 1,539,830	6,598,743 1,895,043
Wheat	{ bush. £	19,334,742 13,738,962	22,773,235 14,429,864
Flour (Wheaten)	{ cental £	2,406,851 3,609,745	2,588,415 3,883,012
Potatoes	{ cwt. £	177,561 256,056	44,773 85,609
Fruits, Fresh—Apples	{ bush. £	1,068,296 1,598,566	906,775 1,427,980
Fruits, Fresh—Other	{ cental £	44,812 324,061	33,808 268,403
Currants	{ lb. £	2,883,041 134,934	4,847,624 269,218
Tobacco and Preparations thereof	£	416,673	373,250
Live Animals	£	364,484	425,757
Skins (other than Sheep Skins)	£	77,726	98,538
Hides†	£	140,107	187,203
Sheep Skins	£	1,242,448	1,351,164
Wool, Greasy	{ lb. £	96,554,322 29,648,228	113,289,040 28,947,217
Wool, Scoured, Washed or Carbonised	{ lb. £	13,261,323 5,633,302	16,744,513 6,209,713
Pearls and Pearlshell	£	413,603	502,347
Tallow—Inedible	{ cwt. £	42,278 171,669	77,388 294,719
Marine Animal (Whale) Oil	{ gal. £	2,402,636 945,251	2,322,309 967,447
Petroleum and Shale Oils and Spirit	{ gal. £	64,638,372 3,032,080	332,098,020 16,700,717
Rocks and Minerals, including Ores and Concentrates	£	1,786,081	2,729,875
Leather	£	235,757	204,485
Timber	{ super ft. £	41,748,431 1,923,618	54,590,927 2,799,170
Veneers, Plywood, Mouldings, etc.	£	14,429	17,362
Oils, Essential	{ lb. £	157,069 80,822	183,153 90,928
Gold Bullion	{ fine oz. £	618,495 9,068,885	410,278 6,420,786
Silver—Bar, Ingot, Sheet	{ fine oz. £	238,359 92,154	216,808 88,039
All Other Articles	£	11,962,560	16,152,124
Total Exports	£	92,161,547	110,375,767
Ships' Stores	£	3,932,547	5,296,031
TOTAL EXPORTS, INCLUDING SHIPS' STORES	£	96,094,094	115,671,798

† Principally Cattle and Calf with some Horse and Buffalo Hides.

VALUES OF IMPORTS AND EXPORTS ACCORDING TO COUNTRIES OF ORIGIN AND DESTINATION

Countries of Origin and Destination	1954-55		1955-56	
	Imports	Exports	Imports	Exports
	£'000	£'000	£'000	£'000
<i>United Kingdom</i>	23,303	26,223	17,609	28,007
<i>Australian States†</i> —				
New South Wales	32,831	13,264	34,458	14,031
Victoria	41,658	4,852	38,976	8,625
Queensland	2,762	511	2,844	995
South Australia	12,488	3,848	10,831	9,174
Tasmania	1,003	166	1,529	223
Northern Territory	313	1,014	338	1,185
Total	91,055	23,655	88,976	34,233
<i>Other Commonwealth—</i>				
Borneo, British	172	37	216	32
Canada	921	310	750	620
Ceylon	1,241	279	844	556
Christmas Island†	573	235	511	455
Hong Kong	54	232	89	242
India, Republic of	2,226	6,465	1,462	2,117
Ireland, Republic of	18	561	6	353
Malaya, Federation of	58	994	94	1,084
New Zealand	45	794	65	1,992
Pakistan	3	153	4	69
Singapore	555	3,285	155	2,794
South Africa, Union of	295	83	196	135
Other	1,246	726	865	1,023
Total	7,407	14,154	5,257	11,472
<i>Foreign—</i>				
Austria	51	6	45	15
Bahrein Islands	1,215	103	1,024	107
Belgium	823	2,125	453	2,021
Egypt	9	46	3	220
France	321	5,368	405	5,562
Germany, Federal Republic of	809	3,442	872	6,888
Germany (Eastern Zone)	20	....	12	....
Indonesia, Republic of	1,788	573	1,393	1,564
Iran (Persia)	5,047	32	13,599	77
Italy	613	2,310	361	2,541
Japan	601	1,849	532	1,769
Netherlands	354	878	355	966
Poland	6	845	3	2,502
Saudi Arabia	596	243	96	178
Sweden	621	712	437	711
United States of America	5,367	5,609	2,400	5,136
Other	1,607	3,988	1,576	6,407
Total	19,938	28,129	23,616	36,664
<i>Ships' Stores</i> ....	....	3,933	....	5,296
GRAND TOTAL	141,703	96,094	135,458	115,672

† Imports refer to State of purchase and not necessarily to State of origin.

† Indian Ocean.

TRADE BY PORTS

Ports, etc.	1954-55.		1955-56.	
	Imports.	Exports.†	Imports.	Exports.†
	£	£	£	£
Fremantle	109,431,136	69,426,274	98,657,458	91,291,977
Albany	1,684,098	1,540,991	772,052	3,745,848
Broome	18,315	364,855	29,405	333,294
Bunbury	249,411	3,772,688	319,650	3,577,708
Busselton	241	325,231	....	461,249
Carnarvon (a)	15,126	1,049,261	18,190	1,073,076
Derby	579	52,792	8,590	75,117
Esperance	517,681	85	362,455	57
Geraldton	641,166	6,398,135	135,572	4,472,537
Onslow	33,475	66,130	2,504	18,367
Point Samsou ....	....	19,863	....	....
Port Hedland	2,841	133,620	....	172,115
Wyndham	12,387	1,014,231	115	1,005,379
Yampi	92,168	575,923	88,453	468,347
By Rail	22,667,563	959,370	35,062,221	8,976,727
By Road (b)	365,402	34,747		
By Air Freight	4,280,011	10,337,352		
By Parcel Post (c) (Interstate only)	1,680,941	22,541	....	....
Total	141,702,541	96,094,094	135,457,665	115,671,798

† Including Ships' Stores. (a) Exports include value of whale oil shipped from Maud's Landing. (b) Imports include value of cattle overlanded from Northern Territory to Wyndham. (c) Oversea Imports and Exports included under Fremantle.

NET CUSTOMS AND EXCISE COLLECTIONS UNDER EACH TARIFF DIVISION DURING THE
YEAR ENDED 30TH JUNE, 1955†

Division.	Tariff Headings.	1954-55.
	<i>Customs.</i>	£
1	Ale, Spirits and Beverages	164,668
2	Tobacco and Manufactures thereof	443,583
3	Sugar	411
4	Agricultural Products and Groceries	120,457
5	Textiles, Felts, Furs, etc.	497,889
6	Metals and Machinery	1,188,396
7	Oils, Paints and Varnishes	1,657,708
8	Earthenware, China, etc.	133,553
9	Drugs and Chemicals	20,116
10	Wood, Wicker and Cane	35,779
11	Jewellery and Fancy Goods	86,124
12	Hides, Leather and Rubber	56,261
13	Paper and Stationery	44,059
14	Vehicles	634,916
15	Musical Instruments	7,687
16	Miscellaneous	57,241
	Prinlage	471,038
	Post Office Collections	6,006
	Ships' Stores	12,199
	Tea Duty	977
	Other	11,262
	Total, Tariff Act	5,650,330
	Collections not under Tariff Act	17,729
	Total, Customs	5,668,059
	<i>Excise.</i>	
	Beer	6,166,206
	Spirits	290,691
	Tobacco, Cigars and Cigarettes	3,149,010
	Coal	32,780
	Other Excise Duty (Cigarette Papers, Matches and Petrol) and Licenses	1,261,828
	Total, Excise	10,900,515
	Total, Customs and Excise	16,568,574

† Figures for 1955-56 not available in terms of classification used in this table.

CHAPTER IX—continued

PART 2.—TRANSPORT

The Western Australian transport system radiates, in the main, from the State Capital. Certain feeder roads and railways converge on the outports but the great bulk of the traffic is with the metropolitan area. With some exceptions (*e.g.*, direct shipments of wheat, timber, wool and beef from certain outports to destinations overseas) sea-borne traffic centres upon Fremantle, while the air transport network radiates from Perth Airport.

SHIPPING SERVICES

Coastal shipping was one of the earliest forms of intrastate transport, ante-dating by many years the construction of the railway system and serving remote areas which, at the time, were sparsely provided with roads. The present outports are Geraldton, Bunbury, Busselton, Albany and Esperance in the more highly-developed south-western and southern portions of the State and Carnarvon, Onslow, Point Samson, Port Hedland, Broome, Derby, Yampi and Wyndham which serve the sparsely-settled north-west and northern districts.

The following table shows the tonnages of cargo discharged and shipped at each port during the year 1938-39 and three recent years.

CARGO TONNAGES †

Port.	Discharged.				Shipped.			
	1938-39.	1953-54.	1954-55.	1955-56.	1938-39.	1953-54.	1954-55.	1955-56.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Fremantle	956,466	1,694,951	2,583,447	3,401,663	673,511	560,846	1,057,366	2,269,605
Albany	9,456	45,754	90,264	80,356	81,781	8,418	16,185	114,291
Balla Balla (a)	91	.....	.....	.....	216	.....	.....	.....
Broome	4,409	5,474	7,367	7,300	2,356	3,269	4,717	4,071
Bunbury	54,539	58,514	48,197	60,420	217,869	161,494	154,202	171,467
Busselton	244	.....	2	.....	18,002	17,724	17,444	18,304
Carnarvon	6,387	12,654	13,484	9,938	5,483	22,703	17,999	14,441
Derby	3,437	8,281	18,332	12,993	13,603	3,891	5,730	4,497
Esperance	23,683	31,290	29,335	22,746	3,856	.....	661	6,227
Geraldton	74,976	60,967	53,676	74,118	104,001	69,428	242,400	200,987
Onslow	2,409	8,373	12,183	15,592	2,172	2,722	5,770	9,044
Point Samson	1,902	6,699	6,863	6,040	1,991	9,104	7,917	10,995
Port Hedland	8,748	7,785	10,314	9,287	3,677	17,789	11,752	14,261
Wyndham	8,921	7,389	10,558	11,829	10,677	10,613	10,770	13,249
Yampi .....	.....	1,951	2,435	2,277	.....	583,966	609,914	472,228
Total	1,155,668	1,950,082	2,886,457	3,714,559	1,139,195	1,471,967	2,162,827	3,323,667

† Combines "weight" and "measurement" tonnages.

(a) Not used since 1940.

It will be seen by the following table that, in general, overseas cargo predominates, with interstate ranking second and coastal proportionately small except in respect of the northern ports.

CARGO TONNAGES† DISSECTED INTO OVERSEA, INTERSTATE AND COASTAL, BY PORTS FOR YEAR 1955-56 AND TOTALS FOR EARLIER YEARS

Port.	Discharged.			Shipped.		
	Oversea.	Interstate.	Coastal.	Oversea.	Interstate.	Coastal.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Fremantle	2,859,000	402,148	50,515	959,136	1,153,673	156,796
Albany	42,737	5,952	31,667	110,260	4,031	.....
Broome	141	15	7,144	65	5	4,001
Bunbury	59,007	1,413	.....	139,132	32,335	.....
Busselton .....	.....	.....	.....	.....	18,304	.....
Carnarvon	2,155	21	7,762	8,520	7	5,914
Derby	10	52	12,931	36	.....	4,461
Esperance .....	.....	17,421	5,325	.....	3	6,224
Geraldton	32,283	.....	41,835	151,613	48,791	583
Onslow .....	.....	10	15,582	58	10	8,976
Point Samson .....	.....	.....	6,040	67	.....	10,928
Port Hedland .....	.....	28	9,259	261	3,798	10,202
Wyndham	1,082	527	10,220	8,475	20	4,754
Yampi .....	.....	1,224	1,053	.....	471,818	410
Total, 1955-56	2,996,415	518,811	199,333	1,377,623	1,732,795	213,249
Total, 1954-55	2,047,279	701,508	137,670	1,027,898	992,106	143,023
Total, 1953-54	1,285,386	564,773	99,923	627,076	743,914	100,977
Total, 1952-53	1,208,339	536,760	97,575	1,139,711	727,567	97,959
Total, 1951-52	1,585,286	505,635	90,614	1,094,310	210,857	94,199
Total, 1938-39	749,216	340,190	66,262	957,209	117,816	64,170

† Combines "weight" and "measurement" tonnages.

‡ Low figure mainly due to considerable decline in shipments of wheat.

A comparison of the annual numbers and net tonnage of vessels calling at Fremantle and other ports during 1938-39 and five recent years is given in the next table :—

NUMBER AND NET TONNAGE OF VESSELS† CLEARED FROM EACH PORT

Port.	1938-39.		1951-52.		1952-53.		1953-54.		1954-55.		1955-56.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Fremantle	847	4,015,056	1,004	5,238,991	947	4,968,985	935	4,887,397	1,070	5,677,270	1,195	6,380,453
Albany	125	514,994	65	287,211	49	177,891	54	229,212	67	304,317	64	254,920
Broome	92	141,342	59	88,571	62	100,239	59	93,944	70	113,752	61	96,299
Bunbury	108	248,015	55	140,509	73	192,181	71	196,503	63	113,064	56	154,459
Busselton	33	63,934	11	20,866	23	41,800	21	40,891	18	35,579	14	29,450
Carnarvon	115	183,008	105	158,804	113	171,166	109	161,485	115	151,541	96	145,282
Derby	63	130,829	43	76,218	52	90,726	52	88,941	51	87,167	40	68,881
Esperance	17	29,883	8	30,655	6	18,281	8	29,933	7	27,054	8	28,557
Geraldton	131	288,508	101	281,520	111	294,425	89	242,058	105	308,885	103	269,359
Onslow	73	127,736	87	136,078	88	120,082	85	115,219	94	130,676	93	128,400
Point Samson	79	141,711	81	107,852	88	130,988	78	104,637	52	70,469	74	91,398
Port Hedland	75	142,309	63	77,762	23	29,350	71	99,208	69	86,679	76	97,952
Wyndham	52	145,504	34	66,209	39	76,013	46	90,640	39	79,885	44	90,524
Yampi .....	.....	.....	74	53,477	130	314,647	135	324,078	132	329,967	126	281,636

† Including vessels trading only within the State and vessels calling at more than one port.

The pattern of shipping activity at each of the State's ports is illustrated by the following table which gives details of shipping movements during the year ended 30th June, 1956.

NUMBER AND NET TONNAGE OF VESSELS† ENTERED AND CLEARED AT EACH PORT—YEAR 1955-56

ENTERED

Port.	Oversea.				Interstate.				Local Shipping.		Total.	
	Via Ports within the State.		From Ports outside the State.		Via Ports within the State.		From Ports outside the State.					
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Fremantle	35	112,773	614	3,718,052	41	91,057	438	2,297,832	74	198,832	1202	6,418,546
Albany	2	9,232	20	93,566	1	3,701	21	79,468	20	69,153	64	255,120
Broome	1	2,217	4	6,493	5	8,423	1	2,283	51	76,917	62	96,333
Bunbury	2	9,091	17	51,613	1	2,070	6	21,886	30	70,526	56	155,186
Busselton ....	.....	.....	.....	.....	.....	.....	.....	.....	14	29,450	14	29,450
Carnarvon	4	7,791	4	8,124	12	21,098	2	8,578	75	101,899	97	147,490
Derby	1	2,120	9	18,637	1	1,359	3	5,735	27	42,251	41	70,102
Esperance ....	.....	.....	.....	.....	.....	.....	5	15,553	3	13,004	8	28,557
Geraldton	2	9,914	23	84,030	5	12,358	1	2,969	72	165,458	103	274,729
Onslow ....	.....	.....	.....	.....	12	16,814	.....	.....	81	111,586	93	128,400
Point Samson .....	.....	.....	.....	.....	18	26,229	.....	.....	56	65,169	74	91,398
Port Hedland .....	.....	.....	1	1,281	13	16,853	.....	.....	62	79,800	76	97,934
Wyndham ....	.....	.....	1	4,310	.....	.....	15	34,771	27	47,418	43	86,499
Yampi ....	.....	.....	.....	.....	2	3,646	47	248,423	77	29,543	126	281,612

CLEARED

Port.	Oversea.				Interstate.				Local Shipping.		Total.	
	Via Ports within the State.		For Ports outside the State.		Via Ports within the State.		For Ports outside the State.					
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Fremantle	32	76,669	573	3,196,122	61	119,221	451	2,781,876	78	206,565	1195	6,380,453
Albany	9	39,260	25	102,966	1	1,750	12	57,353	17	53,591	64	254,920
Broome	2	4,240	1	2,120	12	17,757	8	11,890	38	60,292	61	96,299
Bunbury	11	47,461	15	45,847	3	6,154	19	30,055	8	24,942	56	154,459
Busselton .....	.....	.....	.....	.....	6	13,153	8	16,297	.....	.....	14	29,450
Carnarvon	3	8,795	4	13,461	11	15,941	3	9,312	75	97,773	96	145,282
Derby	1	2,217	2	3,506	3	4,796	5	7,307	29	51,055	40	68,881
Esperance .....	.....	.....	3	12,822	.....	.....	.....	.....	5	15,735	8	28,557
Geraldton	8	23,998	43	122,283	12	22,731	7	15,818	33	84,529	103	269,359
Onslow .....	.....	.....	2	9,065	16	23,678	1	1,289	74	94,368	93	128,400
Point Samson	1	2,207	.....	.....	18	28,245	.....	.....	55	60,946	74	91,398
Port Hedland	1	2,120	2	3,367	15	20,297	1	2,283	57	69,855	76	97,922
Wyndham .....	.....	.....	6	28,660	.....	.....	21	36,477	17	25,387	44	90,524
Yampi .....	.....	.....	.....	.....	6	8,686	46	244,145	74	28,805	126	281,636

† Including vessels trading only within the State and vessels calling at more than one port.

Several of the ports north of Geraldton are served only by vessels of the State Shipping Service. The tidal variations being considerable and the approaches to certain ports somewhat difficult, vessels of moderate tonnage have to be used. In 1956 the State Shipping Service was operating seven ships between Fremantle and the northern ports, the total net tonnage being 9,186.

Fremantle, Bunbury, Geraldton and Albany are the most used ports, with Fremantle predominating. The Fremantle Harbour Trust controls this port, while Albany and Bunbury harbours are also administered by Boards. Harbour installations at Geraldton, Busselton and Esperance are under the direction of the Government Railways Commission and all of the other ports enumerated in the first paragraph of this section are controlled by the Harbour and Light Department.

THE RAILWAY SYSTEM

In the Chronological Notes in Chapter I, brief details are given of the year to year development of the railway system, which has become a major Government undertaking and is a very important element in the economy of the State.

The first railway (a private line) was constructed in 1871 for the purpose of transporting timber to the coast at the Vasse. The first Government line was opened in 1879 between the port of Geraldton and the copper and lead-mining district of Northampton. Since then the growth of the railways has gone hand in hand with the development of the State, particularly in respect to the establishment and expansion of the timber, mining, pastoral and agricultural industries.

With the exception of 277 miles of line from Midland Junction to Walkaway, operated by the Midland Railway Company for general traffic, and some 600 miles of timber transport lines (180 miles belonging to the State Saw Mills; 400 to 500 miles privately-owned) the whole of the intrastate railway system is a governmental concern under the control of the Western Australian Government Railways Commission.

Government Railways

Until accelerated settlement of the agricultural areas in the South-West Land Division followed a back flow of population from the goldfields during the decade, 1901 to 1910, only the metropolitan and the main developmental lines—including those serving the northern and eastern goldfields—had been built. These main lines consisted of the South-Western Railway from Perth to Bunbury and Busselton (including the branch lines to Collie and to Bridgetown); the Eastern Goldfields Railway from Perth to Leonora and Laverton via Kalgoorlie; the Great Southern Railway between Spencers Brook and Albany (with branch line to Denmark); the Northern Railway between Geraldton and Nannine and the Midland Railway Company's line between Midland Junction and Walkaway where it connected with the Government line to Geraldton. The short line from Geraldton to Northampton has already been mentioned.

Under the stimulus of agricultural expansion, spur and loop lines were soon being added to the system. There were 1,605 miles of State Government Railways open for passenger and goods traffic on 30th June, 1905 but five years later this figure had been increased by 540 miles—over 300 miles of which comprised wheat-belt spur lines. During the next period of five years the additions to mileage totalled 1,187 miles, some 850 miles of which consisted of wheat-belt spur lines. By juncture of spur lines many of these became loop lines. This impetus of Government railway building was slowed down considerably during the first World War and has not since been renewed at the former rate. The mileage open for traffic was 3,539 on 30th June, 1920 and reached a peak of 4,381 miles during the years 1940 to 1946, inclusive. Since then a reduction in mileage has resulted from the closure of several sections of Government railway—leaving a total of 4,119 route miles on 30th June, 1956.

A gauge of 3 ft. 6 in. applies throughout the Western Australian Government system and on the Midland Railway Company's line. The initial adoption of this gauge was primarily a matter of economy in the cost of construction. The use of 3 ft. 6 in., 4 ft. 8½ in. and 5 ft. 3 in. gauge in other States of Australia and the fixing of a 4 ft. 8½ in. gauge on the Commonwealth Trans-Continental Railway has, however, caused serious difficulties not only for Western Australia but for other railway authorities in the Commonwealth. At 30th June, 1956, there were 13,091 route miles of 3 ft. 6 in. gauge "passenger" lines open throughout Australia and this mileage almost equalled the joint total of 5 ft. 3 in. gauge (6,033 miles) and 4 ft. 8½ in. gauge (7,285 miles). To overcome this difficulty of breaks of gauge, which not only inconveniences passengers but seriously impedes the transport of goods, it has been proposed for some years past that Australian railway gauges should be standardised at 4 ft. 8½ in.—at least in respect of lines connecting the State capitals. Only limited action has yet been taken in this regard.

The Commonwealth Government's introduction of high speed diesel trains on the Port Pirie—Kalgoorlie section of the trans-continental railway journey has provided a quicker service which can be improved upon as the State railway system is adapted for higher speeds. The required work includes the reconstruction of the permanent way to provide a safe roadbed at high speeds and certain modifications to the types of rolling stock. The State Government Railways have also adopted diesel rail cars for accelerated country and suburban services and diesel-electric locomotives for long-distance haulage.

The replacing of many passenger and mixed trains in country areas by faster and more economic omnibus services was introduced during the war period, when the condition of rolling stock available made it imperative to give priority in rail haulage to essential goods. From 1947 the road service steadily expanded and was soon a substantial feature of the transport system. More recently, and coincidentally with the increasing dieselization of country lines, there has been some reduction in the road passenger traffic but it is still an important factor. Road bus miles run increased from 402,136 in the year 1947-48 to 1,505,382 for 1955-56. There was a corresponding rise in the annual number of passengers carried from 116,080 to 312,202. This activity is dealt with in greater detail under the heading of "Motor Omnibus Services" (see page 280).

General statistics concerning railway operations during the years 1951-52 to 1955-56, with a comparison of the 1938-39 figures, are contained in the following tables relating to the Western Australian Government Railways.

GENERAL OPERATIONS†

Year.	Passenger Journeys.	Paying Goods and Livestock Carried.	Goods and Livestock Receipts per Ton-mile.	Earnings.	Expenditure. (a)	Capital Account. (b)	Net Loss as a Proportion of Capital Account.
	'000 11,416	'000 tons. 2,859	pence. 1·71	£'000 3,599	£'000 (c) 3,912	£'000 26,559	% 1·18
1938-39	11,416	2,859	1·71	3,599	3,912	26,559	1·18
1951-52	10,536	3,063	3·56	8,885	11,791	120,373	10·78
1952-53 (d)	6,339	2,619	3·44	7,667	13,601	32,828	17·92
1953-54	8,678	3,206	4·08	11,111	15,040	38,361	11·77
1954-55	10,139	3,407	4·39	12,315	16,135	42,994	8·86
1955-56	12,271	3,793	4·26	13,080	17,696	45,963	10·04

† Excludes operations of the Railways Road Services, except for Capital Account. Details of these Services are given in the table on page 280. (a) Includes interest on loan monies and depreciation—all railway activity. (b) Total cost of construction and equipment of services open for traffic at the end of the year—whether paid for from loan funds or from other sources. (c) Capital was written down on 1st July, 1950, by £12,326,349. (d) Excludes depreciation. (e) The figures for 1952-53 reflect the effects of the metal trades strike of February to August, 1952.

PASSENGER AND GOODS TRAFFIC†

Year.	Passenger Traffic.		Paying Goods Traffic. (a)		Total Receipts. (a)
	Passenger Journeys.	Receipts.	Goods and Livestock Carried.	Receipts.	
	No. 11,415,615	£ 513,833	Tons. 2,859,141	£ 2,807,215	£ 3,321,048
1938-39	11,415,615	513,833	2,859,141	2,807,215	3,321,048
1951-52	10,536,195	910,533	3,062,841	7,150,493	8,061,026
1952-53 (b)	6,339,430	697,855	2,618,306	6,202,530	6,900,385
1953-54	8,678,083	882,841	3,205,958	9,308,162	10,191,003
1954-55	10,138,948	959,670	3,406,634	10,359,555	11,319,225
1955-56	12,270,777	1,039,624	3,792,856	10,988,696	12,028,320

† Rail traffic only. For details of Railway Road Services see table on page 280. (a) Excludes parcels and mails. (b) The figures for 1952-53 reflect the effects of the metal trades strike of February to August, 1952.

As is evident from the preceding table, goods traffic is of outstanding importance as a source of railway revenue. In consequence the shortage and obsolescence of rolling stock during the post-war years (notably of locomotives) have caused very serious difficulties for the Government Railway system and for the State in general. These difficulties are now diminishing.

A feature of goods transport by the railways is the high proportion of commodities which are conveyed in considerable quantities but at low freight rates. The following table shows the extent to which the field of railway goods traffic is dominated by the principal primary products of the State, or special aids to their production such as fertilizers and oil; for most of these low freight rates are paid.

PAYING FREIGHT CARRIED ON THE GOVERNMENT RAILWAYS

Commodity.	1938-39.	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Wheat	750,495	666,419	539,575	637,067	778,624	1,002,649
Coal, Local	246,787	500,885	464,831	535,691	587,999	520,851
Fertilizers	279,563	224,365	247,017	341,248	366,421	357,462
Timber, Local	317,339	202,325	155,508	290,534	311,589	323,201
Grain, other than Wheat	163,449	212,289	188,858	214,287	60,595	176,682
Oil in Private Tank Wagons'	(a)	115,512	111,210	143,399	150,159	148,771
Fruit and Vegetables	118,062	105,652	108,288	107,119	112,393	102,071
Wool	28,426	51,997	21,279	51,062	48,280	61,083
Firewood	43,495	45,310	28,841	23,742	19,719	18,121
Hay, Straw and Chaff	45,074	20,968	17,811	18,350	12,680	10,586
Agricultural Machinery, Vehicles, etc.	(a)	11,815	9,037	14,057	(a)	(a)
Water	506	841	539	1,699	(a)	(a)
Miscellaneous Freight (b)	750,003	777,110	594,111	704,471	830,174	873,850
Livestock—						
Tonnage (approx.)	115,942	127,747	131,901	123,223	128,001	137,529
Comprising—	No.	No.	No.	No.	No.	No.
Sheep	1,818,834	1,760,497	2,047,688	1,730,984	1,874,482	1,983,593
Cattle	77,963	108,558	100,922	110,780	105,025	121,903
Other (c)	107,083	124,097	111,236	111,193	150,495	135,544
Total Tonnage	2,859,141	3,062,641	2,618,806	3,205,958	3,406,634	3,792,856

(a) Separate particulars not available. Included in "Miscellaneous." (b) Includes Ores and Minerals, various divisions of packaged freight, etc. (c) Mainly pigs.

The depressed figures of freight haulage for the year ended 30th June, 1953 were almost wholly attributable to the effects of the metal trades strike which extended from February to August, 1952 and seriously hampered rail services. Water cartage is a division of freight haulage which is governed by changing seasonal conditions. When an exceptionally hot summer or less than adequate winter rains are experienced in certain portions of the State it is necessary to carry water on the railways—usually for the use of steam locomotives but also for general purposes and stock supplies. The introduction of diesel-electric locomotives is reducing this problem.

Private Railways

The principal railway in this field and the only private line open for passenger and goods traffic is that operated by the Midland Railway Company of Western Australia, Ltd. Extending from Midland Junction to Walkaway, a distance of 277 miles, this line connects with the Government railway system at both ends. In common with the Government Railways the Midland Railway Company has entered the field of long-distance transport by road and now provides such services between Perth and Geraldton as well as to intermediate points. Statistics relating to rail transport are separately presented in connection with this Company and are contained in the following table:—

GENERAL OPERATIONS OF THE MIDLAND RAILWAY COMPANY†

Year.	Passenger Journeys.	Paying Goods and Livestock Carried.	Goods and Livestock Receipts per Ton-mile.	Earnings.	Working Expenses.	Capital Account.	Net Earnings as a Proportion of Capital Account. (a)
1938-39	No. 23,538	Tons. 148,730	Pence. 1.69	£ 177,307	£ 82,598	£ 2,257,007	% 4.20
1951-52	13,542	221,581	4.11	611,657	495,549	2,420,858	4.80
1952-53	2,717	217,415	3.88	538,782	577,593	2,435,701	—1.59
1953-54	4,297	185,724	5.00	603,978	549,162	2,446,598	2.24
1954-55	4,285	192,282	5.00	665,406	600,139	2,450,817	2.66
1955-56	3,804	218,614	4.91	699,760	667,461	2,474,387	1.31

† Excludes operations of the Company's Road Services which are dealt with later in this chapter under the heading of "Railway Omnibus Services." (a) Minus sign denotes net loss.

