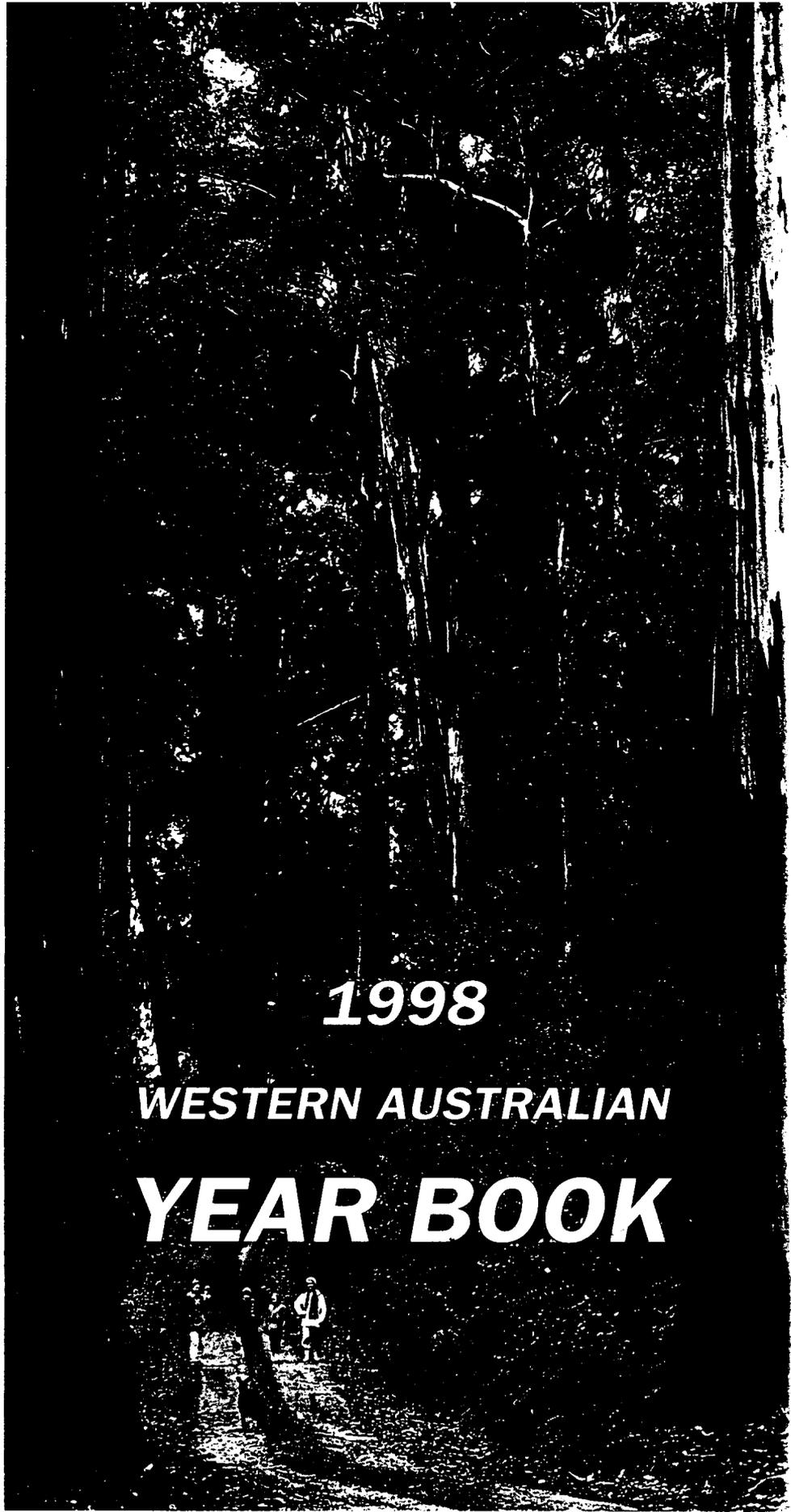




**Australian  
Bureau of  
Statistics**



**1998**

**WESTERN AUSTRALIAN**

**YEAR BOOK**

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**1998**  
**Western Australian**  
**Year Book**

**WESTERN AUSTRALIAN  
YEAR BOOK**

**No 34 - 1998**

**Colin Nagle**

**Regional Director, Western Australia**

**Australian Bureau of Statistics  
Western Australian Office**

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## **PREFACE**

The 1998 Western Australian Year Book presents a wide range of statistical information on the social, demographic and economic conditions prevailing in this state. Information contained in the Year Book is compiled from the extensive range of data collected by the Australian Bureau of Statistics (ABS) and is the most recent available at the time of its preparation.

Data collected by the ABS is available to the community and is disseminated in printed publications, electronic format (including the Internet) and on magnetic tape, floppy disk or CD-ROM (Integrated Regional Database (IRDB) and Australian Year Book).

As part of its community obligations and to ensure Australian citizens of all ages, backgrounds and geographic location have ready access to statistics on all aspects of Australian society, the ABS provides a Library Extension Program. Participating libraries are provided with a comprehensive range of ABS publications and CLIB, a CD-ROM product containing easy to access up-to-date 1996 Census data. Western Australian libraries participating in the Library extension Program are listed in the Appendix.

ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is greatly appreciated. Particular thanks and appreciation are extended to those who have supplied material for inclusion in this 1998 edition of the Western Australian Year Book. I would also like to acknowledge the contribution made by staff members of the ABS in the Western Australian office who have dedicated their time, skills and energy into making this publication possible.

The Western Australian office maintains a comprehensive Information Consultancy Service. ABS publications and statistical products are available from the ABS office in Western Australia, located at Exchange Plaza, 2 The Esplanade, Perth.

Colin Nagle  
Regional Director, Western Australia  
Australian Bureau of Statistics

April 1998

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## GENERAL INFORMATION

### Symbols

The following symbols mean:

ABS	Australian Bureau of Statistics
n.a.	not available
n.e.c.	not elsewhere classified
n.e.i.	not elsewhere included
n.e.s.	not elsewhere specified
n.p.	not available for separate publication but included in totals where applicable
n.y.a.	not yet available
p	preliminary figure or series subject to revision figures or series revised since previous issue
-	nil or rounded to zero
..	not applicable
—	break in continuity of series (where drawn between two consecutive figures or columns)
*	subject to sampling variability too high for most practical uses

### Other forms of usage

*Rounding.* Where figures have been rounded, discrepancies may occur between sums of the component items and totals.

## Services available from the ABS

The ABS publishes a wide range of statistics and other information on Australia's economic and social conditions. Details of what is available in various publications and other products can be found in the *ABS Catalogue of Publications and Products, Australia* (1101.0), available at all ABS Offices and also on floppy disk.

### Statistical Consultancy

Consultants are available to provide information and advice on a wide range of statistical requirements. Talk to our consultants for information options that can benefit your policy making, decision making, planning and marketing needs, survey design and data analysis.

### Electronic Information Services

A growing range of our data is available on electronic media. Our PC-AUSSTATS service enables on-line access to a database of thousands of up-to-date time series. Selected datasets are also available on diskette or CD-ROM. See the *ABS Catalogue of Publications and Products* (1101.0) for a complete listing of electronic products.

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This number gives 24-hour access, 365 days a year, for a range of important economic statistics including the CPI.

**Internet**

<http://www.abs.gov.au>

A wide range of ABS information is available via the Internet, with basic statistics available for each State, Territory and Australia. We also have Key National Indicators, ABS product release details and other information of general interest.

**ABS Library Network**

There is a library in the ABS office of each capital city. Public access to these holdings is available on a self-help basis. The ABS Central Office Library (Canberra) also provides ABS publications and other material through inter-library loan.

**Library Extension Program**

Through the Library Extension Program (LEP), ABS publications are made freely available to the public for reference at many public and tertiary libraries. For LEP libraries in Western Australia please see the Appendix. A number of libraries also hold ABS census data on CLIB96. Please contact your nearest library to check their holdings before visiting.

**Feedback from readers**

The ABS endeavours to keep the balance of the contents of the Western Australian Year Book in line with the ever changing social, economic and demographic conditions in the State. Comments on the relevance, adequacy and balance of the contents of the Western Australian Year Book are welcomed and should be directed to The Editor, Western Australian Year Book, ABS Perth Office.

## For Inquiries...

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# History



## Chapter 1

# HISTORY

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## Chapter 1

# HISTORY

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### **The Early Federation Years Continuity and Change**

*Contributed by John M. Clark, B.A. (Hons)  
Former Vice-president and Councillor of the Royal Western  
Australian Historical Society*

#### **Federation Year**

On 1 January, 1901 the entry of the colony of Western Australia into the new Commonwealth of Australia was proclaimed by the Administrator, Chief Justice Onslow, at a ceremony on the Perth Esplanade. Ten thousand joyous citizens were reported to have assembled there on that hot summer day and the celebrations continued into the night, when an illuminated procession wound its way through the streets of the city.

The remainder of the year saw further celebrations and historic events, marred only by the passing of Queen Victoria three weeks after the inauguration of the Commonwealth. A new governor, Sir Arthur Lawley, arrived in May, just in time to rush off again to Melbourne for the opening of the first Commonwealth Parliament by the Duke and Duchess of Cornwall and York (the future King George V and Queen Mary). Later, the Royal visitors came to Perth for five days of functions, including receptions, laying of foundation stones and other ceremonies, as well as the naming of King's Park and Victoria Quay.

The Boer War was in progress, with attendant imperialist fervour. Early in the year, two more Western Australian contingents (the fifth and the sixth) sailed for South Africa, preceded in each instance by rousing farewell marches through Perth and Fremantle. This was the year of the last notable Boer victory, besides being the one when the words 'and of British Dominions beyond the Seas' were added to Edward VII's style.

The first federal election was held at the end of March and a State election followed a month later. It was a time of great instability in the local legislature. Following Sir John Forrest's retirement from the Premiership to seek a seat in the House of Representatives, four different ministries were formed, one of them surviving a mere five weeks.

The people of Western Australia had now entered upon what was described by Forrest as 'a higher national life' and by a local newspaper as 'a new dignity, the dignity of Statehood'. However, there were few immediate changes to the lives of the citizens. The Union Jack still flew on public buildings, while Governor Lawley continued as representative of the Crown. English money remained in circulation, as did the State's own postage stamps. Education, law and order and other government activities, which impinged most closely on the lives of the people, were virtually untouched.

### **Constitutional Priorities**

Although the local legislature now shared power with the Commonwealth, the federal involvement in those early years was focused principally on the activities specified in the Constitution for priority attention, namely Customs and Excise, Posts and Telegraphs and Defence. Three of the seven initial ministerial posts were assigned to these activities, the others being reserved for the Prime Minister, the Treasurer, the Attorney General and Home Affairs. At its foundation, the Commonwealth assumed powers for Defence and Customs, and for Posts and Telegraphs by proclamation on 1 March, 1901.

While owing much to British traditions, the defence forces and postal and customs services of the colonies had grown up largely independently of each other. The task of welding them into a unified system was a time-consuming and complex one, in many ways comparable with that of the European Union today. Customs duties had been levied on the inter-colonial trade. Public servants were subject to a variety of pay scales and conditions of service. The colonies printed their own stamps and established separate postage rates. Military forces were controlled by local commandants and wore an array of different uniforms.

The particular situation existing in Western Australia on the eve of Federation is summarised.

### **The Colonial Postal Service**

In Western Australia, as in other States, the Posts and Telegraphs Department was by far the largest of the departments to be taken over by the Commonwealth in terms of staff numbers and property. In 1900, there were 178 post offices in metropolitan and country areas, handling more than 13 million letters (posted and received). Established staff positions numbered over 1,700, including around 450 at the General Post Office in Perth, 90 each at Fremantle and Kalgoorlie, 50 at Coolgardie and about 30 at Albany.

The postal service was virtually the creation of Anton Helmich, who occupied the position of Postmaster-General from 1847 to 1887. Helmich, an Austrian by birth, came to the colony via Madras, and was naturalised by local ordinance on his appointment. Richard Sholl took over the job in 1889 and still occupied it in 1901. He rose through the ranks, having joined the department at the age of seventeen when Helmich's staff in the whole of the colony numbered only thirty-five.

In the ten to fifteen years before Federation, significant advances had been made in Western Australia's internal communications, as well as its links with the eastern colonies and the rest of the world. Rail services replaced coach services as mail carriers to many country areas and small subsidised steamers maintained regular links with the coastal towns. Between 1891 and 1900 the number of post offices doubled, many of the newer ones being on the goldfields, including a grand new building with clock tower which opened at Kalgoorlie early in 1899.

By 1888, the P and O and Orient steamship companies were providing weekly mail services from Europe to Albany. In the following year a cable between Broome and Banjoewangi (Java) established a further connection with Europe. Around the same time, and well behind the eastern colonies, the first telephone exchange opened in Perth. Initially under the control of the Department of Works, it was transferred to the Posts and Telegraphs Department in 1890 and moved from a three-room building on Wellington Street to the central postal facilities on St George's Terrace.

The handover to the Commonwealth came at a time when the postal department was clearly over-stretched. To a large extent, this was due to the heavy demands on postal services following the goldrushes. The problems were compounded by the diversion of overseas mail services from Albany to Fremantle in 1900 and the rapid growth in popularity of the new-fangled telephones. Another contributing factor was the inefficiency and low staff morale at the General Post Office. Although now regarded as a valuable heritage structure, the building was strongly condemned as a workplace by successive State and Commonwealth Royal Commissions because of its small rooms, poor lighting, makeshift appendages and general unsuitability for the advancing technology of postal services.

### 'H. M. Customs, W.A.'

In common with the other colonies, Western Australia had an independent customs and excise service. It was under the control of a Collector, located in the former Commissariat Building in Fremantle, with sub-collectors at the various outports such as Albany, Bunbury, Geraldton and Broome. There was also a Customs bonded store in the Perth railway yards, where a sub-collector was stationed. A large volume of bonded goods still entered Perth via the river route, a practice which continued until World War II. Excise, levied mainly on spiritous liquors, was collected at a large number of metropolitan and country centres, reflecting the fact that at the close of the century 38 breweries were in production throughout the State, many of them on the goldfields.

### THE TRANSCONTINENTAL

One of the finest prizes of Federation for Western Australia was the construction of the Transcontinental Railway which, for the first time, made the State independent of shipping for the movement of passengers and freight between the western and eastern sides of the continent. Telegraphic communication had been established as far back as 1877 but, until the opening of the railway, travellers to and from the Eastern States — estimated in 1901 at about 400 each way per week, or over 40,000 crossings annually — had no alternative but to go by sea.

The question of building a 'desert railway' across the Nullarbor Plain was one of the key issues in the negotiations preceding Western Australia's entry into the Federation. However, the realisation of this ambitious project was by no means a foregone conclusion. The Senate twice (in 1904 and again in 1905) rejected funding, even for a preliminary survey of the route. Strong opposition was encountered, especially on the grounds of the tight financial situation of the fledgling Commonwealth during the 'book-keeping' period. At that time, there was reluctance to raise loans for any purpose whatsoever (including the establishment of a navy), and there were competing claims of other proposed railways, such as the north-south link.

One of the first significant steps towards implementation of the scheme was taken by the Western Australian Government in 1901. This was an exploratory reconnaissance of the route to be followed by the railway as far as the South Australian border. Concurrently with this arduous three-month survey, the Engineer-in-Chief, Mr. C. Y O'Connor, prepared a preliminary cost estimate for the project, which was laid on the table of the Commonwealth Parliament as early as July 1901.

O'Connor's report was followed in 1903 by a somewhat more detailed feasibility study, commissioned by the Commonwealth and prepared by the Engineers-in-Chief of each of the States.

The central message of this second report was that 'the chief effect of construction of the Trans-Continental Railway would be to draw the Eastern and Western States into closer relationship politically, commercially and socially'. The engineers took a positive view of a number of other potential benefits of the scheme, including savings of time for passengers and mail, the opening of new pastoral lands along the route, and improved food supplies for the goldfields.

A Bill to authorise the engineering survey of the route finally became law in 1907, during the second Deakin Ministry. The survey was itself an expensive exercise, not to be undertaken without some assurance that funding for the construction eventually would be forthcoming. The *Kalgoorlie to Port Augusta Railway Act* followed in 1911, authorising the construction of the line between the two points, more than 1,700km apart. Each of the terminals already was served by the respective State railways, although the narrow gauge in Western Australia differed from the standard gauge adopted by the Commonwealth.

Work on the Port Augusta end of the line was initiated formally on 14 September, 1912 when the Governor-General, Lord Denman, turned the first sod. Prime Minister Fisher participated at a similar ceremony at Kalgoorlie on 12 February, 1913. The line was opened for traffic on 16 November, 1917, nearly seventeen years after the proclamation of the Commonwealth. Leading federal politicians were commemorated in the naming of sidings along the route — Forrest, Deakin, Hughes, Cook, Fisher, Watson and Barton. Six of them had served as Prime Minister, while Forrest had the dream and, more than any man, brought it to reality.



**Departure of Trans-Continental Railway survey team from Kanowna, 1901.**  
*Courtesy:* Royal Western Australian Historical Society and Battye Library (20835 P)

The Western Australian customs service had developed with less centralised control and more relaxed standards of administration, discipline and dress than its counterparts in the eastern colonies. The collection of customs at the outports was included among the wide range of activities of the Government Residents at those places, who delegated to subordinates and were in no way responsible to the Collector at Fremantle.

The latter post was occupied for thirty years, from 1862 to 1891, by Leonard Clifton. It was he who introduced a uniform for 'landing waiters' at Albany, Fremantle and Geraldton consisting of a 'blue cloth (serge) and single-breasted frock coat with four or five brass buttons inscribed *Customs W.A.* The hat a white helmet in summer and a blue cloth cap in winter surrounded with a black ribbon bearing in gold letters *H. M. Customs W.A.*'

In 1891, the deficiencies of the service induced the Premier, Sir John Forrest, to request Dr. Henry Wollaston, then Chief Clerk of the customs service in Victoria, to undertake an investigation. Wollaston strongly criticised many practices of the service, including the short opening hours of the Customs House, the payment of overtime from importers direct to officers, the payment to seizing officers of half the proceeds of penalties and fines, the removal of goods before payment of duties, and so on.

Clifton subsequently resigned his position and was succeeded by Clayton Mason, a railway engineer who had come to the colony to construct the Geraldton-Northampton railway and rose to the position of Commissioner of Railways.

Mason's appointment was followed by a tightening of the customs system, concurrently with an expansion of the network, notably to cover the newly-opened ports in the north-west, where customs officers were also engaged in policing immigration laws. New legislation consolidated earlier customs acts (1892) and a separate excise unit was formed within the Customs Department (1898).

In 1900, customs revenue totalling about 956,000 pounds was collected at the fifteen points of entry to the colony, extending from Wyndham to Eucla. This figure was of particular interest in the pre-federation year, since customs receipts were to become the principal source of the State's contribution to Commonwealth revenue.

### Colonial Volunteers

Following the departure of the last British Imperial troops in 1863 and the disbandment of the Pensioner Guards in 1880, the defence of Western Australia was largely in the hands of volunteer forces. Units of these were established at Perth, Fremantle, Guildford and the principal country centres, bearing such designations as 'Perth Company of Rifle Volunteers', 'W.A. Troop Volunteer Horse Artillery', 'Pinjarra Mounted Volunteers', and 'York Infantry Volunteers'.

The raising of such units commonly depended largely upon the initiatives of leading citizens and the formations came and went with the vagaries of local enthusiasm. The volunteers attended periodical parades and annual camps, besides participating in ceremonial events and escorting the governor, where their colourful uniforms added to the splendour of the occasion.

Towards the end of the 19th century, more attention was given to establishing tighter control over such units through the appointment of Military Commandants (usually retired British Army officers), imposing more rigid discipline and regulating the wearing of uniform. Concurrently, training methods were improved through the engagement of professional instructors and the amalgamation of some of the smaller units into larger formations, at least for the purposes of annual training camps. In 1896, the rifle range was moved from Mount Eliza to a more extensive area at Karrakatta and a spacious headquarters building was erected in Francis Street, Perth.

A special situation existed at Albany, where fortifications had been erected on Mount Adelaide in 1893, following the recommendation of a senior British engineer officer, Major General Sir James Edwards. The harbour of King George's Sound was considered of major strategic importance on the sea lanes to Australia, especially after the establishment of a coaling station there in the early 1850s. For this reason, the fortifications provided a rare occasion for inter-colonial cooperation in defence matters. Costs of establishment and maintenance of the fortifications were shared by several colonies, construction was undertaken by the Victorian Government and the emplacements initially were manned by South Australian garrison troops. Subsequently, permanent troops of the Royal Australian Artillery were stationed there, supported by a unit designated the 'Albany Volunteer Garrison Artillery', whose function was to permit continuous operation of the guns during hostilities.

In summary, the Western Australian military forces handed over to the Commonwealth on 1st January, 1901 included the following: a small permanent headquarters unit headed by a Commandant; an infantry brigade of five battalions of volunteers based in Perth, Fremantle and country centres; a mounted infantry (later Light Horse) regiment; two batteries of field artillery (one at Perth and the other at Fremantle); and two companies of garrison artillery at Albany, one composed of permanent soldiers and the other of volunteers. It was a motley array, with the core of volunteer infantrymen temporarily swollen by the patriotism of the Boer War period.

On a visit to Perth early in 1903, the General Officer Commanding the Commonwealth Military Forces commented upon the absence of local military support services, such as supply, transport, ordnance, engineers and medical units. He also criticised the equipment of

local forces, with the exception of the armament of the forts at Albany, as being 'for the most part obsolete or unserviceable'.

### The New Order

The various provisions of the Constitution relative to defence, posts and telegraphs, and customs and excise were given effect through legislation enacted by the first Federal Parliament between 1901 and 1903.

The *Posts and Telegraphs Act* (1901) established an incorporated postal organisation under the direction of a minister on the model of the British and State services. Similarly, the *Customs and Excise Acts* (1901) established the administrative machinery for the service, as well as the general principles of assessment and liability for relevant taxes. Separate legislation was specified in the new *Customs and Excise Tariff Acts* which become effective throughout the Commonwealth from 8 October, 1901. The long debates on this legislation brought to a head the great divisive issue of early federal politics. Finally, the *Defence Act* (1903) provided for the establishment and control of military and naval forces, including small permanent forces and voluntary militia service. The Act also confirmed the principle embodied in earlier colonial laws that conscription could be introduced only for home service, and then only in wartime.

In each of the sectors under discussion, the Commonwealth was able to take over the existing State organisations and gradually adapt them to its own purposes. Sensitive issues were involved, especially as the departments had long traditions and were headed by individuals of considerable seniority. Some State civil servants gained wider authority. Thus Dr. (later Sir) Henry Wollaston, the former Customs Collector of Victoria, became the first Commonwealth Comptroller-General of Customs, while the first Secretary of the Postmaster General's Department, Robert Scott, came from the Queensland service. Captain Robert Collins, who headed the Victorian Department of Defence (the only such department in colonial times), was appointed Secretary of the Commonwealth Department of Defence.

Similarly, former colonial officials normally became the senior Commonwealth representatives at State level, at least during the transitional period. In Western Australia, Postmaster General Sholl, with some reluctance, filled the new office of Deputy Postmaster-General until 1904. Likewise, Clayton Mason remained as State Collector of Customs until 1911, when he had reached retirement age.

Some features of the transitional period running through to 1911 of particular relevance to Western Australia were the following:

- Under a special dispensation in the Constitution, Western Australia was permitted to maintain protective tariffs against imports from the other States for five years after the introduction

of free trade elsewhere in the Commonwealth. The tariffs were progressively phased out and terminated on 9 October, 1906.

- A financial clause in the Constitution required that, for at least five years after the imposition of uniform duties, the Commonwealth should credit each State with the revenue collected there, debit expenditure incurred in respect of transferred departments, and pay balances to the individual States on a month-by-month basis. This 'book-keeping' system remained in force until 30 June, 1910 when it was superseded by Commonwealth payments to the States on a 'per caput' basis.
- Pending the appointment of Major-General Sir Edward Hutton as General Officer Commanding Commonwealth Military Forces (C.M.F.), the military commandants of the States (including Lieutenant-Colonel J.A. Campbell from Western Australia) remained directly responsible to the Minister for Defence, Sir John Forrest.
- From 1 July, 1903 the C.M.F. was divided into two components: garrison forces for local defence purposes and field forces for concentration at any threatened part of the Commonwealth. Western Australia's colonial forces were regrouped accordingly and given new designations. New standardised khaki uniforms and broad-brimmed slouch hats were adopted.
- Contingents of Commonwealth troops, designated Australian Commonwealth Horse, were sent to the Boer War to join the colonial troops already fighting there. Western Australia contributed a further three contingents of volunteers under this arrangement. Most of the Commonwealth troops arrived too late to participate in the action and all of the Western Australian units had returned home by the end of July, 1902.
- Because of the operation of the 'book-keeping' system referred to above, colonial stamps remained in circulation within the State and differential postage rates continued to apply throughout the Commonwealth. The job of printing the stamps passed initially from a London firm to the Government printing office in Melbourne. In March, 1909 the newly-established Stamp Printing Branch of the Commonwealth Treasury took over and continued to produce the stamps until the last printing in 1912. The stamps became interchangeable with those of other States from 1 May, 1911, when uniform 'penny postage' was also introduced. The first stamps of Commonwealth design, the famous Kangaroo series, finally went on sale early in 1913.

### A Changing Landscape

Section 85 of the Constitution provided that when State Departments were transferred to the Commonwealth, property used exclusively in connection with such departments would also become vested in the Commonwealth. In the case of customs and excise departments, this was to be only for such time as the

excise departments, this was to be only for such time as the Governor-General in Council considered necessary. Payment of compensation for such property was specified and provision made for the purchase of property not exclusively used by the department.

In the great majority of cases, such transfers, including most of the post offices in Western Australia, went smoothly, although much time was consumed in the process. The General Post Office in Perth proved one of the major sticking points, mainly because the building was shared by a number of State departments. In this instance, the Commonwealth ultimately agreed to pay rental and proceeded with plans to build a modern facility adjoining the Perth Railway Station, as recommended by a Commonwealth Royal Commission.

Well before that monumental building could be completed, other Commonwealth structures began to influence the local landscape. Military barracks were constructed on Cantonment Hill, over-looking the North Fremantle traffic bridge. Purpose-built customs houses were completed in Perth in 1903 and Fremantle in 1908. Fremantle also gained a new post office, incorporating a telephone exchange and telegraph operating room. A number of other postal facilities were constructed in metropolitan and country areas, some of which enrich our heritage to this day. The design and construction of all these buildings was undertaken by the State Public Works Department, which for many years continued to act as agent for the Commonwealth in the spirit of cooperation so characteristic of this unique period.

### Further Reading

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David Day, *Smugglers and Sailors: The Customs History of Australia, 1788-1901*, Australian Government Publishing Service, Canberra, 1992.

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Ann Moyal, *Clear Across Australia: A History of Telecommunications*, Nelson, Melbourne, 1984.

# Environment

## Chapter 2

# ENVIRONMENT

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## Chapter 2

# ENVIRONMENT

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### Physical Features

Western Australia is the largest Australian state. The narrow Timor Sea separates Western Australia's northern coastline from the equatorial islands of the Indonesian Archipelago; to the south is the Southern Ocean and Antarctica.

Within this vast area, climates range from the monsoonal tropics of the north, through arid northern coastal and inland areas, to temperate zones in the south. The Western Australian landscape varies from the rugged beauty of the far north, the breathtaking Hamersley Range, stunning red deserts and areas of productive agricultural land to magnificent karri eucalypt forests. Along the coastline are innumerable beaches, coral reefs of great beauty and waters rich in marine life. The most attractive and important features of the land and coastline are protected in national and marine parks.

#### PHYSICAL FEATURES

Area:  
2,525,500 sq km

Land Distances:  
North-South 2,391 km  
East-West 1,621 km

Length of Coast line:  
app. 12,500 km

Longest River:  
Gascoyne River  
865 km

Highest Point:  
Mt Meharry  
1,251 metres

Largest Desert:  
Great Sandy Desert  
258,000 sq km

Most Northerly Point:  
Cape Londonderry  
Latitude: 13° 44' 36"  
Longitude: 126° 47' 43"

Largest Island:  
Dirk Hartog Island  
61,338 ha

Most Southerly Point:  
Torbay Head  
Latitude: 35° 8' 10"  
Longitude: 117° 38' 0"

Largest Lake:  
Lake MacKay 3,550 sq km  
(only 2,750 sq km is in WA)

Highest Town:  
Tom Price  
740 metres

Highest Waterfall:  
King George Falls  
app. 80 metres

Source: Department of Land Administration.

### Climate

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

Western Australia is a region of several different climate zones, ranging from the tropical north to the semi-arid interior and Mediterranean style climate of the south west. Most of the State is a plateau between 300 and 600 metres above sea level.

The weather is controlled largely by the movement of a belt of high pressure systems. This belt of highs separates the south east trade winds to the north from the westerlies to the south. The highs are displaced northward in winter allowing the moist westerly winds to extend over southern areas.

Cold fronts and associated low pressure systems embedded in the westerlies, produce most of the annual rainfall for southern districts, including agricultural regions, during the cooler months.

Dry south-easterlies predominate further north, and only cloud bands from the north west, which occasionally extend over the Pilbara, Gascoyne and interior parts of the State, produce any significant rains.

As summer approaches, the highs migrate further south and most of the State is affected by easterly winds. These winds originate from the hot dry interior, producing high temperatures and low humidity levels in western areas. Near the coast, welcome relief from the hot weather comes from the reliable sea breeze in the afternoon. The sea breeze persists into the evening, making for pleasant summer nights.

In the north, monsoons develop resulting in thunderstorm activity and the occasional tropical cyclone. Cyclones usually develop well offshore and sometimes threaten communities with strong winds and heavy rain. The coastline near Port Hedland is the most susceptible area with one cyclone expected every two years.

While many systems fade over ocean waters, cyclones moving inland gradually weaken into rain bearing depressions and although floods often occur, the rain is usually welcome. The heaviest rainfall ever recorded in one day was from a cyclone in 1898 at Whim Creek. The fall measured 747 mm.

The highest wind gust ever recorded on the Australian mainland was 259 km/h at Mardie in 1975, during Tropical Cyclone Trixie. The same system was responsible for major flooding further south in the Gascoyne and Goldfields region.

Cyclones that travel southwards down the west coast can pose a serious threat to more heavily populated communities. Extreme fire

weather conditions can occur over the southwest of the State due to the strong and hot northerly winds in such events.

The hottest time in the Kimberley is in November and December before the onset of the monsoon. Further south, January and February are the hottest months. Except in the far southwest coast, maximum temperatures in excess of 40 °C have been recorded throughout the State. The highest temperature ever recorded was 50.7°C at Eucla on 22 January, 1906. Coastal temperatures are greatly modified by the occurrence of the sea breeze.

**2.1 – MAXIMUM TEMPERATURES, 1996 (Celsius)**

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Albany Airport	23.0	25.5	22.9	22.8	20.4	16.8	15.7	15.9	16.9	18.9	21.0	20.7
Broome	33.8	32.9	32.7	34.0	31.9	31.0	29.4	30.5	31.7	33.7	33.5	32.8
Carnarvon	31.8	35.6	31.8	30.5	27.9	23.0	22.9	21.8	24.4	28.0	29.7	29.7
Esperance	25.0	26.7	24.4	22.9	21.9	18.6	17.4	17.6	19.5	22.0	23.7	23.1
Eucla	25.3	28.7	26.2	22.1	21.9	18.8	18.6	19.6	22.8	26.1	25.3	26.3
Geraldton	32.1	36.3	30.7	28.7	26.0	21.5	19.9	18.8	21.2	26.4	28.0	29.8
Halls Creek	39.7	37.6	33.9	31.6	29.0	30.1	28.8	31.1	34.8	37.9	38.3	36.6
Kalgoorlie	33.7	35.0	29.7	25.1	23.0	18.2	17.6	18.2	22.8	27.4	30.2	30.9
Kununurra	38.2	36.1	34.9	33.5	31.9	32.9	31.7	33.6	36.7	38.3	38.8	35.2
Learmonth	38.0	36.9	37.0	33.5	30.0	25.8	24.8	26.0	29.1	33.5	35.2	37.5
Meekatharra	39.2	39.1	33.9	28.4	26.3	19.8	18.9	20.0	25.4	30.6	34.7	35.7
Merredin	33.5	36.3	29.4	25.5	22.6	18.1	16.4	16.6	19.6	25.3	29.2	30.9
Narrogin	30.6	32.8	26.0	24.0	21.0	16.3	14.7	15.6	17.5	21.5	26.4	27.1
Narrogin Avge	31.0	30.0	27.2	22.8	18.3	15.3	14.6	15.2	17.3	21.2	24.9	28.7
Newman	40.6	38.3	35.6	31.3	27.9	24.8	23.8	25.6	30.4	34.3	38.1	37.7
Perth	30.3	34.6	28.0	25.8	23.1	19.4	18.1	18.2	19.5	23.5	25.4	27.2
Perth Avge	30.0	31.0	29.0	25.0	21.0	19.0	18.0	18.0	20.0	22.0	25.0	28.0
Port Hedland	37.7	36.7	37.6	35.6	31.9	29.8	28.5	29.9	33.3	36.6	35.7	36.7

Source: Bureau of Meteorology.

**2.2 – MINIMUM TEMPERATURES, 1996 (Celsius)**

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Albany Airport	13.8	15.2	12.8	11.3	8.8	8.3	8.3	7.8	8.7	9.3	11.1	11.6
Broome	27.0	25.4	24.6	21.3	14.7	16.9	14.3	16.6	18.1	23.9	25.9	25.9
Carnarvon	22.5	24.8	22.4	19.5	15.1	15.7	14.2	11.8	14.7	17.0	19.9	21.2
Esperance	14.7	16.7	15.1	12.5	11.7	9.5	9.4	8.4	10.0	11.2	13.0	13.7
Eucla	15.6	17.4	16.0	12.6	10.3	9.4	8.3	8.2	9.7	11.5	13.4	15.0
Geraldton	18.3	19.9	18.1	15.9	13.8	12.7	11.8	9.6	11.0	11.2	14.9	16.1
Halls Creek	25.6	24.3	22.6	20.1	15.2	16.3	13.9	16.9	18.5	22.8	24.1	24.8
Kalgoorlie	17.0	19.0	15.7	12.7	9.2	7.2	6.6	5.4	8.2	11.8	14.8	15.3
Kununurra	25.6	24.6	22.8	21.3	16.7	17.2	14.7	17.3	18.9	23.3	23.6	24.6
Learmonth	21.6	24.4	22.8	20.3	14.9	16.4	14.3	12.0	13.3	16.8	19.0	21.1
Meekatharra	24.8	24.8	21.4	16.5	13.5	11.8	9.9	8.4	11.4	16.5	20.3	21.4
Merredin	16.9	19.2	14.8	13.0	8.9	7.9	7.7	5.9	7.4	9.6	13.7	14.4
Narrogin	13.9	15.6	12.6	10.6	7.5	6.4	6.9	5.7	7.4	7.5	11.2	12.0
Narrogin Avge	14.6	14.8	13.5	10.9	8.1	6.9	5.9	5.6	6.3	8.1	10.6	12.8
Newman	25.8	24.4	23.1	19.4	12.7	14.3	10.6	11.2	15.1	19.3	23.3	24.3
Perth	17.0	18.9	15.8	13.7	9.9	9.9	10.6	8.7	10.5	11.0	14.4	15.1
Perth Avge	17.0	17.0	15.0	12.0	10.0	8.0	8.0	8.0	9.0	10.0	13.0	15.0
Port Hedland	26.2	25.4	25.6	22.6	16.0	18.5	14.6	15.7	15.3	20.9	21.8	24.7

Source: Bureau of Meteorology.

## Environment

### 2.3 – RAINFALL, 1996 (mm)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Albany Town	15.6	1.2	30.2	42.2	35.8	93.2	142.4	186.8	171.2	75.2	45.4	32.0	871.2
Broome	8.8	176.8	308.8	85.8	1.2	0.0	0.2	0.6	0.0	0.0	2.2	102.2	686.6
Carnarvon	0.0	3.6	0.0	20.8	15.0	111.4	160.6	13.4	6.8	3.6	0.0	0.6	335.8
Esperance	6.6	5.2	36.4	90.4	25.4	105.4	95.4	75.8	117.4	46.6	25.4	1.0	631.0
Eucla	4.6	3.0	23.0	46.0	12.0	36.4	42.4	24.0	38.4	6.8	11.6	5.2	253.4
Geraldton	0.0	2.8	1.0	32.2	41.6	125.4	149.4	81.4	31.4	12.2	16.4	8.6	502.4
Halls Creek	31.4	69.4	300.2	39.0	0.0	0.0	0.0	0.0	0.0	11.8	16.2	180.6	648.6
Kalgoorlie	1.6	1.2	19.6	42.8	2.8	35.0	37.0	22.8	22.0	5.4	19.4	25.6	235.2
Katanning	1.4	1.2	3.0	13.6	28.7	121.2	123.8	66.6	94.0	36.1	27.2	11.4	528.2
Kununurra	74.8	204.4	106.2	88.4	0.0	0.0	0.0	0.0	0.0	23.2	46.0	333.2	876.2
Learmonth	0.0	51.6	0.0	30.4	0.0	89.8	43.0	2.6	2.2	1.2	0.0	0.0	220.8
Meekatharra	0.0	9.0	29.0	53.2	0.6	64.4	77.0	12.6	3.6	7.2	4.4	21.2	282.2
Merredin	0.0	1.0	1.2	32.0	15.8	51.0	73.4	47.2	56.4	4.6	37.0	1.6	321.2
Narrogin	2.6	0.0	5.8	25.0	42.6	103.6	164.9	54.5	68.7	21.7	28.1	8.4	525.9
Newman	13.5	14.5	70.2	34.7	0.0	21.4	14.0	3.6	0.0	18.2	5.2	42.1	237.4
Perth	3.2	0.0	9.2	27.0	50.6	221.4	210.8	123.6	127.6	44.0	50.6	20.6	888.6
Perth Avge	9.0	13.0	19.0	46.0	123.0	182.0	173.0	135.0	80.0	55.0	22.0	14.0	869.0
Port Hedland	0.6	75.0	29.6	97.0	0.0	25.4	7.2	0.0	0.4	0.6	0.0	33.8	269.6

Source: Bureau of Meteorology.

During the winter months, average maximum temperatures range from above 30°C in the Kimberley to 14–15°C near the south coast. Overnight minima are coldest in southern inland areas where averages of 4–6°C are experienced. The lowest temperature ever recorded was –6.7°C at Booylgoo Springs in the Goldfields on 12 July, 1969.

#### Weather Highlights 1996

Eleven tropical cyclones formed over waters within Western Australia's area of responsibility. Of those, only three, *Kirsty*, *Olivia* and *Nicholas*, crossed the Western Australian coastline. The other tropical cyclones were named *Hubert* and *Isobel* (January), *Jacob* (February), *Jenna* (May), *Lindsay* (July), *Melanie* (November) and *Ophelia* and *Phil* (December).

TC *Kirsty* brought heavy rainfall to northern, central and south-eastern parts of the state from 11 to 14 March. Pardoo recorded a minimum station level pressure of 938 hPa as the system crossed the coast nearby on 12 March. Several localities in the vicinity of Port Hedland registered more than 200 mm of rain.

Severe tropical cyclone *Olivia* produced destructive winds and heavy rains as it threatened the Northwest during April. A wind gust of 267 km/h was recorded at Varanus Island, north-east of Barrow Island, on 10 April. This is the strongest wind gust ever recorded in Australia. Major property damage was sustained on Barrow Island, and at Pannawonica and Mardie station. Minor damage was reported from Karratha, Dampier, Tom Price and Paraburdoo where maximum wind gusts were around 140 km/h. The tidal surge at Barrow Island produced considerable coastal erosion. Ocean waves of up to 21 metres high were reported from the North Rankin A gas platform.

An intensifying low was named tropical cyclone *Nicholas* while located approximately 450 kilometres north of Derby on 13 December. The storm produced very heavy rains in parts of the North and West Kimberley as it continued on a southerly path, crossing the coast approximately 120 kilometres to the north of Derby early on 15 December. Notable weekend rainfall totals included Kalumburu (266 mm), Kuri Bay (183 mm), Kimberley Downs (176 mm), and Derby Aero (113 mm). Numerous other sites in the area recorded around 100 mm of rain during the same period. Heavy rain continued on 16 and 17 December near the weakening depression as it moved over the inland Kimberley.

Many centres in the Southwest Land Division experienced continuous heatwave conditions during the first two weeks of February. A strong ridge to the south of Western Australia and persistent heat troughs near the west coast combined to direct a dry east to north-east airstream over much of the state. Perth registered 16 consecutive days with maximum temperatures over 32 °C, commencing on 1 February.

Golf ball-sized hail and 69 mm of rain in one hour were recorded at Murrum (south-west of Mount Magnet) during thunderstorm activity on 7 February.

A rainband, extending from the remnants of tropical cyclone *Jenna*, and an active cold front, together produced localised heavy rainfall and widespread rains across the Southwest on 8 May. Strong squally winds accompanied this event and a wind gust of 128 km/h was recorded at Swanbourne. Further widespread rains fell throughout the Division on 31 May as a series of cold fronts and a northwest cloudband crossed the west coast. Wind gusts to 130 km/h were recorded at Cape Leeuwin and Swanbourne.

At around midday on 15 June, a severe hailstorm occurred in the Badgingarra area. On the same day a weak tornado caused minor damage in Mandurah.

Between 17 and 21 June, a series of very active cold fronts associated with a deep low to the south of the state, produced a prolonged period of windy and wet weather in the Southwest. On the 17th a house was unroofed in Yanchep and the local State Emergency Service received 110 requests for assistance during the storms. A weak tornado damaged forest areas during 21 June near Dwellingup. On 30 June an electrical storm caused widespread power surges in the Perth metropolitan area.

A low that had developed off the Pilbara coast moved in a southerly direction bringing very heavy rainfall to parts of the Gascoyne and Murchison districts during 14 and 15 July. Minilya (166.8 mm) and Carnarvon (90.8 mm) registered record July daily total rainfall on 15 July. Local flooding was experienced as the swollen Minilya River spread across parts of the Gascoyne district. As the low moved

further south it combined with another low to form a deep complex system off the south-west coast. A series of cold fronts associated with the low produced isolated storms with destructive squally winds and heavy rains in parts of the Division. During 15 July properties in the Mirrabooka, Dianella and Claremont areas were damaged as a squall moved across the area, and a tornado unroofed and caused structural damage to some premises in South Perth. Other tornadoes were responsible for damage at Mandurah and Jandakot on 27 July, and Chittering Valley on 29 July.

Some localities in the Lower Southwest registered record September monthly rainfall totals as a result of the passage of several active cold fronts on the 10th, 13th, 21st and 26th. Selected registrations include Albany Airport (153 mm) and Pemberton (260 mm). Near gale force winds were experienced in the vicinity of the west coast on 13 and 14 September as an intense low moved to the south of the state. Trees were blown down along a 150 km stretch of the Albany Highway, between Arthur River and Mount Barker.

Isolated thunderstorm activity produced some heavy rainfall in parts of the Kimberley, Pilbara and Gascoyne during October. Kuri Bay (62 mm) and Wittenoom (41 mm) reported record totals for the month, and Wyndham Post Office registered 84.8 mm of rain on 19 October.

### *Temperatures*

The extreme temperatures recorded in Western Australia during 1996 were: highest maximum, 47.5 °C at Nyang on 23 February;— lowest maximum, 10.0 °C at Bickley on 21 June, and Mount Barker on 13 August; highest minimum, 33.8 °C at Gascoyne Junction on 31 December; and lowest minimum, -3.0 °C at Eyre on 12 October.

### *Perth 1996, at a glance*

While the year started on a drier note, with below average monthly totals in the first five months, the total rainfall for 1996 as a whole was slightly above average, 888.6 mm on 129 days. Significant run-off into the water supply dams, resulting from above average rainfall in June, July and September around the metropolitan area, was well received. Mundaring Weir overflowed on 5 September, the first time since 1974. Perth's wettest day for the year was 20 June when 39.8 mm of rain was recorded.

Mean daily maximum and mean daily minimum temperatures were 24 °C and 12 °C respectively, slightly above normal for the year. Overnight temperatures below 5 °C were recorded on 16 occasions, with the lowest temperature being 2.2 °C on 6 and 14 August. The lowest maximum was 14.2 °C on 13 August. The highest maximum temperature was 42.4 °C on 11 February, and the highest minimum was 22.7 °C on 9 February. The temperature exceeded 35 °C on 24 days and 40 °C on 4 days.

The average number of sunshine hours per day was 8.6 hours, compared with the normal of 8.0 hours.

### THE ASHBURTON FLOODS January–February 1997

A highlight of the very active 1996–97 tropical wet season was a monsoonal low that caused flooding over a wide area of the Kimberley and Pilbara in late January and early February. Prior to the event, six tropical cyclones had developed in the Western Australian region including TC *Nicholas* which crossed the coast north of Derby in December, and TC *Rachel* which passed over Port Hedland on 7 January 1997. As a result, catchment areas were saturated and required little further heavy rain for flooding to occur.

A low developed near Broome on 27 January, remaining almost stationary for several days. Broome registered a phenomenal 476.6 mm in the 24 hours to 9am on 30 January, of which 415.4 mm fell in the 5 hours to 2:30 am that day, and a wind gust of 96 km/h was recorded during the thunderstorms. The 24 hour fall was one of the greatest falls in the state's history. The town suffered some localised water damage and communications were disrupted when the telephone exchange was flooded. The pearling facility at Cygnet Bay, approximately 150 kilometres to the north-north-east of Broome, registered 470 mm of rain in 4 days.

The monsoonal low then moved slowly towards the Pilbara where falls in excess of 100 mm occurred. Boodarie, south-west of Port Hedland, reported 215 mm of rain on 1 February. Throughout the inland Pilbara and northern Gascoyne, particularly over the Ashburton River catchment, similar rainfall amounts occurred over the following days. Over the first four days of February Mount Vernon station, located approximately 170 kilometres to the south-west of Newman, reported nearly 410 mm of rain. This included a daily record of 250 mm registered on the 3 February, resulting in one of the highest recorded river levels this century.

Significant stock losses occurred and several homesteads were flooded by the rising waters. Mt Vernon lost 3,000 head of cattle alone. The flood waters made the North West Coastal Highway impassable. Water flowed across the top of the bridge at Nanutarra on 7 February, and the nearby refuelling facilities were also flooded. Onslow remained isolated for several days as the swollen Ashburton spread towards the coast.

Apart from the property damage, the floodwaters also washed away significant amounts of fertile soil. One woman drowned in the Harding River near Roebourne on 6 February. Road closures throughout the Pilbara prevented supplies from reaching mines and interrupted operations. The road to Telfer was cut for almost seven weeks.

### Flora

*Contributed by the Department of Conservation and Land Management (CALM).*

Western Australia's flora is world renown for its richness, uniqueness and colourful displays. There are estimated to be more than 12,000 species of vascular plants (flowering plants, cone bearing plants, and ferns) in Western Australia, half the total for Australia, and nearly 5% of the estimated world vascular flora. This diversity is complemented by a wide range of environments present in the State, from the tropical rainforests and savanna of the north, through the arid and semi-arid centre, to the temperate forests, woodlands and shrublands of the south west.

The distribution of plant species across Western Australia is uneven, with the southwest corner having two thirds of the floral diversity. Geologically, this region has been isolated from eastern Australia for about 30 million years. The flora has undergone immense evolutionary change in a short geological period and the level of richness in the area (especially in the heathlands and shrublands) is equivalent to that of tropical rainforest areas, such as the Philippines Archipelago or Malaysia. Some 70% of the known plant species in the south west are found nowhere else in the world.

The spectacular flora of the State is an attraction to tourists. The region is also of great interest to professional botanists because of the unique nature of the flora and the opportunity for new discoveries. Only 9,000 of the estimated 12,000 species of vascular flora have been formally named, so much taxonomic and survey work still has to be done to classify this flora.

The flora of Western Australia has considerable economic value, being harvested for cut flowers, seed and timber products, and being the basis of nursery production. The flora has also been used to source chemical products, such as eucalyptus and boronia oil. More recently, investigations have been undertaken into pharmaceutical compounds found in the State's flora, with the objective being to discover treatments for such illnesses as cancer and AIDS. The diversity of flora and its potential for commercial uses, also provides the basis for developing new perennial crops that may be used to revegetate cleared land to counteract land degradation in the agricultural region.

### Flora Conservation

Under the *Wildlife Conservation Act*, flora may be declared by the Minister for the Environment to be rare (threatened) flora if it is considered to be either rare, threatened or otherwise in need of special protection. Currently there are 320 taxa (species, subspecies or varieties) of vascular flora listed as threatened, and one non-vascular taxon, the moss *Pleurophascum Occidentale*. These flora are given special protection under the Act, and are the main focus for flora conservation work in the State.

For a species to be considered for listing as threatened, it must be adequately surveyed to ensure that its conservation status is accurate before impediments are placed on land use where it occurs. Taxa that are only known from few locations, but which have not been adequately surveyed, are placed on a supplementary list in categories reflecting the urgency for survey work to be undertaken - the Priority Flora List. Over 1,700 taxa are listed as poorly known, with a further 229 being considered to be adequately surveyed and, while being rare, are not threatened and hence are being monitored to ensure they do not become threatened.

With over 2,200 taxa being of special conservation interest, being either threatened, rare or poorly collected, the State has a considerable flora conservation task. According to a recent assessment of such plant taxa, Western Australia has 46% of the Australian total, with most being restricted to the floristically rich south west, which corresponds with the area of most intensive agricultural development.

Threats to Western Australia's flora typically come from a wide range of often interrelated events. These include continued clearing of land, and the related changes in water table and salinity levels, invasive weeds, grazing, pests and disease, inappropriate fire regimes, recreation pressures, roadworks and urban development. Studies on the geographical distribution and biology of rare or threatened species show that their vulnerability has been due mostly to the activities of European settlement. Sometimes, however, species are naturally rare due to specific habitat requirements.

Adequate conservation of flora involves protecting all levels of diversity and, therefore, keeping combinations of landscape, communities and species. This can be achieved in a well designed and integrated reserve network combined with sensitive management of land outside reserves. Currently, approximately 7.6% of the land area of Western Australia is managed by the Department of Conservation and Land Management, with the majority of this being primarily for nature conservation. Several reserves are particularly important for flora conservation, being located in areas of high natural species diversity. These are the Fitzgerald River (1,400 species), Stirling Range (1,200 species), and Lesueur (800 species) National Parks.

Conservation of whole plant communities also helps conserve most of the fauna associated with that community (for example, pollinators and herbivores). If flora conservation aims only to protect individual species, the complementary benefits to fauna conservation will not be achieved (and vice versa), and ultimately the flora will also decline.

Only limited information is available on the proportion of species and the samples of plant communities that are in conservation reserves. In the Perth region, approximately 8% of the species of the

region have not been located in existing reserves. More detailed information is available for threatened species, with about 70% of threatened flora populations occurring outside the conservation reserves network, and 17% of threatened species are not represented at all in conservation reserves.

CALM maintains a database of information on threatened flora populations. This database contains information on the location of the population, habitat details, biological information, such as number of plants and flowering status, and management information. This database provides a valuable tool for assisting in the conservation of the State's threatened flora.

### *Flora Conservation Outside Reserves*

Many areas of land outside the formal system of conservation reserves, can make a substantial contribution to nature conservation. These include Crown reserves that are managed for other purposes (for example, water, timber, road or rail reserves), unmanaged reserves (for example, stock routes, undeveloped townsites or ancillary reserves), the pastoral country, farm bushland remnants, Aboriginal lands and other undeveloped private land (for example, urban bush areas). Nineteen percent of threatened flora populations are found on private land and 22% on road reserves.

### *Flora Research*

Knowing how many species exist, and understanding their distribution, abundance and ecological requirements is basic to other research into flora and fauna conservation. CALM's Herbarium maintains a database of all the names of Western Australian plants for which there are identified voucher specimens in the State collection. This database is fundamental, given the number of taxa still to be formally named, because it provides the current names of species and their variants to related databases.

In addition to the names database, the Herbarium also maintains a database of details of specimens held in the State collection. For each specimen where full information is available, there is a precise locality, notes on soil type, associated vegetation, date of collection and details of the collector, and, from the names database, the current name of the species. Therefore, a vast amount of data about a species and about the places where specimens were collected, can be coupled with data on geology, climate, land tenure or other geographic information, to give a comprehensive tool for conservation of the State's flora. The flora collection represents a small sample of the State's entire flora. Most specimens are of vascular plants as very little is known about lower order plants, such as the algae, fungi, lichens and mosses.

CALM is actively researching the State's threatened flora. Its major efforts include surveying, assessing the conservation status, providing management guidelines for rare and threatened flora and providing life history, genetic and ecological data on the most endangered species. This research information is used to prepare species recovery plans and regional management programs.

Currently, wildlife management programs for rare and threatened flora have been completed for CALM's Merredin and Albany Districts and the Swan Region. Similar area-based programs are being prepared for the Esperance, Katanning, Narrogin, Geraldton and Moora Districts and the Central and Southern Forest Regions.

Within the next five years, completed wildlife management programs for rare and threatened flora are planned to cover most of the species-rich South West Botanical Province.

It is CALM's policy to produce specific recovery plans for all species classified as being critically endangered, that is, in imminent danger of becoming extinct. These plans provided detailed costed recovery actions intended to protect and stabilise existing populations of the flora, and also to enhance the wild populations so the threat of extinction is reduced. There are currently 38 taxa of flora listed as critically endangered for the State.

Since presumed extinct flora were first included in the list of threatened flora in 1991, a total of 15 species have been rediscovered in the field, six have been found during Herbarium curatorial work (discovery of previous collections that were incorrectly curated in the past), and ten have been removed through taxonomic revision (found to be a more common species). In this time, three species have been added to the presumed extinct list as targeted surveys have not been able to relocate them. The current number of presumed extinct flora stands at 25. The reduction, by more than half the number of presumed extinct flora over the past six years, is a significant achievement for the State's field and taxonomic botanists.

The specific threat caused by *Phytophthora dieback* disease is a major focus for flora conservation in the south west of the State. *Phytophthora*, a fungus that infects the roots of plants, is estimated to affect up to one third of the flora of the south west, and has the potential to change the structure of whole plant communities, and eliminate certain species. CALM and Kings Park and Botanic Gardens have established seed stores for taxa threatened by dieback, and other critically endangered or poorly known taxa. This seed, and other propagation material being stored, will ensure this unique genetic information is not lost, and will also be used to produce plants for 'recovery plantings into the wild' once the threats affecting those sites have been reduced.

Research into the control of this disease in native bushland has developed a chemical, phosphite, which is able to inhibit the action of the fungus, and protect the host plants. Phosphite is now being used in management situations, with ongoing research investigating more effective and efficient methods of applying the chemical. Threatened flora populations are being treated as a priority.

### Fauna

*Contributed by the Department of Conservation and Land Management (CALM).*

#### Mammals

In Western Australia, 149 native terrestrial and marine mammal species are found. Three species of marine mammal, the Australian Sea-lion (*Neophoca cinerea*), the New Zealand Fur-seal (*Arctocephalis forsteri*) and the Dugong (*Dugong dugon*), are included in this number. In addition, 4 species of seal, 19 species of whale and 16 species of dolphin have been recorded in Western Australian waters. Twenty-five species of mammals, including the Honey Possum, the Kimberley Rock-rat and the Western Brush Wallaby, are found only in Western Australia.

#### Terrestrial Mammals' Status

Western Australia's native mammal numbers have declined markedly since European settlement. Ten species have become extinct and another 36 are considered threatened. Research has shown that these mammals are predominantly non-flying and medium sized, weigh between 35 and 5,500 grams and are termed 'Critical Weight Range' mammals.

Extinctions and declines have occurred mainly in the arid and semi-arid parts of the State. Marsupials and rodents have been most affected with 30 species listed as rare or likely to become extinct. The timing of the decline is difficult to determine. Available information suggests that mammals, particularly rodents and some of the wheatbelt marsupials, began to decline in the late nineteenth century, while the arid and semi-arid species persisted until the 1930s and 1950s.

Following European settlement, declines occurred when grazing stock and rabbits were introduced, large areas of land were cleared for agriculture, and predators, particularly foxes and cats, were introduced. In arid and semi-arid areas, where native ground dwelling mammals were adapted to the harsh conditions, the introduced species and changes in fire regimes had a devastating effect. Very few native species have benefited from the changes brought by European settlement. Red Kangaroos (*Macropus rufus*) are one exception; their numbers appear to have increased in some parts of the pastoral districts because of the increased availability of water.

#### Conservation

Mammal conservation depends on significant suitable habitat areas being maintained and introduced competitors or predators being controlled. Important terrestrial reserves for mammal conservation currently include Bernier, Dorre and Barrow Islands, Perup, Tutanning, Boyagin, Two Peoples Bay and Prince Regent Nature Reserves, Drysdale River and Fitzgerald River National Parks and Dryandra Woodland. It is critical that species requirements are researched so that habitat areas can be managed appropriately.

Recovery plans have been written for threatened species to specify actions to ensure the survival of each species, using habitat and population management strategies determined by prior research. Habitat management strategies include special fire regimes and guidelines to harvest timber, manage public use of strategic areas, and create vegetated corridors to link isolated habitats. For instance, research in the southern jarrah forest has shown that the dense thickets required by Tammar Wallabies (*Macropus eugenii*) for protection from fox predation, thin out after long periods without fire. Prescribed burning is now used in certain areas to regenerate those thickets as their value to Tammar Wallabies declines.

*Marine Mammals'  
Status*

The New Zealand Fur-seal and the Australian Sea-lion breed in Western Australia and were heavily exploited by sealers when the State was being developed. While it was feared for many years the populations had drastically declined, it was not until 1990 that the first thorough census of these species was undertaken in Western Australia. Surveys, during 1990 and 1991, recorded about 3,100 Australian Sea-lions and 5,700 New Zealand Fur-seals around the Western Australian coast. New Zealand Fur-seals breed on seventeen islands while Australian Sea-lions breed on twenty islands off the south coast, three islands in Jurien Bay and the Abrolhos Islands.

The two main whale species found along the Western Australian coast are the Humpback Whale (*Megaptera novaeangliae*) and the Southern Right Whale (*Eubalena australis*). Southern Right Whales were so heavily exploited in Western Australia's southern waters between the 1830s and 1860s that the population almost became extinct. The first reported sighting this century was in 1955, involving a single cow and calf. An ongoing monitoring program from 1976 has shown the population to be steadily recovering with the population estimated at 600-800 in 1994.

Humpback Whales were hunted off Western Australia between 1912 and 1963, with at least 30,000 taken between 1934 and 1963. It has been estimated that the population, when whaling ceased in 1963, was down from a pre-harvest level of 15,000 to about 800. Western Australian Humpback Whale numbers have increased significantly since whaling ceased and current estimates show the population to be about 4,000-5,000 in 1996-97. Sperm Whales were also hunted off Western Australia until 1978.

*Conservation*

Marine mammals have not suffered the same declines as the land dwelling species. However, populations of the Australian Sea-lion, New Zealand Fur-seal, Humpback Whale, Sperm Whale and Southern Right Whale have been considerably reduced by hunting. In 1980, the Commonwealth Government passed the *Whale Protection Act*, banning whaling in Australian waters. Populations are recovering following the ban on hunting. These mammals are also protected under the *Western Australian Wildlife Conservation Act*.

## Environment

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**Birds** About 510 bird species are found in Western Australia including 380 breeding species and 130 non-breeding migratory or visiting species. Fourteen bird species are endemic to the State. These are Carnaby's and Baudin's Black-cockatoo, Western Long-billed Corella, Red-capped Parrot, Western Rosella, Noisy Scrub-bird, White-breasted Robin, Red-winged Fairy-wren, Black Grass-wren, Western Bristlebird, Dusky Flyeater, Western Thornbill, Western Spinebill and Red-eared Firetail. Of these, the Grass-wren occurs only in the Kimberley, and the Dusky Flyeater in Kimberley, Pilbara and Gascoyne regions, while the remainder are restricted to the south west of the State.

**Status** Currently 31 bird species or subspecies are declared threatened under the *Wildlife Conservation Act* and a further four species are declared in need of special protection. Of Western Australia's 14 endemic species, five – the Noisy Scrub-bird, Baudin's Black-cockatoo, Carnaby's Black-cockatoo, Western long billed Corella and the Western Bristlebird – are gazetted as threatened or in need of special protection. Some of Western Australia's bird species, such as the Grey Falcon and Red Goshawk, may have always been rare while numbers of other birds, like the Noisy Scrub-bird and the Gouldian Finch, are known to have declined dramatically since European settlement.

A few species, including the Magpie, Galah, Little Corella, Silver Gull, Crested Pigeon, Welcome Swallow, Australian Shelduck, Maned Duck and Pink-eared Duck, have expanded in range and/or numbers since European settlement. These species have been favoured by changes to food systems and habitats brought about by European settlement, for example widespread cultivation of cereal crops and large open-pit refuse disposal. Many other species have declined in range or numbers over the last 150 years, with the major declines occurring in the last 50 years or so.

**Conservation** To conserve bird species in the wild requires protection of their habitat (particularly breeding habitat) and protection from exotic predators. CALM gives a high priority in the State's conservation reserve system to the inclusion of prime bird habitat areas such as large wetlands. Major reserves important in this way include the Fitzgerald River National Park and the Prince Regent River Nature Reserve.

Australia is a signatory to the Ramsar Convention to protect waterfowl habitat. The convention encourages countries to establish reserves on wetlands and to work towards increasing waterfowl population. Nine areas in Western Australia have been listed under this convention as wetlands of international importance. The listed areas are: the Ord River Floodplain, Lakes Argyle and Kununurra, Roebuck Bay, Eighty Mile Beach, Forrestdale and Thompsons Lakes, Peel Yalgorup System, Lake Toolibin, Vasse-Wonnerup System and the Lake Warden System.

Australia is also signatory to international agreements with Japan and China to protect migratory birds. These agreements provide for cooperation to protect birds which migrate between the respective countries, and recognise that conserving migratory species requires international action. The agreements promote such measures as controlling the taking of migratory birds, establishing sanctuaries to protect the birds and their habitats, undertaking joint research and exchanging information and publications.

Illegal nest robbing for the avicultural trade is a major threat to Red-tailed and White-tailed Black Cockatoos in Western Australia's south west as their nests are destroyed and birds removed. Illegal operators may take young birds from the wild and then claim they had been bred in captivity from adult birds held lawfully under licence. Recent advances in DNA technology allow captive breeding claims to be tested, which has led to detection and prosecution of illegal trappers.

### Reptiles

Australia's reptile fauna includes more than 750 known species. Of these, 440 species occur in Western Australia. The sandy deserts of Western Australia have one of the richest reptile faunas in the world; the Great Victoria Desert and the Great Sandy Desert each have about 65 species of lizards.

### Status

Few reptiles in Western Australia are declared rare or threatened, although the status of many is unclear because it is not known how many there are or where they live. Eleven species are currently listed as threatened.

Several other reptiles are listed as needing special protection because past hunting has depleted populations, they live only in a few places, or their numbers have been observed to decline. They are the Saltwater and Australian Freshwater crocodiles and Ramsay's and Carpet pythons. No species of reptile is known to have become extinct in Western Australia since European settlement. Several species have declined in range and abundance, largely as a result of clearing land for agriculture or urban development.

### Conservation

One of the world's rarest reptiles, the Western Swamp Tortoise is known to live only in one nature reserve near Perth. Its conservation has been the subject of intensive research by CALM, the University of Western Australia and the Perth Zoo.

A captive breeding colony has been established and, despite early difficulties, has successfully raised hatchlings since 1989. A recovery plan has been developed that will involve buying additional habitat, extending swamp life, controlling exotic predators, breeding in captivity and reintroducing hatchlings to the wild. Four species of marine turtles have been recorded breeding in Western Australia, the Green, Flatback, Hawksbill and Loggerhead. All four depend on access to undisturbed and unpolluted beaches to nest.

## Environment

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World-wide turtle populations are under enormous human pressure. The Green, Loggerhead and Hawksbill turtles travel long distances from nesting to feeding grounds. CALM, in association with communities in the north west, has been studying turtle migration and behaviour through a tagging program. Marine turtle conservation in Western Australia depends upon national and international support and cooperation.

Saltwater Crocodiles were hunted to near extinction in the Kimberley before hunting was prohibited in 1970. Since then, crocodile numbers have slowly recovered. In 1988, commercial crocodile farming commenced in Western Australia and now three licensed farms are operating. The long term viability of wild crocodile populations is enhanced by these farms. A management program for both Saltwater and Freshwater crocodiles has been in operation for some years now.

### Amphibia

Frogs are the only amphibians in Australia. Two families of frogs are represented in Western Australia: the Hylidae (Tree Frogs – 25 species) and the Leptodactylidae (Ground Frogs – 53 species). Western Australia's frog fauna is comparatively rich, with its 77 species forming more than one third of Australia's known 182 species. Forty-two species are known only in this State, including 28 of the 30 species occurring in the southwest. Several genera found elsewhere in Australia are most diverse in Western Australia, for example *Geocrinia*, *Uperoleia*, *Heleioporus* and *Neobatrachus*, while the burrowing genera *Arenophryne* and *Myobatrachus* occur only in this State.

### Status

Three species, *Geocrinia vitellina* (Orange-bellied Frog), *G. alba* (White-bellied Frog) and *Spicospinna flammocaerulea* (Sunset Frog) are gazetted as threatened fauna because of restricted distributions and vulnerability to habitat change. No species of frog is known to have become extinct in Western Australia since European settlement.