Railways for Timber Haulage

Beside the Government railway system and the Midland Railway Company's line, which comprise the only railways open for general traffic in Western Australia, there are a number of railways—either privately or Government-owned—whose activities are confined to the transport of timber. Most of them are run in connection with the sawmilling industry but a few are engaged in hauling timber for the mines. Details of the operations of these railways are contained in the following tables :—

GOVERNMENT TIMBER MILL RAILWAYS

Year.	Lines Open.	Miles Open.	Train Miles Run.	Locomotives Working.	Timber, etc. Carried.
	No.	Miles.	Miles.	No.	Tons.
1938-39	4	93	81,171	8	215,007
1949-50	9	154	113,024	11	178,844
1950-51	8	162	115,626	12	100,715
1951-52	8	180	120,800	13	123,433
1952-53	7	182	113,277	11	182,524
1953-54	9	159	123,104	10	189,923
1954-55	8	161	112,329	10	157,729
1955-56	6	138	97,760	9	128,010

PRIVATE TIMBER RAILWAYS

Year.	Lines Open.	Miles Open.	Train Miles Run.	Locomotives Working.	Timber and other Goods Carried.
	No.	Miles.	Miles.	No.	Tons.
1938-39	23	554	421,202	40	704,081
1949-50	17	497	278,405	32	386,108
1950-51	10	475	275,295	29	364,783
1951-52	18	475	275,076	33	370,239
1952-53	15	447	267,855	31	376,713
1953-54	14	481	166,787	24	265,618
1954-55	14	471	158,890	25	221,211
1955-56	14	449	141,599	21	194,950

The State Railway system in relation to the Commonwealth Railways and other State Systems

Gauge relationships with the other Australian railway systems have already been mentioned in the course of this chapter, but it may be noted that the change of gauge to the Commonwealth Government's trans-continental line at Kalgoorlie calls for complete re-entrainments of both passengers and goods. Similar changes of gauge occur at the junction of the trans-continental line with the South Australian system and at the border of Victoria and New South Wales, with the result that very considerable modifications would be necessary in order to provide uniformity of gauge. The following table shows the length of line of each gauge being used by the Government railways of the Commonwealth during the year 1955-56, together with particulars of rolling stock and staff employed.

GOVERNMENT RAILWAYS—AUSTRALIA—YEAR ENDED 30TH JUNE, 1956

Government.	Route Miles : Each Gauge.				Rolling Stock. ‡			Staff. (a)
	5 ft. 3 in.	4 ft. 8½ in.	3 ft. 6 in.	All Other.	Loco- motives.	Coaching.	Goods.	
	Miles.	Miles.	Miles.	Miles.	No.	No.	No.	No.
New South Wales	↑	6,103	....	....	1,207	3,749	25,742	55,091
Victoria	4,411	(b)	6,357	34	560	2,379	21,232	29,646
Queensland	....	69	....	....	823	1,540	26,696	29,409
South Australia	1,622	....	942	....	345	708	8,685	10,234
Western Australia	....	....	4,119	....	440	604	12,095	(d) 13,710
Tasmania	....	....	585	....	131	173	2,647	2,623
Commonwealth	....	1,113	1,088	....	180	192	2,040	2,399
Total	6,033	7,285	13,091	64	3,686	(c) 9,399	99,137	143,115

(a) Average staff employed during the year ended 30th June : construction staff is included in the Victorian figures.
 (b) Queensland portion of Uniform Gauge Railway. (c) Including 54 items jointly owned by the Victorian and South Australian Railways and not shown against the respective States. (d) Excluding Road Motor Service. ‡ Route-mileage (2 miles) included in 4 ft. 8½ in. total as 5 ft. 3 in. gauge line parallels 4 ft. 8½ in. gauge line. † Excluding service stock.

For the same year, statistics of the general operations of the respective railway systems were as follows :—

GOVERNMENT RAILWAYS—AUSTRALIA
DETAILS OF OPERATIONS—YEAR 1955-56

Government.	Train Miles.	Passenger Journeys.	Goods and Livestock Carried.	Gross Revenue.	Working Expenses.	Capital Expenditure during the Year.
	'000	'000	'000 tons.	£'000	£'000	£'000
New South Wales	38,478	280,470	18,787	75,386	74,904	16,542
Victoria	18,635	166,708	9,607	37,032	38,026	8,844
Queensland (a)	19,289	35,647	8,180	31,312	33,873	3,502
South Australia	7,113	16,434	4,414	13,098	15,761	2,072
Western Australia	8,278	12,271	3,793	13,080	15,920	4,187
Tasmania	2,105	2,977	1,075	2,535	3,262	315
Commonwealth	2,336	230	918	4,741	3,176	748
Total	96,234	514,737	46,774	177,184	184,922	36,808

(a) Includes Queensland portion of Uniform Gauge Railway.

TRAMS, BUSES AND FERRIES

Tramway and trolley-bus services are confined to the metropolitan area and are controlled entirely by the State Government Tramways Department. On the other hand motor omnibus services operate throughout the State and may be managed by the State Government, local governing bodies or private concerns.

Government Tramways

The Perth electric tramway system was at first privately-owned, having been opened by the Perth Electric Tramway Company in 1899. After acquisition by the State Government on 1st July, 1913 this service was operated in conjunction with the Government railways until 1949 when it came under separate departmental management.

The annual "mileage run" figures of this service reached a peak of 3,604,827 during the year ended 30th June, 1930 and the record number of passengers carried (41,097,988) was achieved in 1943-44. War-time pressure on public transport, especially during a time of petrol rationing, was the reason underlying the high figures of 1943-44 and adjacent years. Because of the development of other services mentioned later in this chapter, tramway traffic has now receded to levels which are lower than those of any year since 1915. The following table gives information concerning tramways operations during 1938-39 and five recent years.

GOVERNMENT TRAMWAYS

Year.	Length of Line (Route).	Electric Cars.	Mileage Run.	Passengers Carried.	Earnings.	Working Expenses.	Staff. (a)
	Mls. Chs. 35 78	No. 121	'000 3,043	'000 26,477	£ 245,174	£ 234,422	No. (b) 644
1938-39	15 4	63	1,286	14,892	344,457	334,551	360
1951-52	15 4	53	1,116	12,166	327,315	338,383	297
1952-53	11 48	40	979	11,107	276,431	301,262	252
1953-54	11 48	40	864	9,549	252,479	262,147	222
1954-55	11 48	40	758	8,532	216,963	248,151	206

(a) Salaried and wages staff employed on 30th June, each year. as no dissection was made.

(b) Includes trolley-bus and motor omnibus staff

Trolley-Buses (All Government-owned)

Much of the decline in tramway operations which is apparent from the above table is due to the introduction of trolley-buses and motor omnibuses. Trolley-buses were first operated in 1933, the intention being to replace the trams with a faster and more mobile type of vehicle over the longer routes and also to extend services beyond the then limits of tramway routes. By the beginning of

the second World War a fleet of 22 trolley-buses had been built up and at the end of the war this had been increased to 40. The number was unchanged until 1949-50, after which large annual increments brought the total to 90. Details of operations are shown in the following table :—

GOVERNMENT TROLLEY-BUSES

Year.	Length of Line (Route).	Trolley Buses.	Mileage Run.	Passengers Carried.	Earnings.	Working Expenses.	Staff. (a)
	Mls. Chs.	No.	'000	'000	£	£	No. (b)
1938-39	13 73	22	865	5,021	56,005	44,104	
1951-52	17 39	75	1,547	8,819	232,617	261,902	282
1952-53	18 1	90	1,397	7,985	250,827	275,067	240
1953-54	18 9	90	1,328	7,636	233,667	261,237	218
1954-55	20 11	90	1,341	7,740	234,720	263,206	223
1955-56	22 12	90	1,281	7,330	219,147	266,625	221

(a) Salaried and wages staff employed on 30th June, each year.

(b) Particulars not available—included in Government Tramways.

As was the case with the trams, the peak years of trolley-bus traffic occurred during the period when petrol rationing caused heavy recourse to public transport. Nearly 11,000,000 passengers were carried in each of the years 1943-44 and 1944-45, while 11,084,619 were transported in 1945-46. Increases in passenger journeys up to 30th June, 1952 may be ascribed to route extensions while the expansion of private motoring and the extension of motor omnibus services could account for the more recent decline.

Due to the pressure on public transport previously mentioned, it became necessary for the Government tramway administration to augment its tram and trolley-bus services by using petrol or diesel-engined omnibuses. This development is again referred to under the heading "Motor Omnibus Services."

Passenger Ferries

Ferry services on the Swan River were at one time a very important sector of the metropolitan transport system but, because of improved road access to the southern suburbs and the considerable increases of population in those areas during the last two decades, road transport has superseded the ferries. One ferry service is still maintained—that which connects the tram terminus at Barrack Street Jetty, Perth with the omnibus terminus at Mends Street Jetty, South Perth and is operated by the Government Tramways Department. The last of the other services, which were privately-owned, ceased to operate in May, 1949.

Details of the operations of the State Government Ferry Service during the year 1938-39 and five recent years are given in the following table :—

STATE FERRIES

Year.	Boats in Use.	Passenger Accommodation.	Mileage Run.	Passengers Carried.	Earnings.	Working Expenses.	Staff. (a)
	No. 3	No. 642	No. 35,786	No. 837,975	£ 8,145	£ 8,126	No. 16
1938-39							
1951-52	4	785	27,938	670,073	11,472	17,689	16
1952-53	4	785	27,643	576,911	12,383	19,483	17
1953-54	4	785	26,833	530,017	10,754	18,272	12
1954-55	4	785	25,825	468,027	11,480	15,962	11
1955-56	4	785	25,797	437,168	9,944	10,892	10

(a) Salaried and wages staff employed on 30th June, each year.

The Ferry Service, also, experienced a substantial increase in patronage during the war years. A peak figure of 1,180,185 passengers was reached during the year 1943-44 and in no year during the series from 1941-42 to 1947-48 did the annual number of passengers carried fall below one million. However, the ferry service is, in some respects, an alternative to the existing omnibus services and there has recently been a decline in patronage with a consequent curtailment of the service.

Motor Omnibus Services

(i) *Railway Road Services.*—The war-time priority use of traction and rolling stock to transport essential goods rather than passengers—as well as the need to serve townships and farming areas not in close proximity to the railways—prompted the Government railways and the Midland Railway Company to introduce railway road services. The result has been a wide extension of the long-distance road transport facilities and considerably faster travel to and from many centres in the southern portion of the State.

The Government railways administration inaugurated its first road passenger service in November, 1941—Perth and Kojonup being the terminal points. By means of detours a number of intermediate centres were served and a considerable saving in passengers' travelling time was effected. Further extensions were made in 1946 and in the same year the Midland Railway Company commenced its service from Perth to Moora and Geraldton.

Development of the road services has been rapid during the post-war years, as the following tables show :—

GOVERNMENT RAILWAYS ROAD PASSENGER SERVICES

Year.	Omnibuses in Service.	Passenger Accommo- dation.	Omnibus Miles Run.	Passengers Carried.	Revenue.	Working Expenses.	Staff (a).
	No.	No.	No.	No.	£	£	No.
1941-42	1	40	26,132	3,573	3,001	954	(b)
1942-43	1	50	53,812	7,735	6,587	2,325	(b)
1943-44	1	50	55,158	8,667	7,013	2,065	(b)
1944-45	1	50	61,157	9,027	7,181	3,248	(b)
1945-46	2	112	59,878	11,064	8,457	3,477	(b)
1946-47	2	112	98,586	18,822	9,770	5,194	(b)
1947-48	18	621	402,136	116,080	36,915	34,871	48
1948-49	26	883	989,608	355,439	99,516	71,147	72
1949-50	43	1,423	1,328,699	483,542	151,806	107,948	137
1950-51	53	1,685	1,807,855	551,969	204,991	160,789	148
1951-52	54	1,717	2,016,070	585,583	264,268	201,730	158
1952-53	54	1,657	2,125,564	636,171	304,649	252,400	164
1953-54	54	1,657	1,962,937	521,228	262,991	249,222	151
1954-55	53	1,619	1,644,974	351,601	215,190	205,420	139
1955-56	52	1,570	1,505,382	312,202	194,295	193,585	133

(a) Salaried and wages staff at 30th June, each year.
Omnibus Services.

(b) Not available. Included with Government Tramways

MIDLAND RAILWAY COMPANY ROAD PASSENGER SERVICES †

Year.	Omnibuses in Service.	Passenger Accommodation.	Omnibus Miles Run.	Passengers Carried.	Staff. (a)
	No.	No.	No.	No.	No.
1946-47	2	64	98,179	9,963	6
1947-48	3	98	227,685	25,750	17
1948-49	5	169	269,254	32,925	14
1949-50	5	187	322,793	39,295	29
1950-51	6	202	335,708	38,937	34
1951-52	6	202	341,101	30,718	31
1952-53	7	222	353,879	34,916	26
1953-54	7	222	345,498	29,899	21
1954-55	7	222	345,723	27,771	26
1955-56	7	222	350,450	25,048	25

† Information concerning revenue and working expenses is not available for publication.
staff at 30th June.

(a) Salaried and wages

Both the Government Railways' and the Midland Railway Company's Road Services carry freight as well as passengers. Some of the omnibuses are dual purpose vehicles—having freight compartments as well as passenger accommodation—but vehicles entirely for freight are also used. No statistics are available concerning freight transported.

(ii) *Government Tramways Omnibus Services*—These services operate in the metropolitan area and, from their inauguration in 1941, have been steadily expanded; firstly to extend the Government transport facilities beyond the limits of the tram or trolley-bus routes but also—from 1948 onwards—to supersede tram services. This development is shown in the following table :—

GOVERNMENT TRAMWAYS MOTOR OMNIBUS SERVICES

Year.	Omnibuses in Service.	Passenger Accommo- dation.	Omnibus Miles Run.	Passengers Carried.	Revenue.	Working Expenses.	Staff. †
	No.	No.	No.	No.	£	£	No.
1940-41	6	240	13,365	57,111	658	636	(a)
1941-42	13	520	88,128	293,135	4,529	4,457	(a)
1942-43	19	810	397,342	1,794,695	22,606	16,508	(a)
1943-44	19	810	557,691	2,594,452	31,742	29,363	(a)
1944-45	19	810	591,075	2,740,216	34,274	31,755	(a)
1945-46	19	810	619,679	2,907,261	36,840	37,442	(a)
1946-47	19	810	731,090	2,894,807	36,882	42,830	(a)
1947-48	34	1,775	1,000,436	4,119,947	52,707	60,925	(a)
1948-49	52	2,855	1,660,437	7,250,025	105,424	125,840	(a)
1949-50	67	3,925	1,997,837	9,457,089	139,661	175,088	247
1950-51	90	4,080	2,717,423	12,254,771	233,835	231,501	302
1951-52	117	5,467	3,513,764	15,125,852	405,301	359,408	386
1952-53	126	(b) 8,503	3,789,216	16,693,931	536,535	460,986	403
1953-54	121	8,125	4,164,683	18,027,727	556,561	499,586	416
1954-55	125	8,422	4,046,721	17,584,885	539,901	534,717	453
1955-56	127	8,484	4,414,694	17,729,016	552,264	502,424	493

† Salaried and wages staff at 30th June, each year. (a) Not segregated from Tramway staff before 1950.

(b) Standing capacity increased from 25 per cent. to 75 per cent. of seating capacity under Transport Regulation made in July, 1952.

(iii) *Local Government Authority Tram and Omnibus Services*.—Founded in 1905, the Fremantle Municipal Tramways and Electric Lighting Board (re-named the Fremantle Municipal Transport Board on 17th December, 1952) operated only trams until 15th October, 1938, when it supplemented its service by the use of motor buses. Subsequently, on 1st April, 1947, the Eastern Goldfields Transport Board set up the second "municipal" service by acquiring the buses as well as the trams belonging to the Kalgoorlie Electric Tramways, Co., Ltd., which had operated since 1902. As the footnotes to the respective tables show, neither local government authority now operates trams.

Details relating to the activity of the Fremantle system during the year ended 31st August, 1939 and five recent years are contained in the following table :—

OPERATIONS OF THE FREMANTLE MUNICIPAL TRANSPORT BOARD

Particulars.	Year ended 31st August—					
	1939.	1952.	1953.	1954.	1955.	1956.
Vehicles—	No.	No.	No.	No.	No.	No.
Electric Trams	28	10	10	(a)	(a)	(a)
Omnibuses	5	25	28	33	36	37
Passenger Accommodation—						
Electric Trams	1,388	640	640	(a)	(a)	(a)
Omnibuses	240	1,229	(b) 1,922	2,335	2,578	2,670
Mileage Run—						
Tramway Service	579,574	391,977	52,330	(a)	(a)	(a)
Omnibus Service	106,965	549,893	842,897	944,715	1,007,345	1,006,278
Passengers Carried—						
Tramway Service	4,805,139	3,366,518	460,486	(a)	(a)	(a)
Omnibus Service	443,220	3,113,428	6,187,914	6,528,441	6,511,274	6,417,446
Receipts—						
Tramway Service	39,603	71,256	10,057	(a)	(a)	(a)
Omnibus Service	3,984	69,141	165,541	164,233	165,083	165,341
Working Expenses—						
Tramway Service	42,101	81,431	12,269	(a)	(a)	(a)
Omnibus Service	2,991	66,444	158,466	171,588	175,924	178,788
Employees—	No.	No.	No.	No.	No.	No.
Tramway Service	106	57	57	(a)	(a)	(a)
Omnibus Service	11	80	134	135	128	119

(a) Tramway service controlled by this Transport Board ceased to operate on 8th November, 1952. (b) Standing capacity increased from 25 per cent. to 75 per cent. of seating capacity under Transport Regulation made in July, 1952.

OPERATIONS OF THE EASTERN GOLDFIELDS TRANSPORT BOARD †

Particulars.	1938-39.	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.
Vehicles—	No.	No.	No.	No.	No.	No.
Electric Tramcars	19	6	(a)	(a)	(a)	(a)
Trailers	9	2	(a)	(a)	(a)	(a)
Omnibuses	3	14	14	11	11	11
Passenger Accommodation—						
Electric Tramcars and Trailers	1,020	376	(a)	(a)	(a)	(a)
Omnibuses	78	535	(b) 749	752	748	748
Mileage Run—						
Tramway Service	270,323	14,624	(a)	(a)	(a)	(a)
Omnibus Service	41,366	258,105	300,176	297,251	279,332	278,082
Passengers Carried—						
Tramway Service	1,856,298	135,001	(a)	(a)	(a)	(a)
Omnibus Service	131,642	1,227,169	1,431,125	1,396,233	1,365,195	1,366,792
Receipts—	£	£	£	£	£	£
Tramway Service	27,199	3,429	(a)	(a)	(a)	(a)
Omnibus Service	1,432	32,149	38,203	35,922	34,312	33,784
Working Expenses—						
Tramway Service	21,984	3,471	(a)	(a)	(a)	(a)
Omnibus Service	1,985	31,134	39,345	39,653	33,298	36,167
Employees—	No.	No.	No.	No.	No.	No.
Tramway Service	41	5	(a)	(a)	(a)	(a)
Omnibus Service	3	31	27	25	23	22

† Service owned until 1947 by Kalgoorlie Electric Tramways, Ltd. (a) Use of Trams and Trailers discontinued as from 31st March, 1952. (b) Standing capacity increased from 25 per cent. to 75 per cent. of seating capacity under Transport Regulation made in July, 1952.

(iv) *Private Omnibus Services.*—As will be seen from the table appearing at the end of this section, the majority of private omnibuses operate within, or have a terminus in, the metropolitan area. Almost all of the buses so operated are units of large fleets, owned by a number of public companies. These fleets, collectively form an important sector of the State's road transport system. The extent to which private enterprise participates in public transport is evident from a comparison of the total numbers of passengers carried during the year 1955-56 by metropolitan based services:—(a) private omnibuses and (b) governmental or municipal transport (other than railways). Private omnibuses (including those of the Midland Railway Company and others serving the nearer country centres around Perth and Fremantle) carried nearly 31 million passengers. The combined total for passengers on Government trams, trolley-buses and ferries; railway and tramway omnibuses; together with the Fremantle Municipal motor buses, was some 41 million.

Privately-owned motor omnibus services operating solely in the country districts (*i.e.*, having no terminus in the metropolitan area) are of smaller magnitude but are, nevertheless, a significant factor in public transport.

The following table compares the activities of private motor omnibuses during five recent years with those recorded for the year 1938-39.

PRIVATE OMNIBUS SERVICES

Year.	Omnibuses in Service.	Passenger Accommodation.	Omnibus Miles Run.	Passengers Carried.	Revenue.	Working Expenses.	† Employees.
	No.	No.	Miles.	No.	£	£	No.
(1) <i>Services having a terminus within the Metropolitan Area.</i>							
1938-39	221	6,767	8,292,179	13,540,805	316,335	275,088	446
1951-52	317	14,455	11,621,498	33,153,583	1,373,582	1,304,327	804
1952-53	322	19,192	11,374,305	33,275,170	1,523,692	1,384,874	885
1953-54	371	21,913	12,028,819	32,943,494	1,610,292	1,462,950	922
1954-55	327	20,534	12,549,751	32,463,557	1,613,077	1,548,247	845
1955-56	313	19,978	11,490,733	31,201,175	1,516,090	1,453,973	764
(2) <i>Services entirely outside the Metropolitan Area.</i>							
1938-39	46	684	534,557	619,745	20,224	15,081	44
1951-52	76	2,340	709,905	1,392,788	58,852	51,279	72
1952-53	57	2,382	601,361	1,316,491	52,469	52,180	59
1953-54	52	2,006	521,525	1,262,669	50,336	51,568	49
1954-55	61	2,396	640,478	1,395,951	61,242	57,596	61
1955-56	59	2,161	680,871	1,405,829	64,654	65,833	63

† Includes Owner Drivers. † Standing capacity increased from 25 per cent. to 75 per cent. of seating capacity under Transport Regulation made in July, 1952.

ROADS

Despite its size, with large areas sparsely populated, Western Australia is reasonably well served with roads, while the road surfaces of the principal highways compare favourably with those of the other States of the Commonwealth.

Roads under control of the Main Roads Department

The Main Roads Department is responsible for an extensive system of gazetted main roads, developmental roads and other categories referred to later in this section. Many of the State Highways (shown on the map in folder at the back of this book) are gazetted main roads over their entire length, while in the case of others, e.g., the Great Northern Highway and the North-West Coastal Highway, considerable mileages are classified as "important secondary" roads.

Under the Main Roads Act, 1930-1955 the Commissioner of Main Roads, who directly controls the Department, is vested with the following principal functions:—

- (a) Of recommending to the Governor that a specified road shall be proclaimed a main road, a controlled access road, or a developmental road, as the case may be. The Commissioner may also, where the need arises, recommend to the Governor that roads be removed from these categories.
- (b) Of purchasing all land, machinery, tools, implements and materials that may be needed for the purposes of the Act.
- (c) Of supervising the construction, improvement and maintenance of "main," "controlled access," "important secondary" and "developmental" roads.

Finance for road construction and maintenance by or under the direction of the Department is largely derived from Commonwealth funds, augmented annually by a statutory appropriation from the Metropolitan Traffic Trust Account and a proportion of Transport Board fees. Commonwealth financial assistance is mainly given under the provisions of the Commonwealth Aid Roads Act, 1954, which provides for division between the Commonwealth and the various State Governments of road funds derived from the part proceeds of Customs and Excise levies on petroleum products, principally petrol. This Act is the basis of an agreement between the respective governments whereby the States must spend on rural roads (except main roads) at least 40 per cent. of the annual disbursements which they receive from the Commonwealth Government. On 30th June, 1956, the Main Roads Department had under its control 3,487 miles of "main," 6,929 miles of "important secondary" and 12,775 miles of "developmental" roads; totalling 23,191 miles.

Other Roads

Apart from the "main," "controlled access," "important secondary" and "developmental" roads previously referred to and certain special categories such as access roads to Commonwealth properties, forestry roads, etc., roads in general are the responsibility of the local governing authorities whose districts they traverse. Construction and maintenance of such "other" roads is financed either from the raising of loans or by direct expenditure from revenue. The country local governing authorities have the right to expend on roads the proceeds of vehicle registration fees levied in their respective districts while, for the same purpose, the metropolitan municipalities and road boards receive shares of the net proceeds of vehicle registration carried out by the Police Department at Perth, Fremantle and Midland Junction. Such shares take the form of an annual distribution from the Metropolitan Traffic Trust Account, on a basis determined by the Minister for Local Government.

On 30th June, 1956, there were 64,810 miles of roads open for general traffic other than those under the direct control of the Main Roads Department.

The following table classifies all public roads according to type of surface.

**LENGTH OF ROADS OPEN FOR GENERAL TRAFFIC IN EACH
STATISTICAL DIVISION AT 30th JUNE, 1956**

Statistical Division.	Surfaced Roads.								Formed but not metalled or otherwise prepared. (b)	Unformed. (c)	Grand Total.	
	Bitumen. (a)		Gravel.		Other.		Total Surfaced.					
	M.	Ch.	M.	Ch.	M.	Ch.	M.	Ch.	M.	Ch.	M.	Ch.
Metropolitan	1,537	69	258	21	20	40	1,816	50	118	48	96	76
Swan	553	67	576	39	136	69	1,267	15	221	10	376	35
South-West	868	35	2,781	58	29	22	3,679	35	1,837	35	1,820	8
Southern Agricultural	589	35	2,196	64	190	62	2,977	1	6,096	50	2,698	37
Central Agricultural	969	56	4,997	27	48	41	6,015	44	10,094	17	4,741	54
Northern Agricultural	766	67	1,818	38	60	65	2,646	10	6,085	7	4,679	6
Eastern Goldfields	463	78	958	59	133	15	1,555	72	3,307	66	4,564	54
Central	13	48	49	68	707	5	770	41	6,789	0	3,095	0
North-West	35	18	69	52	21	12	126	2	1,873	20	3,190	15
Pilbara	51	70	70	0	4	11	126	1	2,080	8	402	72
Kimberley	27	78	437	0	....	....	464	78	1,075	34	1,412	0
Total	5,878	61	14,214	26	1,352	22	21,445	29	39,578	55	26,977	37
											88,001	41

(a) Includes the following lengths of concrete surface :—Metropolitan, 63 chains ; Central Agricultural, 14 chains ; North-West, 23 chains ; Pilbara, 69 chains ; Kimberley, 33 chains ; Total, 2 miles 42 chains. (b) Mainly natural surfaces. (c) Roads unprepared, except for certain clearing, but used for general traffic. This information is incomplete for certain road districts.

Road Traffic Control

(i) Vehicle registration

The Traffic Act, 1919-1957 provides for the registration of motor vehicles and the control of road traffic by :—(a) the Commissioner of Police in the Metropolitan Traffic Area and (b) individual local government authorities (Municipalities and Road District Boards) throughout the remainder of the State. Vehicles may be licensed for one or more three-monthly periods up to a maximum of twelve months at any one time. Date-to-date periods apply in the Metropolitan Traffic Area but in the remainder of the State the licensing period ends on the last day of March, June, September or December.

During the post-war years there have been substantial increases in the numbers of motor vehicles in use at 30th June each year and the number of drivers' and riders' licenses in force has risen in consonance. The first of the following tables compares the Western Australian figures for ten recent years with those of 1938-39 and the second table gives an interstate comparison at 30th June, 1956.

MOTOR VEHICLES IN USE AND DRIVERS' AND RIDERS' LICENSES IN FORCE

(1) WESTERN AUSTRALIA

At 30th June each Year.	Metropolitan Traffic Area.				Entire State (a).				Drivers' and Riders' Licenses in Force.
	Cars (in- cluding Hire Cars).	Wagons, Vans, Utilities.	Buses.	Motor Cycles.	Cars (in- cluding Hire Cars).	Wagons, Vans, Utilities.	Buses.	Motor Cycles.	
	No.	No.	No.	No.	No.	No.	No.	No.	
1939	20,552	6,222	209	3,996	38,039	24,163	278	7,199	85,005
1947	20,522	9,467	255	5,290	32,879	31,762	335	8,199	94,574
1948	21,968	10,132	275	5,445	35,596	34,822	463	8,877	103,438
1949	24,259	11,330	364	6,729	40,119	38,247	654	10,974	110,121
1950	28,529	12,530	443	7,707	48,632	42,370	836	12,897	133,954
1951	32,966	14,461	499	8,876	56,235	46,964	958	14,535	134,864
1952	37,873	16,368	522	9,952	64,277	51,645	998	16,047	148,272
1953	41,231	18,394	537	9,855	69,917	55,420	1,043	15,565	159,534
1954	47,819	20,400	593	9,692	78,312	59,257	1,124	15,243	168,420
1955	55,720	22,694	555	9,605	90,255	62,753	1,138	14,662	191,051
1956	61,835	24,169	569	9,253	98,875	64,430	1,196	13,873	202,495

(a) Includes Commonwealth-owned vehicles except those of the Defence Services.

MOTOR VEHICLES IN USE AND DRIVERS' AND RIDERS' LICENCES IN FORCE

(2) COMMONWEALTH SUMMARY AT 30th JUNE, 1956

State or Territory.	Effective Registrations. (a)				Drivers' and Riders' Licences in Force.
	Motor Cars. (b)	Wagons, Vans, Utilities, Buses.	Motor Cycles.	Total.	
	No.	No.	No.	No.	No.
New South Wales	483,397	242,514	37,039	762,950	1,048,901
Victoria	1498,644	1151,597	27,675	677,916	801,852
Queensland	179,190	127,393	20,394	326,977	(c)
South Australia	154,358	63,630	20,713	238,701	292,793
Western Australia	98,875	65,626	13,873	178,374	202,495
Tasmania	148,973	122,975	4,800	76,748	89,659
Northern Territory	1,911	3,077	566	5,554	7,541
Australian Capital Territory	6,978	2,580	515	10,073	14,005
Total	1,472,326	679,392	125,575	2,277,293	2,457,246

(a) Includes Commonwealth-owned vehicles except those of the Defence Services. (b) Includes hire cars and taxis. (c) Not available. As from 1st October, 1952, drivers' and riders' licences are no longer issued on an annual basis in Queensland. † Excludes Queensland. ‡ "Cars" overstated, "Wagons, Vans, Utilities, Buses" understated, due to registration system in these States.

Until 14th January, 1957, the Dendy Marshall horsepower calculation formula was used in Western Australia for assessing licence fees for motor vehicles, other than motor cycles. With the bore and stroke of the cylinders measured in inches this formula reads :—

$$\frac{(\text{Bore})^2 \times \text{Stroke} \times \text{Number of Cylinders}}{12} = \text{Horsepower.}$$

Where the bore and stroke are measured in millimetres the divisor is 200,000. For passenger vehicles the unladen weight of the vehicle (in cwts.) was added to the calculated horsepower, producing the number of power-weight units on which licensing fees were charged. Commercial vehicles were assessed on a power-load-weight basis, the carrying capacity of the vehicle (in cwts.) being added to the power-weight figure. While the above method of motor vehicle assessment applied, motor cycles and motor cycles and sidecars were charged at a flat rate of 10/- per wheel.

Since the above date the R.A.C. horsepower calculation formula has been used, except in respect of motor cycles and sidecar combinations. Where the cylinder bore measurement is in inches the R.A.C. formula is as follows :—

$$\frac{(\text{Bore})^2 \times \text{Number of Cylinders}}{2.5} = \text{Horsepower.}$$

With the bore measured in millimetres the divisor becomes 1,613. To the horsepower figure thus derived, is added the unladen weight of the vehicle (in cwts.), giving the appropriate number of power-weight units. These are now the basis of both passenger and commercial vehicle licensing, although certain vehicles, e.g., motor wagons, are charged at a rate per power-weight unit which varies with the total power-weights assessed. Motor cycles and motor cycle-sidecar combinations are now charged at £1 per wheel.

Various other vehicles are required to be licensed under the Traffic Act before they may be used on the roads in Western Australia. They include horse-drawn vehicles, timber jinkers, tractors, various forms of mobile machinery, caravans, other trailers and semi-trailers. Appropriate licence fees for each are prescribed by the Act. Road traffic control is vested in the Commissioner of Police in the Metropolitan Traffic Area and in the several local governing authorities in the remainder of the State.

(ii) Third Party Insurance

Under the provisions of the Motor Vehicle (Third Party Insurance) Act, 1943–1957, compulsory third party insurance premiums are payable simultaneously with vehicle registration. The following were the rates of annual premium applying in 1956 to representative classes of road vehicles :—

Motor cars (business or private), £3 10s. ; Taxi and hire cars principally operating within a 25 mile radius of the Perth General Post Office, £17, other areas, £7 10s. ; Buses principally operating on routes the major portions of which are within a 25 mile radius of the General Post Office, £30, other areas, £10 ; Goods vehicles, £3 11s. and Motor cycles, £4.

In accordance with the original Motor Vehicle (Third Party Insurance) Act of 1943 this form of insurance was provided by individual insurance organizations until the passage of the amending Act, in 1948. Under the amended legislation, provision was made for the formation of the Motor Vehicle Insurance Trust which is controlled by a board of five members, all of whom are appointed by the Governor. This board is representative of the State Government Insurance Office and the several private insurance companies which individually undertook Third Party motor vehicle insurance. All premiums are now collected by the Trust and, after the expenses and claims appropriate to a given year have been met, the resulting profit or loss is apportioned between the participating insurance organizations.

(iii) Motor Drivers' and Riders' Licenses

The licensing of drivers of motor vehicles in any portion of the State is vested solely in the Commissioner of Police. An annual fee of 10s. is payable and applicants for licenses are required to undergo, in the first instance, tests of sight and hearing as well as of general competency to drive. Persons applying for licenses to drive omnibuses or taxi-cars (namely, Conductors' Licenses) must submit themselves to a detailed medical examination in addition to the test of proficiency. Holders of Conductors' Licenses must present themselves for medical re-examination whenever the Commissioner of Police thinks it fit, and in practice this occurs at not more than five-yearly intervals. Any driver's license can be suspended by the Commissioner at his discretion but in all such cases there is a right of appeal to the Courts.

(iv) Proceeds of Vehicle Registration and Drivers' and Riders' Licenses

As has already been indicated in this chapter, the whole of the proceeds of vehicle registration in areas outside the Metropolitan Traffic Area and a proportion of the fees collected within that Area are available to local governing bodies for the purpose of road construction. Receipts from Drivers' and Riders' licenses are paid into the Consolidated Revenue Fund. The financial results of vehicle registration and driver licensing are therefore matters of some importance in local government and State Government finance. The following table shows the course of such collections during the year ended 30th June, 1939, and five recent years :—

FEES RECEIVED FOR VEHICLE REGISTRATIONS AND DRIVERS' AND RIDERS' LICENCES. (†)

Year.	Vehicle Registrations.		Drivers' and Riders' Licences.
	Metropolitan Traffic Area.	Other Districts.	
	£	£	£
1938-39	192,285	212,913	21,262
1951-52	421,286	496,496	37,353
1952-53	465,774	552,226	(a) 49,444
1953-54	517,555	605,285	86,000
1954-55	578,161	648,595	96,098
1955-56	629,870	661,469	101,859

† Excludes vehicle license fees collected by the Western Australian Transport Board. Drivers' and Riders' licenses was raised from 5s. to 10s. at the middle of the fiscal year, 1952-53.

(a) The annual fee for

Road Traffic Accidents

Concurrently with the rapid increase in the numbers of vehicle registrations during recent years there has been a substantial rise in the incidence of road traffic accidents. The following tables contain details of such accidents which were reported to the appropriate authorities during the years 1953 to 1956 and, in one table, 1956 only. Police officers throughout the State or representatives of local governing bodies outside the Metropolitan Traffic Area are the authorities to whom the reports must be made.

It should be especially noted that :—

- (i) Non-casualty accidents where the total value of damage was estimated to be £10 or less are excluded as being of no statistical significance.

and (ii) "Persons killed" cover only deaths within 30 days after the accident, while "persons injured" comprise those who received treatment by a doctor or at a hospital.

These definitions have been accepted by the Australian States to provide a uniform basis in the presentation of road traffic accident statistics.

ROAD TRAFFIC ACCIDENTS GENERAL SUMMARY—1953 TO 1956

Particulars.	Non-casualty Accidents (estimated damage over £10).	Casualty Accidents.	Total Accidents.	Casualties.	
				Persons Killed.	Persons Injured.
	No.	No.	No.	No.	No.
Metropolitan—					
1953	4,074	2,024	6,098	99	2,430
1954	5,072	2,415	7,487	96	3,028
1955	5,878	2,237	8,115	110	2,669
1956	5,866	2,161	8,027	102	2,653
Country—					
1953	1,463	882	2,345	93	1,234
1954	1,824	874	2,698	89	1,281
1955	2,029	921	2,950	89	1,318
1956	2,095	875	2,970	80	1,236
State Totals—					
1953	5,537	2,906	8,443	192	3,664
1954	6,896	3,289	10,185	185	4,309
1955	7,907	3,158	11,065	199	3,987
1956	7,961	3,036	10,997	182	3,889
Rate per 100,000 of Mean Population—					
1953	892	468	1,360	31	590
1954	1,078	514	1,592	29	674
1955	1,200	480	1,680	30	605
1956	1,175	448	1,623	27	574
Rate per 10,000 Motor Vehicles Registered(a)—					
1953	378	198	576	13	250
1954	426	203	629	11	266
1955	456	182	638	11	230
1956	439	168	607	10	215

(a) Motor Vehicles on Register as at 31st December each year.

ROAD TRAFFIC ACCIDENTS ACCORDING TO VEHICLES, Etc. INVOLVED—1956

NOTE.—Accidents and Casualties involving the different types of vehicles specified below under "Collisions" are included in each vehicle type. Totals must not, therefore, be derived by adding the columns.

Type of Accident.	Total Accidents.		Casualty Accidents.		Persons Killed.		Persons Injured.	
	Metro.	Country.	Metro.	Country.	Metro.	Country.	Metro.	Country.
	No.	No.	No.	No.	No.	No.	No.	No.
Collisions Involving—								
Motor Vehicles (a)	7,060	1,593	1,664	374	73	30	2,052	501
Motor Cycles	787	169	515	121	18	5	595	156
Pedal Cycles	356	65	312	62	7	1	325	67
Pedestrians	579	65	565	65	48	7	543	59
Other, N.E.I.	41	2	3	....	....	....	3	....
Non-Collisions—Vehicle over- turning or leaving road- way								
Motor Vehicles (a)	455	1,203	119	363	13	42	185	574
Motor Cycles	107	76	78	65	4	4	88	77
Pedal Cycles	28	4	28	4	....	....	28	4
Other	3	....	....	....	....	....	....	....
Passenger Accidents	63	25	63	25	2	3	61	25
Other Accidents	40	18	9	2	....	....	10	5

(a) Other than motor cycles.

CASUALTIES ACCORDING TO—(1) TYPE OF ROAD USER; AND (2) AGE GROUP

(1) Type of Road User.	1954.				1955.				1956.			
	Persons Killed.		Persons Injured.		Persons Killed.		Persons Injured.		Persons Killed.		Persons Injured.	
	Metro-politan.	Country.	Metro-politan.	Country.	Metro-politan.	Country.	Metro-politan.	Country.	Metro-politan.	Country.	Metro-politan.	Country.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Drivers of Motor Vehicles (excluding Motor Cyclists)	7	23	437	344	19	30	420	378	12	31	464	370
Motor Cyclists	17	13	690	191	19	8	511	167	13	10	505	159
Pedal Cyclists	8	3	421	54	7	6	353	71	6	1	316	64
Passengers—												
Pillion	5	1	132	53	....	2	101	45	5	....	92	49
Other	14	40	774	562	21	38	679	574	18	29	726	529
Pedestrians	45	9	566	74	44	5	600	77	48	7	546	59
Other .....	....	....	8	3	....	....	5	6	....	2	4	6
Totals	96	89	3,028	1,281	110	89	2,669	1,318	102	80	2,653	1,236
	185		4,309		199		3,987		182		3,889	
(2) Age Group.												
0- 4 years	4	3	96	38	6	4	104	47	4	5	113	52
5- 6 " .....	....	4	83	23	....	1	82	20	7	1	62	17
7-16 "	8	4	411	144	6	7	345	132	6	9	357	126
17-20 "	12	11	470	215	7	12	394	205	15	8	411	186
21-29 "	16	25	654	286	18	17	478	294	17	18	448	259
30-39 "	6	14	359	160	10	13	274	172	4	13	315	167
40-49 "	5	11	256	121	13	13	229	103	10	11	222	112
50-59 "	15	4	203	66	14	7	164	76	8	6	160	79
60 and over	30	11	217	51	34	10	196	53	31	8	175	56
Not Stated .....	....	2	279	177	2	5	403	216	....	1	390	192
Totals	96	89	3,028	1,281	110	89	2,669	1,318	102	80	2,653	1,236
	185		4,309		199		3,987		182		3,889	

AIR TRANSPORT

Excluding the operations of the defence departments, air transport supervision is carried out by the Department of Civil Aviation. This Commonwealth department is responsible for the enforcement of air safety regulations, the maintenance of aerodromes and aeradio equipment and all matters pertaining to the operations of civil aircraft. At Perth Airport (Guildford) and at various other departmentally-administered airports throughout the State, it maintains flight control over aircraft belonging to the following scheduled air services as well as over individually-owned machines being used in Western Australia.

AIR SERVICES AT 31st DECEMBER, 1956

OVERSEA

Qantas Empire Airways—

Sydney-Perth-Djakarta-Singapore-Colombo-Bombay-Karachi-Cairo-Rome-London.

INTERNAL

Trans Australia Airlines—

Perth-Adelaide-Melbourne.

Australian National Airways—

Perth-Adelaide-Melbourne.

MacRobertson Miller Airlines, Ltd.—

† Perth-Carnarvon-Port Hedland-Broome-Derby-Wyndham-Darwin.

Perth-Albany.

Perth-Rottnest Island.

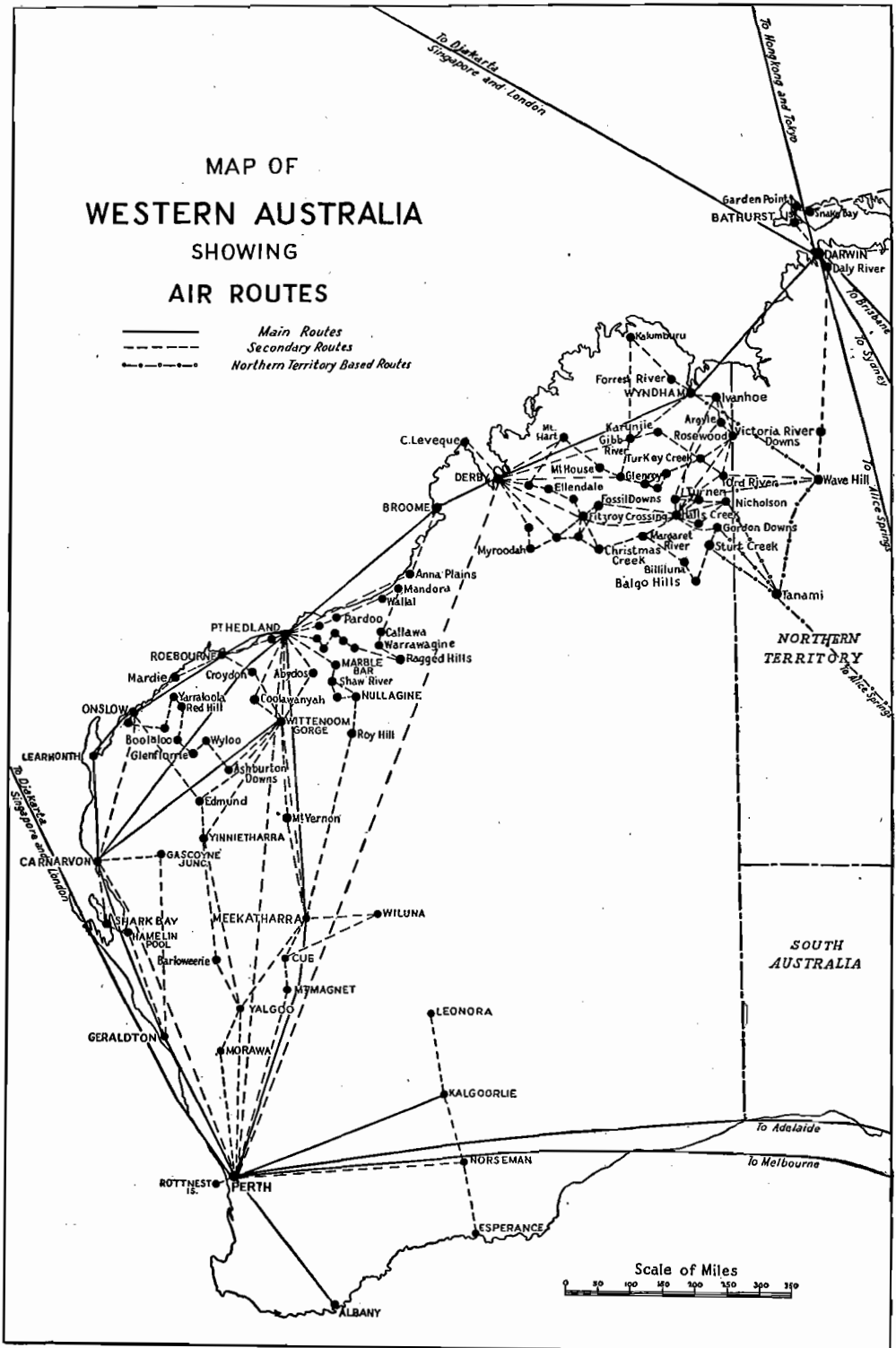
‡ Perth-Kalgoorlie.

Perth-Norseman-Kalgoorlie.

† Perth-Port Hedland.

MAP OF WESTERN AUSTRALIA SHOWING AIR ROUTES

————— Main Routes
 - - - - - Secondary Routes
 - · - · - Northern Territory Based Routes



Perth-Kalgoorlie-Norseman-Esperance.

Perth-Kalgoorlie-Leonora.

† Perth-Carnarvon-Wittenoom Gorge.

†† Perth-Yalgoo-Yinnietharra-Onslow.

†† Perth-Meekatharra-Wiluna.

†† Port Hedland-De Grey-Warrawagine-Ragged Hills-Coongan (Port Hedland Stations Service).

†† Onslow - Ashburton Downs - Wittenoom Gorge - Coolawanyah - Port Hedland (Ashburton Stations Service).

Derby-Cape Leveque.

†† Derby-Kimberley Downs-Noonkanbah-Hall's Creek-Argyle-Wyndham (Kimberley Stations Service).

†† Derby-Hall's Creek-Ord River-Wave Hill-Darwin.

†† Darwin Mission Services—Via Missions to Groote Island and Croker Island.

Woods Airways—

Perth-Rottneet Island.

Connellan Airways (operating mainly in the Northern Territory)—

†† Wyndham-Tanami-Alice Springs.

†† Turner-Tanami-Alice Springs.

Notes : † In addition to the places named, regular calls are made at certain intermediate towns and/or stations.

‡ Calls by arrangement may be made at additional places.

The unduplicated route mileage of internal air services is approximately 19,000 ; nearly 4,500 being accounted for by the various Station Services in the north-western and northern portions of the State. Mileages of the interstate services are computed to the points at which they cross the State's border or coastline, as the case may be.

One of the most important factors of aerial communication in the northern and eastern sections of the State is the Royal Flying Doctor Service, Inc. Following a plan which was first introduced in Queensland by the Australian Inland Mission of the Presbyterian Church, aircraft operating from Port Hedland, Meekatharra and Kalgoorlie, with supplementary bases at Carnarvon and Derby, provide aerial medical and ambulance services over a large part of the hinterland. The service links distant townships, mining areas and cattle and sheep stations with base hospitals where doctors are available for radio consultation or for aerial visits to the patients as the need arises. In addition to a pedal radio set each homestead is provided with a medicine chest containing a wide assortment of drugs—so marked that adequate home treatment can be given.

Now undenominational, the Royal Flying Doctor Service is financed partly by subsidies from the State and Commonwealth Governments and also by donations from persons and organisations who are interested in the welfare of the Service. Further details are given later in this chapter, under "Radio Communication," concerning the vital place of Radio in the operations of the Royal Flying Doctor Service.

TRANSPORT CO-ORDINATION

The Western Australian Transport Board is constituted under the State Transport Co-ordination Act, 1933-1956, for the purpose of co-ordinating and improving transport throughout the State. The Board is a corporate body and consists of three members, one of whom is a government official, one representing rural industries and one representing city interests. Members are appointed for three years and may be reappointed.

The Board is vested with the following powers :—(a) to grant licences for commercial goods vehicles, omnibuses and aircraft—entitling the operators to carry goods or passengers for reward or in the course of (or in connection with) any trade or business ; (b) to enquire and report upon the adequacy of any railway or tramway and to recommend its closure or suspension ; (c) to enquire and report upon proposed railways ; (d) to organize transport to and in areas inadequately served, or in an emergency ; (e) to utilize its funds in subsidising transport to areas requiring special treatment, including the payment of subsidies for air transport.

The major machinery for co-ordinating transport is embodied in the Board's power to grant licences. Before a licence is granted the Act requires that the adequacy of any existing service and its possibility of improvement shall be considered. Upon the granting of licences the Board has the power to subject

licensees to conditions relating to such matters as routes and areas of operation, fares, observance of timetables, maximum number of passengers to be carried at any one time per vehicle and nature and quantity of loading.

The Board is empowered to charge annual license fees up to a maximum of 7s. 6d. for each unit of "power-load-weight" (as ascertained in accordance with a schedule to the Act) for commercial goods vehicles and up to 6% of gross earnings in the case of aircraft and omnibuses. Funds derived from license fees are applied in meeting administration costs and subsidies. The balance remaining is distributed annually among the road-making authorities, namely the Main Roads Department, municipalities and road district boards.

PART 3—COMMUNICATION

POSTS, TELEGRAPHS AND TELEPHONES

The Postmaster General's Department of the Commonwealth Government is the sole legal authority in Western Australia (as in the other Australian States and Territories) for the conveyance of mails and for the provision of public telegraph and telephone services. Postal matter is received at and distributed from offices established by the Department at convenient points throughout the State and contracts are let for the carriage of mail by rail, road, air and sea. Telegraph and telephone facilities are available at most of the post offices—exceptions being the minor post offices, many of which are conducted on an "allowance" basis by persons outside the Government Service, at retail stores and other places of business.

Postal business in Western Australia has grown substantially in volume during recent years and the total numbers of postal articles dealt with have been considerably higher than the total for 1938-39. The following table gives the relative statistics:—

NUMBER OF POST OFFICES AND VOLUME OF POSTAL MATTER
DEALT WITH IN WESTERN AUSTRALIA

Year.	Number of Post Offices. (a)	Letters and Post Cards.	Newspapers and Packets.	Parcels.	Registered Matter. (b)	Grand Total, Postal Matter.
		'000	'000	'000	'000	'000
1938-39	615	59,492	13,433	729	655	74,300
1951-52	638	81,976	16,684	1,209	953	100,822
1952-53	640	87,574	15,166	1,258	900	104,898
1953-54	639	92,058	15,766	1,181	960	104,965
1954-55	638	96,504	16,156	1,228	1,054	114,942
1955-56	635	100,028	16,691	1,263	1,030	119,012

(a) Exclusive of Telephone Offices, *i.e.*, offices at which Telephone and Telegraph business only is transacted, but inclusive of Allowance Offices. (b) Excludes registered parcels, which are included under "parcels."

The use of telegraphy in Western Australia dates from 1869 when a line was opened between Perth and Fremantle, while a public telephone system was introduced in Perth during 1887 and in Fremantle during 1888. Meanwhile the telegraph lines had been extended to the more important outlying centres, including an extension to Eucla in 1877 which linked the Colony's telegraph system with that being operated in South Australia. In 1889 direct telegraphic communication overseas was initiated by a link with the Eastern Extension Cable Company's submarine cable at Broome and in 1901 a further link with the same system was made at Cottesloe Beach, near Fremantle. This last development provided direct cable communication with South Africa. Telegraph and telephone services are now the responsibility of the Commonwealth Government and overseas telecommunications (including submarine cable services) are controlled by the Overseas Telecommunications Commission.

During the post-war years considerable advances have been made in respect of telephone and telegraphic communication but difficulties in obtaining equipment have been encountered.

The following tables give details of the operations of the telegraph and telephone services and of Postmaster-General's Department finances during the year ended 30th June, 1939 and five recent years.

TELEGRAPH AND TELEPHONE SERVICES

Year.	Telegraph Offices.	Telegrams and Cables.				Telephone Services.			Pole Route Mileage. ‡	
		Inland. (Des- patched.)	Oversea.			Ex- changes. †	Public Tele- phones.	Lines Connected.		
			Des- patched.	Received.	Total.					
1938-39	No. 928	No. 2,026,708	No. 45,127	No. 31,225	No. 76,352	No. 643	No. 881	No. 25,995	Miles. 12,071
1951-52	982	2,583,342	73,183	72,485	145,668	726	1,091	51,535	14,598
1952-53	996	2,381,568	75,346	66,671	142,017	731	1,180	54,383	14,904
1953-54	998	2,209,821	81,046	67,728	148,774	743	1,248	59,704	14,966
1954-55	988	2,119,251	72,298	71,160	143,458	747	1,267	64,588	15,149
1955-56	994	2,099,773	74,191	74,283	148,474	756	1,297	68,480	15,335

† Offices with one or more subscribers' lines connected.

‡ Telegraph and Telephone combined.

FINANCIAL RESULTS OF POST OFFICE TRANSACTIONS IN WESTERN AUSTRALIA

Year.	Earnings.				Total Working Expenses.	Excess of Earnings over Working Expenses. ‡
	Postal.	Telegraph.	Telephone.	Total.		
1938-39	£'000. 496	£'000. 166	£'000. 450	£'000. 1,112	£'000. 901	£'000. 211
1951-52	1,508	546	1,804	3,858	3,802	56
1952-53	1,581	516	1,987	4,084	4,187	—103
1953-54	1,669	480	2,185	4,334	4,546	—212
1954-55	1,759	541	2,365	4,665	4,828	—163
1955-56	1,955	549	2,614	5,118	5,295	—177

‡ Minus sign denotes an Expenditure excess instead of an Earnings surplus. No allowance is made for interest on capital expenditure.

An indication of the relationship of Western Australian Post Office business to that conducted in the other States of the Commonwealth is given in the following table :—

FINANCIAL RESULTS OF POST OFFICE TRANSACTIONS IN ALL STATES OF THE COMMONWEALTH—YEAR ENDED 30th JUNE, 1956

State.	Earnings.				Total Working Expenses.	Excess of Earnings over Working Expenses. ‡
	Postal.	Telegraph.	Telephone.	Total.		
New South Wales (a)	£,000. 11,851	£,000. 1,705	£,000. 18,076	£,000. 31,632	£,000. 32,274	£,000. —642
Victoria	8,502	1,383	13,754	23,639	21,503	2,136
Queensland	3,906	1,048	6,307	11,261	11,827	—566
South Australia (b)	2,607	621	4,090	7,318	7,027	291
Western Australia	1,955	549	2,614	5,118	5,295	—177
Tasmania	806	150	1,250	2,206	2,766	—560
Total for Commonwealth	29,627	5,456	46,091	81,174	80,692	482

‡ Minus sign denotes Expenditure excess instead of an Earnings surplus.

(a) Includes Australian Capital Territory.

(b) Includes Northern Territory.

RADIO

General Communication

The transmission of radio messages within Australia is controlled by the Postmaster-General's Department which licenses radio communication stations. Radio traffic between Australia and overseas stations or between Australia and ships at sea is the province of the Overseas Telecommunications Com-

mission (Australia)—operating in conjunction with other member nations of the British Commonwealth Telecommunications Board. This Board was established in 1949 and now consists of representatives of the United Kingdom, Canada, Australia, New Zealand, South Africa, India, Ceylon, Rhodesia and British Colonies and Protectorates. Pakistan is represented by an observer.

On 30th June, 1956, the Overseas Telecommunications Commission (Australia) had under its control, in Western Australia, five coastal radio stations exchanging messages with ships at sea. Communication with countries and territories overseas is maintained from the Commission's major stations in the Eastern States. All other stations are under the supervision of the Postmaster-General's Department which also undertakes technical maintenance for many of them.

The numbers of each class of Radio Communication Station authorised to operate in Western Australia at 30th June, 1956 are shown in the following table :—

RADIO COMMUNICATION STATIONS AT 30th JUNE, 1956

Class of Station.	Transmitting and Receiving.	Receiving Only.	Total.
	No.	No.	No.
Aeronautical (a)	17	....	17
Coast (b)	7	....	7
Land (c)	388	34	422
Mobile (General) (d)	704	....	704
Miscellaneous	7	....	7
Total	1,123	34	1,157

(a) Ground stations authorised for communication with aircraft stations. (These ground stations are alternatively referred to as aeronautical radio stations.)

(b) Ground stations authorised for communication with ship stations.

(c) Stations established at fixed locations on land for the conduct of point to point services and for communication with mobile stations as described in note (d) hereunder.

(d) Stations installed in motor vehicles and small harbour vessels not falling within the definition of ship stations or aircraft stations, and stations comprising small portable apparatus used for various purposes.

Radio traffic dealt with by the coast stations in the five years ended on 30th June, 1956—compared with the returns for 1938–39—is shown in the following table :—

RADIO TRAFFIC HANDLED AT EACH STATION

Station.	Paying Words.	Messages.			
		Paying.	Free. (a)	Weather.	Total.
	No.	No.	No.	No.	No.
Broome	140,053	7,651	2,435	7,308	17,394
Esperance	84,182	5,410	141	2,318	7,869
Geraldton	29,899	1,971	107	1,383	3,461
Perth	358,748	18,321	2,219	13,236	33,776
Wyndham	978	63	2	....	65
Total, 1955–56	613,860	33,416	4,904	24,245	62,565
Total, 1954–55	532,085	29,591	4,948	21,974	56,513
Total, 1953–54	438,324	25,716	3,474	25,447	54,637
Total, 1952–53	360,032	22,964	4,177	25,809	52,950
Total, 1951–52	376,872	24,342	5,295	15,153	44,790
Total, 1938–39	157,728	11,366	3,317	4,717	19,400

(a) Excludes servicegrams as this class of traffic is of an internal nature.

The “pedal” radio network of the Royal Flying Doctor Service is also used as a means of general communication in the outback districts and a considerable amount of commercial traffic—ranking after medical traffic—is handled by the base radio stations. A great proportion of the work of the Service consists of radio diagnoses given by the doctors so that home treatment may be applied when the circumstances warrant. In order to make this section of the work possible and to provide the homesteads with a means of quick communication with the doctor, pedal operated radio sets are supplied to the outback residents and staff are regularly on duty at the bases so that all communications may be quickly answered.

Broadcasting

The several "National" (Government) and "Commercial" (privately-owned) broadcasting stations which operate in various parts of Australia are licensed by the Postmaster-General's Department and are under the supervision of the Australian Broadcasting Control Board. Licenses are granted on conditions which ensure satisfactory alternative programmes for listeners. The Department also issues Broadcast Listeners' Licenses—one of which must be held in respect of any single receiver or group of receivers owned by any person. In circumstances which warrant the re-broadcasting, through the Western Australian network, of broadcasts picked up in the Eastern States from overseas stations, or of those originating in the Eastern States, the Postmaster-General's Department makes available suitable land-lines. These are extensively used by both the commercial and national stations.

National programmes are radiated by stations which are owned and managed by the Australian Broadcasting Commission. Operating expenses of the Commission are met by an annual grant from the Consolidated Revenue Fund, into which are paid the proceeds of broadcast listeners' licenses. The Commission does not participate in radio advertising except in respect of its own activities. Commercial stations, on the other hand, are dependent upon the fees which they charge for commercial advertising as they receive no revenue from the license fees.

At 30th June, 1956, the following broadcasting stations were operating in Western Australia :—

NATIONAL STATIONS.

6 WF	Perth
6 WN	Perth
6 AL	Albany
6 GF	Kalgoorlie
6 GN	Geraldton
6 WA	Wagin
6 NM	Northam

all of which are medium wave transmitters—

and—
VLW Perth
VLX Perth

short-wave transmitters.

COMMERCIAL STATIONS.

6 IX	Perth
6 KY	Perth
6 PM	Perth
6 PR	Perth
6 AM	Northam
6 BY	Bridgetown
6 CI	Collie
6 GE	Geraldton
6 KG	Kalgoorlie
6 MD	Merredin
6 NA	Narrogin
6 TZ	Bunbury
6 VA	Albany
6 WB	Katanning

all of which are medium-wave transmitters.

The fee payable for a broadcast listener's license depends on whether the licensee resides in Zone I. or Zone II. and also on whether he or she receives a Social Service or Military pension. Free licenses are granted to blind persons and to schools. Zone I. comprises any area within 250 miles of a National broadcasting station and Zone II. covers all other areas. In respect of any one or more receivers possessed by a person, or household of related persons, within Zone I. a total annual fee of £2 is payable, whereas for Zone II. the comparable fee is £1 8s. 0d. Certain Social Service or Military pensioners, living alone or with another such pensioner, are required to pay only 10s. per annum if in Zone I. and 7s. if in Zone II, subject to an income provision. See footnote † on this page.