### Conservation

Although many species of frog can withstand changes in the uses of land, many others are vulnerable to disturbance. Few survive major land disturbances such as the salinity changes occurring in the wheatbelt. Several species may perish in the wake of agricultural clearing or urbanisation. Species of the *Geocrinia rosea* complex, for example, are restricted to permanently damp sites in the lower southwest and have not survived the destruction of their habitat by agricultural clearing or trampling of stock. A recovery plan has been published for the two *Geocrinia* species listed as threatened fauna.

### Terrestrial Invertebrates

Invertebrates (animals without backbones) play important roles in every ecosystem and represent about 98% of the Earth's animals. Nevertheless, because most invertebrates are very small and most people's experience of them is restricted to the small proportion of species that are nuisances or economic pests, the ecological importance of invertebrates is rarely appreciated.

The number of invertebrate species in Western Australia is not known but it is probable that several hundred thousand exist. The main types of invertebrates are insects, arachnids (spiders, scorpions, mites, ticks), myriapods (centipedes, millipedes) and annelids (earthworms, leeches). About 90% of invertebrates are insects. The forests of south west Western Australia have been estimated to support some 15,000 to 20,000 species of insects.

### Status

Invertebrates are characteristically smaller and therefore more abundant than vertebrates. All Jewel Beetles (Family: Buprestidae), the primitive ant genus (Nothomyrmecia), a blind cockroach, a schizomid spider and two species of water mite are protected. Twenty-three species of invertebrate are now listed as threatened, including a mollusc, 10 arachnids, 4 crustaceans, 2 millipedes, 3 crickets and 3 native bees. One species of native bee is presumed to be extinct. In Western Australia, the conservation status of most invertebrate species is unknown as the majority are yet to be described by science. This lack of a taxonomic foundation has seriously hindered research on much of Western Australia's invertebrate fauna.

For a limited number of invertebrates, however, considerable taxonomic, biological and ecological information is available. These include species of economic importance such as agricultural and forest pests and macro-invertebrates of intrinsic interest to naturalists, for example, dragonflies, lacewings, beetles, butterflies, cicadas, spiders and scorpions.

The impact of European settlement on some of Australia's vertebrate fauna has been devastating and it is quite likely that the impact on some invertebrates has also been severe.

### Conservation

Conserving such a large and diverse group of animals presents considerable logistical problems. Despite their ecological significance, research and management committed to the conservation of invertebrates lag far behind that for vertebrate animals. Concern with pest invertebrates has focused on their control. Nevertheless, such research has contributed to the knowledge of invertebrate biology and population dynamics. In Western Australia, research is continuing into forest pests such as Jarrah Leafminer, Gum Leaf Skeletonizer, Autumn Gum Moth and Bullseye Borer.

The health of most ecosystems is dependent on the functions provided by invertebrates and micro-organisms. These animals are too small and poorly known to attempt to protect them at a species level. Emphasis will, therefore, need to be placed on conserving a range of habitats to conserve the invertebrate fauna associated with those habitats. CALM is aiming to conserve a range of habitats so the invertebrate fauna who live in them can survive.

## Environment

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### Marine and Freshwater Fauna

The majority (around 1,040) of the 1,500 species of fish found in Western Australian waters are tropical. The remainder are either southern temperate (400 species) or freshwater (60 species). Most marine organisms have the ability to disperse in currents, usually as eggs or larvae. Consequently marine ecosystems generally have a much higher degree of interconnection than terrestrial ecosystems.

### Status

Western Australia's coastal waters fauna has been increasingly exploited since European settlement. Most species have been managed as commercial fisheries with some species exploited at very high levels. In spite of this exploitation of the marine environment, unlike the terrestrial environment, no species are known to have become extinct. Habitat degradation and destruction in coastal waters and estuaries, largely through pollution, is probably the greatest threat to the marine fauna. In the north west, the mollusc *Drupella* has extensively destroyed corals. This may be a natural event or the result of an unknown artificial disturbance. Although exotic species have been introduced unintentionally (in ships' ballast water), they have not had the same effects as have occurred in terrestrial ecosystems.

### Conservation

It is taking longer to establish a system of marine conservation reserves representing all the major marine habitat types occurring in Western Australia and their faunas and floras, than it has to set up an equivalent terrestrial system. Six marine conservation reserves have recently been established, the most significant being the Ningaloo and Shark Bay Marine Park. Exploitation pressure in marine organisms has been controlled by limiting entry to commercial fisheries, and introducing bag limits and closed seasons in recreational fisheries.

Two species of fish found only in the subterranean waters of North West Cape, the Blind Gudgeon (*Milyeringa veritas*) and the Blind Can-eel (*Ophisternon candidum*), are gazetted as threatened fauna because of their restricted distribution and vulnerability to changes in the aquifer that may follow increased use of groundwater. The degree to which the effects of waste disposal (particularly sewage) in coastal waters between Bunbury and the Perth metropolitan areas can be limited, will influence future marine habitat and biota conservation in this region, which is experiencing the most rapid human population growth in Western Australia.

**Conservation**

*Contributed by Department of Conservation and Land Management (CALM).*

**National Parks**

National parks are for wildlife and landscape conservation, scientific study, preservation of features of archaeological, historic or scientific interest and enjoyment by the public. They have national or international significance for scenic, cultural or biological value.

The area of the 63 national parks as at 30 June 1997 was 4,873,906 hectares. A major change to the national park estate was an addition of 1,221 hectares to D'Entrecasteaux National Park. Fitzgerald River National Park increased by 843 ha as a result of a land purchase, and the area of Eucla National Park was recalculated as being 218 ha larger.

**2.4 – NATIONAL PARKS, 1997**

<i>National Park</i>	<i>Area (ha)</i>	<i>National Park</i>	<i>Area (ha)</i>
Alexander Morrison	8 500	Millstream-Chichester	199 736
Avon Valley	4 366	Moore River	17 540
Badgingarra	13 121	Mt Augustus	9 168
Beedelup	1 786	Mt Frankland	30 830
Boorabbin	26 000	Nambung	18 362
Brockman	49	Neerabup	1 069
Cape Arid	279 382	Peak Charles	39 959
Cape Le Grand	31 578	Porongurup	2 511
Cape Range	50 581	Purnululu (Bungle Bungle)	239 723
Collier Range	235 162	Rudall River	1 283 706
D'Entrecasteaux	116 668	Scott	3 273
Drovers Cave	2 681	Serpentine	4 360
Drysdale River	448 264	Shannon	52 598
Eucla	3 560	Sir James Mitchell	497
Fitzgerald River	329 882	Stirling Range	115 920
Francois Peron	52 529	Stokes	9 726
Frank Hann	67 550	Tathra	4 322
Geikie Gorge	3 136	Torndirrup	3 936
Gloucester	875	Tuart Forest	2 049
Goongarrie	60 397	Tunnel Creek	91
Gooseberry Hill	33	Walpole Normalup	15 861
Greenmount	58	Walyunga	1 812
Hassell	1 265	Warren	2 982
Hidden Valley (a)	2 068	Watheroo	44 474
John Forrest	2 676	Waychinicup	3 982
Kalamunda	375	West Cape Howe	3 517
Kalbarri	183 004	William Bay	1 734
Karijini (Hamersely Range)	627 445	Windjana Gorge	2 134
Kennedy Range	141 660	Wolf Creek Crater	1 460
Leeuwin-Naturaliste	19 037	Yalgorup	13 001
Lesmurdie Falls	56	Yanchep	2 842
Lesueur	26 987	<b>Total</b>	<b>4 873 906</b>

(a) Not yet gazetted.  
Source: CALM.

## Environment

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- Conservation Parks** Conservation parks are managed in the same way as national parks, but they do not have as much national or international significance. They have significant local or regional value for conservation and recreation. The area of conservation parks as at 30 June, 1997 was 117,316 ha.
- Nature Reserves** Nature reserves are for wildlife and landscape conservation, scientific study and the preservation of features of archaeological, historic or scientific interest. Wildlife values may not be commercially exploited and recreation that does not harm natural ecosystems is allowed.
- The area of nature reserves as at 30 June, 1997 was 10,770,692 ha, representing a decrease of 14,059 ha in 1996-97. The major excision, of 16,442 ha, was from the Gibson Desert Nature Reserve; notable additions included 605 ha to Yeal Nature Reserve, in the Swan Region, and several new nature reserves, totalling about 1,815 ha, in the Wheatbelt Region.
- State Forests** State forests are managed for multiple purposes, including recreation, conservation, sustained timber production, and the protection of water catchments. Provision is also made for public utilities and mineral production. Within State forests, designated areas are managed for specific purposes, such as conservation, or to obtain an optimum yield from exotic plantings. The area of State forests as at 30 June, 1997 was 1,725,036 ha, an increase of 82 ha for the year.
- Timber Reserves** Timber reserves declared under the *CALM Act* are managed on the same basis as State forests. The category is transitional: as reserves are evaluated they may be changed to a more appropriate tenure, such as State forest or nature reserve. The area of timber reserves as at 30 June, 1997 was 141,550 ha, an increase of 63 ha in 1996-97.
- Marine Parks and Reserves** Marine parks are managed for marine conservation and recreation, with areas zoned for sustainable commercial fishing. Marine nature reserves are managed to conserve marine and terrestrial flora and fauna and their habitats. Fishing or collecting is not permitted. In June 1997, the area of marine parks was about 1,013,940 hectares. The area of marine nature reserves at the same period was about 132,000 hectares. There were no changes during the year.
- 5(g) Reserves** The CALM Act categorises some land as 5(g) reserves. These are not national parks, conservation parks, nature reserves or marine reserves. Predominantly they have a conservation or recreation purpose. The area of 5(g) reserves as at 30 June, 1997 was 230,451 ha. An area of 1,400 ha was excised from one reserve in the Goldfields Region.

**2.5 – CALM: MANAGED LANDS AND WATER, JUNE 1997**

<i>Tenure Classification</i>	<i>Area (ha)</i>
National Park	4 873 906
Conservation Park	117 316
Nature Reserve	10 770 692
Marine Park	1 013 940
Marine Nature Reserve	132 000
State Forest	1 725 036
Timber Reserve	141 550
Reserve (a) —	
Freehold	31 647
Leasehold	1 211 471
Miscellaneous	12 952
Section 5(g)	230 451
<b>Total</b>	<b>20 260 961</b>

(a) Includes land reserved under the Land Act (1933), is not a park or reserve, and which was administered by the National Parks Authority.  
 Source: CALM.

**Environmental Protection**

*Contributed by the Department of Environmental Protection.*

**Legislation and Management**

Environmental protection in Western Australia is guided by the *Environmental Protection Act 1986*. The Act is administered by the Environmental Protection Authority (EPA) and the Department of Environmental Protection (DEP).

The EPA is an independent statutory authority and is the major provider of independent environmental advice to the State Government. It consists of five members, including a chairman, appointed because of their interest in and experience of environmental matters. The five members are not public servants.

The DEP is headed by a chief executive officer and provides the EPA with professional and technical support, particularly in relation to protection policy and assessment. The department also provides advice to the Minister for the Environment on environmental protection issues.

**Environmental Systems**

In 1996–97, three major scientific studies conducted by the DEP were released – two on Perth's air quality and one on Perth's coastal waters. All of the studies were subject to extensive peer review. The Perth Photochemical Smog Study and the Perth Haze Study provided, for the first time, a comprehensive overview of the nature and source of Perth's air quality problems.

The smog study – a joint effort between the DEP and Western Power – began in 1992 and was released in December 1996. Photochemical smog is characterised by high concentrations of

ozone at ground level and occurs mainly during the spring to autumn period. One of the major findings of the study was that there were four main sources contributing to smog – motor vehicles, industrial emissions, area sources and natural emissions. Results showed that motor vehicles were the dominant cause of Perth's photochemical smog.

The haze study looked at the nature and sources of fine particles that are responsible for the reduced visibility of Perth's air during the winter months. Several sources were identified as contributing to Perth's fine-particle loading and their contributions have been quantified. Many of the sources are natural and include soil, sea-salt and plants. However, the most dominant sources identified were combustion sources in winter, for example wood heater emissions and controlled burns in spring, with somewhat differing relative contributions from motor vehicle exhausts. Smoke particles, depending on the location in Perth, caused severe fine particles loading and reduced visibility.

The information released in the Perth haze and smog studies will be used to develop an Air Quality Management Plan, to reduce and manage the sources of urban air pollution. To initiate this process, a Parliamentary Select Committee was formed in May to assess community attitudes and concerns in relation to Perth's air quality and investigate ways in which urban air quality can be improved for current and future generations. The Select Committee will offer opportunities for significant public consultation and involvement.

Following the release of the Perth haze and smog studies, the DEP concentrated its efforts for the 1997 World Environment Day (June 5) on raising public awareness about the haze issue and, in particular, the effects household wood fires had on Perth's air quality. The 'Halt the Haze' community awareness campaign involved the distribution of more than 30,000 information kits. A TV and newspaper campaign ran for three weeks after June 5 to support the information contained in the kits. As this was the first awareness campaign of this type to be run by the DEP, an independent research company conducted an evaluation to determine its effectiveness. The evaluation, when completed, will provide direction for future community awareness campaigns.

The Southern Metropolitan Coastal Waters Study (SMCWS) was released in December 1996 and a summary report released in March 1997. The SMCWS consisted of many scientific reports outlining technical findings as well as suggested directions for protecting Perth's coastal water quality. The goal of the study was to achieve the sustainable, multiple-use of Perth's marine environment by protecting and enhancing its quality, while maintaining economic and social development. The next stage of the study is to consult key stakeholders and the community to ensure everyone agrees upon what is wanted from our coastal waters from Yanchep to south of Mandurah, and how they should be treated in the future.

Under the State Government's commitment to the 'War on Salt', the DEP, in conjunction with other agencies, developed the State's Salinity Action Plan, which will be funded by the Natural Heritage Trust. In connection with the Salinity Action Plan, a revised procedure for clearing of remnant native vegetation was developed and implemented.

Other major projects undertaken throughout the year included: the review of Kwinana industry emissions limits under the Kwinana Environmental Protection Policy (EPP), the progression of major air quality and marine studies of the North West Shelf, and the development of a National Environmental Protection Measure (NEPM) for ambient air quality.

### **Project Assessment**

There was a continuing high level of economic activity in the State during 1996-97, particularly in the resources sector with numerous new mining and mineral processing projects. This increased activity has resulted in more projects being referred and assessed by the DEP and the EPA.

The tendency in recent years has been away from the setting of detailed environmental conditions in favour of proponents making specific commitments to environmental practices. Since these commitments are available at the public comment stage of assessment, this trend has provided the public with a much better indication of the proponent's intentions for environmental management.

The introduction of the *Planning Legislation Amendment Act 1996*, in August, resulted in changes to Western Australia's planning laws, giving the EPA the power to assess and, if necessary, protect land from inappropriate use during the initial stages of the planning process. Previously the EPA's assessment was delayed until subdivision and development were proposed. As a result of this legislative change, the DEP, in conjunction with the Ministry for Planning, developed procedures to ensure the rapid and effective assessment of planning schemes. The EPA, with the assistance of the DEP, developed a manual to help Ministry for Planning and local authority planning officers to determine appropriate action on planning schemes.

### **Waste Management**

Waste Management in the State progressed during the past year in three main areas - waste disposal, waste reduction and recycling and waste management facilities.

Major achievements for 1996-97 included the formation and announcement of a \$3 per tonne landfill levy which will apply from July 1, 1998. An extensive site inspection and licensing program completed by June 30, 1997 ensuring all Western Australian landfill facilities were licensed and those sites found unsatisfactory were closed. Implementation of the 1996 Liquid Waste Regulation was completed and waste volumes generally increased over the year.

The global positioning system (GPS) and volume tracking system of the liquid waste transport fleet was implemented.

During the year, the draft State Waste Reduction and Recycling Policy was completed and planned to be released for public comment in August. The policy was formulated in response to the Parliamentary Select Committee on Recycling and Waste Management's recommendations. The policy would be aimed at reducing Western Australia's waste to landfill by half, by the year 2000.

A new State Government paper recycling contract, with the aim of maximising waste paper recycling and reducing the volume of waste paper from government agencies going to landfill, was announced in June.

The management of hazardous wastes was also improved with the official launch of the Industrial Waste Exchange (IWE) and Household Chemical Waste Collection Scheme (HCWCS). IWE is an electronic database of industrial and chemical wastes available for refuse and recycling, reducing the need for treatment of waste disposal. In its first year of operation, the IWE saved clients more than \$150,000 in disposal or treatment costs, saved the users of the recycled materials about \$150,000 and reduced waste disposal to the environment. The HCWCS introduced a method for householders to safely dispose of potentially hazardous materials (such as pesticides, cleaning agents, solvents and pool chemicals) which often find their way to landfill.

During the past year, the DEP was involved in the development of national approaches to the management of organochlorine wastes, including the National Polychlorinated Biphenyl (PCB) management Plan and a plan for the management of organochlorine pesticides. The DEP has commenced work on developing regulations to implement the recommendations contained in the PCB management plan. These should be gazetted in 1997-98 as part of a broader approach to hazardous waste regulations. Work has commenced on the development of a National Environmental Protection Measure for the transport of hazardous wastes and assessment of contaminated sites.

### **Pollution Prevention**

Western Australia is now facing new, and in some cases more complex, challenges in pollution prevention. Environmental systems are approaching carrying capacity limits and therefore require more sophisticated management. At the same time, there has been an increase of new industries requiring inspection, and greater awareness of site contamination from old industries.

There have been major activities in pollution prevention in Western Australia recently, including both air and water quality. The introduction of regulations such as those to control lead in petrol and emissions of hydrocarbons from storage tanks, have contributed

towards protecting Perth's air. Industries discharging waste into waters within catchments under stress, such as the Swan-Canning and Peel-Harvey, have received particular attention. As a result, there are now major upgrades to many sewage treatment plants and piggeries, and in the case of wool scouring facilities, proposed relocation to a more appropriate site.

An extensive review of the State's system for licensing industries to prevent pollution was held during the year, to bring it into line with today's environmental protection expectations and requirements. Changes include cost recovery for pollution administration by amending relevant regulations, development of a framework for best practice licenses, removing licence requirements for about 600 premises currently licensed and licensing all government authority and private waste management facilities.

Another area, in which environmental controls are being improved, is in the proposed amendments to the Environmental Protection Act 1986. In May, a Contaminated Sites Position Paper was released for public comment on the preferred management strategy for contaminated land and groundwater throughout Western Australia. Other Amendments include increasing penalties ten-fold and introducing a ban on the sale of wood burning appliances that do not comply with Australian Standard 4013, and the sale of green wood for burning in these appliances.

New draft noise regulations were completed this year and released for public comment in February. It is planned the new regulations will be gazetted in 1997-98.

The DEP has also contributed to the development of a national pollutants inventory being trialed in the Kalgoorlie region.

### **Regional Environmental Protection**

1996-97 saw continued expansion of the DEP's regional offices, especially in Karratha and Bunbury and the opening of a new office in Geraldton in July.

Changes to the boundary for the South West office have resulted in the administration of a further 14 local government authorities. The increase in area has led to the appointment of further staff - in particular with expertise in water quality management.

Increasing industrial activity in the Pilbara has also resulted in increased demands on the North West office's resources especially in relation to the development of the Maitland Heavy Industry Estate and the Cape Range Peninsula.

All regional offices, Kwinana, Bunbury, Geraldton, Kalgoorlie and Karratha, have been subject to changing pressures as the responsibilities in each geographic area have grown. In many instances the changes have been representative of changes within the wider department and the necessary administration in regional

centres. As a result of growing demands and changes in responsibilities, activities in community liaison, environmental studies, environmental impact assessment, assistance in waste management initiatives and the traditional pollution control activities have all been provided to some extent through the DEP's regional offices.

### Policy

The 1997 Draft State of Environment Report was completed, and released this year on July 16.

In 1995, it was agreed that State of Environment Reports should be undertaken every two years to establish an ongoing framework for reporting on the condition of the environment, including indicators to measure the health of the environment. The size and diversity of the State required a regional approach to the report, with regions being based on geomorphological and vegetation characteristics.

The 1997 draft report provides a focused examination of the top 23 environmental issues facing the State and a snap-shot of progress in balancing the use of natural resources and maintaining environmental integrity. The report is the first Australian 'State of Environment' report to be released in draft form, allowing public consultation and input into the findings of the report before submission to Parliament. The draft report has been compiled over two years and involved more than 300 people who are actively involved in environmental and natural resource management.

The past year has seen further work on updating conservation recommendations on behalf of the EPA. A call for nominations of areas of bushland which met the updated criteria resulted in about 300 areas being nominated. These areas have been reviewed against criteria set by the inter-agency technical working group and, where appropriate, field surveys were conducted to confirm conservation values of particular areas. An agreement has been made with the Ministry for Planning to integrate the findings of the update with those findings of Perth's environmental plan undertaken by the Ministry. A combined report of recommended areas in the Perth Metropolitan Region is expected to be released for public comment before the end of 1997. Recommendations for reserves outside the metropolitan area will need further consideration and will be reported on at a later date.

During the year, the environmental protection policy (EPP) for the South-West Agricultural Zone Wetlands and the Swan-Canning Reviews were completed and transmitted to the Minister for consideration and approval. The Swan-Canning EPP identifies the environmental values of the waterway and requires a program for their protection to be prepared by June 30, 1998. Environmental values to be protected include recreation, natural ecosystem functions, fishing, navigation and port functions. Also during 1996-97, a strategy for the protection and conservation of rangelands was prepared for the EPA.

# Government



## Chapter 3

# GOVERNMENT

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## Chapter 3

# GOVERNMENT

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Western Australia is one of the six federated sovereign States which, together with the Northern Territory and the Australian Capital Territory, constitute the Commonwealth of Australia. Thus, in addition to having its own Parliament and executive government, it is represented in the Federal legislature. As well as government at the Federal and State levels, there is a third system, that of Local Government, which functions through City Councils, Town Councils and Shire Councils. This chapter will focus on State and Local Government. For an outline of Western Australia's Constitutional development, refer to Chapter 4 of the 1993 Western Australia Year Book.

### **The Governor of Western Australia**

The Governor of Western Australia is the personal representative of the Sovereign in the State and exercises the powers of the Crown in State matters. The present Governor of Western Australia, Major General Philip Michael Jeffery, was appointed on 1 November 1993. He is the titular head of the Government and performs the official and ceremonial functions pertaining to the Crown.

In the event of the Governor's absence from Western Australia, the Lieutenant-Governor of the State is appointed Administrator. If there is no Lieutenant-Governor, it is customary for the Chief Justice of Western Australia to be appointed Administrator. During the absence from Australia of the Governor-General, it is usual for the most senior among the State Governors to be appointed Administrator.

### **The State Parliament**

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

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

3.1 – MINISTRIES FROM 1890

Premier	Political party	Date of assumption			Duration		
		Year	Day	Month	Years	Months	Days
Forrest	(a)	1890	29	December	10	1	17
Throssell	(a)	1901	15	February	—	3	12
Leake	(a)	1901	27	May	—	5	25
Morgans	(a)	1901	21	November	—	1	2
Leake	(a)	1901	23	December	—	6	8
James	(a)	1902	1	July	2	1	9
Daglish	Labor	1904	10	August	1	—	15
Rason	Liberal	1905	25	August	—	8	12
Moore	Liberal	1906	7	May	4	4	9
Wilson	Liberal	1910	16	September	1	—	21
Scaddan	Labor	1911	7	October	4	9	20
Wilson	Liberal	1916	27	July	—	11	1
Lefroy	Liberal	1917	28	June	1	9	20
Colebatch	Liberal	1919	17	April	—	1	—
Mitchell	National and C.P. coalition	1919	17	May	4	10	30
Collier	Labor	1924	16	April	6	—	8
Mitchell	National and C.P. coalition	1930	24	April	3	—	—
Collier	Labor	1933	24	April	3	3	27
Wilcock	Labor	1936	20	August	8	11	11
Wise	Labor	1945	31	July	1	8	1
McLarty	L.C.L. and C.P. coalition	1947	1	April	5	10	22
Hawke	Labor	1953	23	February	6	1	10
Brand	L.C.L. and C.P. coalition	1959	2	April	11	11	1
Tonkin	Labor	1971	3	March	3	1	5
Court, Sir C.	Liberal and C.P. coalition	1974	8	April	7	9	17
O'Connor	Liberal and C.P. coalition	1982	25	January	1	1	—
Burke	Labor	1983	25	February	5	—	—
Dowding	Labor	1988	25	February	1	11	12
Lawrence	Labor	1990	12	February	3	—	4
Court, R.	Liberal and N.P. coalition	1993	16	February			Still in office

- C.P. = Country Party
- N.P. = National Party (b)
- L.C.L. = Liberal and Country League (c)
- Labor = Australian Labor Party
- Liberal = Liberal Party

(a) No specific party designation.  
 (b) The National Country Party of Australia (WA) Inc. changed its name to National Party of Australia (WA) Inc. on 2 October, 1984.  
 (c) The name of the Party was changed to The Liberal Party of Australia (Western Australian Division) Inc. on 15 July, 1968.

Source: Parliament House of Western Australia.

Since 1890, when responsible government was granted to Western Australia, there have been thirty separate Ministries. No organised political party existed in the Colony until the formation of a Labor party in the 1890s. A Labor Ministry assumed office in 1904.

The *Constitution Act 1889* provided for a Ministry of five members. This number was increased by subsequent amendments to the Act to 17.

The right to vote at parliamentary elections was extended to women by the *Constitution Acts Amendment Act 1899*. Membership of women to either House was provided for by the *Parliament (Qualification of Women) Act 1920*.

The first woman member of any Australian Parliament was Mrs Edith Dircksey Cowan, OBE, who was elected to the Legislative Assembly in March 1921 as member for West Perth. Mrs A.F.G. (later Dame Florence) Cardell-Oliver, MLA for Subiaco, became the first woman Cabinet Minister in Australia when she joined the McLarty Ministry in 1947.

Under the provisions of the *Acts Amendment (Electoral Reform) Act 1987*, which came into operation on 30 October, 1987 three Electoral Distribution Commissioners were appointed to divide the State into 57 electoral districts, 34 in the Metropolitan Area (as described in the *Metropolitan Region Town Planning Scheme Act 1959*, as at 1 January, 1987) and 23 in the remainder of the State. These districts return one member each to the Legislative Assembly.

The State is also divided into six regions — three Metropolitan regions comprising the Metropolitan electoral districts, a South West region, an Agricultural region and a Mining and Pastoral region which comprise the electoral districts that constitute the remainder of the State. The North Metropolitan Region and the South West Region each return seven members to the Legislative Council, and the other electoral regions each return five Council members.

The division process, was completed on 29 April, 1988 when the final division was gazetted. This division applied to the election held in February 1989 and will apply to subsequent general elections for the Legislative Assembly.

A further provision of the Act, which extends the terms of members of both Houses of Parliament to four years, commenced from the thirty-third Parliament.

### The Judicature

The two major factors in the development of the Australian legal system have been its British origin and the *Commonwealth Constitution of 1900*. This Statute, an Act of the Imperial Parliament in London, limited the legislative power of State Parliaments in some respects and created a federal legislature.

Since 1942, however, the Imperial Parliament can legislate for Australia only at Australia's request.

The sources of Australian law of today are, therefore, found in Commonwealth and State legislation, in some Imperial legislation and in the common law. Independence of the judiciary is an essential part of the Australian legal system.

## Government

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### State Representation

Western Australia has been represented in the United Kingdom by an Agent General since 1892. An office is maintained at Western Australia House, 115 Strand, London, WC 2ROAJ.

The Agent General's Office acts as agent for the State Treasury and as a receiving agency for The Bank of Western Australia (BankWest). Western Australia's European Public Relations Office, and its tourist officer for the United Kingdom and Europe, also operate from Western Australia House.

The functions of the Office include:

- the representation of all Government Departments which have business in Britain and Europe;
- the purchase of government stores and equipment;
- an information resource for migrants;
- the encouragement of overseas private investment in Western Australia; and
- the provision of various types of assistance to visitors from Western Australia.

The Agent General for Western Australia is the personal representative in Britain of the State Premier. The State is also represented in Japan, at the Government of Western Australia, Australian Business Centre, 28th Floor, New Otani Garden Court, 4-1 Kioicho Chiyoda-ku, Tokyo 102, Japan.

Travel centre managers of the Western Australian Tourism Commission also provide liaison on behalf of Government Departments which have business in other States and Territories of Australia, as well as overseas.

**3.2 – THE HONOURABLE MEMBERS OF THE LEGISLATIVE COUNCIL,  
THIRTY-FIFTH PARLIAMENT, AUGUST 1997**

<i>Name</i>	<i>Political Party</i>	<i>Electoral Region</i>
S.G.E. Cash, JP	Liberal	North Metropolitan
K.M. Chance	Labor	Agricultural
E.J. Charlton	National	Agricultural
J.A. Cowdell	Labor	South West
M.J. Criddle	National	Agricultural
C.M. Davenport	Labor	South Metropolitan
E. Dermer	Labor	North Metropolitan
B.K. Donaldson	Liberal	Agriculture
G.M. Evans, MBE FCA	Liberal	North Metropolitan
P.G. Foss, QC	Liberal	East Metropolitan
N.D. Griffiths, LL.B.	Labor	East Metropolitan
S.J. Halden	Labor	South Metropolitan
R.J. Halligan, MNIA	Liberal	North Metropolitan
T.R. Helm	Labor	Mining and Pastoral
H. Hodgson	Democrats	North Metropolitan
B.J. House, B.Econ, JP	Liberal	South West
N. Kelly	Democrats	East Metropolitan
M.S. Montgomery, JP	National	South West
N.F. Moore, BA. Dip.Ed.	Liberal	Mining and Pastoral
M.W. Nevill, B.Sc.(Hon)	Labor	Mining and Pastoral
M.D. Nixon	Liberal	Agriculture
S. O'Brien	Liberal	South Metropolitan
M.G. Patterson, JP	Liberal	South West
L. Ravlich	Labor	East Metropolitan
B.M. Scott	Liberal	South Metropolitan
J.A. Scott	Greens	South Metropolitan
C. Sharp, B.A.(Hons) M.A.	Greens	South West
G. Smith	Liberal	Mining and Pastoral
T.G. Stephens, B.A.	Labor	Mining and Pastoral
W.N. Stretch	Liberal	South West
R.J. Thomas, B.A.	Labor	South West
D.G. Tomlinson	Liberal	East Metropolitan
K. Travers	Labor	North Metropolitan
G. Watson B.Sc.	Greens	North Metropolitan

SUMMARY

The Liberal Party of Australia (Western Australian Division) Incorporated (Liberal)	14
Australian Labor Party (Labor)	12
National Party of Australia (National)	3
Greens W.A. (Greens)	3
Australian Democrats (Democrats)	2
Independent	1

Source: Parliament House of Western Australia.

3.3 – MEMBERS OF THE LEGISLATIVE ASSEMBLY, DECEMBER 1997

Name	Political Party	Electoral District
R.A. Ainsworth	National	Roe
M.I. Anwyl, B.A. LL.B.	Labor	Kalgoorlie
C.J. Baker, B.A. LL.B. (Hons)	Liberal	Joondalup
Hon. C.J. Barnett, M.Ec.	Liberal	Cottesloe
D.F. Barron-Sullivan	Liberal	Mitchell
R.C. Bloffwitch	Liberal	Geraldton
M.F. Board, JP	Liberal	Murdoch
J.L. Bradshaw, MPS, JP	Liberal	Murray-Wellington
Hon. E.F. Bridge	Independent	Kimberley
C.M. Brown	Labor	Bassendean
A.J. Carpenter	Labor	Willagee
Dr E. Constable, Ph.D.	Independent Liberal	Churchlands
Hon. R.F. Court, B.Com.	Liberal	Nedlands
Hon. H.J. Cowan	National	Merredin
E.J. Cunningham	Labor	Girrawheen
Hon. J.H.D. Day, B.Sc., B.DSc.	Liberal	Darling Range
Hon. C.L. Edwardes, B.Juris., LL.B., B.A.	Liberal	Kingsley
Dr J.M. Edwards, M.B. B.S.	Labor	Maylands
Dr G.I. Gallop, D. Phil.	Labor	Victoria Park
L. Graham	Labor	Pilbara
Hon. J.F. Grill, LL.B., JP	Labor	Eyre
Hon. Dr K.D. Hames, M.B., B.S., JP	Liberal	Yokine
K. Hodson-Thomas	Liberal	Carine
M.R. Holmes, JP	Liberal	Southern River
Hon. M.G. House, JP	National	Stirling
R.F. Johnson, JP	Liberal	Hillarys
Hon. G.D. Kierath	Liberal	Riverton
J.C. Kobelke, B.Sc., Kip.Ed., JP	Labor	Nollamara
I.D. MacLean	Liberal	Wanneroo
A.J. MacTiernan, B.A., LL.B., B.Juris., JP	Labor	Armadaile
J.A. McGinty, B.A., B.Juris.(Hon), LL.B., JP	Labor	Fremantle
M. McGowan, B.A., LL.B., Grad Dip. Leg. Prac.	Labor	Rockingham
S.M. McHale, B.A., Dip. Soc. Sci.	Labor	Thornlie
W.J. McNee	Liberal	Moore
N.R. Marlborough	Labor	Peel
A.D. Marshall	Liberal	Dawesville
B.K. Masters, B.Sc., Dip. Gemm	Liberal	Vasse
Hon. K.J. Minson, B.DSc.	Liberal	Greenough
Hon. R.K. Nicholls	Liberal	Mandurah
Hon. P.D. Omodei	Liberal	Warren-Blackwood
I.F. Osborne, B.A., Dip.Ed., Dip.Rec.	Liberal	Bunbury
Hon. R.K. Parker	Liberal	Ballajura
Hon. P.G. Pandal	Independent Liberal	South Perth
Hon. A.K.R. Prince, LL.B.	Liberal	Albany
F. Riebeling	Labor	Burrup
E.S. Ripper, B.A., Dip.Ed	Labor	Belmont
M.H. Roberts, B.A., Dip.Ed.	Labor	Midland
D.J. Shave,	Liberal	Alfred Cove
Hon. G.J. Strickland, B.App.Sc., Dip.Ed.	Liberal	Innaloo
R.N. Sweetman	Liberal	Ningaloo
W.I. Thomas, B.A., JP	Labor	Cockburn
M.W. Trenorden	National	Avon
F.C. Tubby, B.Ed., M.A.C.E., JP	Liberal	Roleystone
Dr H. Turnbull, M.B., B.S.	National	Collie
J.O. van de Klashorst, Dip.Teach., G.D.R.E., T.H.C.	Liberal	Swan Hills
D.M. Warnock, B.A.	Labor	Perth
Hon. R.L. Weise	National	Wagin

SUMMARY

The Liberal Party of Australia (Western Australian Division)	29
Incorporated (Liberal)	
Australian Labor Party (Labor)	19
National Party of Australia (National)	6
Independent Liberal	2
Independent	1

Source: Parliament House of Western Australia.

**3.4 – STATE MINISTRY, JANUARY 1997**

<i>Minister</i>	<i>Title of Office</i>
Hon. R.F. Court, BCom, MLA	Premier; Treasurer; Minister for Public Sector Management; Federal Affairs.
Hon. H.J. Cowan, MLA	Deputy Premier; Minister for Commerce and Trade; Regional Development; Small Business.
Hon. C.J. Barnett, MEd, MLA	Minister for Resources Development; Energy; Education; Leader of the House in the Legislative Assembly.
Hon. M.G. House, JP, MLA	Minister for Primary Industry; Fisheries.
Hon. N.F. Moore, BA, Dip Ed, MLC	Minister for Mines; Tourism; Sport and Recreation; Leader of the Government in the Legislative Council.
Hon. E.J. Charlton, MLC	Minister for Transport.
Hon. C.L. Edwardes, B Juris, LLB, BA, MLA	Minister for the Environment; Employment and Training.
Hon. G.D. Kierath, MLA	Minister for Labour Relations; Planning; Heritage.
Hon. P.G. Foss, QC, BA, LLB, MLC	Attorney General; Minister for Justice; the Arts.
Hon. G.M. Evans, MBE, FCA, MLC	Minister for Finance; Racing and Gaming.
Hon. A.K.R. Prince, LLB, MLA	Minister for Health.
Hon. D.J. Shave, MLA	Minister for Lands; Fair Trading; Parliamentary and Electoral Affairs.
Hon. P.D. Omodei, MLA	Minister for Local Government; Disability Services.
Hon. R.K. Parker, MLA	Minister for Family and Children's Services; Seniors; Women's Interests.
Hon. Dr. K.D. Hames, MB, BS, JP, MLA	Minister for Housing; Aboriginal Affairs; Water Resources.
Hon. J.H.D. Day, BSc. BSc. MLA	Minister for Police; Emergency Services.
Hon. M.F. Board, MLA	Minister for Works; Services; Multicultural and Ethnic Affairs; Youth.

Source: Parliament House of Western Australia.

### 3.5 – SHADOW MINISTRY, JANUARY 1997

<i>Shadow Minister</i>	<i>Title of Office</i>
Dr G.I. Gallop, MLA	Leader of the Opposition; Treasurer; Federal Affairs and Finance.
E.S. Ripper, MLA	Deputy Leader; Education; Accountability.
Hon. T. Stephens MLC	Leader of the Opposition in the Legislative Council; Aboriginal Affairs; Regional Development, North West and Gascoyne.
Hon. N. Griffiths MLC	Deputy Leader of the Opposition in the Legislative Council; Attorney-General.
M. Anwyll MLA	Family and Children's Services, Youth; Volunteer Services.
C. Brown MLA	Commerce and Trade; Tourism; Small Business.
A. Carpenter MLA	Disability Services; Sport and Recreation.
Hon. K. Chance MLC	Primary Industries; Fisheries; Midwest and Wheatbelt.
Hon. J. Cowdell MLC	Parliamentary and Electoral Affairs; South West.
T. Cunningham MLA	Opposition Whip in the Legislative Assembly.
Hon. C. Davenport MLC	Women's Interests; Seniors.
Hon. E. Dermer MLC	Communications and Information Technology.
Dr. J. Edwards MLA	Environment; Planning; Urban Affairs.
Hon. J. Grill MLA	Resources Development.
Hon. T. Helm MLC	Works and Services.
J. Kobelke MLA	Labour Relations; Employment and Training; Freedom of Information.
J. McGinty MLA	Health.
M. McGowan MLA	Local Government.
S. McHale MLA	Arts; Heritage.
A. MacTiernan MLA	Transport; Fair Trading.
N. Marlborough MLA	Housing.
M. Neville MLC	Mines; Lands; Goldfields.
L. Ravlich MLC	Public Sector Management.
F. Riebeling MLA	Justice.
M. Roberts MLA	Opposition Leader of House Business; Police; Emergency Services.
B. Thomas MLA	Energy; Higher Education; Science and Technology.
Hon. B. Thomas MLC	Opposition Whip in the Legislative Council; Great Southern.
K. Travers MLC	Water Resources.
D. Warnock MLA	President of the State Parliamentary Labor Party; Racing and Gaming; Multicultural and Ethnic Affairs.

Source: Parliament House of Western Australia.

## TOWN OF VICTORIA PARK

**Estimated resident population at 30 June, 1996 :** 26,721

**Commercial properties:** 1261

**Residential properties:** 11,355

**Physical area:** 17.62 sq.kms

### Location

The town of Victoria Park is bordered by the Cities of Perth, South Perth, Belmont and Canning and includes 12kms of frontage to the beautiful Swan River, providing views to Kings Park and the tall office buildings of Perth's central business district.

The Town's close proximity to the City of Perth — a five minute drive across the causeway into the Perth central business district — and its beautiful setting beside the Swan River makes it an attractive living and working location.

For road travellers coming from the east of Australia along the Great Eastern Highway, and for overseas and interstate visitors travelling into the Perth City from the Domestic and International airports, the Town's suburb of Burswood is a major gateway to Perth.

### History

The Noongar Aboriginal people, living in close knit family groups, were the first inhabitants of the Victoria Park area .

Early European settlement of the district was influenced by the location of the Swan River. As there were no roads, the settlers clung to the riverbanks so that they could ferry supplies to their homes.

The Victoria Park Roads Board was proclaimed on 20 July, 1894. The area was declared the Municipality of Victoria Park on 28 April, 1897.

While the residential areas expanded, so did the commercial and industrial areas, capitalising on the proximity of Perth and excellent water supplies. Despite these industries, Victoria Park retained a rural air with extensive pig farming and market gardening.

In 1905, the Perth Electric Tramways service began a route from Perth across the Causeway to East Victoria Park. This service, inexpensive land, the railway, Albany Road and a prosperous state economy, all contributed to Victoria Park becoming a dynamic region.

In 1917, the municipality was dissolved and the area joined with the City of Perth. This process was reversed on 1 July, 1994 when the Town of Victoria Park was proclaimed.

### **The Town of Victoria Park Today**

The Victoria Park Council continues to transform this former suburb of the City of Perth into a new town with a distinctive identity and character.

Major business and shopping facilities exist on Albany Highway in the Victoria Park and St James precincts. The Town has a large academic population attending Curtin University — one of the five universities in the Perth metropolitan area. Belmont Racecourse provides winter horse racing facilities.

The number of people living and working in the Town continues to increase and the value of residential properties has risen markedly in recent years.

Victoria Park has also become well known to the many thousands of Australian and overseas visitors who visit the Burswood Resort and Casino, situated at the entrance to the Town. The Resort includes a large casino, convention centre, showroom and entertainment dome, a five-star hotel and an international standard 18 hole public golf course.

### **Five-Year Plan**

In 1997, the Council of Victoria Park released its five-year Strategic Plan formalising its vision, direction and priorities for the Town. The plan incorporated input from the *1996 Community Needs Study* involving a broad section of the Town's residents and workers, and ongoing progress of the Town Planning Scheme Review.

Key features of the Strategic Plan include:

- The provision of a number of vibrant business areas with a range of shopping, employment, leisure and entertainment facilities;
- Attractive residential areas with a range of types of residences and with an absence of through traffic. Heavy traffic to be kept to certain designated routes;
- A total upgrade of the Town's two industrial areas with all development being aesthetically pleasing and infrastructure built to a high standard;
- A strong focus on improving recreation facilities for the young and elderly;
- Environmental sustainability being a prime objective;
- The Swan River and other special facilities available to the Town underpinning tourism promotion;
- Consultation with the community being a vital aspect of the development of the Council's long term plans; and
- A commitment to providing a safe, peaceful environment where residents can enjoy a high quality of life.

## The Local Government System

*Contributed by the Department of Local Government*

### Local Government Districts

The State of Western Australia is divided into 142 separate local government districts. Each local government contains a governing council that consists of members elected by the local community and is responsible for the provision of many of the services necessary for the organisation and welfare of the community which it represents.

*The Local Government Act 1995* provides for a system of local government in Western Australia.

*A detailed discussion of The Local Government Act 1995 is provided in the 1997 edition of the Western Australian Year Book.*

### Voter Turnout

Table 3.6 shows changes in voter turnout across the State and Regions of the State.

Table 3.7 shows changes in voter turnout in councils that used postal voting in 1997.

The tables show:

- the 1997 State average of 25% was almost double the 1993 average of 14.1% and significantly greater than the 1995 average of 15.8%;
- the 1997 Metropolitan average of 22.6% was up 60% on the 1995 average of 14.3% and up 85% on 1993 average of 12.7%;
- the 1997 average turnout of 28.3% in regional towns and cities was almost double the 1995 average of 16.2% and more than double the 1993 average of 13.4%;
- the 1997 average turnout of 34.4% in rural shires increased by more than a quarter on the 1993 and 1995 averages;
- the average turnout in local governments that used postal voting in 1997 increased by more than 50% from 1995 figures;
- for those councils that used postal voting for the first time in 1997, the average turnout increased from 13.9% to 47.6%.

Explanations for the increased turnout figures include:

- more councils using postal voting — seven in 1997 compared with four in 1995;
- fewer people enrolled to vote in 1997.

## Government

The voter turnout figures should be reported in the context of the changes to the local government electoral system brought by the new *Local Government Act 1995*. These changes:

- gave all councils the option of using postal voting (previously limited to the City of Perth and new towns);
- removed restrictions on early voting; and
- provided more information about candidates.

### 3.6 – VOTER TURNOUT – STATE AND REGIONS

Location	1993			1995				1997			
	Eligible Voters	Voters	Turnout	Eligible Voters	Voters	Overall Turnout	Non-postal voting turnout	Eligible Voters	Voters	Overall Turnout	Non-postal voting turnout
	'000	'000	%	'000	'000	%	%	'000	'000	%	%
Metro Councils	759.9	92.5	12.2	658.5	93.8	14.3	10.6	555.6	125.8	22.7	15.7
Regional	91.3	12.2	13.4	107.4	17.4	16.2	–	100.3	28.4	28.3	21.1
Towns/Cities											
Country											
Shires	117.6	31.6	26.9	–	–	27.2	–	104.3	35.9	34.4	–
State	968.9	136.3	14.1	–	–	15.8	–	760.1	190.1	25.0	19.6

### 3.7 – VOTER TURNOUT – POSTAL VOTING FIGURES

Location	1995			1997		
	Eligible Voters	Voters	Turnout	Eligible Voters	Voters	Turnout
	'000	'000	%	'000	'000	%
Armadale (a)	17.0	1.8	10.5	14.4	6.8	47.0
Melville (a)	50.1	6.6	13.1	64.0	28.2	44.1
Perth	6.0	4.1	68.2	5.2	3.0	55.0
Cambridge	17.5	9.8	55.8	17.0	7.8	46.1
Victoria Park	17.4	7.9	45.4	17.1	6.9	40.4
Vincent	18.9	8.5	44.7	18.2	7.3	40.1
Bunbury (a)	17.4	3.4	19.4	18.7	11.2	59.9
Overall average			29.0			46.1
Average for LG's which did not use postal voting in 1995			13.9			47.6

(a) These councils did not use postal voting in 1995.

Source: Department of Local Government.

## References

Department of Local Government  
Parliament House, Western Australia  
Town of Victoria Park

# Population



## Chapter 4

# POPULATION

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## Chapter 4

# POPULATION

### Population Profile

#### Estimated Resident Population

The estimated resident population of Western Australia at 30 June 1996 was 1,765,738, an increase of 1.9% over the previous year. The increase was above the national average of 1.4%. Queensland (2.3%) and the Northern Territory (2.3%) were the only States or Territories to record a higher growth rate than Western Australia for the same period.

The Western Australian increase of 32,326 persons comprised 14,225 from natural increase, 13,522 from net overseas migration and 3,826 from net interstate migration. The difference between the total increase and the sum of the components of change results from retrospective adjustments to population estimates to compensate for any intercensal discrepancy.

The Western Australian population makes up approximately 10% of the total Australian population. While males continue to make up a higher proportion of the population, the sex ratio has been declining since 1971. There were 104.8 males per 100 females in 1971 compared with 101.1 in 1996.

#### 4.1 – ESTIMATED RESIDENT POPULATION

Year ended 30 June	Western Australia				
	Western Australia Persons	Australia Persons	Proportion of Australia %	Sex ratio(a)	Annual growth rate %
1971(b)	1 053 834	13 067 265	8.06	104.83	(b)
1976	1 178 342	14 033 083	8.40	103.73	2.26
1981	1 300 056	14 923 260	8.71	102.25	1.99
1986	1 459 019	16 018 350	9.11	101.83	2.33
1991	1 636 067	17 284 036	9.47	101.20	2.32
1992	1 657 722	17 491 484	9.48	101.17	1.32
1993	1 677 229	17 661 723	9.50	101.17	1.18
1994	1 702 564	17 847 441	9.54	101.18	1.51
1995	1 733 412	18 063 256	9.60	101.19	1.81
1996	1 765 738	18 311 486	9.64	101.14	1.86

(a) Number of males per 100 females.

(b) Resident Population not calculated prior to 1971.

Source: ABS Catalogue No. 3101.0.

Preliminary estimates of the Western Australian population by sex and age, show the population is continuing to age. The median age, the age at which half the population is older and half is younger, was 33.1 years as at 30 June 1996. This represents an increase of 6.0 years in the last 20 years, 3.0 years in the last 10 years and 0.2 years since 30 June 1995. At 30 June 1996, the median age of females was 33.6 years, compared with 32.5 years for males.

As at 30 June 1996, 10.4% of the estimated resident population were aged 65 years or over and 22.3% were 14 years or younger, compared with 9.2% and 24.0% respectively as at 30 June 1986.

In Australia, females have a longer life expectancy than males. In 1995, the life expectancy at birth of females in Western Australia was 81.2 years, compared with 75.2 years for males. At 30 June 1996, females constituted 50.6% of all persons aged 65–69 years and 68.8% of those aged 85 years or more.

#### 4.2 – ESTIMATED RESIDENT POPULATION BY AGE GROUPS, 1996 (a)

Age group (years)	Males	Females	Persons	Males	Females	Persons
	No.	No.	No.	%	%	%
0–4	65 122	61 599	126 721	7.3	7.0	7.2
5–9	68 094	64 681	132 775	7.7	7.4	7.5
10–14	68 631	64 852	133 483	7.7	7.4	7.6
15–19	65 971	62 402	128 373	7.4	7.1	7.3
20–24	70 324	66 450	136 774	7.9	7.6	7.7
25–29	70 402	68 064	138 466	7.9	7.8	7.8
30–34	70 917	70 329	141 246	8.0	8.0	8.0
35–39	72 167	71 560	143 727	8.1	8.2	8.1
40–44	68 504	68 320	136 824	7.7	7.8	7.7
45–49	65 700	62 197	127 897	7.4	7.1	7.2
50–54	49 647	45 899	95 546	5.6	5.2	5.4
55–59	39 431	37 512	76 943	4.4	4.3	4.4
60–64	31 895	31 693	63 588	3.6	3.6	3.6
65–69	29 291	30 056	59 347	3.3	3.4	3.4
70–74	23 035	26 155	49 190	2.6	3.0	2.8
75–79	14 390	19 224	33 614	1.6	2.2	1.9
80–84	8 881	14 811	23 692	1.0	1.7	1.3
85 and over	5 474	12 058	17 532	0.6	1.4	1.0
<b>Total</b>	<b>887 876</b>	<b>877 862</b>	<b>1 765 738</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) At 30 June 1996.

Source: ABS Catalogue No. 3101.0.

4.3 - ESTIMATED RESIDENT POPULATION: STATISTICAL LOCAL AREAS (a)

Statistical Local Area (b)	1991	1996	Population change	Average Annual % change
PERTH STATISTICAL DIVISION				
Wanneroo (C) - North-West	5 855	17 880	12 025	25.02
Wanneroo (C) - Central Coastal	25 263	38 889	13 626	9.01
Rockingham (C)	44 201	61 570	17 369	6.85
Swan (S)	54 635	71 503	16 868	5.53
Perth (C) - Remainder	3 987	5 160	1 173	5.29
Serpentine-Jarrahdale (S)	8 244	10 236	1 992	4.42
Wanneroo (C) - South-East	27 273	32 253	4 980	3.41
Cockburn (C)	52 461	60 055	7 594	2.74
Kwinana (T)	17 833	20 173	2 340	2.50
Peppermint Grove (S)	1 551	1 735	184	2.27
Wanneroo (C) - North-East	13 503	14 894	1 391	1.98
Stirling (C) - South-Eastern	23 874	26 193	2 319	1.87
Mundaring (S)	30 683	33 294	2 611	1.65
Gosnells (C)	72 026	76 579	4 553	1.23
Wanneroo (C) - South-West	103 452	109 409	5 957	1.13
Armadale (C)	49 196	52 026	2 830	1.12
Victoria Park (T)	25 297	26 721	1 424	1.10
Fremantle (C) - Remainder	22 972	24 110	1 138	0.97
Melville (C)	90 065	94 003	3 938	0.86
Canning (C)	69 678	71 954	2 276	0.64
South Perth (C)	35 442	36 447	1 005	0.56
Mosman Park (T)	7 706	7 852	146	0.38
Nedlands (C)	20 643	20 997	354	0.34
Stirling (C) - Coastal	58 554	59 498	944	0.32
Bassendean (T)	13 874	13 907	33	0.05
Kalamunda (S)	48 503	48 529	26	0.01
Vincent (T)	25 790	25 748	-42	-0.03
Stirling (C) - Central	97 574	97 101	-473	-0.10
Belmont (C)	27 446	27 262	-184	-0.13
Subiaco (C)	15 312	15 170	-142	-0.19
East Fremantle (T)	6 466	6 393	-73	-0.23
Bayswater (C)	46 401	45 864	-537	-0.23
Cambridge (T)	24 244	23 867	-377	-0.31
Claremont (T)	9 392	9 242	-150	-0.32
Cottesloe (T)	7 652	7 514	-138	-0.36
Fremantle (C) - Inner	995	685	-310	-7.19
Perth (C) - Inner	719	419	-300	-10.24
<b>Total Perth Statistical Division</b>	<b>1 188 762</b>	<b>1 295 132</b>	<b>106 370</b>	<b>1.73</b>
REMAINDER OF STATE				
Wiluna (S)	394	1 167	773	24.26
Mandurah (C)	29 223	40 476	11 253	6.73
Greenough (S)	8 071	10 726	2 655	5.85
Menzies (S)	268	354	86	5.72
Toodyay (S)	2 556	3 371	815	5.69
Augusta-Margaret River (S)	6 218	8 122	1 904	5.49
Busselton (S)	14 592	18 175	3 583	4.49
Broome (S)	7 887	9 768	1 881	4.37
Dardanup (S)	5 458	6 675	1 217	4.11
Ngaanyatjarraku (S)	1 203	1 447	244	3.76
Harvey (S)	13 097	15 578	2 481	3.53

(a) Statistics in this table are as at year ended 30 June.

(b) The names and designations of SLAs are as they existed at 30 June 1996. The Cities of Fremantle, Perth and Stirling are composed of a number of Statistical Local Areas. Statistical Local Areas are marked (C) for City, (T) for Town or (S) for Shire.

Source: ABS Unpublished Estimated Resident Population data.

## Population

### 4.3 – ESTIMATED RESIDENT POPULATION: STATISTICAL LOCAL AREAS (continued)

Statistical Local Area	1991	1996	Population change	Average Annual % change
Denmark (S)	3 317	3 899	582	3.29
Chittering (S)	2 071	2 417	346	3.14
Murchison (S)	136	158	22	3.04
Irwin (S)	2 189	2 527	338	2.91
Boddington (S)	1 341	1 540	199	2.81
Gingin (S)	3 043	3 485	442	2.75
Albany (S)	11 469	12 899	1 430	2.38
Wyndham-East Kimberley (S)	5 790	6 482	692	2.28
Northam (S)	2 905	3 242	337	2.22
Shark Bay (S)	767	853	86	2.15
Esperance (S)	11 078	12 316	1 238	2.14
York (S)	2 625	2 902	277	2.03
Leonora (S)	2 518	2 778	260	1.98
Kalgoorlie/Boulder (C)	26 865	29 588	2 723	1.95
Capel (S)	5 452	6 003	551	1.94
Halls Creek (S)	2 679	2 909	230	1.66
Murray (S)	8 797	9 528	731	1.61
Meekatharra (S)	1 951	2 098	147	1.46
Dandaragan (S)	2 413	2 589	176	1.42
Yilgarn (S)	2 180	2 318	138	1.24
Waroona (S)	3 010	3 200	190	1.23
Northampton (S)	2 849	3 021	172	1.18
Kondinin (S)	1 126	1 188	62	1.08
Nannup (S)	1 120	1 161	41	0.72
Donnybrook-Balingup (S)	4 108	4 251	143	0.69
Morawa (S)	1 038	1 061	23	0.44
Chapman Valley (S)	821	837	16	0.39
Ravensthorpe (S)	1 410	1 435	25	0.35
Bunbury (C)	27 305	27 680	375	0.27
Albany (T)	15 186	15 282	96	0.13
Dalwallinu (S)	1 758	1 767	9	0.10
Bridgetown-Greenbushes (S)	4 018	4 033	15	0.07
Manjimup (S)	10 302	10 258	-44	-0.09
Plantagenet (S)	4 316	4 297	-19	-0.09
Cunderdin (S)	1 480	1 471	-9	-0.12
Mukinbudin (S)	747	741	-6	-0.16
Mount Marshall (S)	769	762	-7	-0.18
Narrogin (S)	871	862	-9	-0.21
Quairading (S)	1 240	1 224	-16	-0.26
Kojonup (S)	2 443	2 403	-40	-0.33
Port Hedland (T)	12 516	12 304	-212	-0.34
Koorda (S)	652	638	-14	-0.43
Narembeen (S)	1 068	1 038	-30	-0.57
Coolgardie (S)	5 824	5 659	-165	-0.57
Williams (S)	1 073	1 040	-33	-0.62
West Arthur (S)	1 038	1 003	-35	-0.68
Lake Grace (S)	1 885	1 819	-66	-0.71
Cranbrook (S)	1 207	1 160	-47	-0.79
Tambellup (S)	770	739	-31	-0.82
Dumbleyung (S)	934	895	-39	-0.85
Geraldton (C)	21 128	20 221	-907	-0.87
Upper Gascoyne (S)	278	266	-12	-0.88
Jerramungup (S)	1 399	1 335	-64	-0.93
Beverley (S)	1 536	1 454	-82	-1.09
Wagin (S)	2 092	1 979	-113	-1.10

(a) Statistics in this table are as at year ended 30 June.

(b) The names and designations of SLAs are as they existed at 30 June 1996. The Cities of Fremantle, Perth and Stirling are composed of a number of Statistical Local Areas. Statistical Local Areas are marked (C) for City, (T) for Town or (S) for Shire.

Source: ABS Unpublished Estimated Resident Population data.

## 4.3 – ESTIMATED RESIDENT POPULATION: STATISTICAL LOCAL AREAS (continued)

Statistical Local Area	1991	1996	Population change	Average Annual % change
Katanning (S)	4 953	4 685	-268	-1.11
Three Springs (S)	886	838	-48	-1.11
Boyup Brook (S)	1 847	1 746	-101	-1.12
Westonia (S)	326	308	-18	-1.13
Pingelly (S)	1 272	1 200	-72	-1.16
Dundas (S)	1 754	1 652	-102	-1.19
Cuballing (S)	788	742	-46	-1.20
Carnarvon (S)	6 807	6 388	-419	-1.26
Goomalling (S)	1 153	1 079	-74	-1.32
Bruce Rock (S)	1 256	1 174	-82	-1.34
Ashburton (S)	7 922	7 395	-527	-1.37
Gnowangerup (S)	1 935	1 805	-130	-1.38
Moora (S)	2 797	2 609	-188	-1.38
Mingenew (S)	657	611	-46	-1.44
Derby-West Kimberley (S)	7 019	6 515	-504	-1.48
Wongan-Ballidu (S)	1 759	1 632	-127	-1.49
Merredin (S)	4 029	3 738	-291	-1.49
Trayning (S)	554	511	-43	-1.60
Narrogin (T)	5 028	4 632	-396	-1.63
Northam (T)	7 047	6 478	-569	-1.67
Collie (S)	9 842	9 026	-816	-1.72
Tammin (S)	519	472	-47	-1.88
Kent (S)	876	795	-81	-1.92
Coorow (S)	1 596	1 447	-149	-1.94
Broomehill (S)	562	505	-57	-2.12
Wickepin (S)	964	860	-104	-2.26
Wyalkatchem (S)	732	653	-79	-2.26
Nungarin (S)	322	287	-35	-2.28
Corrigin (S)	1 481	1 318	-163	-2.31
Dowerin (S)	970	862	-108	-2.33
Kellerberrin (S)	1 434	1 270	-164	-2.40
Brookton (S)	1 098	972	-126	-2.41
Yalgoo (S)	440	389	-51	-2.43
Perenjori (S)	796	695	-101	-2.68
Woodanilling (S)	418	364	-54	-2.73
Carnamah (S)	1 153	999	-154	-2.83
Roeboorne (S)	16 001	13 862	-2 139	-2.83
Kulin (S)	1 119	966	-153	-2.90
Wandering (S)	426	364	-62	-3.10
Victoria Plains (S)	1 163	992	-171	-3.13
Exmouth (S)	2 437	2 058	-379	-3.32
Mullewa (S)	1 466	1 148	-318	-4.77
Mount Magnet (S)	1 133	864	-269	-5.28
Cue (S)	649	489	-160	-5.50
Laverton (S)	1 702	1 220	-482	-6.44
Sandstone (S)	236	169	-67	-6.46
East Pilbara (S)	10 111	6 948	-3 163	-7.23
<i>Total Remainder of State</i>	<i>447 305</i>	<i>470 606</i>	<i>23 301</i>	<i>1.02</i>
<b>Total Western Australia</b>	<b>1 636 067</b>	<b>1 765 738</b>	<b>129 671</b>	<b>1.54</b>

(a) Statistics in this table are as at year ended 30 June.

(b) The names and designations of SLAs are as they existed at 30 June 1996. The Cities of Fremantle, Perth and Stirling are composed of a number of Statistical Local Areas. Statistical Local Areas are marked (C) for City, (T) for Town or (S) for Shire.

Source: ABS Unpublished Estimated Resident Population data.

## Population

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### Population in Statistical Local Areas (SLAs)

The proportion of the State population residing in the Perth Statistical Division was 72.9% at 30 June 1996. This figure has fluctuated by less than 1% since 1986 and has risen slowly from 68.2% in 1971.

The population of the Perth Statistical Division has increased by 8.9% in the 5 years to June 1996, at an average annual rate of 1.7%. The North-West and Central Coastal SLAs of Wanneroo recorded the highest average annual growth rates for the Division over the same period. The South-West SLA of Wanneroo (109,409 persons) was the most populated SLA and made up 8.4% of the Perth Statistical Division.

The population of the remainder of the State increased by 5.2% in the 5 years to June 1996, at an average annual rate of 1.02%. The SLAs which recorded the highest average annual increases were Wiluna (24.3%), Mandurah (6.7%) and Greenough (5.8%). Mandurah (40,476 persons) was the most populous SLA outside the Perth Statistical Division.

### Birthplace and Religion

Preliminary results from the 1996 Census reveal:

- after Australia, the next most frequent birthplace for people in Western Australia was the United Kingdom with 205,152 persons, or 12.0% of the population;
- the proportion of the Western Australian population born in Australia is steadily declining, from 70.9% in 1986 to 69.2% in 1991 and 68.3% in 1996;
- Anglicans and Catholics represented 48.9% of the Western Australian population, a drop from the 52.1% recorded at the 1991 Census;
- 21.5% of those counted in Western Australia (excluding overseas visitors) indicated they had 'no religion' on their 1996 Census form, up from 17.1% in 1986; and
- non-Christian religions represented 48,294 persons, only 2.8% of all people in Western Australia.

4.4 – BIRTHPLACE (a)

	30 June 1986	6 August 1991	6 August 1996(b)
	'000	'000	'000
Main English-speaking countries—			
Australia	997.8	1 097.5	1 178.3
Ireland	6.8	9.5	9.4
New Zealand	25.2	35.4	39.0
South Africa	6.3	9.4	10.7
United Kingdom	187.2	206.9	205.2
United States of America	5.1	5.8	5.6
<b>Total</b>	<b>1 228.4</b>	<b>1 364.5</b>	<b>1 448.1</b>
Other Countries—			
Germany	9.5	10.2	10.1
Greece	4.0	3.5	3.5
India	10.6	11.6	12.7
Italy	27.8	27.0	25.1
Malaysia	8.7	16.1	17.3
Netherlands	11.6	11.7	11.1
Poland	6.5	7.2	7.0
Viet Nam	5.9	8.2	10.1
Other	48.7	65.6	109.3
<b>Total</b>	<b>133.3</b>	<b>161.1</b>	<b>206.1</b>
Not stated	22.6	30.7	58.8
<b>Total (a)</b>	<b>1 406.9</b>	<b>1 586.8</b>	<b>1 713.0</b>

(a) Includes those born at sea and not stated.

(b) 1996 Census figures exclude overseas visitors who were included in previous Censuses.

Source: 1986, 1991 and 1996 Census of Population and Housing.

4.5 – RELIGION

	30 June 1986		6 August 1991		6 August 1996(a)	
	'000	%	'000	%	'000	%
Christian—						
Anglican	371.3	26.4	418.8	26.4	410.2	23.9
Baptist	16.9	1.2	25.9	1.6	27.6	1.6
Catholic	347.7	24.7	408.6	25.7	427.8	25.0
Churches of Christ	14.4	1.0	13.3	0.8	13.0	0.8
Presbyterian	31.6	2.2	48.3	3.0	45.8	2.7
Uniting	82.9	5.9	93.2	5.9	87.5	5.1
Other	113.3	8.0	98.8	6.2	113.1	6.6
<b>Total Christian</b>	<b>978.0</b>	<b>69.5</b>	<b>1 106.9</b>	<b>69.7</b>	<b>1 125.0</b>	<b>65.7</b>
Other—						
Non-Christian	23.0	1.6	33.5	2.1	48.3	2.8
Inadequately described	6.0	0.4	6.1	0.4	6.3	0.4
No religion	235.3	16.7	270.9	17.1	367.5	21.5
Not stated	164.3	11.7	169.7	10.7	165.9	9.7
<b>Total Other</b>	<b>428.6</b>	<b>30.4</b>	<b>480.2</b>	<b>30.3</b>	<b>588.0</b>	<b>34.3</b>
<b>Total</b>	<b>1 406.9</b>	<b>100.0</b>	<b>1 586.8</b>	<b>100.0</b>	<b>1 713.0</b>	<b>100.0</b>

(a) 1996 Census figures exclude overseas visitors who were included in previous Censuses.

Source: 1986, 1991 and 1996 Census of Population and Housing.

## Population

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### Indigenous Population

The 1996 Census of Population and Housing counted 50,793 Indigenous people in Western Australia, compared with 41,780 in 1991. The 1996 figure represented 2.9% of all persons counted in the State. Table 4.6 shows the age distribution of Indigenous people at 30 June 1986, 6 August 1991 and 6 August 1996.

At 6 August 1996:

- 58.8% of Indigenous people were less than 25 years of age and 2.9% were 65 years of age or older;
- equivalent figures for the total State population were 37.1% and 10.4% respectively; and
- there were relatively fewer Indigenous people in each age group above 25–29 years than for the total State population.

#### 4.6 – INDIGENOUS PEOPLE

Age last birthday (years)	30 June 1986	6 August 1991	6 August 1996
0–4	5 349	6 488	6 826
5–9	4 702	5 573	7 220
10–14	4 866	4 934	6 187
15–19	4 712	4 383	4 940
20–24	4 098	4 280	4 678
25–29	3 182	3 698	4 610
30–34	2 472	3 042	3 950
35–39	1 933	2 389	3 369
40–44	1 499	1 822	2 532
45–49	1 193	1 277	1 876
50–54	1 025	1 064	1 358
55–59	800	836	996
60–64	615	721	767
65–69	523	474	634
70 and over	818	799	850
<b>Total</b>	<b>37 787</b>	<b>41 780</b>	<b>50 793</b>

Source: 1986, 1991 and 1996 Census of Population and Housing.

### Vital Statistics

#### Registration

Registration of births, deaths and marriages in Western Australia is compulsory. Local registers are kept at each district office. Particulars reported to District Registrars are sent to the Registrar General at Perth, where a central registry is maintained.

Births are required to be registered within 60 days of the event, and a fetal death (stillbirth) must be registered both as a birth and a death. Deaths are required to be registered within 14 days. Marriage certificates must be lodged for registration within 14 days

of the date of marriage. Statistics of births, deaths and marriages are prepared from the registration documents.

**Births**

Since 1988 the number of births registered in Western Australia has remained relatively static at around 25,000 births per year. In 1996 there were 24,793 births registered to mothers usually resident in Western Australia, 346 births less than the number registered in 1995. The crude birth rate, ie the number of live births registered during the calendar year per 1,000 estimated resident population, continued to fall. In 1996 the rate was 14.1 compared with 23.0 in 1971.

The age at which women gave birth continued to rise; increases in births to older women were matched by decreases in the younger age groups.

**4.7 – BIRTHS REGISTERED BY AGE OF MOTHER (a)**

Age of mother (years)	1994	1995	1996
TOTAL BIRTHS (b)			
19 and Under	1 533	1 504	1 425
20-24	4 974	4 886	4 538
25-29	8 405	8 172	8 188
30-34	7 230	7 365	7 279
35-39	2 582	2 790	2 935
40-44	395	407	411
45 and over	15	15	15
Not stated	4	-	2
<b>Total</b>	<b>25 138</b>	<b>25 139</b>	<b>24 793</b>
Males	12 867	12 942	12 813
Females	12 271	12 197	11 980
Sex ratio (c)	104.9	106.1	107.0
Crude birth rate (d)	14.8	14.5	14.1

EX-NUPTIAL BIRTHS			
19 and under	1 395	1 380	1 318
20-24	2 542	2 581	2 549
25-29	1 680	1 790	1 903
30-34	1 073	1 115	1 243
35-39	440	519	546
40-44	83	87	102
45 and over	3	3	2
Not stated	4	0	2
<b>Total</b>	<b>7 220</b>	<b>7 475</b>	<b>7 665</b>

(a) Figures relate to State of usual residence of mother.  
 (b) Includes ex-nuptial births.  
 (c) Number of male live births per 100 female live births.  
 (d) Number of live births registered during the calendar year per 1,000 of estimated resident population at 30 June of that year.  
 Source: ABS Unpublished Demography Table BTHR0007.

## Population

### Ex-Nuptial Births

A birth is registered as ex-nuptial if the parents are not married to each other at the time of the confinement.

The proportion of ex-nuptial births to total births has increased from 29% in 1994 to 31% in 1996. In 1996, mothers under the age of 25 years accounted for 50% of ex-nuptial births and 24% of total births. For mothers aged less than 20 years, 92% of births were ex-nuptial.

#### 4.8 – BIRTHS, 1996

	Western Australia	Australia
Number of births—		
Nuptial	17 128	184 266
Ex-nuptial	7 665	69 568
Total	24 793	253 834
Crude birth rate (a)	14.1	13.9
Age-specific birth rate (b)—		
19 and under	22.8	20.1
20–24	66.9	64.6
25–29	120.6	116.7
30–34	104.7	106.2
35–39	41.2	43.8
40–44	6.0	7.6
45 and over	0.2	0.3
<b>Total fertility rate (c)</b>	<b>1.8</b>	<b>— 1.8</b>

(a) Per 1,000 estimated resident population at 30 June.

(b) Live births per 1,000 women in each age group.

(c) Total fertility rate represents the number of children a woman would bear during her lifetime if she experienced current age-specific fertility rates at each age of her reproductive life.

Source: ABS Catalogue No. 3301.0.

### Deaths

In comparison with other countries, Australia ranks amongst those with the lowest mortality rates and highest expectations of life.

For Western Australia, the number of deaths in 1996 was 11,027, representing 8.6% of the total deaths in Australia. The crude death rate of 6.3 deaths per 1,000 of estimated resident population was lower than the Australian rate of 7.0 deaths.

The infant death rate was 6.5 deaths per 1,000 live births in 1996, an increase over the 1995 rate of 5.1 deaths. The 1996 rate was also higher than the national rate of 5.8 deaths per 1,000 live births.

Care must be taken when comparing death rates as fluctuations in rates can be caused by delays in death registrations.

4.9 - DEATHS, 1996

	Western Australia (a)	Australia (b)
Number of deaths	11 027	128 711
Crude death rate (c)	6.3	7.0
Infant death rate (d)	6.5	5.8
Age-specific death rate (years) (e)—		
MALES		
Under 1 year	8.0	6.5
1-4	0.5	0.4
5-14	0.2	0.2
15-24	1.1	1.0
25-34	1.4	1.3
35-44	1.8	1.8
45-54	3.3	3.4
55-64	9.3	9.9
65-74	26.2	28.3
75-84	73.9	73.8
85 and over	187.7	180.7
FEMALES		
Under 1 year	4.8	5.0
1-4	0.3	0.3
5-14	0.1	0.1
15-24	0.3	0.3
25-34	0.5	0.5
35-44	1.0	0.9
45-54	1.9	2.1
55-64	5.1	5.7
65-74	15.0	15.2
75-84	44.0	46.0
85 and over	148.4	146.4

(a) Excludes Other Territories including Christmas Island and the Cocos (Keeling) Islands.

(b) Excludes Other Territories including Christmas Island and the Cocos (Keeling) Islands and Jervis Bay Territory.

(c) Per 1,000 estimated resident population at 30 June.

(d) Infant deaths per 1,000 live births.

(e) Number of deaths per 1,000 persons in each age group. Excludes fetal deaths.

Source: ABS Catalogue No. 3302.0.

In 1996:

Causes of Death

- 39% (4,297) of all deaths registered in Western Australia were caused by diseases of the circulatory system. Of these diseases, ischaemic heart disease accounted for 22% of all deaths and cerebrovascular disease accounted for 10%.
- 27% of deaths were from malignant neoplasms (cancers) of which cancer of the respiratory and intrathoracic organs, including lung cancer, was the major cause.
- other main causes of death were diseases of the respiratory system (8%), and accidents, poisonings and violence (7%).

## Population

### 4.10 – CAUSES OF DEATH, 1996 (a)

Cause of death (b)	Western Australia			Australia		
	Persons	% of all deaths	Rate (c)	Persons	% of all deaths	Rate (c)
Infectious and parasitic diseases (001-139)	114	1.0	6.5	1 638	1.3	9.0
Neoplasms (140-239)—						
Malignant (140-208)—						
Respiratory and intrathracic organs (160-165)	697	6.3	39.5	7 383	5.7	40.4
Genitourinary organs (179-189)	493	4.5	28.0	5 757	4.5	31.5
Lymphatic and haematopoietic tissue (200-208)	283	2.6	16.1	3 382	2.6	18.5
Other	1 534	13.9	87.0	18 146	14.1	99.2
Benign, other and unspecified (210-239)	47	0.4	2.7	581	0.5	3.2
Endocrine, nutritional and metabolic diseases (240-279)	355	3.2	20.1	3 918	3.0	21.4
Diseases of blood and blood forming organs (280-289)	27	0.2	1.5	405	0.3	2.2
Mental disorders (290-319)	387	3.5	22.0	3 560	2.8	19.5
Diseases of the nervous system and sense organs(320-389)	313	2.8	17.8	3 089	2.4	16.9
Diseases of the circulatory system (390-459)						
Ischaemic heart disease (410-414)	2 426	22.0	137.6	29 637	23.0	162.0
Cerebrovascular disease (430-438)	1 050	9.5	59.6	12 806	9.9	70.0
Other	821	7.4	46.6	11 546	9.0	63.1
Diseases of the respiratory system (460-519)—						
Chronic obstructive pulmonary disease (490-496)	574	5.2	32.6	6 960	5.4	38.1
Other	344	3.1	19.5	3 333	2.6	18.2
Diseases of the digestive system (520-579)	324	2.9	18.4	3 893	3.0	21.3
Diseases of the genitourinary system	166	1.5	9.4	2 244	1.7	12.3
Diseases of the skin and subcutaneous tissue (680-709)	15	0.1	0.9	175	0.1	1.0
Diseases of the musculoskeletal system and connective tissue (710-739)	80	0.7	4.5	794	0.6	4.3
Congenital anomalies (740-759)	71	0.6	4.0	651	0.5	3.6
Certain conditions originating in the perinatal period (760-779)	67	0.6	3.8	700	0.5	3.8
Symptoms, signs and ill-defined conditions (780-799)	53	0.5	3.0	547	0.4	3.0
Accidents, poisonings and violence (800-999)—						
Motor vehicle traffic accidents (810-819)	241	2.2	13.7	1 942	1.5	10.6
Suicide and self inflicted injury (950-959)	218	2.0	12.4	2 393	1.9	13.1
Other	327	3.0	18.6	3 231	2.5	17.7
<b>All causes</b>	<b>11 027</b>	<b>100.0</b>	<b>625.6</b>	<b>128 711</b>	<b>100.0</b>	<b>703.8</b>

(a) Based on State of usual residence. Fetal deaths are excluded.

(b) Classified in accordance with the International Classification of Diseases (Ninth revision, 1975), operative from 1 January 1979.

(c) Per 100,000 of estimated resident population at 30 June.

Source: ABS Catalogue 3303.0.

**Life Expectancy**

A life table is a life history of a hypothetical group, or cohort of people, as it is diminished gradually by deaths. A key value in life tables is the expectation of life remaining at each age.

The 1994-96 life tables are the second in a new series produced jointly by the Australian Bureau of Statistics and the Office of the Australian Government Actuary. The tables differ from those published previously in a number of important respects. Firstly, they are based on three years of population and deaths data. This is designed to reduce the impact of year-to-year statistical variations, particularly at younger ages where there is a small number of deaths and at very old ages where the population at risk is small. Secondly, the population and deaths data are based on Australian residents who are physically resident in Australia over the three-year period, i.e. Australian residents temporarily overseas are excluded. Thirdly, they have been actuarially graduated on the same principles as are used for the quinquennial Australian life tables prepared by the Australian Government Actuary.

**4.11 - LIFE EXPECTANCY, 1994-1996**

Age (years)	Western Australia		Australia	
	Males	Females	Males	Females
at birth	75.4	81.3	75.2	81.1
5	71.0	76.8	70.8	76.6
10	66.1	71.9	65.9	71.6
15	61.2	66.9	60.9	66.7
20	56.4	62.0	56.2	61.8
25	51.8	57.2	51.5	56.9
30	47.1	52.3	46.8	52.0
35	42.4	47.4	42.1	47.1
40	37.7	42.6	37.4	42.3
45	33.0	37.8	32.8	37.5
50	28.5	33.1	28.2	32.8
55	24.0	28.5	23.8	28.2
60	19.8	24.1	19.6	23.8
65	16.0	19.9	15.8	19.6
70	12.6	15.9	12.5	15.7
75	9.6	12.3	9.5	12.1
80	7.1	9.1	7.0	8.9
85	5.2	6.6	5.2	6.4
90	3.9	4.6	3.9	4.5

Source: ABS Catalogue No. 3302.0.

**Marriages**

In 1996:

- there were 10,294 marriages registered, a decrease of 110 (1.1%) on 1995;
- the crude marriage rate was 5.8 per 1,000 population, as it was for Australia;

## Population

- the median age at marriage (the age at which there are as many marrying above the age as there are marrying below it) was 30.2 years for bridegrooms and 27.6 years for brides;
- 64% of marriages consisted of both partners marrying for the first time; 19% involved a remarriage for one partner and 17% were remarriages for both partners; and
- 73% of bridegrooms had never been married before; 25% were divorced and 2% were widowed. For brides, 74% had never been married; 24% were divorced and 2% were widowed.

### 4.12 – MEDIAN AGE OF BRIDEGROOMS AND BRIDES (a)

Marital status	1992	1993	1994	1995	1996
	Years				
Bridegrooms—					
Never married	27.0	27.1	27.4	27.5	27.8
Widowed	59.4	59.8	62.2	62.7	64.8
Divorced	40.7	40.3	41.6	41.5	42.2
<b>All bridegrooms</b>	<b>29.1</b>	<b>29.3</b>	<b>29.5</b>	<b>29.6</b>	<b>30.2</b>
Brides—					
Never married	24.7	24.8	25.2	25.5	25.8
Widowed	52.6	52.0	53.7	52.2	53.9
Divorced	37.0	37.4	37.8	38.0	39.1
<b>All brides</b>	<b>26.5</b>	<b>26.5</b>	<b>26.9</b>	<b>27.2</b>	<b>27.6</b>

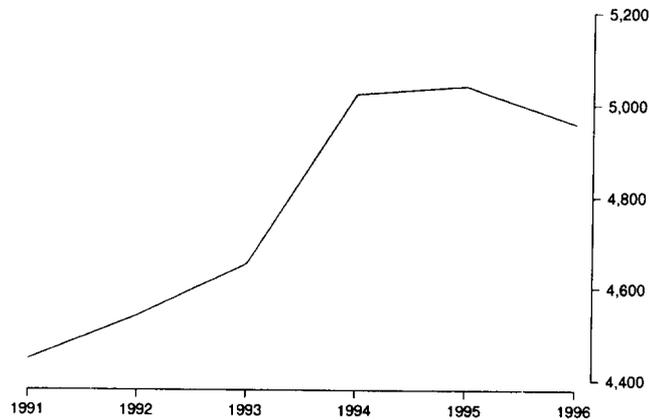
(a) The median age is that age which divides the reference population into two halves, one half being below the median age and one half above.  
Source: ABS Catalogue No. 3310.0.

## Divorces

In 1996:

- there were 4,959 divorces, a decrease of 81 (1.6%) on the number of divorces recorded in 1995;
- 40% of applications for divorce were filed by the wife, 26% by the husband and 34% were joint applications;
- the median age at time of divorce (the age at which there are as many people divorcing above that age as there are divorcing below it) was 40.7 years for the husband and 38.0 years for the wife;
- the crude divorce rate was 2.8 decrees absolute granted per 1,000 estimated resident population at 30 June, slightly lower than the figure of 2.9 for Australia;
- the median duration of marriage of those divorcing was 12.0 years compared with 11.0 years recorded for Australia; and
- almost one-third of divorces granted occurred within the first seven years of marriage.

DIAGRAM 4.1 – DIVORCES



Source: ABS Catalogue No. 3311.5.

4.13 – DIVORCES, 1996

Duration of marriage Years	Western Australia		Australia	
	Number	%	Number	%
Under 5	783	15.8	10 049	19.2
5–9	1 280	25.8	13 985	26.7
10–14	939	18.9	9 577	18.3
15–19	713	14.4	6 601	12.6
20–24	572	11.5	5 400	10.3
25–29	395	8.0	3 829	7.3
30 and over	277	5.6	3 025	5.8
<b>Total (a)</b>	<b>4 959</b>	<b>100.0</b>	<b>52 466</b>	<b>100.0</b>

(a) Includes duration of marriage not stated.

Source: ABS Unpublished Demography Table DIVRO013.

Overseas Migration

Permanent movement deals with arrivals of:

- settlers (persons who hold migrant visas regardless of stated intended period of stay);
- New Zealand citizens who indicate an intention to settle; and
- those who are otherwise eligible to settle, such as the overseas born children of Australian citizens.

Permanent movements also include Australian residents, including former settlers, who on departure state that they do not intend to return to Australia.

## 4.14 – PERMANENT DEPARTURES

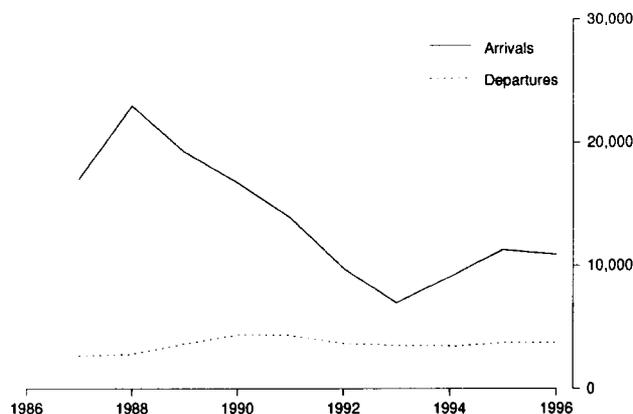
<i>Period</i>	<i>Former settlers</i>	<i>Australian residents</i>	<i>Total</i>
ANNUAL AVERAGES			
1981–1985	1 970	1 010	2 980
1986–1990	1 854	1 286	3 140
1991–1995	2 069	1 656	3 725
ANNUAL TOTALS			
1992	2 060	1 590	3 650
1993	1 900	1 600	3 500
1994	1 820	1 630	3 450
1995	1 900	1 830	3 730
1996	1 940	1 800	3 740

Source: ABS Unpublished Overseas and Arrivals and Departures Table PMTR001.

In 1996, there were 10,920 permanent settler arrivals to Western Australia, a fall of 380 persons (3.4%) compared with 1995.

The number of permanent departures remained fairly static at 3,740 for the calendar year 1996. Just over half (52%) of those departing were former settler arrivals.

### DIAGRAM 4.2 – PERMANENT SETTLER ARRIVALS AND DEPARTURES



Source: ABS Unpublished Overseas Arrivals and Departures Table PMTR0018.

The main countries of birth of permanent settler arrivals were the United Kingdom and Ireland (2,870), followed by New Zealand (1,430) and South Africa (830). The United Kingdom and Ireland and New Zealand accounted for 39% of all permanent arrivals.

**4.15 – PERMANENT (SETTLER) ARRIVALS, 1996 (a)**

<i>Country of birth</i>	<i>Western Australia</i>	<i>Australia</i>
<i>Oceania and Antarctica</i>	1 510	16 280
New Zealand	1 430	12 430
Other	80	3 850
<i>Europe and the former USSR</i>	4 410	25 090
France	40	310
Germany	90	880
Italy	40	280
Netherlands	70	430
Poland	100	580
Romania	30	360
Switzerland	70	300
United Kingdom & Ireland	2 870	11 590
Former Yugoslav Republics	830	6 870
Other	260	3 500
<i>Middle East and North Africa</i>	460	6 330
Iraq	170	1 860
Other	300	4 470
<i>Southeast Asia</i>	1 910	11 850
Burma (Myanmar)	110	360
Indonesia	640	1 770
Malaysia	260	1 080
Philippines	190	2 760
Singapore	410	910
Thailand	100	690
Viet Nam	160	3 020
Other	40	1 260
<i>Northeast Asia</i>	670	18 230
China	330	10 750
Hong Kong	180	4 120
Japan	80	570
Korea, South	20	740
Taiwan	50	1 920
Other	10	130
<i>Southern Asia</i>	420	6 240
India	260	2 900
Pakistan	50	680
Sri Lanka	80	1 470
Other	30	1 180
<i>Northern America</i>	280	2 480
Canada	130	880
United States of America	150	1 590
Other	—	10
<i>South &amp; Central America &amp; Caribbean</i>	80	1 200
Chile	10	230
Other	70	970
<i>Africa (excluding North Africa)</i>	1 180	4 780
Ethiopia	30	310
Kenya	80	170
Somalia	20	380
South Africa	830	2 940
Zimbabwe	100	250
Other	110	530
<i>Other and not stated</i>	—	30
<b>Total</b>	<b>10 920</b>	<b>92 500</b>

(a) Figures are rounded to the nearest ten.

Source: ABS Unpublished Overseas Arrivals and Departures Table PMTR0018.

## Population

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- Overseas Arrivals and Departures Microfiche*



# Social Welfare and Health

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## Chapter 5

# SOCIAL WELFARE AND HEALTH

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## SOCIAL WELFARE AND HEALTH

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### Social Welfare

The Commonwealth and State Governments and a large number of voluntary agencies provide social welfare services to meet the needs of the Western Australian population. The Commonwealth Government is concerned largely with providing fixed pensions and monetary benefits and repatriation services. It also provides, either directly or through State and Local Government Authorities and voluntary agencies, a range of welfare services for people with special needs.

State agencies operate in the field of child welfare and distribute emergency relief in circumstances where Commonwealth Government assistance is not available. The voluntary agencies, many of which receive government aid, provide services in various fields of social welfare.

### Income Support through the Department of Social Security

At June 1997, the Commonwealth Department of Social Security was responsible for providing a range of pensions, benefits and allowances, including age, disability support, widow's, wife and carer's pensions as well as labour market and sickness allowances and various payments to parents and families.

### Age Pensions

To qualify for the age pension, a man must be at least 65 years and, at 1 July 1997, a woman at least 61 years of age. Since 1 July 1995, the pension age for women is being progressively increased from 60 to 65, over a 20 year period.

At 30 June 1997, there were 135,182 persons claiming the age pension in Western Australia, representing a 7% increase over a two year period. Pension rates per fortnight at June 1997 were: single rate \$347.80 and married rate \$290.10 (each).

### 5.1 – PENSIONS, BENEFITS AND ALLOWANCES (a)

Pension or benefit	1995	1996	1997
	No.	No.	No.
Aged pension	126 832	129 313	135 182
Disability Support pension	40 539	42 776	44 160
Wife/Carer's pension (b)	15 179	14 694	12 956
Mature age/Labour Market allowances	67 869	73 728	73 528
Sickness allowance	4 384	3 000	1 430
Family payment minimum (c)	99 660	94 944	93 610
Family payment greater than minimum (d)	78 074	83 733	86 549
Sole parent pension	32 316	33 996	35 316
Parenting allowance	n.a.	64 649	65 224
Special benefit	1 532	1 356	955
Widow B pension (e)	4 888	4 376	1 435
Widow allowance	745	961	1 536

(a) Number of recipients at 30 June.

(b) The 'wife pension' was formerly available for women whose husbands received an age or disability support pension but who were themselves ineligible for an age or disability pension. The 'wife pension' ceased for new claimants on 30 June 1995.

(c) Number of families. Formerly known as 'Basic Family Payment'.

(d) Number of families. Formerly known as 'Additional Family Payment'.

(e) Ceased for new claimants on 1 July 1989.

Source: Department of Social Security.

#### Disability Support

The disability support pension is available to males under 65 and (at 1 July 1997) to females under 61 years of age who are unable to work full-time at full award wages owing to a substantial physical, intellectual or psychiatric impairment or who are permanently blind. At 30 June 1997, 44,160 Western Australians were receiving a Disability Support pension. This figure represents an increase of almost 9% since June 1995.

Persons caring for a disabled spouse may be eligible for a carer's pension. Carer pensions are also payable to those who provide full-time personal care to a severely disabled person living in the same or adjacent dwelling.

Sickness allowance is a short-term payment for people who have suffered a loss of income because of temporary incapacity to work due to an illness or injury.

#### Mature Age/Labour Market Allowances

During recent years, various allowances have been available to unemployed people actively searching for work, or participating in other labour market related activities. In June 1991, Unemployment Benefit was replaced by two types of allowance: Job Search Allowance and Newstart. Job Search Allowance catered for people who had been unemployed for less than 12 months while Newstart catered for those unemployed for 12 months or more. In March 1994, the Mature Age allowance was introduced to provide income for people aged 60 years or over, who were not eligible for the age pension, had no recent work experience, had been on income support for at least nine months and who, at the time of application, were receiving a Newstart allowance.

On 1 January 1995, the Job Search Allowance was replaced by the Youth Training Allowance for new claimants under 18 years of age. From 20 September 1996, Job Search Allowance was subsumed by Newstart Allowance.

At 30 June 1997, there were 73,528 people registered with Mature Age and Labour Market Allowance schemes in Western Australia. These comprised 4,892 recipients of Mature Age Allowances, 2,723 recipients of Youth Training Allowance and 65,913 recipients of Newstart.

*Family Support*

Assistance for families with children is provided through Family Payment. As at 30 June 1997, there were 180,159 Western Australian families receiving Family Payment, of which 93,610 received the minimum payment (formerly known as 'Basic Family Payment') and 86,549 received an amount greater than the minimum (formerly known as 'Additional Family Payment').

Assistance for couples with dependent children is paid in recognition of the contribution made by parents who remain substantially out of the paid workforce to care for their children. Home Child Care Allowance (HCCA) was a non-taxable payment made directly to the primary carer, offering an alternative to the Dependent Spouse Rebate (at the 'with child' rate) available in the taxation system. From 1 July 1995, Parenting Allowance subsumed HCCA. Assistance is provided for sole parents and their dependent children through the Sole Parent pension.

*Special Circumstances*

The department provides income support to certain categories of people who are unable to provide for themselves and who are not eligible for other types of payment. The Special Benefit aims to provide a safety net for such people. In addition, a small allowance is paid to recently widowed persons without dependent children, in the period immediately following the death of a spouse.

**Income Support through the Department of Veterans' Affairs**

This Commonwealth department provides veterans and their dependants with a range of benefits, including service and disability pensions, to compensate veterans and their dependants for the effects of war or defence service.

*Disability Pension*

This is provided where a veteran's incapacity is determined to be war or defence related. War widow's/widower's pensions and orphan's pensions are paid to dependants of disability pensioners after the death of the veteran or member.

At 30 June 1996, 13,989 Western Australians were receiving Disability pensions from the department. Almost two-thirds of these were veterans from World War II, the next largest group (nearly 21%) being veterans from more recent defence and peacekeeping force activity overseas. Table 5.2 shows a similar picture for dependant pensioners: of 7,433 pensions provided to dependants of incapacitated or deceased veterans, just over three-quarters are

## Social Welfare and Health

related to World War II service and a further 10% to more recent overseas defence and peacekeeping force activity.

### 5.2 – DISABILITY PENSIONS, 30 JUNE 1996

Type of service	Payable to	Payable to	Total
	Incapacitated veterans	Dependants(a)	
	No.	No.	No.
World War I	11	109	120
World War II	9 151	5 633	14 784
Korea, Malaya	421	158	579
Far East Strategic Reserve	117	35	152
Special Overseas Service	1 351	724	2 075
Defence Forces/Peacekeeping Forces/Gulf War	2 899	772	3 671
Seaman's War Pension/World War II Merchant Navy	37	2	39
<b>Total</b>	<b>13 987</b>	<b>7 433</b>	<b>21 420</b>

(a) Number of pensions payable to dependants of incapacitated or deceased veterans.  
Source: Department of Veterans' Affairs.

#### Service Pension

The main form of income support provided to veterans is the service pension. Introduced in 1935, it is an income and assets tested pension, similar to the age pension paid by the Department of Social Security. However, the service pension is paid earlier than the age pension, in recognition of the intangible effects of qualifying service.

The minimum age at which veterans can qualify for a service pension is 60 years for males and, at 1 July 1997, is 56 years for females. On 1 July 1995, the minimum age at which female veterans could qualify for a service pension (age) was raised from 55 to 55.5 years and increases by 6 months every two years until the qualifying age for female and male veterans is the same. Wives and widows of service pensioners may also be entitled to a service pension.

5.3 – SERVICE PENSIONS, 30 JUNE 1996

Type of service	Payable to	Payable to	Total
	veterans	wives/widows	
	No.	No.	No.
World War I	16	39	55
World War II	12 136	9 034	21 170
Korea/Malaya	749	527	1 276
Far East Strategic Reserve	113	71	184
Special Overseas Service	971	665	1 636
British Commonwealth Forces	3 430	2 840	6 270
Allied Forces	408	358	766
Australian Mariners	154	121	275
British Commonwealth and Allied Mariners	59	40	99
<b>Total</b>	<b>18 036</b>	<b>13 695</b>	<b>31 731</b>

Source: Department of Veterans' Affairs.

The distribution of service pensions follows a similar pattern to that shown for disability pensions. Two-thirds of the pensions (for both veterans and wives/widows) being attributable to service in World War II. Service pensions attributable to service in British Commonwealth Forces overseas, comprise the next largest category (19% of those payable to veterans and 21% of those payable to wives/widows).

**Family and Children's Services**

On 1 July 1995, the Department for Family and Children's Services (formerly the Department for Community Development) came into being. This State government department provides services to the Western Australian community, ranging from broadly targeted community education campaigns to services which support individuals, children and families experiencing crisis. Services are provided under two programs: protection and care of children, and family and community support. Services are delivered directly through district offices, specialist units and through funding to local authorities and non-government organisations.

The majority of the department's customers are children or families with children, with 40% of the latter being sole parent families. During 1995-96, approximately 20% of customers were Indigenous, 60% were female and one third were under the age of 18 years.

*Protection and Care of Children*

With the change of departmental name came a new approach to child protection, which sought to separate general concerns about parenting style from concerns about children being abused or maltreated. In 1995-96, the department received 2,539 'child concern reports' (where there was concern about the welfare of a child but no allegation of maltreatment). Formerly these would have been treated as child maltreatment allegations. In response to

these reports, the department provided support to parents in the form of advice, information and any services deemed appropriate. A further 3,720 allegations of child maltreatment were received, of which 1,050 were substantiated. This compares with 6,237 allegations in the previous year (before child concern reports were introduced).

Where children were unable to remain at home, foster care, group homes, hostels and adoption services were provided by both the government and non-government sectors. At 30 June 1996, there were 1,333 children in Western Australia in placements outside the home, representing an increase of approximately six per cent over a 12 month period. Of these, 1,046 children were placed by the department and most (713) were placed in foster care.

The total number of children in Western Australia under departmental guardianship (wards) increased from 711 on 30 June 1995 to 781 on 30 June 1996. This included those children who had their guardianship extended.

The continuing increased demand for child day care services in Western Australia has led to a rapid growth in the number of centres and had an impact on the department's role in licensing and monitoring these centres. In 1995-96, it approved 330 licences, most of which related to long day care centres.

### *Family and Community Support*

Departmental initiatives in the 1995-96 financial year, which aimed at providing support to parents and developing parenting skills, included a community education campaign, a telephone service to provide parents with advice and information, five Parent Link home visiting centres and five pilot parent information centres. Six pilot projects in remote Aboriginal communities were also established aimed at addressing health, social and educational disadvantages of Aboriginal children.

The department also assisted 11,624 people in crisis, providing various types of assistance.

### 5.4 – TYPES OF ASSISTANCE PROVIDED, 1995–96

<i>Types of Assistance</i>	<i>Persons (a)</i>
Food for family	6 682
Essential services	1 780
Medical requirements	1 945
Furniture	937
Travel	438
Accommodation	338
Clothing/linen/blankets	136
Funeral Assistance	498
Special Needs	31
Other	897

(a) One person can receive more than one type of assistance; the total for this column therefore exceeds the number of people assisted.

Source: Family and Children's Services, Annual Report 1995–96.

The Family Helpline is a telephone counselling service provided by the department for families experiencing relationship and other difficulties. The Family Helpline received 9,913 calls during the 1995–96 financial year on issues such as domestic violence, parent-teenager conflict and financial problems.

The department contributed to the development of the State Action Plan on family and domestic violence, launched in November 1995 and, in 1995–96, funded 37 women's refuges, safe houses and support services in Western Australia where counselling and support were provided to women in need. Funding of \$7.1 million was allocated for this purpose.

Funding of \$16.84 million was provided to 108 services throughout the State to assist people in crisis due to domestic violence or youth/adult homelessness. Of this, \$9.9 million was allocated to provide supported accommodation and assistance.

#### Disability Services Commission

The Disability Services Commission is responsible for representing, and providing services to meet the special needs of Western Australian citizens who have a disability. Recent years have seen a significant increase in the number of people with disabilities and a growing demand for services. This is a result of population growth, the changing age structure of the population and advances in medical science, which have improved the survival rates of low birth weight babies and of people experiencing accidents, strokes and other illnesses and have extended the life expectancy of some people with disabilities.

Between 1988 and 1993, the number of Western Australians under 65 years with a handicap increased by 31% (more than three times the rate of population growth) whilst the number with severe or profound disabilities increased by 19% (almost twice the rate of population growth). Over the same period, there was a steady growth in the number of people with an intellectual disability receiving services, an average increase of 4% per year.

In 1993, 305,000 people in Western Australia, or 18% of the population, reported having a disability. Of these, 159,900 (52%) were males and 145,100 (48%) females. Fourteen per cent of the Western Australian population (238,600 persons) reported that their disability presented a handicap which interfered with their ability to perform certain tasks associated with daily living.

During 1995-96, the Disability Services Commission provided and/or funded services for an estimated 14,193 people. Funding of \$83.78 million was allocated to support 2,132 people with disabilities living in residential hostels and supported accommodation within the community. A further \$37.55 million was allocated to provide individual and family support services (e.g. respite care, health, recreation and community access services) for 13,404 people with disabilities. Funding of \$4.48 million was allocated to the Community Development and Services Improvement program, which dealt with issues of access and equity, rights, safeguards and quality assurance and provided information, advocacy and community education services. In 1995-96, the Commission received 35,509 requests for information, referral or advocacy support.

Funding for disability services has not kept pace with the growing demand for services and the Commission has identified areas of unmet and emerging need which, at July 1995, included:

- 412 people with intellectual disabilities accommodated in large institutions;
- 95 young people inappropriately accommodated in nursing homes for the aged;
- 161 families and carers with unmet needs for out-of-home respite, and 156 families and carers with unmet needs for in-home respite to enable them to continue providing care at home;
- 322 students with significant disabilities leaving school over the next five years who would not be able to enter employment programs due to the severity of their disabilities or preference for a non-vocational option; and
- many school age children with disabilities who are unable to gain access to needed therapy services.

**The Western  
Australian Council  
of Social Services  
(Inc.)**

The Western Australian Council of Social Service (Inc.) (WACOSS) is an independent organisation representing a wide range of interests in the field of social welfare, health and community services. The Council has individual members and organisational members, including voluntary agencies, self-help and community groups, professional associations and Commonwealth, State and Local government bodies.

WACOSS has five principal roles:

- to assist organisations within the community services sector to develop professional, efficient, effective and compassionate services;
- to act as a peak body to represent the views and needs of client groups and populations to government, the non-government sector, the media and the public;
- to educate people working within the field and the public about issues affecting social and community service organisations, their clients and people experiencing disadvantage;
- to produce proactive, powerful, principled and well informed policy; and
- to ensure a financially viable and well managed organisation with a sound ethical and moral basis.

### ABS Surveys

#### *Child Care Survey*

This Australian Bureau of Statistics (ABS) survey is conducted every three years. The scope of the survey is restricted to families usually resident in Australia with children under 12 years of age. The survey collects information on existing child care arrangements and on the need for additional formal child care. Information is also collected on parents' working arrangements and child care (in particular the care of sick children), as well as employer assistance offered for child care.

The following results, for Western Australia, were obtained from the March 1996 Survey:

- 139,000 children were involved in some type of formal and/or informal child care arrangement, accounting for 45% of all children under 12 years of age. This represented a decrease since 1993 when 156,400 (50%) of children under 12 years of age were involved in some form of childcare;
- 50,400 children receiving formal care represented 16% of all children under 12 years of age. In 1993, the number of children receiving formal care was 60,900 or 20%;
- 33% of the children who received formal care attended a Long Day Care Centre and 30% attended Pre-school;
- informal care was the most common type of child care, and was used by 109,600 children, representing 35% of all children under 12 years. Of these, 71% were cared for by a relative; and

- the proportion of children involved in some type of formal and/or informal child care arrangement was higher for the Perth Statistical Division (47%) than for the remainder of the State (39%).

Further information may be obtained from *Child Care Australia, March 1996* (ABS Catalogue No. 4402.0).

### *Survey of Disability, Ageing and Carers*

The 1993 *Disability, Ageing and Carers* survey was conducted to provide estimates of the numbers, and main characteristics of, persons with disabilities, persons with handicaps, persons aged 60 years or more and carers.

Disability and handicap are strongly related to age. The proportions of people with disability and handicap increase rapidly for those aged 45 years or over, for both males and females. Over 60% of Western Australians aged 75 years and over reported a disability, the proportion declining to less than 10% for those under 15 years. However, in every age group except 25–34 year olds, the proportion with disabilities was higher for males than females. For those under 15 years, the respective figures were 10% (20,200) for males and 6% (11,700) for females.

For 69% of Western Australians with disabilities, the main disabling condition was physical, with the remainder being accounted for by sensory loss/impairment (18%), psychiatric disorders (8%), intellectual disabilities (3%) and acquired brain injury (2%). The most common disabling conditions were arthritis and other musculoskeletal conditions, accounting for over a quarter of all reported conditions.

In 1993, there were 45,700 carers of disabled persons in Western Australia, of whom 67% were female.

The ABS will conduct the next *Disability, Ageing and Carers Survey* in 1998.

## Health

The Commonwealth and State government health authorities, together with local government authorities, cooperate in the maintenance of health services and in the prevention and control of infectious diseases in Western Australia. Health services are also provided by other Commonwealth and State government bodies, religious or community based non-profit organisations and by volunteer services.

### Commonwealth Government Health Benefits and Services

Commonwealth activity in the health area is mainly concerned with the formulation of broad national policies, the provision of benefits to individuals and grants to organisations and the regulation of health insurance.

#### Medical Benefits

The Commonwealth provides substantial financial assistance to the States to support Medicare services. The Health Insurance Commission pays Medicare and pharmaceutical benefits as provided for in the Health Insurance Act. Medicare provides Australians, and other eligible people, with reimbursement for medical and optometrical services, free (shared ward) accommodation and treatment and free out-patient treatment at public hospitals.

#### 5.5 – MEDICARE, 1995–96

	<i>Western Australia</i>	<i>Australia</i>
Persons enrolled (a)	1 780 853	18 535 497
Services processed:		
General practitioner attendances	7 656 773	89 574 946
Specialist attendances	1 360 473	18 049 751
Pathology	4 614 075	48 660 829
Other	3 628 345	39 713 526
Total	17 259 666	195 999 052
Average number of services processed (b)		
Males	7.64	8.63
Females	11.94	12.78
Persons	9.78	10.71
Benefits paid	514 426 069	6 038 381 504

(a) Medicare enrollees include some persons who are not Australian residents (e.g. visitors). Consequently, the number of enrollees may exceed the resident population. Figures are as at 30 June 1996.

(b) Averages are calculated on the estimated resident population for Australia and Western Australia as at 30 June 1996.

Source: Health Insurance Commission, Annual Report, 1995–96.

In 1995-96, over \$514 million in Medicare benefits were paid to people living in Western Australia. This compares with a figure of just over \$470 million in 1994-95. Over the 12 month period, the average number of Medicare services processed for each enrolled person rose from 9.3 to 9.8. Females continued to show a higher rate of service usage than males, at both State and national levels.

### *Pharmaceutical Benefits Scheme*

The Pharmaceutical Benefits Scheme (PBS) aims to provide Australians with access to a wide range of pharmaceuticals at affordable prices. The Health Insurance Commission administers the PBS on behalf of the Commonwealth.

During 1995-96, some 124 million prescriptions were prescribed nationally at a cost of \$2,191 million. In Western Australia during the same period, 10 million prescriptions were issued at a cost of \$176 million. Nervous system and cardiovascular pharmaceuticals were the two categories most commonly prescribed in the State, each accounting for 20% of prescriptions issued.

*Details of other Commonwealth grants and subsidies in support of State public hospitals, nursing homes, domiciliary care and medical services for eligible veterans and their dependants, is provided in the 1997 Western Australian Year Book.*

### *Commonwealth Department of Health and Family Services*

Following the March 1996 Federal election, the Department of Human Services and Health became the Department of Health and Family Services. By July 1996, it had gained responsibility for the Supported Accommodation Assistance Program (from the former Department of Housing and Regional Development) and for Aboriginal and Torres Strait Islander health matters (from the Aboriginal and Torres Strait Islander Commission).

*Details of other health programs administered by this department can be obtained from the 1997 Western Australian Year Book.*

### **The Health Department of Western Australia**

The Health Department of Western Australia co-ordinates and manages health care functions and services throughout the State. The department also administers a wide range of legislation incorporating matters of individual and community health protection, treatment and regulation.

Services are delivered in a program format. A new program structure was adopted by the department in 1993-94.

*Details of this structure can also be found in the 1997 Western Australian Year Book.*

*Hospital Admissions* Health Department statistics show that in 1994 there were 443,674 admissions to hospitals within the State. The admission rate for females (262 per 1,000 female population) was higher than for males (225 per 1,000 male population).

The leading causes of hospitalisation for males were diseases of the digestive system, injury and poisoning and diseases of the genitourinary system. For females, admissions due to pregnancy and childbirth were by far the most frequent. These were followed by diseases of the genitourinary system and the digestive system. The admission rate for Aboriginal people (610 per 1,000) was two and a half times that for non-Aboriginal people (233 per 1,000).

The average length of hospital stays was 4.2 days, with 29% being classified as same-day. On average, females stayed longer in hospitals than males (4.3 compared with 4.0 days) and the percentage of same day cases for females (28%) was less than for males (31%). However, much of this difference can be accounted for by the number of admissions due to pregnancy and childbirth.

### **Other Health Services**

Independent organisations provide Western Australians with a range of important health services. These organisations include the Australian Red Cross Western Australia, the Family Planning Association of Western Australia, the Aboriginal Medical Service of Western Australia (Inc), the Silver Chain Nursing Association and the Western Australian Alcohol and Drug Authority. Many of these receive funds in the form of Commonwealth or State grants but also rely heavily on support from individuals and private organisations.

*Details of these major independent organisations are provided in the Western Australian Year Book 1997.*

**Western Australian Child Health Survey**

**Links in the education and health of Western Australian Children**

The effects of family life and the educational environment of schools in the 1990s on students' learning, behaviour and emotional adjustment were important areas of study for the 1993 Western Australian Child Health Survey. This article describes the survey and presents some of the key findings reported on in the third and final volume of survey results, subtitled *Education, Health and Competence* (ABS Catalogue No. 4305.5).

The survey was conducted in 1993 by the TVW Telethon Institute for Child Health Research in consultation with the Australian Bureau of Statistics (ABS). It was a comprehensive epidemiological study of the health and well-being of Western Australian children, covering 1,462 families with 2,737 children aged 4 to 16 years. Of the children surveyed, 2,319 attended 413 schools throughout the State. The survey was aimed at identifying developmental and environmental factors which enable and develop adolescent competency, resiliency and employment readiness.

The first volume of survey results, produced by the Institute in collaboration with the National Youth Statistics Unit of the ABS, was released in April 1995. Subtitled *Developing Health and Well-being in the Nineties* (ABS Catalogue No. 4303.5), it provided a comprehensive picture of the physical and mental health status of Western Australian children.

The second volume, released in May of 1996 and subtitled *Family and Community Health* (ABS Catalogue No. 4304.5) provided a rare snapshot of how the family and local community influence the health and development of children and adolescents growing up in Western Australia in the 1990s. It described three broad avenues for improving support to families in their task of rearing children. These included: achieving better means of balancing work and family responsibilities; developing public policies and programs to strengthen family functioning and parenting; and various ways of building the capacity of local communities to provide families with more effective support.

The third volume focusses on the associations between the physical health, mental health and educational achievement of 4 to 16 year-old students attending primary and secondary schools in Western Australia. It describes school cultures and environments, and examines the influence of school staffing, size, amenities and location as well as the contribution of family structure and functioning on child academic performance and well-being. Additionally, the consequences of poor physical and mental health for educational outcomes are described together with the protective function which schools serve for children who are at increased risk of poor health and educational attainment.

Key findings from Education, Health and Competence include:

- Almost 91% of school principals were optimistic about the ability of their school to fulfil its educational mission.
- On average, each Western Australian student is absent for about 8 days in a full school year, and the vast majority of these absences are explained (86%).
- Teachers reported that about 3% of students were 'far below age level' for overall academic performance and another 16% were 'somewhat below age level'. When parents were asked about their children's performance at school in the previous six months, they reported 5% of survey children and young people as being below average or poor in their school performance.
- About 17,600 students require programs that target students at educational risk or services in the form of direct educational support.
- Below age academic competence was more evident among children from low income families (i.e. those with a parental income \$20,000 or less per annum) than those from families with higher incomes (30% compared with 17%).
- Children and young people with a lower level of general health were more likely to have below age academic competence than those with excellent or very good health (27% versus 17%).
- Children and young people with mental health problems were five times more likely to have below age academic performance when compared with those who did not have a mental health problem.
- Students from schools with high reported rates of student drug and alcohol abuse (an estimated 5,900 students) also had higher rates of poor academic performance (37% compared with 19%), mental health problems (42% versus 21%) and unexplained absences (22% versus 5%), in comparison with students from schools with low reported levels of student drug and alcohol abuse.
- Both self-esteem and the ability to manage (i.e. self-efficacy) are associated with academic competence. Whereas 28% of those adolescent students with low self-esteem (scores in the lowest third) had low academic competence, this was true among 14% of students with high self-esteem. Adolescent students with low self-efficacy had almost twice the rate of low academic competence than those with higher levels of self-efficacy (46% versus 28%).

The results of the survey focus attention on the rapid social and economic changes affecting families and children, and the new burdens and expectations that these changes are exerting on schools and teachers. The authors of the report suggest that, for those with a role in the education of Western Australia's children, meeting these changes and pressures will require vision, persistence and leadership.

## Social Welfare and Health

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### ABS National Health Survey

The 1995 National Health Survey was conducted by the Australian Bureau of Statistics during the 12 month period from February 1995 to January 1996 across all States and Territories.

The survey was designed to obtain national benchmark information on a wide range of health issues and to enable trends in health to be monitored over time. Objectives of the survey were to provide indicators of:

- the health status of the Australian population;
- use of health services; and
- other health-related behaviours (e.g. risk behaviours).

### Self-assessed Health Status

Results from the survey show that the majority of Western Australians aged 15 years and over considered themselves to be in good health, with 86% reporting their health to be good, very good or excellent. This proportion was similar for both men and women but declined with age. Even so, the majority (59%) of those aged 75 or more, reported their health as good, very good or excellent.

#### 5.6 – SELF ASSESSED HEALTH STATUS, 1995

	<i>Excellent/very good</i>	<i>Good</i>	<i>Fair/poor</i>
	%	%	%
15-24	62.4	28.1	9.5
25-34	63.7	26.3	9.9
35-44	60.8	29.3	9.8
45-54	56.0	30.1	13.9
55-64	48.2	33.9	17.9
65-74	33.9	38.8	27.2
75 and over	30.6	28.3	41.1
<b>Total</b>	<b>55.9</b>	<b>29.8</b>	<b>14.3</b>

Source: ABS 1995 National Health Survey.

### Long-term Conditions

In Western Australia, almost 77% of the population experienced one or more long-term conditions (conditions of six months or more duration). The most commonly reported conditions were diseases of the nervous system and sense organs, reported by 52% of people. The majority of these experienced eyesight problems such as long-sightedness, short-sightedness and presbyopia. The next most commonly experienced conditions were respiratory conditions, reported by 32% of people. The majority of these were sufferers of hayfever or asthma.

**5.7 – WHETHER REPORTED A LONG-TERM CONDITION BY TYPE OF CONDITION, 1995**

<i>Type of Condition</i>	<i>Persons</i> '000
Diseases of the nervous system and sense organs	897.7
Diseases of the respiratory system	554.6
Diseases of the musculoskeletal system and connective tissue	414.8
Diseases of the circulatory system	342.1
Endocrine, nutritional and metabolic diseases and immunity disorders	169.5
Symptoms, signs and ill-defined conditions	153.5
Other conditions	350.8
No long-term condition reported	399.5
<b>Total population (a)</b>	<b>1 732.4</b>

(a) Persons may have reported more than one type of condition and therefore components do not add to the total shown.

Source: ABS 1995 National Health Survey.

*Health-related  
Actions*

Just over 78% of Western Australians reported taking one or more health-related actions in the two weeks prior to the survey, the national figure being just over 75%. Using medication was the most commonly reported action, accounting for almost 72% of persons in the State (compared with just under 70% nationally). Approximately 21% (23% nationally) had consulted a doctor (GP or specialist).

Although women were more likely to take a health-related action than men (84% and 73% respectively), they displayed a similar pattern of use. More than 78% of women used medications and almost one-quarter consulted a doctor, compared with 65% and 18% respectively of men.

Overall, the proportion of persons taking an action increased with age after the pre-school years (under five years), from 65% of persons aged 5–14 years to 94% of those aged 75 years or more. Exceptions to this pattern occurred with dental consultations and days away from work/school where the highest proportions were recorded in the 5–14 age group.

### 5.8 - WHETHER TOOK HEALTH-RELATED ACTION DURING PREVIOUS TWO WEEKS BY TYPE OF ACTION, 1995

Type of action	Males '000	Females '000	Persons '000
Hospitalisation	*6.6	8.3	14.9
Casualty/emergency/outpatients visit	28.9	26.7	55.7
Day clinic visit	9.5	16.6	26.0
Doctor consultation	159.8	208.4	368.2
Dental consultation(a)	49.1	58.8	107.9
Consultation with other health professional	87.6	118.1	205.7
Medication use(b)	565.3	676.7	1 242.0
Days of work/school	76.7	68.3	145.0
Days of reduced activity	46.6	66.8	113.3
Other health related contact	58.4	87.9	146.3
<i>Total persons taking action</i>	633.1	724.1	1 357.2
<i>Total persons who took no action</i>	236.9	138.3	375.2
<b>Total population (c)</b>	<b>870.0</b>	<b>862.4</b>	<b>1 732.4</b>

(a) Only persons aged 2 years and over.

(b) Includes vitamins, minerals and natural and herbal medicines.

(c) Persons may have reported more than one type of action and therefore components do not add to the total shown.

Source: ABS 1995 National Health Survey.

#### Risk Factors

Table 5.9 profiles the health of the Western Australian population in terms of four main risk factors: smoking, alcohol consumption, exercise and body mass index. In 1995, 23% of the adult population were smokers, 30% were ex-smokers and 47% had never smoked. Overall, females were less likely to have taken up smoking than males (55% and 38% respectively who had never smoked).

Alcohol risk levels are derived from the average daily consumption of alcohol in the week prior to interview and grouped into relative risk levels as defined by the National Health and Medical Research Council (NH & MRC), as follows:

	Males	Females
Low	Less than 50 mls	Less than 25 mls
Moderate	50-75 mls	25-50 mls
High	Greater than 75 mls	Greater than 50 mls.

Almost 61% of the adult population (aged 18 years and over) reported having a drink containing alcohol in the reference week. However, the majority of those who drank alcohol did so at levels considered to be of low risk to their health (85%). Again, differences between the sexes were apparent: for example, males who drank alcohol were more likely than females to consume at high risk levels (8% and 2% respectively).

### 5.9 – RISK FACTOR BEHAVIOURS, 1995

	Males '000	Females '000	Persons '000
SMOKER STATUS (a)			
Smoker	169.9	122.7	292.6
Ex-smoker	218.4	166.6	385.0
Never smoked	242.3	351.3	593.6
<b>Total</b>	<b>630.6</b>	<b>640.6</b>	<b>1 271.2</b>
ALCOHOL RISK LEVEL (a) (b)			
Did not consume alcohol	187.6	311.2	498.8
Low	370.0	286.3	656.3
Medium	39.3	36.7	76.0
High	33.7	6.5	40.1
<b>Total</b>	<b>630.6</b>	<b>640.6</b>	<b>1 271.2</b>
EXERCISE LEVELS (c)			
Did no exercise	195.8	186.5	382.4
Low exercise level	222.9	291.6	514.4
Medium exercise level	124.0	115.9	239.9
High exercise level	128.1	80.3	208.4
Total persons who exercised	475.0	487.7	962.7
<b>Total</b>	<b>670.8</b>	<b>674.3</b>	<b>1 345.1</b>
QUETELET BODY MASS INDEX (c) (d)			
Underweight	38.7	103.5	142.2
Acceptable weight	288.0	281.9	569.9
Overweight	240.1	142.5	382.9
Obese	56.1	69.7	125.7
Not stated /unknown	47.9	76.7	124.6
<b>Total</b>	<b>670.8</b>	<b>674.3</b>	<b>1 345.1</b>

(a) Persons aged 18 years or more.

(b) Derived from the average daily consumption of alcohol in the week prior to interview and grouped into relative risk levels as defined by the NH & MRC.

(c) Persons aged 15 years or more.

(d) Derived using the formula weight (kg) divided by the square of height (m<sup>2</sup>) and grouped according to the recommendations of the NH & MRC.

Source: ABS 1995 National Health Survey.

Over 71% of males and females in Western Australia aged 15 years and over reported taking part in some type of exercise for sport, recreation or fitness in the two weeks prior to interview. Exercise level was derived from information about the number of times exercise was undertaken in the reference period, the average length of each session and the intensity (i.e. vigorous, moderate or walking). While the proportions of males and females who exercised were similar, males reported exercising at higher levels than females.

Persons aged 15 years and over were grouped according to their Body Mass Index (BMI) based on self-reported height and weight. The groups used in the table are consistent with recommendations from the NH & MRC. Approximately 43% of males and 42% of females recorded an index within the acceptable weight range for their height. A higher proportion of males (44%) than females (31%) were recorded as being overweight or obese, with the reverse pattern for those recorded as being underweight, 15% of females compared with 6% of males.

### References

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Department of Social Security  
Department of Veterans' Affairs

# Law, Order and Emergency Services

## Chapter 6

# LAW, ORDER AND EMERGENCY SERVICES

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## Chapter 6

# LAW, ORDER AND EMERGENCY SERVICES

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### Law and Order

In Western Australia the State Government has responsibility for enacting legislation and providing a police force, judiciary and corrective service.

#### The Law Courts

Courts administered by the Courts Services Division of the Ministry of Justice include the Supreme, District, Magistrates' (Courts of Petty Sessions, Local Courts, Coroners) and Family Courts and Children's Tribunals, as well as the Western Australian Sheriff's Office.

#### *Supreme Court of Western Australia*

The Supreme Court of Western Australia is constituted under the *Supreme Court Act 1935* and exercises an original jurisdiction in both civil and criminal cases. It has exclusive jurisdiction in regard to certain cases, including serious indictable offences such as murder and treason. The Court is also vested with a wide range of appellate jurisdictions.

#### *District Court of Western Australia*

The District Court of Western Australia, constituted under the *District Court Act 1969*, is a court between the Supreme Court and the Magistrates' Courts.

#### *Courts of Petty Sessions*

Courts of Petty Sessions are established under the *Justices Act 1902*. These Courts are held throughout the State and deal with minor criminal cases, as well as committal proceedings in cases of more serious offences. The number of matters dealt with has decreased over recent years due to the enactment of legislation to streamline the process of collecting fines. In 1995 the *Fines, Penalties and Infringement Notices Enforcement Act* came into operation. This legislation provides methods to collect fines outstanding in respect of infringement notices and fines imposed in courts.

#### *Local Courts*

Local Courts are established under the *Local Courts Act* and are held throughout the State to determine minor civil issues. Jurisdiction is limited in most cases to claims not exceeding \$25,000. The Small Disputes Division of the Court enables matters of small debts to be determined for claims up to \$3,000 and handles disputes between landlords and tenants under the provisions of the *Residential Tenancies Act 1987*.

## Law, Order and Emergency Services

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### Coroner's Courts

Coroner's Courts are responsible for inquiring into the circumstances of a person's death, where that person has suffered a violent or unexpected death, or where the nature of their death is uncertain. Coroner's Courts also inquire as to the cause and origin of fires relating to a person's death.

### Children's Courts

Children's Courts in Western Australia are constituted under the *Children's Court of Western Australia Act 1988* as a distinct jurisdiction, headed by the President who is a District Court Judge. The Court has exclusive jurisdiction to deal with all offences alleged to have been committed by children, as well as to hear applications to have children declared in need of care and protection.

*The Young Offenders Act* was proclaimed in March 1995. The Act has made major changes to the way the Court deals with young offenders, including the increased involvement of responsible adults, the introduction of juvenile supervised release (parole), a new set of sentencing options and the replacement of Children's Panels with Juvenile Justice Teams.

### Family Court of Western Australia

The Family Court of Western Australia is vested with State and Federal jurisdiction in matters of family law and deals with divorce; property of a marriage; residence, contact and other matters relating to children; maintenance and adoptions. Further information on Divorces is outlined in Chapter 4 of this publication. For a more detailed explanation of the Family Court, see page 117 of the 1993 Western Australian Year Book.

### The Jury System

The operation of the jury system is governed by the *Juries Act 1957*. Indictable offences are tried before a Judge and 12 jurors sitting in the criminal jurisdiction of either the Supreme Court or District Court, depending on the gravity of the offence. Juries for civil cases comprise six persons.

Subject to the *Juries Act*, a person who is enrolled on any of the rolls of electors entitled to vote at an election of members of the Legislative Assembly of the State Parliament, is liable to serve as a juror at trials in the jury district in which he or she is shown to live by any of those rolls of electors. Each year, a Juror's Book is prepared by the Chief Electoral Officer for each jury district within the State for persons who qualify as jurors. Certain persons are excluded from jury service and persons may be excused on the grounds of illness; undue hardship; circumstances of sufficient weight, importance or urgency; or recent jury service.

### Victim Support Services

The Victim Support Service is a branch of the Court Services Division of the Ministry of Justice. It provides trauma debriefing, counselling, information, court support, assistance with Victim Impact Statements and assistance with applications for Criminal Injuries Compensation for victims of crime. The majority of referrals come from the Police Service. It is also involved in

associated policy development and advocacy matters within the criminal justice system.

### **Law Reform Commission of Western Australia**

The Law Reform Commission of Western Australia was established by the *Law Reform Commission Act 1972*. The commission's function is to examine proposals for the review of various laws which have been referred to it by the Attorney-General. It may also submit suggestions to the Attorney-General for review.

The commission usually issues a discussion paper dealing with an issue and invites comments from interested persons. A report is then made to the Attorney-General. Recent reports issued by the commission deal with United Kingdom statutes in force in Western Australia, joint tenancy and tenancy in common, consent to sterilisation of minors, the enforcement of orders under the *Justices Act 1902* and the enforcement of judgements of Local Courts.

### **Legal Aid**

#### *Legal Aid Commission of Western Australia*

People in Western Australia may receive legal advice, guidance and financial assistance towards their legal costs from the Legal Aid Commission of Western Australia. Legal Aid is an independent statutory body and is funded principally by Commonwealth and State Governments.

Legal Aid takes a solution orientated approach to resolving legal problems and concentrates on the provision of self-help assistance including legal advice and minor assistance, workshops, forums, kits and pamphlets. Litigation assistance is available to eligible applicants.

#### *Aboriginal Legal Services*

The Aboriginal Legal Service of Western Australia is the largest community based Aboriginal organisation in the State. Among its aims is the provision of direct relief to Aboriginal people suffering poverty, distress, or helplessness as a result of their involvement with the laws of the Commonwealth or States of Australia. The service has grown from a staff of six in 1973, to 110 people working out of 16 offices throughout the State. The Aboriginal Legal Service is funded by a grant from the Aboriginal and Torres Strait Islander Commission. The Legal service deals with around 40,200 matters each year and has over 19,000 clients. The service includes family law, criminal law, a Civil and Public Interest Unit and a Land and Heritage Unit.

### **State Ombudsman**

The Parliamentary Commissioner for Administrative Investigations (or State Ombudsman, as the position is better known) receives and investigates complaints relating to the administration of State Government departments, local government authorities and most statutory authorities. Complaints regarding the conduct and administrative actions of members of the Police Service are also investigated by the Parliamentary Commissioner.

There are some complaints about government matters that the Ombudsman does not have the power to investigate, including decisions made by Government Ministers. Other areas outside the Ombudsman's jurisdiction include complaints about non-government matters, decisions made by courts of law, and actions of companies, associations, clubs and private persons.

### **Ministry of Justice**

In early 1996, the Ministry of Justice underwent an organisational restructuring involving the merger of the Adult Offender Management Division and the Juvenile Justice Division under an Executive Director of Offender Management. The changes reflect a more collaborative approach to the treatment of offenders.

The management of adult and juvenile offenders involves the following sub-programs:

- the Adult Offenders Custody sub-program maintains security and good order in the State's 13 prisons and looks after prisoners' welfare and rehabilitation through education, vocational training and development programs;
- the Adult Offenders Community sub-program manages adult offenders subject to community based supervision orders, provides pre-sentence offender reports to courts and offender assessment reports to releasing authorities;
- the Juvenile Offenders Custody sub-program provides safe and secure, pre and post sentencing detention for young offenders, and also addresses offending behaviour and development needs; and
- the Juvenile Justice Community sub-program provides services through government and non-government agencies, involving families and the community where possible, to help reduce juvenile crime and divert young offenders from court. The sub-program provides supervision and support for young offenders carrying out community based orders.

### **Police**

The mission of the Western Australian Police Service (WAPS) is 'In partnership with the Community, create a safer and more secure Western Australia by providing quality police services'.

The strategic intentions of the WAPS describe the purpose, approach, style and values of the organisation in its efforts to achieve its mission.

The following intentions have been identified:

- Customer focus;
- Community leadership;

- Localised service delivery;
- Problem solving;
- Strategic partnerships;
- Managerial accountability;
- Effective management of resources; and
- Commitment to developing and motivating our people.

Total staffing numbers in the Western Australian Police Service at 30 June 1997 were 6,157 of which 4,744 were sworn police officers.

Some of the key achievements in the last twelve months include:

- establishing the District Information Support Centres in each District and District Support Groups in each metropolitan District;
- developing liquor accords in a number of country towns;
- recording the highest level of use of Crime Stoppers in Australia;
- introducing a series of initiatives which have been effective in reducing the road toll and wide-ranging establishment; and
- testing of emergency management plans.

### *Offences reported*

The total number of offences for 1996-97 increased by 11,482 or 5.0%, significantly more than in 1995-96. The overall clearance rate was 29.9%, marginally higher than the 29.7% in 1995-96.

In percentage terms, offences against the person provided the largest component of the increase at the broad category level, up by 1,032 or 5.8%. This was due mainly to increases in the number of robberies (up 401 or 25.7%) and assaults (up 861 or 6.6%). The number of reported homicides and sexual assaults again declined in 1996-97.

In absolute terms, offences against property contributed the largest increase among the broad categories of offences producing 8,452 (4.3%) of the 1996-97 increase in total offences. Categories of offences most responsible for the increase were burglary (up 1,650 or 2.9%), stealing (up 4,084 or 5.6%) and fraud (up 1,247 or 16.5%). Damage offences increased by 1,747 or 4.4%. Motor vehicle thefts continued to decline being down by 2.0% on 1995-96.

Among other offences, those relating to drugs increased by 1,263 or 10.4% on 1995-96.

## Law, Order and Emergency Services

The overall clearance rate for all offences was 29.9%, compared with 29.7% in 1995-96, despite there being small declines in the clearances of offences against the person and offences against property.

The increased clearance of other offences, up from 73.7% in 1995-96 to 74.9% in 1996-97, was responsible for the increase in the overall clearance rate.

### 6.1 - OFFENCES REPORTED

Offence	Offences reported		Offences cleared	
	1995-96	1996-97	1996-97	
	No.	No.	No.	%
<b>Offences against the person</b>				
Homicide (a)	51	43	40	93.0
Driving causing death	30	35	28	80.0
Robbery (b)	1 559	1 960	740	37.8
Assault (c)	13 062	13 923	11 808	84.8
Sexual assault (d)	2 736	2 504	2 405	96.0
Deprivation of liberty	262	267	214	80.1
<i>Total offences against the person (e)</i>	<i>17 700</i>	<i>18 732</i>	<i>15 235</i>	<i>81.3</i>
<b>Offences against property</b>				
Burglary (break and enter)	56 412	58 062	7 169	12.3
Stealing	73 388	77 472	17 166	22.2
Motor vehicle theft (f)	17 571	17 228	2 940	17.1
Fraud	7 537	8 784	6 964	79.3
Arson	609	676	199	29.4
Damage	39 569	41 316	7 576	18.3
<i>Total offences against property</i>	<i>195 086</i>	<i>203 538</i>	<i>42 014</i>	<i>20.6</i>
<b>Other offences</b>				
Drugs	12 111	13 374	11 908	89.0
Other reported offences (g)	6 384	7 119	3 436	48.3
<i>Total other offences</i>	<i>18 495</i>	<i>20 493</i>	<i>15 344</i>	<i>74.9</i>
<b>Total</b>	<b>231 281</b>	<b>242 763</b>	<b>72 593</b>	<b>29.9</b>

(a) Homicide includes Murder, Attempted Murder and Manslaughter.

(b) Robbery includes Armed and Unarmed Robbery.

(c) Assault includes Common, Serious, Assault Public Officer and Assault Police Officer.

(d) Sexual Assault includes Indecent Assault, Sexual Penetration and Aggravated Sexual Penetration.

(e) Due to the reclassification of Driving Causing Death as an offence against the person, total offences against the person have increased by 30 and other reported offences have decreased by 30 on previously published 1995-96 data.

(f) Motor Vehicle Theft includes actual theft and attempted theft.

(g) Other Reported Offences include Other Summary Offences, Other Indictable Offences, Breach Restraining Order, and Stalking.