Details of broadcast licenses issued in the State and in the Commonwealth of Australia are contained in the following table :—

RADIO LICENSES IN FORCE AT 30th JUNE OF THE YEARS SHOWN

Class of License.	Western Australia.						Total for the Commonwealth on 30th June, 1956.
	1939.	1952.	1953.	1954.	1955.	1956.	
	No.	No.	No.	No.	No.	No.	No.
Broadcasting Stations—							
National (a)	3	7	7	7	7	9	62
Commercial	8	12	13	13	13	14	107
Broadcast Listeners'	79,262	141,950	145,141	148,192	150,199	153,445	2,088,793
Experimental	142	189	185	183	190	207	3,241
	£	£	£	£	£	£	£
Revenue from Broadcast Listeners' Licenses (b)	82,876	204,570	273,497	278,569	281,078	285,081	3,846,346

(a) Including short-wave stations—in Western Australia, one in 1939 and two in other years : in the Commonwealth figures, nine. (b) For year closing on the date stated.

NOTE.—† Annual ordinary fee in Zone 1 became £2 15s. on 1st October, 1956.

CHAPTER X—EMPLOYMENT, WAGES AND PRICES

PART 1—EMPLOYMENT

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 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.							Not in Work Force.	Total Male 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	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	85,079	184,124
1911	14,738	14,687	96,461	3,058	128,944	4,300	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

Number

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

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 BY INDUSTRY

Census 30th June, 1954

(Exclusive of full-blood aboriginals.)

Industry.	Metropolitan Statistical Division.				Other Divisions.†				State Total.			
	Males.	Females.	Persons.		Males.	Females.	Persons.		Males.	Females.	Persons.	
Primary Production—												
Fishing and Trapping	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	
Grazing	346	29	375		6,197	551	6,748		6,543	580	7,123	
Dairying	128	7	135		4,746	388	5,134		4,874	395	5,269	
Poultry Farming	254	49	303		436	81	517		690	130	820	
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	
Founding, 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	3,640	1,037	4,677		1,988	345	2,333		5,628	1,382	7,010	
Sawmilling and Manufacture of Wood Products	2,130	51	2,181		4,496	41	4,537		6,626	92	6,718	
Furniture and Fittings (other than Metal), Bedding and Furnishings	1,680	188	1,868		198	15	213		1,878	203	2,081	
Furnishing Drapery	2,178	782	2,960		361	93	454		2,539	875	3,414	
Paper, Printing, Book-binding and Photography	1,203	245	1,448		417	20	437		1,620	265	1,885	
Chemicals, Dyes, Explosives, Paints and Non-Mineral Oils	1,773	489	2,262		474	167	641		2,247	656	2,903	
Other Manufacture (including inadequately defined)	29,473	6,296	35,769		12,425	1,163	13,588		41,898	7,459	49,357	
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		4,388	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 aboriginals)

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.
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	3,085	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	4·46
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 302 and 303 shows the geographical distribution of the work force according to industry. It provides a useful summary of the industrial structure within each of the eleven Statistical Divisions of the State as well as indicating the relative importance of the several Divisions in a particular industry. The migratory population comprises those who, at midnight between the 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 informative data. It is interesting to note 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 BY INDUSTRY GROUPS

CENSUS: 30TH JUNE, 1954

(Exclusive of full-blood aborigines)

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

In addition to employment data provided by the Census and similar enumerations, there are available monthly estimates made by the Commonwealth Statistician. The principal source of information is the Pay-roll Tax returns lodged by all employers paying more than £120 per week in wages, other than those specifically exempted under the Pay-roll Tax Assessment Act, 1941-1954. These returns at present cover about three-quarters of the total estimated numbers employed. The Statistician undertakes certain supplementary collections designed to furnish information about those employees not included in the pay-roll tax field.

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.i.) and Professional.	Amusement, Hotels, 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	750	105,677	66,155	171,832
Swan ...	3,304	154	3,107	245	2,725	944	180	143	1,390	1,453	309	104	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	110	22,082	14,525	36,607
Southern Agricultural ...	5,818	4	1,035	81	1,672	671	176	208	1,314	691	263	83	12,018	7,122	19,140
Central Agricultural ...	9,647	75	1,655	371	1,992	1,541	303	284	1,854	1,092	435	162	19,431	11,071	30,502
Northern Agricultural	6,129	78	581	80	1,235	863	170	144	1,018	494	244	101	11,137	6,526	17,663
Eastern Goldfields ...	1,016	5,436	675	272	754	812	154	135	1,009	577	397	105	11,842	7,218	18,560
Central ...	814	639	26	22	192	145	30	12	91	95	41	4	2,111	819	2,930
North-West ...	1,410	110	51	9	176	101	28	16	92	123	31	20	2,167	584	2,751
Pilbara ...	505	480	18	4	123	117	25	3	50	84	23	6	1,438	357	1,795
Kimberley ...	583	123	321	6	241	104	27	9	66	248	30	23	1,781	522	2,303
Migratory (a) ...	34	41	53	2	34	1,341	3	3	34	260	19	5	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	1,473	205,041	125,317	330,358
Females															
Metropolitan ...	220	33	6,296	183	256	708	350	1,776	10,439	9,790	5,598	312	35,961	140,854	176,815
Swan ...	254	2	306	3	50	66	54	84	727	650	329	30	2,645	19,387	22,032
South-West ...	461	7	213	10	20	17	143	51	1,039	840	896	46	3,743	28,203	31,946

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	3,822	22,100	25,422
Northern Agricultural ...	326	1	56	4	7	13	79	23	468	483	547	36	2,043	12,362	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	887	2,079	14,851	13,909	9,522	527	53,360	256,063	309,413

Persons

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	46,402
South-West ...	7,401	1,789	5,116	260	2,357	1,764	407	331	3,049	1,771	1,424	156	25,825	42,728	68,553
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	28,281	19,806	4,969	6,547	43,524	32,618	16,275	2,000	258,401	381,370	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.

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 for 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 enquire 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 Hobart and Adelaide 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. After a protracted hearing, in the course of which the Commonwealth Government intervened in the public interest under Section 26 of the Act and each of the State Governments was represented as a respondent, judgment was 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.

COMMONWEALTH BASIC WAGE—VARIATIONS IN RATES SINCE 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	3 18			
December	4 2	4 " 0	"	3 17	"	"	"
1940—							
February	"	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	5 9
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

† Beginning of first pay-period commencing in the month.

[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 this obligation 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, in respect 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 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. 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 connection, 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 re-adopted by the Court for the purposes of the quarterly adjustments and continued to apply until the Interim Basic Wage Declaration of the 26th February, 1947. In this declaration, made under powers conferred by an amendment in December, 1946, to National Security (Economic 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 SINCE 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 0	"	"	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	4 5 7	2 6 3
4th November	"	"	"	"	"	"
1936—						
*1st July	"	"	"	"	"	"
12th August	3 12 0	1 18 11	3 11 0	1 18 0	4 6 0	2 6 5
16th November	3 13 9	1 10 10	3 13 0	1 10 5	4 7 0	2 7 0
			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 0	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 10 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 10 10	5 10 6	2 19 8	5 19 0	3 4 3

See footnotes on next page.

STATE BASIC WAGE—VARIATIONS IN RATES SINCE 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						
21st July	6 13 2	3 11 11	6 12 11	3 11 9	7 0 5	3 15 10
24th October	6 15 11	3 13 5	6 15 4	3 13 1	7 2 11	3 17 2
1950—						
31st January	6 18 1	3 14 7	6 17 4	3 14 2	7 4 8	3 18 1
1st 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	12 18 10	8 8 3	12 18 10	8 8 3
23rd July	13 1 6	8 10 0	13 2 11	8 10 11	13 2 8	8 10 9
29th October	13 5 2	8 12 4				

* 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 accompanying letterpress.

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, cabinet makers 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, 1956, 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 forty hours.

MINIMUM RATES OF WAGES PAYABLE TO ADULT WORKERS UNDER AWARDS OF
ARBITRATION AUTHORITIES AND INDUSTRIAL AGREEMENTS, AS AT
31ST DECEMBER, 1956

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.
AGRICULTURE, GRAZING AND DAIRYING—		MANUFACTURING—	
Farming	Per week.	Treatment of Non-Metaliferous Mine and Quarry Products—	Per week.
Farm worker	13 8 11	ASBESTOS-CEMENT GOODS :	
Pastoral Workers		Sheet machine driver, Magnani machine operator	15 5 2
Machine shearer	Per 100	Moulder	14 6 2
Flock sheep	7 9 6		to
Rams	14 19 0		14 13 2
Wool presser	25 17 1	CEMENT GOODS :	
Wool shed hand	23 2 8	Block making	
BUILDING—		Mixer, Block machine operator	14 18 11
Carpenter, Joiner	18 10 5	Pipe making	
Bricklayer, Rubble waller	18 7 5	Moulder	14 14 2
Stonemason	18 5 5	Wiredrawer	14 12 2
Painter, Signwriter	18 6 8	Tile making	
Plasterer	18 8 1	Hand presser, Ridge maker	14 9 2
Plumber	18 9 11	CEMENT WORKS :	
CARTING AND CARRYING—		Miller	15 0 2
Motor wagon driver		Burner	16 3 2
Vehicle 25 cwt. or less	15 1 2	FIBROUS PLASTER AND	
Vehicle over 25 cwt. and up to 3 tons	15 11 2	PLASTER GOODS :	
Vehicle over 3 and up to 6 tons	16 1 2	Bench hand	16 17 8
Omnibus driver	15 15 2	Fixer	16 15 2
Ordinary vehicles	to	LIMEWORKS :	
Articulated vehicles	16 1 2	Dayfrier, Lime bagger, Crusher	14 0 2
Taxi-car driver	16 14 2		
Fare collector (female)	14 13 8	Bricks, Pottery, Glass, etc.	
CLEANING, CARETAKING, ETC. (BUILDINGS)—		BRICKWORKS :	
Caretaker (male)	9 8 4	Burner	14 16 8
Cleaner (male)	16 6 2		to
Cleaner (female)	14 10 2		15 2 8
to	9 17 4	Moulder and presser	15 7 2
Lift attendant (male)	10 0 4	GLASS WORKERS	
Window cleaner (male)	14 1 2	Glass beveller and silverer	16 12 8
	14 16 8	Leadlight glazer	16 12 8
CLERICAL—		PIPE AND TILE WORKS :	
Wholesale and Retail Trading—		Burner	15 0 2
Senior clerk	17 0 2	Moulder, Presser, Trap maker	14 15 2
Clerk (male)	14 4 8		
to	16 5 2	Chemicals, Dyes, Explosives, Paints, Cils, Grease—	
Clerk (female)	10 4 10	OIL REFINING :	
	10 14 4	Plant attendant, leading hand	17 4 11
HAIRDRESSING—		Plant attendant, first class	16 10 11
Hairdresser (male)	15 5 2	Plant attendant, second class	15 17 5
Hairdresser (female)	10 12 4	Storeman	14 12 11
HOSPITALS (GOVERNMENT)—		SOAP FACTORIES :	
Matron	15 0 0	Soap crutcher	14 19 2
to	21 0 0	Tallow man, Soap cutter	14 6 2
Assistant matron	15 0 0		
to	16 15 0	Industrial Metals, Machines, Implements and Conveyances—	
Sister in charge	13 10 0	AGRICULTURAL IMPLEMENT MAKING :	
to	14 5 0	Assembler	14 10 2
Sister	12 10 0		to
to	13 5 0	Fitter	15 0 2
to	11 15 0		15 10 2
Junior sister	12 5 0		to
Wardmaid, Kitchenmaid	8 19 10	AIRCRAFT WORKERS :	
Orderly	13 15 2	Repair, Maintenance and Servicing Section—	
	14 5 2	Ground engineer, Aircraft mechanic	16 10 0
HOTELS, HOSTELS—		Holding prescribed certificates	18 1 0
Barman, Barmaid	15 15 2	Holding no certificate	16 1 0
to	14 0 2	COACHBUILDING :	
Cook (male)	15 10 2	Coachsmith, General smith, Farrier, Wheelwright smith, Spring maker, Bodymaker, Panel beater	17 0 2
to	9 19 10	Welder	14 10 2
Cook (female)	11 4 10		to
Waiter	13 15 2	Wheelwright, Wheelmaker, Painter, Spray painter, Trimmer, Grainer, Seatmaker, Signwriter	17 0 2
Waitress	9 12 4		16 12 8

MINIMUM RATES OF WAGES AT 31ST DECEMBER, 1956—continued.

Industry and Occupation.	Wages.	Industry and Occupation.	Wages.
MANUFACTURING—continued.	£ s. d.	MANUFACTURING—continued.	£ s. d.
Industrial Metals, Machines, etc.—<i>old</i>.	Per week.	Clothing—continued.	Per week.
ENGINEERING :		CLOTHING, MEN'S (READY-MADE) :	
Blacksmith, Fitter, Turner	17 0 2	Cutter	15 10 0
Patternmaker	18 2 8	Tailor	15 6 0
Toolmaker	17 15 2	Trimmer, Fitter-up (female)	14 17 0
Motor mechanic	16 17 2	Journeywoman	9 10 0
Electrical fitter, Armature winder	17 0 2		to
Electrical installer	16 12 8		11 16 6
SHEET METAL WORKING :		DRESSMAKING (ORDER) :	
Bench hand (first class)	17 0 2	Cutter (male)	16 0 0
Canister maker	14 15 2	Cutter (female)	12 10 0
WIRE MAKING :		Tailor	15 6 0
Galvaniser	14 5 2	Machinist (male)	14 17 0
Barbed wire maker	13 15 8	Journeywoman	9 10 6
Annealer	13 15 2		to
Precious Metals, Jewellery, Plate—			11 0 6
JEWELLERS, WATCHMAKERS :		DRESSMAKING (READY-MADE) :	
Jeweller, Engraver, Setter	17 0 2	Cutter (male)	15 10 0
Watchmaker, Clockmaker	17 3 2	Cutter (female)	11 0 6
Textiles and Textile Goods (including Knitted Goods)—		Tailor	15 6 0
BAG AND SACK MAKING :		Machinist (male)	14 17 0
Floor hand (female)	8 12 4	Journeywoman	9 10 6
Machinist, Hand cutter (female)	8 17 4		to
Machinist (male)	13 19 2		11 0 6
KNITTING :		TAILORING, MEN'S (ORDER) :	
Mechanic	14 15 2	Cutter	16 9 0
Machinist attendant, Presser (male)	13 19 2	Trimmer, Fitter-up, Machinist (male)	14 17 0
Female worker	9 15 11		9 10 0
TEXTILES MAKING :		Journeywoman	to
Combing			13 1 6
Assistant foreman	15 13 0	Food, Drink and Tobacco—	
Other male worker	14 0 0	AERATED WATER AND CORDIAL MAKING :	
	to	Cordial maker	15 5 2
	14 9 0	Bottler	14 0 2
Female worker	9 8 6	BAKING :	
	to	Foreman in charge	to
	10 4 0		18 15 2
Drawing, Spinning, Twisting and Winding		Single hand baker, Doughmaker	18 2 2
Assistant foreman	15 13 0	Bread carter	14 11 8
	13 7 0	Bread carter in charge of motor vehicle	14 19 8
Other male worker	14 9 0	BREWING :	
	9 8 6	Leading hand	16 13 2
Female worker	to	Bottle washer, Cask washer, Packer, Sorter, Corker, Wire, Labourer	15 13 2
	10 4 6	BUTTER MAKING :	
Warping		Butter maker	15 11 2
Assistant foreman	15 13 0	Cream grader	15 12 8
	13 11 0	Factory hand	13 19 8
Other male worker	to	CHEESE MAKING :	
	14 10 0	Cheese maker	15 11 2
Female worker	9 8 6	Factory hand	13 19 8
	to	CIGAR, CIGARETTE AND TOBACCO MAKING :	
	10 9 6		
Weaving		Male worker	13 19 2
Assistant foreman	16 3 0		to
	13 7 0		14 10 2
Other male worker	to	Female worker	8 19 10
	15 18 0	FLOUR MILLING :	
Female worker	9 8 6	Foreman miller	18 0 0
	to		16 2 6
	10 18 6	Shift miller, Roller man	to
Skins and Leather (not Clothing or Footwear)—			18 0 0
SADDLERY AND LEATHER WORKING :		Wheat sampler	14 16 0
Journeyman	15 17 2	HAM AND BACON CURING :	
	to	Leading man	16 15 2
Journeywoman	16 0 2		15 1 2
	9 8 4	Trimmer	to
TANNING :			15 17 8
Currier	16 4 6	ICE MAKING AND COLD STORAGE :	
	14 13 6	Leading hand	14 17 8
Table hand	to	Puller, Stacker, Packer	14 10 2
	14 17 6	ICE-CREAM MAKING :	
WOOLSCOURING :		Freezing machine operator	to
Woolscourer in charge of machine	15 16 2		14 16 8
Other worker	15 5 2	Cone and wafer machine hand	14 14 2
Clothing (excluding Knitted)—		JAM MAKING, FRUIT AND VEGETABLE CANNING :	
BOOT AND SHOE MAKING :		Leading hand	14 17 2
Journeyman	14 14 0	Syrup maker, Jam boiler, Retort attendant	14 1 2
Journeywoman	10 6 6		
Repairer	15 15 2		

MINIMUM RATES OF WAGES AT 31ST DECEMBER, 1956—continued.

Industry and Occupation.	Wages.	Industry and Occupation.	Wages.
MANUFACTURING—continued.	£ s. d.	MANUFACTURING—continued.	£ s. d.
Food, Drink, etc.—continued.		Miscellaneous—continued.	
MILK PROCESSING :	Per week.	RADIO :	Per week.
Tester, Grader	15 3 2	General serviceman	17 0 2
Pasteuriser	14 7 2	Workshop serviceman	17 0 2
Man in charge of bottling machine	14 1 2	Heat, Light and Power—	
PASTRY COOKING :	15 15 2	ELECTRIC LIGHT WORKS :	
Pastrycook (male)	to	Turbine driver	17 10 2
Pastrycook (female)	16 6 2	Auxiliary plant attendant	16 3 2
SUGAR REFINING :	9 19 4	GAS WORKS :	
Raw Sugar		Retort operator in charge	16 12 2
Leading hand	15 7 8	Service layer, Main layer	15 5 8
Melting house		MINING—	
Fugal washer	15 5 8	Coal—	
Refined Sugar		Miner	Per shift (a)
Drier, Grader	15 5 8	Loaderman (mechanical units)	3 0 0
Sawmilling, Woodworking and Basketware		Faceman, Shiftman (mechanical units)	3 7 7
BOX AND CASE MAKING :	14 11 2		3 4 0
Sawyer	to	Gold—	Per shift (b)
Machinist	15 11 2	Rock-drill man	3 6 0
Case maker	14 7 2	Hand miner	to
SAWMILLING :	14 7 2	Shaft-timber man	3 9 3
Faller	15 14 5	Spaller, Man barring down, Machine man	to
Saw doctor	17 10 5	Crusher feeder	3 3 7
Sawyer, Benchman	14 3 11	Powder monkey	to
Tractor driver	to	QUARRYING—	Per week
TIMBER YARDS :	16 13 11	Spaller, Man barring down, Machine man	14 13 8
Buzzer	10 0 11	Crusher feeder	15 0 2
Moulding machinist	14 6 2	Powder monkey	15 8 8
Sawyer, Benchman	to	RAILWAYS (GOVERNMENT)—	Per shift (c)
Tenoner	16 6 8	Engine driver	3 8 0
Furniture, Bedding, etc.	14 13 8	Fireman	to
Cabinetmaker, Chairmaker	16 6 8	Cleaner	4 0 0
Wood carver, Upholsterer, French Polisher	14 0 2	Guard	2 17 10
Paper, Stationery, Printing, Bookbinding, etc.—	16 0 2	Porter	to
PRINTING (JOBGING) :	16 0 8	RETAIL TRADE—	Per week.
Machine compositor	17 3 6	Shop assistant (male)	15 6 8
Proof reader and reviser	16 8 6	Shop assistant (female)	10 2 4
PRINTING (NEWSPAPERS) :		Storeman	15 4 8
Linotype operators		STEVEDORING—	Per hour
Night	21 19 3	Lumper handling general cargo	0 9 10
Day	21 4 3	TRAMWAYS—	Per week
General hand	17 12 2	Trolley bus driver	15 15 2
Night	16 17 2	Conductor	14 7 8
Day	to	Tram driver	to
Miscellaneous Products—	18 12 8	Track repairer	15 10 2
DENTAL :		Wool stores—	15 10 2
Dental technician (male)	17 0 2	Head classer, Man in charge of store	17 0 2
Dental technician (female)	10 7 11	Assistant classer	16 7 2
OPTICAL :		Wool sorter	15 19 2
Optical mechanic	16 7 8		
Leading hand	to		

(a) Eleven 7-hour shifts worked each fortnight.

(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, and from estimates of the unrecorded balance. Pay of members of the armed forces is not included.

The following table shows, for each of the last five years, 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. 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 last five years.

**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 :—						
1952	2,108	12.80	10.70	9.89	11.19	10.37
1953	2,344	14.13	11.55	11.30	12.09	11.82
1954	2,586	15.04	11.80	11.78	12.33	12.31
1955	2,731	15.55	11.80	11.80	12.33	12.33
1956	2,897	16.37	12.30	11.84	12.85	12.65
Quarter ended :—						
30th September, 1956	3,003	17.14	12.30	12.30	13.08	13.02
31st December, 1956	3,011	17.19	12.30	12.30	13.26	13.20

† 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.

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 enquiry 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 in the Metropolitan Area, Kalgoorlie-Boulder, Northam, Bunbury and Geraldton is made under the authority of the Commonwealth Census and Statistics Act, and 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. In other towns, where particulars are required under the State Statistics Act, the same principle of price quotation for a constant standard is applied to an identical range of commodities.

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. Because of these and other difficulties inherent in a retail prices collection, special precautions are necessary to maintain the reliability of these statistics.

The following table shows the annual average retail prices of 40 items of food and groceries in the Metropolitan Area for the years immediately before and after the second World War and for each of the last five years.

AVERAGE RETAIL PRICES OF FOOD AND GROCERIES—METROPOLITAN AREA

Commodity.	Unit.	1939.	1946.	1952.	1953.	1954.	1955.	1956.
<i>Groceries.</i>								
Bread	2 lb.	Pence. 6.00	Pence. 6.00	Pence. 11.25	Pence. 12.58	Pence. 13.58	Pence. 14.58	Pence. 14.92
Flour—Ordinary	"	4.97	5.00	8.34	10.90	11.86	13.35	13.73
Self-raising	"	7.39	7.95	15.80	18.56	19.22	19.49	19.35
Tea	lb.	28.65	27.00	47.45	52.45	64.22	86.92	83.72
Sugar	"	4.00	4.00	7.84	9.00	9.00	9.00	9.62
Rice	"	3.52	(a)	(a)	(a)	11.86	11.71	11.75
Sago (Seed Tapioca)	"	3.19	(a)	23.54	26.40	19.67	15.13	18.77
Jam—Plum	1½ lb. tin	8.96	11.00	28.67	31.85	31.77	31.68	33.31
Golden Syrup	2 lb. tin	7.35	7.97	15.75	19.93	19.88	19.87	20.84
Oats—Flaked	lb.	3.77	4.50	11.53	10.44	9.22	11.12	9.97
Raisins	"	9.97	12.94	31.42	33.70	32.27	30.05	30.24
Currants	"	8.87	10.41	22.43	23.75	24.02	24.13	24.13
Apricots—Dried	"	14.75	(a)	53.89	59.77	61.14	61.46	60.95
Peaches—Canned	30oz. tin	11.03	15.50	36.31	38.41	38.83	39.38	40.75
Pears—Canned	"	11.63	18.46	37.83	39.31	40.28	40.62	41.72
Potatoes	7 lb.	13.80	8.43	27.87	29.45	30.54	33.62	37.18
Onions—Brown	lb.	3.46	2.98	7.21	6.65	8.66	9.01	12.19
Soap—Household	"	6.67	7.33	15.14	17.59	18.53	19.30	19.27
Kerosene	qrt.	4.71	6.07	12.19	13.39	13.07	13.03	13.19
<i>Dairy Produce.</i>								
Butter—Cholceat	lb.	19.93	21.00	44.00	50.00	49.97	50.27	53.80
Cheese	"	14.93	17.00	33.50	37.00	37.00	39.56	43.42
Eggs—Standard, New Laid	doz.	18.30	25.33	61.25	83.33	59.80	61.88	62.81
Bacon, Rashers	lb.	17.39	20.50	59.63	66.93	70.65	65.66	75.95
Milk—Condensed Sweetened (Full Cream)	14oz. tin	9.38	9.92	19.93	23.44	23.36	22.89	22.65
Milk—Fresh	qrt.	7.00	8.00	16.25	17.00	17.00	17.00	17.33
<i>Meat.</i>								
Beef—Sirloin	lb.	9.33	13.00	32.04	34.17	37.82	39.02	40.32
Rib, Rolled (bone in)	"	8.15	11.00	24.64	26.88	32.32	(b) 39.81	(b) 41.16
Steak—Rump	"	15.30	18.00	42.05	46.24	52.28	54.90	56.42
Chuck	"	8.08	11.00	30.03	31.85	35.29	35.19	35.70
Sausages	"	6.52	9.01	20.15	21.15	21.87	21.81	22.67
(Corned)—Silverside	"	8.62	10.98	31.28	33.30	36.88	38.11	39.17
Brisket	"	6.62	9.00	27.16	27.96	29.99	29.89	30.20
Mutton—Leg	"	7.90	10.47	21.22	24.03	28.85	28.60	30.05
Forequarter	"	4.62	7.00	13.52	15.13	18.10	17.58	18.88
Loin	"	7.42	10.38	19.99	23.47	28.48	28.18	29.60
Chops—Loin	"	8.25	10.48	19.98	23.58	28.63	28.19	29.68
Leg	"	8.46	10.48	19.73	23.60	28.63	28.19	29.71
Pork—Leg	"	13.61	15.00	48.75	55.14	58.21	50.78	59.73
Loin	"	13.63	16.00	49.10	55.27	58.24	50.72	59.94
Chops	"	13.78	17.00	49.16	55.27	58.33	50.74	60.06

(a) Not available.

(b) Price "without bone."

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, 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. 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—SIX REPRESENTATIVE TOWNS

(Base: Weighted Average of Six Capital Cities for 1923-27, = 1000.)

Period.	Western Australia.						Australia.
	Metropolitan Area.	Kalgoorlie-Boulder.	Northam.	Bunbury.	Geraldton.	Collie.	Weighted Average of Six Capital Cities
1939	938	1092	972	967	947	961	927
1946	1059	1192	1073	1057	1084	1073	1036
1947	1104	1239	1125	1109	1133	1123	1100
1948	1251	1387	1272	1257	1279	1265	1256
1949	1437	1672	1455	1443	1471	1455	1394
1950	1597	1728	1613	1610	1636	1611	1566
1951	1963	2105	1995	1901	2033	1991	2041
1952	2359	2556	2429	2415	2473	2432	2526
1953	2608	2738	2630	2636	2698	2671	2641
1954	2802	2910	2817	2841	2870	2869	2671
1955	2868	3049	2924	2958	2964	2976	2811
1956	3004	3170	3055	3064	3110	3088	3084
1956—							
1st Quarter	2937	3080	2932	2980	2989	3005	2926
2nd "	3000	3142	3022	3037	3069	3056	3054
3rd "	3063	3216	3115	3101	3182	3135	3244
4th "	3017	3240	3150	3136	3209	3154	3111

RETAIL PRICE INDEX-NUMBERS OF FOOD AND GROCERIES—31 TOWNS

(Base : Weighted Average of Six Capital Cities for 1923-27, = 1000.)

Town.	1939.	1946.	1952.	1953.	1954.	1955.	1956.
Metropolitan Area	938	1059	2359	2608	2802	2868	3004
Albany	957	1066	2411	2597	2772	2879	2969
Bridgetown	1001	1092	2418	2608	2742	2931	3041
Bunbury	967	1057	2415	2647	2841	2958	3064
Busselton	(a)	(a)	2411	2609	2796	2905	2991
Collie	961	1073	2432	2671	2869	2976	3088
Coogardie	1129	1213	2558	2763	2988	3067	3222
Cue	1150	1206	2565	2754	2994	3106	3244
Dalwallinu	1054	1084	2458	2658	2714	2824	2947
Esperance	1052	1232	2577	2799	3022	3092	3181
Geraldton	947	1084	2473	2698	2870	2964	3110
Greenbushes	995	1060	2420	2608	2764	2853	3000
Jarrahdale	977	1078	2392	2596	2718	2807	2930
Kalgoorlie-Boulder	1092	1192	2556	2738	2910	3049	3170
Katanning	947	1082	2440	2618	2799	2912	3068
Leonora-Gwalia	1211	1306	2657	2863	3014	3158	3376
Manjimup	1010	1071	2416	2635	2789	2916	3068
Meekatharra	1170	1284	2621	2758	2996	3083	3325
Merredin	990	1092	2459	2694	2875	2977	3063
Moora	(a)	(a)	2443	2616	2756	2929	3045
Mullewa	1052	1133	2468	2626	2735	2849	3114
Narembene	(a)	(a)	2459	2596	2714	2876	3080
Narrogin	985	1086	2446	2619	2782	2892	2996
Norseman	1147	1283	2578	2780	2922	3005	3112
Northam	972	1073	2429	2630	2817	2924	3055
Northampton	975	1095	2489	2679	2845	2938	3073
Pemberton	996	1091	2422	2625	2809	2903	3020
Southern Cross	1064	1125	2540	2726	2922	3060	3194
Three Springs	(a)	(a)	2425	2643	2835	2946	3162
Wyalkatchem	(a)	(a)	2457	2614	2848	3026	3101
Yarloop	964	1072	2409	2635	2851	2980	3110

(a) Not available.

RETAIL PRICE INDEX-NUMBERS OF FOOD AND GROCERIES—SIX CAPITAL CITIES

(Base : Weighted Average of Six Capital Cities for 1923-27, = 1000.)

Year.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.	Weighted Average of Six Capital Cities.
1939	936	942	864	897	938	923	927
1946	1039	1052	981	1006	1059	1069	1036
1947	1110	1110	1055	1067	1104	1132	1100
1948	1258	1274	1208	1230	1251	1316	1256
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
1956	3160	3180	2719	2871	3004	3142	3084

THE "C" SERIES INDEX

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.

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 capital cities taken as a whole during the five years 1923 to 1927.

"C" SERIES INDEX OF RETAIL PRICES—SIX REPRESENTATIVE TOWNS

(Base: Weighted Average of Six Capital Cities for 1923-27, = 1000.)

Period.	Western Australia.						Australia. Weighted Average of Six Capital Cities.
	Metropolitan Area.	Kalgoorlie- Boulder.	Northam.	Bunbury.	Geraldton.	Collie.	
1939	901	1066	915	936	965	867	920
1946	1127	1223	1133	1136	1187	1082	1145
1947	1161	1265	1171	1173	1221	1117	1188
1948	1264	1368	1272	1277	1327	1217	1295
1949	1410	1502	1420	1424	1475	1353	1415
1950	1538	1636	1550	1559	1611	1477	1560
1951	1860	1940	1870	1870	1956	1785	1883
1952	2170	2262	2186	2195	2293	2085	2196
1953	2295	2361	2315	2314	2421	2211	2302
1954	2459	2426	2417	2447	2577	2299	2326
1955	2554	2493	2508	2569	2702	2365	2393
1956	2655	2563	2584	2664	2825	2434	2547
1956—							
1st Quarter	2605	2515	2521	2588	2763	2390	2465
2nd "	2646	2543	2565	2660	2802	2416	2528
3rd "	2680	2579	2607	2687	2849	2450	2612
4th "	2690	2616	2644	2720	2885	2478	2583

"C" SERIES INDEX OF RETAIL PRICES—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.
1939	936	924	870	906	901	908	920
1946	1165	1149	1093	1120	1127	1138	1145
1947	1212	1188	1137	1165	1161	1178	1189
1948	1318	1294	1241	1277	1264	1292	1295
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
1956	2584	2567	2316	2466	2655	2663	2547
1956—							
1st Quarter	2490	2481	2260	2388	2605	2598	2465
2nd "	2556	2555	2299	2452	2646	2639	2528
3rd "	2665	2628	2370	2526	2680	2708	2612
4th "	2624	2603	2335	2497	2690	2712	2583

COMPARATIVE COSTS OF GOODS AND SERVICES

The quality of the goods and services comprising the "C" Series regimen has been standardized, and these standards are applied uniformly, as far as practicable, at all times and places. The stability of the regimen itself and of the weights relating to the several items is maintained over long periods. For these reasons it is appropriate to use the "C" Series Index as a measure of changes in the total costs of the goods and services included or represented, both as between different towns at any one time and in a particular town at various times. As the basis of such comparisons it is often convenient to use a basic expenditure of 20s. as in the following tables. A weighted average expenditure of this amount in the six capital cities in the year 1939 is taken as the base for the first of these tables, and in the year 1946 for the second table. These years have been chosen as representing the last pre-war and the first post-war year. It is important to note that this hypothetical expenditure of 20s. relates to the cost of a so-called "basket" of goods and services which is fully representative, in the sense that it comprises all items in the relative proportions in which they occur in the regimen. It would be erroneous to use the figures in the tables as a measure of changes in cost of any single item or of items which do not appear or are not represented in the regimen.

COMPARATIVE COSTS OF "C" SERIES "BASKET"—BASE YEAR 1939

(Base : Weighted Average of Six Capital Cities in 1939, = 20s.)

Capital City.	1939.	1946.	1952.	1953.	1954.	1955.	1956.
Sydney	s. d. 20 4	s. d. 25 4	s. d. 49 3	s. d. 51 6	s. d. 51 9	s. d. 53 0	s. d. 56 2
Melbourne	20 1	25 0	47 2	49 8	49 9	51 5	55 10
Brisbane	18 11	23 9	44 10	46 5	47 2	48 1	50 4
Adelaide	19 8	24 4	46 11	48 10	49 6	51 2	53 7
Perth	19 7	24 6	47 2	49 11	53 5	55 6	57 9
Hobart	19 9	24 9	47 5	52 2	52 4	53 5	57 11
Weighted Average	20 0	24 11	47 9	50 1	50 7	52 0	55 4

COMPARATIVE COSTS OF "C" SERIES "BASKET"—BASE YEAR 1946

(Base : Weighted Average of Six Capital Cities in 1946, = 20s.)

Capital City.	1946.	1951.	1952.	1953.	1954.	1955.	1956.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Sydney	20 4	33 9	39 7	41 4	41 7	42 7	45 2
Melbourne	20 1	32 10	37 11	39 11	40 0	41 4	44 10
Brisbane	19 1	30 9	36 0	37 4	37 11	38 7	40 5
Adelaide	19 7	32 0	37 9	39 3	39 9	41 1	43 1
Perth	19 8	32 6	37 11	40 1	42 11	44 7	46 4
Hobart	19 10	32 6	38 1	41 11	42 0	42 11	46 6
Weighted Average	20 0	32 11	38 4	40 2	40 7	41 10	44 6

An illustration of the way in which the tables may be used is that in 1939 a "basket" costing on the average 20s. in the six capital cities cost 19s. 7d. in Perth, and that in 1956 the same "basket" would have cost on the average 55s. 4d. in the six capital cities considered as a whole and 57s. 9d. in Perth.

STATISTICAL SUMMARY FROM 1829

POPULATION, MIGRATION, AND VITAL STATISTICS

Year.	Population at 31st December.			Migration.		Vital Statistics.						
	Males.	Females.	Persons.	Arrivals.	Departures.	Numbers.			Rates per 1,000 of Mean Population.			Infant Mortality Rate. (e)
						Marriages.	Births.	Deaths. (d)	Marriages.	Births.	Deaths.	
1829	769	234	1,003	652	.....	(c)	(c)	(c)	(c)	(c)	(c)	(c)
1830	877	295	1,172	1,125	.....	(c)	(c)	(c)	(c)	(c)	(c)	(c)
1840	1,434	877	2,311	(a) 123	.....	25	54	20	(c)	(c)	(c)	(c)
1850	3,576	2,310	5,886	(a) 203	.....	37	186	54	(c)	(c)	(c)	(c)
1860	9,529	5,698	15,227	461	450	151	588	209	10.01	38.06	13.85	(c)
1870	15,474	9,610	25,084	268	303	153	615	281	6.15	34.27	15.18	117.23
1880	16,559	12,460	29,019	577	777	214	933	382	7.29	31.79	13.02	77.17
1890	28,854	19,648	48,502	3,567	1,996	278	1,561	540	5.90	33.16	11.47	89.69
1891	32,176	21,001	53,177	6,346	2,667	413	1,786	869	8.12	35.13	17.09	119.82
1892	36,048	22,521	58,569	7,440	2,978	412	1,848	931	7.37	33.08	16.66	140.69
1893	40,975	23,948	64,923	8,928	3,716	392	2,112	945	6.35	34.20	15.30	118.37
1894	55,055	26,524	81,579	25,858	9,923	482	2,123	1,081	6.58	28.98	14.76	126.24
1895	69,733	30,782	100,515	29,523	11,163	633	2,373	1,604	6.95	26.06	17.62	143.28
1896	96,999	39,817	136,816	55,215	19,324	1,077	2,782	2,020	9.08	23.44	17.02	184.40
1897	107,655	52,840	160,495	49,387	26,867	1,659	4,021	2,643	11.16	27.05	17.78	183.54
1898	107,593	59,285	166,878	32,700	28,845	1,674	4,968	2,716	10.23	30.35	16.59	166.06
1899	106,816	63,442	170,258	20,278	20,287	1,671	5,174	2,324	9.91	30.69	13.79	139.93
1900	110,088	69,879	179,967	24,921	19,078	1,781	5,454	2,240	10.17	31.15	12.79	126.15
1901	117,885	75,716	193,601	32,762	20,780	1,821	5,718	2,519	9.68	30.39	13.39	128.89
1902	128,370	83,603	211,973	37,860	21,001	2,024	6,232	2,823	9.89	30.44	13.79	142.01
1903	134,140	90,008	224,148	30,943	20,216	2,064	6,699	2,788	9.40	30.50	12.69	141.22
1904	141,694	97,714	239,408	31,617	19,563	2,088	7,176	2,817	8.92	30.67	12.04	113.02
1905	146,408	103,640	250,048	28,791	22,934	2,123	7,582	2,709	8.61	30.74	10.98	104.16
1906	148,061	107,112	255,173	25,996	25,077	2,261	7,800	3,084	8.89	30.66	12.12	110.00
1907	146,264	108,276	254,540	22,326	27,740	2,114	7,712	2,931	8.27	30.18	11.47	97.51
1908	148,447	111,224	259,671	24,594	24,339	2,012	7,755	2,879	7.80	30.08	11.17	84.72
1909	151,325	114,350	265,675	24,443	23,537	1,997	7,602	2,704	7.59	28.87	10.27	78.01
1910	157,971	118,861	276,832	31,403	25,091	2,107	7,585	2,740	7.77	27.99	10.11	78.18
1911	167,993	125,930	293,923	41,350	29,436	2,421	8,091	2,293	8.44	28.22	10.19	76.01
1912	173,897	131,724	305,621	38,326	31,982	2,624	8,680	3,335	8.38	28.86	11.08	82.06
1913	180,534	139,401	319,935	37,637	29,607	2,572	9,218	2,934	8.21	29.41	9.36	70.30
1914	178,978	143,111	322,089	27,270	31,277	2,660	9,204	3,043	8.24	28.52	9.43	68.12
1915	170,890	145,773	316,663	20,734	32,187	2,580	9,017	2,992	8.03	28.07	9.31	66.54
1916	159,237	147,643	306,880	19,322	34,583	2,365	8,563	3,085	7.55	27.35	9.85	66.22
1917	157,532	149,306	306,838	17,822	22,977	1,621	7,882	2,769	5.29	25.73	9.04	57.09
1918	159,865	150,318	310,183	24,262	25,190	1,612	7,106	2,833	5.23	23.06	9.19	57.13
1919	174,981	152,879	327,860	32,561	18,231	2,194	6,937	3,590	6.86	21.68	11.22	61.12
1920	176,895	154,428	331,323	20,930	31,228	2,931	8,149	3,388	8.88	24.69	10.27	66.02
1921	178,968	157,580	336,548	20,333	28,435	2,656	7,807	3,480	7.95	23.37	10.42	78.26
1922	184,471	161,073	345,544	31,141	27,109	2,446	8,131	3,167	7.17	23.82	9.28	55.59
1923	191,131	165,728	356,859	33,335	27,444	2,376	7,854	2,930	6.77	22.39	8.35	56.02
1924	197,676	170,648	368,324	35,195	28,768	2,696	8,301	3,263	7.15	22.86	8.99	49.87
1925	202,554	174,973	377,527	32,020	28,587	2,746	8,185	3,315	7.36	21.95	8.89	56.57
1926	206,797	178,306	385,103	30,732	27,977	2,844	8,301	3,350	7.47	21.79	8.79	49.27
1927	215,851	184,046	399,897	35,275	25,700	3,107	8,482	3,393	7.93	21.63	8.65	45.86
1928	225,072	189,549	414,621	36,039	26,379	3,309	8,704	3,640	8.12	21.36	8.93	48.14
1929	231,361	195,276	426,637	32,847	25,952	3,367	9,051	3,930	8.00	21.51	9.34	56.13
1930	232,868	198,742	431,610	22,457	22,910	3,205	9,200	3,774	7.47	21.44	8.80	46.74
1931	232,397	201,289	433,686	14,192	16,984	2,741	8,549	3,681	6.34	19.77	8.51	41.53
1932	233,049	203,271	436,320	15,446	17,062	2,904	7,965	3,715	6.68	18.31	8.54	44.57
1933	234,744	205,898	440,642	b 17,261	b 17,401	3,374	7,874	3,790	7.69	17.95	8.64	36.83
1934	236,140	207,589	443,729	b 17,609	b 18,988	3,682	7,801	4,076	8.32	17.64	9.21	40.89
1935	238,739	210,884	449,623	b 19,733	b 18,599	3,940	8,119	4,118	8.82	18.17	9.22	40.15
1936	240,827	213,373	454,200	b 20,590	b 21,027	4,242	8,479	4,230	9.38	18.75	9.35	42.22
1937	244,050	216,492	460,542	b 22,571	b 21,561	4,169	8,609	4,065	9.12	18.82	8.89	37.52
1938	246,943	219,741	466,684	b 23,227	b 22,784	4,153	9,141	4,234	8.95	19.71	9.13	33.80
1939	249,065	223,315	472,380	b 21,195	b 20,980	4,195	9,036	4,336	8.93	19.23	9.23	40.84
1940	248,734	225,342	474,076	(c)	(c)	5,234	9,121	4,486	11.06	19.27	9.48	44.18
1941	246,842	226,371	473,213	(c)	(c)	5,074	10,118	4,769	10.71	21.35	10.06	35.28
1942	246,816	229,839	476,655	(c)	(c)	5,441	9,901	5,076	11.42	20.77	10.65	36.86
1943	246,389	231,875	478,264	(c)	(c)	4,528	10,481	4,587	9.50	21.98	9.62	32.63
1944	249,301	235,474	484,775	(c)	(c)	4,506	10,870	4,478	9.36	22.58	9.30	32.57
1945	251,590	238,098	490,088	b 20,831	b 21,482	3,788	10,672	4,712	7.77	21.89	9.67	29.52
1946	255,310	241,663	496,973	b 35,547	b 35,746	5,171	12,105	4,753	10.49	24.57	9.65	31.06
1947	261,653	247,109	508,762	b 54,001	b 50,640	5,282	12,874	4,723	10.50	25.60	9.39	30.92
1948	268,304	253,695	521,999	b 63,183	b 57,980	5,186	12,931	4,685	10.08	25.13	9.10	25.60
1949	280,273	263,911	544,184	b 72,127	b 58,363	4,951	13,511	4,790	9.30	25.37	8.99	26.42
1950	294,758	277,891	572,649	b 83,272	b 63,586	5,434	14,228	5,058	9.74	25.50	9.07	27.13
1951	304,454	285,885	590,339	b 79,254	b 70,829	5,390	14,794	5,288	9.29	25.49	9.11	28.73
1952	316,700	296,235	612,935	b 82,063	b 69,986	5,389	15,413	5,209	8.97	25.66	8.67	24.91
1953	326,372	305,371	631,743	b 82,063	b 73,805	5,032	15,862	5,072	8.10	25.54	8.17	23.83
1954	334,886	314,529	649,415	b 82,970	b 75,742	5,204	15,928	5,364	8.13	24.88	8.38	22.54
1955	345,487	325,263	670,750	89,201	79,110	5,145	16,623	5,379	7.81	25.23	8.17	22.44
1956	353,082	331,753	684,835	86,808	84,067	5,080	16,916	5,572	7.50	24.97	8.23	22.70

(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.

(d) Excludes deaths of defence personnel from September, 1939, to June, 1947.

(e) Deaths under one year of

age per 1,000 live births.

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	3,886,862
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	3,931,715
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	10,469	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	26,818	4,944,850	44,703	62,455	57,302	10,873	5,596,865
1920	377,155	24,050	54,010	5,868,501	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	518,727	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	9,593,212
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	52,237	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	266,612	32,579	150,083	11,940,149	54,202	107,559	123,341	80,937	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	65,028	168,518	133,482	199,900	14,407,557
1947	364,646	37,750	236,442	14,980,875	119,910	182,292	162,539	216,649	15,028,427
1948	433,148	36,606	242,363	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	346,789	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	325,287	34,546,768
1953	520,709	51,444	453,287	38,884,236	437,517	551,697	349,160	385,819	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	653,702	45,719,846	560,750	667,655	357,224	504,989	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

(a) Calendar years to 1890, thence years ended 30th June.

(b) Includes expenditure under Special Acts.

NET EXPENDITURE FROM LOAN FUNDS, AND 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 available for further Debt Re- demption. (i)	Approximate Net Indebted- ness Per Head of Population 30th June.
	£	£	£	£	£	£	£	£	£
1860	....	....	....	....	....	....	1,750	....	(h)
1870	....	....	....	....	....	....	....	....	(h)
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	11,074,640	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	....	1,605,901	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 1,556,912	23,703,953	2,544,812	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	1,584,442	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	54,959,778	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	....	219,308	678,461	77,795	4,078,686	70,010,921	10,654,433	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	506,021	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	98,009	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	202.85
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	679,720	97,359,245	267,426	203.55
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	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	287,740	166,054	86,436	726,741	386,101	2,043,627	99,002,301	545,284	195.94
1948	338,062	735,697	158,232	693,878	548,505	2,537,002	100,274,741	154,496	194.88
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	8,846	212.26
1952	7,599,037	3,341,916	1,346,808	2,401,331	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	163,072,170	930,677	245.19
1954	5,647,407	703,104	1,163,776	1,969,720	1,572,045	14,193,974	165,782,545	410,841	258.61
1955	4,875,814	705,000	960,011	2,830,321	1,996,616	14,730,970	177,881,349	221,058	269.81
1956	3,069,649	1,024,690	819,147	2,768,108	2,093,645	13,314,315	188,732,740	122,377	278.44

(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) Red-
 uction 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 re-adjustments for previous years. (h) Not available. (i) Re-
 presenting Balance of Fund held by National Debt Commission.

PRIVATE FINANCE

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 period.	Amounts due to Depositors at end of period.	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)		895	13,582	(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		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	284		
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	5,636	365	(c)	(c)
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		103,622	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	98,065
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		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		1,707	367,665	11,728,617	20,828	4,502	1,226,101	581,607
1931	12,228	20,818	1,368	371,662	10,867,422	19,953	4,177	957,008	485,620
1932	14,281	19,646	1,446	206,997	10,217,739	19,591	4,293	846,498	327,445
1933	14,892	19,217	1,528	194,095	10,064,464	19,724	4,459	893,218	397,817
1934	16,426	19,371	1,622	192,915	10,398,972	20,315	4,697	872,956	400,446
1935	18,103	20,531	1,815	197,611	10,929,010	21,449	4,973	964,609	454,809
1936	19,366	21,616	1,947	208,990	11,517,220	22,704	5,344	1,087,779	507,335
1937	19,732	22,266	2,011	217,247	11,834,794	24,428	5,687	1,205,146	682,812
1938	20,615	22,571	2,002	225,118	12,037,486	25,826	5,972	1,320,314	762,869
1939	20,590	23,887	2,059	232,564	12,396,191	26,926	6,304	1,372,956	730,778
1940	21,110	23,765	2,293	233,649	11,860,151	27,354	6,543	1,441,950	729,969
1941	23,549	22,809	2,234	238,820	12,521,159	27,921	6,038	1,395,903	618,153
1942	25,959	21,810	2,398	250,153	13,821,138	27,940	7,656	1,402,777	622,303
1943	30,568	18,914	2,638	279,469	18,884,330	28,932	8,328	1,173,589	507,033
1944	35,764	16,731	2,774	301,225	25,700,714	30,690	8,981	1,184,443	448,445
1945	37,423	15,752	2,907	316,565	31,763,170	33,127	9,512	1,282,270	577,196
1946	(e) 33,326	(e) 16,863	3,637	340,737	38,289,087	38,804	10,518	1,444,946	611,433
1947	36,245	22,694	4,341	349,091	36,625,137	44,008	11,527	1,751,278	868,571
1948	41,016	24,377	5,519	358,709	36,182,591	49,446	12,569	2,093,779	1,044,528
1949	50,486	24,952	6,607	365,130	37,534,968	55,606	13,563	2,535,463	1,026,541
1950	58,229	27,650	8,829	378,670	39,612,361	63,166	14,752	2,956,479	1,220,179
1951	74,622	33,340	11,403	392,790	44,672,327	74,362	16,230	3,679,886	1,670,488
1952	85,461	41,676	11,466	403,678	47,170,835	85,504	17,628	4,678,956	2,630,471
1953	85,117	43,676	12,341	414,288	49,794,288	97,750	19,055	5,368,019	2,726,318
1954	90,932	53,214	13,662	422,480	52,614,379	110,784	20,120	5,713,329	2,637,919
1955	90,448	68,915	13,793	426,637	53,628,939	125,772	20,744	6,281,459	3,140,606
1956	87,250	71,293	14,538	446,419	57,933,790	141,069	21,057	6,772,858	3,562,896

(a) Averages based on amounts as at close of business each week. Figures subsequent to 1926 are for the years ended 30th June. Particulars are included for the Commonwealth Trading Bank of Australia and from 1940 onwards, for the Rural and Industries Bank of Western Australia (Rural Department only). (b) Figures for 1893 and subsequent 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 the 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 commenced operations on 1st July, 1949.

TRANSPORT AND COMMUNICATION

Year.	State Government Railways. (a)				Private Railways	Posts and Telegraphs. (d)			Shipping. (i)	
	Miles open at end of Year. (b)	Gross Receipts. (j)	Working 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.	
							Re-ceipts.	Expenditure.	Number.	Net Tonnage.
		£	£	Tons.		Miles.	£	£		Tons.
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	1,888,146	629	6,112	232,591	259,499	765	1,686,905
1903	1,516	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	1,823,256
1906	1,612	1,634,444	1,201,753	2,006,514	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	1,780,338
1908	1,943	1,501,925	1,007,732	2,058,741	793	6,868	272,179	346,198	592	1,816,805
1909	2,045	1,568,436	973,871	1,997,100	842	6,719	276,668	330,001	650	2,054,189
1910	2,145	1,637,334	1,096,908	2,241,359	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	3,179,647
1915	3,332	2,058,244	1,497,826	2,523,859	976	(h)	346,102	543,900	655	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	1,877,382	1,448,451	2,400,246	1,010	8,342	380,271	468,698	731	2,557,986
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	898	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	720	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	2,915,985	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	3,697,648	838	11,526	799,031	963,141	812	3,806,078
1929	4,079	3,799,764	3,055,446	3,700,147	842	11,691	845,638	915,498	808	3,674,298
1930	4,111	3,659,203	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	2,022,385	2,123,281	2,847,568	830	11,699	788,063	619,427	604	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	2,668,876	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	4,776,250	3,764,290	2,904,431	798	12,435	1,682,022	1,308,433	382	1,523,336
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	4,598,986	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	3,032,213	752	14,001	2,755,706	4,537,866	1,060	5,552,156
1952	4,113	9,163,532	10,601,917	3,063,641	752	14,598	3,644,986	5,409,820	1,045	5,523,959
1953	4,108	7,972,260	12,087,333	2,618,806	724	14,904	3,895,850	5,474,089	1,027	5,413,420
1954	4,111	11,374,307	13,756,109	3,205,958	758	14,966	4,180,297	5,813,979	1,003	5,315,041
1955	4,111	12,530,410	13,935,329	3,406,634	748	15,149	4,826,821	5,929,854	1,138	6,154,422
1956	4,119	13,274,166	14,993,054	3,792,856	726	15,335	5,200,922	6,949,352	1,258	6,754,321

(a) From 1895, year ended 30th June. (b) Exclusive of lines used by Government Timber Mills which in 1956 totalled 138 miles. (c) Including length of lines open for general passenger traffic, which from 1894 to 1956 was 277 miles. (d) From 1901, under control of Commonwealth Government. (e) As at end of year. (f) From 1916, year ended 30th June. From 1935, figures represent Pole Route Mileage. (g) Half-year ended 30th June. (h) Complete records not available. (i) From 1915, year ended 30th June. (j) Particulars cover Railway Road Services which commenced in November, 1941.

**TRANSPORT, ETC.—continued; EXPORTS OF CERTAIN COMMODITIES
(INCLUDING SHIPS' STORES)**

Year (a)	Motor Vehicles—Effective Registrations as at 30th June. ‡				Wool Exports.			
	Cars.	Wagons, Vans, Utilities.	Buses.	Motor Cycles.	Greasy. (c)		Scoured.	
					Quantity.	Value.	Quantity.	Value.
	No.	No.	No.	No.	lb.	£	lb.	£
1840					50,000	2,500		
1850					309,040	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	1,115,519	77,976	4,772
1918					10,519,055	528,192	112,967	7,627
1919					29,022,006	1,887,635	622,550	64,506
1920					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	309	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	6,284	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	31,316	28,147	309	6,794	108,180,425	8,567,873	11,746,396	1,389,157
1947	32,793	31,382	331	8,196	75,186,771	7,780,467	17,456,798	2,479,906
1948	35,485	34,362	457	8,874	80,204,830	13,900,549	16,072,580	2,721,435
1949	40,119	38,247	654	10,974	85,919,353	18,358,664	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	958	14,535	80,731,643	48,246,541	11,054,717	8,032,936
1952	64,277	51,645	998	16,047	91,455,408	28,645,328	11,352,904	5,194,466
1953	69,917	55,420	1,043	15,565	100,908,701	33,879,266	12,603,629	5,681,628
1954	78,312	59,257	1,124	15,243	100,701,099	35,672,828	11,918,274	5,457,140
1955	90,255	62,753	1,138	14,662	96,554,322	29,648,228	13,261,323	5,633,302
1956	98,875	64,430	1,196	13,873	113,289,040	28,947,217	16,744,513	6,209,713

(a) From 1915, year ended 30th June. (b) Six months ended June. (c) Figures for 1840 to 1890 include Scoured Wool, separate particulars of which are not available. (d) See note (c) (e) Particulars not available. ‡ Figures prior to 1949 exclude Commonwealth-owned Vehicles. For 1949 onwards Commonwealth-owned Vehicles other than those of defence services are included.

EXPORTS OF CERTAIN COMMODITIES (INCLUDING SHIPS' STORES)—continued

Year. (a)	Wheat.		Beef. †		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		
1906	38	7	lb.	£	lb.	£	lb.	£
1907	490,350	96,675	....	....	15,812	292	....	....
1908	211,800	45,005	....	....	369,958	5,586	....	....
1909	624,660	129,025	....	....	95,235	1,366	....	....
1910	2,014,562	406,326	....	....	....	....	722	23
1911	2,231,393	386,922	....	....	....	....	....	....
1912	502,475	100,148	....	....	....	....	....	....
1913	4,105,900	763,798	....	....	....	....	48	3
1914(b)	7,286,118	1,343,866	....	....	....	....	....	....
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	6,697,052	99,025	....	....	....	....
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	117,649	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	5,567,094	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	10,639,900	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	84,140	8,824,161	204,844	3,740,724	127,203
1946	13,510,257	5,848,105	9,508,999	278,635	5,001,813	137,530	7,497,152	272,570
1947	6,802,465	4,481,773	14,016,341	345,287	8,997,059	204,434	2,879,603	123,915
1948	19,311,637	16,904,259	14,005,410	301,878	11,197,846	292,167	668,757	26,604
1949	18,401,445	14,049,810	17,718,558	418,700	10,156,809	354,124	1,374,622	89,554
1950	21,510,390	16,692,007	18,993,314	590,718	5,274,277	242,566	368,571	29,646
1951	30,510,360	25,843,951	16,960,592	609,816	2,070,449	108,603	616,359	56,424
1952	26,822,885	22,864,041	13,289,965	587,712	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	14,566,055	1,077,932	1,636,927	241,145

(a) From 1915, year ended 30th June. (b) Six months ended 30th June.

† Figures exclude Ships' Stores, separate particulars of which are not available.

EXPORTS OF CERTAIN COMMODITIES (INCLUDING SHIPS' STORES)—continued

Year. (a)	Flour.		Butter.		Potatoes.		Fresh Fruit (b)	Cattle.	Sheep.
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Value.	Value.	Value.
	Short Ton†	£	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	881
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	981
1907	..... 4,087	..... 34,565	.....	.....	.....	.....	..... 925	..... 600	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 (c)	..... 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	..... 218,389	..... 33,719	..... 2,353	..... 906	..... 10,352	..... 22,236	..... 70,845	4,359
1917	..... 37,972	..... 424,362	..... 53,061	..... 3,020	..... 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	13,889
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	..... 139,917	..... 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	..... 2,694	..... 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	..... 247,370	..... 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	..... 536,602	..... 14,529	..... 231,288	..... 882,943	..... 5,542	186,973
1950	..... 116,199	..... 4,178,932	..... 3,527,671	..... 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	..... 7,566,051	..... 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	..... 699,583	..... 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	..... 122,569	..... 3,354	..... 135,278	..... 2,045,049	..... 88,492	312,345

(a) From 1915, year ended 30th June.
(d) Not available. † 2,000 lb.

(b) Including Tomatoes.

(c) Six months ended June.