Source: Western Australian Police Service.

### Recorded Crime

As shown in Table 6.2 for crimes reported to the police, Western Australia's rates (victims per 100,000 population) were above those recorded for Australia in 1996 for eight of the 13 crime categories. In addition, Western Australia recorded the highest rates for victims compared with all States and Territories for sexual assault (100), unlawful entry with intent (3,177), motor vehicle theft (804) and other theft (4,715).

## Law, Order and Emergency Services

Of the 1,757 reported victims of sexual assault reported, 79% were female. Almost 47% of all victims were aged 14 years or younger with a further 21% aged 15-19 years.

Offences involving unlawful entry with intent are often described as burglary or break and enter offences. A total of 56,100 premises were recorded by the police as being victims of these offences in Western Australia. Almost 70% of cases involved private residential dwellings and a further 12% were retail premises.

There were 14,195 motor vehicle thefts reported to the police in 1996. The most common locations for motor vehicle theft were garages and driveways associated with private residences (44%), areas associated with retail outlets (16%), and cars parked on streets and footpaths (11%).

Other theft (i.e. where property is taken but not involving unlawful entry of premises or theft of a motor vehicle) was the largest category of property offence. A total of 73,726 victims of other theft were recorded in Western Australia in 1996. The most common sites of other theft offences were private residential dwellings (39%) and retail premises (27%).

### 6.2 - VICTIMS, By Offence Category(a), 1996

Offence	Western Australia		Australia	
	No.	Rate (b)	No.	Rate (b)
Murder and attempted murder	43	2.4	642	3.5
Murder	20	1.1	311	1.7
Attempted murder	23	1.3	331	1.8
Manslaughter	2	0.1	37	0.2
Driving causing death	31	1.8	339	1.9
Assault	11 945	676.5	113 535	620.1
Sexual assault	1 757	99.5	14 394	78.6
Kidnapping/abduction	55	3.1	479	2.6
Robbery	1 725	97.7	16 346	89.3
Armed robbery	968	54.8	6,217	34.0
Unarmed robbery	757	42.9	10,129	55.3
Blackmail/extortion	25	1.4	258	1.4
Unlawful entry with intent	56 100	3 177.1	399 735	2 183.3
Motor vehicle theft	14 195	803.9	122 931	671.4
Other theft	73 726	4 715.4	520 795	2 844.6

(a) The statistics in this table only cover crimes reported to, or otherwise detected by police.

(b) Rate per 100,000 of population.

Source: ABS Catalogue No. 4510.0.

### Emergency Services

#### Fire

*Fire and Rescue  
Service of  
Western Australia*

The Fire and Rescue Service of Western Australia, formerly known as the Western Australian Fire Brigades Board, is responsible for the largest fire service district in the world: Western Australia.

The Fire and Rescue Service was set up as a Statutory Authority under the provisions of the *Fire Brigades Act 1942-1985*; its mission is 'to minimise the number and impact of fires and other emergencies on the people, property and environment of Western Australia'.

To achieve this mission the organisation undertakes several primary roles including the prevention of emergencies, suppression of property and bush fires, hazardous materials combat, and road accidents and other rescues.

Fire and Rescue Services are provided at 128 locations throughout the State, from Wyndham in the north to Denham in the west, Augusta in the south-west and Eucla in the east. Services are also provided on Cocos and Christmas Islands in the Indian Ocean under a Service Delivery Agreement with the Commonwealth Government.

In the metropolitan area, there are 20 fire stations which house career fire fighters. In addition, nine volunteer stations are attached to the metropolitan district. A mixture of career and volunteer firefighters are integrated at stations in Albany, Armadale, Bunbury, Geraldton, Kalgoorlie, Northam and Rockingham. The remaining volunteer fire brigades are established in various country towns across the State.

The Fire and Rescue Service employs around 1,000 staff and has around 2,500 registered volunteer firefighters. The Brigade has 262 firefighting vehicles, 102 non-firefighting vehicles, 73 rescue trailers and 22 historic museum vehicles.

The State Government fully funds the operations of the volunteers – about \$6.4 million of the \$68.8 million required to fund the operations of the Service. Of the \$62.3 million required to fund the career service, 75% comes from a levy on property insurance premiums. The State and Local Governments each contribute 12.5%.

During 1996-97, firefighters responded to a total of 18,958 emergencies throughout the State. More than one third of those calls (6,866) were to urban bush, scrub and grass fires; 7,053 were false alarms and just under one sixth were property fires (3,035) and special service calls (2,004).

The Fire and Rescue Service has undertaken a broad range of prevention activities for many years. Such initiatives include general public awareness and education programs, fire and other hazard safety programs for young people, building fire safety activities including a residential smoke alarm program, and bush fire safety initiatives, such as 'Community Fire Guard' which encourages homeowners to take greater responsibility for their property in minimising existing or potential fire hazards.

### *Bush Fires Board*

Constituted under the *Bush Fires Act 1954*, the Board's charter is to administer the provisions of the Bush Fire Legislation and to maintain a high standard of rural fire safety, which through the provision of fire protection services policy and direction, supports local government and their bush fire brigades.

The mission of the Bush Fires Board is 'to work with local governments, volunteers and other fire services, to protect life, property and the Western Australian environment through an informed community and well resourced bush fire brigades'.

The Bush Fires Board is responsible for the overall administration of the *Bush Fires Act* and regulations, with day to day administration and the maintenance of Bush Fire Brigades being the responsibility of local governments.

### **St. John Ambulance Australia**

St. John Ambulance is the main provider of ambulance service and first aid training in Western Australia. It operates the Western Australian Ambulance Service, providing emergency treatment and transport across the largest area in the world to be serviced by a single ambulance authority. As at the end of June 1997, the Western Australian Ambulance Service comprised approximately 340 ambulances, 2,200 volunteers and 285 paid Ambulance Officers. St John First Aid Courses were attended by 45,000 persons in the 1996-97 financial year.

### **Royal Flying Doctor Service**

The Royal Flying Doctor Service of Australia (RFDS) is a non-profit organisation financed by grants from the Commonwealth and State Governments and by private donations. The principal function of the Service is to provide aerial medical services for all persons irrespective of their location and economic situation. Its mission is 'to bring peace of mind to rural Australians by providing the world's best aerial health service'. There are five Flying Doctor bases in Western Australia, based in Derby, Port Hedland, Meekatharra, Jandakot and Kalgoorlie, operating with a total of 14 aircraft. For the year ended 30 June 1997, the RFDS in Western Australia flew 4,349,366 kilometres, and was in contact with 46,190 patients, 5,093 of whom required transportation. In Western Australia, the RFDS has 116 staff, comprising 19 administration staff, 5 fundraisers, 27 pilots, 15 engineers, 10 doctors (plus 3 part time), 25 flight nurse specialists and 12 radio staff.

## Law, Order and Emergency Services

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The radio network of the Royal Flying Doctor Service is regularly used in the work of School of the Air conducted by the Ministry of Education and for the transmission and receipt of telegrams and radio telephone calls. In addition, it may be used in connection with flood relief, in searching for lost parties and during cyclones or other emergencies.

### State Emergency Services

The Western Australian State Emergency Service (WASES) is a volunteer-based emergency service. The Service's operational capacity is provided primarily by its volunteer members, supported by a small full time staff. This operational capability is well developed and based on highly trained and dedicated personnel. The WASES is able to provide its services in response to disasters or emergencies at any location in Western Australia.

The service is the 'lead combat authority' in Western Australia for tropical cyclones, floods, storms and earthquakes. It is a combat authority for land search, vehicle rescue, cliff and cave rescue and civil defence. The Service also provides a range of support activities to other emergency services and committees in Western Australia's emergency management system.

WASES volunteers spent over twenty eight thousand hours conducting emergency operations during 1996-97, all without payment. This equates to over 830 activations for the year.

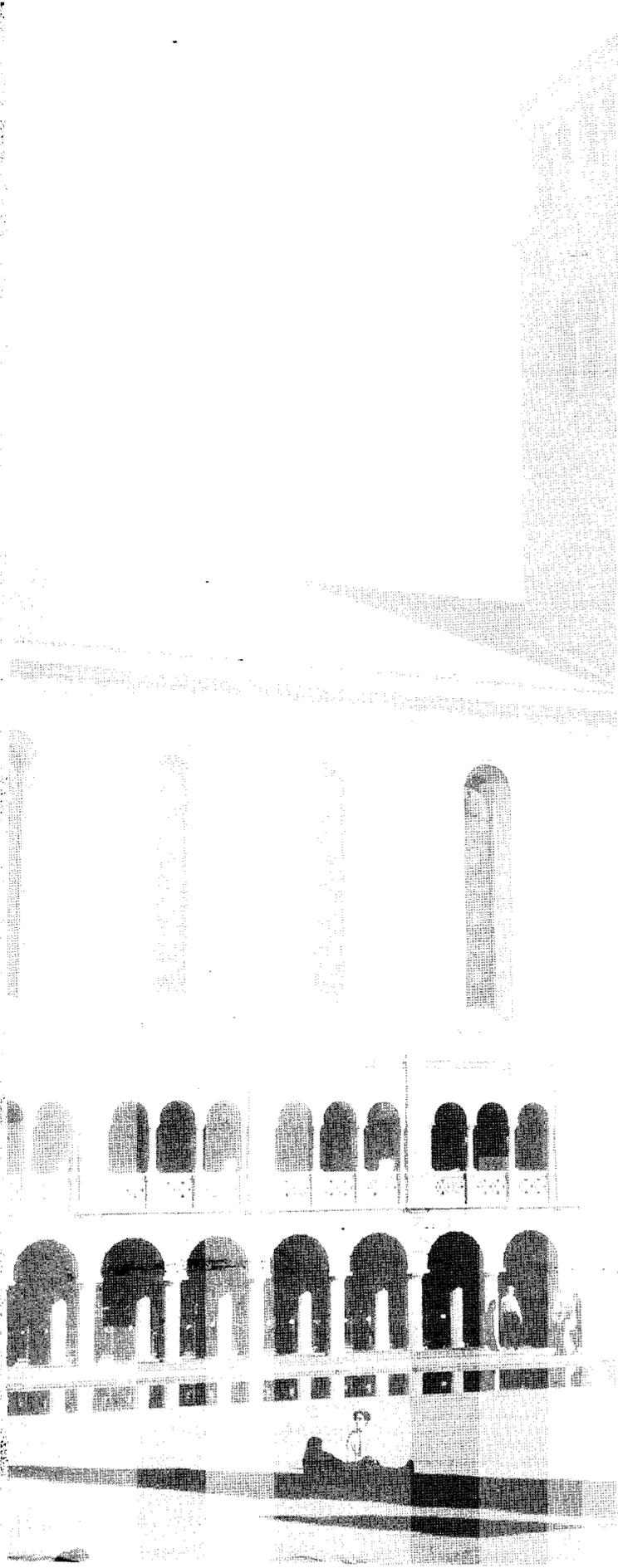
The main lead combat authority operational task remains severe storms. Volunteers were active 123 days, activated 368 times and attended 1221 premises.

Searches continue to be the most performed combat authority tasks of the WASES with 164 search activations. This included the provision of volunteer search teams and aerial observers for land and sea searches.

### References

- ABS Publications      *Recorded Crime, Australia, 1996 (4510.0)*
- Other Sources of Data      Western Australian Police Service

# Education



## Chapter 7

# EDUCATION

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## Chapter 7

# EDUCATION

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The Education Department is responsible for pre-primary, primary and secondary levels of education in Western Australia and provides the majority of facilities in order to fulfil this function. Education services are also provided by non-government schools which rely on student fees to operate and may also receive funding through State and Commonwealth authorities. Technical and further education is offered by the Training Department of Western Australia and by three independent regional colleges. The latter also provide higher education facilities. Additional higher education is available through four State universities and one private university.

### Funding

The Commonwealth Government allocated \$700 million in current grants and \$61 million in capital grants to the State in 1995-96 which represented a 6.1% increase over the previous year. The allocation of current grants was \$283 million (40.4%) for primary and secondary education, \$409 million (58.4%) for tertiary education and \$8 million (1.1%) for preschool and other special education. Capital grants comprised \$33 million (54.1%) for primary education and \$28 million (45.9%) for tertiary education.

Table 7.1 shows current and capital outlays on education (including payments to the private sector) by State and local governments in three successive financial years. In 1995-96, the total current outlay was \$1,787 million, of which almost 64% was spent on primary and secondary education and 6% on pre-school and other special education. In the same year, the total capital outlay on education was \$249 million of which just under 55% was spent on primary and secondary education and the remainder on tertiary education.

## Education

### 7.1 – STATE AND LOCAL GOVERNMENT OUTLAYS ON EDUCATION

	Current Outlays			Capital Outlays		
	1993 -94	1994 -95	1995 -96	1993 -94	1994 -95	1995 -96
	\$m					
Primary and secondary education	1 078	1 090	1 136	97	116	136
Tertiary education—	468	490	493	91	156	114
University education	259	259	238	91	145	87
Technical and further education	209	231	256	1	10	27
Tertiary education n.e.c.	1	—	-1	—	—	—
Preschool and other special education	113	116	106	4	4	—
Transportation of students	42	43	52	—	1	—
Education n.e.c.	-2	-3	—	—	-2	-1
<b>Total</b>	<b>1 699</b>	<b>1 736</b>	<b>1 787</b>	<b>192</b>	<b>275</b>	<b>249</b>

Source: ABS Catalogue No. 5510.0.

### Primary and Secondary Education

As of February 1997, the Education Department provided State wide access to primary and secondary education through:

- 514 primary schools;
- 29 remote country schools;
- 60 district high schools;
- 87 high and senior high schools and colleges;
- two campuses for mature age students;
- 64 education support schools and centres;
- five agricultural schools and colleges; and
- a School of Isolated and Distance Education, which included five Schools of the Air.

*Details of curricula and the structure of primary and secondary schooling within the State can be referenced in the Western Australian Year Book 1997.*

Student Numbers

The number of full-time students attending primary and secondary schools in Western Australia increased from 301,681 in 1995 to 306,806 in 1996, representing a 1.7% rise overall. The impact was more evident, however, in the non-government school population which showed a 4.2% increase for male students and a 4.7% increase for female students. The government school sector increase was marginal by comparison, 0.6% for males and 0.9% for females.

7.2 - FULL-TIME STUDENTS(a), 1996

Age at 1 July Years	Government schools (b)		Non-government schools (c)		Total No.
	Males No.	Females No.	Males No.	Females No.	
5 and under	4 851	4 722	1 272	1 343	12 188
6	10 677	10 017	3 129	3 098	26 921
7	10 591	10 091	3 016	3 012	26 710
8	10 475	9 960	3 222	2 921	26 578
9	10 670	10 079	3 100	2 957	26 806
10	10 655	10 172	3 134	3 086	27 047
11	10 632	10 129	3 067	3 039	26 867
12	10 119	9 304	3 701	3 630	26 754
13	9 233	8 698	4 252	4 240	26 423
14	9 324	8 500	4 174	4 089	26 087
15	7 941	7 549	3 774	3 866	23 130
16	5 924	6 061	3 147	3 404	18 536
17	3 041	3 275	1 689	1 946	9 951
18	1 040	984	444	340	2 808
<b>Total</b>	<b>115 173</b>	<b>109 541</b>	<b>41 121</b>	<b>40 971</b>	<b>306 806</b>

(a) Excludes pre-primary and technical school students.

(b) Includes students attending education support schools, centres and units.

(c) Includes students attending special schools.

Source: ABS Catalogue No. 4221.0.

Retention Rates

In Table 7.3, apparent retention rates are calculated for full-time students who continued to Year 12 of secondary schooling. The apparent retention rate is the percentage of students of a given cohort group who continued to a particular level/year of education.

In the five year period from 1991 to 1996, retention rates to Year 12 in Western Australia peaked at 75.6% in 1993. Since then, they have declined a little each year, falling to 70.7% in 1996. Over the same period, a similar fall in retention rates to Year 12 was experienced nationally, the 1996 figure being 71.3%.

**7.3 – APPARENT RETENTION RATES OF FULL-TIME SECONDARY STUDENTS TO YEAR 12, 1991 TO 1996**

	Western Australia	Australia
1991	71.1	71.3
1992	72.8	77.1
1993	75.6	76.6
1994	73.4	74.6
1995	71.2	72.2
1996—		
Government	66.4	65.8
Non-government	80.5	83.2
Total	70.7	71.3

Source: ABS Catalogue No. 4221.0.

Staffing

In 1996, females represented the majority of employees in the education sector. In government schools, females represented 65.5% of teaching and 81.3% of non-teaching staff. Comparative male employment was 34.5% and 18.7% respectively. Teaching staff are defined as staff who spend the majority of their time in contact with students, that is, support students either by direct class contact or on an individual basis, and have some teaching duties.

For the purpose of Table 7.4, teaching staff includes principals, deputy principals and senior teachers who may be involved in administration duties. Excluded are emergency and casual relief teaching staff. Non-teaching staff contribute to the efficient operation of the institution by performing administrative and caretaker functions, operating equipment, managing libraries and laboratories and providing a link between the school and the community.

**7.4 – SCHOOL TEACHING AND NON-TEACHING STAFF(a), 1996**

	Teaching Staff			Non-Teaching Staff		
	Males	Females	Total	Males	Females	Total
	No.	No.	No.	No.	No.	No.
Government schools	5 397	10 223	15 620	1 112	4 834	5 946
Non-Government schools	2 147	4 096	6 243	794	2 197	2 991
<b>Total</b>	<b>7 544</b>	<b>14 319</b>	<b>21 863</b>	<b>1 906</b>	<b>7 031</b>	<b>8 937</b>

(a) Figures relate to actual staff and are not shown in Full time Equivalent (FTE) terms.  
Source: ABS Catalogue No. 4221.0.

Student/teacher ratios for the school sector are derived by dividing the number of full-time students by the number of Full Time Equivalent (FTE) teaching staff. The resultant ratio is not an indicator of class size and does not necessarily determine, nor reflect, the quality of teaching.

7.5 – FULL-TIME STUDENT/TEACHER STAFF RATIOS, 1996

	Government	Non Government			Total	All Schools
		Anglican	Catholic	Other		
Primary	18.3	16.6	19.3	15.5	18.1	18.2
Secondary	12.7	11.9	13.6	12.0	12.8	12.7
<b>Total</b>	<b>15.8</b>	<b>13.1</b>	<b>16.4</b>	<b>13.5</b>	<b>15.2</b>	<b>15.6</b>

Source: ABS Catalogue No. 4221.0.

Teacher recruitment needs in the late 1990s remain high with the introduction of optional full-time schooling for five year olds and increases in projected school enrolments. The three year Bachelor of Arts (Education) course offered by the four public universities was replaced with a four year course in 1997. As the first intake for this course will not graduate until the year 2000, the only graduates available for employment in 1999 will be those exiting graduate diploma programs, earlier graduates who have not yet received appointments and graduates of the three year teacher education course offered by the private institution, the University of Notre Dame Australia.

*Students with special needs*

To assist students with special needs, the Education Department has implemented new programs and reviewed some schemes already in place to facilitate better management of this sector of the school community.

Programs which were introduced during 1996-97 included:

- the Early Literacy project (implemented in 80 schools);
- trials in selected schools to develop a management framework for students with behavioural problems;
- a trial truancy project to cater for the needs of truanting and alienated youth;
- the use of visiting teachers to encourage best practice procedures for students with disabilities in rural areas; and
- a pilot project to include students with intellectual disabilities in mainstream schools.

Initiatives catering for Aboriginal students included the development of the Aboriginal parent/community participation program and consolidation of measures for improving participation and retention rates. In conjunction with the Aboriginal Education and Training Council, a cross-cultural awareness training package was developed

and piloted in the Moora educational district. This package was written by the Centre for Aboriginal Studies at Curtin University. Edith Cowan University has conducted extensive research aimed at improving the quality of schooling for Aboriginal students.

In addition, programs intended to improve understanding and reconciliation among Aboriginal and non-Aboriginal Australians became available through the government school network in 1995-96. The *Aboriginal Studies* program aims to provide all government school students with a knowledge, understanding and appreciation of Aboriginal history and culture. Curriculum materials have been developed for primary and secondary schools and 79 schools participated in the scheme during 1995. The *Aboriginal Speakers* program enabled 360 schools to conduct cultural awareness programs with 118 Aboriginal community members.

Aboriginal Languages teaching was undertaken in 25 primary schools and four secondary schools and involved 1,490 students. In-service training was provided to enable language teams to effectively deliver programs. Teacher linguists were trained in LOTE (language other than English) methodology and the Aboriginal Languages Framework to support these teams.

### Vocational Education and Training

At the broadest level, vocational education and training (VET) includes all post-school, and secondary school, education and training which is specifically directed towards the acquisition of work-related skills. In 1995, the Commonwealth Government and State Government commenced the phased introduction of the Australian Vocational Training System (AVTS) which is designed to combine enterprise-based training with formal off-the-job training.

Students can enter the AVTS via a number of pathways, including schools, TAFE colleges, private providers, business and industry. In addition to the training undertaken by TAFE institutions, training can be provided on-the-job, or through in-house or external courses, or as a combination of these.

Providers of vocational training include employers as well as commercial training providers and other providers of Adult Community Education. Included in the latter are theological colleges; private business, commercial, language and secretarial colleges; community and evening colleges; professional associations and employee organisations.

Data collected by the National Centre for Vocational Education Research, on behalf of the Australian National Training Authority, show that, in 1996, there were 158,659 enrolments in the VET program in Western Australia. Of these, 132,445 (83.5%) were enrolments in vocational programs; the remainder related to 'personal enrichment programs'. While the latter include study for recreation and leisure purposes, the distinction between 'vocational' and 'personal enrichment' programs is not well-defined, with some

programs having both a vocational and personal enrichment intent. Such programs are generally classified as 'vocational'.

Within vocational programs, the fields of study with the highest number of enrolments were TAFE multi-field education (including General Skills, Pre-vocational and Pre-employment modules, school tertiary education, English and Literacy Skills) with 28% of enrolments; Business, Administration and Economics with 20% of enrolments; and Engineering/Surveying with 12% of enrolments.

As some students enrol in more than one course, the total number of students is less than the total number of enrolments. In 1996, there were 99,434 students enrolled in vocational programs and 17,872 enrolled in personal enrichment programs. Between 1995 and 1996, total numbers of students in vocational programs increased by 4.7%, while numbers in personal enrichment programs decreased by 6.8%.

Participation rates were highest in the 30-39 year age group which, in 1996, accounted for 24% of students in vocational programs and 23.5% of those in personal enrichment programs. People under 25 years were more likely to participate in vocational programs than personal enrichment programs, while the opposite trend was evident amongst people aged 40 years and over.

In the vocational programs, the proportion of males and females was fairly even, with 51% males and 49% females. Twice as many females as males enrolled in personal enrichment programs.

### Tertiary Institutions

The four government universities operating within Western Australia are: Curtin University of Technology, Edith Cowan University, Murdoch University and the University of Western Australia. Student numbers at these four government institutions totalled 61,354 in 1996, an increase of 5.2% from the previous year.

*Details regarding the history and structure of these institutions can be referenced in the Western Australian Year Book 1997.*

A private university, the University of Notre Dame Australia, commenced operating in 1992, in Fremantle. In 1996, it had more than 1,200 students enrolled in graduate and undergraduate courses in Arts and Sciences, Business, Education, Law and Theology. This University also has a campus located in Broome. Undergraduate and graduate courses in Business, Education and Aboriginal Studies are offered at this facility which, at February 1996, had a student population of 46.

## 7.6 – STUDENTS — INSTITUTION AND LEVEL OF COURSE, 1996

Level of Course	Curtin	Edith Cowan	Murdoch	University	Total
	University	University	University	of W.A.	
	No.	No.	No.	No.	No.
Higher Degree Research	852	515	561	1 386	3 314
Higher Degree Coursework	1 006	632	438	596	2 672
Other Post-Graduate	2 263	1 615	652	559	5 089
Bachelor	16 597	14 704	6 860	10 569	48 730
Other Under-Graduate	405	658	—	—	1 063
Enabling Courses	102	334	—	22	458
Non-Award Courses	15	—	13	—	28
<b>Total</b>	<b>21 240</b>	<b>18 458</b>	<b>8 524</b>	<b>13 132</b>	<b>61 354</b>

Source: Selected Higher Education Student Statistics, 1996, DEETYA.

## 7.7 – STUDENTS — INSTITUTION AND FIELD OF STUDY, 1996

Field of Study	Curtin	Edith Cowan	Murdoch	University	Total
	University	University	University	of W.A.	
	No.	No.	No.	No.	No.
Agriculture, Animal Husbandry	446	—	—	428	874
Architecture, Building	694	—	—	360	1 054
Arts, Humanities, Social Sciences	3 872	5 180	2 931	2 821	14 804
Business Admin, Economics	6 898	4 276	1 784	2 366	15 324
Education	1 293	4 544	808	450	7 095
Engineering, Surveying	1 881	177	133	1 796	3 987
Health	4 066	1 839	0	1 093	6 998
Law, Legal Studies	15	455	524	1 059	2 053
Science	2 060	1 987	1 972	2 759	8 778
Veterinary Science	—	—	359	—	359
Non-Award	15	—	13	—	28
<b>Total</b>	<b>21 240</b>	<b>18 458</b>	<b>8 524</b>	<b>13 132</b>	<b>61 354</b>

Source: Selected Higher Education Student Statistics, 1996, DEETYA.

**Survey of Aspects of Literacy**

The national Survey of Aspects of Literacy (SAL), conducted by the Australian Bureau of Statistics during 1996, was designed to measure some elements of Australians' literacy and numeracy skills. The SAL covered people aged between 15 and 74 years across Australia, but excluded those living in remote and sparsely settled areas. Specifically, the SAL was designed to:

- identify 'at risk' groups with low literacy and numeracy skills;
- help evaluate literacy and numeracy assistance programs;
- identify barriers to individuals achieving skill levels sufficient for daily life and work; and
- provide statistical support for planning and decision making.

By conducting the SAL, Australia became part of the International Adult Literacy Survey coordinated by the Organisation for Economic Cooperation and Development (OECD) and Statistics Canada. This study involves many countries undertaking similar surveys over a four-year period and will enable international comparisons of various aspects of literacy.

One aspect of the SAL was to collect respondents' own assessment of their skill levels in numeracy and literacy. This required respondents to rate their skills, in relation to reading, writing and basic mathematics, for the needs of daily life, as excellent, good, moderate or poor.

*Further details of this aspect of the survey can be obtained from Aspects of Literacy: Profiles and Perceptions, Australia 1996 (ABS Catalogue No. 4226.0).*

The SAL also used objective measures to assess literacy standards. The objective measures were designed to assess three types of literacy:

- *Prose literacy:* The ability to understand and use information from various kinds of prose texts, including texts from newspapers, magazines and brochures.
- *Document literacy:* The ability to locate and use information contained in materials such as tables, schedules, charts, graphs and maps.
- *Quantitative literacy:* The ability to perform arithmetic operations using numbers contained in printed texts or documents.

The SAL defined literacy as a continuum for each of the three types of literacy denoting how well people used material printed in English. Progression along this continuum was characterised by increased ability to 'process' information and to draw correct inferences based on the information used. For analytical purposes, the scores on the literacy continuum for each of the three levels were divided into five levels (level 1, lowest to level 5, highest). It should be noted that because the tasks used to derive literacy ability vary in difficulty, there is a range of abilities even among people within each level.

- *Level 1:* People at this level have very poor skills, and could be expected to experience considerable difficulties in using many of the printed materials that may be encountered in daily life.
- *Level 2:* People at this level could be expected to experience some difficulties in using many of the printed materials encountered in daily life.
- *Level 3:* People at this level cope with a varied range of material found in daily life and at work. However, they would not be able to use all printed material with a high level of proficiency.
- *Level 4:* People at this level have good literacy skills, and display the ability to use higher order skills associated with matching and integration of information, with making higher order inferences and with performing arithmetic operations where either the quantities or the operation to be performed are not easily determined.
- *Level 5:* People at this level have very good literacy skills, and can make high-level inferences, use complex displays of information, process conditional information and perform multiple operations sequentially.

*Further details of the objective measures used in the SAL can be obtained from Aspects of Literacy: Assessed Skill Levels, Australia 1996 (ABS Catalogue No. 4228.0).*

### Assessed Skill Levels

Educational attainment is one of the strongest predictors of literacy. Table 7.8 shows that, in Western Australia, skill levels in prose, document and quantitative literacy were consistently higher for those with tertiary or vocational qualifications than for those without such qualifications. Thus only 14% of those without qualifications were at level 4/5 for prose skill level, compared with one third of those who had a tertiary qualification. Likewise, against all three measures of literacy, less than 9% of those with a tertiary or vocational qualification were assessed as Level 1, whereas the proportion was around 22% for people without such qualifications.

Among those with tertiary or vocational qualifications, the largest proportion were assessed at Level 3; this was true for all three types of literacy. For those without qualifications, the largest proportion achieved Level 3 in quantitative skills and Level 2 in prose and document skills.

**7.8 – PERSONS BY LITERACY SKILL LEVEL AND EDUCATIONAL ATTAINMENT, 1996**

<i>Skill Level</i>	<i>Tertiary Qualification (a)</i>	<i>Vocational Qualification (b)</i>	<i>Without Tertiary Qualification</i>	<i>Total</i>
	'000	'000	'000	'000
<b>Prose skill level</b>				
Level 1	10.8	34.8	159.1	204.7
Level 2	50.2	89.8	227.2	367.2
Level 3	115.5	114.9	213.1	443.5
Level 4/5	103.8	53.3	97.8	255.0
<b>Total</b>	<b>280.4</b>	<b>292.7</b>	<b>697.2</b>	<b>1 270.3</b>
<b>Document skill level</b>				
Level 1	11.3	38.3	151.8	201.5
Level 2	52.4	83.7	249.7	385.9
Level 3	120.0	125.3	208.7	454.0
Level 4/5	96.6	45.4	86.9	228.9
<b>Total</b>	<b>280.4</b>	<b>292.7</b>	<b>697.2</b>	<b>1 270.3</b>
<b>Quantitative skill level</b>				
Level 1	8.5	41.4	152.4	202.3
Level 2	48.4	71.6	222.3	342.3
Level 3	115.0	124.8	236.8	476.6
Level 4/5	108.3	55.0	85.7	249.1
<b>Total</b>	<b>280.4</b>	<b>292.7</b>	<b>697.2</b>	<b>1 270.3</b>

(a) Includes higher degrees, postgraduate diploma, bachelor degree, undergraduate diploma, associate diploma.

(b) Includes skilled and basic vocational qualifications, for example, Trades Certificate in Vehicle Building, Apprenticeship in Electrical Fitting, Pre-Apprenticeship in Plumbing and Certificate in Shorthand and Keyboarding.

Note: Because Level 5 is a comparatively small group, Levels 4 and 5 have been combined for the purpose of analysis. Some discrepancies may occur due to rounding.

Source: ABS 1996 Survey of Aspects of Literacy, Unpublished Data.

## Education

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### References

- ABS Publications     *Aspects of Literacy: Assessed Skill Levels, Australia* (4228.0)  
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                              *Selected Higher Education Student Statistics, 1996,*  
                              Department of Education, Employment, Training and Youth Affairs

# Culture and the Arts

## Chapter 8

# CULTURE AND THE ARTS

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## Chapter 8

# CULTURE AND THE ARTS

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*This chapter was prepared in consultation with the following organisations: Department for the Arts, ScreenWest, Library and Information Service of Western Australia, Art Gallery of Western Australia, Western Australian Museum and the Festival of Perth.*

### Culture, the Arts and the Economy

The importance of culture and the arts to the Western Australian economy is demonstrated by figures from the Australian Bureau of Statistics' 1994 Household Expenditure Survey. These figures indicate that the domestic market for arts, cultural and entertainment goods and services in Western Australia in 1994, was approximately \$930 million.

Two significant components of the cultural industry, Film and Video Industries, and Radio and Television, were surveyed by the Australian Bureau of Statistics during 1993-94. A summary of the information obtained from the survey is included in the following table.

#### 8.1 – FILM, VIDEO, RADIO AND TELEVISION, 1993-94

	Businesses at end of June no.	Employment at end of June no.	Wages and salaries \$m	Gross Income \$m
Film and Video Production	58	180	4.3	15.5
Television Services	7	815	31.1	205.4
Radio Services	23	591	21.0	56.7

Source: ABS Catalogue Nos. 8679.0, 8680.0.

### Work in Selected Cultural/Leisure Activities

A survey of Culture and Leisure Activities, conducted by the Australian Bureau of Statistics in March 1996, found that during the 12 months ending March 1996:

- 213,400 people or 12.4% of the Western Australian population aged 15 years or more were involved in selected cultural or leisure activities;

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- Of these 213,400 people, 15.6% were paid for their work compared with 58% who were unpaid;
- In Western Australia 118,700 women and 94,600 men were involved in cultural and leisure activities.

### 8.2 – PERSONS INVOLVED IN CULTURE AND LEISURE ACTIVITIES, 12 MONTHS ENDING MARCH 1996

	<i>Males</i>	<i>Females</i>	<i>Total</i>
	'000	'000	'000
Paid involvement only	16.0	17.3	33.3
Unpaid involvement only	52.2	72.8	125.0
Paid and unpaid involvement	26.4	28.6	55.1
<b>Total persons involved</b>	<b>94.6</b>	<b>118.7</b>	<b>213.4</b>

Source: ABS Catalogue No. 6281.0.

The survey also found that females had a higher participation rate than males for all age groups and for all categories of employment. For example, 20.2% of females between the ages of 15–24 years participated in some form of culture and leisure activity, compared with only 14.5% of males.

### Ministry for Culture and the Arts

The Western Australian Arts Portfolio was restructured on 1 July 1997 to become the Ministry for Culture and the Arts.

The Ministry was established to increase the efficiency and effectiveness of the arts portfolio through the centralisation of many corporate and support functions. This will enable each agency to concentrate on delivery of its programs and services to the people of Western Australia.

The six agencies of the Ministry include the former Department for the Arts, now ArtsWA, and the former statutory authorities of the arts portfolio: the Art Gallery of Western Australia, the Western Australian Museum, the Library and Information Service of Western Australia, the Perth Theatre Trust and ScreenWest.

The mission of the Ministry for Culture and the Arts is to enhance Western Australia's position as a creative, intelligent and well-informed community reflected in the services offered by its service agencies. Its key objective is to facilitate a wide range of quality arts activities and cultural experiences for all Western Australians, and to encourage the economic viability of the arts and cultural industries.

### ArtsWA

Within this context, the mission of ArtsWA is to provide a vibrant and viable environment for the arts and cultural industries for the diverse Western Australian community through advocacy, investment, industry development and policy formulation.

Perhaps the most visible role of ArtsWA is that of direct financial investment in the arts. The Arts Investment section of this site gives more information about the investment programs available. ArtsWA, however, also addresses the overall development of the arts and culture in Western Australia. This is achieved by developing partnerships with the private and public sectors to gain new resources for the arts community. It also develops strategies for better management and marketing of the State's arts and cultural resources, and promotes new commercial opportunities.

ArtsWA also works to improve the public's awareness of the role and value of arts and culture in our society. In a global environment where there is an established infrastructure for the arts and culture, global trends — such as the development of new technology, the economic growth of the Asian region, greater concern for the environment in which we live, greater demand on the disposable income of present and potential arts patrons, and demands on artists and arts organisations to become more self-supporting and augment Government support with a greater proportion of earned income — all create an arena of challenge and opportunity. Many opportunities exist through a variety of avenues including:

- partnerships with the private sector;
- partnerships across government;
- opportunities for cultural interchange, particularly in the Indian Ocean region and with our sister States; and
- opportunities to fulfil the community's demand for quality arts and cultural experiences.

During 1996–97, total investments of \$11,672,229 were approved. New initiatives during this period included:

- the devolution to the Artists Foundation of Western Australia of responsibility for many aspects of the Department's advocacy of Public Art;
- the introduction of a number of initiatives to assist the arts industry to better market itself;
- more direct focus on exchange activities within the Indian Ocean rim; and
- the development of a *Young People and the Arts* strategy.

In 1996–97, ArtsWA also managed the refurbishment of a historical building within the Central Business District. The Little King Street Arts Centre will house a number of arts organisations alongside commercial and retail outlets.

### ScreenWest

ScreenWest is responsible for assisting the development of a diverse and commercially successful film industry in Western Australia. It plays a leading role in creating a positive environment for the industry through the effective and targeted distribution of funds received from the State Government and the Western Australian Lotteries Commission.

ScreenWest also plays a key role in supporting independent film making and screen culture development. To this end it undertakes a range of specialist programs, most significantly part-funding the Film and Television Institute and providing support for special events including the Region's largest television conference, Small Screen Big Picture.

Through a structured framework of support, ScreenWest provides development loans and strategic investments to bring marketable film and television projects to fruition. These projects include feature films, television series, documentaries, telemovies, short films, animation and mini-series.

During 1996–97, productions assisted by ScreenWest included Excalibur Nominees documentary series *Artists Upfront*, Electric Pictures documentaries *The Human Race* and *No Milk No Honey*, West Coast Pictures feature film *Justice*, CM Films feature film *Pastmaster*, an innovative package of short films by Conspiracy Pictures called *Bed and Desire*, and children's series *Minty*.

Total assistance provided to the film industry during 1996–97 amounted to \$2.95 million.

### 8.3 – PROVISION OF INDUSTRY ASSISTANCE, 1996–97

Type of Assistance Provided	\$'000
Loans for Project Development	229
Film Incentive Scheme Grants	825
Marketing & Industry Development	469
Investments for Production	1 098
Loans for Production	180
Resource Organisation Grants	150
	2 951

Source: ScreenWest.

## REGAL OPERA

Regal Opera is one of Australia's young opera developments. Founded in 1992 as the West Coast Singers, with Ian Westrip as its first musical director, this co-operative adopted its present trading name in 1997.

With limited opportunities for the considerable number of talented singers and musicians in Australia, and Perth in particular, it is important in this isolated region to provide performance opportunities of a high standard to prevent the drain of our artists overseas. In its brief history, Regal Opera has provided this State's developing artists the opportunity to perform, as well as experience the opportunity of working with singers of national and international repute.

The artistic focus of the company is to produce traditional opera from the popular repertoire in its original language, in a venue and at prices that are designed to attract many newcomers to opera. Subiaco's Regal Theatre has proved to be an excellent venue for opera with its refurbished stage and artists' facilities and its sympathetic sightlines and acoustics.



Regal Opera productions are accompanied by the Philharmonia Orchestra which, under the baton of Musical Director Ian Westrip, has received much praise for its fine performances. With the participation of stars, particularly Australians, from the international opera stage already to its credit, and many other established artists seeking work with the company, Regal Opera is becoming firmly established in the international operatic scene.

**La Boheme, July 1997**

*Courtesy: Regal Opera*

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### Library and Information Service of Western Australia

The Library and Information Service of Western Australia (LISWA) is a service delivery agency, within the Ministry for Culture and the Arts, responsible for delivering library, archival and information services to the people of Western Australia.

The State's archival records are maintained by LISWA through the Public Records Office which identifies and selects state and local government records which have archival value, provides access to those records and ensures their long term preservation. Other services provided by LISWA include training, consultancy, advice and standards development for state and local government to improve the quality of records management in Western Australia.

The State Reference Library, situated in the Alexander Library in the Perth Cultural Centre, provides extensive and varied reference and information services covering arts and literature, social sciences, information technology, business information and science and engineering. There is also an extensive map collection, a music lending and listening service and a leading collection of films and videos. The library is open seven days a week.

Also located in the Alexander Library Building is the J.S. Battye Library of Western Australian History. Its responsibility is to collect and preserve documentary materials which record the culture and heritage of Western Australia and to make these materials available for research. The collections include printed records, pictorial materials, manuscripts, archival film and video and oral history tapes and transcripts. Current information about government and community organisations and services are maintained and provided as an information service by Infolink.

The provision of public library services is a partnership between LISWA and local government authorities. These arrangements are specified by the terms of the *Library Board of WA Act (1953-1981)*. Through its Public Library Services Program, LISWA provides the bookstock and other resource materials for public libraries throughout the State and maintains these collections by exchanging the stock regularly. In addition, LISWA provides extensive catalogues and indexes, support services in the form of special collections, an inter-library loan service, training, consultancy and regional subsidies for the public library system.

The Consolidated Revenue Fund allocation to the Library Board of Western Australia, for 1996-97, was \$25.9 million.

**Western Australian Museum** Continuing change has been part of the Western Australian Museum's existence since its establishment more than a century ago. Changed community perceptions led to the establishment of the Museum in the early 1890s and changed community priorities and values have, over the past century, established one of the most extensive, diverse and priceless collections of cultural and scientific material in Western Australia.

*Major Achievements in 1996* The Museum's headquarters and principal exhibition centre is located in the Perth Cultural Centre and has established branches in Fremantle (Fremantle History Museum including Samson House, and the Western Australian Maritime Museum incorporating the Historic Boats Museum), Albany, Geraldton and Kalgoorlie.

The collections, currently numbering over two million specimens/artefacts, are the primary focus of research by the Museum's own staff and others. The aim is to advance knowledge about the collections and communicate it to the public through a variety of media, particularly through a program of exhibitions and publications.

The Western Australian Museum's vision is to develop, with the people of Western Australia, a vital, innovative museum central to community understanding of its environment and culture.

The Museum's mission is to work with the community to preserve and interpret Western Australia's environmental and cultural heritage.

During the year, a total of 836,303 visitors, of which 81,984 were school students, visited the various Museum sites.

Highlights of the year were:

- Commencement of the program for the National Centre of Excellence in Maritime Archaeology at the Maritime Museum.
- Approval of tenders for the refurbishment of Hackett Hall and the construction of a new entrance gallery in the Cultural Centre.
- Establishment of the maritime Museum Development Committee to progress plans for a major new facility to house Australia II and other elements of the State's maritime history collection.
- Completion of the de Bernales Shed at the Museum of the Goldfields, housing the Kalgoorlie site office and the Perth company office of Claude de Bernales.
- Refurbishment of the Fremantle History Museum neared completion, with major new exhibitions on the early history of Fremantle.

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- A revamped Maritime Museum Entrance Gallery and a major temporary exhibition, *From Hartog to de Vlamingh*.
- Museum staff appeared as expert witnesses in a court case involving the illegal export of Western Australian fossils. This case resulted in the first conviction involving export of fossils under *Protection of Moveable Cultural Heritage* legislation.
- Museum staff, with assistance from amateur herpetologists, successfully rediscovered a population of the Bunbury Skink, last recorded in 1967 and now recognised as a new species.
- The keel of the *Duyfken* was laid in the Duyfken Village, in the grounds of the Maritime Museum.
- The Maritime Museum played a major role in the *Willem de Vlamingh Tricentennial* events.
- Albany Residency Museum received 12,000 visitors during the two week residency of four Tibetan Buddhist monks, who built a Chakrasmvara Sand Mandala.
- Geraldton Region Museum, in conjunction with local tour operators, developed a new tourism promotion museum.

### Exhibitions in 1996-97

Exhibition Program presented in 1996-97:

- *Sugar and Spice: A History of the Arnott, Mills & Ware Cake and Biscuit Factory* (Fremantle History Museum);
- Entrance Gallery (Western Australia Maritime Museum): This gallery allows visitors to browse and orient themselves, while pointing to areas of interest that can be further explored elsewhere in the Museum;
- *From Hartog to de Vlamingh*, (Western Australian Maritime Museum);
- *Sjouke Gabbes*, (Western Australian Maritime Museum);
- *Our Wild Rivers*, 18 July - 28 July (Perth);
- *Surfabout Revisited*, 2 August - 13 October (Perth); and
- *Real Wild Child*, 31 October - 2 February (Perth).

Other exhibitions during 1996-97 included *Women's Business Travelling*, *Desert River: The Story of Rosie Dock*, *BBC Wildlife Photographer of Year 1995*, *Chops and Changes*, *White Hands*, *Black Aprons*.

A program of changing exhibitions developed for the regional museums included *Labour and Love: Australian Comic Book Exhibition*; and *Edith Cowan: A Tough Nut to Crack*.

Exhibitions in Preparation: planning is well advanced for the new exhibition at Fremantle History Museum, *Foundations of Fremantle*. In addition, planning is underway for:

- the new Aboriginal Gallery on the first floor of the Francis Street Building;
- *Western Australian Land and People*, to be incorporated on the upper level of the refurbished Hackett Hall;
- The Discovery Centre;
- *Diamonds to Dinosaurs*;
- a new Insect and Arachnids Gallery; and
- a refurbished Mammal Gallery.

### **The Art Gallery of Western Australia**

The Art Gallery of Western Australia is the oldest visual arts organisation in the State, having acquired its first work of art in 1895. The Gallery is located in the Perth Cultural Centre and is housed in two buildings: the Main Galleries completed in 1979 and the adjoining Centenary Galleries, originally the Perth Police Courts, opened in 1995.

The Gallery collects for, and maintains, the State Art Collection, comprising Western Australian, Australian and international works, with a particular emphasis on Western Australian and Aboriginal art.

The mission of the Art Gallery of Western Australia is to develop and present the best public art collection in the State and the pre-eminent collection of Western Australian art and to increase the knowledge and appreciation of the art of the world for the enjoyment and cultural enrichment of the people of Western Australia.

A challenging schedule of visiting national and international exhibitions, State Art Collection displays, educational activities and special events, culminated in a record attendance of 418,940 in 1996-97. International exhibitions displayed during this year were *Annie Leibovitz Photographs 1970-1990*, *Kandinsky and the Russian Avant Garde*, *Modern Masters* from the Museum of Modern Art, New York: *The William S. Paley Collection* and *Inside the Visible: Alternative views of 20th century art through women's eyes*. National exhibitions included the *Moet & Chandon Touring Exhibition 1997* and *Tom Roberts*.

The Gallery continued its commitment to the art of Western Australia by presenting the *Kathleen O'Connor Retrospective*, which later toured to regional galleries and to the S.H. Ervin Gallery in Sydney, and *Daughters of the Dreaming – Sisters Together Strong*, featuring traditional and contemporary art by Aboriginal women artists in Western Australia. *Treasures of New Norcia – A Monastery in the Bush*, celebrated the 150th anniversary of the foundation of the Benedictine Community of New Norcia, and provided an opportunity to view this rich part of Western Australia's heritage. One of the Gallery's most popular annual exhibitions was *Year 12 Perspectives* which displayed art works by students who graduated in 1996.

Major acquisitions made for the State Art Collection during 1997 were *White Squad III* by acclaimed American artist Leon Golub, and paintings by Australian artists: *Albert Tucker's Assassin, 1954* and Grace Cossington Smith's *Teacups: The Harlequin Set*.

### Bunbury Regional Art Galleries

The Bunbury Regional Art Galleries celebrated their tenth birthday in February 1997, coinciding with the centenary of the actual building, with *Festival X* providing activities for people of all ages over a ten day period. The Galleries continued their outreach programs through the Vision Arts Training Camp, the Talented and Gifted Program for visual arts students and art workshops for children.

The exhibition program at the Bunbury Regional Art Galleries included the annual *South West Survey* and *Westralian Sands Visions 96, Then and Now* from the National Gallery of Australia, the Fremantle Print Award and displays of works produced by artists-in-residence Fiona Derums and Maria Delle Donne.

### Geraldton Regional Art Gallery

The Geraldton Regional Art Gallery increased the involvement of school and community groups in the Gallery's exhibition activities through education programs. These programs extended participants' understanding and appreciation of visual arts.

The exhibition program at the Geraldton Regional Art Gallery included *Year 12 Perspectives* and *Jimmy Pike – Desert Designs 1981–1995* from the Art Gallery of Western Australia, *Kept for Best* from the national Gallery of Australia, *Oddfellows* from Art on the Move and *Punctuation* from Curtin University. These were completed by locally curated exhibitions such as Darryl Ding's photographic exhibition *Our Heritage: Rivers and Forests of the South West*, and Dorothy Watson's installation, *Red Poles-Southgates*.

### The 1997 Festival of Perth

The Festival of Perth is the oldest and largest annual international arts festival in the southern hemisphere, and boasts a reputation for excellence and vision second to none. A feast of music, theatre, dance, film, visual arts, and community entertainment, it is held annually for three and a half weeks in February and March.

During the Festival, Perth welcomes some of the best artists from around the world who relish the opportunity to perform in Perth's exceptional venues: from the acoustically excellent Concert Hall to the beautiful open-air setting of the Somerville Auditorium, where patrons relax in a deck-chair beneath a cathedral of Norfolk pines and enjoy the best of international films.

The Festival of Perth presents a comprehensive program of around 1000 performances and events involving hundreds of artists from all corners of the globe. From outrageous free street theatre to the best of international theatre, dance and music, the Festival of Perth offers something for everyone.

The 1997 audiences totalled 450,000. Among the highlights of the program were the Royal Shakespeare Company's *A Midsummer Night's Dream*, Belen Maya's *Flamenco Company*, the Australian premiere of John Taverner's *Let's Begin Again*, France's *Royal de Luxe's LePeplum*, Black Swan Theatre's *The Merry-Go-Round in the Sea* and Joshua Rifkin's *Bach Ensemble*.

The 1997 Festival included:

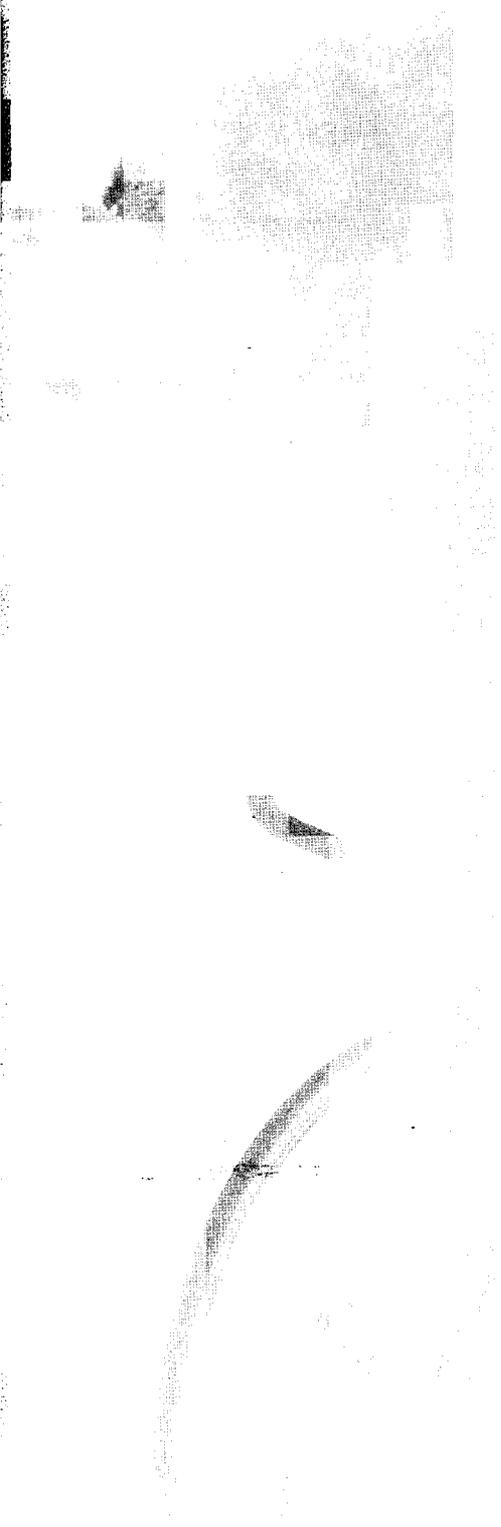
- 494 free performances and events;
- 931 performances;
- 141 productions;
- 818 artists/authors;
- 10 world premieres;
- 17 Australian premieres,
- 43 companies;
- 7 companies making Australian debut;
- 20 countries making Australian debut;
- \$6.7 million budget; and
- 6 Festival Commissions.

The major contributor to the 1997 Festival of Perth was the Lotteries Commission; a key partner and the single largest single source of funding for the Festival. Other major supporters included the Festival's governing body, the University of Western Australia, the City of Perth, the Australian Council, The British Council and the French Government through the Association Francaise d'Action Artistique.

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# Sport and Recreation



## Chapter 9

# SPORT AND RECREATION

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# SPORT AND RECREATION

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Sport and recreation is important to Western Australians, and indeed has become a hallmark of Western Australia's lifestyle. High achievement and participation in sport and recreation is an expectation of Western Australians and contributes to positioning Western Australia nationally, and internationally. The challenge is to sustain that success and in fact increase it in the future.

Elements of that hallmark include:

- The success of Western Australian athletes at international level, and of Western Australian teams in national league competitions and national championships;
- The hosting of successful major events;
- Commitment to the development of excellent facilities for both elite and community use;
- The extent of community participation in sport and physical activity;
- Sport and recreation development initiatives to enhance the development and delivery of sport and recreation; and
- The growing capacity of the overall sport and recreation industry.

*Source: Excerpt from Executive Director's Report, Ministry of Sport and Recreation 1996-97 Annual Report.*

### **Sport**

#### **Participation in Sport**

During 1995-96, the Australian Bureau of Statistics, through its Population Survey Monitor (PSM), collected data on Australian's participation in selected sport and physical activities.

The survey obtained data on the participation of persons aged five years and over in sport and physical activities organised by a club, association or school. Clubs and associations included sporting clubs, work social clubs, church group or local gymnasiums.

In Western Australia the survey found 408,800 or 31.4% of people aged 15 years and over participated in organised sport and physical

activities. In total, males had a higher participation rate (34.3%) than females (28.4%).

The State's total participation rate of 31.4% in organised sport and physical activities was higher than Australia as a whole (30.7%). Only the 55–64 year (17.2%) and 65 year and over (15.7%) age groups recorded less than the Australian participation rates (21.2% and 17.7% respectively).

Participation rates were highest for the 15–24 age group (males 55.4%, females 42.2%) and declined with age. Females aged 65 years and over had a higher participation rate (16.8%) in organised sport and physical activities than males (14.4%).

### 9.1 – PARTICIPANTS, ORGANISED SPORT AND PHYSICAL ACTIVITIES, 1995–96

Age group (years)	Western Australia						Australia	
	Males		Females		Persons		Persons	
	'000	(a) %	'000	(a) %	'000	(a) %	'000	(a) %
15–24	70.1	55.4	52.8	42.2	122.9	48.8	1 255.8	48.5
25–34	55.3	42.4	44.1	33.1	99.5	37.7	1 029.8	37.3
35–44	43.7	32.3	37.7	27.5	81.4	29.9	751.6	27.6
45–54	30.4	27.0	25.8	24.3	56.2	25.7	525.8	23.2
55–64	12.4	17.6	11.3	16.8	23.7	17.2	316.7	21.2
65 and over	10.6	14.4	14.4	16.8	25.1	15.7	344.5	17.7
<b>Total</b>	<b>222.6</b>	<b>34.3</b>	<b>186.2</b>	<b>28.4</b>	<b>408.8</b>	<b>31.4</b>	<b>4 224.2</b>	<b>30.7</b>

(a) Participation rate.

Source: ABS Catalogue No. 4177.0.

Aerobics was the most popular organised sport and physical activity for Western Australians during 1995–96, with a participation rate of 4.8%, followed by golf with a participation rate of 3.1%. These results followed the national trend where aerobics (4.8%) and golf (3.2%), were the two most popular activities.

Female participation rates in organised sport and physical activities were highest for aerobics (8.6%) and netball (4.7%), both higher than the national participation rates for females. The number of females participating in aerobics (56,500) and netball (30,700) was significantly higher than the number of males.

The most popular organised sport and physical activities for Western Australian males were golf (29,600), Australian rules football (25,500) and basketball (19,500). The male participation rates for Australian rules football (3.9%) and basketball (3.0%) were higher than the national rates, both 2.1%.

More females than males participated in tennis (2.5%), swimming (2.2%) and ten pin bowling (1.6%).

9.2 – PARTICIPANTS, SELECTED ORGANISED SPORT AND PHYSICAL ACTIVITIES (a), 1995–96

	Western Australia						Australia	
	Males		Females		Persons		Persons	
	'000	(b) %	'000	(b) %	'000	(b) %	'000	(b) %
Aerobics	*6.5	*1.0	56.5	8.6	63.0	4.8	659.9	4.8
Australian Rules football	25.5	3.9	**	**	25.9	2.0	146.4	1.1
Basketball	19.5	3.0	13.7	2.1	33.2	2.5	240.2	1.7
Cricket (indoor)	10.0	1.5	**	**	10.9	0.8	113.3	0.8
Cricket (outdoor)	16.2	2.5	**	**	16.2	1.2	196.4	1.4
Darts	*7.6	*1.2	*7.0	*1.1	14.6	1.1	48.1	0.3
Golf	29.6	4.6	10.2	1.6	39.8	3.1	444.7	3.2
Hockey (outdoor)	*5.4	*0.8	*5.8	*0.9	11.2	0.9	73.6	0.5
Lawn bowls	16.4	2.5	9.4	1.4	25.8	2.0	296.4	2.2
Martial arts	12.3	1.9	9.2	1.4	21.5	1.7	214.2	1.6
Netball	*3.9	*0.6	30.7	4.7	34.6	2.7	328.6	2.4
Sailing	9.6	1.5	*3.7	*0.6	13.2	1.0	90.9	0.7
Soccer (outdoor)	10.6	1.6	**	**	11.1	0.8	162.7	1.2
Swimming	*8.2	*1.3	14.4	2.2	22.6	1.7	281.4	2.0
Ten pin bowling	*8.9	*1.4	10.7	1.6	19.6	1.5	190.9	1.4
Tennis	10.9	1.7	16.5	2.5	27.5	2.1	362.0	2.6

(a) Persons aged 15 and over.

(b) Participation Rate.

\* Relative standard error greater than 25%.

\*\* Relative standard error greater than 50%.

Source: ABS Catalogue No. 4177.0.

Children's Participation

In Western Australia during the twelve months ended June 1996, 173,200 or 66.1% of children aged 5–14 years participated in at least one organised sport or physical activity, either in school organised activities conducted outside school hours or with a club. Of these children, 60.2% participated in activities organised by a club. This was nearly 7% higher than the national rate.

Slightly more than 19% of children (50,100) participated in school organised sport or physical activities conducted outside school hours. Females (19.3%) had a slightly higher participation rate than males.

The 12–14 year age group had the greatest participation rate in both club and school organised sport or physical activities conducted outside school hours. The participation rate for club organised activities was 68.1%, significantly higher than the national participation rate of 57.4%.

For boys, the most popular sport or physical activity was Australian rules football and basketball with participation rates of 26.2% and 24.6% respectively. This high participation rate for Australian rules football went against the national trend where soccer, with a participation rate of 17%, was the most popular sport or physical activity.

Other popular sport and physical activities undertaken by boys were swimming (13.7%) and tee-ball (12.4%).

## Sport and Recreation

For girls, the most popular sport or physical activity was netball and swimming with participation rates of 20.1% and 19.1% respectively. This followed the national trend (20.5% and 15.0% respectively). Other popular sport and physical activities for girls were basketball (11.7%) and dancing (11.0%).

### 9.3 – PARTICIPATION BY CHILDREN, ORGANISED SPORT AND PHYSICAL ACTIVITIES (a), 1995–96

Age group (years)	Western Australia						Australia	
	Males		Females		Persons		Persons	
	'000	(b) %	'000	(b) %	'000	(b) %	'000	(b) %
SCHOOL ORGANISED (c)								
5–8	*4.7	*8.8	*3.7	*6.6	8.3	7.7	100.6	9.8
9–11	8.0	18.6	11.7	31.0	19.7	24.4	213.7	27.2
12–14	12.9	33.3	9.1	27.3	22.0	30.5	241.5	31.5
<b>Total</b>	<b>25.6</b>	<b>18.9</b>	<b>24.5</b>	<b>19.3</b>	<b>50.1</b>	<b>19.1</b>	<b>555.8</b>	<b>21.6</b>
CLUB ORGANISED								
5–8	26.1	49.1	27.3	49.1	53.4	49.1	460.3	44.9
9–11	31.1	71.9	24.0	63.5	55.1	68.0	477.1	60.8
12–14	28.8	74.7	20.3	60.6	49.1	68.1	440.0	57.4
<b>Total</b>	<b>86.0</b>	<b>63.7</b>	<b>71.6</b>	<b>56.4</b>	<b>157.5</b>	<b>60.2</b>	<b>1 377.3</b>	<b>53.5</b>

(a) Children aged 5–14 years.

(b) Participation Rate.

(c) After school hours.

\* Relative standard error greater than 25%.

Source: ABS Catalogue No. 4177.0.

### 9.4 – PARTICIPATION BY CHILDREN, SELECTED ORGANISED SPORT AND PHYSICAL ACTIVITIES (a), 1995–96

	Western Australia						Australia	
	Males		Females		Persons		Persons	
	'000	(b) %	'000	(b) %	'000	(b) %	'000	(b) %
Athletics, track and field	*5.5	*4.1	*5.2	*4.1	10.7	4.1	147.4	5.7
Australian Rules football	35.4	26.2	**	**	35.4	13.5	149.2	5.8
Basketball	33.2	24.6	14.8	11.7	48.1	18.4	300.1	11.6
Cricket (outdoor)	10.4	7.7	**	**	10.4	4.0	161.6	6.3
Dancing	**1.9	**1.4	14.0	11.0	15.8	6.1	104.7	4.1
Gymnastics	*3.8	*2.8	13.0	10.2	16.8	6.4	102.6	4.0
Hockey (outdoor)	8.9	6.6	*4.1	*3.2	13.0	5.0	66.9	2.6
Martial arts	*7.3	*5.4	*5.6	*4.4	12.9	5.0	109.4	4.2
Netball	**1.5	**1.1	25.5	20.1	27.0	10.3	263.9	10.2
Soccer (outdoor)	11.8	8.8	**0.5	**0.4	12.3	4.7	245.0	9.5
Swimming	18.5	13.7	24.2	19.1	42.7	16.3	338.8	13.1
Tee-ball	16.8	12.4	*3.1	*2.4	19.9	7.6	51.8	2.0
Tennis	*7.8	*5.8	*7.7	*6.1	15.5	5.9	197.8	7.7

(a) Children aged 5–14 years, in both organised and club organised activities.

(b) Participation Rate.

\* Relative standard error greater than 25%.

\*\* Relative standard error greater than 50%.

Source: ABS Catalogue No. 4177.0.



**Children Playing Sport**

*Courtesy: Ministry of Sport and Recreation*

The Ministry of Sport and Recreation through its Junior Sport Development Unit (JSDU), continued its work in 1996-97. Its Youth Leadership programs were an outstanding success. The Sportsfun Program (an AUSSIE SPORT youth leadership program for students in years 9 to 12 who are trained to teach sport skills and modified games to primary school children), saw a total of 887 leaders from 43 high schools trained to serve 4,472 children in 51 primary schools.



**Australian Rules Football Grandfinal 1992**

*Courtesy: Carmel Ryan*

### **Attendance at Sport**

In Western Australia during the 12 months ended March 1995, Australian rules football was the most popular spectator sport, attracting 278,200 people or 20.9% of the population aged 15 years and over. Horse racing (150,600 or 11.3%), cricket (117,600 or 8.8%) and harness racing (116,900 or 8.8%) were also popular spectator sports. More than half a million Western Australians attended these four sports.

More males than females attended all major sporting events. Netball was a notable exception with twice as many females (19,200) than males attending. Harness racing (9.1% for females and 8.4% for males) and basketball (6.7% for females and 6.1% for males) were other sports where the number of females attending was higher.

While Australian rules football attracted 278,200 spectators aged 15 years and over, the other football codes (rugby league, rugby union and soccer) attracted 102,700 people.

### 9.5 – ATTENDANCE AT SELECTED SPORTING EVENTS, 1995

Sport attended	Western Australia						Australia	
	Males		Females		Persons		Persons	
	'000	(a) %	'000	(a) %	'000	(a) %	'000	(a) %
Australian Rules football	172.5	26.0	105.7	15.8	278.2	20.9	1 874.2	13.3
Horse racing	81.6	12.3	69.0	10.3	150.6	11.3	1 701.1	12.1
Rugby league	27.8	4.2	12.4	1.8	40.1	3.0	1 462.1	10.4
Cricket	86.2	13.0	31.3	4.7	117.6	8.8	1 165.9	8.3
Basketball	40.5	6.1	44.6	6.7	85.1	6.4	691.6	4.9
Harness racing	55.7	8.4	61.2	9.1	116.9	8.8	599.7	4.3
Soccer	27.6	4.2	13.2	2.0	40.8	3.1	558.8	4.0
Motor sports	35.7	5.4	10.5	1.6	46.2	3.5	451.5	3.2
Tennis	15.9	2.4	15.5	2.3	31.4	2.4	431.7	3.1
Rugby union	16.1	2.4	*5.7	*0.8	21.8	1.6	358.4	2.5
Netball	8.6	1.3	19.2	2.9	27.8	2.1	312.3	2.2
Dog racing	33.4	5.0	21.6	3.2	54.9	4.1	301.7	2.1

(a) Attendance rate.

\* Relative standard error greater than 25%.

Source: ABS Catalogue No. 4174.

### Recreation

Many people participate in physical activities purely for social reasons. In the 1995–96 Population Survey Monitor (PMS), people aged 18 years and over were asked about their social participation in sport and physical activities during the two weeks before each of the four surveys conducted. At a national level, swimming was the most popular social activity in the summer months (1,319,500 in November and 1,652,000 in February), while cycling was the most popular activity in the winter months (522,200 in August and 579,300 in May).

During 1996–97 the Ministry of Sport and Recreation maintained its commitment to providing recreation services and facilities. It conducted a seminar for local government staff, consultants and elected members to highlight the importance of strategic recreation planning in order to provide effective recreation services and facilities.

The Ministry's Community Sporting and Recreation Facilities Fund (CSRFF), provided funds to help build a recreation and leisure centre (valued at \$3,847,500) in the county town of Katanning.