EXPORTS OF CERTAIN COMMODITIES (INCLUDING SHIPS' STORES)—*continued*

Year. (a)	Hides.	Skins.	Timber.		Pearl Shell.	Asbestos.	Manganese Ore.	Iron Ore.
	Value.	Value.	Quantity. (c)	Value.	Value.	Value.	Value.	Value.
	£	£	Loads.	£	£	£	£	£
1850	....	329	210	1,048	....	....	....	....
1860	....	56	1,096	4,932	....	....	....	....
1870	....	195	3,144	17,551	9,431	....	....	....
1880	826	2,947	13,251	66,252	39,710	....	....	....
1890	196	24,207	23,444	82,052	86,293	....	....	....
1900	20,803	54,099	114,508	458,461	86,513	....	....	....
1901	22,337	64,222	143,012	572,354	105,730	....	....	....
1902	24,082	87,374	125,135	500,533	138,689	....	....	....
1903	24,878	103,747	154,969	619,705	174,322	10	....	....
1904	24,204	102,068	161,446	654,949	124,505	....	....	....
1905	25,197	143,083	174,190	689,943	146,832	....	....	....
1906	25,846	159,854	176,614	708,993	142,682	....	....	....
1907	28,055	158,623	128,191	511,923	169,815	....	....	....
1908	25,443	112,488	197,390	813,591	190,741	....	....	....
1909	27,362	170,293	216,609	867,419	174,960	....	....	140
1910	35,788	205,436	241,482	972,698	248,068	....	....	....
1911	39,065	134,275	248,990	986,341	240,764	....	....	7
1912	42,800	139,635	225,942	903,396	421,609	....	4	....
1913	59,407	197,010	272,397	1,089,481	274,724	....	....	....
1914	25,485	78,990	125,595	502,153	85,922	....	....	....
1915	33,811	116,120	199,370	808,392	161,389	....	....	....
1916	86,781	165,041	108,646	442,014	158,597	....	3	....
1917	57,839	164,667	74,332	310,893	196,977	....	....	....
1918	53,486	150,252	68,892	274,280	143,779	25	....	....
1919	30,580	241,371	82,716	332,980	117,816	97	....	....
1920	51,234	571,795	101,307	465,734	335,283	....	....	....
1921	19,116	360,558	197,824	1,137,223	234,936	6,666	10	....
1922	54,607	310,542	166,144	1,040,640	253,779	4,195	135	....
1923	52,624	493,353	152,224	997,454	214,534	....	120	....
1924	50,275	469,973	222,780	1,367,713	243,680	....	80	9
1925	55,006	422,431	236,886	1,477,997	234,349	....	160	....
1926	37,390	403,913	240,028	1,522,958	232,647	....	....	....
1927	46,350	329,654	262,225	1,655,692	212,337	....	503	....
1928	75,428	477,716	207,686	1,265,321	166,005	....	303	....
1929	81,885	468,439	152,704	960,435	172,376	....	....	1
1930	43,653	325,436	130,830	803,154	165,700	....	230	....
1931	52,311	217,348	81,969	503,696	167,218	....	....	....
1932	29,373	168,186	60,628	357,953	97,237	....	2	....
1933	32,974	206,954	43,889	258,510	147,025	....	....	....
1934	38,787	346,578	80,540	484,241	97,930	....	....	....
1935	40,186	279,613	105,352	631,228	94,336	....	....	....
1936	53,054	477,221	111,062	675,932	106,948	....	....	....
1937	76,054	495,480	113,475	699,613	123,388	....	....	....
1938	74,585	417,829	150,914	932,394	168,106	18,270	....	....
1939	61,509	306,430	114,066	721,941	105,880	12,866	....	....
1940	53,499	319,121	100,680	628,352	76,306	8,388	....	....
1941	46,944	242,918	121,825	790,382	76,433	7,404	....	....
1942	22,707	363,302	104,465	699,661	70,846	3,443	....	....
1943	21,712	152,119	70,408	605,940	710	4,017	....	....
1944	25,819	314,314	72,907	613,994	304	4,220	....	....
1945	16,188	252,511	57,029	570,028	....	18,221	....	....
1946	26,555	610,433	67,460	722,061	3,789	52,192	....	....
1947	31,063	1,034,539	69,175	863,140	60,048	32,724	....	....
1948	44,081	980,070	71,688	1,099,073	169,896	74,224	....	....
1949	82,116	984,826	63,964	1,006,760	183,439	89,607	10,863	....
1950	70,300	1,094,251	57,159	1,002,150	123,898	102,124	63,100	....
1951	123,495	2,523,395	46,850	918,485	116,738	189,063	77,069	....
1952	173,724	1,423,207	47,765	1,037,758	190,669	354,508	57,741	51,191
1953	130,640	1,840,181	79,309	2,164,637	204,568	494,953	128,027	539,275
1954	120,410	1,527,033	77,197	2,241,042	283,437	492,839	414,361	578,602
1955	140,107	1,320,174	69,581	1,923,618	346,766	394,060	344,050	574,653
1956	187,203	1,449,702	90,985	2,799,170	417,904	719,928	635,312	468,127

(a) From 1915, year ended 30th June. (b) Six months ended June. (c) A load represents 50 cubic feet. For years 1906 to 1921 approximate figures only.

TRADE ; GOLD AND COAL PRODUCTION

Year.	Gold (Bullion and Specie). (a) (b)	Silver, 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.	Value.				
	£	£	£	£	£	Fine ozs.	£	Tons.	£
1850	....	55	....	22,135	52,351	....	....	....	....
1860	....	985	....	80,247	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	6,749,638	....	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	86,188
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	1,983,230	8,424,226	138,550	67,174
1905	7,538,051	....	76,778	9,871,019	6,481,874	1,955,316	8,305,654	127,364	55,312
1906	7,344,050	....	138,634	9,832,679	6,820,933	1,794,547	7,622,749	149,755	57,908
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	62,989	8,860,494	6,406,960	1,565,269	6,776,274	214,302	90,965
1910	4,568,868	2,058	40,261	8,299,781	7,908,386	1,470,632	6,246,848	262,166	113,699
1911	6,965,517	15,389	55,220	10,606,863	8,645,938	1,370,867	5,823,075	249,899	111,154
1912	5,250,094	22,663	79,738	8,941,008	9,550,457	1,282,658	5,448,385	295,079	135,557
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	c2,280,096	(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	8,993,000	1,061,398	4,508,532	301,526	147,823
1917	9,129,061	3,717	66,519	14,683,027	9,885,010	970,317	4,121,645	326,550	191,322
1918	2,200,061	4,640	55,132	5,807,335	7,649,233	876,511	3,723,183	337,039	204,319
1919	4,985,204	3,794	55,850	10,922,675	7,977,450	734,066	3,748,882	401,713	200,355
1920	3,398,226	51,087	64,401	16,068,790	12,368,331	617,842	3,475,392	462,021	350,346
1921	1,789,657	33,269	20,590	12,258,639	14,839,241	553,731	2,953,693	468,817	407,117
1922	2,948,501	....	5,087	13,628,883	12,037,779	538,246	2,625,811	438,443	381,556
1923	2,218,887	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	14,635	14,664,548	16,074,035	441,252	1,874,320	437,461	363,203
1926	1,046,148	92,849	11,740	14,581,657	16,462,572	437,343	1,857,716	474,810	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	18,237,633	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	420,706
1930	4,636,368	9,734	14,612	17,769,629	18,781,656	417,518	1,864,442	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	16,296,086	11,389,900	505,561	4,403,642	415,720	270,630
1933	4,734,346	32	3,407	15,537,412	13,140,922	637,207	4,886,254	453,398	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	665,075	331,655
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	1,167,781	10,363,023	604,792	375,083
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	364,500
1941	12,547,760	948	5,890	24,839,479	18,614,730	1,109,318	11,851,445	556,574	389,278
1942	10,295,050	1,134	2,970	25,351,494	18,250,537	848,181	8,865,495	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	646,265	4,899,997	558,322	583,076
1945	....	742	2,519	19,403,933	18,039,357	648,550	5,010,541	543,363	572,896
1946	....	179	4,021	26,544,880	21,928,149	616,964	6,040,069	642,287	730,104
1947	....	2,714	6,080	29,720,015	30,591,097	703,886	7,575,574	730,650	840,249
1948	3,827,850	72,924	8,523	55,731,230	42,819,781	664,986	7,156,909	732,938	880,236
1949	....	117,302	15,478	55,593,840	52,628,846	648,426	7,962,808	760,594	972,245
1950	1,177	136,755	24,659	61,865,636	69,443,677	610,333	9,466,270	814,352	1,287,749
1951	....	131,607	30,767	111,857,881	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	98,480,631	823,912	13,299,092	886,182	3,073,073
1954	6,615,109	135,060	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	96,094,094	141,702,541	842,005	13,374,688	903,792	3,089,311
1956	6,420,786	448,429	160,836	115,671,798	135,457,065	812,380	13,202,400	830,007	2,723,981

(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, £539,358; in 1953, £535,330; in 1954, £83,839; in 1955, £19,230; and in 1956, £12,154.

(f) Inclusive of Gold Exported in Ores and Concentrates. ‡ Inclusive of Commonwealth Net Subsidy paid to producers in 1955, £199,129, and in 1956, £496,319.

WOOL PRODUCTION; LAND SETTLEMENT; LIVE STOCK

Year.	Wool Production. (b)		Land Settlement. (d)		Live Stock (as at 31st December) (a).			
	Quantity.	Gross Value. (c)	Alienated and in Process of Alienation at end of Year.	Crown Leases or Licenses at end of Year. (e)	Horses.	Cattle.	Sheep.	Pigs.
	lb.	£	Acres.	Acres.	No.	No.	No.	No.
1829	.....	SSSSSS	(h)525,000	.....	57	204	1,469	109
1830	.....	SSSSSS	(h)633,345	.....	101	583	7,981	66
1840	.....	SSSSSS	1,597,697	.....	506	2,318	30,961	1,533
1850	.....	SSSSSS	1,329,821	(g)	2,635	13,074	128,111	3,190
1860	657,000	SSSSSS	1,515,700	5,563,023	9,555	32,476	260,136	10,991
1870	1,788,000	SSSSSS	1,465,118	12,239,111	22,174	45,213	608,892	12,927
1880	4,343,000	SSSSSS	2,124,701	44,919,631	34,568	63,719	1,231,717	24,232
1890	6,969,000	SSSSSS	5,333,611	104,742,419	44,384	130,970	2,524,913	28,985
1900	9,531,000	SSSSSS	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	61,952
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	65,203
1907	22,014,000	875,057	13,070,006	160,180,142	113,330	717,377	2,684,974	53,399
1908	22,451,000	685,691	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	57,028
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	47,966
1914	24,419,000	909,608	21,648,949	184,220,512	161,625	883,835	4,456,186	59,816
1915	29,713,000	1,303,660	22,087,323	189,742,326	163,016	821,048	4,893,850	58,231
1916	33,093,000	1,963,050	21,709,705	196,706,909	169,730	883,930	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	85,863
1919	41,594,124	2,684,695	21,843,426	245,404,541	174,910	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	6,595,867	61,478
1924	43,423,989	4,675,624	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	160,821	846,735	8,447,480	59,810
1928	58,865,734	4,013,385	33,322,223	237,428,216	160,876	837,527	8,943,002	49,243
1929	67,150,720	2,976,114	35,398,760	243,723,857	159,528	836,646	9,556,823	64,522
1930	71,641,885	2,414,433	36,039,118	245,389,756	156,973	812,844	9,882,761	100,064
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	11,197,156	97,997
1935	85,706,700	4,443,118	34,117,635	203,601,662	160,181	882,761	11,082,952	98,026
1936	63,537,290	3,652,879	32,995,173	203,961,422	155,777	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	64,598
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	3,790,436	32,767,548	205,705,440	139,207	799,175	9,574,433	149,004
1940	71,347,000	3,944,264	32,437,094	209,379,761	130,057	788,928	9,516,272	217,910
1941	77,627,000	4,164,160	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	211,535,700	112,782	831,231	10,424,385	151,958
1943	102,759,000	6,370,720	31,667,609	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	98,180	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	98,527,502	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	80,680
1949	92,750,214	23,618,372	32,279,956	223,691,028	59,166	864,936	10,925,167	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	35,860,512	206,437,832	48,770	829,694	13,087,108	100,812
1954	124,173,000	39,992,564	37,236,541	206,566,189	46,886	860,574	13,411,282	107,039
1955	149,704,000	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	14,880,549	139,982

(a) Figures for 1942 and subsequent years are as at 31st March of the following year. (b) Includes "Fell-mongered and Dead Wool" but excludes "Wool Exported on Skins." Figures up to 1947 are for years ended 31st December, thereafter for the 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 1945, at 31st December, thereafter at 30th June. (e) Including certain Leases and Licenses issued by the Mines and Forests Departments—see also note f. (f) Not available. (g) Licenses to occupy Crown Lands first issued in 1848: the records prior to 1848 are not available. (h) Absolutely alienated. † Drop in area mainly due 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.	Produc- tion.	Area.	Produc- tion.
			Per Acre.	Total.					
				Quantity.	Gross Value.				
Acres.	Acres.	Bushels.	Bushels.	£	Acres.	Bushels.	Acres.	Bushels.	
1829	(a)	(a)	(a)	(b)	(b)	(b)	(b)	(b)	
1830	(a)	(a)	(a)	(b)	(b)	(b)	(b)	(b)	
1840	2,921	1,670	20.00	33,400	(b)	(b)	(b)	(b)	
1850	7,419	4,416	(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	310,769	(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	40,255
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	1,679,772	1,249,762	7.44	9,303,787	2,209,649	95,666	908,592	5,028	35,761
1918	1,605,083	1,146,103	7.72	8,845,387	2,211,347	141,459	1,499,689	9,987	81,451
1919	1,623,168	1,041,827	10.77	11,222,950	5,330,901	191,931	2,486,918	7,167	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	1,552,568	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	2,710,866	1,867,614	12.79	23,837,397	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	31,068,600	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	8,860,618	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	6,777,190	285,850	3,603,447	13,772	135,243
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	7,307,300	407,259	5,325,456	68,388	950,364
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	1,597,016	10.56	16,550,000	4,765,639	358,129	3,964,032	61,400	723,964
1944	2,756,022	1,515,762	10.51	15,929,000	4,159,287	401,968	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	866,949
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	2,760,440	12.50	34,500,000	25,132,282	494,589	5,410,533	83,136	744,522
1948	4,102,348	2,807,517	12.04	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	67,966	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	793,122	9,590,643	209,201	2,733,177
1954	5,042,356	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	4,653,056

(a) Agricultural returns for these years are not available, though it is well 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 year following; for 1943 onwards for the season ended last day of 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.	Produc- tion.	Agriculture.	Dairying, Poultry and Bee farming.	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	149,830	158,112							
1907	131,056	137,511							
1908	201,874	170,008							
1909	158,629	195,182					(c)	(c)	(c)
1910	175,432	178,801							
1911	344,032	299,695							
1912	231,690	255,751							
1913	248,640	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	586,540	3,030,234	5,528,405			
1916	240,726	236,989	5,899,663	691,366	3,670,066	5,968,341			
1917	265,809	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	4,303,432			
1919	327,468	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	1,174,851	5,292,235	2,869,254				
1923	329,534	368,122	7,587,964	1,241,422	6,513,581	2,722,824		320,930	
1924	397,591	448,525	11,133,727	1,362,014	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) 455,250	(c) 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	23,102,951
1927	357,065	416,707	13,094,025	1,343,673	7,343,577	2,348,913	1,459,021	258,155	25,804,240
1928	414,866	421,504	11,942,067	1,467,753	6,750,319	2,204,254	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	20,860,883
1930	398,411	491,595	8,877,875	1,584,978	4,422,575	2,347,538	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	1,696,074	4,028,270	4,345,554	591,410	215,077	17,418,817
1933	479,768	512,439	9,511,096	1,657,318	6,684,416	5,303,171	823,941	202,970	20,432,222
1934	413,138	462,947	8,167,869	1,968,338	4,727,974	5,969,261	1,199,693	186,626	20,372,642
1935	494,495	504,571	8,522,423	1,948,386	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	5,713,359	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	206,130	27,972,618
1938	408,276	437,809	8,538,688	2,353,189	4,723,565	11,102,334	1,449,716	230,301	26,763,445
1939	395,639	475,677	11,598,791	2,427,580	5,900,989	12,517,427	1,329,823	230,914	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	3,331,973	8,172,499	9,487,594	1,693,701	127,355	34,077,181
1943	282,456	314,359	9,252,070	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	4,460,485	11,225,456	7,702,257	1,652,657	317,394	45,923,834
1947	229,172	267,901	32,349,539	4,594,796	18,715,106	8,869,798	1,324,300	567,749	71,987,304
1948	226,779	277,329	29,392,579	5,981,981	23,365,023	8,771,666	2,012,180	689,438	76,564,837
1949	216,320	272,052	34,843,016	6,487,739	29,539,589	9,351,506	2,250,678	715,872	91,907,856
1950	176,990	226,705	43,876,771	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	10,644,935	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	3,839,662	1,905,752	152,251,009
1954	289,329	305,052	38,552,102	10,580,776	43,884,930	21,325,541	4,057,889	2,191,669	146,131,160
1955	269,439	333,784	54,854,648	11,216,389	44,826,886	20,599,437	5,236,982	2,457,393	169,946,624

(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, £398,545.

(e) Includes Secondary Industries figures for 18 months ending 30th June, 1926. † Represents "Gross Value" less "Marketing Costs" and "Value of Goods Consumed in the processes of production."

MANUFACTURING †

Year (a)	Fac- tories	Persons Em- ployed (b)	Salaries and Wages Paid (c)	Output (d)	Net Pro- duction (e)	Certain Items of Factory Production.							
						Bricks (f)	Cement	Timber (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 gals.	2,000 lb	'000 K. W. H.
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	1,760	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	2,200	6,826	3,582	34,432	....	217,696	†	200	5,419	49,319	24,704
1913	954	18,372	2,338	7,299	3,762	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	914	13,350	1,743	7,062	3,099	17,488	....	85,218	†	608	5,018	102,300	30,252
1918	862	13,849	1,803	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	3,508	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	28,669	†	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	969	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	6,588	21,450	9,612	53,336	15,636	328,935	1,875	836	7,593	190,369	99,853
1926	1,216	19,403	4,151	15,672	6,907	45,204	17,050	229,195	1,123	1,100	5,615	133,919	75,139
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	75,139
1928	1,398	20,435	4,501	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	1,089	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	11,353	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	194,603
1937	2,032	22,712	4,168	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	55,062	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	48,701	140,847	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	140,013	2,729	6,991	8,384	135,338	313,625
1943	1,799	25,813	6,478	26,758	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	12,360	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	50,450	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	353,775
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	17,784	224,330	469,209
1954	3,523	47,459	31,500	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)	179,362	626,928

(a) Calendar years to 1924, thereafter years ended 30th June. (b) Average over the full twelve months and inclusive of Working Proprietors. (c) From 1908 to 30th June, 1929, figures include value of Proprietors' Services, thereafter they represent amount paid to employees only. (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. † Not available. ‡ For the purpose of these statistics the term "Manufacturing" embraces the activities of industrial establishments (factories) in which four or more hands were employed or motive power was used in the processes of manufacturing, assembling, treating or repairing.

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. Weighted Average, Six Capital Cities.
	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.		
Nov. 1914	746	586	698	780	(b)	(b)	(b)	(b)	707	(b)	712	671	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)	802	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	1350	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	1043	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	767	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	730	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	1020	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	

(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.

BASIC WAGE RATES IN CAPITAL CITIES AS AT 31st DECEMBER OF EACH YEAR

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.	£ 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 7 6	
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 (c) (d)	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 (d)	12 6 6	8 0 3	11 16 0	12 3 0	11 16 0	10 18 0	11 11 0	12 2 0	11 16 0	11 16 0	
1955 (d)	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 (e)	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	

(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. (c) On 12th September, 1953, the Commonwealth Court of Arbitration announced that automatic adjustment of basic wages in accordance with variations in retail price index numbers would be discontinued. (d) Despite variations in the "C" Series prices index, decisions of the State Court on the 13th November, 1953, and each succeeding quarter until 27th April, 1955, kept the State basic wage unchanged until the 9th August, 1955, when the Court reverted to the practice of making quarterly adjustments. (e) The Commonwealth basic wage rates since 12th September, 1953, remained unchanged until 25th May, 1956, when the Court granted an increase of 10s. in the adult male rate.

APPENDIX

As mentioned in the Preface, the text and the statistical tables appearing in this Volume relate generally to periods ended the 30th June or the 31st December, 1956. It has not been possible in all cases to include information up to these dates in the main chapters and the purpose of this Appendix is to supply a summary of the later particulars which do not appear there.

This Office produces a number of periodical publications, in both printed and mimeographed form containing a wide range of current statistics. A complete list of these publications follows the Index.

CHAPTER IV—POPULATION AND VITAL STATISTICS
PART 1—POPULATION

Page 76

RATE OF NATURAL INCREASE PER THOUSAND OF MEAN POPULATION

Year.	Western Australia.		Australia.
1955	17·07
1956	16·75

Page 78

MIGRATION—WESTERN AUSTRALIA AND AUSTRALIA

Year.		Migration (Excess of Arrivals over Departures).					
		Western Australia.		Other States and Territories.		Australia.	
		Number.	Rate. (a)	Number.	Rate. (a)	Number.	Rate. (a)
1955	....	10,001	15·32	87,164	10·20	97,255	10·57
1956	....	2,741	4·05	91,257	10·43	93,998	9·97

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

TOTAL INCREASE OF POPULATION—1st July, 1954 to 31st December, 1956

			Western Australia.	Australia.
Number ....	....	....	45,064	546,804
Per cent.	....	....	7·04	6·08

NATURAL INCREASE—1st July, 1954 to 31st December, 1956

Metropolitan Area.	Rest of State.	Western Australia.
12,514	15,348	27,862

ESTIMATED POPULATION—31st December, 1956

Metropolitan Area	Western Australia
372,000	684,835

Page 79

POPULATION DENSITY (Persons per Square Mile)—31st December, 1956

Metropolitan Area.	Western Australia.	Victoria.	Australia.
1,947	0.70	29.96	3.20

Page 80

MASCULINITY† OF POPULATION—31st December, 1956

New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
100.9	101.8	105.6	103.0	106.4	105.9	102.7

† Number of males to each 100 females.

PART 2—BIRTHS, DEATHS AND MARRIAGES

Page 85

BIRTHS—METROPOLITAN AREA AND WHOLE STATE

Year.	Births.*			Ex-Nuptial Births.*	Multiple Births.*	Still-births.
	Males.	Females.	Persons.	Persons.	Persons.	Persons.
METROPOLITAN AREA						
1955	4,200	4,110	8,310	362	216	114
1956	4,591	4,128	8,719	370	184	111
REMAINDER OF STATE						
1955	4,236	4,077	8,313	418	200	125
1956	4,279	3,918	8,197	426	207	115
WHOLE STATE						
1955	8,436	8,187	16,623	780	416	239
1956	8,870	8,046	16,916	796	391	226

* Excluding still-births.

Page 87

CRUDE BIRTH RATES—WESTERN AUSTRALIA AND AUSTRALIA

Period.	Average Annual Rate.		Year.	Annual Rate.	
	Western Australia.	Australia.		Western Australia.	Australia.
1951-1955	25.35	22.85	1955	25.23	22.57
			1956	24.98	22.50

Page 88

DEATHS—METROPOLITAN AREA AND WHOLE STATE

Year.	Deaths.*			Infant Deaths.†		
	Males.	Females.	Persons.	Males.	Females.	Persons.
METROPOLITAN AREA						
1955	1,800	1,522	3,322	112	75	187
1956	1,942	1,540	3,482	88	68	156
REMAINDER OF STATE						
1955	1,306	751	2,057	105	81	186
1956	1,323	767	2,090	123	105	228
WHOLE STATE						
1955	3,106	2,273	5,379	217	156	373
1956	3,265	2,307	5,572	211	173	384

* Including Infant Deaths.

† Deaths occurring in the first year of life.

Page 88

CRUDE DEATH RATES—WESTERN AUSTRALIA AND AUSTRALIA

Period.	Average Annual Rate.		Year.	Annual Rate.	
	Western Australia.	Australia.		Western Australia.	Australia.
1951-1955 	8.49	9.25	1955 	8.17	8.91
			1956 	8.23	9.13

Page 90

INFANT MORTALITY RATES—WESTERN AUSTRALIA AND AUSTRALIA

Period.	Average Annual Rate.		Year.	Annual Rate.	
	Western Australia.	Australia.		Western Australia.	Australia.
1951-1955 	24.41	23.34	1955 	22.44	22.01
			1956 	22.70	21.73

INFANT DEATHS (a)

Year.	Cause of Death.											
	Diseases of Early Infancy. (b)		Congenital Malformation.		Diseases of Digestive System.		Infective and Parasitic Diseases.		All Other Causes.		Total.	
	Number.	Rate. (c)	Number.	Rate. (c)	Number.	Rate. (c)	Number.	Rate. (c)	Number.	Rate. (c)	Number.	Rate. (c)
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

(a) Excluding still-births.

(b) Including premature births.

(c) Rate per 1,000 live births.

INFANT DEATHS FROM DIARRHOEA AND ENTERITIS

Number	1955.	1956.
Rate per 1,000 live births	7 0.42	5 0.30

Page 91

STILL-BIRTHS AND INFANT DEATHS

Year.	Still-births.				Deaths under One Year of Age.			
	Males.	Females.	Persons.	Masculinity.*	Males.	Females.	Persons.	Masculinity.*
1955 	126	113	239	111.5	217	156	373	139.1
1956 	113	113	226	100.0	211	173	384	122.0

* Number of males to each 100 females.

Page 91

STILL-BIRTHS AND INFANT DEATHS—NUMBERS AND RATES

Year.	Still-births.	Infant Deaths.			Still-births and Infant Deaths.
		Under one Week.	Under One Month.	Under One Year.	
NUMBER					
1955	239	224	266	373	612
1956	226	223	269	384	610
RATE*					
1955	14.17	13.28	15.78	22.12	36.29
1956	13.18	13.01	15.69	22.40	35.59

* Rate per thousand of total births (i.e., including still-births).

Page 93

DEATHS CLASSIFIED ACCORDING TO PRINCIPAL CAUSES

Cause of Death.	1955.		1956.	
	Number.	Rate. (a)	Number.	Rate. (a)
Tuberculosis	33	0·05	46	0·07
Cancer	761	1·16	803	1·19
Diabetes mellitus	63	0·10	63	0·09
Cerebral hæmorrhage, etc.	664	1·01	669	0·99
Diseases of the heart	1,857	2·82	1,896	2·80
Bronchitis	50	0·08	67	0·10
Pneumonia	179	0·27	225	0·33
Diseases of digestive system	172	0·26	181	0·27
Diseases of genito-urinary system	144	0·22	161	0·24
Suicide	81	0·12	89	0·13
Homicide	13	0·02	6	0·01
Automobile accidents	195	0·30	192	0·28
Other accidents	211	0·32	216	0·32

(a) Rate per thousand of mean population.

Page 94

MARRIAGES—METROPOLITAN AREA AND WHOLE STATE

Year.	Marriages Celebrated by—		All Marriages.	Proportion Celebrated by Registrars. (per cent.)	Number of Minors Married.			
	Ministers.	Registrars.			Males.	Females.	Persons.	
METROPOLITAN AREA								
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	
REMAINDER OF STATE								
1955	1,703	360	2,063	17·5	182	871	1,053	
1956	1,708	359	2,067	17·4	193	903	1,096	
WHOLE STATE								
1955	4,150	995	5,145	19·3	379	1,929	2,308	
1956	4,186	894	5,080	17·6	410	1,705	2,315	

Page 94

MARRIAGE RATES*—WESTERN AUSTRALIA AND AUSTRALIA

Period.	Average Annual Rate.		Year.	Annual Rate.	
	Western Australia.	Australia.		Western Australia.	Australia.
1951-1955	8.44	8.29	1955	7.81	7.84
			1956	7.50	7.61

* Number of marriages celebrated per thousand of mean population.

CHAPTER V—SOCIAL CONDITION

PART 1—EDUCATION

Page 96

PUPILS IN SCHOOLS—JULY, 1956

Grade of Education.	Number of Pupils Receiving Instruction in :—		
	Private Schools.	Government Schools.	Total.
Kindergarten	3,781	.....	3,781
Primary	20,335	82,575	102,910
Secondary—			
Years I to III (a)	6,552	16,910	23,462
Years IV and V (b)	1,254	1,249	2,503
Total	31,922	100,734	132,656

(a) Children preparing for the Junior Certificate examination or doing work of a comparable standard.

(b) Children preparing for the Leaving Certificate examination or doing comparable work.

GOVERNMENT HIGH SCHOOLS (a), 1956

Schools at end of Year.		Teachers.			Scholars on Roll at end of Year. (b)			Average Weekly Enrolment. (b)	Average Daily Attendance. (b)
Type.	No.	Males.	Females.	Total.	Males.	Females.	Total.		
Five Year Course	11	280	117	397	4,283	3,070	7,353	7,743	7,390
Three Year Course	9	145	161	306	2,718	3,426	6,144	6,006	6,265
Total	20	425	278	703	7,001	6,496	13,497	14,349	13,655

(a) Excluding Junior High Schools.

(b) Including some 250 primary scholars attending High Schools.

Page 97

PRIVATE SCHOOLS, INCLUDING KINDERGARTENS, 1956

Schools.	Teachers.		Scholars on Roll last School Day.									Average Weekly Enrol- ment.	Average Daily Attend- ance.
			Boys.				Girls.				Grand Total.		
	Males.	Females	Under 6 Years.	6 Years and Under 14	14 Years and Over.	Total.	Under 6 Years.	6 Years and Under 14	14 Years and Over.	Total.			
275	252	842	2,361	10,326	3,098	15,785	2,157	11,226	2,914	16,297	32,082	31,761	20,920

Page 99

TECHNICAL EDUCATION DIVISION—1956

Individual Enrolments	....	....	....	....	18,803
Correspondence Enrolments	....	....	....	....	5,889
Apprentice Enrolments	....	....	....	....	†5,462
Number of Subjects Offered	....	....	....	....	376

† Included in "Individual Enrolments."

Page 104

UNIVERSITY OF WESTERN AUSTRALIA—TUITION, 1956

Staff—		
Professors	....	22
Readers/Lecturers-in-Charge	....	20
Lecturers (a)	....	122
Assistants, Demonstrators, Tutors, etc.	....	37
Total Staff	....	201
Students Enrolled—		
Internal, full-time	....	1,089
Internal, part-time	....	839
External, part-time	....	300
Males	....	1,704
Females	....	524
Total Students	....	2,228
Degrees Conferred (b)—		
Arts—D.Litt.	....	....(c) 2
M.A.	....	2
B.A.	....	72
Law—LL.B.	....	9
Education—B.Ed.	....	10
Science (including Forestry)—		
D.Sc.	....	1
Ph.D.	....	4
M.Sc.	....	2
B.Sc.	....	23
Engineering—B.E.	....	33
Agriculture—B.Sc.	....	7
Dental Science—B.D.Sc.	....	8
Males	....	128
Females	....	45
Total Graduates	....	173
Certificates Awarded—		
Teachers'	....	19

(a) Includes "part-time" as well as "full-time" Lecturers.

(b) These do not comprise the full range of degrees available in the University, being only those conferred in this year.

(c) Honorary degrees.

Page 105

UNIVERSITY OF WESTERN AUSTRALIA
FINANCIAL STATEMENT OF GENERAL UNIVERSITY ACTIVITIES—1956†

Receipts—	£
Government Grants :	
State	508,312
Commonwealth	164,308
Interest, Rents, Dividends and Donations	13,501
Students' Fees	24,141
Engineering and Other Testing Fees	4,233
Other Receipts	2,074
Total	716,659
Payments—	
Administration :	
Salaries	35,760
Other	21,722
Teaching Departments :	
Salaries	370,517
Other	94,098
Library :	
Salaries	10,987
Other	19,815
Maintenance of Premises :	
Salaries and Wages	26,883
Other	48,761
Adult Education—Senate Subsidy	13,294
Other General Expenditure	42,226
Total	684,003

† Excludes transactions of Medical School Appeal Fund. The appeal was launched on 1st September, 1955 and the net amount received by the Fund to the end of 1956 was £538,076, of which £63,375 had been expended on buildings and equipment.