The Ministry also has established a unit to encourage the creation of recreation trails. The State Government has committed \$800,000 over four years to this unit to coordinate the planning, development, management, resourcing, promotion and maintenance of a network of trails.



### **Family at Rottnest Island**

*Courtesy:  
Carmel Ryan*

### **Seniors' Recreation Council**

The Ministry continues to support the Seniors' Recreation Council of WA (SRC) as the key avenue for recreation services to seniors. The Council operates eleven portfolio areas and provides support, information, education and leadership to clubs and groups. Significant achievements in organisational development for SRC include: existing club development and extension of activities; establishment of a new canoe club; establishment of the New Horizons Scheme; and strengthened alliances with government agencies, corporate sector and sports associations.

### **Leisure Institute of WA**

The Ministry and the Leisure Institute of WA continued to manage and present a range of joint projects for the recreation sector, including the Recreation Exchange magazine, Recreation Conference and Leisure Awards. The Leisure Institute of WA (an interim peak body) was formed at the 1997 Conference, merging the Institute of Recreation and the Institute of Aquatic Recreation Management.

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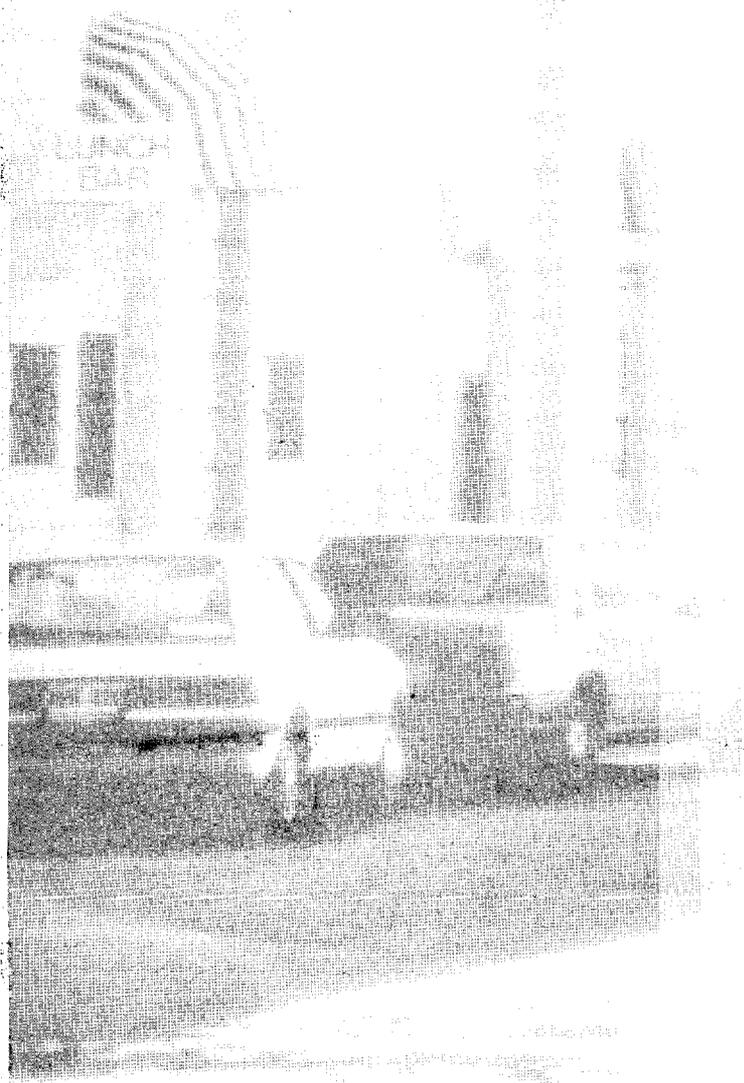
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*Sports Attendance, Australia (4174.0)*

Other Publications

*Annual Report, Ministry of Sport and Recreation*

# The Economy



## Chapter 10

# THE ECONOMY

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# THE ECONOMY

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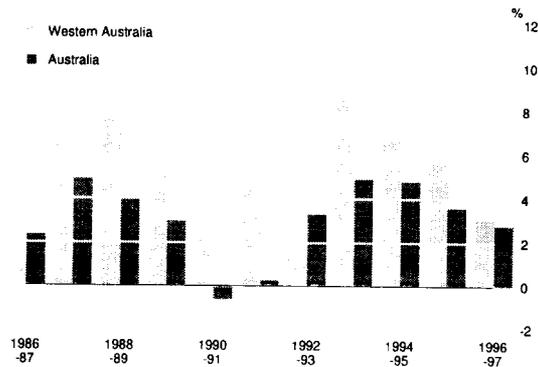
*Contributed by Western Australian Department of Treasury.*

The Western Australian economy continues to perform strongly with growth exceeding most other States.

## The Economy 1996-97

In 1996-97 the Western Australian economy grew by 3.1% in real terms following growth of 5.8% the previous year. This compares with an average annual growth of 5.4% per annum over the past decade.

**DIAGRAM 10.1 - GROSS STATE PRODUCT**



Source: ABS Catalogue Nos. 5242.0, 5206.0.

The decrease in growth between 1995-96 and 1996-97 was due to weak private consumption growth, and a fall in business investment from the very high levels of 1995-96.

Nevertheless, the outlook for economic growth in Western Australia remains very positive. In 1997-98 the Western Australian economy is expected to grow in excess of 6%, underpinned by a pick-up in private consumption, business investment and exports.

As a result, the unemployment rate in Western Australia is expected to remain below the national average. Employment increased by 2.3% in 1996-97 and the unemployment rate fell from 8.0% at the end of 1995-96 to 7.2% at the end of 1996-97.

### GROSS STATE PRODUCT

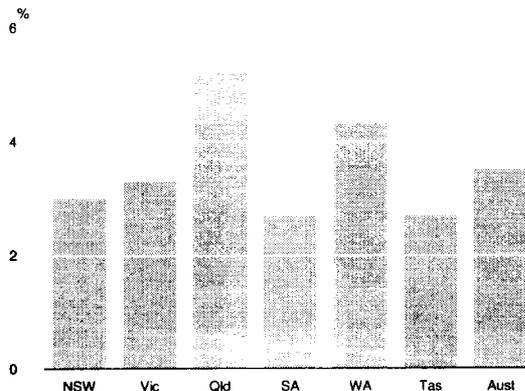
Gross State Product (GSP) provides the broadest measure of economic activity. It can be measured by summing expenditures or by summing incomes. Real expenditure (ie. adjusted for inflation) is the measure referred to in this document and is the sum of all final expenditures in the Western Australian economy. It includes private and public sector consumption and investment as well as stock levels and net exports.

The following sections discuss Western Australia's economic performance in 1996-97 in more detail, both on the basis of Gross State Product and on an industry basis.

#### Consumption

Following five years of relatively strong growth, private consumption expenditure increased by only 1.3% in 1996-97. The relatively modest rate of growth reflected the low rate of growth in household disposable income.

**DIAGRAM 10.2 - PRIVATE CONSUMPTION: ANNUAL GROWTH RATE 1991-92 TO 1996-97**



Source: ABS Catalogue No. 5242.0.

As Diagram 10.2 illustrates, however, over the past five years private consumption expenditure in Western Australia grew at an annual average rate of 4.3%, higher than any other State except Queensland. This compares with growth nationally of 3.5% per annum over the same period.

Public consumption expenditure increased by 6.2% in 1996-97 compared with an average of 3.1% growth over the past five years.

## INVESTMENT

Total investment includes the gross fixed capital expenditure of the private and public sectors. Private sector investment expenditure accounts for over 82% of investment in Western Australia and represents over 20% of GSP, compared with 18% nationally.

### **Private Sector Investment**

Following substantial growth of 7.1% in 1995-96, the level of private sector investment fell by 1.5% in 1996-97, detracting 0.3% from overall economic growth. Nationally, private sector investment increased by 10.9% in 1996-97.

### *Dwelling Investment*

Dwelling investment comprises expenditure on new dwelling construction, alterations and additions to existing dwellings and real estate transfer expenses — which include various conveyancing and transfer fees.

Dwelling investment has fallen for two consecutive years in Western Australia as a result of a substantial build up in the stock of housing. Dwelling investment fell by 13.6% in 1995-96, and by 0.1% in 1996-97, but is expected to recover in 1997-98 as the oversupply of housing is eliminated.

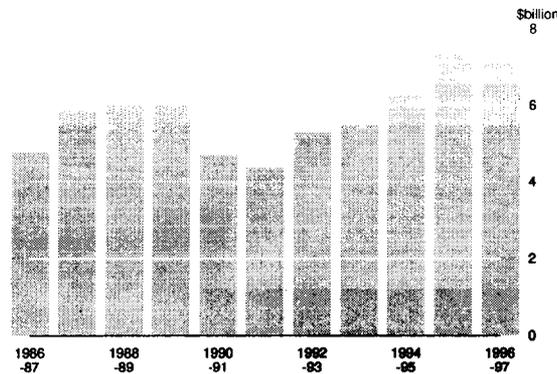
### *Business Investment*

Business investment, comprising plant and equipment investment and also non-dwelling construction, fell by 2.1% in 1996-97.

The modest decline reflected a large fall of 8.8% in plant and equipment investment. This fall, however, was from a very high investment figure in 1995-96 which included investment associated with the Goldfields Gas Transmission pipeline, the Western Mining Corporation nickel smelter/acid plant and four private power stations. Delays in work on a number of large projects, including BHP's hot briquetted iron plant also contributed to the decline. A stronger business investment performance is expected in 1997-98. A survey, conducted in June 1997 by Access Economics, indicates there are \$60.2 billion worth of current and prospective projects in Western Australia, accounting for around 33% of all projects identified nationwide. This implies a very positive outlook for business investment in Western Australia.

In contrast to the fall in dwelling investment, expenditure on non-dwelling construction increased by 14.6% in 1996-97, related to expenditure on the Duxton, Rydges and two Holiday Inn hotels as well as the Riverton, Karrinyup, Currambine and Southlands shopping centres.

**DIAGRAM 10.3 – BUSINESS INVESTMENT**



Source: ABS Catalogue No. 5242.0.

### Public Sector Investment

Public sector investment increased by 9.8% in 1996–97, largely reflecting the upgrading of the Dampier to Bunbury natural gas pipeline, the metropolitan sewerage infill program and expenditure on the Collie power station.

### External Sector

Net exports (exports less imports) increased by 1.1% in 1996–97 providing a positive input to growth. The value of exports increased by 5.8% in 1996–97, down from a growth of 10.1% in 1995–96. The slower growth was due to a decline in the growth of new production capacity.

Imports grew by 16.8% in 1996–97, compared with a growth of 8.8% in 1995–96. Imports grew by a record 20% in the June quarter 1997, after growing by 7.7% in the first three quarters. The strong jump in imports in the June quarter was underpinned by imports of capital goods, which is consistent with an anticipated pick-up in investment in the second half of 1997.

### Industry Analysis of Growth

#### Mining Sector

The resources sector remains the driving force of the Western Australian economy, accounting for around 17.6% of GSP. Expansion of capacity has led the mining industry to experience stronger growth than all other sectors of the economy over the past decade with average growth of 12.7% per annum.

Western Australia's production of major minerals accounts for a significant proportion of the world's total. Western Australia is a world leader in the production of industrial grade diamonds, alumina, iron ore, and mineral sands, and now produces a significant proportion of the world's gold, nickel and liquefied natural gas.

### *Manufacturing*

The manufacturing sector has grown by an average of 6.0% per annum over the past decade, and in 1995-96 accounted for 9.8% of GSP.

Reflecting the growth in niche manufacturing activities in Western Australia, the nominal value of exports of the elaborately transformed manufactures category grew by 1.9% in 1996-97 to \$1.3 billion. Over the past ten years this category's share of total exports has increased from 2.1% to 6.8%.

The major contributors to growth were transport equipment (including high-speed ferries), pharmaceutical and medical products, inorganic chemicals, telecommunication equipment and general and specialised industrial machinery (such as drilling and boring equipment for the mining industry).

One of the most prominent niche market growth industries has been the ship building industry. The State's ship building industry now accounts for around 70% of Australia's marine vessel exports, with an annual value of around \$400 million.

### *Services*

The services sector in Western Australia continues to grow strongly, accounting for around two-thirds of the State's output and employing over 80% of the workforce. Western Australia also earns substantial revenue from the export of services such as construction, communications, health and education.

Service industries such as finance, property and business services, communication, and personal and other services have grown at above the average growth rate of all industries for the past decade, reflecting growth in per capita incomes. Overall, the services sector in Western Australia has grown by 8.9% per annum over the past decade.

The wholesale and retail trade industry is the largest industry in the services sector accounting for around 13% of GSP in 1995-96. Tourism, however, is an increasingly important contributor to Western Australia's economic growth and export earnings.

Mining equipment services and oil and gas services are another major growth industry in Western Australia and capitalise on our comparative advantage in the mining sector.

### *Construction*

The construction industry accounts for around 7.8% of Western Australian GSP, compared with around 6.5% nationally. The higher Western Australian proportion reflects the substantial construction activities related to the State's large investment projects. Average growth of 9.0% in the State's construction industry over the past 10 years compares with growth of around 5.8% nationally.

## The Economy

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### Agriculture

The relative importance of agriculture has declined significantly, due to stronger performances of the mining and services sectors. As a proportion of Western Australia's GSP, agriculture contributed around 5.2% of total activity over the past three years, compared with 7.4% in the mid 1980s.

Although agriculture's share of total output is falling, it makes a substantial contribution to exports. In 1996-97, the agricultural sector accounted for over 37% of total Western Australian exports.

Wheat remained Western Australia's major rural commodity in 1996-97, representing around half of the total value of the State's agricultural output, and over 40% of national wheat production.

### Labour Market

Employment in the State grew at an average annual rate of 2.4% in the past decade, compared with 1.8% for Australia as a whole.

At 7.0% in September 1997, Western Australia continues to have the lowest unemployment rate of all the States, and this compares with 8.6% nationally. This is despite the participation rate in Western Australia remaining higher than in any other State, at 66.4%. Nationally the participation rate is 63.3%.

### Prices and Income

Since 1986-87, wages in Western Australia have grown at an annual average rate of 3.9%. This compares with wages growth nationally of 4.6% over the same period.

At the same time, real labour productivity has grown at an annual average rate of 2.8%, compared with the national rate of 1.3%. Stronger productivity growth has allowed stronger wage growth without additional price pressure. Since 1986-87, prices in Western Australia have grown at a slower pace than any other State except Queensland.

Prices in Western Australia have grown at an average annual rate of 4.0% per annum over the past decade. More recently, price pressures have eased in line with lower wages and an easing in growth of consumer spending. The annual average headline rate of inflation fell to 1.4% in 1996-97. Consumer prices fell by 0.5% in the September quarter 1997.

### References

#### ABS Publications

*Australian National Accounts: National Income, Expenditure and Product* (5206.0)

*Australian National Accounts, State Accounts* (5242.0)

*Government Finance Statistics, Australia* (5512.0)

*Labour Force, Australia* (6203.0)

#### Other Publication

*Investment Survey*, Access Economics

# Agriculture, Forestry and Fishing

## Chapter 11

# AGRICULTURE, FORESTRY AND FISHING

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# AGRICULTURE, FORESTRY AND FISHING

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## Agriculture

### Agricultural Statistics

The principal source of statistics relating to the agricultural sector is the Integrated Agricultural Commodity Census, which is conducted annually by the Australian Bureau of Statistics (ABS). Establishments included in the Census are defined and classified in accordance with the Australian New Zealand Standard Industrial Classification (ANZSIC).

While no financial data are collected in the census, an 'Estimated Value of Agricultural Operations' (EVAO) is calculated for each establishment by applying unit values to reported production and stock data. This procedure enables establishments in the census to be classified according to industry (ANZSIC) and according to size of operations.

Since 1976-77, to reduce both the burden placed on small businesses and ABS processing costs, small establishments have been excluded from the census. From 1976-77 to 1980-81, an EVAO cut-off of \$1,500 was used. The cut-off was raised to \$2,500 in 1981-82, raised to \$20,000 in 1986-87 and raised further to \$22,500 in 1990-91. Since 1993-94 the cut-off has been reduced to \$5,000 and coverage improvements have been made.

The effect of the pre-1986-87 cut-offs on statistics, other than counts of establishments, was minimal. The effect of the 1990-91 cut-off was also minimal. The \$20,000 cut-off applying from 1986-87 did have a significant effect on some items and estimates of the extent of under coverage are available from the ABS. Statistics on the financial performance of the agricultural sector are obtained from the Agricultural Finance Survey which has been conducted periodically by the ABS. This survey, which provides estimates of turnover, expenditure, cash operating surplus, capital expenditure and indebtedness, was recommenced on an annual basis from 1986-87. Detailed definitions and explanatory notes about the survey were published in the bulletin *Agricultural Industries, Financial Statistics, Australia* (ABS Catalogue No. 7507.0).

## Agriculture, Forestry and Fishing

### Value of Agricultural Commodities Produced

For agricultural production, the *gross value* is based on the wholesale price realised in the market place. Where commodities are consumed at the place of production or where they become raw material for secondary industry within the State, these points of consumption are taken as the *market places*. The *local value* is the value at the place of production and is obtained by deducting marketing costs from the gross value. *Marketing costs* comprise freight, cost of containers, commission, and other charges incurred in marketing. Gross values provide a reliable measure of the value of production of any particular commodity or group. When comparing or combining values for agricultural industries with those for secondary industries, however, the value added series of financial statistics from the Agricultural Finance Survey should be used.

### 11.1 – NUMBER OF ESTABLISHMENTS BY ESTIMATED VALUE OF AGRICULTURAL OPERATIONS, 1995–96 (a)

Industry of establishment Description	Estimated value of agricultural operations (\$)							Total
	Less than 5 000	5 000– 22 499	22 500– 49 999	50 000– 99 999	100 000– 199 999	200 000– 499 999	500 000 and over	
Plant nurseries	1	19	23	41	32	26	14	156
Cut flower & flower seed growing	3	15	29	35	18	20	10	130
Vegetable growing	5	50	84	95	91	150	92	567
Grape growing	5	68	87	57	34	9	8	268
Apple and pear growing	–	17	33	46	60	54	14	224
Stone fruit growing	–	47	44	41	22	8	2	164
Kiwi fruit growing	–	1	3	3	–	2	–	9
Fruit growing n.e.c.	16	62	48	53	72	36	12	299
Grain growing	6	21	34	77	242	1 055	1 294	2 729
Grain-sheep/beef cattle farming	1	33	122	291	902	1 775	564	3 688
Sheep-beef cattle farming	4	91	127	157	120	102	27	628
Sheep farming	35	229	259	371	452	358	55	1 759
Beef cattle farming	53	659	539	298	163	103	83	1 898
Dairy cattle farming	1	2	2	22	125	258	53	463
Poultry farming (meat)	–	1	1	3	5	12	35	57
Poultry farming (eggs)	2	2	4	5	7	37	28	85
Pig farming	2	9	16	22	23	29	26	127
Horse farming	2	36	33	25	11	3	–	110
Deer farming	–	4	8	6	12	8	2	40
Livestock farming n.e.c.	3	30	21	39	21	28	20	162
Sugar cane farming	–	–	–	–	–	–	–	–
Cotton growing	–	–	–	–	–	–	–	–
Crop and plant growing	4	18	17	11	13	7	7	77
<b>Total agriculture</b>	<b>143</b>	<b>1 414</b>	<b>1 534</b>	<b>1 698</b>	<b>2 425</b>	<b>4 080</b>	<b>2 346</b>	<b>13 640</b>
Other industries	12	60	44	32	23	22	9	202
Unclassified	145	–	–	–	–	–	–	145
<b>Total all industries</b>	<b>300</b>	<b>1 474</b>	<b>1 578</b>	<b>1 730</b>	<b>2 448</b>	<b>4 102</b>	<b>2 355</b>	<b>13 987</b>

(a) Due to a variety of reasons a number of establishments neither grew crops nor grazed livestock during the year ended 31 March 1996.

Source: ABS Catalogue No. 7113.5.

## Agriculture, Forestry and Fishing

### Structure of Agriculture in Western Australia

Estimated Value of Agricultural Establishments (EVAO) values the production of each establishment to determine its relative economic size. Looking at the top EVAO category of \$500,000 and over, the number of establishments in this category in 1995-96 was 2,355 (or 16.8% of the total). The number of establishments with an EVAO of less than \$100,000 in 1995-96 was 5,082 or 36.3%. The number of establishments with an EVAO between \$100,000 and \$499,999 was 6,550 or 46.8%.

The second size measure applied by the ABS is the physical size of the establishment or the Area of Holding measured in hectares. The larger establishments (those with more than 50,000 hectares) represent just 3.0% of the total with only 413 establishments. Smaller establishments (those with less than 10,000 hectares) made up 96.4% of the total in 1995-96 with 13,489 establishments out of the total 13,987 establishments on the Census that year. Establishments with between 10,000 and 49,999 hectares represent just 0.6% of the total, with only 85 establishments within this size range.

### 11.2 - NUMBER OF ESTABLISHMENTS BY AREA OF ESTABLISHMENT, 1995-96 (a)

Industry of establishment Description	Area of establishment (hectares)						Total
	0-49	50-499	500-2 499	2 500-9 999	10 000-49 999	50 000 and over	
Plant nurseries	129	22	5	-	-	-	156
Cut flower & flower seed growing	78	45	7	-	-	-	130
Vegetable growing	337	192	33	3	1	1	567
Grape growing	201	63	4	-	-	-	268
Apple and pear growing	134	86	4	-	-	-	224
Stone fruit growing	135	28	1	-	-	-	164
Kiwi fruit growing	6	3	-	-	-	-	9
Fruit growing n.e.c.	256	40	3	-	-	-	299
Grain growing	4	118	1 281	1 287	39	-	2 729
Grain-sheep/beef cattle farming	6	268	2 595	792	23	4	3 688
Sheep-beef cattle farming	9	293	253	33	1	39	628
Sheep farming	52	542	868	88	13	196	1 759
Beef cattle farming	155	1 284	266	36	4	153	1 898
Dairy cattle farming	6	382	75	-	-	-	463
Poultry farming (meat)	50	7	-	-	-	-	57
Poultry farming (eggs)	72	11	2	-	-	-	85
Pig farming	36	61	28	1	1	-	127
Horse farming	45	64	-	1	-	-	110
Deer farming	13	24	3	-	-	-	40
Livestock farming n.e.c.	83	47	28	3	-	1	162
Sugar cane farming	-	-	-	-	-	-	-
Cotton growing	-	-	-	-	-	-	-
Crop and plant growing	14	43	20	-	-	-	77
<b>Total agriculture</b>	<b>1 821</b>	<b>3 623</b>	<b>5 476</b>	<b>2 244</b>	<b>82</b>	<b>394</b>	<b>13 640</b>
Other industries	72	78	35	9	1	7	202
Unclassified	59	50	21	1	2	12	145
<b>Total all industries</b>	<b>1 952</b>	<b>3 751</b>	<b>5 532</b>	<b>2 254</b>	<b>85</b>	<b>413</b>	<b>13 987</b>

(a) Due to a variety of reasons a number of establishments neither grew crops nor grazed livestock during the year ended 31 March 1996.

Source: ABS Catalogue No. 7113.5.

## Agriculture, Forestry and Fishing

### Agriculture in Western Australia

Wheat remained the most important agricultural commodity in 1995-96 with a gross value of \$1,975.4 million, followed by wool with \$659.1 million. The total value of agricultural commodities produced rose to \$4,489.2 million, an increase of 16.2% over the previous year. Increases were recorded in the value of most commodities, with total crops up 32.9% from the previous season's \$2,266.1 million to \$3,011.7 million. Livestock and livestock products however, fell by 7.4%, from \$1,595.3 million in 1994-95 to \$1,477.5 million in 1995-96. This fall was entirely due to a reduction in the value of livestock products from \$971.1 million to \$793.4 million. All 1995-96 figures are preliminary.

#### 11.3 - FINANCIAL STATISTICS, AGRICULTURAL ENTERPRISES

	1993-94	1994-95	1995-96
	\$m	\$m	\$m
Sales of crops	1 738.0	1 937.5	2 754.8
Sales of livestock	577.1	574.6	618.0
Sales of livestock products	725.6	806.5	708.4
Turnover	3 180.9	3 529.9	4 394.3
Purchases and selected expenses	1 885.7	2 033.8	2 417.0
Value added	1 706.6	1 640.6	2 043.8
Adjusted value added	1 514.1	1 439.2	1 806.9
Gross operating surplus	1 279.2	1 210.5	1 512.3
Total interest paid	178.7	221.3	237.4
Cash operating surplus	719.9	875.7	1 276.5
Total net capital expenditure	360.7	382.6	557.7
Gross indebtedness	2 459.3	2 987.6	3 485.7
<b>Number of enterprises</b>	<b>10 971.0</b>	<b>10 914.0</b>	<b>10 873.0</b>

Source: ABS Catalogue No. 7507.0.

#### 11.4 - GROSS VALUES, MARKETING COSTS AND LOCAL VALUES OF AGRICULTURAL COMMODITIES

	1993-94	1994-95	1995-96
	\$m	\$m	\$m
<b>Crops and pastures—</b>			
Gross value of production	2 058.5	2 266.1	3 011.7
Marketing costs	285.3	253.8	339.0
Local value of production	1 773.2	2 012.3	2 672.7
<b>Livestock slaughterings and other disposals—</b>			
Gross value of production	545.7	624.2	684.1
Marketing costs	55.8	61.7	58.1
Local value of production	489.9	562.4	626.1
<b>Livestock products—</b>			
Gross value of production	760.9	971.1	793.4
Marketing costs	37.7	33.1	43.9
Local value of production	723.2	938.0	749.5
<b>Total agriculture—</b>			
<b>Gross value of production</b>	<b>3 365.1</b>	<b>3 861.4</b>	<b>4 489.2</b>
<b>Marketing costs</b>	<b>378.8</b>	<b>348.6</b>	<b>440.9</b>
<b>Local value of production</b>	<b>2 986.3</b>	<b>3 512.8</b>	<b>4 048.2</b>

Source: ABS Catalogue No. 7503.0.

## Agriculture, Forestry and Fishing

### Land Use on Agricultural Establishments

The number of agricultural establishments eligible for inclusion in the Agricultural Census for 1995-96 was 13,987, up slightly from the 13,971 in 1994-95. They comprised 114.5 million hectares of land, about 45.1% of the total area of Western Australia.

Of the total area of these establishments, 6.4 million hectares were used for crops excluding sown pasture and grasses. The balance consisted mainly of uncleared land (most of which was pastoral leases held by sheep and cattle stations) but also included cleared land (which was used for grazing or was rested during the season) and fallowed areas.

Table 11.5 gives details of rural land use according to statistical division for 1995-96. Maps of the statistical divisions and their component statistical local areas are located in the Appendix.

### 11.5 - LAND USE, 1995-96

Statistical division	Agricultural establishments No.	Land use during the season			Total area of establishments '000 ha
		Used for crops '000 ha	Under sown pastures '000 ha	Lucerne (all purposes) '000 ha	
Perth	1 234	8.4	36.4	—	87.3
South-West	2 831	43.1	485.2	2.0	876.4
Lower Great Southern	2 457	662.5	1 156.0	3.8	2 829.8
Upper Great Southern	1 865	1 202.3	1 092.6	3.8	3 414.9
Midlands	3 172	2 789.2	1 341.8	3.4	7 205.3
South-Eastern	739	482.9	1 406.7	0.1	17 465.6
Central	1 442	1 223.7	2 442.4	0.1	43 336.9
Pilbara	57	—	2 183.4	—	14 095.3
Kimberley	190	6.5	2 545.3	—	25 209.2
<b>Total</b>	<b>13 987</b>	<b>6 418.7</b>	<b>12 689.9</b>	<b>13.8</b>	<b>114 520.6</b>

Source: ABS Catalogue No. 7113.5 and ABS AgStats on floppy disk (7117.0).

### Crops and Pastures

#### Wheat

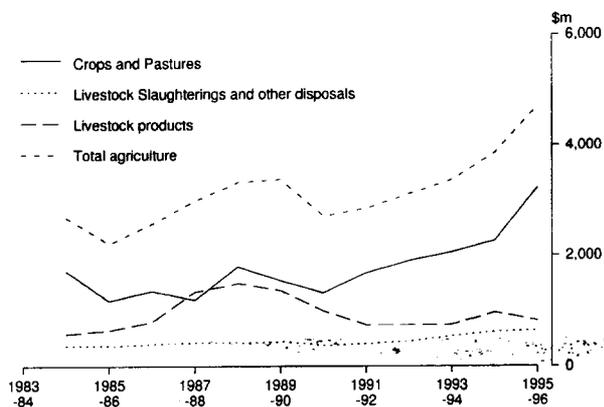
Wheat plantings in 1995-96 covered 3,892,400 hectares, an increase of 1.1% compared with the previous year. This was the ninth consecutive wheat crop of under 4 million hectares following crops in excess of 4 million hectares for each year between 1980 and 1987. Improving yields, however, have meant that production has generally continued to rise, and the State total harvest for 1995-96 of 6,826,700 tonnes was 25.5% higher than in the previous season. The latest harvest represented a State's yield of 1.75 tonnes per hectare, exceeding even the 1.73 tonnes per hectare of the 1993-94 season and representing a new record yield. This year's superior yield maintains the recent trend of yields well above the 20 year average yield of 1.19 tonnes per hectare. The improved yield was largely the result of more favourable growing conditions throughout the wheat-belt due to regular winter rainfall patterns, while the increased area sown can be attributed to the Eastern States drought conditions.

## 11.6 - CROPS FOR GRAIN

	Unit	1993-94	1994-95	1995-96
<b>Wheat</b>				
Area	'000 ha	3 852	3 848	3 892
Production—				
Total	'000 t	6 689	5 438	6 827
Per hectare	tonnes	1.73	1.41	1.75
Gross value	\$'000	1 156 898	1 307 400	1 975 400p
<b>Oats</b>				
Area	'000 ha	268	256	300
Production—				
Total	'000 t	511	425	585
Per hectare	tonnes	1.91	1.66	1.95
Gross value	\$'000	45 105	58 711	100 100p
<b>Barley</b>				
Area	'000 ha	799	579	744
Production—				
Total	'000 t	1 381	915	1 323
Per hectare	tonnes	1.73	1.58	1.77
Gross value	\$'000	172 268	179 237	275 500p
<b>Lupins</b>				
Area	'000 ha	929	1 152	1 100
Production—				
Total	'000 t	1 181	982	1 290
Per hectare	tonnes	1.27	0.85	1.17
Gross value	\$'000	209 102	177 327	223 800p

Source: ABS Catalogue Nos. 7113.5, 7503.0 and ABS AgStats on floppy disk (7117.0).

**DIAGRAM 11.1 - GROSS VALUE OF AGRICULTURAL COMMODITIES PRODUCED**



Source: ABS Catalogue No. 7503.0.

## Agriculture, Forestry and Fishing

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**Oats** Plantings of oats for grain in 1995-96 covered 300,400 hectares, an increase of 17.1% on the previous year. State production increased by 37.7% to 584,800 tonnes as the yield rose to 1.94 tonnes per hectare, eclipsing the previous record of 1.91 tonnes per hectare recorded in 1993-94. The higher yield was largely attributed to the same regular rainfall and seasonal conditions which improved the yield of other broadacre crops.

**Barley** In 1995-96, barley plantings increased by 28.6% from the previous year to 744,500 hectares. This represented a return to the more common levels of sowings in the past and left the 1993-94 season as the best since 1985-86 (825,700 hectares). Production increased by 44.6% to 1,322,800 tonnes, representing a State average yield of 1.77 tonnes per hectare, breaking the record of 1.74 tonnes per hectare set in the 1992-93 season. Again, barley production was affected by the more favourable conditions throughout the season. Recent yields have all comfortably exceeded the 20 year average of 1.38 tonnes per hectare.

**Lupins** In 1995-96, lupin plantings decreased to 1,100,300 hectares, a decrease of 4.5% on the previous year. This small decrease was still only marginally below last year's record and is the second highest area on record. However, production rose by 31.3% to 1,290,000 tonnes from the 982,100 tonnes of the previous season. This caused a sharp rise in the State average yield, from the 0.85 tonnes per hectare in 1994-95 to 1.17 tonnes per hectare in 1995-96. This latest yield was well above the 20 year average of 0.98 tonnes per hectare. The increased yield could be attributed to the same factors in the season which led to rises in yields for cereal crops.

**Other Grains and Oilseeds** Plantings of canola in 1995-96 fell below the 1994-95 record of 104,100 hectares, to 99,400 hectares. This represented a decrease of 4.5%. The continued popularity of canola is partially the result of increased numbers of farmers electing to plant the crop, due to very good commodity prices compared to other crops and a comparative lack of competition from United States and Canadian farmers. Production was 116,900 tonnes (up 8.3% from 107,900 the previous year) representing a yield of 1.18 tonnes per hectare.

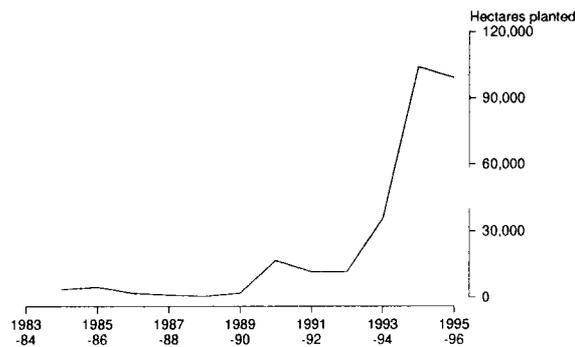
Triticale, a wheat/rye cross, was first recorded in the Agricultural Census in 1978-79 and plantings increased each year until 1984-85 when a record 39,000 hectares were sown. Area planted in the 1995-96 season was 16,900 hectares, an increase of 24.3% on the 1994-95 figure of 13,600 hectares. Production rose sharply to 20,400 tonnes, an increase of 70.0% on the 12,000 tonnes produced in 1994-95. This represented a yield of 1.20 tonnes per hectare compared with the 0.88 tonnes per hectare of the previous season.

Significant increases in the planting of field peas have occurred over the past decade. However, in 1995-96 plantings fell to 37,600 hectares, a decrease of 11.9% over the previous season, yet production rose from 24,200 tonnes in 1994-95 to 33,600 tonnes in

## Agriculture, Forestry and Fishing

1995-96, up 38.8%. Chick peas continued their rapid increase in total area planted in Western Australia, although the area planted for faba beans decreased a little. Chick pea plantings increased from 13,400 hectares in 1994-95 to 31,400 hectares, a rise of 134.3%. Faba bean plantings decreased from 23,500 hectares to 19,200 hectares in the same period, a fall of 18.3%. However, production of both commodities increased by significant margins over the previous season with chick peas rising from 8,100 tonnes to 26,300 tonnes and faba beans rising from 12,000 tonnes to 20,200 tonnes. Grain sorghum, linseed, rye, vetches, safflower and sunflower were also grown in small quantities.

**DIAGRAM 11.2 - CANOLA**



Source: ABS Catalogue No. 7113.5.

### 11.7 - HAY

	Unit	1993-94	1994-95	1995-96
<b>Pasture —</b>				
Area	'000 ha	111	113	111
Production	'000 t	427	404	413
<b>Crop (a) —</b>				
Area	'000 ha	88	104	134
Production	'000 t	385	383	536

(a) Principally from oats and wheat.

Source: ABS Catalogue No. 7113.5.

### Hay

Large quantities of pasture hay are traditionally cut from clover and grass pastures in Western Australia. Production in 1995-96

increased to 413,400 tonnes from 404,200 tonnes, although the area fell from 113,000 hectares to 111,500 hectares. This small decrease in area, down 1.3%, coupled with an increase in yield from 3.58 tonnes per hectare in 1994-95 to 3.71 tonnes per hectares in 1995-96, saw production rise 2.3%. The principal cereal hay crops in Western Australia are traditionally oats and wheat.

### Pastures

Of the 8.4 million hectares of improved pastures in the State, the majority are sown to the legume, subterranean clover. Other species in use include medic, rose clover, serradella, lucerne and a variety of grasses, principally Wimmera ryegrass.

*A history of the evolution of broadacre cropping in Western Australia can be found within the Agriculture chapter of the Western Australian Year Book, up to and including the 1993 edition.*

### Vegetables

In 1995-96, total vegetable plantings increased by 10.7% from the previous year to 10,324 hectares with even larger increases in some of the more significant crops. Potato plantings accounted for 27.5% of the vegetable area, covering 2,836 hectares, representing an increase of 11.1% from the previous year. Potato production also rose by 17.4% to 121,546 tonnes because of marginally increased yields. The area for growing onions increased by 20.1% from 398 hectares to 478 hectares, while production rose by 19.8%. This was both a result of slightly higher market prices and improved yields.

The area of lettuce planted decreased by 13.1% from the previous year to 377 hectares, while production fell by 11.1% from 13,545 tonnes to 12,035 tonnes. Whilst the area of rockmelons and cantaloupes increased slightly from 527 hectares to 597 hectares; production soared from 8,294 tonnes to 22,142 tonnes, an increase of 167.0%. Watermelons decreased slightly in area sown, down 6.0% from 639 hectares in 1994-95 to 601 hectares this year. Production increased slightly from 15,674 tonnes to 16,329 tonnes in the same period, an increase of 4.2%. Carrot production increased 1.6% on the previous year from 44,673 tonnes to 45,369 tonnes, whilst broccoli production increased by 22.4% from 2,713 tonnes in 1994-95 to 3,320 tonnes in 1995-96. Of the smaller root crop plantings, beetroot continued to show greater grower interest with the area planted increasing by 294.9% (from 7.8 ha to 30.8 ha). Beetroot production rose from 118.7 tonnes to 316.5 tonnes, up by 166.6%. Sweet potatoes also continued to show gains in both areas (up from 22.3 ha to 29.7 ha) and production (up from 301.9 tonnes to 572.1 tonnes), increasing 33.2% and 89.5% respectively.

*For a detailed history of vegetable growing in Western Australia, including background on areas predominantly involved, please refer to the Agriculture chapter of the Western Australian Yearbook, up to and including the 1993 edition.*

## 11.8 - PRINCIPAL VEGETABLES

	Unit	1993-94	1994-95	1995-96
<b>Carrots—</b>				
Area	hectares	814	836	1 004
Production	tonnes	42 757	44 673	45 369
Gross value	\$'000	23 804	31 093	27 699p
<b>Cauliflowers—</b>				
Area	hectares	903	1 020	1 192
Production	tonnes	14 066	15 676	19 200
Gross value	\$'000	15 318	19 522	22 548p
<b>Lettuce—</b>				
Area	hectares	408	434	377
Production	tonnes	15 878	13 545	12 035
Gross value	\$'000	5 545	7 856	7 313p
<b>Onions—</b>				
Area	hectares	377	398	478
Production	tonnes	22 480	22 691	27 191
Gross value	\$'000	5 972	9 263	16 065p
<b>Potatoes—</b>				
Area	hectares	2 720	2 553	2 836
Production	tonnes	111 813	103 572	121 546
Gross value	\$'000	33 798	37 301	37 950p
<b>Tomatoes—</b>				
Area	hectares	225	193	198
Production	tonnes	8 194	7 694	8 969
Gross value	\$'000	8 415	8 589	8 045p
<b>All vegetables—</b>				
Area	hectares	9 674	9 322	10 324
Gross value	\$'000	138 958	161 719	171 200p

Source: ABS Catalogue Nos. 7113.5, 7503.0 and ABS AgStats on floppy disk (7117.0).

## Fruit

### Apples and Pears

In 1995-96, the number of apple trees rose to 1,012,900 trees from the 978,100 trees of the previous season, an increase of 3.6%. Granny Smiths remained the predominant variety, accounting for 44.1% of the total 38,200 tonnes of apples produced. However, production of the newer varieties of apples, such as Gala, Pink Lady and Sundowner, increased significantly compared with the 1994-95 season. Other more established varieties to show increases and maintain their popularity included Lady Williams and Jonathons. Total apple production increased by 27.8% as average yields rose from 62.0 kg per tree to 69.4 kg per tree.

Pears are usually grown in conjunction with apples and, although apples are still considerably more important, the number of pear trees has increased by over 50% in the last ten years. Pear tree numbers rose slightly to 192,900 in 1995-96 from 191,700 in the 1994-95 season. This represented an increase of just 0.6%. Nashi pears remain the predominant variety with a total of 31,000 trees, 16.1% of total pear trees.

### 11.9 - FRUIT

	Unit	1993-94	1994-95	1995-96
<b>Area—</b>				
Orchard fruit	ha	6 049	6 139	6 276
Plantation and berry fruit	"	838	676	1 122
Grapes	"	2 713	2 788	3 642
<b>Total</b>	"	<b>9 600</b>	<b>9 602</b>	<b>11 040</b>
<b>Gross value of production—</b>				
Orchard fruit	\$'000	62 272	58 823	74 898
Plantation and berry fruit	"	29 481	29 268	28 793
Grapes	"	17 637	18 016	24 166
<b>Total</b>	"	<b>109 390</b>	<b>106 108</b>	<b>127 857</b>

Source: ABS Catalogue Nos. 7113.5, 7503.0 and ABS AgStats on floppy disk (7117.0).

#### Citrus Fruit

Oranges remained the predominant citrus fruit in 1995-96. Production of oranges for the season increased by 4.4% to 5,395 tonnes, up from 5,166 tonnes the previous year. Total orange tree numbers rose from 203,100 to 207,800 — a rise of 2.3%. Production of lemons and limes decreased by 8.2% from 960 tonnes to 881 tonnes. The number of mandarin trees, however, increased by 4.7% to 94,200 trees, although production fell from 1,585 tonnes to 1,524 tonnes, a decrease of 3.8%.

#### Stone Fruits

Stone fruits are grown mainly in the hills districts in the Darling Ranges near Perth and in the Shires of Manjimup and Donnybrook-Balingup in the South West of the State. However, limited amounts of stone fruits are grown in many other districts of the South West.

Some types of stone fruit recorded significant increases in production. Cherry production rose to 95,960 tonnes, a rise of 47.2% as average yields improved from 4.1 kg to 5.7 kg per tree. However, as recently as three seasons ago, the State's cherry trees were producing yields of 12.4 kg per tree so there is some way to go before the slump can truly be regarded as over.

Nectarine tree numbers rose by 6.4% and production increased from 2,200 tonnes to 2,586 tonnes, a rise of 17.5%. This reflected the 1995-96 season's improving yields whilst still not returning to the levels of 1992-93. The recent decline in yields has been attributed, in part, to poor weather conditions in the growing areas but more importantly, to changes in the proportions of trees under, and over, bearing age for all stone fruits. Plum and prune production rose by 6.1% from 3,285 tonnes to 3,486 tonnes but total tree numbers increased by 18.8% leading to a fall in yield of 3.5%.

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Apricot production also decreased during 1995-96, from 417 tonnes to 382 tonnes, a fall of 8.4%. The drop in yield of only 1%, however, was less dramatic than that affecting other stone fruits. Peach production increased 8.2% and the number of trees over six years of age rose by 6.9% compared with the previous season. Total peach tree numbers also rose by 3.0% with new plantings.

### 11.10 - ORCHARD FRUIT

	Unit	1993-94	1994-95	1995-96
<b>Apples—</b>				
Trees	'000	1 009	978	1 013
Production	tonnes	44 579	29 898	38 200
Gross value	\$'000	32 142	23 736	36 256
<b>Pears(a)—</b>				
Trees	'000	214	192	193
Production	tonnes	8 868	8 896	10 077
Gross value	\$'000	6 239	7 091	7 723
<b>Lemons and limes—</b>				
Trees	'000	20	19	19
Production	tonnes	1 240	960	881
Gross value	\$'000	819	525	624
<b>Mandarins—</b>				
Trees	'000	84	90	94
Production	tonnes	1 524	1 585	1 524
Gross value	\$'000	2 049	1 903	1 932
<b>Oranges—</b>				
Trees	'000	222	203	208
Production	tonnes	6 295	5 166	5 395
Gross value	\$'000	2 733	1 948	2 159
<b>Nectarines—</b>				
Trees	'000	188	215	229
Production	tonnes	2 002	2 200	2 586
Gross value	\$'000	4 250	6 422	5 322
<b>Apricots—</b>				
Trees	'000	22	23	24
Production	tonnes	463	417	381
Gross value	\$'000	575	887	840
<b>Peaches—</b>				
Trees	'000	160	168	173
Production	tonnes	2 239	1 889	2 043
Gross value	\$'000	2 780	2 009	2 761
<b>Cherries—</b>				
Trees	'000	31	33	37
Production	tonnes	124	65	96
Gross value	\$'000	837	830	1 057
<b>Plums and prunes—</b>				
Trees	'000	243	252	302
Production	tonnes	3 414	3 285	3 487
Gross Value	\$'000	3 892	5 642	6 317

(a) Including nashi.

Source: ABS Catalogue Nos. 7113.5, 7503.0 and ABS AgStats on floppy disk (7117.0).

**Other Orchard Fruit** Mango production rose by 17.5% as the number of trees aged 6 years and over increased by 15.9% and total tree numbers rose by 26.5%. These increases reflected favourable market prices. Production of avocados rose 23.0% from 1,209 tonnes for 1994-95 to 1,487 tonnes for 1995-96. The number of avocado trees aged six years and over rose by 7.7%, while total tree numbers rose by 3.3%. Yield improved 14.2% to 35.3 kg per tree.

**Vineyards** In 1995-96, the total area of plantings for grapes rose from 3,271 hectares to 3,642 hectares, an increase of 11.3% on the previous year. The bearing area actually decreased slightly but fresh plantings saw the non-bearing area rise strongly from 384 hectares in 1994-95, to 839 hectares in 1995-96 as new growers joined the industry. The area of red grapes planted was 1,638 hectares, up from 1,312 hectares the previous season; production was 10,168 tonnes compared with the 7,868 tonnes of the previous season. White grapes produced 11,752 tonnes, up 53.7% from 7,530 tonnes in 1994-95. The area sown to white grapes also increased from 1,475 hectares in 1994-95 to 2,004 hectares for 1995-96, a rise of 35.9%. Winemaking grape production was the largest benefactor of these increases, rising by 34.1% from 12,846 tonnes to 17,234 tonnes, while production of grapes for drying decreased by 6.0% from 1,487 tonnes in 1994-95 to 1,398 tonnes in 1995-96. Table and other grape production rose by 20.0% to 3,288 tonnes from 2,740 tonnes in 1994-95.

### 11.11 - GRAPES

	Unit	1993-94	1994-95	1995-96
<b>Area of vines—</b>				
Bearing	ha	2 800	2 887	2 803
Not yet bearing	ha	278	384	839
<b>Grapes for wine making and table use—</b>				
Quantity	tonnes	16 053	15 586	20 521
Gross value	\$'000	16 985	17 293	23 457
<b>Grapes for drying—</b>				
Quantity	tonnes	1 261	1 487	1 398
Gross value	\$'000	648	724	709

Source: ABS Catalogue Nos. 7113.5, 7503.0 and ABS AgStats on floppy disk (7117.0).

### Tropical and Other Fruit

During 1995-96, banana production fell 7.9% to 11,987 tonnes from 13,012 tonnes as the average yield per bearing hectare fell to 31.5 tonnes per hectare. The total area of bananas also fell, from 491 hectares to 471 hectares, with bearing area decreasing from 396 hectares to 381 hectares.

Strawberry production increased by 28.0% to 2,649 tonnes from 2,070 tonnes in 1994-95. Bearing area fell by 3.0% to 97 hectares from 100 hectares but the total area of strawberries increased by 4.4% to 116 hectares from 111 hectares in 1994-95. This led to an increase in average yield per hectare to 27.2 tonnes per hectare, up

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31.4% from 20.7 tonnes per hectare in 1994-95. Nearly 85% of the area planted is within the Perth Statistical Division.

### Nurseries

Nurseries and the Nursery industry were the subject of a new National collection during 1992-93. This detailed collection was sponsored by the Nursery Industry Association of Australia (NIAA) for a three year period and collected additional data on labour and other operating costs associated with the operation of nursery businesses. For 1993-94, department stores operating nursery sections were included. Extensive data from the 1992-93 and 1993-94 collections are available on request from all ABS offices. Negotiations for a repeat of this collection for 1997-98 are underway.

#### 11.12 - NURSERIES (a)

	Unit	1993-94	1994-95	1995-96
Area	ha	2 063	2 068	2 110
Gross value	\$'000	79 114	73 725	93 157

(a) Including cut flowers and cultivated turf.

Source: ABS Catalogue No. 7113.5 and ABS AgStats on floppy disk (7117.0).

### Artificial Fertilisers and Soil Conditioners

Fertiliser usage was not collected in the 1994-95 Agricultural Census due to the adoption of a cyclical collection arrangement covering these data but returned to the 1995-96 collection. The area fertilised by the four major fertiliser types (phosphatic, nitrogenous, potassium and compound) increased from 7,557,000 hectares in 1993-94 to 11,602,000 hectares in 1995-96, an increase of 53.5%. The quantity of fertiliser applied also increased from 866,000 tonnes in 1993-94 to 1,171,000 tonnes in 1995-96, up 35.2% for an application rate of 0.1 tonnes per hectare.

The area treated by soil conditioners, lime, dolomite and gypsum, increased by 98.1% from 139,500 hectares in 1994-95 to 276,400 hectares in 1995-96. A total of 330,700 tonnes of these soil conditioners were applied in 1995-96, up 109.8% from 157,600 tonnes in 1994-95. Much of this increase can be attributed to a successful 'Time to Lime' promotion run by Agriculture WA.

#### 11.13 - ARTIFICIAL FERTILISER USED ON RURAL HOLDINGS

	Unit	1993-94	1994-95	1995-96
<b>Artificial fertiliser used—</b>				
Area fertilised	'000 ha	7 557	n.c.	11 602
Quantity used	'000 t	866	n.c.	1 171
<b>Soil conditioners—</b>				
Area treated	'000 ha	188	140	276
Quantity used	'000 t	195	158	331

Source: ABS Catalogue No. 7113.5.

## Livestock

### Sheep and Lambs

Sheep and lamb numbers continued to decrease during 1995-96 with a fall of 1.0% to a total of 29.9 million, compared to the 30.2 million at the end of March 1995. This followed a 5.4% decrease in the previous year. Sheep numbers fell by 5.1% to 22.1 million while lamb and hogget numbers rose by 13.0% to 7.7 million. The number of establishments reporting sheep and lambs also fell from 9,021 in 1994-95 to 8,930 in 1995-96.

#### 11.14 - SHEEP NUMBERS AND DISTRIBUTION AT 31 MARCH

Year(a)	In agricultural areas		In pastoral areas		State Total
	Number '000	Proportion of State total	Number '000	Proportion of State total	Number '000
		%		%	
1960	13 396	81.6	3 016	18.4	16 412
1970	29 844	88.7	3 790	11.3	33 634
1980	28 730	94.4	1 701	5.6	30 431
1990	35 924	93.5	2 498	6.5	38 422
1991	33 934	93.2	2 456	6.7	36 390
1992	31 782	93.3	2 279	6.7	34 060
1993	30 741	93.2	2 224	6.8	32 965
1994	29 630	92.7	2 322	7.3	31 952
1995	27 985	92.6	2 233	7.4	30 218
1996	27 614	92.5	2 220	7.5	29 834

(a) Differing EVAO cutoffs have applied at various times.  
Source: ABS AgStats on floppy disk (7117.0).

### Cattle

Cattle, regardless of breed, are classified according to the two broad categories of 'meat production' and 'milk production'. At 31 March 1996, meat cattle constituted over 93% of the State's cattle herd at 1,802,800 head, a rise of 1.7% on the previous season. After reaching a peak of 2,500,000 head in 1976, meat cattle numbers declined by 35% over the ensuing nine years. Since 1985, however, meat cattle numbers have been relatively stable within a range of 1.5 million to 1.8 million.

Milk cattle numbers fell from 126,000 to 120,900, representing a decrease of 4.0% between 1994-95 and 1995-96. Almost 90% of the State's milk cattle population is located within the South West Statistical Division.

#### 11.15 - LIVESTOCK NUMBERS AT 31 MARCH

	1993-94	1994-95	1995-96
	'000	'000	'000
Meat cattle	1 682	1 773	1 803
Milk cattle (excludes house cows)	123	126	121
Sheep & lambs	31 951	30 218	29 834
Pigs	312	316	314
Poultry	6 002	6 240	6 413

Source: ABS Catalogue No. 7113.5.

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### Wool

The National Council of Wool Selling Brokers has estimated the 1995-96 wool clip at 165,979 tonnes, representing a 4.3% decrease over the previous year's 173,383 tonnes. The 1989-90 clip of 236,079 tonnes remains the highest on record and decreasing sheep and lamb numbers mean it is unlikely to be exceeded in the foreseeable future. With wool production statistics for 1995-96 based on Brokers and Dealers Receipts of Taxable Wool, rather than the Agricultural Census, it is no longer possible to determine the number of sheep and lambs shorn to produce the wool clip.

#### 11.16 - SHEEP SHORN AND WOOL PRODUCTION (a) AT 30 JUNE

	Unit	1993-94	1994-95	1995-96
Sheep shorn	'000	37 353	n.c.	n.c.
Lambs shorn	"	7 906	n.c.	n.c.
<b>Total</b>	"	<b>45 259</b>	<b>n.c.</b>	<b>n.c.</b>
Average weight of wool shorn	kg	4.64	n.c.	n.c.
Wool production (greasy)—				
Shorn	'000t	210	n.c.	n.c.
Dead, fellmongered, exported on skins	"	3	n.c.	n.c.
<b>Total</b>	"	<b>213</b>	<b>173</b>	<b>166</b>

(a) Data supplied by the National Council of Wool Selling Brokers (NCWSB).  
Source: National Council of Wool Selling Brokers Collection.

### Livestock Slaughtering

Slaughterings of cattle and calves, in the year to June 1996, fell by 0.9% to 429,400 from 433,200. This followed a 1.8% decrease the previous year. Beef and veal produced also fell, by 0.6% to 96,752 tonnes from 97,322 tonnes. However, the gross value of cattle and calves slaughtered increased by 0.6% to \$297.5 million from the previous year's \$295.7 million, reflecting better market prices.

Sheep and lamb slaughterings, to June 1996, fell 9.2% over the previous year. The total number of sheep and lambs slaughtered fell to 3.5 million. This fall was due to a 6.8% reduction in sheep slaughterings and a decrease in lamb slaughterings of 13.6%. Mutton and lamb produced fell sharply by 12.0% from 71,813 tonnes the previous year to this year's 63,215 tonnes. The gross value of sheep and lambs slaughtered increased substantially from \$173.1 million to \$254.3 million, a rise of 46.9% over the previous year, reflecting improved prices.

Pig slaughterings rose by 1.9% in the year to June 1996, with pigmeat production rising from 34,688 tonnes to 37,484 tonnes, a rise of 8.1% over the previous year. The value of pigs slaughtered fell from \$75.2 million to \$69.4 million as pig prices declined.

## 11.17 - LIVESTOCK SLAUGHTERED AND MEAT PRODUCED

	Unit	1993-94	1994-95	1995-96
<b>Livestock slaughtered (a)—</b>				
Sheep and lambs	'000	4 827	3 903	3 545
Gross value (b)	\$'000	185 268	173 131	274 028
<b>Cattle and calves</b>				
	'000	440	433	430
Gross value (b)	\$'000	217 605	295 692	283 408
<b>Pigs</b>				
	'000	552	582	593
Gross value (b)	\$'000	68 637	75 190	68 767
<b>Meat produced (c)—</b>				
Mutton and lamb	tonnes	92 891	71 813	63 215
Beef and veal	"	100 624	97 322	96 752
Pigmeat produced (c)(d)	"	32 436	34 688	37 484

(a) Mainly slaughterings for human consumption but also includes quantities condemned and small numbers of livestock slaughtered for boiling down.

(b) Value on hoof at principal market.

(c) Dressed carcass weight; excludes condemned carcasses and offal.

(d) Includes quantities used to produce ham.

Source: ABS Catalogue Nos. 7113.5, 7503.0 and ABS AgStats on floppy disk (7117.0).

### Dairying

As previously mentioned, the bulk of the State's dairy cattle is concentrated in the high rainfall, near-coastal strip from Pinjarra to Augusta, with lesser numbers being found further east as far as Albany on the south coast. Irrigation of pastures in some areas during the drier summer months plays an important role in the industry.

Milk production for 1995-96 fell by 0.6% to 343 million litres. This is the second consecutive decrease in milk production in the past 6 seasons, but the value of milk produced rose to \$136.7 million or by 8.3% because of improving prices.

## 11.18 - WHOLE MILK PRODUCTION (a)

	Unit	1993-94	1994-95	1995-96
Quantity	million L	347	345	343
Gross Value	\$'000	121 200	126 238	136 700

(a) Includes milk used for processing.

Source: ABS Catalogue Nos. 7113.5, 7215.0 and ABS AgStats on floppy disk (7117.0).

### Pig Raising

Intensive piggeries have assumed greater importance in recent years and there has been a reduction in the number of pigs being raised in small or 'mixed farm' operations. Establishments with pigs declined from 841 in 1994-95 to 758 in 1995-96. The State's pig population in March 1996 was 313,600, a fall of 0.9% on the previous year.

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### Poultry Farming

Egg production decreased from 19.9 million dozen eggs produced during 1994-95 to 18.8 million dozen in 1995-96, but the gross value of eggs produced rose from \$31.6 million to \$35.7 million. Chickens slaughtered for table purposes increased by 2.8% from 33,683,900 to 34,631,100, while meat produced increased from 41,658 tonnes to 43,514 tonnes, an increase of 4.4%. The gross value of poultry slaughterings increased by 5.3% from \$78.8 million to \$83.0 million as market prices rose.

#### 11.19 - EGG PRODUCTION AND CHICKENS SLAUGHTERED FOR TABLE PURPOSES

	Unit	1993-94	1994-95	1995-96 <sup>a</sup>
<b>Egg production—</b>				
Quantity (a)	m dz	19.7	19.9	18.8
Gross value	\$'000	32 383	31 602	35 700
<b>Chickens slaughtered for table purposes—</b>				
Dressed weight	tonnes	39 023	41 658	43 514
Gross value	\$'000	71 784	78 782	83 000

(a) Source: Western Australian Egg Marketing Board.

Source: ABS Catalogue No. 7215.0 and ABS AgStats on floppy disk (7117.0).

### Beekeeping

The number of productive hives increased from 19,919 in 1994-95 to 27,228 in 1995-96. Honey production rose from 1,768 tonnes to 2,072 tonnes, an increase of 17.1%. An extensive review of the methods of collecting beekeeping statistics by the ABS, which could result in the collection of production data directly from honey packers rather than beekeepers, is currently underway. Initially, the two collections may run concurrently to evaluate their relative accuracy.

#### 11.20 - BEEHIVES AND PRODUCTION OF HONEY AND BEESWAX

	Unit	1993-94	1994-95	1995-96
<b>Beehives—</b>				
Productive	'000	21	20	27
Unproductive (a)	"	7	8	4
Honey production	tonnes	1 768	1 768	2 072
Beeswax production	"	47	35	50

(a) Includes nuclei and small pollination hives from which no honey was taken.

Source: ABS Catalogue No. 7113.5.

## Forestry

**Forest Production** Forest production in Western Australia falls into two broad categories: Sawlogs and Other Log Timber. Sawlogs are predominantly hardwoods. Jarrah and karri remain the predominant hardwood species, amounting to some 715,520 cubic metres or 97.1% of total hardwood production and 32.0% of total log timber production in 1994-95. Native hardwoods contributed 735,138 cubic metres to the hardwood total of 736,783 cubic metres. This represented an increase of 4.9% in total hardwood production from 702,429 cubic metres in 1993-94. Pine production increased by 33.7%, from 224,075 cubic metres to 299,663 cubic metres. Total sawlog production increased by 11.9% from 926,504 to 1,036,446 cubic metres. Total log timber production for 1994-95 rose by 13.2%, from 1,974,677 cubic metres to 2,234,734 cubic metres. Crown Land continued to yield approximately 90% of total log timber as in the past.

*Further detail on the history and current management of the State's forests can be found in the Agriculture chapter of the Western Australian Yearbook up to and including the 1993 edition or obtained from the Department of Conservation and Land Management.*

### 11.21 - LOG PRODUCTION, 1994-95

Type	Crown Land cubic metres	Private Property cubic metres	Total cubic metres
<b>Sawlog Timber (a)—</b>			
Hardwood—			
Jarrah	463 393	3 045	466 438
Karri	245 728	3 354	249 082
Marri	12 165	1 782	13 947
Blackbutt	933	212	1 145
Wandoo	851	454	1 305
Sheoak	3 051	20	3 071
Other	131	19	150
<i>Total Native Hardwood</i>	<i>726 252</i>	<i>8 886</i>	<i>735 138</i>
<i>Total Exotic Hardwood</i>	<i>1 090</i>	<i>555</i>	<i>1 645</i>
Pine	239 886	59 777	299 663
<b>Total Sawlogs</b>	<b>967 228</b>	<b>69 218</b>	<b>1 036 446</b>
<b>Other log material (b)—</b>			
Hardwood (c)	679 502	92 896	772 398
Softwood	338 959	86 931	425 890
<b>Total Log Timber</b>	<b>1 985 689</b>	<b>(d) 249 045</b>	<b>2 234 734</b>

(a) Sawlog timber from all sources, including veneer, but excluding chiplogs, particleboard, industrial wood, firewood, fencing material, piles, poles and minor forest products.

(b) Includes chiplogs, particleboard logs, industrial wood, pine rounds.

(c) Hardwood residue includes 6,929 cubic metres of marri particleboard/industrial wood and gobulus chiplogs on crown lands and 34,090 cubic metres of the same from private property.

(d) Includes 49,395 cubic metres produced by CALM.

Source: CALM Annual Report 1994-95.

### Fisheries

Following a review of the collection and dissemination of fisheries statistics in late 1993, it was decided the Australian Bureau of Agricultural Research Economics (ABARE), with assistance from State Fisheries Departments, would become the principal collector of these data.

*A detailed history and background to the fishing industry, as well as historical statistics, can be found in editions of the Western Australian Yearbook, up to and including 1993.*

### Reference

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# Mining, Energy and Water Resources

## Chapter 12

# MINING, ENERGY AND WATER RESOURCES

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# MINING, ENERGY AND WATER RESOURCES

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## Mining

*Compiled from information in Department of Minerals and Energy's 1996 Statistics Digest.*

### Mining Industry Review

#### 1995-96 Industry Performance and Outlook

In 1995-96, the mining sector accounted for approximately 29% of Gross State Product (GSP), more than 70% of exports and one fifth of both direct and indirect employment. Currently, Western Australia supplies (in terms of quantity) approximately 13% of the world's iron ore, 9% of gold, 10% of liquefied natural gas (LNG), 18% of alumina, 11% of nickel, 50% of zircon and 38% of diamonds. The value of production rose by 10.3% to \$15,346 million in 1995-96. The rise was mainly attributable to the strong increase in the value and production of condensate, gold, nickel, iron ore, mineral sands and LNG.

The industry in general had higher investment and exploration levels and increased production for most minerals, with the notable exception of base metals. The base metals group includes copper, lead and zinc. The outlook for copper, which contributes more than 40% of the value of the State's base metal production, is poor. Copper prices fell by 0.9% in 1995-96 and are expected to fall around 25% in 1996-97. Western Australia's prominence on the international minerals scene is expected to be maintained well into the 21st century. As of the June quarter 1996, projects worth \$6,200 million were under construction in Western Australia. Commitments for resource projects totalled \$2,031 million and projects worth more than \$25,000 million were either under consideration or listed as a possibility.

#### Exploration and Mining Investment

Mineral exploration (other than for petroleum) in Western Australia increased by 4.8% in 1995-96 to \$520 million. The State continues to attract the majority of Australia's mineral exploration expenditure, accounting for just over 54% of the national total. Gold continues to dominate exploration, accounting for 71% of total exploration expenditure in Western Australia.

Increases in exploration expenditure occurred for base metals (51%), iron ore (39%) and heavy mineral sands (29%). Diamond exploration expenditure fell by 4% during 1995-96. Several

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companies are, however, on the verge of commencing new ventures in Western Australia which will impact on this trend. Petroleum exploration expenditure in Western Australia was \$319 million which represents approximately 44% of the Australian total.

The State's mining capital investment expenditure increased by 3.1% to \$4,173 million. Western Australia accounted for 58% of Australia's new mining capital expenditure in 1995-96, continuing the trend of significant growth seen in this sector in the previous three years. The deregulation of the gas market and energy supplies will generate growth in downstream processing and many other resource related industries.

### **Economic Factors Affecting the Mining Industry**

The major factor affecting the economics of mining and petroleum extraction is the price received for the resources extracted. Gold performed poorly, falling from a high of US\$417/oz in February 1996 to hit a three year low of US\$380/oz in December 1996. Petroleum products were the best performing commodity in 1996, with oil prices reaching a six-year high towards the end of 1996 and trading above US\$26/barrel. Iron ore prices recorded a marginal increase, nickel prices eased off, as did aluminium, which reached a 30 month low in October 1996. Since 1993, the price of lead continued to increase; copper prices decreased around 20% in 1996; and zinc prices have remained steady.

Western Australia's mining industry competitiveness continued to improve with the further deregulation of the energy market in 1996. Factors influencing the climate of the industry included the completion of the Goldfields Gas Pipeline, which was officially opened in October 1996 and the program continuation of phasing in access to the Dampier to Bunbury natural gas pipeline for large gas customers. Gas customers taking at least 1,000 TJ per annum through a single connection are now able to contract with the gas supplier of their choice.

In addition to the developments in the gas market, in February 1996, the State Government announced plans to phase in access for large electricity producers and consumers to Western Power's high voltage electricity transmission and distribution systems. Deregulation of access to Western Power's systems is expected to create competitive pressures between electricity generators, which should ultimately lead to the supply of cheaper electricity. This in turn should provide a further boost to economic development.

### **Review of Petroleum and Major Minerals**

#### *Petroleum*

Petroleum has been the State's most valuable contributor to the resource sector for the second year, with a record production rate for oil, gas and condensate, increasing the value of output by 24% to \$4,693 million in 1996. The State accounted for approximately 51%

of Australia's total crude oil and condensate and 48% of gas production in 1996, making Western Australia the main producer of petroleum in Australia.

The volume of production increased by 30% in 1996, to 71 million barrels. This large increase was mainly attributable to the first full year's production from the Wanaea and Cossack oilfields. Output from these fields was 25 million barrels in 1996 and represented the first production of crude oil from the North West Shelf (NWS) Project.

In 1996, 45% of Western Australia's crude oil production was exported overseas. Of this proportion, most went to Asia, with 22% destined for Japan and over 40% split between Indonesia, South Korea and Singapore. The United States also accounted for 24% of overseas exports of crude oil production.

The value of condensate production was \$774 million in 1996, a 37% increase from 1995. While higher world oil prices helped boost this figure, it was mainly due to a 30% increase in production which reached over 31 million barrels. This reflected higher output from the NWS Project through greater capacity utilisation. Only a quarter of condensate production was consumed domestically, the majority of remaining output was exported to Asia, with Taiwan the major customer.

Gas

The value of Liquefied Natural Gas (LNG) output increased just over half a percent in 1996, to \$1,391 million. Almost all LNG was exported to Japan, however, new markets are opening up within other Asian countries. The Japanese market is expanding and new potential projects for Western Australia are being examined. One of these projects includes Western Australian Petroleum Pty Ltd's (WAPET) plans for a stand-alone LNG development based on the Gorgon field.

Another project proposal, is by the NWS Partner's (Woodside Petroleum Ltd, BP Developments Aust Ltd, Chevron Asiatic Ltd, BHP Petroleum (NWS) Pty Ltd, Shell Developments (Aust) Pty Ltd, and Japan Australia LNG (Mimi) Pty Ltd) to expand the NWS facilities in anticipation of increased gas sales. This proposal consists of constructing a second trunkline to the Burrup Peninsula and two extra processing trains. In addition to these proposals, the NWS participants are in the process of proving up gas reserves from their Perseus field, and in conjunction with WAPET, are also considering an integrated LNG project using gas from the Gorgon and Rankin gas fields.

The value of natural gas production increased 11% in 1996 to \$495 million. This was due to the commencement of production from the East Spar subsea gas gathering system. East Spar is one of several gas fields now supplying the Goldfields Gas Pipeline which commenced deliveries of gas to Kalgoorlie in October 1996.

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The first full year's production from a new \$300 million liquefied petroleum gas (LPG) plant occurred in 1996, with approximately 310,000 tonnes of LPG worth \$41 million produced. All production was exported to Asia, mainly China, Japan and the Philippines. LPG is a by-product from associated gas produced in large quantities from Wanaea and Cossack fields. Stripping LPG gases (mainly propane and butane) from producing gas fields ensures that natural gas meets its quality specification and gives the NWS Project greater diversity.

### *Gold*

Gold production in Western Australia increased by 17% to 221 tonnes in 1996, representing 76% of total gold produced in Australia. The value of gold production increased by 11% to \$3,526 million.

Approximately 85% of gold production was exported to Asia, mainly South Korea. The remainder of the gold exported was destined almost entirely for Europe. Thirteen producers in Western Australia accounted for half of the State's gold production in 1996. The largest projects, each with gold production worth over \$100 million in 1996, were:

- Golden Mile - Kalgoorlie - 23.2 tonnes;
- Kambalda - St Ives - 12.9 tonnes;
- Telfer - 11.4 tonnes;
- Boddington - 10.0 tonnes;
- Bronzewing - 10.0 tonnes;
- Granny Smith - 8.3 tonnes; and
- Jundee - 7.4 tonnes.

The gold industry has recently been hit by a fall in the price of gold from US\$380 per ounce in December 1996 to around US\$340 per ounce by mid-February 1997. This has been largely driven by falling investment demand, primarily in response to prevailing low world inflation and strong investment returns in global equity markets.

Analysts suggest that gold is beginning to lose its attraction as a speculative investment commodity and is increasingly viewed as a normal commodity subject to regular supply and demand forces. Concurrent with this shift in sentiment, Central Banks divested some of their gold stocks in 1996, forcing the gold price down and currently hold about 33,000 tonnes of gold.

### *Iron Ore*

Australia is the world's third largest producer of iron ore, producing approximately 147 million tonnes and of this total, Western Australia accounted for 91%. Western Australia produced 134 million tonnes

of iron ore valued at \$2,924 million in 1996, a 2% decrease from 1995.

The value of iron ore exports from Western Australia in 1996 was \$2,786 million, with Japan being the major destination (46%) followed by China (20%). While Japan remains the major market for Western Australian iron ore, there are other key Asian growth areas for steel production, including China, India, Taiwan and Korea. Demand is expected to increase from these countries and significant capital expenditure will be required to develop new sources of ore.

Unfortunately, iron ore prices are unlikely to rise sufficiently to justify investment in new major operations. Therefore, increased supplies will come from low cost expansions from existing operations within Western Australia. There are already major projects underway: the development of Orebody 18, 5km west of Jimblebar mine (planned for operation late 1997), Mining Area C, 20km south of the current Yandi operation and the development of Yandicoogina, 90km west of Newman.

### *Alumina*

In 1996, alumina output in Western Australia increased by 2% to 8.2 million tonnes, and total value of production rose by 12% to \$1,968 million. Western Australia produced over half of Australia's alumina in 1996 and over 85% of the State's production was exported to North America (47%), Africa (22%), Bahrain (9%), United Arab Emirates (7%) and China (5%).

There are several new projects planned for the alumina industry in Western Australia. A feasibility study has been carried out by one of the State's alumina producers, Worsley, in regard to expanding its refinery, at an estimated cost of \$800 million. Alichem is working towards establishing an aluminium flouride plant at Kwinana and 75% of the final product will be sold on the domestic market. In February 1996, ALCOA resurrected its plans for a proposed two stage, \$970 million expansion of its Wagerup alumina plant.

### *Nickel*

Despite nickel output increasing by 11% in 1996 to 112,000 tonnes, the value of production fell by 6% to \$1,034 million which was a reflection of a year of weaker prices. Nickel is now the fifth commodity in Western Australia to record a value of production in excess of \$1,000 million. Significant contributions to the increased production came from nickel operations at Leinster, the expanded Mt. Keith project and improvements at the Kwinana nickel refinery.

The future of nickel production in Western Australia will be boosted by several projects currently underway, including a \$184 million Bulong nickel project which is located 30km east of Kalgoorlie and a \$900 million development at Murrin Murrin (currently the biggest nickel project planned for Western Australia). Bulong and Murrin Murrin are based on laterite ores. Laterite ores have previously been disregarded by Australian producers due to the high cost of processing. However, the processing method proposed for these

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new projects in Western Australia has the potential to alter the supply picture significantly. Access to cheaper energy from the Goldfields Gas Pipeline will also reduce costs and improve the highly competitive cost position of the State's nickel industry.

Almost all nickel produced in 1996 was exported overseas, major destinations being Finland (29%), Japan (23%), North America (17%) and Taiwan (10%).

### *Mineral Sands*

The value of Western Australia's heavy mineral sands increased by over 9% to \$598 million and overseas exports were valued at \$519 million. The United States accounted for 26% of exports, Japan 17% and the Netherlands 15%. Italy and the UK were also prominent export destinations.

Western Australia is one of the world's most important producers of feedstock for titanium dioxide pigments. The most significant of these are ilmenite, rutile and upgraded ilmenite (synthetic rutile). In 1996, the State accounted for approximately 80% of Australia's titanium feedstock production.

Ilmenite sales totalled 1.1 million tonnes in 1996, an increase of 8% from 1995. The production of ilmenite is expected to increase due to the titanium mine of Beenup coming into production in March 1997. With a projected output of 600,000 tonnes per annum, it is expected to become one of Western Australia's largest producers of heavy mineral sands. Half of the ilmenite output will be exported to Norway, where it will be smelted to chloride grade feedstock for titanium pigment manufacture.

Despite higher prices, the value of sales of upgraded ilmenite decreased by 16% to \$181.8 million. Western Australia produced 367,525 tonnes of upgraded ilmenite in 1996, representing almost half of the world's estimated output of 750,000 tonnes.

### *Diamonds*

In 1996, the volume of diamonds sold from Western Australia more than doubled compared with 1995. Because of lower prices, however, the value of sales was down 8%, to \$442 million.

Since the Bow River alluvial mine was placed on care and maintenance in late 1995, all production in 1996 emanated from the Argyle operation. The dramatic increase in sales volume occurred in the June quarter when the Central Selling Organisation (CSO) took up a large proportion of deferred stocks. Production from the Argyle mine reached 42 million carats in 1996, an increase of 2.2 million carats on 1995 production and was made up of 39.4 million carats from the AK-1 pipe and 2.6 million carats from the alluvial operations.

### *Coal*

Coal output eased by 4% in 1996, resulting in an equivalent 4% decrease in the value of production, to \$268 million. In November 1996, production commenced from the \$60 million Ewington II

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open cut project. This will aid in providing feedstock for the new 300MW coal-fired power station being constructed at Collie, which is expected to commence operation in 1999.

### 12.1 - MINERAL PRODUCTION

Mineral	Unit	1995		1996	
		Quantity No.	Value \$'000	Quantity No.	Value \$'000
<b>Base metals—</b>					
Copper	'000 t	24(r)	73 294(r)	22	47 841
Lead	'000 t	16(r)	8 253(r)	17	9 804
Zinc	'000 t	126(r)	87 733(r)	104	68 859
Bauxite-alumina	'000 t	8 067	1 757 356	8 274	1 974 371
Clays	'000 t	147	4 683	162	4 793
Coal	'000 t	6 062	280 656	5 815	268 381
<b>Construction materials—</b>					
Aggregate	'000 t	426(r)	2 480(r)	506	3 293
Gravel	'000 t	148	804(r)	182	1 053
Rock	'000 t	50	633	550	3 303
Sand	'000 t	1 706(r)	7 672(r)	1 406	6 198
Diamonds	'000 ct	23 452	480 150	47 426	442 006
<b>Dimension stone—</b>					
Black Granite	t	—	—	946	284
Granite	t	40	12	220	11
Jasper	t	25	9	—	—
Gem, semi-precious & ornamental stone	kg	164 524(r)	750	41	21
Gold	kg	189 479(r)	3 163 659(r)	221 033(e)	3 526 341(e)
Gypsum	'000 t	218(r)	2 448(r)	261	2 353
Heavy mineral sands	'000 t	2 139	548 457	2 050	598 071
Iron ore	'000 t	135 966	2 980 689	133 651	2 924 478
Limesand-limestone-dolomite	'000 t	2 193(r)	14 859(r)	2 649	17 418
Manganese	'000 t	228(r)	28 424(r)	297	33 530
Nickel concentrate	'000 t	752	1 094 172	764	1 033 884
<b>Petroleum—</b>					
Crude oil (incl. condensate)	ML	12 512	1 949 739(r)	16 225	2 732 548
Liquefied natural gas	GJ	375 374	1 390 750	377 819	1 391 202
Natural gas	GL	5 827	421 923	6 623	494 681
Salt	'000 t	7 291	155 813	7 199	143 282
Silica-silica sand	'000 t	611	5 609	699	6 816
Silver	kg	53 430(r)	11 710(r)	48 698	8 965
Talc	'000 t	123	9 643	186	14 928
<b>Tin-tantalum-lithium—</b>					
Spodumene	t	80 135	12 019	131 932	17 140
Tantalite	t	365(r)	33 617(r)	538	34 463
Tin Metal	t	586(r)	4 157(r)	370	2 566
<b>Total value</b>			<b>14 532 175(r)</b>		<b>15 812 885</b>
<b>Total value other minerals</b>			<b>71 850(r)</b>		<b>142 981</b>
<b>Total value all minerals</b>			<b>14 604 025(r)</b>		<b>15 955 866</b>

(e) Estimate.

(r) Revised from previous edition.

Abbreviations: t-tonnes, ct-carat, ML-Megalitres, GJ-Gigajoules, GL-Gigalitres.

Source: Department of Minerals and Energy.

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### Mineral Exploration

Mineral exploration in Western Australia expanded during 1996, despite uncertainties caused by the native-title debate. Mineral exploration expenditure reached \$616.1 million, an increase of 24% from the previous year. Western Australia attracted 57% of the total Australian mineral exploration budget for base metals, gold, diamonds, iron ore and heavy mineral sands.

Western Australia is the main focus area for gold exploration attracting 69% of Australia's gold exploration expenditure (\$445 million). Gold accounted for 72% of the State's total exploration budget, a decrease of 2% from 1995, which was attributable to some gold companies diversifying into other minerals, such as nickel and silver.

The combined exploration expenditure on base metals and nickel was \$98 million in 1996, an increase of 51% from 1995. Improving prices in copper and zinc have increased interest in these commodities. Nickel exploration has continued to expand despite prices decreasing, and indications are that the industry will remain buoyant over the short to medium term. Diamond exploration expenditure increased 28% to \$37 million and the search for diamonds has spread from the Kimberley to the South West of the State and the Eastern Goldfields.

Exploration expenditure for iron ore increased in 1996 by 82% to \$18 million. The major focus was on detailed evaluation of deposits that are programmed for development in the near future. Much of the exploration for the proposed developments was completed in 1995 and feasibility studies continued throughout the year, with the emphasis on the Giles Mini, Goldsworthy Mining Area C and West Angelas sites.

With expenditure of \$6 million in 1996, Western Australia retains the top share of the nation's heavy-mineral sands exploration budget. Exploration for heavy-mineral sands has a low public profile and this activity is constantly competing with other land uses. Since 1992, the industry has gained access to enough land to retain the State's resources base of more than 100 million tonnes of contained heavy minerals. The only new discovery in 1996 was at Metricup, south-west of Busselton.

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### 12.2 – MINERALS AND PETROLEUM ROYALTY RECEIPTS

Mineral	1995	1996	1996
	Value	Value	Growth
	\$'000	\$'000	%
Base metals—			
Copper	3 320	1 882	-43
Lead	531	400	-25
Zinc	4 284	3 229	-25
Bauxite-alumina	28 353	31 599	11
Clays	250	275	10
Coal	13 727	13 671	—
Construction materials—			
Aggregate	153	166	9
Gravel	39	58	48
Rock	8	173	1 938
Sand	449	465	4
Diamonds	32 382	34 782	7
Dimension stone	—	1	n.a.
Gem, semi-precious & ornamental stone	53	33	-38
Gold	372	376	1
Gypsum	64	79	23
Heavy mineral sands	18 959	21 665	14
Iron ore	153 027	153 743	—
Limesand-limestone-dolomite	61	301	389
Manganese	860	1 933	125
Nickel concentrate	22 482	24 376	8
Petroleum—			
Condensate	19 779	22 607	14
Liquefied natural gas	63 599	53 104	-17
Natural gas	20 084	20 862	4
Oil	50 892	67 529	33
Salt	1 692	1 779	5
Silica-silica sand	236	355	50
Silver	249	187	-25
Talc	31	100	218
Tin-tantalum-lithium—			
Spodumene	634	746	18
Tantalite	817	959	17
Tin	70	90	28

Source: Department of Minerals and Energy.

### Energy

The energy sector is a significant factor in the economic and social climate of Western Australia and the State Government is committed to ensuring that the best management principles are applied to this essential resource.

The Office of Energy was established to administer energy policy and regulatory functions previously managed by the State Electricity Commission of Western Australia (SECWA), which was split into two corporate utilities in 1995. The Office of Energy reports directly to the Minister of Energy and provides advice on policy and coordinates economic and commercial issues in the Western Australian energy sector.

A significant policy issue concerning the Office of Energy during 1996-97 was the deregulation of the energy industry allowing more private sector participation which should result in cheaper energy to consumers. This plan is already in operation with the selling of 100% of the Dampier to Bunbury Natural Gas Pipeline with a right for expansion by the new owner.

The availability of low cost gas has impacted on downstream processing in many industries and has encouraged private sector participation in the provision of electricity. Privately owned power stations using gas as an energy source have been established at Parkeston, Mount Keith, Newman, Kalgoorlie and Kambalda. Once the final stage of deregulation is in place, it is estimated that 94% of the total gas sold in Western Australia will be in the private sector.

Standards of operation, regulation of the industry and safety issues are monitored by the Office of Energy, Technical and Safety Division. This Division carries out the licensing of electrical and gas workers and contractors and provides the secretariat for the industry based Electrical Licensing Board. The respective electricity and gas utilities undertake the inspection of consumer electrical and gas installations.

### AlintaGas

AlintaGas recorded a net profit of \$35.6 million for 1996-97 mainly due to gas sales exceeding expectations by \$9 million and expenses falling \$6 million below the estimate predicted for the financial year. Revenue from gas transmission charges was \$139.6 million compared with \$138.2 million in 1995-96.

Sales of gas to residential, commercial and contractual customers realised a net profit of \$23.2 million for 1996-97 compared with \$4.6 million for the previous year. The sale of the Dampier to Bunbury pipeline will show in the AlintaGas accounts for 1997-98 but the book valuation of this asset for 1996-97 was \$937 million.

### Western Power

Western Power is committed to electricity sector reform and as of 1 July 1997 began the gradual introduction of the Electricity

Transmission Open Access Plan. The principal objective of open access is to allow independent generators to supply associated loads by utilising Western Power's transmission system. Electricity users now have the option of obtaining power from Western Power or private sector operators.

Regulations are in place which address disputes, pricing and the technical requirements necessary to participate in the open access plan. Under this system, 21 of Western Power's largest clients are eligible to negotiate directly with the electricity supplier of their choice, increasing competition for the supply of electricity to industry and stimulating the development of private sector generators.

The Underground Power Program is aimed at delivering underground power to half of the metropolitan area by the year 2010 and is progressing on target. Phase 1 (incorporating the City of Melville and the Town of Albany) was completed in August 1997 and Phase 2 (incorporating the Towns of Cottesloe, Claremont and Cambridge) is scheduled for completion in October 1998.

SmartPower, a new time-of-use charging system for residential customers was introduced in 1996. This innovation is designed to encourage conservation of energy during peak periods. Customers are offered different rates for off-peak, intermediate shoulder and higher than standard peak prices. By taking advantage of the lower off-peak rate, consumers may reduce their electricity bills by up to 30%. Western Power will be able to rationalise its own efficiency as more use is made of this scheme.

### *Wind Generated Power*

A new wind energy trial conducted by the Australian Cooperative Research Centre for Renewable Energy (ACRE) to develop turbines suitable for isolated rural areas was launched in July 1997. Western Power, which is a partner in ACRE, purchased the wind turbine for the trial.

Wind power is becoming increasingly popular as an alternative energy source in areas not connected to a main power grid. The new turbine model which is easily maintained and installed and will generate five kilowatts of power (enough to service a small house) is also equipped with a battery to store energy.

### *Tidal Generated Power*

Western Power has begun negotiations with a Perth company to purchase energy produced by a tidal power station in the Kimberley. The 48MW power station which will supply power to the towns of Broome, Fitzroy Crossing and Derby, will be the second biggest in the world.

The Derby station would harness energy from incoming and outgoing tides making it more efficient (the world's largest tidal power station in France generates 240MW on the outgoing tide only). Tidal power stations could be designed with an operating life

span of 120 years and once the initial costs are recovered, supply very cheap energy.

Western Power estimates that tidal power will save 24 million litres of diesel fuel a year, currently the amount used to supply power to the Kimberley. Reducing carbon dioxide emissions produced by conventional power generation will be more environmentally friendly. Construction of the facility is expected to start early in 1998.

### *Cogeneration*

Cogeneration is the production of electricity and useful heat from the same fuel source. A modern cogeneration plant can achieve an energy conversion efficiency of 80% compared to a conventional non-cogeneration coal fired station that achieves about 33%. These facilities are also beneficial to the environment by reducing greenhouse gas emissions.

Several large Western Australian based companies have commissioned cogeneration plants for use in refining, smelting and production. The waste energy produced by the initial processing procedure is then used for other purposes on site or exported to the Western Power grid. It is estimated that the installed cogeneration capacity in Western Australia is currently over 584MW but deregulation of the energy industry is creating more interest in this option.

### *Hydro Generated Power*

The Ord hydro power station, commissioned in April 1996, is – independently owned and operated and supplies power to Argyle Diamond Mine and Western Power. The station currently supplies over 80% of Western Power's requirement to service householders and small businesses in Kununurra, Wyndham and the Lake Argyle Village.

Western Power operates a 2MW hydro electric power station at Wellington Dam near Collie. Output from this facility varies with the availability of the water supply. Western Power is currently negotiating with the Water Corporation to improve water access which will facilitate a more sustainable output of energy for distribution through the South West Interconnected System. A feasibility study for the establishment of a 70kW micro-hydro demonstration system at Pemberton is currently in progress.

### Water Resources

Ninety-seven per cent of the world's water is salt water. Of the 3% which is fresh, two-thirds is locked away in ice caps, glaciers, in the soil or deep underground. If 100 litres represented all the water in the world, the useable supply of freshwater would be only half a teaspoon full (World Resources Institute 1992).

The administration of Western Australia's water resources is the responsibility of the Water and Rivers Commission and the Water Corporation is the primary provider of services. The operation and activities of the Water Corporation are monitored by the Office of Water Regulation.

According to the Water Corporation Annual Report 1997, there were 460,739 metropolitan and 157,121 country services connected to the water supply system. This represents an increase in services of 2.4% and 2.3% respectively. Metered water consumption increased by 7.0% for metropolitan services and 1.7% for country services. Output from metropolitan sources of supply increased by 14.5% and as at 30 June 1997, storage capacity increased a significant 60.3% on 1995-96.

#### 12.3 - WATER SUPPLY - METROPOLITAN AREA, 1996-97

Source Of Supply	Area of Catchment (Sq km)	Full Supply Level Storage (ML)	Storage at 30 June (ML)	Maximum Storage at 30 June %	1996-97 Output (ML)
<b>Dams—</b>					
South Dandalup	311	205 344	54 984	27	8 025
North Dandalup	153	74 849	32 729	44	16 178
Serpentine & Serpentine Pipehead	692	196 347	80 549	41	30 571
Canning	789	90 353	31 448	35	54 268
Wungong	134	59 795	36 746	61	11 012
Churchman	16	2 241	1 560	70	3 385
Victoria	37	9 463	3 639	38	4 863
Mundaring Weir	1 470	63 596	39 770	63	4 343
<b>Total</b>	<b>3 602</b>	<b>701 988</b>	<b>281 425</b>	<b>40</b>	<b>132 445</b>
<b>Groundwater—</b>					
Artesian Bores					11 854
Mirrabooka					19 255
Gwelup					12 406
Wanneroo					38 262
Jandakot					8 237
Clarkson					753
Yanchep/Two Rocks					—
<b>Total</b>					<b>90 767</b>

Abbreviations: ML - Megalitres (1,000,000 litres); Sq km - Square kilometres.  
Source: Water Corporation.

**12.4 – WATER SUPPLY SERVICES – METROPOLITAN AND COUNTRY, 1996–97**

Region	Properties	Services	Length of	Services	Water	Metered
	Served	Connected	Mains	per km	Supplied (a)	Water
	No.	No.	(km)	No.	(ML)	Consumption (b)
						(ML)
Perth South	259 563	219 573	6 402	34	—	—
Perth North	297 055	241 166	7 850	31	—	—
<b>Total Metropolitan</b>	<b>556 618</b>	<b>460 739</b>	<b>14 252</b>	<b>—</b>	<b>223 859</b>	<b>203 209</b>
Goldfields & Agricultural	40 601	38 742	8 389	5	28 778	24 402
Great Southern	30 229	25 995	3 157	8	9 461	9 460
Mid-West	34 223	26 548	1 833	14	17 415	14 478
North-West	23 524	19 981	1 401	14	24 216	21 366
South-West	58 492	45 855	1 704	27	17 027	17 193
<b>Total Country</b>	<b>187 069</b>	<b>157 121</b>	<b>16 484</b>	<b>—</b>	<b>96 897</b>	<b>86 899</b>

(a) Water supplied is the quantity recorded by master meter from 1st January 1997 to 30th June 1997.

(b) Metered water consumption is the total of consumers' meter readings for a period which may differ to the above.

Abbreviations: km - kilometres, ML - Megalitres (1,000,000 litres).

Source: Water Corporation.

A study of water supplies recommends that Perth's water consumption should remain static until 2001 and should then be reduced by five per cent over the next 20 years. It is hoped that public awareness of water resources and their vulnerability will encourage water consumption efficiency.

*Rain Water Tanks*

Consumers are demonstrating their support of water conservation by installing rainwater tanks in their homes. The Commission does not consider that the installation of tanks will have a significant impact on consumption of scheme water but many people prefer rainwater for drinking because it is less saline. Tanks, which have been specifically designed for householders and comply with stringent health standards, are relatively cheap to install and are made to last about 20 years.

In Western Australia, an Australian Bureau of Statistics (ABS) household survey conducted in June 1994, showed that 68,500 households had a rainwater tank(s) installed and of that number, 54,800 (80.1%) considered them sufficient to meet their household needs.

*Bores*

The installation of private bores to water gardens (the largest single area of water use in homes) has decreased over the last three years and the Commission has mounted a campaign to reverse this trend. In 1994, the number of households which used bores for garden watering was 120,400. Bore water is also used in Western Australian households for bathing and washing (16,700) and drinking (8,200). The restriction imposed on the daytime watering of gardens by

sprinklers connected to scheme water is expected to be maintained indefinitely.

### *Recycled Water*

In order to maximise the efficient use of this valuable resource, the Water Corporation is conducting tests to evaluate the effectiveness of re-using bath and washing machine water for recycling in toilet cisterns and garden irrigation. The Corporation estimates that 60% of domestic water used was in bathrooms and laundries.

The 'grey water' trial is being closely monitored by the Western Australian Health Department. Residents in the Perth suburb of Palmyra and country areas of Geraldton and Kalgoorlie-Boulder are participating in the trial by storing 'grey water' in underground tanks where it is treated and then pumped back into holding tanks and used for flushing toilets. Excess water is reticulated for gardens and lawns.

Advances in the design of household appliances such as washing machines and dishwashers have had a significant effect on their water use efficiency. Some dishwashers use less than 30 litres of water per normal cycle. This represents approximately 10 litres per meal and compares favourably with manual washing of dishes, where the average amount of water used is estimated to be between 12 and 15 litres per time.

At 30 June 1994, 101,700 households in Western Australia (16.6%) had dishwashers installed. The environmental impacts of washing machines are water and energy consumption as well as detergent effluent. It has been proven that front loading washing machines use less water, detergent and electricity. Savings can also be made by using a washing machine with a 'suds saving' facility.

The total number of households with washing machines in Western Australia (30 June 1994) was 577,700. Machines fitted with a suds saver feature accounted for 47.2% of that number, 46.3% were not fitted with the feature and 6.5% of households did not know if the appliance included a suds saving device. (Source: ABS Catalogue No. 4602.0)

### *Sewerage*

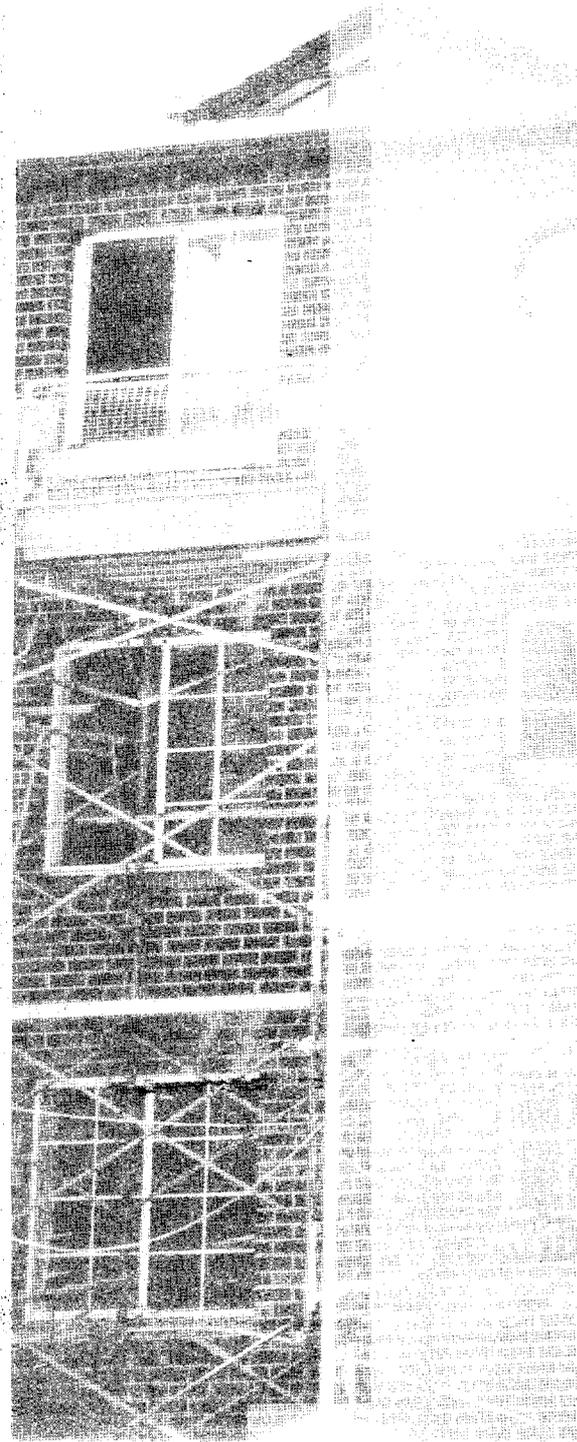
The Infill Sewerage Program, to provide sewerage services to replace existing septic tanks, is running to schedule with an average yearly expenditure of approximately \$80 million. A total of \$800 million has been allocated for the 10 year project, which began in 1994 but variations in costings will occur as the Water Corporation takes advantage of changes in contract prices for goods and services required for the program.

### *Ord Irrigation Scheme*

The Ord River Irrigation scheme is responsible for the success of primary industry, processing and population growth in that region. A new \$40 million sugar mill has begun processing sugar cane grown by 22 growers in Western Australia's far North. The new mill is the first to be built in Australia since the 1920's and is the world's



# Housing and Construction



## Chapter 13

# HOUSING AND CONSTRUCTION

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## HOUSING AND CONSTRUCTION

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### Housing and Construction in 1996–97

*by Gavan J Forster, B Comm (Hons), MBA (Econs), Dip Ed, Director, Economics and Housing, Master Builders Association of WA.*

The Western Australian building and construction industry can be broken down into three distinct sectors:

- Housing/residential building;
- Commercial/non-residential building; and
- Engineering construction.

Each sector often operates at a different stage of the business cycle and this was the case in Western Australia in 1996–97.

#### **Residential Building**

This sector covers construction of single detached housing and multiple unit development, including villas, town houses, duplexes and flats.

#### *Housing*

Housing activity in 1996–97 continued at a low ebb, although there were signs of a modest improvement towards the end of the financial year.

Despite five successive interest rate reductions in the year to July 1997, dwelling construction remained subdued. Low levels of buyer confidence, high levels of accumulated consumer debt and continued sluggishness in the established home market contributed to a fragile market. Activity in all major regional centres also fell.

Demand for building trades has remained at subdued levels with major trades such as carpenters and bricklayers being oversupplied. Little upward movement is expected in house prices while activity remains at its subdued levels and building material manufacturers experience significant excess capacity.

In addition to continued interest rate reductions, competition amongst financial institutions in the home mortgage market remained intense. Despite the fundamentals of lower interest rates,

## Housing and Construction

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rising rents and falling oversupply being in place, housing activity remained subdued.

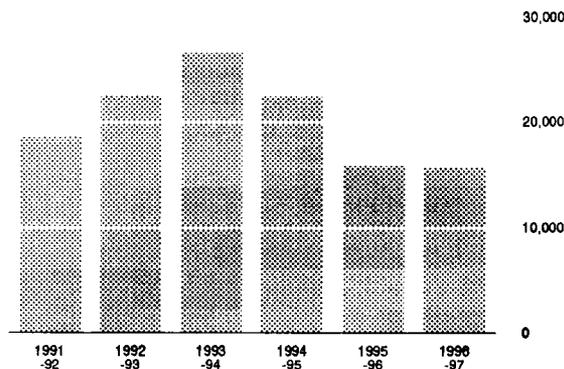
In Western Australia, new housing approvals reached 13,633 in 1996-97, an increase of 11.6% on 1995-96. The Perth metropolitan area showed a similar trend with approvals rising by 11.7% over the same period. Wanneroo, Swan and Rockingham were the local government areas with the largest numbers of residential approvals in 1996-97.

### *Unit Construction*

Unit construction still remains oversupplied. The period of excessive building in the 1993-95 period resulted in an oversupply which is slowly being absorbed in the current market.

Activity in 'other residential buildings' has remained at a low level. Approvals of 'other residential buildings' fell in both the private and public sectors in 1996-97 for the third consecutive financial year. Western Australia recorded 2,013 other residential dwelling approvals in 1996-97, compared with 3,527 in 1995-96, a decrease of 42.9%.

**DIAGRAM 13.1 - DWELLING UNIT APPROVALS**



Source: ABS Catalogue No. 8731.5.

### **Dwelling Structure**

Dwelling structure information was collected at the Census of Population and Housing on 6 August 1996. Over three-quarters (77%) of all occupied private dwellings in Western Australia on census night were separate houses. Dwellings owned or being purchased accounted for 66% of all occupied private dwellings while rentals made up 27%.

## Housing and Construction

### 13.1 – DWELLING STRUCTURE BY TENURE TYPE, 1996 (a)

	Occupied private dwelling				Total	Unoccupied private dwelling	Total
	Fully owned	Being Purchased	Rented	Other			
Separate house	195 283	166 894	97 487	27 585	487 249	46 827	534 076
Semi-detached, row or terrace house, townhouse etc. with:							
1 storey	16 861	8 458	31 015	5 207	61 541	7 118	68 659
2 or more storeys	2 898	1 910	6 455	1 001	12 264	2 432	14 696
Total	19 759	10 368	37 470	6 208	73 805	9 550	83 355
Flat, unit or apartment:							
In a 1 or 2 storey block	3 817	1 892	15 206	2 957	23 872	4 267	28 139
In a 3 storey block	934	694	7 519	974	10 121	2 235	12 356
In a 4 or more storey block	1 309	428	4 811	976	7 524	1 505	9 029
Attached to a house	217	82	323	189	811	129	940
Total	6 277	3 096	27 859	5 096	42 328	8 136	50 464
Other dwellings:							
Caravan, cabin, houseboat	7 335	508	2 400	2 083	12 326	271	12 597
Improvised home, tent, sleepers out	578	104	168	691	1 541	402	1 943
House or flat attached to a shop, office, etc.	295	220	584	292	1 391	179	1 570
Total	8 208	832	3 152	3 066	15 258	852	16 110
Not stated	3 148	2 662	2 633	2 217	10 660	3 630	14 290
<b>Total</b>	<b>232 675</b>	<b>183 852</b>	<b>168 601</b>	<b>44 172</b>	<b>629 300</b>	<b>68 995</b>	<b>698 295</b>

(a) All private dwellings.

Source: 1996 Census of Population and Housing.

#### Alterations and Additions

Activity in this sector continues to improve. In 1996–97, \$172.7 million worth of major renovations over \$10,000 have been recorded. This is a rise from \$162.9 million in 1995–96. Renovation activity continues to show steady improvement, indicating a preference for homebuyers to remain in their current residence, preferring to upgrade rather than to relocate.

#### Non-Residential Building

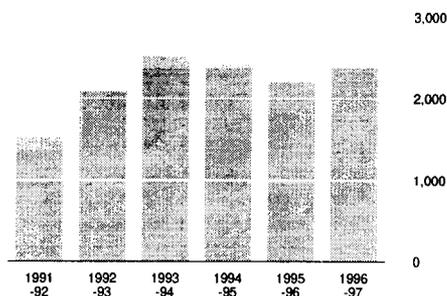
This sector includes activity in the construction of buildings such as offices, hotels, educational premises and shopping centres.

The non-residential building sector showed further improvement in 1996–97. While there are no significant new projects on the Perth CBD skyline, the broad-brush nature of the upturn across categories of building work (eg. factories, entertainment, hotels etc) and regional areas is encouraging and a sign of health.

The benefits of the 'resources boom' have been slow to materialise in this sector and are expected to appear only in the medium term.

The value of non-residential building approvals in 1996–97 continues to rise on previous years, reaching \$1,204.4 million. Both the private and public sectors recorded rises in 1996–97.

**DIAGRAM 13.2 – NON-RESIDENTIAL BUILDINGS**



Source: ABS Catalogue No. 8731.5.

## Engineering Construction

Engineering construction continues to remain very strong, spurred on by a healthy resources sector and strong infrastructure spending. Current projects include the Collie Power Station, City Northern By-Pass Project and the Port Hedland DRI plant.

### 13.2 – ENGINEERING CONSTRUCTION, 1996-97

Type of work done	Amount \$m
Roads, highways and subdivisions	554.6
Bridges	51.9
Railways	65.0
Harbours	21.9
Water storage and supply	51.3
Sewerage and drainage	81.1
Electricity generation, transmission and distribution	468.1
Pipelines	105.3
Recreation	38.6
Telecommunications	156.5
Heavy industry—	
Oil, gas, coal and other minerals	846.1
Other heavy industry	200.0
Other	20.9
<b>Total</b>	<b>2 661.1</b>

Source: ABS Catalogue No. 8762.0.

## References

ABS Publications

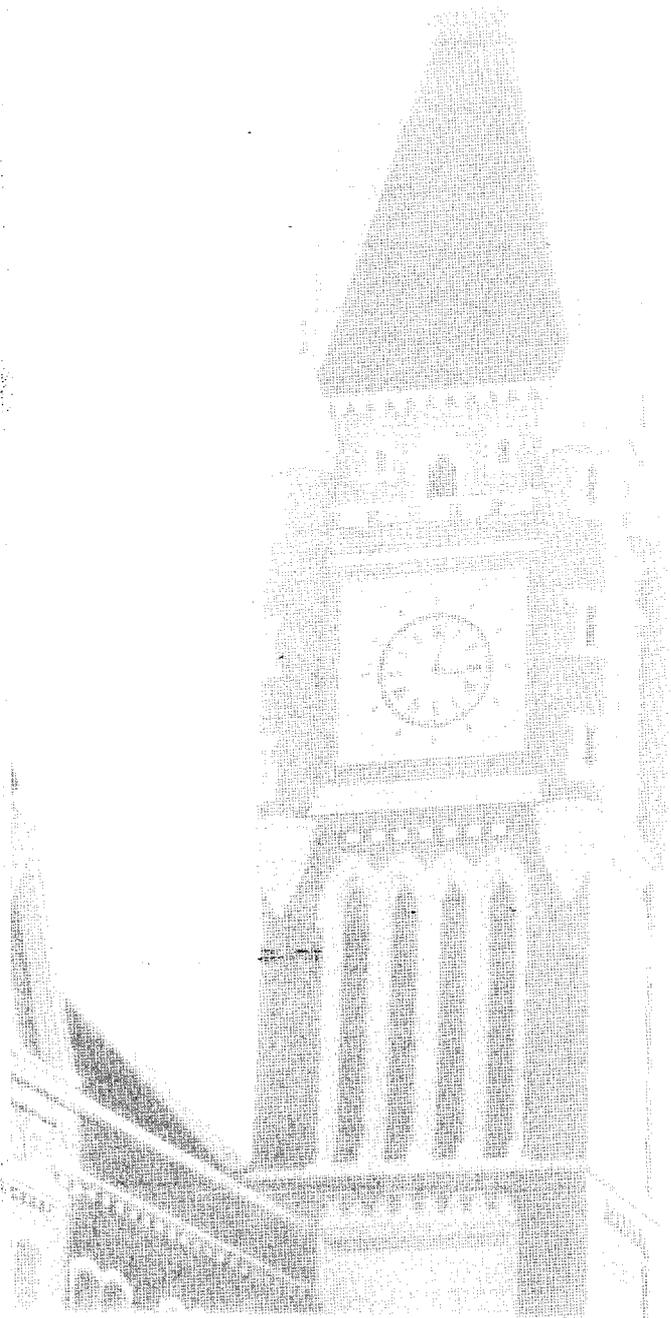
*Building Approvals, Western Australia (8731.5)*

*Dwelling Unit Commencements, Western Australia (8741.5)*

*Building Activity, Western Australia (8752.5)*

*Engineering Construction Survey, Australia (8762.0)*

# Commerce



## Chapter 14

# COMMERCE

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# COMMERCE

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The Commerce sector comprises industries which are diverse in nature and operation, but together they play an integral part in the economic growth of Western Australia. Mining, agriculture, retailing and manufacturing all contribute to the wealth of the State but recently the increase in 'niche' industries is having a significant impact on this sector of the economy.

Enterprising companies established in Western Australia are expanding to capitalise on their product marketability and the proximity of the State to the affluent and rapidly increasing Asian markets.

- A Western Australian based company has made significant progress in the emerging electronic commerce market with a contract worth \$13 million to supply debit and credit terminals for banks in Indonesia.
- A computer system, developed in Western Australia, that uses digital technology to record and store courtroom proceedings, has earned \$1.25 million in contracts in the United States.
- The only facility in Australia accredited by the United States Food and Drug Administration, is a Western Australian based company which has established a market for custom-made and specialised contact lenses. This achievement has given the company access to the highly competitive but very lucrative American market.
- Research at the Western Australian Blood Bank into a better storage container for blood and blood products, is estimated to be worth millions of dollars to the State. This product should be in operation within three years.

The 'goods and services' sector is another avenue of commerce which is gaining momentum and importance very rapidly. A \$50 million contract has been awarded to a Perth based company to build an underwater theme park in Saudi Arabia. Although this project will be undertaken offshore, most of the materials used in the development will be made in Western Australia. Additional benefits, which cannot be directly costed or evaluated, will be expertise and experience gained from the project which will be retained and utilised for future contracts.

The Federal Government has provided \$520 million for strategic assistance in the research and development sector of industry. The Industry Research and Development Board has awarded \$1.74 million to a Western Australian company involved in the development of a technique for removing impurities from alloys used in rotating jet engine parts. Metal alloys from Europe and North America are brought to Western Australia where impurities are removed to keep the product super clean. The alloys are used in 'high tech' components for aircraft and power generation turbines. The grant for research into this process is essential to keep the Perth company ahead of its competitors (the specialised components market consists of only nine competitors world wide) and to give them the edge in the Asian market. The projected annual turnover for the company is expected to double to \$55 million as a result of the grant for continued research into production improvements in this unique industry.

Western Australian companies continue to capitalise on innovation and implementation of ideas and products based on client need and good business sense in relation to markets and profits. Incentives, such as grants and funding from both State and Federal governments, and assistance from agencies such as the Chamber of Commerce and Industry and the Department of Commerce and Trade, are provided to assist in the development of these ventures.

## Manufacturing

### 14.1 - MANUFACTURING INDUSTRY, SUMMARY OF OPERATIONS 1994-95

Description	Employment	Wages	Turnover
	at end of June (a)	and salaries (b)	
	000	\$m	\$m
Food, beverage and tobacco	12.3	339.8	2 810.6
Textile, clothing, footwear and leather	3.9	88.2	338.9
Wood and paper products	4.5	125.3	698.2
Printing, publishing and recorded media	6.3	186.2	751.9
Petroleum, coal, chemical and associated products	5.9	218.7	2 772.0
Non-metallic mineral products	5.3	172.6	1 107.4
Metal products	14.8	517.6	3 893.9
Machinery and equipment	12.5	355.6	1 697.5
Other Manufacturing	5.8	129.9	614.1
<b>Total manufacturing</b>	<b>71.3</b>	<b>2 133.9</b>	<b>14 864.5</b>

(a) Includes working proprietors.

(b) Excludes the drawings of working proprietors.

Source: ABS Catalogue No. 8221.5.

**Overview**

Turnover for the year 1994-95 by manufacturing establishments operating in Western Australia was \$14,684m. This represents a 6.6% increase, in current terms, from the \$13,778m turnover recorded for the year 1993-94. In constant price terms (1989-90 prices), manufacturing gross product at factor cost increased by 4.4% in 1994-95 over 1993-94. Manufacturing employment at the end of June 1995 was 71,300 persons, some 9.1% higher than 12 months earlier. This is the third annual increase in employment numbers since June 1992.

**Employment**

The 1994-95 manufacturing survey estimated that 71,300 persons were employed at the end of June 1995. As in previous years, metal product manufacturing (20.7%) was the largest contributor to employment in the manufacturing industry. However, machinery and equipment manufacturing (17.5%) is now the second largest contributor, ahead of food, beverage and tobacco manufacturing (17.3%). Textile, clothing, footwear and leather manufacturing (5.5%) and wood and paper product manufacturing (6.3%) remain the smallest contributors.

Manufacturing employment increased by 9.1% between June 1994 and June 1995. Eight of the nine industry subdivisions recorded increases in the level of employment over this period. Machinery and equipment manufacturing (up 15.5% from 10,800 persons to 12,500 persons), textile, clothing, footwear and leather manufacturing (up 15.0% from 3,400 persons to 3,900 persons) and food, beverage and tobacco manufacturing (up 12.4% from 10,900 persons to 12,300 persons) recorded the largest percentage increases. Employment in wood and paper product manufacturing remained unchanged at 4,500 persons.

**Turnover**

Metal product manufacturing remains the industry subdivision with the largest contribution to turnover in the manufacturing industry. However, food, beverage and tobacco manufacturing is now the second largest contributor, ahead of petroleum, coal, chemical and associated product manufacturing.

Those industry subdivisions contributing the largest proportions to total manufacturing turnover were:

- Metal product manufacturing (26.5%);
- Food, beverage and tobacco manufacturing (19.1%);
- Petroleum, coal, chemical and associated product manufacturing (18.9%); and
- Machinery and equipment manufacturing (11.6%).

**DAIRY INDUSTRY**

*Source: Dairy Industry Authority of Western Australia - Annual Report 1995-96.*

**Domestic Milk Production**

Milk production in Western Australia, for the twelve months to June 1996, was 341.3 million litres compared with 343.5 million litres the previous year. This represented a decrease of 0.6%, and was the second consecutive year in which production had declined. There were various factors which had contributed to the decline, including a prolonged dry season and increased grain prices offset by only moderate increases in manufacturing milk prices.

Within the total milk pool available, 157.2 million litres or 46% was used for market milk purposes and the remainder for manufactured products, predominantly flavoured milk, cheese, yoghurt, ice cream, butter and skim milk powder.

The average daily milk production for the industry fluctuated between 1,058,485 litres in September 1995, the traditional peak month, to 842,207 litres in December 1995. This represented an average production of 216,278 litres per day in 1995-96, compared with 250,742 litres per day in 1994-95.

The amount of milk supplied by farms in the irrigated areas of Harvey, Dardanup and Waroona was estimated at 114 million litres or 34% of the total milk supply. The shires of Augusta-Margaret River, Capel and Busselton accounted for approximately 44% of milk received.

**Dairy Produce Factories**

Western Australia had 22 dairy produce factories (DPFs), licensed in accordance with the *Dairy Industry Act*, at 30 June 1996. The Dairy Industry Authority was required to register and licence all DPFs, including those processing only manufactured milk products.

There were two major milk processing factories in the Perth metropolitan area. These factories supply milk and other fresh dairy products to the Perth market as well as most country areas within Western Australia. There were two DPFs processing and packaging market milk located in country areas, one in Harvey and one in Albany. The larger of the non-market milk DPFs was located at Brunswick Junction, Capel and Boyanup. Several smaller factories supplying speciality cheeses and yoghurts were located in Perth and surrounding outer metropolitan areas, with two in the Margaret River region.

**Manufactured Products**

The continued decline in milk production in 1995-96 restricted the quantity of milk available for manufacturing purposes. In 1995-96, the pool available for manufacturing purposes decreased by 1.3% to 184.1 million litres. The total level of manufacturing milk represented 53.9% of all milk produced in Western Australia.

The decrease in surplus milk available for manufacturing purposes restricted the production of a number of the bulk line products such as skim milk powder, butter and cheese in favour of the higher value added fresh products. Strong competition from imported brands in the domestic market for cheddar cheese and butter, resulted in a decline in the production of these products and increased the production of dairy desserts and ice-cream.

**Yoghurt** — In 1995–96, local production of yoghurt totalled around 5.4 million kilograms, an increase of 3.8% on 1994–95. This result reflected strong growth in the non fat yoghurt category of around 14% and an expanded product range.

**Whipping Cream** — Whipping cream was the principal line of table cream manufactured in Western Australia and accounted for 78% of locally produced cream in 1995–96.

**Thickened Cream (35% cream)** — Production of thickened cream maintained an upward trend evident in recent years with an increase of 24% in 1995–96 to 984,186 litres.

**Sour Cream** — Until 1994–95 domestic production of sour cream had exceeded thickened cream production. However, because of significant expansion in the thickened cream market in recent years, this trend has been reversed. Local sour cream production continued to increase by 5.5% to 736,137 litres in 1995–96.

**Butter** — Butter production continued to decline in 1995–96 due to depressed levels of surplus milk available for manufacturing purposes.

**Cheese** — During 1995–96, local production of cheddar cheese decreased 10% to 3,336 tonnes. The significant decline in local cheese production reflected restrictions in the availability of surplus milk and local processors diverting production priorities to more profitable manufactured products.

**Skim Milk Powder** — Production of skim milk powder continued to decline in 1995–96 due to the restrictions in availability of manufacturing milk and changes in production priorities. Production declined 16.4% to 3,194 tonnes in 1995–96.

**14.2 - MILK PRODUCTION, 1995-96**

<i>Month</i>	<i>Market Milk</i> '000 litres	<i>Manufacturing Milk</i> '000 litres	<i>Total Production</i> '000 litres
July	13 169	17 507	30 676
August	13 539	18 410	31 949
September	12 668	19 087	31 755
October	13 149	19 037	32 187
November	12 523	15 760	28 283
December	12 859	13 341	26 200
January	13 027	13 081	26 108
February	12 651	12 803	25 454
March	13 129	14 249	27 378
April	13 220	12 912	26 132
May	14 243	13 024	27 267
June	13 044	14 835	27 879
<b>Total</b>	<b>157 221</b>	<b>184 048</b>	<b>341 269</b>

Source: Dairy Industry Authority of Western Australia Annual Report 1995-96.

**Retail Trade**

Retail trade is described as the resale of new or used goods to final consumers for personal or household consumption. Detailed information about the retail sector has been collected using Censuses of Retail Establishments, the first of which was taken for the year 1947-48.

Eight censuses have been taken since then as part of the Australian Bureau of Statistics' (ABS) program of rotating economic censuses. Results from each census are published for each State and Territory and for Australia. Surveys of retail trade, which were introduced from 1956, have enabled the production of estimates of retail trade on a less detailed but more frequent basis.

The most recent census was taken for the year ended 30 June 1992, and included all establishments classified to the Retail Trade subdivision of the Australian Standard Industrial Classification (ASIC), excluding bread and milk vendors, shoe repairers and electrical appliance repairers not elsewhere classified.

Since 1956, intercensal estimates of the value of retail sales have been produced by means of sample surveys. Prior to April 1982, surveys were conducted quarterly, but are now conducted on a monthly basis. The surveys are reviewed periodically, generally to account for changes reflected in the results of each retail census.

Estimates of turnover (in original current price terms), by industry group for 1994-95 to 1996-97, are provided in Table 14.3.

**14.3 – RETAIL TURNOVER ESTIMATES AT CURRENT PRICES: Original**

Industry group	1994-95 <sup>r</sup>	1995-96 <sup>r</sup>	1996-97
	\$m	\$m	\$m
Food retailing	4 988.7	5 383.8	5 351.6
Department stores	1 120.1	1 164.6	1 186.1
Clothing and soft good retailing	785.4	797.7	767.4
Household good retailing	1 653.3	1 750.1	1 997.1
Recreational good retailing	635.1	723.7	671.2
Other retailing (a)	1 008.8	1 131.1	1 195.7
Hospitality and services	1 995.3	2 146.9	1 928.0
<b>Total</b>	<b>12 186.9</b>	<b>13 097.6</b>	<b>13 097.4</b>

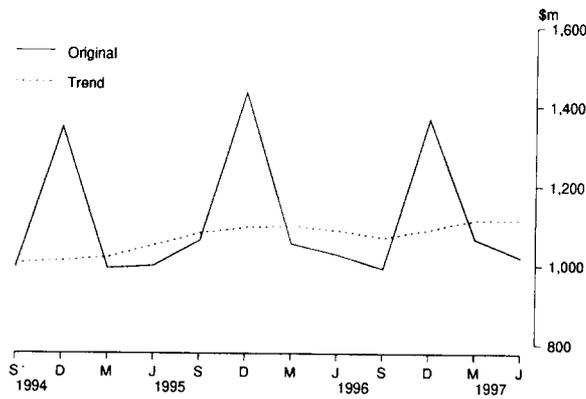
(a) Excludes motor vehicle dealers, petrol and tyre retailers.

(r) Revised figures.

Source: ABS Catalogue No. 8501.0.

The surveys, conducted since June 1988, are based on the results of the 1985-86 Retail Census and produce estimates of 'turnover' by retail establishments rather than the narrower estimates of 'retail sales'. Retail estimates are published monthly in *Retail Trade, Australia* (ABS Catalogue No. 8501.0).

**DIAGRAM 14.1 – RETAIL TURNOVER**



Source: ABS Catalogue No. 8501.0.

Diagram 14.1, covering the period August 1994 to August 1997, illustrates the seasonal nature of retail turnover, the long term upward trend in retail turnover and the monthly variations that can occur. Data are presented as trend estimates in current price terms.

The trend movement in retail turnover in Western Australia has shown small monthly rises for the majority of the year to September 1997. These rises have, however, not been consistent across the range of retail activity, with food retailing, department stores and household good retailing remaining stagnant and clothing and soft good retailing steadily falling. Conversely, recreational good retailing, hospitality and services and other retailing all increased by more than 10% over the period.

**14.4 – EMPLOYED PERSONS IN THE RETAIL INDUSTRY, 1996**

<i>Statistical Division</i>	<i>Persons</i>
Perth	79 869
South West	8 833
Lower Great Southern	2 638
Upper Great Southern	801
Midlands	2 124
South Eastern	2 873
Central	3 121
Pilbara	1 885
Kimberley	1 119
<b>Total</b>	<b>103 263</b>

Source: 1996 Census of Population and Housing.

Details of employment by industry were collected in the Census of Population and Housing on 6 August 1996. This data showed there were over 100,000 persons employed in the retail industry in Western Australia, of which 77% were in the Perth Statistical Division. The retail industry accounted for 14% of all employed persons in Western Australia.

## Transport

### Road Transport

Main Roads Western Australia (formerly Main Roads Department) is the administrator of Western Australia's road transport system. In order to cater for the specific needs of this vast region, Main Roads has divided the State into ten geographical areas. This structuring will facilitate better administration of the special transport requirements needed for the vastly differing climatic conditions, population and industries of such a huge area. The ten divisions are:

1. Kimberley
2. Pilbara
3. Gascoyne
4. Mid West
5. Wheat Belt North
6. Wheat Belt South
7. Goldfields-Esperance
8. Great Southern
9. South Western
10. Metropolitan

### Works Programs

Main Roads Western Australia projects during 1996-97 included major repairs to Canning Bridge in the Metropolitan division. The work, which involved the laying of a new concrete deck on all east bound lanes and a new dual use path, was completed in June 1997, and the bridge was re-opened to the public. These improvements are expected to extend the life of this facility for at least 40 years.

A new highway built to provide a link between mineral sands mines at Beenup, east of Augusta and Jangardup, south of Nannup and the Port of Bunbury, was opened in May 1997. The 112 km highway, completed in less than two years at a cost of \$64.3 million, is also proving to be an added bonus to tourism by providing an alternative route to tourist spots on the south coast.

A Disability Services Plan was put into operation by Main Roads Western Australia during June 1997. After discussions with disabled people, consultants and designers, the future needs for this group in regard to facilities and safety were identified and addressed.

The Northbridge tunnel and bypass project is continuing on target with a revised total cost of \$371 million. The sale of surplus land at the completion of construction, however, is expected to realise \$19 million for the Government. This will reduce the original estimate to \$352 million.

### *New Projects*

Main Roads Western Australia has joined RoadWise to increase public awareness of 'Stop' and 'Give Way' road rules. In the period from 1992 to 1996, 15,680 incidents occurred at stop or give way sign locations, resulting in over 50 deaths and 907 people treated for injuries (390 of these incidents involved cyclists). A State wide media campaign has been launched to encourage road users to observe these traffic rules correctly.

The Federal Government has committed \$25 million to fund the extension of the Mitchell Freeway by 2.6km, from Ocean Reef Road to Hodges Drive. Main Roads Western Australia has commenced the necessary design strategy and the acquisition of the land needed for the project. Tenders will be called in March 1998 and the construction phase is expected to take 18 months to complete. The new extension will be of benefit to planners and developers of the rapidly expanding area around the Joondalup regional centre.

Main Roads Western Australia is trialing the use of electronic signs which give motorists details of the speed of traffic and warn of possible closures or delays on major routes into the city. Police will also be able to pinpoint speed trouble spots and initiate appropriate action using this system. Two signs are currently being tested on the Kwinana Freeway and Canning Highway. The effectiveness of the signs, ancillary equipment and the cameras, costing \$600,000, will be fully assessed before commission.

Main Roads Western Australia places great emphasis on the environment when considering new, or improving any existing, projects. Factors which must be taken into account include roadside management, verge control, rehabilitation of verges and consultation with traditional landowners where new projects could impact on Aboriginal sites. Advice from other relevant government departments and authorities and major stakeholders is sought and evaluated before decisions on issues of this nature are finalised.

The Main Roads Western Australia budget for operations during 1997-98 is \$540 million.

**14.5 – LENGTH OF ROADS, 30 JUNE 1997**

	Sealed km	Unsealed km	Total km	Sealed %
Roads under Federal Responsibility	4 648	—	4 648	100.0
Roads under State Control—				
Highways (including Freeways)	5 847	283	6 131	95.4
Main roads	5 391	1 156	6 547	82.3
<i>Total State Government Maintained Roads</i>	<i>15 886</i>	<i>1 440</i>	<i>17 326</i>	<i>91.7</i>
Local roads	28 936	90 381	119 318	24.3
Local roads not regularly maintained	91	4 499	4 591	2.0
<i>Total Local Government Controlled Roads</i>	<i>29 028</i>	<i>94 881</i>	<i>123 908</i>	<i>23.4</i>

Source: Main Roads Western Australia.

The Department of Transport is responsible for all major transport facilities in Western Australia. Divisions within the Department ensure each sector functions efficiently. During 1996–97, some of the significant improvements made by the Metropolitan Transport division to public transport services were:

- Provision of \$1 million in funding grants to the Safe Routes to School project and general cycling projects;
- Implementation of the first phase of the Perth Bicycle Network Plan to construct high priority cycle routes;
- Completion of the tendering program for almost half the TransPerth fleet;
- Planning for the introduction of the Circle Route which will link major hospitals, universities and commercial centres;
- Establishment of a Consumer Advisory Committee to contribute to planning and operational issues associated with people with disabilities and the training of staff to assist disabled patrons; and
- Implementation of a public awareness program to highlight the services provided.

TransPerth completed the competitive tendering program of approximately half of its bus services and commenced contract operations in several Perth metropolitan areas during 1996–97. TransPerth introduced two double decker buses to service the 100km route between Mandurah and Perth, increasing existing services to provide 1,124 seats weekly. The buses feature air conditioning, reclining seats and facilities for wheelchair access and are equipped with security cameras, allowing the driver to monitor both decks.

A combined TransPerth, Ministry for Planning and Main Roads Western Australia travel survey was conducted to gain insight into the travel habits of persons in the metropolitan area. The results of this survey will assist in the planning and development of policies and requirements for future transport systems.

Operating within the Department of Transport is the Road Safety Council which replaced the Traffic Board in February 1997. The Council consists of an independent chair and representatives from Transport, Police, Main Roads, Local Government, Health, Education and users. Strategies and programs are formulated to provide an integrated approach to road safety. Public and school education programs to increase and improve the awareness of road users to a wide range of safety issues have been conducted. Task forces and community Roadwise committees have been established by the Road Safety Council to address problems including drink driving and driver fatigue.

### *Motor Vehicles*

The administration and managing of vehicle and driver licensing is under the control of the Registration and Licensing division of the Department of Transport. A new design of standard motor vehicle number plates was introduced on 14 July 1997. New registration numbers are now seven characters long (one numeric, three alpha, three numeric) and the new system of allocation is expected to meet demand until well into the next century. The long term plan to standardise charges for the registration of vehicles across Australia has begun with the heavy vehicle category (gross vehicle mass exceeding 4.5 tonnes).

The National Drivers Licence Classification System has been finalised, but has yet to be implemented in Western Australia: drivers will be issued a national licence which will be valid in all states of Australia. This licence will replace individual state licences and will ensure that conditions and standards for drivers are identical nationally.

During 1996-97, the Division placed particular emphasis on initiatives designed to improve customer service and convenience. Programs including better and more convenient payment facilities for registrations and licences, a review of the system for processing the renewal of drivers licences for people over the age of 75 years, and new provisions for motor vehicle dealers which allow on-site registering and transferring of motor vehicles, are now operational.

Based on total population, Western Australia had the highest rate of vehicle ownership in Australia (694 vehicles per 1,000 population).

**14.6 – MOTOR VEHICLE DATA AND POPULATION**

	1986	1991	Change	1996	Change
	No.	No.	1986-91 %	No.	1991-96 %
Vehicles on register(a)	887 357	1 061 643	19.6	1 211 786	14.1
Motor drivers licences(b)	846 135	944 004	11.6	1 154 165	22.3
Population(c)	1 010 813	1 151 367	13.9	1 260 313	9.5

(a) Includes all vehicle types, except motorised plant and equipment. For 1986 and 1991 as at 30 June, for 1996 as at 2 November.

(b) As at 30 June.

(c) Population aged 17-85 years only.

Source: ABS Catalogue No. 9309.0 and 1986, 1991 and 1996 Census of Population and Housing.

**14.7 – VEHICLES ON REGISTER, Per 1,000 Of Population**

	Vehicles on Register(a)	Population (b)	Ratio
	No.	'000	per '000
1986	887 357	1 011	877.7
1991	1 061 643	1 151	922.3
1996	1 211 786	1 260	961.7

(a) Includes all vehicle types, except motorised plant and equipment. For 1986 and 1991 as at 30 June, for 1996 as at 2 November.

(b) Population aged 17-85 years.

Source: ABS Catalogue No. 9309.0 and 1986, 1991 and 1996 Census of Population and Housing.

**Rail Transport**

For the second consecutive year, Westrail has recorded an operating profit. The 1996-97 operating profit was \$42.5 million, which was \$1.7 million more than budget and \$29.4 million higher than the 1995-96 result.

Westrail has begun to replace its out-dated model locomotives with a fleet of 30 new engines. The first of the new locomotives, worth a total of \$90 million, was commissioned by Westrail in August 1997, with the remainder of the fleet scheduled for delivery over the following nine months. The 11 narrow-gauge and 19 standard-gauge diesel electric locomotives are the first in Australia to have steering instead of rigid bogies. All the locomotives will be assembled at a Western Australian engineering plant. They are able to haul rolling stock up to 2 km long at a speed of 115 km per hour, and it is estimated that they will save Westrail \$3 million a year on fuel expenditure.

Westrail will spend another \$250 million on upgrading the existing track network. The main consumer of this service is the agricultural sector which uses Westrail freight services for grain haulage.

During 1996–97, freight charges were reduced by \$15 million in line with Westrail's policy of sharing productivity gains with clients. This represents a 15% reduction in expenditure per net tonne kilometre compared with 1995–96.

### 14.8 – WESTRAIL SERVICES (a)

	1994–95	1995–96	1996–97
Kilometres of railway—			
Route kilometres	5 583	5 369	5 139
Track kilometres	6 970	6 741	6 495
Kilometres run ('000)—			
Train	8 114	8 507	8 875
Road bus (b)	3 208	2 925	2 992
Passenger journeys ('000)—			
Rail	247	279	264
Road (b)	228	245	252
Tonnes carried ('000) (c)	29 317	31 081	31 708

(a) Excludes suburban rail, charter and tourist services.

(b) In addition to its rail services, Westrail operates a system of road services for passengers and freight.

(c) Paying goods only.

Source: Westrail.

### Passenger Services

Passenger services are also under review with the formation of a steering committee to oversee the design and planning of the southern rail line, which will eventually link Yanchep to Mandurah, a distance of 120 kms. The final cost of the passenger line between Perth and Mandurah is expected to be \$1 billion. The first section of the line will branch from the Armadale line at Kenwick Junction and veer south-west to Jandakot Airport, linking Thornlie, Nicholson Road and Canning Vale and should be constructed by 2005. The budget for this first link is around \$200 million including the trains, but the Government expects real estate values to increase near the rail line, mimicking the effect of the Joondalup line in the northern suburbs. The majority of the land required for the project is already reserved and in government ownership.

Presently, Westrail data indicate that it carries 27 million passengers per year. Country passenger patronage in 1997 was 515,856, which represented a 1.5% drop compared with the previous year. The decrease was attributed to the temporary withdrawal from service of Australind and Prospector rolling stock for overhaul and maintenance, reducing the number of bookings available for patrons.