UNIVERSITY OF WESTERN AUSTRALIA
FINANCIAL STATEMENT OF EXTRA-UNIVERSITY ACTIVITIES, 1956

Receipts—	£
Government Grants :	
State—Adult Education	1,850
Commonwealth—Research	7,611
Non-Government Research Grants	36,591
Interest, Rents, Dividends and Donations	30,369
Candidates' Fees for Public Examinations	32,095
Adult Education and Extension Activities—	
Senate Subsidy	13,294
Fees, etc.	13,558
Other Receipts	8,288
Total	143,656
Payments—	
Expenses—Public and Music Examinations	28,062
Adult Education and Extension Activities	26,217
Scholarships, Bursaries, Prizes, etc.	22,638
Special Research Expenses	46,087
Other Payments	4,738
Total	127,742

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

Page 111

INFANT HEALTH CENTRES AND CORRESPONDENCE NURSING SCHEME—1956

Infant Health Centres—

Number	...	...	...	...	...	58
Attendance of Infants	...	...	...	...	...	214,588
Visits to Households	...	...	...	...	...	20,010

Correspondence Nursing Scheme (not included above)—

Infants on Roll	...	...	...	...	...	767
Letters Received	...	...	...	...	...	795
Letters Despatched	...	...	...	...	...	1,830

PART 6—LAW COURTS, POLICE AND PRISONS

Page 134

CIVIL CASES

Year.	Higher Courts.				Lower Courts.			
	Writs.		Judgments Signed and Entered.		Plaints.		Judgments.	
	Number.	£	Number.	£	Number.	£	Number.	£
1956	715	518,027	270	280,531	40,313	1,255,197	12,460	415,698

DIVORCE

Year.	Writs.	Final Orders for—		
		Dissolution of Marriage.	Nullity of Marriage.	Judicial Separation.
1956	662	544	4	4

Page 136

CONVICTIONS IN MAGISTRATES' COURTS

Year.	Offences against the Person.		Offences against Property.		Forgery and Offences against Currency.		Offences against Good Order.		Other Offences. (a)		All Convictions. (a)		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
1956	489	17	4,430	352	1	...	7,135	481	44,577	2,351	56,682	3,201	59,883

(a) Including traffic offences—see next table.

Page 136

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.
1956	323	15	2,973	330	5,552	360	889	59	299	11	37,473	1,911

(a) In addition there were 32,130 minor traffic offences which were virtually convictions (but not in Magistrates' Courts) as small fines were collected direct by the Crown Law Department from the offenders.

Page 138

CONVICTIONS OF JUVENILES

Year.	Breaking, Entering and Stealing.		Stealing, Receiving, etc.		Wilful Damage.		Traffic Offences.		Other Offences.		All Convictions.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
1956	468	5	1,078	102	90	2	1,753	66	826	29	4,215	204	4,419

HIGHER COURTS—DISTINCT PERSONS CONVICTED

Year.	Offences against the Person.		Offences against Property.		Forgery, Uttering and Offences against Currency.		Offences against Good Order.		Other Offences.		Total.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Persons
1956	44	7	171	6	1	1	2	....	8	1	226	15	241

Page 139

HIGHER COURTS—NATURE OF PUNISHMENT OF DISTINCT PERSONS

Year.	Bound Over.		Fined.		Imprisoned.		Sentenced to Death.		Total.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Persons.
1956	37	5	3	....	184	10	2	....	226	15	241

Page 139

OFFENCES BY ABORIGINALS—CONVICTIONS, 1956

Court.	Offences against the Person.		Offences against Property.		Offences against Good Order.		Other Offences.		All Offences.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Higher Magistrates'	16 93	1 11	..... 178	..... 18	..... 1,379	..... 427	..... 704	..... 144	16 2,354	1 600	17 2,954
Total	109	12	178	18	1,379	427	704	144	2,370	601	2,971

CHAPTER VIII—PRODUCTION

PART 2—SECONDARY INDUSTRY

Page 227

SUMMARY—SELECTED ITEMS, 1955–56

Factories.	Book Values of :—		Engines used to drive Machinery. (a)	Persons Employed. (b)		
	Land and Buildings.	Plant and Machinery.		Males.	Females.	Persons.
No. 3,871	£ 32,858,951	£ 56,533,675	h.p. 223,870	No. 43,340	No. 6,768	No. 50,108

(a) Excludes engines used in electricity generating stations.

(b) Inclusive of working proprietors.

Salaries and Wages Paid (c).			Power, Fuel and Light Used.	Materials Used. (d)	Output.	Net Production.
Males.	Females.	Total.				
£ 34,235,406	£ 2,971,026	£ 37,206,432	£ 8,642,706	£ 96,360,705	£ 175,146,435	£ 69,732,802

(c) Excludes value of working proprietors' services.

(d) Includes cost of repairs to plant and machinery and value of non-returnable containers.

STATISTICAL DIVISIONS

Showing Component Statistical Districts at 1st January, 1957

(See "Note on Statistical Areas," page viii)

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.*Municipalities—*

Bunbury

Road Districts—

Augusta-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

Southern Agricultural—continued.*Road Districts—*

Albany
Broomhill
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
Qualtrading
Tammin
Toodyay
Wandering
Westonia
Wickepin
Williams
Wyalkatchem
York

Northern Agricultural.*Municipalities—*

Geraldton

Road Districts—

Carnamah
Chittering
Dalwallinu
Dandaragan
Geraldton-Greenough
Gingin
Irwin
Mingenew
Moora
Morawa
Mullewa
Northampton

Northern Agricultural—continued.*Road Districts—continued.*

Perenjori
Three Springs
Upper Chapman
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.*Municipalities—*

Carnarvon

Road Districts—

Ashburton
Gascoyne-Minilya
Shark Bay
Upper Gascoyne

Pilbara.*Road Districts—*

Marble Bar
Nullagine
Port Hedland
Roebourne
Tableland

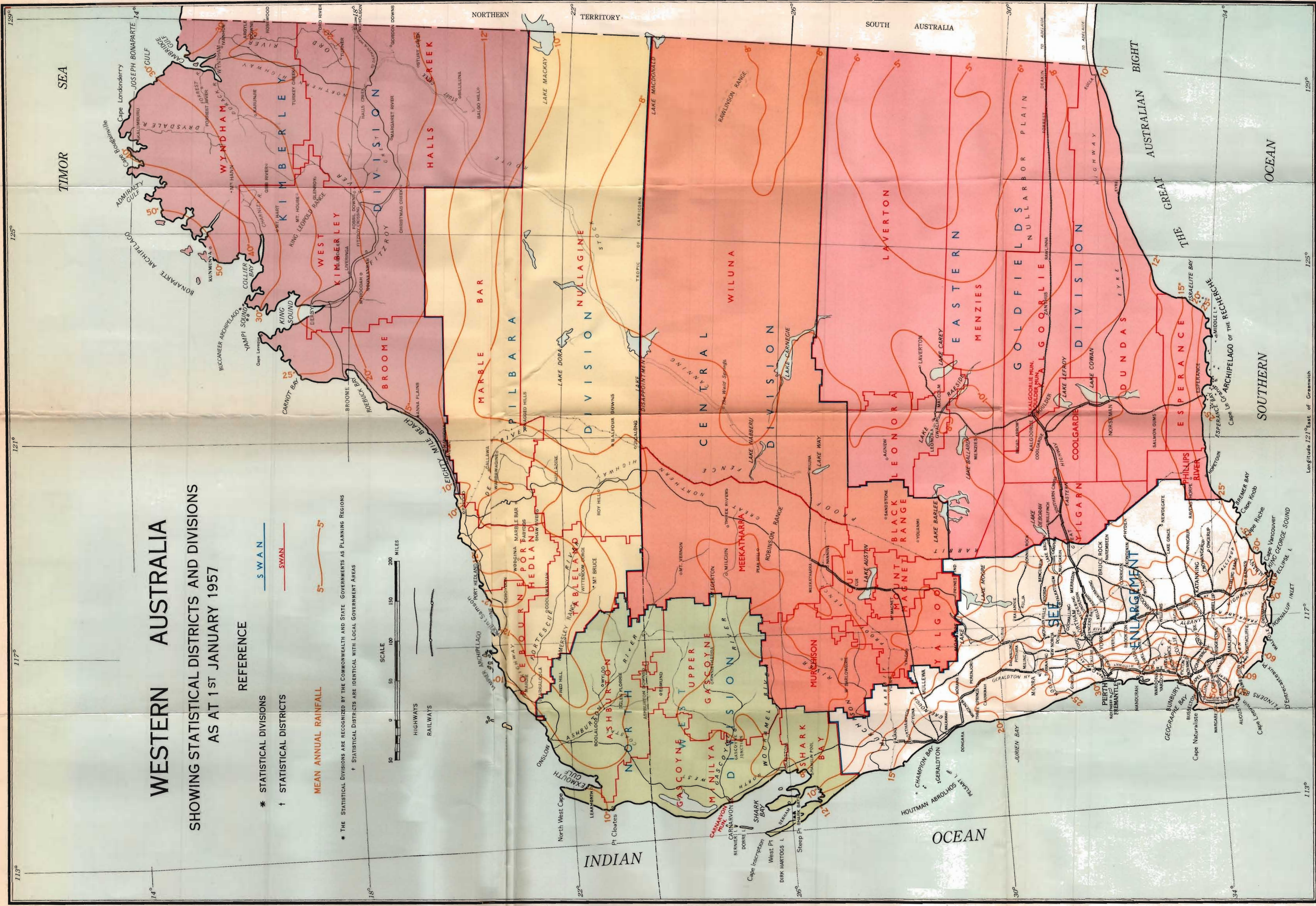
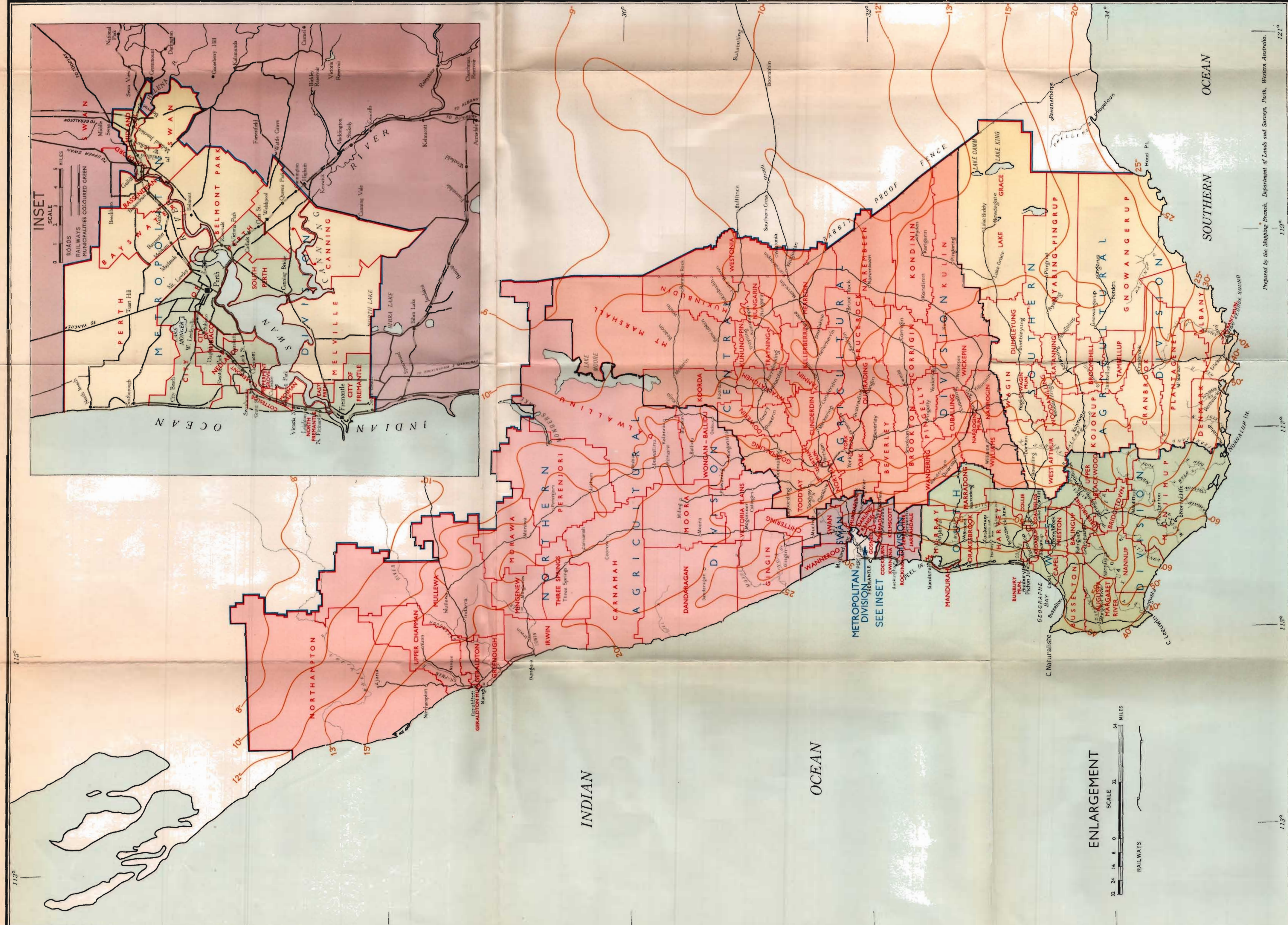
Kimberley.*Road Districts—*

Broome
Halls Creek
West Kimberley
Wyndham

STATISTICAL DISTRICTS
at 1st January, 1957

(See "Note on Statistical Areas," page viii)

Local Government Area. (Statistical District.)	Municipality (M.) Road District (R.D.)	Statistical Division in which Situated.	Local Government Area. (Statistical District.)	Municipality (M.) Road District (R.D.)	Statistical Division in which Situated.
ALBANY	M.	Southern Agricultural	Marradong	R.D.	South-West
Albany	R.D.	Southern Agricultural	Meekatharra	R.D.	Central
Armada-Kelmscott	R.D.	Swan	Melville	R.D.	Metropolitan
Ashburton	R.D.	North-West	Menzies	R.D.	Eastern Goldfields
Augusta-Margaret River	R.D.	South-West	Merredin	R.D.	Central Agricultural
Balingup	R.D.	South-West	MIDLAND JUNCTION	M.	Metropolitan
Bassendean	R.D.	Metropolitan	Mingenew	R.D.	Northern Agricultural
Bayswater	R.D.	Metropolitan	Moora	R.D.	Northern Agricultural
Belmont Park	R.D.	Metropolitan	Morawa	R.D.	Northern Agricultural
Beverley	R.D.	Central Agricultural	Mosman Park	R.D.	Metropolitan
Black Range	R.D.	Central	Mount Magnet	R.D.	Central
BOULDER	M.	Eastern Goldfields	Mount Marshall	R.D.	Central Agricultural
Bridgetown	R.D.	South-West	Mukinbudin	R.D.	Central Agricultural
Brookton	R.D.	Central Agricultural	Mullewa	R.D.	Northern Agricultural
Broome	R.D.	Kimberley	Mundaring	R.D.	Swan
Broomehill	R.D.	Southern Agricultural	Murchison	R.D.	Central
Bruce Rock	R.D.	Central Agricultural	Murray	R.D.	South-West
BUNBURY	M.	South-West	Nannup	R.D.	South-West
Busselton	R.D.	South-West	Narembeen	R.D.	Central Agricultural
Canning	R.D.	Metropolitan	NARROGIN	M.	Central Agricultural
Capel	R.D.	South-West	Narrogin	R.D.	Central Agricultural
Carnamah	R.D.	Northern Agricultural	NEDLANDS	M.	Metropolitan
CARNARVON	M.	North-West	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	Nulagine	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	Qualradling	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	Swan (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 Chapman	R.D.	Northern Agricultural
GUILDFORD	M.	Metropolitan	Upper Gascoyne	R.D.	North-West
Halls Creek	R.D.	Kimberley	Victoria Plains	R.D.	Northern Agricultural
Harvey	R.D.	South-West	WAGIN	M.	Southern Agricultural
Irwin	R.D.	Northern Agricultural	Wagin	R.D.	Southern Agricultural
KALGOORLIE	M.	Eastern Goldfields	Wandering	R.D.	Central Agricultural
Kalgoorlie	R.D.	Eastern Goldfields	Wanneroo	R.D.	Swan
Katanning	R.D.	Southern Agricultural	West Arthur	R.D.	Southern Agricultural
Kellerberrin	R.D.	Central Agricultural	West Kimberley	R.D.	Kimberley
Kojonup	R.D.	Southern Agricultural	Westonia	R.D.	Central Agricultural
Kondinin	R.D.	Central Agricultural	Wickepin	R.D.	Central Agricultural
Koorda	R.D.	Central Agricultural	Williams	R.D.	Central Agricultural
Kulin	R.D.	Central Agricultural	Wiluna	R.D.	Central
Kununoppin-Trayning	R.D.	Central Agricultural	Wongan-Ballidu	R.D.	Northern Agricultural
Kwinana	R.D.	Swan	Woodanilling	R.D.	Southern Agricultural
Lake Grace	R.D.	Southern Agricultural	Wyalkatchem	R.D.	Central Agricultural
Laverton	R.D.	Eastern Goldfields	Wyndham	R.D.	Kimberley
Leonora	R.D.	Eastern Goldfields	Yaloo	R.D.	Central
Mandurah	R.D.	South-West	Yilgarn	R.D.	Eastern Goldfields
Manjimup	R.D.	South-West	YORK	M.	Central Agricultural
Marble Bar	R.D.	Pilbara	York	R.D.	Central Agricultural



INDEX

Information on the same subject appearing on succeeding pages, whether in textual, 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", pp. 2-18 of Chapter I. Generally, in these cases, only the first reference appearing there has been indexed.

	Page		Page
A		Area, Areas—continued	
"A" Series Retail Price Index	304, 315	Statistical—see Statistical Divisions	
Aboriginal, Aborigines		under Pasture	182, 190
Offences by	139, 347	Arrivals—see Migration	
Population	79	Arsenious Oxide	224
Accidents		Art Gallery	106
Deaths from	93, 341	Artesian Basins, Bores—see also Water	24, 27, 175
Road Traffic	286	Artificial	
Acetic Acid	228, 241	Fertilizers—see Fertilizers, Artificial	
Acids, Production of	241	Insemination of Dairy Cattle	203, 211
Administration		Asbestos	72, 184, 217, 220, 330
Commonwealth	65	Asphalt, Bitumen, Tar and Pitch, Imports of	254, 208
State	66	Assembly, Legislative	6, 66
Adult Education	103, 105, 344	Assistance to	
Board	103	Indigent and Distressed Persons	129
Aerial Medical Services	9, 290, 293	Industry	227
Age, Ages		Primary Producers	144, 209
of Employees in Factories	231	Assurance, Life	158, 325
Population	80	Atmospheric Pressure	29
Pensions, Pensioners	123, 145	Atomic Explosions	14
Agent-General, London	6, 69	Auction Sales of Crown Lands	166
Agricultural		Auriferous Ores	23, 224
Advisory Services	209	Australia, Commonwealth of	7, 64
Bank	6, 185	Australian	
Education	99	Broadcasting	
Employment	183, 298	Commission	294
Land Purchase—see also Land	165	Control Board	294
Machinery	183, 236, 276, 312	Constitution	64
Population	183	Life Tables	92
Production	181, 334	Loan Council	142
Research	103, 107, 185, 210	National Airways	288
Water Supply	176	Population at Censuses	80
Agriculture—see also specific crops	148, 181, 323, 333	Whaling Commission	216
Department of	103, 109, 151, 176, 185, 191, 203, 208	Wheat Board	186
Employment in	183, 298	Australind, Settlement at	3, 164
Institute of	103, 107	Awards, Industrial	308, 311
Minimum Wage Rates	312		
Protection Board	13, 149	B	
Tropical	15, 179	Baby Health Centres	111, 345
Value of Production	182, 334	Bacon, Ham	
Air Transport	8, 288, 299	Exports	205, 261
Albany Harbour Board	274	Factories	237, 246, 313
Alcoholic Beverages		Production	205, 241, 246, 335
Customs Duty	265, 271	Retail Price	316
Excise	265, 271	Bags and Sacks	
Exports	4	Factories	237, 313
Imports	253, 267	Imports	254, 268
Production	197, 238, 241, 247, 313, 335	Bakeries	237, 242, 313
Ships' Stores	261	Bananas	9, 179, 196, 268
Alc—see Alcoholic Beverages		Bank, Banks	3, 156, 325
Alienation of Crown Lands	164, 170, 332	Advances	157, 325
Altitude of Climatological Stations	31, 40	Agricultural, of Western Australia	6, 185
Antimonial Concentrates	224	Clearings	157, 325
Apiculture—see also Bee-Farming	170, 208, 213	Commonwealth, of Australia	8, 157
Apples		Commonwealth Trading, of Australia	157
Area	194	Deposits	157, 325
Exports	256, 258, 269	Discount Rates	158
Production	194	Employment	299
Apricots		Interest Rates	158
Area	195	Rural and Industries, of Western Australia	10, 147, 149, 157
Dried, Retail Price	316	Savings	4, 158
Production	196	Bankruptcy	162
Arbitration Authorities		Bark	
Commonwealth	304	Ground	242
State	7, 304, 308	Mills	238
Area, Areas		Tanning	52, 213
Irrigated	179	Barley	
Local Government—see also map preceding Index	viii., 349	Imports	254, 268
North of 26° S. Latitude	79	Marketing Board, Western Australian	189
of Crops—see also specific crops	182, 333	Production	184, 188, 333
Crown Lands	171, 332	Barytes	224
Production, Main	72, 79	Basic Wage, Wages	8, 304
Rural Holdings	182, 187, 198, 201, 203, 205	Commonwealth Conciliation and Arbitration	
South-West Land Division	viii	Commission	304
Statistical Divisions	viii		
Western Australia	79		

	Page		Page
Basic Wage, Wages— <i>continued</i>		C	
Commonwealth Court of Conciliation and Arbitration	304	"C" Series Retail Price Index	305, 309, 318, 336
Fixation	304, 308	Cabbages	193
"Harvester" Judgment	304	Cabinet, State	89
History	304, 308	Cable Communication	6, 291
Loadings		Caesium	224
Prosperity	306	Cancer, Deaths from	93, 341
Other	304, 305	Canned Fish— <i>see</i> Fish	
Margins	304, 311	Canning, Alfred W.	7
"Needs" Portion	306	Cargo, Shipping	254, 268, 272
"Piddington" Commission	305	Carrots	193
Rates	307, 310, 315, 337	Cases tried in	
State Court of Arbitration	8, 304	Higher Courts	134, 138, 345
Variation by Retail Price Index—Numbers		Magistrates' Courts	135, 139, 345
"A" Series Index	305, 315	Cattle	3, 72, 181, 197, 207, 276, 332
Automatic Adjustment	305, 308	Beef	200, 207
"C" Series Index	305, 309, 318, 336	Dairy	203, 207
"Court" Series	305	Exports	329
"D" Series Index	305	Herd, Size of	202, 204
Suspension of	305, 309	Research	108, 210
Beans	179, 193, 261	Slaughtered	201
Beds in Hospitals	112	Cauliflowers	193
Bee-Farming— <i>see also</i> Apiculture	170, 182, 184, 208	Causes of Death	90, 92, 340
Beef		Caves	174
Cattle		Cement	225, 228, 241, 312, 335
Numbers	72, 181, 200, 207	Censuses of Population	3, 80
Slaughtered	201	Aboriginals	79
Exports	256, 258, 264, 269, 328	Age	80
Retail Prices	316	Birthplace	82
Beer— <i>see</i> Alcoholic Beverages		Conjugal Condition	84
Bees-Wax	208	Density	79
Beetroot	193	Expectation of Life	92
Benefactions, University	101	Geographical Distribution	14, 10, 302
Benefits		Industry	297
Friendly Societies	161	Intercensal Increase	74, 78
Funeral	123, 145, 161	Masculinity	80
Hospital, Medical and Pharmaceutical	128, 145	Nationality	83
Mental Institution	144	Population of Towns	78
Social Services	123, 145	Population in Statistical Divisions	302
Unemployment and Sickness	124, 145	Religions	83
Workers' Compensation	14	Urban Population	78
Bentonite	224	Work Force	295, 300
Bequests, University	101	Cereals— <i>see specific cereals</i>	
Beryl, Beryllium	217, 221	Cerium	224
Birth, Births	85, 322, 339	Charitable Institutions	115, 131, 150
Ex-nuptial	85, 339	Cheese	
Maternity Allowances	125, 145	Imports	254, 268
Multiple	85, 339	Production	181, 241, 313
Rates	87, 89, 322, 339	Retail Price	316
Registration of	85	Ships' Stores	261
Still-births	90	Chemical Fertilizers— <i>see</i> Fertilizers, Artificial	
Birthplaces of Population	82	Cheque-paying Banks— <i>see</i> Bank, Banks	
Biscuits	242, 254, 261, 268	Cherries	195
Bismuth Concentrates	224	Chest Clinics	109
Bitumen— <i>see also</i> Asphalt, Bitumen, Tar and Pitch	17	Child— <i>see also</i> Juvenile	
Blind, Pension Rates for the	123	Endowment	10, 125, 145
Board— <i>see specific Boards</i>		Welfare	129
Boarded-out Children	130	Children	
Boots and Shoes	237, 241, 246, 298, 313	Adoption of	132
Bores, Artesian— <i>see also</i> Water	24, 27, 175	Boarded-out	130
Bran	241, 246, 261	Courts	130, 133
Bread		Employment of	130, 132
Bakeries	237, 242, 313	Handicapped	96, 100, 115
Production	241	Health Services for	109, 111, 145, 345
Retail Price	316	in Institutions	115, 130
Breweries	238, 242, 247, 313	Neglected	130
Bricks, Brickworks	235, 241, 243, 312, 335	Chromite	217
Broadcasting, Wireless	8, 294	Chronological Notes from 1829	2
Building, Buildings		Cigarette Papers, Excise on	265
Control	120	Cigarettes, Cigars— <i>see</i> Tobacco	
Employment in	298	Cities	4, 70
Factory, Value of	227, 230, 233, 235, 243, 347	Citrus Fruits— <i>see also specific fruits</i>	195, 258
Minimum Wage Rates	312	Clays	217
Operations	120	Climate	29, 47
Societies	161	Climatological Stations	31, 37
Stone	224	Clothing	
Blk Handling of Wheat	9, 185	Factories	231, 237, 298, 313
Bullion and Specie	251, 255, 331	Items of, Production	241
Bunbury Harbour Board	274	Clover, Subterranean	190, 210
Bunker Coal— <i>see</i> Coal		Coal	24, 27, 72, 228
Buses		Bunker	261
Motor	280, 312	carried on Railways	276
Registrations	284, 327	Discovery	3, 5, 221
Trolley	278, 314	Excise on	265, 271
Butter		Gas	234, 239, 241, 249, 314
Exports	256, 261, 269, 329	Imports	254, 268
Factories	247, 313	Mines, Men Working at	222
Imports	254, 268	Mining	
Marketing	203	Leases	169
Production	181, 241, 247, 335	Minimum Wage Rates	314
Retail Price	316		

	Page		Page
Coal—continued		Court, Courts—continued	
Production	184, 217, 221, 331	of Conciliation and Arbitration, Common-	
used in Factories	234, 242, 250	wealth	304
Value	217, 221, 331	Police	133
Coastal Configuration	21	Session	133
Coastline, Length of	21	Supreme	70, 133
Cockburn Sound	3, 14	Crayfish	
Colnage	156	Exports	259, 264, 269
Coke	234, 241, 250	Production	184, 214
Colleges		Species of	56, 215
Agricultural	100	Crime	135, 345
Business	100	Crops—see also specific crops	182, 333
Teachers' Training	100	Crown Land—see Land	
Technical	98, 343	Cupreous Ore	217, 222
University	102	Currants	
Commission—see also Royal		Exports	256, 269
Broadcasting, Australian	294	Retail Price	316
Conciliation and Arbitration, Commonwealth	304	Currency	156
Electricity, State	11, 147, 151, 153, 228, 240	Customs	
Grants, Commonwealth	143	Administration	251, 265
Housing, State	119, 149	Collections	145, 265, 271
Lotteries	9, 111, 131, 150	Tariffs	264
National Debt	142, 148	Cyanides, Imports of	254
Overseas Telecommunications	291	Cycles, Motor	284, 287
War Service Homes	149		
Whaling		D	
Australian	216	"D" Series Retail Price Index	305
International	216	Dairy	
Commissioner, Commissioners		Cattle	203, 207
Conciliation	134, 304	Products, Marketing of	203
of Main Roads	233	Dairying	108, 181, 184, 203, 298, 312, 334
Police	140, 284, 286	Dampier, William	1
Public Health	110	Dams—see also Water	175
Commonwealth		Death, Deaths	86, 322, 339
Aid (Roads)	144, 149	Causes	90, 92, 340
Bank of Australia	8, 157	Infant	90, 339
Basic Wage	304, 337	Rates	88, 322, 340
Conciliation and Arbitration Commission	134, 304	Registration of	85
Constitution	64	Road Traffic Accident	287
Court of Conciliation and Arbitration	304	Sentences	139
Grants Commission	143	Debt, Public	148, 324
Industrial Court	70, 134, 304	Degrees Conferred, University	103, 343
of Australia	7, 64	Dendy Marshall Formula—see Horsepower	
Rehabilitation Service	123	Density of Population	79, 339
Scientific and Industrial Research Organization	15, 103,	Dental Services	111
108, 175, 180, 209		Departures—see Migration	
Trading Bank of Australia	157	Deserted Wives, Assistance to	123, 129
Commonwealth-State		Diabetes Mellitus, Deaths from	93, 341
Financial Agreement	142, 144	Diarrhoea and Enteritis, Deaths from	90, 93, 340
Housing Agreement	119, 149	Diatomaceous Earth, Production of	217
Communication	291, 299, 326	Diphtheria	93, 109
Compensation, Workers'	8, 149, 160	Direction of Trade	262, 270
Comprehensive Water Supply Scheme—see also		Diseases	
Water	18, 175	Deaths from	90, 93, 340
Conciliation and Arbitration		Infectious	110
Commonwealth Court of	304	of Early Infancy, Deaths from	90, 340
Commission, Commonwealth	134, 304	Venereal	110
Conditional Purchase of Freehold Land	165	Divorces	134, 345
Confiscation		Dried Fruits—see Fruits	
Imports	254, 268	Drivers' and Riders' Licences	147, 284
Production	237, 241	Drunkenness	135, 346
Congenital Malformation, Deaths from	90, 340	Duty	
Conjugal Condition of Population	84	Customs	145, 265, 271
Conservation, Waters—see also Water	6, 175	Estate	145
Consolidated Revenue Fund	144, 146, 323	Excise	145, 264, 271
Constitution, Australian and Western Australian	64	Primage	265, 271
Convictions	135, 345	Probate and Succession	147
Convicts	4, 184, 181	Stamp	147
Copper, Copper Ores	4, 185, 210, 217, 222, 274	Tea	265, 271
Correspondence Schools	95, 99	Wool	265
Council, Councils		Dwellings	
Executive	64	Class	116
Legislative	64, 67	Completed	121
Loan, Australian	142	Inmates	116
Municipal—see also Municipalities	70, 120, 154	Material of Outer Walls	118
National Fitness	174	Nature of Occupancy	118
Privy	70, 133	Occupied	116
Court, Courts		Rent of, Weekly	119
Bankruptcy	70	Rooms	117
Children's	130, 133	Unoccupied	115
Convictions	137, 346		
Coroners'	133	E	
Full	70, 133	Eastern Goldfields Transport Board	153, 281
High, of Australia	70, 132	Education	
Industrial, Commonwealth	70, 134, 304	Adult	103, 105, 344
Judges'	70, 132	Agricultural	99
Civil Cases	133, 345	Assistance to, Commonwealth	104
Convictions	138, 346	Board of	
Licensing	135	Central	5, 95
Magistrates'	133	General	
Civil Cases	133, 345		