Westrail increased the number of railway stations equipped with video surveillance from 10 to 14 in an attempt to curb distress to patrons by troublemakers. The cost for the implementation of these new safety measures was around \$3 million. Westrail has found it more effective to employ special train constables rather than additional guards to minimise the behavioural problems of some passengers while on trains and stations. All trains travelling after 6pm are patrolled by two special train constables.

#### Air Transport

Perth Airport is the most efficient in Australia according to a recent European study. This study was conducted prior to sale of the airport by the Federal Airports Corporation for \$643 million in July 1997. (Perth was one of three international airports sold in the Federal Government's sale of 50 year leases). Although landing costs at Perth are among the lowest world wide, under the conditions of sale, fees at the airport would be capped for five years by the Federal Treasury. The pricing cap will be governed by the consumer price index and productivity improvements expected to be made by the new owner operators.

The refurbishment of retail and duty free outlets at the airport has resulted in an increase in revenue of 16% over the last five years. There are plans that a further \$87 million will be invested in the site over the next 10 years. Airport management is consulting with the State Government and the tourism industry in an attempt to bolster the numbers of aircraft, tourists and freight operators using the facility.

Negotiations for the sale of Jandakot, one of Western Australia's general aviation airports located in the southern suburbs, are expected to be finalised in June 1998. Jandakot is one of Australia's busiest airports (second only to Bankstown airport in New South Wales). Aircraft movement figures for the year ended 30 June 1997, quoted from Air Services Australia, totalled 378,042 and relate to 'tower hours' (0700 — 2000) only. The Royal Flying Doctor Service of Australia (RFDS) (Western Australian Section) is based at Jandakot. The RFDS also operates from airports located at Derby, Port Hedland, Meekatharra and Kalgoorlie.

The new \$5 million Busselton regional airport was opened in March 1997. Regular airline services to the facility, however, did not commence until October. The Department of Transport will subsidise the appointed airline company if necessary. The Government sees the facility as a boost to tourism, and for people travelling to the region for business it will provide an alternative to driving.

Expressions of interest were called for the construction of a new airport at Kalbarri capable of handling Boeing 737s. The popular tourist centre attracts more than 120,000 people a year and the current facility has outgrown its usefulness. The project has a budget of \$5 million. This initial estimated cost could, however, be

reduced by around \$2 million by excluding associated infrastructure such as a terminal building and power generators.

The land needed for the project has been allocated from Kalbarri National Park and clearance has been granted by environmental and Native Title agencies. Presently, Kalbarri receives a \$50,000 subsidy from the State Government and is serviced by nine-seater aircraft. This subsidy would continue until the new airport is operational. The State Government subsidises air services between Derby and Fitzroy Crossing (\$140,000 per year), Newman and Port Hedland (\$70,000 per year), and has a contingency subsidy plan for the Busselton service (\$100,000).

**14.9 – PASSENGER AND AIRCRAFT MOVEMENTS**

Airports	Passengers (a)			Aircraft Movements (b)		
	1994	1995	1996(e)	1994	1995	1996(e)
Broome	166 710	209 943	217 708	3 644	6 012	6 898
Carnarvon	33 423	27 598	31 560	844	1 111	1 342
Derby/Curtin	48 729	25 005	9 817	1 793	2 033	1 678
Geraldton	80 431	64 374	83 475	3 021	3 182	4 038
Kalgoorlie	127 477	173 471	204 688	4 411	4 825	4 617
Karratha	198 753	175 051	174 451	4 398	4 843	5 303
Kununurra	131 115	124 346	120 579	3 074	3 962	4 065
Learmonth	36 353	35 239	35 045	873	1 147	1 393
Newman	73 474	72 442	49 550	1 478	1 799	1 759
Paraburdoo	59 089	61 870	43 564	1 300	1 361	1 283
Perth—						
Domestic	2 531 929	2 782 852	3 054 208	39 600	44 542	47 784
International (d)	1 121 046	1 190 837	1 292 125	7 362	8 167	8 917
Port Hedland—						
Domestic	149 500	146 774	118 662	3 744	4 350	4 960
International (d)	2 302	1 267	1 536	66	42	78
Christmas Island—						
Domestic	10 427	12 080	11 849	250	254	252
International (d)	20 668	27 479	14 513	543	560	502

(a) Total of embarkation and disembarkation. (Includes passengers in transit).

(b) Total of arrivals and departures.

(d) Excludes passengers in transit

(e) Includes estimates.

Source: Department of Transport and Regional Development.

**Shipping  
Transport**

The Maritime Division of the Department of Transport is responsible for the maintenance and development of the maritime transport system, and the sustainable use of coastal resources of Western

Australia. The Maritime Division is further divided into four key servicing sections:

- Maritime Policy – develops policies on ports, shipping and maritime transport issues;
- Marine Safety – responsible for maritime safety, education and training, boating registrations and oil pollution control;
- Coastal and Facilities Management – operates metropolitan and regional boat harbours, provides coastal management information, and issues jetty and ferry licences; and
- Kimberley Ports – develops and manages port facilities at Broome and Wyndham.

During 1996–97, the Maritime Division was successful in achieving many policy objectives including developing and implementing a State Ports of Refuge Policy, conducting a cyclone education program in North West areas of the State and developing a coastal resource atlas. This atlas identifies areas which are environmentally sensitive and will be used to assist in the deployment of equipment in the event of oil pollution.

The commercialisation of major ports in Western Australia is another project objective in which the Maritime Division is involved. The Port of Derby was leased to the Shire of Derby as a private port. Assistance was also given to Fremantle and Bunbury with regard to commercialisation of these two ports. A major nickel producer will lease Fremantle Port Authority's bulk cargo facility at Kwinana. The agreement will realise \$2 million per year for the Authority and has a guaranteed 15 year minimum usage. The project, which has been approved by the Environmental Protection Authority, will be available to other port users and is expected to act as an incentive for other bulk trade enterprises to participate in this type of operation. The \$7 million facility, which includes the construction of 1.3km of new railway track to link the conveyor to the rail system, is expected to be operational late in 1998.

In addition to commercial shipping, the Maritime Division is heavily involved in recreational boating and the facilities and safety procedures associated with these activities. During 1996–97, work on the Bremer Bay Boat Harbour was completed and construction of the Exmouth Boat Harbour was commenced. Feasibility studies for improving boating facilities in the Peel region and the Shire of Denmark were also finalised.

Marine transport safety and environmental accident response issues were also addressed and many strategies and studies have been completed and implemented. These issues relate to all sectors of marine users and cover every aspect of maritime activities.

## Commerce

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# Tourism



## Chapter 15

# TOURISM

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## Chapter 15

# TOURISM

### Tourist Accommodation, Western Australia

In 1997 there was a total of 338 establishments providing short-term accommodation in Western Australia, a slight increase (1.5%) from the previous year. The number of persons employed in those establishments rose by 3.2% to 9,938 and takings rose by 8.1% to \$312 million in 1997. Room occupancy rates, however, fell slightly by 1.5 points to 58.3%.

The number of caravan parks increased only marginally from 317 to 318 in 1997. Site nights occupied rose 3.0% from the previous year to 4,538,126 and takings increased by 10.8% to \$60m.

#### 15.1 - TOURIST ACCOMMODATION, WESTERN AUSTRALIA, AT 30 JUNE

	1994-95	1995-96	1996-97
HOTELS, MOTELS AND GUEST HOUSES WITH FACILITIES (a)			
Establishments	335	333	338
Bed spaces	38 454	39 654	41 774
Employment (persons)	9 716	9 626	9 938
Room nights occupied	3 195 996	3 256 481	3 353 572
Room occupancy rates (%)	59.6	59.8	58.3
Takings from accommodation ('\$000)	259 108	288 843	312 154
CARAVAN PARKS (b)			
Establishments	313	317	318
Capacity (c)	29 554	29 952	30 238
Employment (persons)	1 167	1 230	1 284
Site nights occupied	4 288 708	4 405 656	4 538 126
Site occupancy rates (%)	39.9	40.2	41.3
Takings from accommodation ('\$000)	51 100	54 169	60 017

(a) Hotels, motels and guest houses, with facilities, being hotels licensed to operate a public bar and motels, private hotels and guest houses all of which provide a bath (or shower) and toilet in most guest rooms and have breakfast available for guests. Establishments providing short-term accommodation (i.e. less than 2 months) to the general public.

(b) Caravan parks which provide either predominantly short-term (i.e. for periods less than 2 months) or predominantly long-term (i.e. for periods of 2 months or more) accommodation to the general public and which provide powered sites for caravans, and toilet, shower and laundry facilities for guests.

(c) Capacity in the terms of caravan parks is the total number of on-site vans, other powered sites, unpowered sites and cabins, etc.

Source: ABS Catalogue No. 8635.5.

## Tourism

### Tourist Accommodation, Perth

In 1997 there was a total of 30 establishments providing short term accommodation in the City of Perth, an increase of 7.1% from 1996. The number of persons employed in those establishments rose by 14.4% to 2,906 persons and takings rose by 9.8% to \$118.7m. Room occupancy rates, however, fell by 7.3 points to 66.7%.

The number of establishments for holiday flats and units has not changed from 1996 to 1997. Bed spaces, however, showed a slight increase of 0.6%, employment rose by 12.9% to 35 persons and takings rose by 7.5% to \$2.6m in 1997.

There has also been no change in the number of establishments for visitor hostels from 1996 to 1997. Bed spaces increased by 8.7% to 790, employment fell by 4.5% to 42 persons and takings increased by 5.8% to \$2.2m. Bed occupancy rates decreased by 5.2 points to 63.8%.

### 15.2 – TOURIST ACCOMMODATION, PERTH(C), AT 30 JUNE (a)

	1994-95	1995-96	1996-97
HOTELS, MOTELS AND GUEST HOUSES WITH FACILITIES (b)			
Establishments	28	28	30
Bed spaces	8 749	9 081	10 185
Employment (persons)	2 161	2 539	2 906
Room nights occupied	1 056 006	1 019 246	1 044 749
Room occupancy rates (%)	76.9	74.0	66.7
Takings from accommodation (\$'000)	96 136	108 061	118 656
HOLIDAY FLATS, UNITS AND HOUSES (b)			
Letting entities	4	4	4
Bed Spaces	546	537	540
Employment (persons) (e)	32	31	35
Unit nights occupied	45 049	51 418	49 713
Unit occupancy rates (%)	69.5	70.2	67.4
Takings from accommodation (\$'000)	2 297	2 412	2 594
VISITOR HOSTELS (b)			
Establishments	12	13	13
Bed spaces	687	727	790
Employment (persons)	36	44	42
Guest nights	167 704	180 352	183 903
Bed occupancy rates (%)	69.3	69.0	63.8
Takings from accommodation (\$'000)	1 926	2 136	2 259

(a) Perth(C) comprises Perth City and Perth Remainder.

(b) Hotels, motels and guest houses must have breakfast available for guests. Holiday flats, units and houses are mainly self-contained and do not have breakfast available for guests. Visitor hostels provide accommodation on a bed basis and do not include establishments providing charity type accommodation. All establishments provide short term accommodation.

Source: ABS Catalogue No. 8635.5.

**EVENTS IN PERTH 1997**

*Contributed by Tony Robertson, Eventscorp,  
Western Australian Tourism Commission*

Eventscorp launched its campaign of 'The Best on Earth in Perth' involving 12 world class events over a 12 month period including world championships in four Olympic sports. These were track cycling, triathlon, windsurfing and swimming, all important events leading into the Sydney 2000 Olympics.

The 'Best on Earth in Perth' campaign also included the Aerobica World Championships (May 1997), the World Cup Darts Competition (October 1997) and the stopover for the world's greatest ocean race, the Whitbread Round the World Race (November/December 1997).

The calendar of annual events included: API Rally Australia (motor racing), November 1997; The Hyundai Hopman Cup (tennis), January 1998; The Heineken Classic (golf), February 1998; Coca Cola/Rusty Masters (surfing), April 1998; and The Festival of Perth (entertainment), February/March 1998.

The 'Best on Earth in Perth' events are estimated to generate more than \$88 million and massive media exposure for the State.

Eventscorp supports events which incorporate:

- **Economic Impact:** estimated number of participants, their estimated length of stay during the event and their estimated daily expenditure.
- **Media Impact:** publicises Western Australian tourism attractions to international television viewers.
- **Event Frequency:** a calendar of regular events will ensure savings are made on the costs associated with one-off events.
- **Private Sector Investment:** the greater the percentage provided by the private sector, the more favourable the assessment.
- **Tourism Activity:** priority is given to events held during the tourism low season when the tourism industry needs a boost.

By May 1998, Eventscorp will have supported 82 events with an economic impact of more than \$200 million. In the past two years Rally Australia, The Hopman Cup and The Heineken Classic have generated over 825 hours of international television coverage (The Heineken Classic alone had an audience of 259 million).

### Nature Based Tourism

Western Australia covers more than 2.5 million square kilometres, representing one third of the continent, and has a coastline extending 12,500km. The State has one of the oldest landscapes on the planet, which is evident from the broad diversity of terrain, climate, plants and animals.

Tourism is the world's fastest growing industry, with nature based tourism the major component. A study of world wide tourism trends in 1992, conducted by the Stanford Research Institute, estimated a 10–15% increase per annum in adventure or cultural tourism, and a 25–30% increase per annum in nature based tourism, up to and beyond the year 2000.

The major factor for the growth of nature based tourism is the increased awareness of the need to conserve the environment and research has shown that tourists today are more environmentally conscious.

In 1993, the Nature Based Advisory Committee was established in Western Australia, and a year later, released a discussion paper open for public comment. To address the many issues raised in the paper, a joint venture between the Western Australian Tourism Commission and the Department of Conservation and Land Management was formed. In August 1995, the joint venture released a draft strategy paper, which was also open for public comment. The draft paper attracted 41 submissions and many of the suggestions and comments they contained were incorporated into the final report, *Nature Based Tourism Strategy for Western Australia*.

The five guiding principles of the strategy for nature based tourism are:

- *Conserving the Natural Environment.* Protecting the State's natural assets, returning benefits to the natural environment and ensuring environmental, cultural, social and economic sustainability;
- *Involving and Benefiting Local Communities.* Involving local communities in determining the type and level of tourism and providing local benefits;
- *Improving Knowledge.* Helping people to understand the link between natural and cultural heritage, and promoting understanding and an appreciation of the environment, by provision of quality information and interpretation;
- *Providing Quality Products and Services.* Providing visitor satisfaction by the development of appropriate products which are effectively marketed, and providing training to ensure the quality delivery of tourism products; and

- *Fostering an Effective and Efficient Industry.* Having a clear understanding of the appropriate roles of Government and the industry, ensuring that an environment exists which does not inhibit growth of the industry, and facilitates open communication between all parties.

## Pilbara

The Pilbara is located in the north western corner of Australia, 1,000km north of Perth and covers a land area comparable to the State of Victoria. At the heart of the Pilbara is the Hamersley Range where Karijini National Park is located. Further north is the Chichester Range where the Millstream-Chichester National Park can be found. These two national parks are in complete contrast to each other. Karijini Park is rugged and wild, criss-crossed by deep gorges and ravines, while Millstream-Chichester National Park is a green oasis, a remnant of ancient rain forests which covered the region thousands of years ago.

### Millstream-Chichester National Park

Millstream-Chichester National Park, located in the Chichester Range, covers an area of 200,000 hectares.

The Millstream Oasis is fed by waters originating from an aquifer or natural underground reserve which is contained within the surrounding dolomite rock. The Millstream is also fed by run-off from the Hamersley Range via the Fortescue River, creating an all-year-round oasis. It is believed that the oasis contains in excess of 1,700 million cubic metres of water and covers an area of approximately 2,000 square kilometres. The rare and unique Millstream Palms, which are a relic from the prehistoric rainforest, can be found within this oasis along with date palms, which were planted by the Afghan cameleers in the 1870s.

### Karijini National Park

Karijini National Park, the second largest national park in Western Australia, covers an area of 627,445 hectares and contains many rock formations, some 2,500 million years old. Karijini is the name the traditional owners call the Hamersley Range. Ancestors of these people occupied the area more than 20,000 years ago and their 'fire stick farming' techniques have contributed to the diversity of vegetation and wildlife which is prevalent in the park today.

Many of the Pilbara towns are new, built during the mining boom of the 1960s and 70s, with modern amenities and better facilities than many Perth suburbs. Some of the towns are of historical interest, for example the old pearling port of Cossack, which once harboured eighty pearling luggers.

### Onslow

Onslow, 1,386km north of Perth, is situated on the coast at Beadon Creek and was the farthest point south in Western Australia bombed by the Japanese during World War II.

The original town of Onslow, founded in 1883, was situated near the mouth of the Ashburton River. It was the centre for the pastoral, pearling and mining industries of the Ashburton area until 1925–26, when, due to constant battering by cyclones, the townsite was moved to its present location. Sheep and cattle farming are now the main industries of the area, although there is some exploration for oil and gas on the North West Shelf.

### *Karratha*

Karratha is an Aboriginal word meaning 'good country' and was the name of a pastoral property established in the area in the 1860s. The township of Karratha, 1,535km from Perth, was built in 1968 to service the Hamersley Iron Project in the heart of the Pilbara Coast.

This town has become a regional centre with the necessary administrative, commercial, industrial and residential infrastructure to satisfy the increasing needs of this rapidly growing area. Karratha is the gateway to the Millstream-Chichester and Karijini National Parks.

### *Dampier*

Dampier is 20km from Karratha and takes its name from the Dampier Archipelago, a group of 42 islands off the central Pilbara coast. These islands were named after the English explorer William Dampier who visited the area in 1688. Aborigines were well established on the islands and mainland and their campsites can still be recognised by large shell middens and prolific Aboriginal rock art found throughout the area. The nearby Burrup Peninsula, location of 10,000 Aboriginal petroglyphs (rock engravings), has been described as the 'world's oldest and most spectacular outdoor gallery'.

Hamersley Iron Pty Ltd built the townsite of Dampier in 1966 as a port facility servicing the iron ore mines of Tom Price and Paraburdoo. Being a coastal town, water activities such as sailing, fishing, diving, windsurfing and swimming are some of the major attractions.

### *Roebourne*

Roebourne, situated on the North West Coastal Highway, is the oldest town between Port Gregory (near Northampton) and Palmerston (near Darwin). Roebourne was named after Sir John Septimus Roe, the first Surveyor General in Western Australia. In April 1864, John and Emma Withnell arrived at Cossack (then Tsien Tsien Harbour) and travelled overland to Ermuckadool Pool on the Harding River, where they established Mount Welcome Station. This is now the site of the Roebourne township.

The town of Roebourne was gazetted on August 17, 1866. This was the same year the pearling industry, based at Cossack, commenced in the North West.

Many old buildings have been carefully restored in Roebourne, including the Old Hospital (1887), Post Office (1887), Courthouse (1887), Gaol (1887) and Police Barracks (1887), Holy Trinity Church

(1894), Union Bank (1889) and Victoria Hotel (1889), which is the last of the original five hotels still operating.

*Wickham*

The town of Wickham was named after J. C. Wickham who was the captain of the survey ship *Beagle*. Wickham, now owned and operated by Robe River Iron Ore Associates, is one of several towns built in the 1960s and 1970s to support the growth of the Pilbara iron ore industry.

Wickham's only industry is iron ore, which is mined at the Pannawonica mine site and processed in Wickham. It is then exported from the port of Cape Lambert, home of the longest (2.7km) and highest (17.87m) open ocean wharf in Australia.

*Cossack*

The town of Cossack, which is situated on the mouth of the Harding River 12km from Roebourne, was originally named Tsien Tsin after the boat which carried the first settlers to the area in 1863. After the Governor's visit in 1871 aboard the warship *Cossack*, the township changed its name from Tsien Tsin to Cossack and was declared a municipality in 1872.

Cossack was the first port in the north west of the State and saw the commencement of the pearling industry in Western Australia. The port was established to service the burgeoning pastoral industry in the region. With the discovery of gold, Cossack was the major port to which prospectors travelled to seek their fortunes on the Pilbara goldfields.

Larger ships began using the port. Silting of the Harding River, however, caused the water level to drop so low, the vessels were forced to stand off nearby Jarman Island while goods were lightered to the wharf. This practice became too inefficient and the port facilities were then transferred to Point Samson. Cossack ceased to be a municipality in 1910.

Hard times followed, resulting in the eventual abandoning of the town in the early 1950s. The original stone buildings lay in ruins until 1979 when, due to the historical significance of the town and its buildings, restoration work began. Buildings restored included the Old Post Telegraph building and the Old Court House (1895).

*Point Samson*

Point Samson is named after Michael Samson, who accompanied the district's first settler, Walter Padbury, on an expedition along the coast in 1863. In 1910, Point Samson was established as a major port in the region, taking over the operations of Cossack Harbour. The port handled the export of wool and copper and until 1968, asbestos from Wittennoom. After 1976, the port was no longer used because the major mining companies established more modern facilities at Dampier and Cape Lambert.

Point Samson has become a popular holiday destination for the locals from the surrounding mining towns. During spring tides it

becomes an island connected to the mainland by a causeway and the beach is protected by a coral reef making it a safe place for swimming. The tidal rivers contain a large variety of marine life, from barramundi to mud crabs. The offshore waters offer some of the best game fishing along the West Coast.

### *Port Hedland*

Port Hedland was discovered and named Mangrove Harbour in 1863. Two months later it was renamed Port Hedland by the Surveyor General to honour Captain Peter Hedland, who, in 1829, discovered the entrance to the shallow bay. The townsite was officially gazetted on October 23, 1896 and town lots sold for the princely sum of £50.

Construction of the first Port Hedland jetty commenced in 1896 and was completed in 1899. Due to the growth of trade in the town, largely attributable to the development of the township of Marble Bar, there was need for a new jetty. This was completed in 1908. The port was also used by pearling luggers, especially after the 1880s, when the lugger trade at Cossack declined.

A railroad, completed in 1911 between the towns of Marble Bar and Port Hedland, was built to replace the hazardous and difficult transportation of goods and produce by camel, donkey and bullock wagon.

The discovery of iron ore deposits in the 1960s produced major changes to Port Hedland. In 1965, the population of Port Hedland was 1,200 but due to increased development in the area, this figure expanded to 11,763 by 1996.

### *Marble Bar*

Marble Bar, with consistently high temperatures recorded during summer, is known as the hottest town in Australia. In the summer of 1923-24, the town experienced a record heatwave of 170 consecutive days with temperatures over 38 °C. The original 'Bar', located 6km from the townsite on the Coongan River, was thought to be marble, but is in fact jasper, an opaque variety of quartz.

The old Government buildings, which housed the Post and Telegraph offices and quarters, Mining Registrar and Wardens Court, Police Station and Sergeants quarters, were completed in 1895. The cost of construction was £8,000, an extravagant amount for that period but, due to the anticipated growth and wealth of the area, not considered unjustified at the time.

Marble Bar is the site of the tallest smoke stack in the southern hemisphere. It is 75 metres high and located at the Comet Gold Mine, 10km from town.

### *Newman*

Mt Newman was named in 1896 after the explorer Aubrey Woodward Newman. In 1957, veteran prospector A. S. Hilditch discovered a massive iron ore deposit at Mt Whaleback, which is now the largest single open-cut iron ore mine in the world.

Newman was originally built by Mount Newman Mining Company for its employees. In 1981, the administration and responsibility for the town was taken over by the East Pilbara Shire. Iron ore is the mainstay of the economy of the township. The longest privately owned railroad (426km) in the world takes the ore from Newman to Port Hedland.

*Tom Price*

In 1962, the huge iron ore deposit known as Mt Tom Price was discovered resulting in the construction of two mines. The towns of Tom Price and Parabadoo were built to provide accommodation for employees at the mines and their families. Dampier was built as a port facility to service the two towns. A railway line connects the three towns.

Tom Price, situated on the edge of the Hamersley Range at 747 metres above sea level, is the highest town in Western Australia. The town was named after Thomas Moore Price, a leading raw materials expert for the United States Kaiser Steel Corporation, who came to Western Australia in 1961 to survey the viability of mining in the Hamersley Range.



**Fortescue Falls**

*Courtesy: Western  
Australian Tourism  
Commission*

## Tourism

Tourist  
Accommodation,  
Pilbara Statistical  
Division

The Pilbara region is equipped to cater for the accommodation needs of most tourists. There are 19 establishments with facilities and 21 caravan parks located within the region.

### 15.3 – TOURIST ACCOMMODATION, PILBARA STATISTICAL DIVISION, AT 30 JUNE

	1994-95	1995-96	1996-97
HOTELS, MOTELS AND GUEST HOUSES WITH FACILITIES (a)			
Establishments	18	17	19
Bed spaces	2 158	2 105	2 396
Employment (persons)	500	565	523
Room nights occupied	183 000	198 306	215 098
Room occupancy rates (%)	54.2	60.8	60.2
Takings from accommodation ('\$000)	13 157	15 634	16 430
CARAVAN PARKS (b)			
Establishments	21	21	21
Capacity (c)	2 419	2 325	2 499
Employment (persons)	90	111	126
Site nights occupied	248 937	277 026	334 874
Site occupancy rates (%)	28.4	31.3	37.4
Takings from accommodation ('\$000)	3 561	4 152	6 734

(a) Hotels, motels and guest houses, with facilities, being hotels licensed to operate a public bar and motels, private hotels and guest houses all of which provide a bath (or shower) and toilet in most guest rooms and have breakfast available for guests. Establishments providing short-term accommodation (i.e. less than 2 months) to the general public.

(b) Caravan parks which provide either predominantly short-term (i.e. for periods less than 2 months) or predominantly long-term (i.e. for periods of 2 months or more) accommodation to the general public and which provide powered sites for caravans, and toilet, shower and laundry facilities for guests.

(c) Capacity in terms of caravan parks is the total number of on-site vans, other powered sites, unpowered sites and cabins, etc.

Source: ABS Catalogue No. 8635.5.

## Wildflowers of Western Australia

Wildflowers

The spring bloom of wildflowers, during the months of August to November in Western Australia, is regarded as the most spectacular display in the world, with more than 11,000 species of wildflowers on show.

The first wildflower tours in Western Australia centred around the Eastern Goldfields. The Western Australian Government Railway ran 'flower trains' as early as 1900. The tours started from Kalgoorlie, Boulder, Coolgardie and Menzies and travelled to two towns which no longer exist, Bardon and Goongarrie. Families filled as many as 14 carriages and the excursions were treated with military like precision. The return fare from Kalgoorlie to Goongarrie was four shillings.

### CHELSEA FLOWER SHOW 1997

*Contributed by Roger Fryer, Curator Technical Services,  
Kings Park and Botanic Gardens*

In 1997, Kings Park and Botanic Gardens received a gold medal for their display at The Chelsea Flower Show, London, for the recognition of quality (a standard of excellence) of Western Australian wildflowers. The Chelsea Flower Show, (officially The Royal Horticultural Society Great Spring Show), is the world's most prestigious horticultural event. Chelsea attracts 170,000 visitors from around the world and involves 30,000 exhibitors, contractors and officials.

The project, initiated as a potential tourism event for Kings Park and Botanic Gardens and Western Australia, came to fruition with support from the Flower Export Council of Australia. The Department of Commerce and Trade provided sponsorship and linked the event to a week of promoting Western Australian products in London (Good Living - Western Australia).

The services of a prominent local florist were enlisted to assist with design concept. Using Western Australian wildflowers, the design depicted a south west swamp and in contrast, the arid interior of Western Australia.

All hard landscape materials were transported from Perth by sea, and plants and cut flowers by air. The Royal Botanic Gardens, Kew, England, provided glasshouse space and staff to assist with the display. Because the plants, for phytosanitary (plant hygiene) reasons, could not be returned to Western Australia, they were donated to the Royal Botanic Gardens. These plants, labels and signs were used for a post-Chelsea display, which attracted considerable public attention.

The display in the Great Marquee took five days to set up and attracted significant media and public attention. Articles were placed in Australian, German, Italian and English newspapers, with the Daily Telegraph Chelsea supplement featuring the display as a 'must see' exhibit. While participating in the Chelsea Flower Show was an expensive project, the following benefits outweighed the costs:

- Good publicity within the United Kingdom and Western Australia, with potential for ongoing support from local radio stations;
- International credibility of Western Australia's horticultural standards;
- Increased exports of wildflowers to the United Kingdom;
- Increased visitor numbers to Western Australia and Kings Park;
- Closer ties to the commercial side of horticulture in Perth and increased support from the industry; and
- Worldwide publicity for Western Australia and Kings Park and Botanic Garden.

### BACKGROUND OF THE WILDFLOWER FESTIVAL

*Contributed by Lynette Hutting, Kings Park & Botanic Gardens*

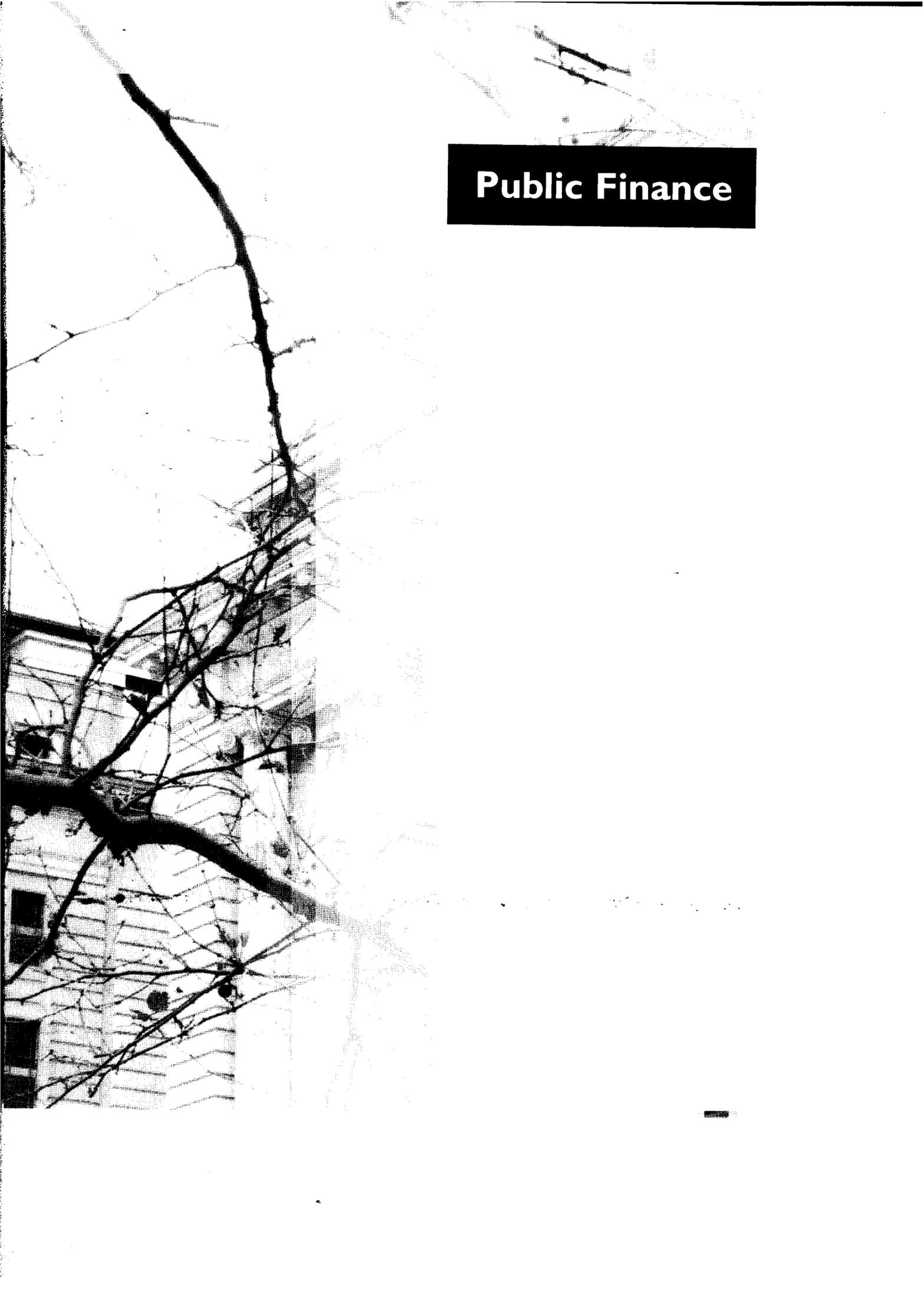
The first Wildflower Festival was held on the Fraser Avenue lawns at the entrance to Kings Park in 1961. Up until that year, the City of Perth held an annual Wildflower Show at the Town Hall. Kings Park management convinced the City of Perth that they could provide a more appropriate venue for the event and it has been held at Kings Park ever since.

For the first thirty years, the Wildflower Festival was a Statewide event. The Country Women's Association of Western Australia was heavily involved and members from all over the State sent cut flowers from their gardens to display at the Festival. People travelled to Perth to view the flowers at the Festival and visit the Perth Royal Show.

Today, the Festival is held in the Botanic Gardens (Kings Park) where visitors are treated to a stunning display of Western Australian native flowers, such as kangaroo paw, everlastings and leschenaultias. The Festival emphasis has shifted from cut flowers to cultivated displays of wildflowers and educational and interpretive exhibits. The Festival now attracts people from all over Australia and overseas, and has evolved into a cultural, as well as a horticultural event, complete with artists, craftspeople and entertainers.

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- Other Sources of      *Touristics, (Vol.13 No.1)*, Western Australian Tourism Commission  
Data and      Karratha and District Tourist Information Centre  
Publications      Kings Park and Botanic Gardens
- Pilbara Tourism Association
- Western Australian Tourism Commission



# Public Finance

## Chapter 16

# PUBLIC FINANCE

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# PUBLIC FINANCE

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### Public Finance in 1995-96

Within Western Australia, there are three levels of government (public) finance — Commonwealth, State and Local. The combined outlays of the State and Local Governments were \$7,975 million in 1995-96, resulting in a surplus of \$388 million. The major outlays of State and Local Government were for:

- education (\$2,036 million),
- health (\$1,448 million),
- public debt (\$1,070 million), and
- transport and communications (\$886 million).

In 1995-96, total outlays of State authorities were \$7,449 million. Grants received from the Commonwealth totalled \$3,737 million, an increase of 11.0% over the previous year.

### Commonwealth- State Financial Relations

The major institutions assisting in the management of Commonwealth funding to State Governments (in this chapter, 'States' or 'State Governments' should be taken to include the Northern Territory and the Australian Capital Territory) are:

- the Premiers' Conference,
- the Commonwealth Grants Commission, and
- the Australian Loan Council.

### Premiers' Conference

The annual Premiers' Conference determines the total amount of general revenue assistance and the share for each of the States. Although these payments are at the Commonwealth's discretion, they are subject to negotiation between the Commonwealth and States at the Conference.

*Commonwealth Grants Commission*

The Commonwealth Grants Commission makes recommendations on the size of financial assistance grants to each State based on the value of its calculated relative index that is updated annually. This relative index is based on the ability of States to provide comparable services.

The provision of these services is dependent on States' capacity to raise taxes and other revenues, levels of Commonwealth recurrent tied grants and the actual costs of providing these services by the States.

**16.1 – COMMONWEALTH GENERAL AND SPECIFIC PURPOSE PAYMENTS (a), 1995–96**

<i>Payments</i>	<i>Western Australia</i>	<i>Australia</i>
	\$m	\$m
General purpose payments—		
Revenue	1 589.0	15 777.0
Capital	3.0	140.0
Total	1 592.0	15 917.0
Specific purpose payments—		
Current	1 647.0	15 136.0
Capital	424.0	2 642.0
Total	2 071.0	17 778.0
<b>Total payments</b>	<b>3 663.0</b>	<b>33 695.0</b>

(a) Excludes direct Commonwealth payments to local authorities. In 1995–96 these payments totalled \$15 million (current) and \$1 million (capital).  
 Source: Commonwealth Financial Relations with Other Levels of Government 1996–97, Budget Paper No. 3.

*Australian Loan Council*

Since 1993–94, the Loan Council, using a system of Loan Council Allocations, has overseen the financing requirements of the Commonwealth Government and State and Territory Governments. This is more comprehensive than the previous 'global borrowing limits' and governments have considerably more freedom to determine their own requirements. The emphasis is now on providing the financial markets with information to properly assess the financial position of governments and to rate their debt accordingly. This reduces the need for the Loan Council to dictate financing requirements.

The Commonwealth has agreed to maintain the real per capita value of the pool of financial assistance grants into 1997–98. This will be conditional on the States complying with their obligations under the *Agreement to Implement the National Competition Policy and Related Reforms*.

**Major Issues in  
1997-98 Budget**

For the fourth consecutive year, the Commonwealth Grants Commission has recommended a reduction in Western Australia's share of financial assistance grants. An estimated reduction of \$34 million is expected for 1997-98.

The major reasons for this reduction are:

- increases in Western Australia's capacity to raise taxes and royalties (primarily from mining) compared with other States, and
- the State's high share of tied grants.

As a result, Western Australia's per capita general purpose funding, distributed by the Commission, has now dropped below the average per capita level for all States and Territories for the first time ever.

**Commonwealth  
Financial  
Assistance**

Commonwealth Government payments to the State Governments may be classified under two major headings — general purpose payments and specific purpose payments.

*General Purpose  
Payments*

General purpose payments provide general budgetary assistance and the States are free to determine the spending of these monies according to their own budgetary priorities.

Determination of general purpose grants for each State and Territory is based on ongoing arrangements, including:

- the pool of financial assistance grants being maintained in real per capita terms,
- the pool of financial assistance grants being distributed according to Commonwealth Grants Commission recommendations, and
- the move to absorb identified road grants into the financial assistance grants pool.

*Specific Purpose  
Payments*

Specific purpose payments are generally a means of meeting the objectives and priorities of Commonwealth Budget programs. They are provided subject to certain conditions, for example:

- the Commonwealth specifying the purpose for which the funds may be spent, and
- the States being required to contribute some specified amount of their own funds to the program to qualify for the assistance.

Specific purpose current payments to Western Australia for 1995-96 amounted to \$1,647 million. The major payments were for:

- schools (\$253 million),
- higher education (\$359 million), and
- Medicare base grant (\$347 million).

Specific purpose capital payments to Western Australia in 1995-96 amounted to \$424 million with the largest amounts allocated to a one off taxation compensation (\$200 million) for the sale of BankWest, roads (\$73 million) and public housing (\$71 million).

**State Government Finance**

The data in this section relate to the financial activities of the Government of Western Australia. It includes those statutory authorities, boards, commissions and corporations, and incorporated bodies (other than financial enterprises) in which the State Government, or its agencies, has a controlling interest.

Western Australian Government outlays decreased from \$7,496 million in 1994-95 to \$7,449 million in 1995-96.

**16.2 - OUTLAYS BY PURPOSE: STATE GOVERNMENT**

Item	1993-94	1994-95	1995-96
	\$m	\$m	\$m
General public services	460	483	-360
Defence	-	-	-
Public order and safety	530	573	642
Education	1 843	1 965	2 035
Health	1 302	1 259	1 430
Social security and welfare	342	312	370
Housing and community amenities	350	468	489
Recreation and culture	141	162	181
Fuel and energy	119	196	368
Agriculture, forestry and fishing	173	102	114
Mining, manufacturing and construction	56	54	72
Transport and communications	740	623	803
Other economic affairs	290	143	165
Other purposes	1 091	1 157	1 141
<b>Total</b>	<b>7 437</b>	<b>7 496</b>	<b>7 449</b>

Source: ABS Catalogue No. 5512.0.

Table 16.2 provides a breakdown of Government expenditure by purpose. Education is the largest single area of expenditure representing 27.3% of total outlays in 1995-96. The next largest areas of expenditure are health (19.2%) and transport and communications (10.8%). The large negative outlay recorded during the 1995-96 period against 'General Public Services' was due to money received from the sale of BankWest.

### 16.3 - STATE AUTHORITIES REVENUE AND FINANCING TRANSACTIONS

Item	1993-94	1994-95	1995-96
	\$m	\$m	\$m
Revenue—			
Taxes, fees, fines	2 376	2 549	2 679
Net operating surpluses of public trading enterprises	863	735	693
Interest received	153	204	321
Other revenue	626	714	678
Grants received	3 292	3 368	3 737
<b>Total revenue</b>	<b>7 309</b>	<b>7 571</b>	<b>8 107</b>
Financing transactions—			
Net advances received	-135	-179	-280
Net borrowing	-45	-36	167
Increase in provisions	286	387	548
Other financing transactions	21	-246	-1 092
<b>Total financing transactions</b>	<b>128</b>	<b>-74</b>	<b>-658</b>
<b>Total funds available</b>	<b>7 437</b>	<b>7 496</b>	<b>7 449</b>

Source: ABS Catalogue No. 5512.0.

Table 16.3 shows that the main components of the revenue of Western Australian State authorities are grants, taxation and net operating surpluses of public trading enterprises.

In 1995-96, total State Government revenue increased by 7.1% to \$8,107 million. Of this, \$2,679 million (33.0%) was raised in the form of taxes, fees or fines, with \$3,737 million (46.1%) being received as grants.

The major items contributing to total taxes, fees and fines were:

- payroll tax \$612 million (22.5%),
- taxes on financial and capital transactions \$594 million (21.8%), and
- franchise taxes on petroleum, tobacco and liquor \$575 million (21.1%).

## Public Finance

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**Local Government Finance** The financial powers of Local Government Authorities, including loan raising, the levying of loan rates, the expenditure of loan monies and the repayment of loans, are derived principally from the *Local Government Act 1995*, the main provisions of which are outlined in Chapter 3, Government.

Total outlays of Local Government Authorities were \$785 million in 1995-96, with the major components being:

- transport and communications (\$254 million), and
- recreation and culture (\$193 million).

Total revenue was \$855 million, the main components of which were taxes, fees and fines (\$512 million) and grants (\$238 million).

*Loan Transactions* Loans are raised mainly from banks, insurance companies and superannuation funds. A number of Local Government Authorities also raise loans through the Western Australian Treasury Corporation.

The State Government exercises a measure of supervision over the loan transactions of Local Government Authorities and, where a loan is repayable in full at maturity, maintains the necessary sinking fund at the Treasury.

### References

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                              *Western Australia 1997-98 Budget Paper No. 3*



# Labour Market

## Chapter 17

# LABOUR MARKET

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## LABOUR MARKET

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### The Labour Force

#### Labour Force Survey

The labour force is defined as persons aged 15 years and over who are either employed or available for work. Characteristics of the labour force are obtained from the Labour Force Survey. This survey is a component of the Monthly Population Survey conducted by the Australian Bureau of Statistics (ABS).

Each month, the survey records information from approximately 65,000 individuals throughout Australia. A random sample is taken of approximately 30,000 private dwellings (4,000 in Western Australia) and a number of non-private dwellings such as hotels and caravan parks.

The survey is conducted by trained interviewers, generally during the second and third weeks of each month, and is designed to enable analysis of the labour force by a number of characteristics, including sex, age, birthplace, occupation, hours worked and duration of unemployment.

The Labour Force Survey is a major economic indicator and is essential to governments, employer associations, trade unions and other organisations for effective monitoring of the performance of the labour force and the overall economy.

Two important labour force indicators are:

- Participation rate: the number of persons in the labour force expressed as a percentage of the civilian population aged 15 years and over; and
- Unemployment rate: the number of unemployed persons expressed as a percentage of the labour force.

Table 17.1 shows the number of males seeking work decreased by nearly 4,000 between May 1996 and May 1997. The number of unemployed females decreased from 27,000 to 25,400.

The seasonally adjusted unemployment rate for males decreased from 7.9% in May 1996 to 7.0% in May 1997. The female unemployment rate dropped from 7.2% to 6.9% over the same period.

**17.1 – LABOUR FORCE STATUS: MAY**

		1995	1996	1997
MALES				
Civilian population (a)	'000	666.2	680.8	695.9
Labour force—	'000	514.6	520.0	529.1
Employed—				
full-time	'000	427.3	427.7	437.4
part-time	'000	48.4	50.4	53.8
Unemployed	'000	38.9	41.9	37.9
Unemployment rate—				
original	%	7.6	8.1	7.2
seasonally adjusted	%	7.4	7.9	7.0
Participation rate	%	77.2	76.4	76.0
FEMALES				
Civilian population (a)	'000	672.2	687.1	702.9
Labour force—	'000	386.8	386.5	384.1
Employed—				
full-time	'000	194.1	193.5	192.6
part-time	'000	165.9	166.0	166.1
Unemployed	'000	26.9	27.0	25.4
Unemployment rate—				
original	%	6.9	7.0	6.6
seasonally adjusted	%	7.2	7.2	6.9
Participation rate	%	57.5	56.2	54.7

(a) Aged 15 years and over.  
Source: ABS Catalogue No. 6203.0.

As at May 1997, Western Australia's participation rate of 65.3% was the highest of all States. The participation rate for males was 76.0% and for females 54.7%.

**Teenage Unemployment**

Table 17.2 shows the unemployment rate for the 15–19 year age group has decreased from 16.9% in May 1996 to 15.5% in May 1997 but is higher than the 14.2% in May 1995.

The Labour Force Survey estimated there were 130,400 people in the 15–19 year age group in Western Australia in May 1997. Of these, 32,300 were employed full-time and 37,000 worked part-time. A total of 12,700 were unemployed and 48,300 were not in the labour force.

**Composition of the Labour Force**

The composition of the labour force (Table 17.3) differs for males and females. Of the estimated 491,200 employed males, 17.9% are employers or own account workers and 81.5% are employees. Of the estimated 358,800 employed females, 12.5% are employers or own account workers and 86.3% are employees.

**17.2 - UNEMPLOYMENT RATES: MAY**

<i>Age group</i>	1995	1996	1997
	%	%	%
WESTERN AUSTRALIA			
15-19	14.2	16.9	15.5
20-24	10.7	12.4	12.6
25-34	7.2	6.2	5.8
35-44	6.0	5.6	4.9
45-54	4.7	4.0	3.6
55 and over	5.5	8.3	6.7
<b>Overall rate</b>	<b>7.3</b>	<b>7.6</b>	<b>6.9</b>
AUSTRALIA			
15-19	20.8	20.4	19.8
20-24	12.1	11.9	14.0
25-34	7.6	7.5	8.4
35-44	6.3	6.1	6.2
45-54	5.3	5.9	5.7
55 and over	6.2	6.2	5.5
<b>Overall rate</b>	<b>8.4</b>	<b>8.3</b>	<b>8.6</b>

Source: ABS Unpublished Labour Force, GRP930 Table SR3A.

**17.3 - EMPLOYMENT STATUS(a): MAY**

<i>Employment status</i>	1995	1996	1997
	'000	'000	'000
MALES			
Employer	29.1	29.7	27.8
Own Account Workers	66.4	66.1	60.2
Employees	377.5	378.7	400.6
Contributing Family Workers	2.7	3.6	2.6
Unemployed	38.9	41.9	37.9
Not in labour force	151.6	160.8	166.8
<b>Total</b>	<b>668.2</b>	<b>680.8</b>	<b>695.9</b>
FEMALES			
Employer	16.6	12.6	13.7
Own Account Workers	33.4	32.0	31.0
Employees	305.8	310.1	309.6
Contributing Family Workers	4.1	4.7	4.5
Unemployed	26.9	27.0	25.4
Not in labour force	285.4	300.7	318.8
<b>Total</b>	<b>672.2</b>	<b>687.1</b>	<b>702.9</b>

(a) Civilian population aged 15 years and over.

Source: ABS Unpublished Labour Force, GRP700 Table E27, and ABS Catalogue No. 6203.0.

## **VOCATIONAL EDUCATION AND TRAINING IN WESTERN AUSTRALIA**

*Contributed by Department of Training*

Vocational education and training (VET) has a critical role in developing the highly skilled workforce with the relevant competencies necessary for achieving strong economic growth in Western Australia. Strategies to produce this workforce are being developed and implemented by the Department of Training and academic and private vocational educational and training groups, with the support from industry sectors.

### **Vocational Education and Training Act 1996**

Under the new *Vocational Education and Training Act 1996*, implemented on 1 January 1997, reforms have been introduced in the VET system to ensure Western Australia has highly skilled workers ready to take up the employment opportunities offered to them.

The *State Training Board* and the *Training Accreditation Council* have been established recently with the aim of determining training priorities for the State and the most effective ways to ensure those priorities are met. This task is being undertaken with the support of industry and involves obtaining input from the many organisations currently involved in vocational education and training.

Under the new Act, the State's network of TAFE colleges have become autonomous training providers operating in a competitive training market. Many private training providers have also entered the market offering clients greater choice in terms of where and how they gain the skills they require. There are now 516 providers registered to deliver training in Western Australia.

### **Quality Endorsed Training Organisation (QETO) status**

Quality is a major focus for the Western Australian vocational education and training sector. The Western Australian VET quality system was launched in late 1995. The quality system is designed to encourage the achievement of quality standards that emphasise continuing improvement and customer focus as the means for achieving excellence in training.

To date, 16 training organisations have achieved *Quality Endorsed Training Organisation* (QETO) status, including the Western Australian Department of Training. A further 40 are expected to receive quality endorsement by the end of 1998.

As part of the quality system, 11 Training Administration Bodies have been established to monitor the training delivered to apprentices and trainees across the State.

**Coordination and implementation of VET**

The employment and training schemes and organisations in Western Australia, while closely linked in terms of their objectives, comprise many disparate elements. They include community-based agencies, major public and private training providers, group training schemes, industry advisory bodies and industry groups. The Department of Training has a critical role in effectively coordinating the functions of these many agencies and schemes.

The Department assists client groups, industry, school leavers and job seekers through a network of community-based employment initiatives.

**Community based employment initiatives**

The *State Employment Assistance Strategy* (SEAS) comprises a range of community based employment projects. Over 3,000 employers are currently registered and provide useful information about industry needs within Western Australia. The SEAS projects assist over 30,000 people each year through a range of employment and labour market services aimed at improving the skills base and employment opportunities of Western Australian job seekers.

Job seekers will also benefit from funding of nearly \$4 million to 47 community based employment assistance projects across the State this year, including the *Job Link* and the *Aboriginal Economic and Employment Development Officer* (AEEDO) programs.



**Tradeswomen on the move: Third year plumber and gasfitter apprentice Christiane Buchardty has been sharing her experiences with school girls and encouraging them to consider the trades as a future career option**

*Courtesy:  
Department of Training*

Through these projects, some 6000 people are placed in sustainable employment each year, with others going onto training and further education.

*Job Link* places particular emphasis on job seekers with special needs such as the long-term unemployed, Aborigines, youths-at-risk, ex-offenders, people with disabilities, migrants from non-English speaking backgrounds, and women returning to the workforce.

The AEEDO program, which has projects across the State, assists Aboriginal people and communities to develop locally-based enterprises and generate jobs.

Another service offered by SEAS is the *School Leaver Program* which assists over 45% of Western Australia school leavers each year.

Other community-based initiatives include:

- The appointment of *Regional Employment Development Officers* to provide a source of regional information on issues and problems affecting local communities, as well as opportunities for new jobs.
- *Group Training Schemes* which provide work placements on a rotational basis for apprentices and trainees.
- The *Inwork Traineeship Program* which assists over 100 Aboriginal people aged between 15 and 25 into a two-year traineeship.

### **New Apprenticeship scheme**

To achieve a flexible training system which is responsive to the needs of industry, employers and people undergoing training, the State Government in partnership with the Commonwealth, is revamping the current apprenticeship and traineeship programs.

The revised scheme, known as the *New Apprenticeship* scheme, will commence in 1998 and will build on the strengths of the current apprenticeship system and the flexibilities of the traineeship system to fit the changing needs and increasing diversity of enterprises and their employees.

In 1996-97, apprenticeship and traineeship schemes provided for 13,012 apprentices and 3,584 trainees in training.

### **Competency based training**

Western Australia is taking a leading role in competency based assessment to ensure the quality of training outcomes. VET is now focused on assisting learners to develop and demonstrate the competencies that are required by industry for satisfactory performance in the workplace.

**Other important VET events and initiatives**

- The annual *Western Australia Training Excellence Awards* which showcase best practice and high quality achievements in vocational education and training.
- *'Hands on Trainer'* was launched last year to reward and recognise employers investing in training apprentices and trainees.
- *Contracted Entry Level Training Agencies* were introduced as a one-stop service to clients of the entry level training system; employers, apprentices and trainees.
- *CareerOne* is an annual statewide careers information and advisory service offered at school and TAFE colleges and during January 1997 it attracted 44,800 enquiries.
- *Adult Learners' Week* is a popular event which promotes the concept of 'lifelong learning'.

*Workskill* regional competitions allow Western Australia's finest young tradespeople to exhibit the range of skills that are achievable through industry and the VET system.



**A student with the Perth School of Art and Design, Dion West, working towards a career in the State's vibrant jewellery-making industry**

*Courtesy: Department of Training*

## Labour Market

### Employment by Industry

Over the period from May 1996 to May 1997 the distribution of employment between industries has varied. Table 17.4 shows significant increases in employment in mining (10.7%), wholesale trade (35.4%), and construction (10.8%).

Employment is dominated by three major industries: retail trade, property and business services, and manufacturing. These industries employed 294,900 people, or 34.7% of all employed persons in Western Australia.

#### 17.4 – EMPLOYED PERSONS(a): MAY

Industry division	1996 '000	1997 '000
Agriculture, forestry and fishing	47.6	49.7
Mining	28.1	31.1
Manufacturing	84.8	83.3
Electricity, gas and water supply	7.0	6.5
Construction	68.7	76.1
Wholesale trade	42.7	57.8
Retail trade	131.9	119.4
Accommodation, cafes and restaurants	36.3	37.4
Transport and storage	36.6	37.0
Communication services	15.8	16.7
Finance and insurance	22.3	23.4
Property and business services	86.1	92.2
Government administration and defence	34.3	27.6
Education	58.6	57.1
Health and community services	80.6	75.4
Cultural and recreational services	22.3	21.6
Personal and other services	34.2	37.6
<b>Total all industries</b>	<b>837.6</b>	<b>850.0</b>

(a) Aged 15 years and over.

Source: ABS Unpublished Labour Force, GRP930 Table SR4.

### Average Weekly Hours Worked

Since 1948, the majority of employees in Australia has had a standard working week of 40 hours or less. However, the number of hours constituting a full week's work (excluding overtime) differs between industries.

In May 1997, the average weekly hours worked by employees over all industries was 36.1 hours per week. The lower average weekly hours worked by females, as shown in Table 17.5, can be largely attributed to the much greater proportion of females working part-time. Females worked an average of 28.9 hours per week, compared with an average for males of 41.3 hours per week.

The mining and agricultural industries are traditionally areas where longer hours are worked. In May 1997, the average weekly number of hours worked in mining was 45.4, and in agriculture, forestry and fishing was 45.2.

**17.5 – AVERAGE WEEKLY HOURS WORKED(a): MAY 1997**

<i>Industry</i>	<i>Males</i> hours	<i>Females</i> hours	<i>Persons</i> hours
Agriculture, forestry and fishing	51.5	31.5	45.2
Mining	46.6	37.9	45.4
Manufacturing	42.4	32.9	40.2
Electricity, gas and water supply	34.0	39.2	34.5
Construction	41.4	23.5	38.7
Wholesale trade	41.4	31.6	38.5
Retail trade	37.5	23.6	30.3
Accommodation, cafes and restaurants	34.4	24.2	28.1
Transport and storage	44.3	29.8	41.0
Communication services	40.4	30.6	38.3
Finance and insurance	36.7	34.0	35.1
Property and business services	42.2	30.0	36.7
Government administration and defence	40.0	34.6	37.8
Education	39.6	31.8	34.4
Health and community services	38.7	29.0	31.3
Cultural and recreational services	37.9	27.4	33.0
Personal and other services	33.1	27.9	30.3
<b>All Industries</b>	<b>41.3</b>	<b>28.9</b>	<b>36.1</b>

(a) The estimates refer to actual hours worked, not hours paid for.  
Source: ABS Unpublished Labour Force, GRP200 Table E3.

**Labour Force  
Supplementary  
Surveys**

Supplementary surveys measure labour force and social and demographic characteristics of households. The supplementary surveys are either conducted annually or less frequently depending on statistical demand, and are grouped as either Educational or Other topics.

Educational topics include:

- Training and Education Experience;
- Transition from Education to Work; and
- Participation in Education.

Other topics include:

- Job Search Experience of Unemployed Persons;
- Career Experience;
- Labour Mobility; and
- Underemployed Workers.

### Job Vacancies

Job vacancy statistics are produced from a quarterly sample survey of employers throughout Australia. A job vacancy is a job available for immediate filling on the survey date and for which recruitment action had been taken by the employer.

Recruitment action includes efforts to fill vacancies by advertising, by factory notices, by notifying employment agencies or trade unions and by contacting, interviewing or selecting applicants already registered with the organisation. Excluded are jobs available only to persons already employed by the organisation.

In May 1997, Western Australia had 8,600 job vacancies compared with 5,400 in May 1996. The largest number of Western Australian job vacancies recorded by the survey, since it commenced in 1983, was 8,800 in November 1996.

### Wages and Earnings

#### Average Weekly Earnings

Statistics of average weekly earnings of employees are produced quarterly and are based on employment and earnings information obtained from a sample survey of employers. They relate to earnings for a single weekly pay period ending near the middle of each quarter.

Earnings are taken to be gross earnings for the pay period before taxation and any other deductions (such as superannuation). Statistics are produced for average weekly ordinary time earnings (including all allowances, payments, commissions etc) for full-time adults, average weekly total earnings (ordinary time earnings plus overtime) for full-time adults, and average weekly total earnings for all employees.

During the last decade, average weekly earnings of employees increased steadily and comparably for Western Australia and Australia. In May 1987, the Western Australian trend estimate of average weekly earnings for all employees was \$392.70, slightly above the Australian trend estimate of \$387.40. By May 1997, the Western Australian average had increased to \$566.10 (an increase of 44.2% or an annual compound rate of 3.7% over the decade), while the Australian average had increased to \$579.10 (an increase of 49.5% or an annual compound rate of 4.1%).

In this period, the Consumer Price Index for Perth increased by 43.0%, which suggests that real incomes for Western Australians improved marginally during the decade.

**17.6 – AVERAGE WEEKLY EARNINGS, MAY: Trend**

Reference period	Full-time adult employees		All employees
	Ordinary	Total	Total
	earnings	earnings	earnings
	\$	\$	\$
MALES			
1992	635.40	683.30	608.00
1993	642.20	699.50	622.00
1994	668.80	721.30	633.40
1995	704.20	767.50	664.00
1996	748.60	807.10	690.80
1997	753.80	815.30	705.60
FEMALES			
1992	516.30	526.70	379.00
1993	504.00	514.20	369.80
1994	519.30	533.80	381.20
1995	543.50	558.70	403.70
1996	577.20	589.10	411.10
1997	585.80	598.20	418.00
PERSONS			
1992	593.50	628.20	501.90
1993	593.80	634.40	502.20
1994	613.30	651.60	510.60
1995	646.90	693.00	541.60
1996	686.40	728.00	554.00
1997	694.00	738.20	566.10

Source: ABS Catalogue No. 6302.0.

Table 17.6 shows a large difference between male and female average weekly earnings. In May 1997, average weekly total earnings for all male employees were 68.8% higher than the average weekly total earnings for all female employees. Much of this difference can be attributed to the larger proportion of females who work in part-time jobs. In May 1997, the average weekly total earnings of full-time adult males was \$815.30, which was 36.3% higher than the average weekly total earnings of full-time adult females (\$598.20).

Over the period 1992 to 1997, the average weekly total earnings for full-time adult males increased at a higher rate (19.3%) than the average weekly total earnings for full-time adult females (13.6%).

Table 17.7 shows that in May 1997 employees in the mining industry had the highest average weekly earnings of any industry. Female earnings were consistently lower than male earnings in all industries. In the property and business services industry, where the disparity was greatest, the average weekly total earnings of full-time adult male employees was 59.7% higher than the average weekly total earnings of full-time adult female employees.

### 17.7 – AVERAGE WEEKLY EARNINGS, INDUSTRY, MAY 1997: Original

Industry	Full-time adult employees total earnings		
	Males	Females	Persons
	\$	\$	\$
Mining	1 166.50	825.50	1 118.40
Manufacturing	781.20	554.00	744.40
Electricity, gas and water supply	879.60	719.80	861.30
Construction	881.50	648.60	858.20
Wholesale trade	750.00	554.30	698.40
Retail trade	588.10	476.70	548.50
Accommodation, cafes and restaurants	510.10	495.80	504.20
Transport and storage	831.70	646.80	800.60
Communication services	890.00	732.70	848.30
Finance and insurance	830.10	572.30	700.70
Property and business services	878.00	549.70	713.00
Government administration and defence	762.50	651.20	720.90
Education	801.60	693.30	739.00
Health and community services	901.10	615.60	690.40
Cultural and recreational services	798.00	669.50	751.00
Personal and other services	796.50	554.20	703.80
<b>All industries (a)</b>	<b>815.60</b>	<b>601.20</b>	<b>739.40</b>

(a) Excludes Agriculture, forestry and fishing.  
Source: ABS Catalogue No. 6302.0.

### Labour Costs

Labour costs are those costs, paid by the employer, associated with the employment of labour. Details of major labour costs such as earnings, payroll tax, superannuation, workers' compensation and fringe benefits tax, in both the private and public sectors, are collected by the Survey of Major Labour Costs. This Survey was run annually from 1985–86 to 1991–92, then in 1993–94. The next survey will be conducted in relation to 1996–97 and thereafter it will be run every five years.

Total labour costs rose significantly (19.2%) between 1991–92 and 1993–94 to \$16,704m; however, in terms of cost per employee the increase was only 3.5% to \$31,313 (Tables 17.8 and 17.9).

Over the two year period, the pattern of contributions made by the separate categories of major labour costs remained constant. Employee earnings continued to be the major cost in both the private and public sectors, accounting for approximately 90% of the total labour cost. Employer contributions to employee superannuation schemes were the next most significant cost, accounting for 4.4% of total labour costs.

## 17.8 - MAJOR LABOUR COSTS

Type of cost	1990-91		1991-92		1993-94	
	\$m	%	\$m	%	\$m	%
PRIVATE SECTOR						
<b>Total Labour Costs</b>	<b>8 631</b>	<b>100.0</b>	<b>8 672</b>	<b>100.0</b>	<b>11 111</b>	<b>100.0</b>
Earnings	7 737	89.6	7 781	89.7	9 932	89.4
Other labour costs—						
Payroll tax	319	3.7	308	3.6	361	3.3
Workers' compensation	167	1.9	149	1.7	220	2.0
Superannuation	326	3.8	357	4.1	500	4.5
Fringe benefits tax	81	0.9	77	0.9	98	0.9
<i>Total other labour costs</i>	<i>893</i>	<i>10.4</i>	<i>891</i>	<i>10.3</i>	<i>1 179</i>	<i>10.6</i>
PUBLIC SECTOR						
<b>Total Labour Costs</b>	<b>4 965</b>	<b>100.0</b>	<b>5 342</b>	<b>100.0</b>	<b>5 593</b>	<b>100.0</b>
Earnings	4 544	91.5	4 848	90.8	5 147	92.0
Other labour costs—						
Payroll tax	101	2.0	99	1.9	101	1.8
Workers' compensation	75	1.5	72	1.4	88	1.6
Superannuation	229	4.6	307	5.8	241	4.3
Fringe benefits tax	16	0.3	15	0.3	16	0.3
<i>Total other labour costs</i>	<i>421</i>	<i>8.5</i>	<i>494</i>	<i>9.2</i>	<i>446</i>	<i>8.0</i>
TOTAL PRIVATE AND PUBLIC SECTOR						
<b>Total Labour Costs</b>	<b>13 596</b>	<b>100.0</b>	<b>14 014</b>	<b>100.0</b>	<b>16 704</b>	<b>100.0</b>
Earnings	12 281	90.3	12 629	90.1	15 079	90.3
Other labour costs—						
Payroll tax	420	3.1	407	2.9	462	2.8
Workers' compensation	242	1.8	221	1.6	308	1.8
Superannuation	555	4.1	664	4.7	741	4.4
Fringe benefits tax	97	0.7	93	0.7	114	0.7
<i>Total other labour costs</i>	<i>1 315</i>	<i>9.7</i>	<i>1 385</i>	<i>9.9</i>	<i>1 625</i>	<i>9.7</i>

Source: ABS Catalogue No. 6348.0.

## 17.9 - MAJOR LABOUR COSTS PER EMPLOYEE

Type of cost	1990-91	1991-92	1993-94
	\$	\$	\$
PRIVATE SECTOR			
<b>Total Labour Costs</b>	<b>26 555</b>	<b>28 375</b>	<b>28 918</b>
Earnings	23 806	25 458	25 850
Other labour costs—			
Payroll tax	982	1 009	940
Workers' compensation	515	487	572
Superannuation	1 004	1 167	1 301
Fringe benefits tax	248	253	256
<i>Total other labour costs</i>	<i>2 749</i>	<i>2 917</i>	<i>3 069</i>
PUBLIC SECTOR			
<b>Total Labour Costs</b>	<b>30 942</b>	<b>33 861</b>	<b>37 480</b>
Earnings	28 316	30 730	34 490
Other labour costs—			
Payroll tax	631	628	676
Workers' compensation	468	457	589
Superannuation	1 428	1 949	1 616
Fringe benefits tax	99	6	108
<i>Total other labour costs</i>	<i>2 626</i>	<i>3 131</i>	<i>2 990</i>
TOTAL PRIVATE AND PUBLIC SECTOR			
<b>Total Labour Costs</b>	<b>28 005</b>	<b>30 243</b>	<b>31 313</b>
Earnings	25 297	27 253	28 267
Other labour costs—			
Payroll tax	866	879	866
Workers' compensation	499	477	577
Superannuation	1 144	1 434	1 389
Fringe benefits tax	199	200	215
<i>Total other labour costs</i>	<i>2 708</i>	<i>2 990</i>	<i>3 047</i>

Source: ABS Catalogue No. 6348.0.