	Page
Fitness Council, National	174
Flats	116, 121
Flax	
Area	191
Mills	237
Production	10, 191
Fleece Weights	200
Flinders, Matthew	2
Flora— <i>see also</i> Forest, Forests	42, 52
Flour, Wheat	
Exports	185, 256, 258, 261, 269, 329
Milling	237, 246, 313
Production	241, 246, 335
Retail Prices	316
used in Factories	242
Flying Doctor Service, Royal	9, 290, 293
Fodder, Green	190
Foodstuffs— <i>see also specific foodstuffs</i>	
Exports	256, 261, 269
Imports	254, 262, 267
Retail Prices	316
Footwear Factories	237, 245
Forest, Forests	
Administration and Conservation	149, 181, 211
Fire Protection	213
Leases, Licences, Permits	170
Products	52, 184, 213
Situation of	48, 212
State	211
Tenures	170
Tree Species	52, 211
Forestry	
Employment in	298
Value of	182, 184, 334
Forrest	
Alexander	5, 197
John	4, 69, 197
Foundries	235
Free	
Grants of Crown Land	164, 166
Milk for School Children	123
Freehold, Purchases of	165
Freight	
Air	254
Railway	254, 275, 276
Road	254
Sea-borne	254, 268, 272
Fremantle, Charles H.	2
Fremantle	
Harbour Trust	149, 274
Municipal Transport Board	153, 281
Friendly Societies	161
Frosts	36
Fruits— <i>see also specific fruits</i>	
Dried	
Imports	254, 268
Production	197
Fresh	
carried on Railways	276
Exports	256, 258, 261, 269, 329
Imports	254
Production	194
used in Factories	242
Preserved in Liquid	
Factories	237, 242, 313
Imports	254, 268
Retail Prices	316
Fuel Oil— <i>see also</i> Oil, Oils	234
Fuel, Power and Light Consumption, Factories— <i>see also</i> Power, Electric	230, 234, 347
Fund— <i>see specific funds</i>	
Funeral Benefits	123, 145, 161
Furniture Factories	238, 248, 298, 314
G	
Gaols	140
Gas, Coal— <i>see</i> Coal	
Gauges, Railway	274, 277
Geology	21, 62
Gift Duty	145
Giles, Ernest	5, 197
Glass Sand	217
Glaucanite	217
Gold— <i>see also</i> Goldfields	
Discovery	5, 72, 218
Exports	251, 255, 258, 262, 269, 331
Mining	
Employment in	218, 220
Leases	168, 220
Minimum Wage Rates	314

Gold— <i>continued</i>	
Price	258
Production	7, 184, 217, 331
Refined	219
Value	217, 331
Goldfields	
Basic Wage	310
Employment	218, 220
Population	79
Proclaimed	5, 219
Water Supply	6, 176, 179
Goods Traffic, Railway	275
Governor-General	64
Governors, State	64
Grain— <i>see also specific grains</i>	333
carried on Railways	276
Grants	
by Local Government Authorities	152
Commission, Commonwealth	143
for Waterworks	144
of Crown Land	164, 166
Special, Commonwealth	143
State (Tax Reimbursement)	10, 143
to University	105, 144, 344
under Section 96 of Constitution	143
Grapefruit	195
Grapes— <i>see also</i> Vine Fruits	72, 196, 242, 258
Graphite	224
Grasses	47, 51, 108, 185, 190
Grazing— <i>see also</i> Cattle; Pastoral; Pasture; Sheep, Lambs; Wool	165, 182, 190, 197, 298, 312
Gregory, Augustus C., Francis T.	3, 197
Grey, George	3, 197
Group Settlement Scheme	8, 171, 203
Guidance, Educational	98, 100
Gums and Resins	52, 213
Gypsum	20, 28, 217, 242
H	
Hackett, John W.	100
Hail	39
Ham— <i>see</i> Bacon, Ham	
Handicapped Children	96, 100, 115
Harbour Boards	274
Harbours— <i>see</i> Ports	
Hardwoods— <i>see also</i> Jarrah; Karri; Tuart; Wandoo	3, 52, 181, 211
Hartogs, Dirk	1
"Harvester" Judgment	304
Hay	
Area	189, 334
Production	184, 189, 334
Health	
Boards of, Local	109, 150, 153
Department of	109
Insurance	128, 161
Public, Commissioner of	110
Services	109, 111, 128, 144, 345
Heart Diseases, Deaths from	93, 341
Heights above Sea Level	29, 31, 40
Hides and Skins	
Exports	256, 259, 269, 330
Tanned	245
used in Factories	242, 245
High	
Court of Australia	70, 132
Schools	96, 342
Highways— <i>see</i> Road, Roads	
Historical Review	1
Hives, Bee	208
Holdings, Agricultural and Pastoral	186, 190, 202, 204, 206
Homes for the Aged	115
Homicide	93, 341
Honey	184, 208
Horsepower	
of Engines in Factories	233, 347
Motor Vehicles	285
Horses, Number of	332
Hospital Benefits	128, 149, 161
Hospitals	111, 114, 129, 152, 312
House	
of Representatives	65
Rents	119, 315, 319, 336
Houses	116, 121
Housing	115
Agreement, Commonwealth-State	119
at Census	115
Commission, State	119, 149
Government	119
Trust, McNess	120

	Page
Houtman, Frederik de	1
Humidity, Interstate Comparison of	40
Hydrochloric Acid	241

I

Illegitimacy	85, 339
Imminent	18, 28, 217
Immigrants—see Migration	
Import, Imports—see also specific items	
Control	14, 262
Items of, Principal	254, 268
Origin	262, 270
Valuation of	252, 255, 262, 267, 270, 331
Value	10, 143, 145, 147
Income Tax	147, 324
Indebtedness, Public	304, 315, 317, 336
Index-Numbers, Retail Price	
Industrial	
Awards	308, 311
Court, Commonwealth	70, 134, 304
Development	
Department of	227
History of	225
Industry	
of Population	297
Primary—see also Primary; Rural	182
Secondary—see also Factory, Factories; Manu- facturing	225
Inebriates	114
Infant	
Deaths	88, 90, 339
Health Centres	111, 345
Mortality Rate	88, 90, 322, 340
Infectious Diseases	
Cases Reported	110
Deaths from	90
Insolvencies	162
Institutions, Charitable	115, 131, 150
Instruction, Public—see Education	
Insurance	
Employment in	299
Fire, Marine and General	159, 325
Health, Hospital	128, 161
Life	158, 325
Motor Vehicle	159, 285
Office, State Government	149, 159
Interest Rates, Bank	158
Internal Combustion Engines in Factories	233
International Whaling Commission	216
Interstate	
Air Services	9, 288
Cargo	254, 272
Comparison	
Basic Wage Rates	307, 337
Building Activity	122
Costs of Goods and Services	320
Livestock Numbers	207
Motor Vehicle Registrations	285
Net Production, Manufacturing	226
Population	122
Railways, Government	277
Retail Price Indexes	318, 320, 336
Weather	40
Migration	76
Railway	8, 274, 277
Shipping	273
Trade	251, 254, 260, 268, 270
Invalid Pensions, Pensioners	123, 145
Investment Societies	161
Iron—see also Pig Iron	
Foundries	235
Ore	27, 181
Exports	204, 330
Production	184, 217, 222
Pyrites	223, 244
Irrigation	9, 108, 175, 178, 203

J

Jams and Jellies	
Imports	254, 268
Production	237, 241, 313
Retail Price	316
Jarrah	48, 52, 181, 211
Judges' Courts	70, 132, 138, 345
Judicature	70, 132, 304
Judicial Separations	134, 345
Justice—see Court, Courts	

Page

Juvenile—see also Child; Children	
Convictions	137, 346
Employment	231

K

Kapok, Imports of	268
Karri	48, 52, 181, 211
Kerosene	
Imports	254, 268
Retail Price	316
Kimberley	5, 20, 72, 217, 251, 302, 348
Research Station	109, 175, 180
Timber Resources	52
Kindergartens	96, 342
King, Philip P.	2
King's Park Board	174
Knitting Mills	237, 242, 313
Kwinana	14, 78, 149, 228
Kyanite	224

L

Laboratories, State Government	107
Labour—see Employment	
Lakes	20, 28, 53
Lamb—see Mutton, Lamb	
Lambs—see Sheep, Lambs	
Land	
and Buildings, Factory	227, 230, 233, 235, 243, 347
Crown	
Administration	165
Alienation of	164, 170, 332
Classification of	171, 173
Conditional Purchase	165
Endowment	166
Grants	164, 166
Leases and Licences	168, 332
Agricultural	165
Forest	170
Mining	168, 220
Pastoral	167
Reservations	166
Sales	166
Settlement Schemes	
Anstraland	3, 164
Esperance Plains	17
Group	8, 171, 203
Miscellaneous	173
Peel, Thomas	164
Soldiers'	8, 172, 185
War Service	108, 144, 150, 157, 168, 172, 197
Tax Collections	145, 147
Utilization	171, 182
Lands and Surveys, Department of	165, 167, 171
Lead, Lead Ores	3, 217, 220, 223
Leases of Crown Land—see also Land	
Agricultural	165
Forest	167, 170
Mining	168, 220
Pastoral	167
Leather	
Exports	256, 269
Goods Factories	237, 313
Imports	253, 267
Production	241, 245
used in Factories	242
Lecturers, University	104, 343
Legal Tender	156
Legislative	
Assembly	6, 66
Council	64, 67
Lemons	195
Leprosaria	113
Leprosy, Cases of	110
Lettuce	193
Libraries	14, 16, 106
Library Board of Western Australia	14, 16, 106
Licences—see also Land	
Broadcast Listeners'	294
Broadcasting Station	294
Liquor	135, 147
Motor	
Drivers' and Riders'	147, 284
Vehicle	147, 284, 327
Radio	294
Revenue from	147
Transport	290

	Page
Licensing Court	135
Life	
Assurance	158, 325
Expectation of	92
Lime and Plaster Factories	235, 243, 312
Limestone	21, 224, 242
Linseed Oil	191, 242
Liquor Licences	147
Lithium	224
Livestock—see also specific types	
carried on Railways	276
Exports	256, 261, 269, 329
on Rural Holdings	181, 197, 207, 332
Slaughterings	184, 201, 205
Loan, Loans	
Bank	157, 325
Building Society	162
Council, Australian	142
Expenditure	
Local Government	156
State Government	148, 324
Fund	148, 324
Indebtedness	
Local Government	155
State Government	148, 324
Raisings, Local Government	154
Local Government Areas—see also map preceding Index	viii, 349
Lockyer, Edmund	2
Locomotives	275, 277
Lotteries Commission	9, 111, 131, 150
Lubricating Oil, Imports of	254, 268
M	
Macaroni, Spaghetti, Vernicelli	
Imports	254, 268
Production	241
Machinery and Plant, Factory	227, 230, 233, 235, 243, 347
Machines, Machinery	
Imports	253, 255, 267
in Factories	227, 230, 233, 235, 243, 347
Production	236, 244, 312
McNess Housing Trust	120
MacRobertson Miller Airlines Ltd.	17, 288
Magistrates' Courts	133, 135, 139, 345
Magnesium	217
Mail—see Posts, Telegraphs, Telephones	
Main Roads—see Road, Roads	
Maize	190
Malformation, Congenital, Deaths from	90, 340
Maltling Barley	189
Mandarins	330
Manganese, Manganese Ore	181, 217, 223, 264, 330
Manufacturing—see also Factory, Factories	181, 298, 306, 312, 335
Manures—see Fertilizers, Artificial	
Margarine	238, 241
Margins, Wage	304, 311
Marine Insurance	160
Marketing Board	
Barley, Western Australian	189
Dairy Products	203
Egg, Western Australian	207
Onion, Western Australian	192
Potato, Western Australian	191
Marriages	94, 322, 341, 345
Masculinity	80, 91, 339
Maternal Deaths	93
Maternity Allowances	125, 145
Means Test for Social Service Benefits	123
Meat—see also specific meats	
Canned, Production of	241
Exports	256, 261, 328
Imports	254, 268
Retail Prices	316
Medical Benefits	128, 161
Members of Parliament	66
Menigitis	110
Mental Institutions	114, 129, 144
Metals and Metal Manufactures	
Imports	255
Production	235
Meteorology	29
Methanol	228, 241
Metropolitan	
Births	85, 339
Climate	40
Deaths	88, 339
Employment	72, 229, 298, 302
Factories	72, 229
Marriages	94, 341

	Page
Metropolitan—continued	
Planning	17
Population	viii, 74, 78, 298, 302, 338
Retail Prices	316
Index-Numbers	317, 336
Roads	284
Statistical Division—see also map preceding Index	viii, 229, 284, 298, 302, 348
Traffic Area	151, 284, 286
Wage Rates	
Basic	307, 310, 315, 337
Minimum	312
Water Supply	175
Migration	6, 74, 76, 322, 338
Mileage	
Air Routes	290
Ferries	279
Motor Omnibuses	275, 280
Railways	274, 276, 326
Roads	283
Telegraph, Telephone Lines	292, 326
Tramways	278
Trolley Buses	279
Milk	
Exports	256, 261, 269
Free, for School Children	128
Imports	254, 268
Processing	238, 314
Production	181, 184, 203
Retail Prices	316
Mineral, Minerals—see also Mining and Quarrying	
Exports	256, 269, 330
Imports	253, 267
Leases	168
Production	217, 331
Miners'	
Homestead Leases	169
Rights	168
Minimum Wage Rates	312
Mining and Quarrying—see also specific minerals	
Development of	217
Employment	218, 298
Expenditure on	148, 323
Minimum Wage Rates	314
Production	217, 331
Revenue from	323
Tenures	168, 220
Value	182, 184, 334
Ministers of the Crown	69
Ministries, State	6, 69
Mint, Royal	6, 156, 219
Mitchell, James	12, 14, 65, 69
Molybdenum	224
Mortality—see Death, Deaths	
Motor, Motors	
Omnibuses—see Buses	
used in Factories	233
Vehicle, Vehicles	
Accidents	287
Drivers' and Riders' Licences	147, 284
Factories	236
Minimum Wage Rates	312
Imports	255
Insurance	160
Third Party	159, 285
Licences	147, 284, 327
Registration, Registrations	284, 327
Municipalities—see also map preceding Index	viii, 78, 120, 142, 150, 154, 284, 291, 348
Museum	106
Mutton, Lamb	
Exports	198, 256, 259, 269, 328
Retail Prices	316
Slaughterings	201
Myxomatosis	14, 108
N	
Narrows Bridge	16, 149
National	
Airways, Australian	288
Debt	
Commission	142, 148
Sinking Fund	142, 148
Fitness Council	174
Health Services	109, 128, 144
Parks Board	174
Welfare Fund	122, 128
Nationality of Population	83
Native—see also Aboriginal, Aborigines	
Welfare, Department of	79

	Page		Page
Natural		Pearls, Pearl Shell	72
Increase of Population	74, 76, 338	Culture	18
Regions	61	Discovery	4
Nectarines	195	Exports	251, 256, 269, 330
Neglected Children	130	Production	184, 216
Nephritis, Deaths from	93	Pears	194, 316
Net Production	334	Peas	180, 193, 261
Manufacturing	182, 225, 230, 234, 243, 335, 347	Pecl, Thomas	164
Primary Industry	182, 184	Pensions, Pensioners	
New Dwellings Completed	121	Age	123, 145
Newspaper Printing	230, 242, 314	Invalid	123, 145
Niobium	224	Medical Service	128, 145
Nitric Acid	241	Reciprocal Arrangements with Other Countries	126
Note Issue	156	Service	122, 126, 145
		War	122, 126, 145
		Widows'	123, 145
O		Petrol, Petroleum— <i>see also</i> Oil, Oils	
Oats	184, 188, 316, 333	Customs and Excise	144
Observatories	107	Exports	269
Occupational Status of Population	295	Imports	254, 262, 268
Occupied Private Dwellings	116	Leases, Licences	109
Ochre	217	Pharmaceutical Benefits	128, 145
Offences	135, 345	Phosphate Rock— <i>see also</i> Fertilizers, Artificial	
Official Publications, List of	<i>following Index</i>	Imports	254, 268
Oil, Oils— <i>see also</i> Petrol, Petroleum; Whale Oil		used in Factories	242, 244, 264
carried on Railways	276	Pickles, Sauces	
Customs Duty	265, 271	Imports	254, 268
Discovery	15, 24, 217	Production	237, 241
Engines in Factories	233	"Piddington" Commission	305
Eucalyptus	52	Pig Iron	11, 213, 223, 228, 241, 262
Exports	256, 261, 269	Pigs	3, 201, 205, 246, 332
Imports	253, 262, 267	Pine Plantations	213
Linseed	191, 242	Plant and Machinery, Factory	227, 230, 233, 235, 243, 347
Refining	14, 72, 181, 225, 228, 312	Plantations	9, 196, 213
Sandalwood	52, 213	Plaster	235, 241
Search	24, 72, 169, 217	Plums	195
Ships' Stores	261	Plywood, Veneers	213
used in Factories	234	Exports	269
Omnibuses— <i>see</i> Buses		Imports	254, 268
Onion, Onions		Pneumonia, Deaths from	93, 341
Area	192	Police	140, 284, 286
Imports	254, 268	Policies, Insurance, Assurance	150, 325
Marketing Board, Western Australian	192	Poliomyelitis	11, 109
Production	316	Pollard	241, 246
Retail Price	261	Pome Fruits— <i>see</i> Apples; Pears	
Ships' Stores	195	Population	3, 72, 322, 338
Oranges	184, 193	Aboriginal	79
Orchards— <i>see also</i> specific fruits		Age Distribution	80
Ores— <i>see also</i> specific ores	24, 181, 217, 256, 269, 330	Birthplace	82
Orphanages	131	Censuses— <i>see also</i> Censuses of Population	3, 74, 78, 92, 295
Output, Factory, Value of	225, 230, 234, 243, 335, 347	Conjugal Condition	79, 339
Oversea, Overseas		Density	322, 338
Air Services	268	Estimates	viii, 74, 78, 302
Cargo, Tonnage of	6, 69	Growth	72, 74, 80, 322, 338
Representation	272	Increase	74, 80, 322, 338
Shipping	293	Industry of	297
Telecommunications Commission	251	Masculinity	80, 339
Trade— <i>see also</i> Exports; Import, Imports	16	Metropolitan	viii, 74, 78, 298, 302, 338
Oysters		Migratory	300
		Nationality	83
P		Principal Towns	78
Paint, Paints		Rates of Increase	74, 338
Imports	253, 267	Religion	83
Production	241	Reproduction	87
Ships' Stores	261	Rural Holdings	183
Paper, Paper Products		Statistical Divisions	viii, 302
Customs Duty	265, 271	Urban	78
Factories	231, 239, 242, 298	Work Force	295, 301
Imports	253, 267	Pork	
Parasitic Diseases, Deaths from	90, 340	Exports	256, 269, 328
Parks and Reserves	174	Retail Prices	316
Parliament	5, 64	Ports	
Parsnips	193	Cargo Tonnes handled at	272
Passenger Journeys		Shipping at	272
Ferries	270	Trade of	263, 271
Motor Omnibuses	280	Postmaster-General's Department	144, 291
Railways	275, 278	Posts, Telegraphs, Telephones	4, 291, 326
Tramways	278, 281	Potato, Potatoes	
Trolley Buses	279	Area	192
Pastoral— <i>see also</i> Cattle; Grazing; Sheep; Lambs; Wool	4, 72, 107, 170, 174, 208, 217	Exports	256, 261, 269, 329
Industry	181, 184, 197, 312, 334	Imports	254, 268
Leases	167, 171, 182	Marketing Board, Western Australian	191
Pasture	108, 182, 190, 203, 210	Production	191
Paterson Plan	203	Retail Price	316
Patients in Hospitals	113	Poultry	184, 207
Pay Roll Tax	10, 145, 150, 301	Power, Electric— <i>see also</i> Electricity	
Peaches	195, 316	Generation and Distribution	153, 225, 249, 335
		used in Factories	233

	Page
Premier, Premiers	6, 69
Premiums, Insurance, Assurance	150, 325
Pre-School Education	96, 342
Price Indexes—see Index-Numbers, Retail Price	
Prices, Retail	315
Primage Duty	265, 271
Primary	
Producers, Assistance to	
Financial	144
Technical	209
Production	3, 72, 181, 295, 298, 312, 331, 334
Schools—see also Education	95, 342
Printing Works	239, 242, 314
Prisons, Prisoners	140
Private	
Dwellings	116
Finance	3, 156, 325
Hospitals	114
Omnibus Services	282
Railways	5, 274, 276, 326
Schools—see also Education	97, 343
Privy Council	70, 133
Probate Duties	146
Professors, University	104, 343
Proportional Representation	66
Public	
Debt	148, 324
Examinations—see Education	
Finance	142, 323
Child Welfare	132
Customs and Excise	265, 271
Education	105, 146, 344
Hospitals	113
Infant Health	111
Posts, Telegraphs and Telephones	292, 326
Social Service Benefits	123
Transport Services	275, 326
Vehicle Licensing	286
Health	109
Hospitals	111
Instruction—see Education	
Transport Services	274, 326
Trustee	10, 150
Publications, List of	following Index
Pumpkins	193
Pyrites—see also Iron	181, 217, 223, 244

Q

Qantas Empire Airways	288
Quarantine	109
Quarrying—see Mining and Quarrying	
Quicklime	241, 243

R

R.A.C. Formula—see Horsepower	
Racing, State Revenue from	147
Radio Services	8, 292
Railways	5, 146, 148, 274, 290, 299, 314, 326
Rainfall	29, 47, 62
Raisins	196, 316
Refining	
Gold	219
Oil	14, 72, 181, 225, 228, 312
Sugar	314
Tallow	235
Refrigerating	
Machines and Appliances, Imports of	255
Works	238
Rehabilitation Service, Commonwealth	123, 145
Religion of Population	83
Rents of Dwellings	119, 315, 319, 336
Repatriation Services	111, 126, 145
Representation	
Oversea	6, 69
Parliamentary	66
Representatives, House of	65
Reproduction Rates	87
Research	
Agricultural	103, 107, 185, 203, 209
Organization, Commonwealth Scientific and	15, 103, 108, 180
Industrial	103, 107
University	103, 107
Reserves of Land	166, 174
Reservoirs—see also Water	6, 175
Residual Oil, Imports of	254, 268
Resins and Gums	52, 213

Retail	
Price, Prices	315
Index-Numbers	304, 315, 317, 336
Trade	
Employment in	299
Minimum Wage Rates	312, 314
Rheumatic Fever, Deaths from	93
Rice	15, 180, 261, 316
Road, Roads	233
Boards	120, 142, 150, 154, 284, 291
Commonwealth Aid	144, 149
Districts—see also map preceding Index	viii, 348
Main	149, 151, 233
Traffic	
Accidents	286
Control	284
Transport	153, 278
Employment	278, 299
Minimum Wage Rates	314
Vehicles	284, 327
Rock Phosphate—see Phosphate, Rock	
Roe, John S.	4
Rottneet Island Board of Control	174
Route Mileage—see Mileage	
Royal	
Commission	8
on Basic Wage	305, 308
University	100
Flying Doctor Service	9, 290, 293
Mint	6, 156, 219
Visits	4
Rubber, Rubber Goods	
Factories	239, 242
Imports	253, 267
Rubidium	224
Rural	
and Industries Bank	10, 147, 149, 157
Holdings	182, 187, 198, 201, 203, 205
Industry	3, 72, 181, 295, 297, 312
Rutile	28, 218
Rye	189

S

Salaries and Wages—see also Basic Wage, Wages	314
Factories	225, 228, 234, 243, 335, 347
Hospitals	113
Infant Health	111
Minimum Rates	312
University	105, 344
Sales Tax	145
Salt	20, 28, 47, 50, 107, 210, 261
Lakes	20, 28, 62
Works	238
Sanatorium, Tuberculosis	113
Sandalwood	52, 211, 213, 251
Sauce—see Pickles, Sauces	
Savings Banks—see Bank, Banks	
Sawmills, Sawmilling	72, 214, 231, 238, 240, 242, 248, 277
Employment	228, 298
Minimum Wage Rates	314
Permits	170
Salaries and Wages	232
Scarlet Fever	110
Scheelite	217
Scholarships, Bursaries	98, 101, 104
Schools—see Education	
Scientific Institutions	15, 103, 107, 180, 208
Secession Referendum	9
Secondary	
Production—see Factory, Factories; Manu-	
facturing	
Schools—see Education	
Sedimentary Basins	24
Senate	
Commonwealth Parliament	66
University of Western Australia	101
Separations, Judicial	134, 345
Sequestration Orders	162
Serpentine Dam	176
Service, Services	
Advisory, Agricultural	209
Broadcasting	294
Dental, Schools	111
Flying Doctor, Royal	9, 290, 293
Health	
Infant	111, 345
National	109, 128, 144
Hospital	111
Library	14, 16, 106

	Page
Training Colleges, Teachers'— <i>see</i> Education	
Tramway Services	6, 146, 278, 281, 314
Trans Australia Airlines	238
Transport— <i>see also</i> Air Transport; Buses; Ferries; Motor, Motors; Railways; Road, Roads; Shipping; Tramway Services; Trolley Bus Services	272, 299
Board	
Eastern Goldfields	153, 281
Fremantle Municipal	153, 281
Western Australian	290
Services, Municipal	153, 281
Trapping— <i>see also</i> Pastoral	184, 298
Trolley Bus Services	278, 314
Tropical Agriculture	72, 179, 209
Trust Funds	144, 149
Tuart— <i>see also</i> Hardwoods	49, 211
Tuberculosis	
Allowances— <i>see also</i> War and Service Pensions	129
Campaign	109, 122, 129
Cases Reported	110
Deaths from	93, 341
Financial Aid	144
Hospitals	113
Tungsten Ores	217, 224
Turnips	193
Typhoid Fever	93, 110

U

Unemployment Relief	124, 129, 145
United Kingdom, Trade with	251, 255, 257, 262, 265, 270
University of Western Australia— <i>see</i> Education	
Unoccupied Dwellings	115
Upholstering, Minimum Wage Rates	314
Uranium	224
Urban Population— <i>see also</i> Metropolitan	78

V

Valuation for Rating, Local Government	150
Vanadium	224
Veal— <i>see</i> Beef	
Vegetables— <i>see also specific vegetables</i>	
Fresh	
carried on Railways	276
Exports	256, 261, 269, 329
Imports	254, 268
Production	179, 184, 191, 209
used in Factories	242
Processed	
Factories	242, 313
Imports	254, 268
Vegetation	45, 62
Vehicles, Motor— <i>see</i> Motor, Motors	
Veneers, Plywood— <i>see</i> Plywood, Veneers	
Veneral Diseases	110
Vermia	
Boards	150, 153
Taxation	147, 152
Vine Fruits	184
Dried— <i>see also</i> Currants; Raisins	196
Grapes	
Area	196
Production	197
used in Factories	242
Vineyards	196
Vital Statistics	85, 322, 339
Viticultural Research	107, 209
Vlaming, Willem de	1
Vocational Guidance	100
Voting— <i>see</i> Electoral Provisions	

W

Wages— <i>see</i> Salaries and Wages	
Wandoo— <i>see also</i> Hardwoods	49, 52, 211
War	
Pensions	122, 126, 145
Service	
Homes	119, 149
Land Settlement	
Board	182
Scheme	108, 144, 150, 157, 168, 172, 197

War and Service Pensions	122, 126, 145
Water	
Artesian	24, 27, 62, 175
Boards	150, 153, 175, 180
carried on Railways	276
Conservation	6, 175
Supply	62, 152, 175, 298
Commonwealth Grant for	144
Metropolitan	175
Scheme, Schemes	
Comprehensive	18, 175
Goldfields	6, 176
Other	152, 155, 180
Weather	29
Weirs— <i>see also</i> Water	6, 175
Whale Oil	181, 215
Exports	256, 260, 262, 269
Production	216, 241
Whales, Whaling	3, 72, 181, 184, 215, 260
Catch	216
Commission	
Australian	216
International	216
Processed	216, 242
Wheat	
Area	3, 185, 209, 333
Board, Australian	186
Bulk Handling of	
carried on Railways	276
Exports	185, 251, 255, 262, 269, 272, 328
Prices, Export	257
Production	184, 333
Research	107, 185, 209
Stabilization Scheme	
used in Milling	242, 246
Yield per Acre	185, 188, 333
Wholesale Trade	
Employment in	299
Minimum Wage Rates	312
Widows' Pensions	123, 145
Wind	29
Wine— <i>see</i> Alcoholic Beverages	
Wineries	72, 238, 242
Wire Working	236
Wireless Communication	292
Wolfram	217
Wood, Wood Products— <i>see also</i> Timber	
carried on Railways	276
Customs Duty	265, 271
Fuel used in Factories	234
Imports	253, 267
Manufacture	
Employment in	231, 298
Minimum Wage Rates	314
Salaries and Wages Paid	232
Wool	
carried on Railways	276
Exports	3, 200, 251, 256, 262, 269, 327
Fleece Weights	200
Imports	254, 268
Prices, Export	257
Production	184, 200, 241, 249, 332
Scouring	237, 249, 313
Tax	145
Value of	200, 332
Work Force— <i>see</i> Employment	
Workers' Compensation	8, 149, 160

Y

Yarn, Yarns	
Imports	253, 267
used in Factories	242
Yttrium	224

Z

Zinc, Zinc Ores	108, 185, 210, 224, 331
Zircon	28, 218, 224
Zoological Gardens; Board	174

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