### **Industrial Disputes**

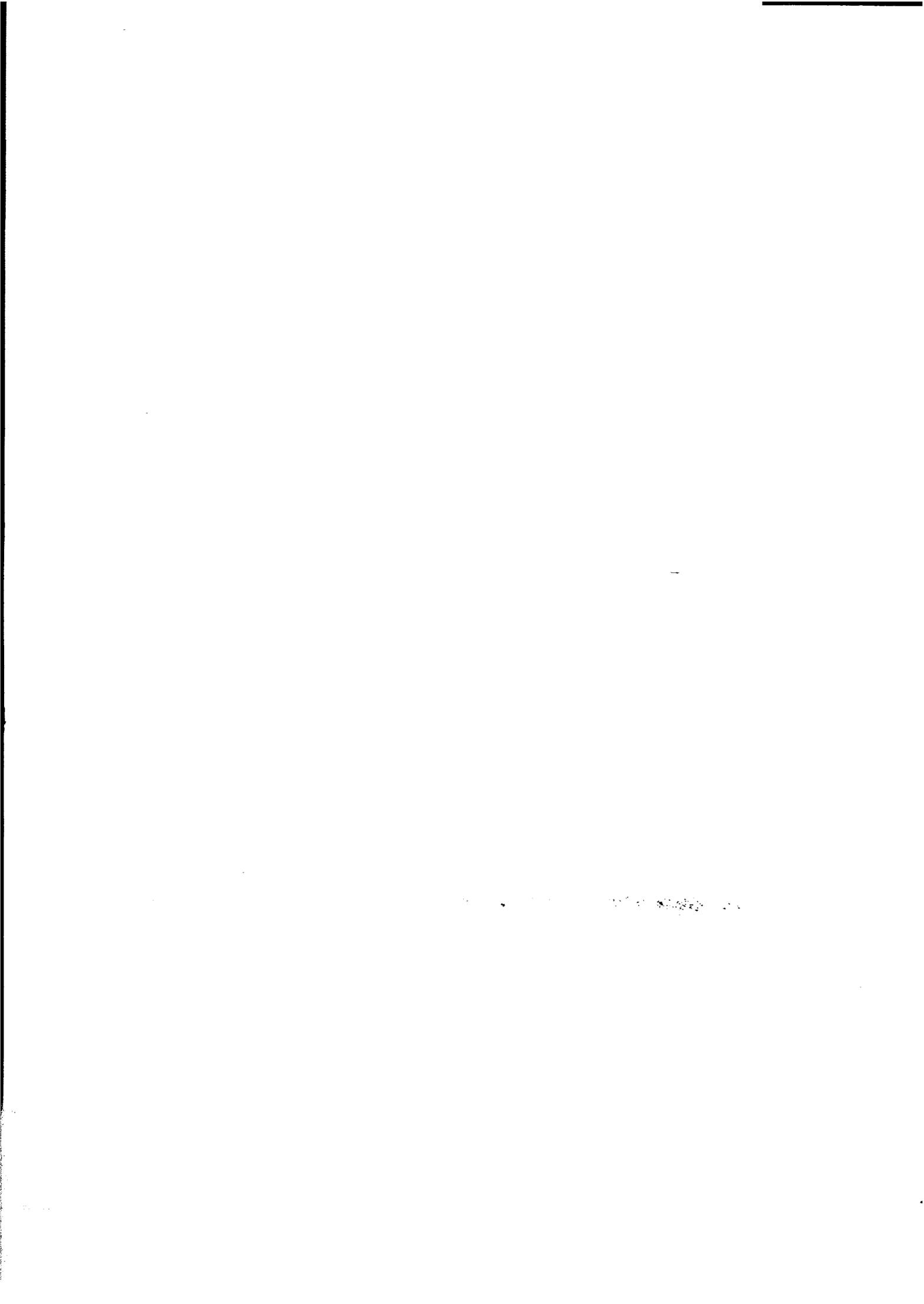
Industrial disputes statistics relate only to disputes which involve stoppages of ten working days or more at the establishment where the stoppage occurred. The effects these disputes have on other establishments, such as stand downs because of lack of materials, disruption of transport services, power cuts etc., are not included.

Over the last few years, the number of industrial disputes has decreased. The number of industrial disputes for the year ended May 1997 was 50, compared with 66 disputes for the year ended May 1996. The number of working days lost per thousand employees was 95 in the year ended May 1997, compared with 166 in the year ended May 1996.

Details of stoppages are obtained primarily from the Department of Industrial Relations, trade journals, publications, newspapers and the employers and trade unions involved in the disputes.

### **References**

- ABS Publications      *Average Weekly Earnings, States and Australia* (6302.0)  
                              *Award Rates of Pay Indexes, Australia* (6312.0)  
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                              *Industrial Disputes, Australia* (6321.0)  
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- ABS Unpublished      *Labour Force Survey Microfiche*  
Data
- Other Sources         Department of Training



# Consumer and Producer Prices

## Chapter 18

# CONSUMER AND PRODUCER PRICES

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## Chapter 18

# CONSUMER AND PRODUCER PRICES

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### The Consumer Price Index (CPI)

The Consumer Price Index is a general indicator of the rate of change in prices paid by wage and salary earner households for the goods and services they buy. In measuring price changes, the CPI aims to measure only pure price changes, that is, price changes excluding the effects of any changes in the quality or quantity of the goods and services.

The CPI is often loosely referred to as a 'cost-of-living index', but this is not strictly correct. A true cost-of-living index would need to take into account the changes in standards of living and the substitutions that consumers make in order to maintain their standard of living in response to changing market conditions, such as disparate price movements.

The CPI was first introduced in 1960 with the index numbers being compiled retrospectively to 1948.

### 1996-97 in Review

From June quarter 1996 to June quarter 1997, the CPI All Groups for Perth increased from 117.9 index points to 118.1 index points, an increase of 0.2%.

### 18.1 - CONSUMER PRICE INDEX, ANNUAL CHANGE TO JUNE QTR 1997 PERTH (Base Of Index: Year 1989-90 = 100)

Groups	%	Examples of contributing items
Tobacco and Alcohol	2.0	Beer; Cigarettes and tobacco
Household Equipment and Operation	1.2	Consumer credit charges; Furniture
Food	3.5	Bread; Milk and cream
Housing	-9.6	Mortgage interest charges
Transportation	-1.4	Automotive fuel; Vehicle insurance
Health and Personal Care	7.0	Hospital and medical services
Recreation and Education	1.4	Entertainment
Clothing	-0.7	Shirts, nightwear and hosiery

Source: ABS Consumer Price Index Special Series.

## Consumer and Producer Prices

### 18.2 – CONSUMER PRICE INDEX, ALL GROUPS INDEX NUMBERS (Base Of Index: Year 1989–90 = 100)

Period	Perth		Weighted average of eight capital cities	
	Index number	% change from preceding period	Index number	% change from preceding period
1994–95	112.3	3.5	113.9	3.2
1995–96	116.7	3.9	118.7	4.2
1996–97	118.3	1.4	120.3	1.3
<b>Quarter</b>				
1995—				
September	115.6	0.6	117.6	1.2
December	116.3	0.6	118.5	0.8
1996—				
March	117.1	0.7	119.0	0.4
June	117.9	0.7	119.8	0.7
September	118.3	0.3	120.1	0.3
December	118.4	0.1	120.3	0.2
1997—				
March	118.2	-0.2	120.5	0.2
June	118.1	-0.1	120.2	-0.2

Source: ABS Catalogue No. 6401.0.

The change from the June quarter 1996 to the June quarter 1997 for the CPI All Groups for the eight capital cities was 0.3%. The annual increase or decrease in each of the groups for the eight capital cities was:

- Food (up 3.2%),
- Clothing (down 0.1%),
- Housing (down 8.8%)
- Household equipment and operation (up 1.2%),
- Transportation (up 0.1%),
- Tobacco and alcohol (up 1.4%),
- Health and personal care (up 7.2%) and
- Recreation and education (up 2.3%).

#### House Price Indexes

House Price Indexes are compiled quarterly for use in calculating the Mortgage Interest Charges component of the CPI. Separate indexes are constructed for project and established houses.

## Consumer and Producer Prices

### Producer Price Indexes

Producer Price Indexes measure changes in the prices of goods moving between sectors of the Australian economy. The present range of producer price indexes, which was developed and produced progressively from the 1960s, relate to the building, manufacturing and mining sectors of the economy.

They include the Price Indexes of:

- Materials Used in House Building,
- Materials Used in Other Than House Building,
- Materials Used in Manufacturing Industries,
- Articles Produced by Manufacturing Industry, and
- Materials Used in Coal Mining.

### 18.3 – SELECTED HOUSING PRICE INDEXES: PERTH (Base Of Each Index: Year 1989–90 = 100)

Period	Materials used in House Building		Project houses		Established houses	
	Index number	% change from preceding period	Index number	% change from preceding period	Index number	% change from preceding period
1994–95	112.7	3.3	100.0	4.0	109.0	4.1
1995–96	114.7	1.8	101.6	1.6	108.2	-0.7
1996–97	115.3	0.5	101.3	-0.3	109.2	0.9
<b>Quarter</b>						
1995—						
September	115.0	0.7	102.2	1.4	108.6	-1.0
December	114.9	-0.1	101.6	-0.6	108.3	-0.3
1996—						
March	114.6	-0.3	101.3	-0.3	107.5	-0.7
June	114.6	0.0	101.4	0.1	108.2	0.7
September	115.0	0.3	101.5	0.1	108.0	-0.2
December	115.0	0.0	101.4	-0.1	107.5	-0.5
1997—						
March	115.3	0.3	101.2	-0.2	110.4	2.7
June	115.7	0.3	101.2	0.0	110.9	0.5

Source: ABS Catalogue Nos. 6408.0, 6416.0.

### Foreign Trade Price Indexes

Foreign Trade Price Indexes measure changes in the prices of goods entering and leaving Australia. They comprise an Import Price Index compiled from September 1981 and an Export Price Index first published in 1901. The Import Price Index replaced the Reserve Bank's Import Price Index that was published from 1928 until September 1982.

## Consumer and Producer Prices

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### Average Retail Prices for Selected Commodities

Average prices of a limited range of commodities are recorded in the Blue Books of Western Australia from the early colonial years and in the Western Australian Year Book (old series) from 1886. Since 1962, average retail prices for a range of selected (mainly food) items have been published quarterly in *Average Retail Prices of Selected Items* (ABS Catalogue No. 6403.0).

### References

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*Average Retail Prices of Selected Items, Eight Capital Cities* (6403.0)

*A Guide to the Consumer Price Index: Twelfth Series* (6440.0)

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*Import Price Index, Australia* (6414.0)

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*Price Index of Materials Used in Building Other than House Building, Six State Capital Cities* (6407.0)

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*Price Indexes of Materials Used in Coal Mining, Australia* (6415.0)

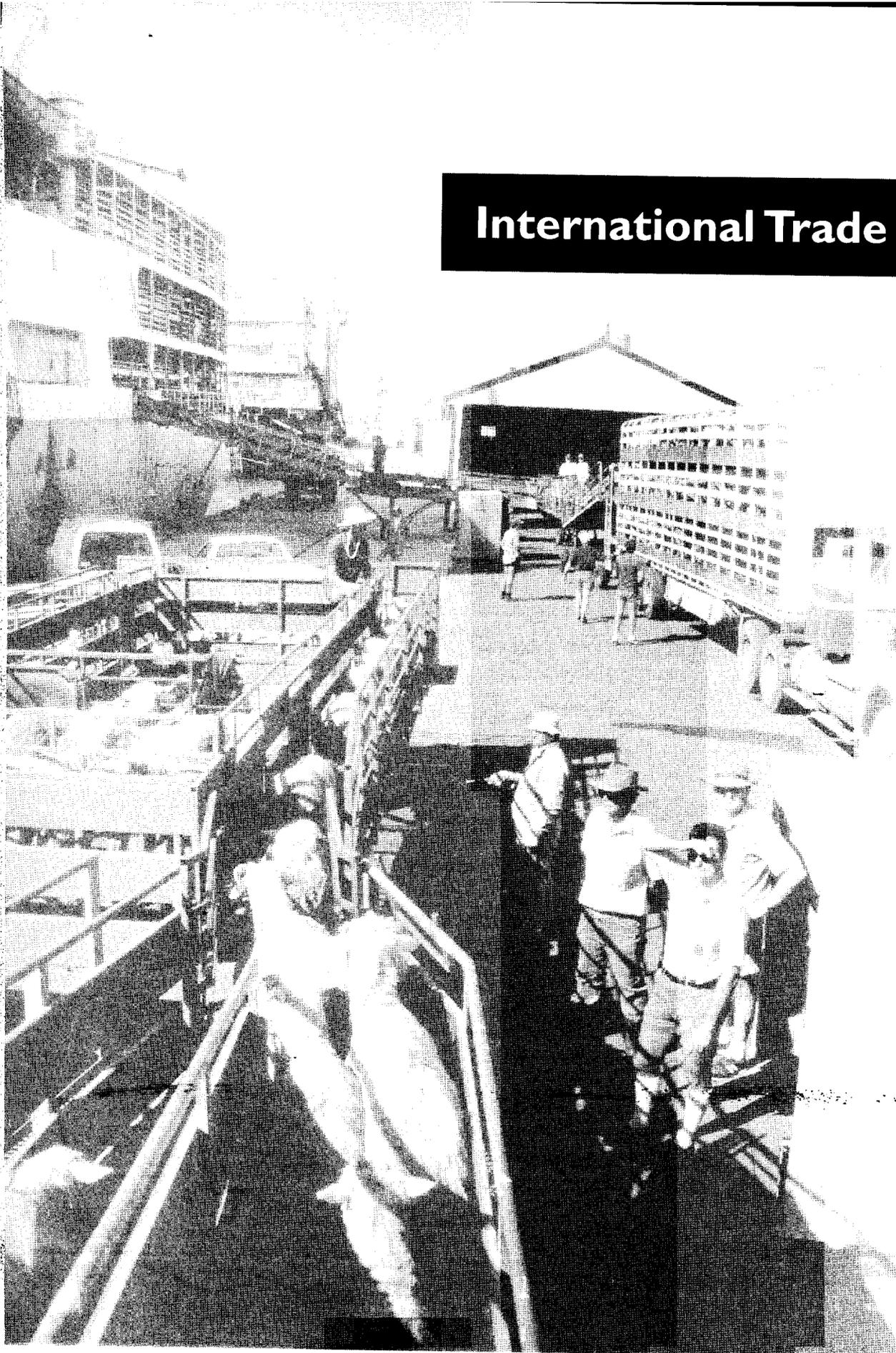
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*Producer and Foreign Trade Price Indexes: Concepts, Sources and Methods 1995* (6419.0)

#### ABS Unpublished Data

*Consumer Price Index Special Series*

# International Trade



## Chapter 19

# INTERNATIONAL TRADE

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## Chapter 19

# INTERNATIONAL TRADE

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### **The Collection of ABS International Merchandise Trade and Shipping Statistics**

Australian Bureau of Statistics (ABS) international merchandise trade and shipping statistics are collected via the following process:

- the Australian Customs Service (ACS) receives documentation submitted by exporters and importers (or their agents) about the type, quantity and value of goods being imported or exported, as required by the Customs Act;
- this information is used by the ACS to assess and collect customs duty and other revenue payable on imported and exported goods and to facilitate the monitoring and control of the physical movement of goods into and out of Australia;
- once the ACS has finalised processing this documentation for its own purposes, the information is passed on to the ABS for statistical processing; and
- after the ABS has aggregated the information according to a number of classifications, the data is disseminated to users.

### **Concepts and Definitions of International Trade Statistics**

Merchandise Exports are defined as all goods which subtract from the stock of material resources in Australia as a result of their movement out of the country.

Merchandise Imports are defined as all goods which add to the stock of material resources in Australia as a result of their movement into the country.

### **Pattern of International Trade**

Responsibility for developing and furthering Western Australia's international trade concerns rests with the Department of Commerce and Trade and the Department of Resources Development.

Since the turn of the century, Western Australia's international trade balance has reflected higher total export values than import values. Not unexpectedly iron ore and concentrates exports have consistently accounted for the single largest proportion of export income, followed by wheat exports.

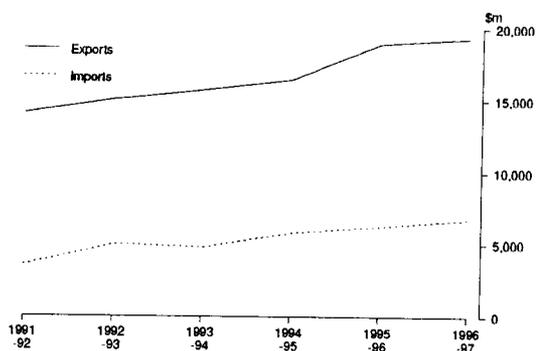
During the 1960s and 1970s, the third highest ranked export values came from iron and steel exports, frequently exceeding those of gold mint bullion. However, since 1982 this pattern has been

reversed, with gold mint bullion exports responsible for considerably greater export values than iron and steel. In 1997, gold mint bullion was responsible for a total export value of \$2,936 million, in contrast iron and steel exports amounted to a total of less than \$9 million.

The value of Western Australian exports has increased continuously since 1966.

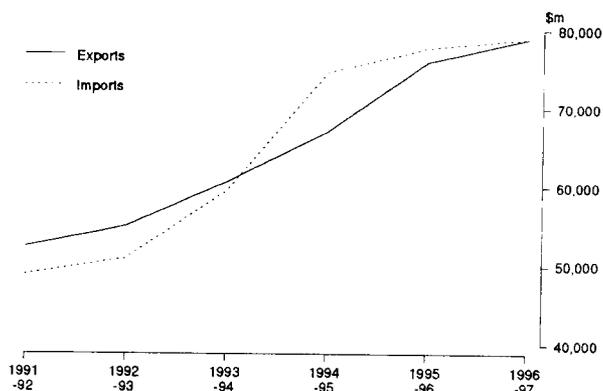
- In 1996-97, the value of imports increased by 7.4% whereas the value of exports rose by only 2.2%. The ratio of exports to imports has decreased over the past year from 3.01 (1995-96) to 2.86 (1996-97).
- Western Australia is still heavily reliant on the export of commodities such as gold bullion, iron ore, other metalliferous ores and metal scraps, natural gas, petroleum and petroleum products, wheat and textile fibres.
- The top four major commodity exports from Western Australia have, over the last three financial years, represented a significant proportion of total Western Australian exports to foreign countries. In 1994-95, the proportion was 53.6%; in 1995-96 it was 50.8% and in 1996-97, 52.5%.
- Exports continue to make an increasing contribution to Western Australia's Gross State Product (GSP) at market prices; in 1993-94, exports comprised 34.6% of GSP, in 1994-95, 35.5%, and in 1995-96, 38.4%.

DIAGRAM 19.1 – IMPORTS AND EXPORTS: WESTERN AUSTRALIA



Source: ABS FASTTRACCS Service.

DIAGRAM 19.2 – IMPORTS AND EXPORTS: AUSTRALIA



Source: ABS FASTTRACCS Service.

Western Australia continues to be Australia's major exporting State and its contribution, in percentage terms, to total Australian exports remains high. In 1994-95, Western Australia was ranked first with 24.4% of total exports. By 1995-96, Western Australia had increased to 24.9% and by 1996-97, had decreased slightly to 24.5% of total Australian exports.

Diagrams 19.1 and 19.2 show the different trends in export and import performance between Western Australia and Australia.

## International Trade

### 19.1 – OVERSEAS IMPORTS AND EXPORTS: 1996–97

<i>Origin / destination</i>	<i>Imports</i>	<i>Exports</i>
	\$'000	\$'000
Argentina	10 968	20 786
Austria	69 150	1 746
Bahrain	12 510	11 385
Bangladesh	5 055	23 112
Belgium-Luxembourg	48 032	450 729
Brazil	27 815	21 678
Canada	116 385	316 053
Chile	8 168	36 284
China	159 463	1 197 773
Czech Republic	11 094	8 689
Denmark	14 212	1 921
Egypt	420	123 882
Fiji	582	31 720
Finland	127 366	221 207
France	126 736	228 416
Germany	331 235	265 716
Ghana	428	41 856
Greece	6 329	2 260
Hong Kong	29 533	442 491
India	40 976	195 787
Indonesia	310 637	810 644
Iran	1 760	227 240
Ireland	8 840	622
Israel	17 670	2 646
Italy	181 176	181 817
Japan	882 390	4 838 236
Jordan	12 908	33 296
Korea, Republic of	236 719	2 409 897
Kuwait	56 417	38 023
Malaysia	137 691	425 089
Mauritius	220	19 179
Mexico	5 364	18 408
Morocco	6 908	162
Netherlands	66 881	263 493
New Caledonia	—	22 021
New Zealand	264 427	353 695
Nigeria	17 394	4 254
Norway	63 078	39 658
Pakistan	4 141	70 726
Papua New Guinea	404	29 089
Philippines	15 238	115 445
Poland	1 755	47 195
Qatar	13 488	18 639
Romania	431	32 994
Russian Federation	12 667	17 915
Saudi Arabia	94 455	111 767
Singapore	635 640	1 176 861
South Africa	82 773	422 646
Spain	50 417	141 389
Sri Lanka	5 331	30 596
Sweden	80 578	45 180
Switzerland	44 674	91 036
Taiwan	133 017	880 834
Thailand	62 574	383 808
Turkey	4 051	51 066
United Arab Emirates	438 056	217 734
United Kingdom	390 430	434 514
United States of America	1 178 094	1 363 739
Vietnam	7 234	30 922
Yemen	—	23 176
Other countries, country unknown and re-exports	80 573	178 422
Ships' & Aircraft Stores	—	78 231
<b>Total overseas trade</b>	<b>6 752 956</b>	<b>19 325 794</b>

Source: ABS FASTTRACCS Service.

19.2 - OVERSEAS EXPORTS - Selected Major Commodities(a): 1996-97

Commodity and Destination	\$'000	Commodity and Destination	\$'000
Wheat—		Natural and manufactured gas—	
<b>Total wheat exports</b>	<b>1 616 329</b>	<b>Total natural and manufactured gas exports</b>	<b>1 681 755</b>
Wool—		Fish, crustaceans, molluscs etc—	
China	141 795	Japan	145 447
Italy	90 200	Taiwan	119 419
India	45 862	Hong Kong	49 594
Malaysia	29 216	United States of America	28 701
Japan	28 165	China	10 978
United States of America	25 253	Singapore	8 205
<b>Total wool exports</b>	<b>644 069</b>	<b>Total fish, crustaceans molluscs etc exports</b>	<b>371 316</b>
Iron ore—		Live animals (excluding fish)—	
Japan	1 417 634	Indonesia	71 751
China	659 761	United Arab Emirates	43 027
Republic of Korea	423 761	Jordan	27 468
Taiwan	164 608	Malaysia	25 145
United Kingdom	140 176	Kuwait	23 214
Germany	113 666	Oman	14 307
<b>Total iron ore exports</b>	<b>3 148 735</b>	<b>Total live animal exports</b>	<b>266 984</b>
Gold bullion—		Gold coin—	
Republic of Korea	1 330 885	Germany	41 036
Singapore	779 732	Switzerland	21 834
Hong Kong	232 795	United States of America	17 883
Thailand	208 843	Taiwan	11 386
Japan	184 956	Japan	8 721
Malaysia	106 857	Hong Kong	7 420
<b>Total gold bullion exports</b>	<b>2 936 116</b>	<b>Total gold coin exports</b>	<b>114 567</b>
Petroleum and petroleum products—		Dyeing, tanning and colouring materials—	
Japan	309 196	Republic of Korea	56 141
United States of America	291 510	Japan	27 451
New Zealand	273 951	Thailand	20 200
Republic of Korea	219 165	Philippines	20 009
Singapore	172 851	Hong Kong	19 647
Thailand	49 112	Singapore	16 459
<b>Total petroleum and petroleum products exports</b>	<b>2 594 105</b>	<b>Total dyeing, tanning and colouring materials exports</b>	<b>258 596</b>
Transport equipment—			
Poland	46 089		
Sweden	42 337		
United States of America	24 693		
New Caledonia	21 500		
Iran	16 352		
Turkey	12 522		
<b>Total transport equipment exports</b>	<b>228 515</b>		

(a) The sum of the components may not add up to the totals as some countries are not listed in the commodity breakdown.  
Source: ABS FASTRACCS Service.

## International Trade

### 19.3 – OVERSEAS IMPORTS From Selected Countries: 1996–97

<i>Division Description</i>	<i>Japan</i>	<i>USA</i>	<i>UK</i>	<i>All Countries</i>
	\$'000	\$'000	\$'000	\$'000
00 Live animals other than animals of Division 03	4.9	1.2	0.5	2 661.5
03 Fish, (not marine mammals) crustaceans, molluscs and aquatic invertebrates, and preparations thereof	522.8	743.0	185.1	51 867.7
04 Cereals and cereal preparations	353.0	443.4	2 520.3	13 504.1
27 Crude fertilisers (excluding those of Divisions 56) and crude minerals (excluding coal, petroleum and precious stones)	3 071.4	792.9	263.6	28 006.0
33 Petroleum, petroleum products and related materials	160.7	12 522.3	2 934.7	1 011 230.0
34 Gas, natural and manufactured	—	2.1	15.6	733.2
52 Inorganic chemicals (a)	1 675.8	32 162.1	1 054.9	95 265.6
53 Dyeing, tanning and colouring materials	232.0	2 771.6	858.1	8 083.5
66 Non-metallic mineral manufactures, n.e.s. (a)	9 459.3	6 681.3	6 240.4	136 910.2
68 Non-ferrous metals (a)	1 895.5	6 223.0	5 344.7	57 583.8
69 Manufactures of metal, n.e.s. (a)	6 767.9	15 466.7	29 740.4	169 386.6
72 Machinery specialised for particular industries (a)	60 343.5	199 193.4	28 511.4	695 862.8
74 General industrial machinery and equipment, n.e.s. and machine parts, n.e.s. (a)	43 076.1	101 066.2	33 447.2	420 108.9
79 Transport equipment (excl. road vehicles)	10 104.1	110 580.3	5 790.1	252 347.3
97 Gold, non-monetary (excl. gold ores and concentrates)	—	8.5	3.3	136 849.5
<b>Total</b>	<b>882 389.6</b>	<b>1 178 093.6</b>	<b>390 429.6</b>	<b>6 752 956.3</b>

(a) Excludes commodities subject to a confidential restriction. These are included in totals.

Source: ABS FASTTRACCS Service.

### 19.4 – OVERSEAS EXPORTS To Selected Countries: 1996–97

<i>Division Description</i>	<i>Japan</i>	<i>USA</i>	<i>UK</i>	<i>All Countries</i>
	\$'000	\$'000	\$'000	\$'000
00 Live animals other than animals of Division 03	222.5	0.6	237.0	267 645.3
03 Fish, (not marine mammals) crustaceans, molluscs and aquatic invertebrates, and preparations thereof	145 420.7	28 700.5	260.1	371 237.8
04 Cereals and cereal preparations	26 748.6	25.0	—	1 667 487.0
27 Crude fertilisers (excluding those of Divisions 56) and crude minerals (excluding coal, petroleum and precious stones)	8 061.0	4 256.0	492.1	220 355.0
33 Petroleum, petroleum products and related materials	309 417.1	1.3	291 509.8	1 941 927.0
34 Gas, natural and manufactured	50 161.6	—	23.2	1 681 755.0
52 Inorganic chemicals (a)	46 807.8	12 662.0	1 165.0	140 824.6
53 Dyeing, tanning and colouring materials	27 450.9	3 175.5	356.9	258 568.5
66 Non-metallic mineral manufactures, n.e.s. (a)	31 945.1	11 186.9	3 447.1	118 748.8
68 Non-ferrous metals (a)	2.8	5 446.2	650.2	487 655.4
69 Manufactures of metal, n.e.s. (a)	629.1	14 130.9	1 361.2	72 874.1
72 Machinery specialised for particular industries (a)	1 125.2	12 049.7	1 008.6	102 032.7
74 General industrial machinery and equipment, n.e.s. and machine parts, n.e.s. (a)	405.9	5 613.7	962.7	103 088.7
79 Transport equipment (excl. road vehicles)	8 241.1	24 692.7	102.0	228 512.9
97 Gold, non-monetary (excl. gold ores and concentrates)	184 955.9	9 447.2	—	2 936 116.0
<b>Total</b>	<b>4 838 236.1</b>	<b>1 363 739.1</b>	<b>434 514.2</b>	<b>19 325 793.9</b>

(a) Excludes commodities subject to a confidential restriction. These are included in totals.

Source: ABS FASTTRACCS Service.

### Exports

Japan continues to be the major export market and is also the second largest import supplier. The bulk of Western Australia's exports are concentrated in a few major markets.

- In 1996-97, the top ten export markets accounted for 72.5% of total exports.
- Western Australia's export markets are heavily concentrated in the Asia region. The ASEAN nations (Singapore, Thailand, Malaysia, Indonesia, the Philippines and Brunei), combined with the major North Asia economies (Japan, Republic of Korea, Hong Kong, China and Taiwan) received 65.7% (or \$12,696 million) of total exports in 1996-97. European Union markets such as United Kingdom, Germany, France and Italy also represent significant export markets for Western Australia.

Western Australia's main exports in 1996-97 were:

- metalliferous ores and metal scrap (\$3,591 million or 18.6% of total exports),
- gold, non-monetary (\$2,936 million or 15.2% of total exports),
- petroleum and petroleum products (\$1,942 million or 10.0% of total exports),
- natural and manufactured gas (\$1,682 million or 8.7% of total exports), and
- cereals and cereal preparations (\$1,667 million or 8.6% of total exports).

### Imports

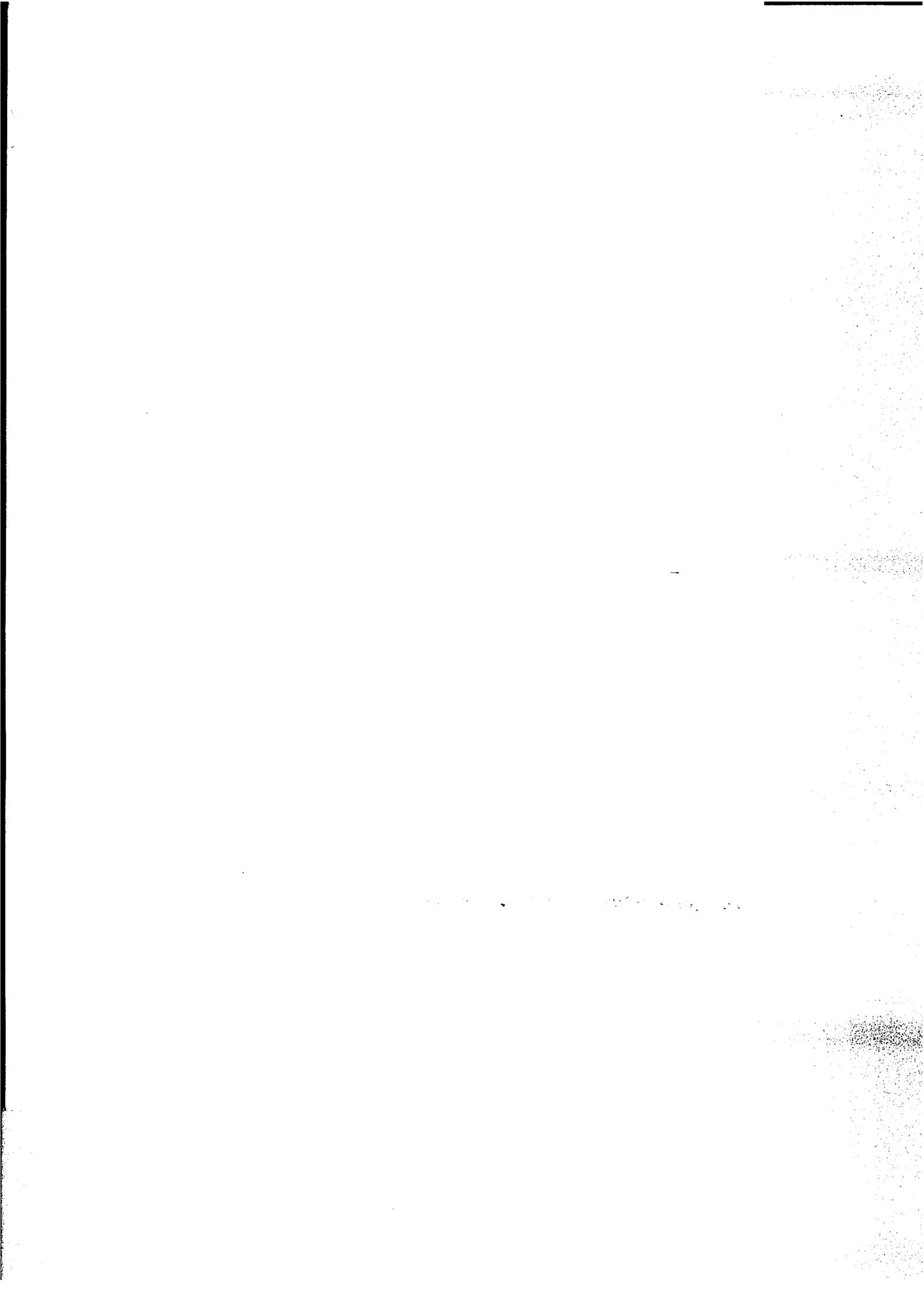
The top three import suppliers to Western Australia in 1996-97 were the United States of America, Japan and Singapore. The United States of America is currently the State's main source of imported goods and services. As with exports, the bulk of imports have tended to be sourced from a few major suppliers, the top ten countries representing 71.8% of all imports to Western Australia. APEC members, such as Japan, USA, Singapore, New Zealand, Republic of Korea and Indonesia, represent major importing countries; trade with European Union countries such as the United Kingdom, Italy and Germany was also significant.

Petroleum and petroleum products (15.0%), road vehicles (12.0%) and machinery specialised for particular industries (10.3%) were, in dollar terms, the largest imports in 1996-97.

### References

ABS Products

FASTTRACCS Service



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# REGIONAL PROFILE

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# REGIONAL PROFILE

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## South West Statistical Division

### The Region

The South West Statistical Division of Western Australia covers an area of 28,584 square kilometres. The Division comprises the Dale, Preston, Vasse and Blackwood Statistical Subdivisions.

The Statistical Subdivision of Dale includes the Local Government Areas of Boddington, Mandurah, Murray and Waroona; Preston includes the City of Bunbury and the Shires of Capel, Collie, Dardanup, Donnybrook-Balingup and Harvey; Vasse comprises the Shire of Augusta-Margaret River and the Shire of Busselton; Blackwood includes the Shires of Boyup Brook, Bridgetown-Greenbushes, Manjimup and Nannup.

The South West is characterised by beautiful forests, rivers and stunning, often remote coastline. The Bibbulmun Track which runs 650 kilometres from Kalamunda to Walpole crosses through much of the Division. The track takes in some of the most scenic sections of Karri forest. Karri grows only in parts of the south west of Western Australia where the annual rainfall exceeds 1,000mm.

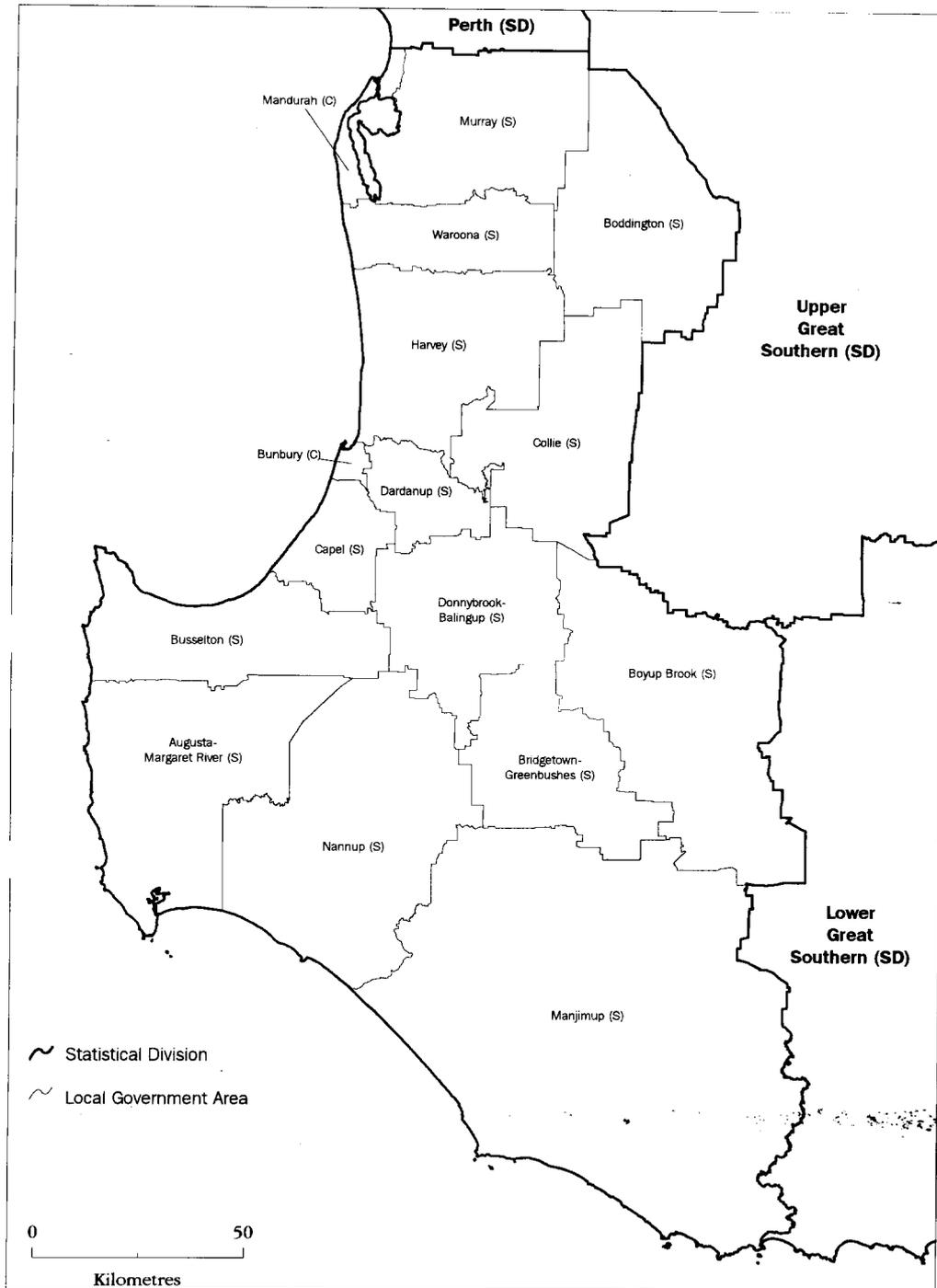
Mandurah was settled early in the 1830s; the rest of the South West was settled soon after. Its economy has been dominated principally by the timber and agricultural industries. The South West forests are now increasingly valued for their natural beauty as well as a timber resource. Tourism is expected to continue to be a significant industry in the region's economy.

Grapevines were planted first in the Margaret River area in 1967. Since that time the wine industry has grown and many wineries and vineyards in the region have gained a reputation for their award winning produce, rivalling other wine growing areas of both this state and Australia. In recent times Pemberton has also become a successful wine growing area.

An increased number of bed and breakfast establishments, cafes and restaurants offer a wide variety of accommodation and food, from the elegant to the basic.

# South West Statistical Division

By Local Government Area



Population

The population of the South West Statistical Division, at the 1996 Census, was 160,220 persons representing 9.3% of the population of Western Australia. Both Dale and Vasse Statistical Subdivisions experienced the highest population growth in the Division since the 1991 Census. Some of the increase in the Dale region can be attributed to the inclusion in 1993 of the Shire of Boddington in the Division.

20.1 – POPULATION, 1996 CENSUS

	Males	Females	Persons
Boddington (S) (a)	826	696	1 522
Mandurah (C)	18 531	19 394	37 925
Murray (S)	4 640	4 550	9 190
Waroona (S)	1 710	1 568	3 278
Dale (SSD)	25 707	26 208	51 915
Bunbury (C)	13 278	13 278	26 556
Capel (S)	2 815	2 877	5 692
Collie (S)	4 486	4 150	8 636
Dardanup (S)	3 228	3 116	6 344
Donnybrook-Balingup (S)	2 015	2 014	4 029
Harvey (S)	7 416	7 350	14 766
Preston (SSD)	33 238	32 785	66 023
Augusta-Margaret River (S)	4 252	3 795	8 047
Busselton (S)	8 597	8 893	17 490
Vasse (SSD)	12 849	12 688	25 537
Boyup Brook (S)	806	798	1 604
Bridgetown-Greenbushes (S)	1 974	1 930	3 904
Manjimup (S)	5 189	4 904	10 093
Nannup (S)	585	559	1 144
Blackwood (SSD)	8 554	8 191	16 745
<b>South West (SD)</b>	<b>80 348</b>	<b>79 872</b>	<b>160 220</b>

(a) Prior to 1993, the Shire of Boddington was included in the Upper Great Southern Statistical Division.

In the South West Statistical Division at the 1996 Census of Population and Housing:

- 26% of persons aged 15 years and over had never married;
- the majority of persons, 80%, were born in Australia;
- 50% of those born overseas were born in the United Kingdom or Ireland;
- 29% of Australian born persons had at least one parent born overseas;
- 93% of persons aged 5 years or over spoke English only;

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- 19% of total persons were attending school;
- 48% of persons aged 15 years or over left school before they were 16 years old;
- 37% of persons aged 15 years and over had post-secondary qualifications;
- 90% of persons lived in separate houses; and
- 29% of persons reported they were Anglican, 21% Catholic.

### 20.2 – POPULATION OF URBAN CENTRES/LOCALITIES, 1996

Town	Males	Females	Persons
Mandurah	18 443	17 502	35 945
Bunbury	12 579	12 366	24 945
Bussetton	5 582	5 060	10 642
Collie	3 486	3 708	7 194
Australind	2 857	2 837	5 694
Manjimup	2 169	2 221	4 390
Eaton	2 007	2 063	4 070
Margaret River	1 395	1 451	2 846
Harvey	1 304	1 266	2 570
Bridgetown	1 079	1 044	2 123
Leschenault	946	963	1 909
Pinjarra	992	900	1 892
Waroona	937	896	1 833
Yunderup	865	886	1 751
Gelorup	878	850	1 728
Donnybrook	832	803	1 635
Capel	654	604	1 258
Dunsborough	572	582	1 154
Augusta	567	520	1 087
Boddington	510	533	1 043
North Pinjarra	500	511	1 011
Furnissdale	488	509	997
Pemberton	518	476	994
Binningup	433	426	859
Brunswick Junction	383	369	752
Yarloop	312	307	619
Boyanup	281	294	575
Allanson	285	287	572
Boyup Brook	291	262	553
Nannup	261	260	521
Greenbushes	182	221	403
Dwellingup	184	215	399
Stratham	206	190	396
Quindalup	179	186	365
Walpole	164	173	337
Dardanup	156	158	314
Burekup	134	131	265
Peppermint Grove	126	119	245
Northcliffe	118	121	239

Source: 1996 Census of Population and Housing.

The large urban areas of Mandurah and Bunbury had 38% of the total population of the South West Statistical Division, 35,945 and 24,945 persons respectively. The next largest towns were Busselton with a population of 10,642 and Collie with 7,194 people. Mandurah's population grew by 54% between the 1991 and 1996 Census.

### 20.3 – POPULATION OF STATISTICAL LOCAL AREAS

	1986 Census	1991 Census	% change	1996 Census	% change
Boddington (S) (a)	891	1 419	59.3	1 522	7.3
Mandurah (C)	18 872	26 838	42.2	37 925	41.3
Murray (S)	6 634	8 171	23.2	9 190	12.5
Waroona (S)	2 488	3 040	22.2	3 278	7.8
Dale (SSD)	28 885	39 468	36.6	51 915	31.5
Bunbury (C)	23 031	25 657	11.4	26 556	3.5
Capel (S)	3 740	4 931	31.8	5 692	15.4
Collie (S)	9 077	9 058	-0.2	8 636	-4.7
Dardanup (S)	4 159	5 037	21.1	6 344	25.9
Donnybrook-Balingup (S)	3 491	3 844	10.1	4 029	4.8
Harvey (S)	9 609	12 394	29.0	14 766	19.1
Preston (SSD)	53 107	60 921	14.7	66 023	8.4
Augusta-Margaret River (S)	5 333	5 889	10.4	8 047	36.6
Busselton (S)	12 411	13 528	9.0	17 490	29.3
Vasse (SSD)	17 744	19 417	9.4	25 537	31.5
Boyup Brook (S)	1 747	1 665	-4.7	1 604	-3.7
Bridgetown-Greenbushes (S)	3 293	3 713	12.8	3 904	5.1
Manjimup (S)	9 073	9 764	7.6	10 093	3.4
Nannup (S)	1 205	1 084	-10.0	1 144	5.5
Blackwood (SSD)	15 318	16 226	5.9	16 745	3.2
<b>South West (SD)</b>	<b>115 054</b>	<b>136 035</b>	<b>18.2</b>	<b>160 220</b>	<b>17.8</b>

(a) Prior to 1993, the Shire of Boddington was included in the Upper Great Southern Statistical Division.

Source: 1986, 1991 and 1996 Census of Population and Housing.

The South West Statistical Division experienced the highest rate of population growth in the State. Between the 1991 and 1996 Census, the population grew by 17.8% (compared with the State growth of 8.8%). This followed an 18.2% increase between the 1986 and 1991 Census.

The population of the City of Mandurah (37,925), the most populated local government area in the region, doubled in the last ten years. The City of Bunbury, with the region's highest population at the 1986 Census, followed with 26,556 people. The Shire of Busselton with 17,490 people and the Shire of Harvey with 14,766, were the next most populated local government areas.

## Regional Profile

### Age Profile

The population of the South West Statistical Division had a slightly older age profile than the State as a whole. The median age for the region was 34 years; the State median, 33 years. The Shire of Murray had the highest median age, 37 years; the Shire of Boddington had the lowest median age, 30 years.

Of the total population in the region, approximately a quarter were under 15 years of age and 11.9% were aged 65 years and over. The age profile of the 2,797 indigenous persons, however, differed markedly from that of the total population. Nearly half, 45.7%, were aged under 15 years and 1.7% were aged 65 years and over.

While the total number of males (80,348) in the region outnumbered that of females by 476, the number of females in the age group 65 years and over (10,144) outnumbered that of males by 1,276.

#### 20.4 – AGE OF POPULATION, 1996

Years	Indigenous population				Total population			
	Male	Female	Persons	% of Total	Male	Female	Persons	% of Total
0-4	230	216	446	15.9	6 380	5 948	12 328	7.7
5-9	223	210	433	15.5	7 084	6 776	13 860	8.7
10-14	186	215	401	14.3	7 388	6 966	14 354	9.0
15-19	128	139	267	9.5	5 719	5 126	10 845	6.8
20-24	128	111	239	8.5	4 461	4 380	8 841	5.5
25-29	92	121	213	7.6	5 058	5 219	10 277	6.4
30-34	111	101	212	7.6	5 811	6 106	11 917	7.4
35-39	82	91	173	6.2	6 597	6 958	13 555	8.5
40-44	66	70	136	4.9	6 326	6 235	12 561	7.8
45-49	54	47	101	3.6	5 681	5 309	10 990	6.9
50-54	23	26	49	1.8	4 148	3 929	8 077	5.0
55-59	16	30	46	1.6	3 632	3 507	7 139	4.5
60-64	16	17	33	1.2	3 195	3 269	6 464	4.0
65-69	8	8	16	0.6	3 216	3 238	6 454	4.0
70-74	5	10	15	0.5	2 671	2 679	5 350	3.3
75 and over	5	12	17	0.6	2 981	4 227	7 208	4.5
<b>Total</b>	<b>1 373</b>	<b>1 424</b>	<b>2 797</b>	<b>100.0</b>	<b>80 348</b>	<b>79 872</b>	<b>160 220</b>	<b>100.0</b>

Source: 1996 Census of Population and Housing.

### Tourism

In the South West Statistical Division there were 103 hotels, motels and guest houses in the 1997 June quarter, representing over 20% of all such establishments in Western Australia. The room occupancy rate was 44.5%, compared with 50.6% in Western Australia as a whole. The average length of stay was 2 days. These establishments provided direct employment for 1,506 people in the South West region.

There were 504 Holiday Flats, Units and Houses in the South West Statistical Division, 18% of all such establishments in Western Australia. The unit occupancy rate was 41.3%, compared with 48.5% for the State. The average length of stay was 2.7 days. These establishments provided direct employment for 172 people.

## Regional Profile

There were 18 Caravan Parks and 12 Visitor Hostels in the South West Statistical Division. The Caravan Parks Site occupancy rates were 47.6%, compared to the Western Australian rate of 39.9%. Caravan Parks employed 73 people and Visitor Hostels employed 19 people.

### 20.5 - TOURIST ACCOMMODATION, JUNE QTR 1997

		South West	Western Australia
HOTELS, MOTELS AND GUEST HOUSES			
Establishments	No.	103	462
Guest rooms	No.	2 525	18 891
Bed spaces	No.	7 133	46 432
Employment (persons)	No.	1 506	10 826
Room nights occupied	No.	102 218	869 233
Room occupancy rate	%	44.5	50.6
Guest nights	No.	181 351	1 329 250
Bed occupancy rate	%	28.0	31.5
Guest arrivals	No.	90 837	565 131
Average length of stay	days	2	2.4
Takings from accommodation	\$'000	7 278	75 889
HOLIDAY FLATS, UNITS AND HOUSES			
Letting entities	No.	36	128
Total flats, units and houses	No.	504	2 849
Bed spaces	No.	2 904	13 102
Employment (persons)	No.	172	667
Unit nights occupied	No.	18 920	125 666
Unit occupancy rate	%	41.3	48.5
Unit lettings	No.	6 996	31 931
Average length of stay	days	2.7	3.9
Takings from accommodation	\$'000	1 457	9 331
CARAVAN PARKS			
Establishments	No.	18	318
Capacity	No.	1 464	30 238
Sites occupied by long-term guests	No.	486	5 354
Other sites permanently reserved	No.	94	2 534
Employment (persons)	No.	73	1 284
Site nights occupied	No.	63 446	1 097 431
Site occupancy rates	%	47.6	39.9
Guest arrivals	No.	7 754	284 265
Takings from accommodation	\$'000	792	14 301
VISITOR HOSTELS			
Establishments	No.	12	58
Bed spaces	No.	591	3 259
Employment (persons)	No.	19	153
Guest nights	No.	11 121	116 899
Bed occupancy rates	%	20.7	39.9
Guest arrivals	No.	4 565	35 041
Average length of stay	days	2.4	3.3
Takings from accommodation	\$'000	142	1 461

Source: ABS Catalogue No. 8635.5.

### Old Blythwood, Pinjarra

Courtesy: Western  
Australian Tourism  
Commission



### Labour Force

At the 1996 Census, of the 119,677 persons in the South West Statistical Division aged 15 years and over, 59.4% (71,092) participated in the labour force. Of these, 59% (41,891) were males. In Western Australia, males accounted for 57% of the labour force. The Division contained 9% of the state's total labour force.

#### 20.6 - LABOUR FORCE STATUS (a), 1996

	Males	Females	Persons
Employed—			
Full-time	30 212	11 714	41 926
Part-time	6 786	14 179	20 965
Total employed (b)	37 820	26 590	64 410
Unemployed	4 071	2 611	6 682
Total Labour Force	41 891	29 201	71 092
Not in the Labour Force	16 130	29 586	45 716
<b>Total (a)</b>	<b>59 495</b>	<b>60 182</b>	<b>119 677</b>

(a) Population aged 15 years and over.

(b) Includes not stated and overseas visitors.

Source: 1996 Census of Population and Housing.

In the South West Statistical Division, at the 1996 Census:

- of the 64,410 employed persons, 65% worked full-time;
- 68% of part-time workers were female;
- of the 26,590 employed females, 53% worked part-time, compared with 18% of employed males;
- of the 6,682 unemployed persons, 26% were aged 25–34 years and 21% were aged 35–44 years;
- 70% of males aged 15 years and older were in the labour force compared to 48% of females; and
- 19% of unemployed persons were looking for part-time work.

### Industry

Manufacturing, the main industry in the South West Statistical Division, employed 9,426 people, 15% of the employed workforce. Males made up 81% of those employed in the industry.

The Retail Trade industry employed 8,833 persons or 14% of the employed workforce. Females made up 57% of those employed in the industry.

### 20.7 – INDUSTRY, 1996

	Male	Female	Persons
Agriculture, forestry and fishing	4 042	1 862	5 904
Mining	2 494	333	2 827
Manufacturing	7 647	1 779	9 426
Electricity, gas and water supply	936	101	1 037
Construction	4 884	747	5 631
Wholesale trade	1 842	752	2 594
Retail trade	3 783	5 050	8 833
Accommodation, cafes and restaurants	1 019	2 141	3 160
Transport and storage	1 417	472	1 889
Communication services	448	257	705
Finance and insurance	400	746	1 146
Property and business services	2 513	1 921	4 434
Government administration and defence	1 102	756	1 858
Education	1 460	3 055	4 515
Health and community services	839	4 015	4 854
Cultural and recreational services	484	507	991
Personal and other services	1 101	1 085	2 186
Non-classifiable economic units	533	275	808
Not stated	876	736	1 612
<b>Total</b>	<b>37 820</b>	<b>26 590</b>	<b>64 410</b>

Source: 1996 Census of Population and Housing.

## Regional Profile

At the 1996 Census, the most common occupation in the South West Statistical Division, Tradespersons and Related Workers, represented 16% of all employed persons in the area. This compared with 14% for Western Australia. Of the 10,564 Tradespersons/Related Workers, 89% were male and 46% were aged between 35 and 54 years.

### 20.8 – OCCUPATION, 1996

	Male	Female	Persons
Managers and Administrators	4 841	1 929	6 770
Professionals	3 676	3 935	7 611
Associate Professionals	3 891	3 115	7 006
Tradespersons and Related Workers	9 447	1 117	10 564
Advanced Clerical and Service Workers	192	1 865	2 057
Intermediate Clerical, Sales and Service Workers	1 875	6 006	7 881
Intermediate Production and Transport Workers	6 958	879	7 837
Elementary Clerical, Sales and Service Workers	1 339	3 711	5 050
Labourers and Related Workers	4 576	3 331	7 907
Inadequately described	421	134	555
Not stated	604	568	1 172
<b>Total</b>	<b>37 820</b>	<b>26 590</b>	<b>64 410</b>

Source: 1996 Census of Population and Housing.

## Agriculture

The South West Statistical Division's main agricultural activities focussed on fruit and vegetable production, including a burgeoning grape industry. Dairy cattle were the main type of livestock in the region, with 89% of all dairy cattle in the State at 31 March, 1996.

### 20.9 – PRODUCTION OF FRUIT AND VEGETABLES

	South West Statistical Division tonnes	Western Australia tonnes	%
Apples	30 391	38 200	80
Beetroot	250	316	79
Brussels Sprouts	58	68	86
Cauliflower	13 707	19 200	71
Celery	4 089	6 913	59
Cherries	71	96	74
Kiwi Fruit	327	376	87
Nashi	321	351	92
Nectarines	1 626	2 586	63
Onions	14 840	27 191	55
Pears	6 607	9 726	68
Potatoes	106 470	121 546	88

Source: ABS AgStats on floppy disk (7117.0).

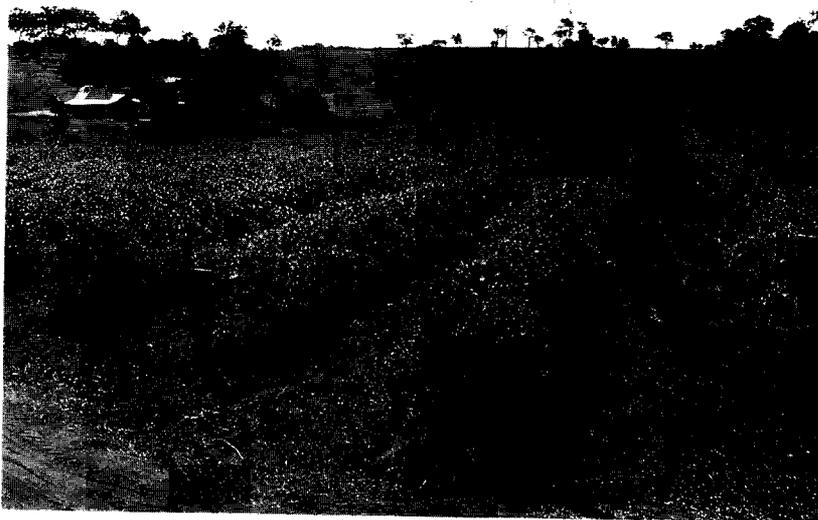
The total area of vegetables under cultivation in the South West Statistical Division, was 4,436 hectares, representing 43% of the State's total 10,324 hectares. Of the State's total area of orchard trees, 51% (3,217 hectares) was in the Division.

The South West Statistical Division harvested 98% of hardwood trees and 94% of softwood trees for timber or wood pulp in the State.

### *Grape growing*

Grape production in the South West Statistical Division has increased dramatically over the past 10 years. In 1985-86, red grape production was 663 tonnes and white grape production, 1,000 tonnes. By 1995-96, red grape production was 3,874 tonnes, representing an increase of 485%; white grape production was 4,640 tonnes, representing an increase of 364%. Most (96%) of the grapes produced were supplied to winemakers.

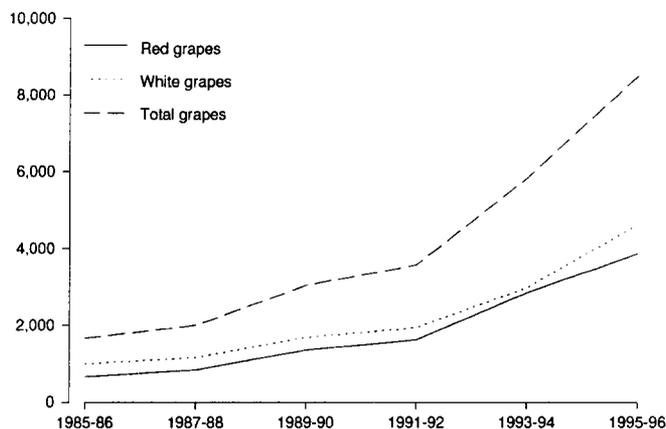
The Division had 38% of the State's total production of grapes, and 49% of the total grape growing area.



### **Vineyard**

*Courtesy: Western  
Australian Tourist  
Commission*

**DIAGRAM 20.1 – GRAPE PRODUCTION (Tonnes)**



Source: ABS AgStats on floppy disk (7117.0).

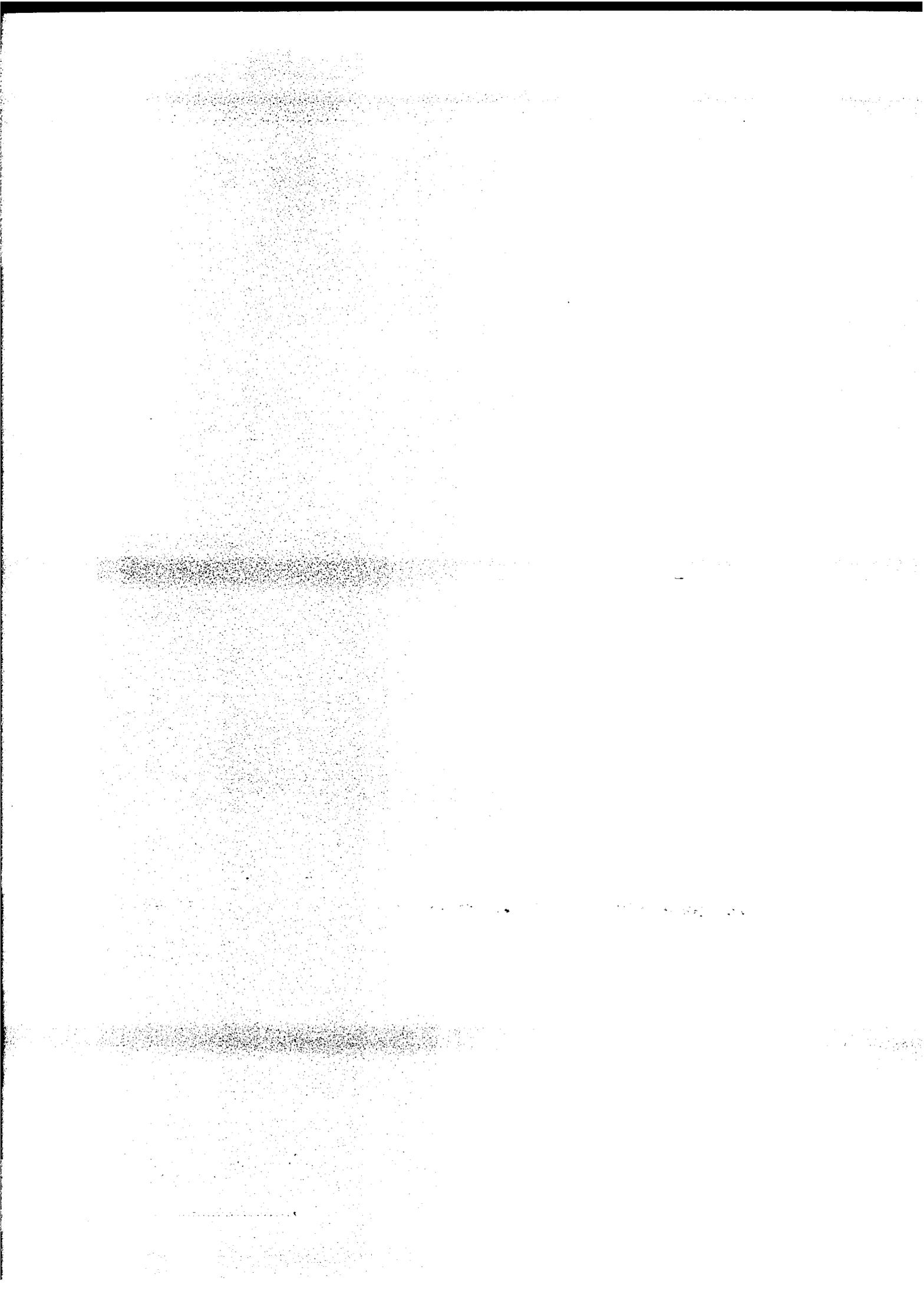
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*Census of Population and Housing, Selected Characteristics for Urban Centres and Localities, Western Australia, Cocos (Keeling) and Christmas Islands (2016.5)*

*Tourist Accommodation, Western Australia (8635.5)*

ABS Products            *AgStats on Floppy Disk (7117.0) including VACP*





# Historical Statistics

## Chapter 21

# HISTORICAL STATISTICS

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## Chapter 21

# HISTORICAL STATISTICS

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In the following pages, a historical summary of some of the more important statistics relating to Western Australia is shown. This is intended to present a general picture of the development of the State. Naturally, the range of statistics available in the early years of the colony is limited.

It is not always possible to achieve perfect comparability over long periods of time because of changes in definitions, scope of statistical collections, etc. While major breaks in series are shown, minor changes are not shown and the statistics should be interpreted with this in mind.

## Historical Statistics

### 21.1 – ESTIMATED POPULATION, NATURAL INCREASE AND MIGRATION (a)

Year	Population at 31 December(b)			Population Increase				Mean population		Population of Perth Statistical Division (g)
	Males	Females	Persons	Recorded	Estimated	Total increase (e)		Year ended		
				natural increase	net migration			30 Jun	31 Dec	
	(000)	(000)	(000)	(c)	(d)	(000)	%	(000)	(000)	
1829	0.8	0.2	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1830	0.9	0.3	1.2	n.a.	n.a.	0.2	16.9	n.a.	n.a.	n.a.
1840	1.4	0.9	2.3	0.0	0.1	0.2	7.3	n.a.	n.a.	n.a.
1850	3.6	2.3	5.9	0.1	1.1	1.2	26.7	n.a.	n.a.	n.a.
1860	9.6	5.7	15.3	0.4	0.1	0.5	3.4	n.a.	15.1	n.a.
1870	15.5	9.6	25.1	0.5	0.0	0.5	2.0	n.a.	24.9	n.a.
1880	17.0	12.6	29.6	0.6	-0.1	0.4	1.5	n.a.	29.4	n.a.
1890	28.9	19.6	48.5	1.0	1.8	2.8	6.2	n.a.	47.1	20.0
1900	110.1	69.9	180.0	3.2	6.5	9.7	5.7	n.a.	175.1	73.0
1910	158.0	118.9	276.8	4.8	6.3	11.2	4.2	266.7	271.0	115.7
1920	176.9	154.4	331.3	4.8	-1.3	3.5	1.1	327.2	330.0	167.0
1930	232.9	198.7	431.6	5.4	-0.5	5.0	1.2	425.8	429.1	235.1
1940	248.7	225.3	474.1	4.6	-2.9	1.7	0.4	472.1	473.4	255.5
1950	294.8	277.9	572.6	9.2	19.3	28.5	5.2	545.1	557.9	351.7
1960	<u>372.7</u>	<u>358.4</u>	<u>731.0</u>	11.2	1.1	12.3	1.7	717.3	722.9	<u>470.3</u>
1970	<u>510.2</u>	<u>493.9</u>	<u>1 014.1</u>	14.1	23.4	37.4	3.8	<u>975.1</u>	<u>944.2</u>	689.6
1971	547.6	522.8	1 070.3	16.4	<u>16.4</u>	<u>33.0</u>	<u>3.3</u>	1 013.5	1 052.8	719.1
1972	558.0	534.6	1 092.6	14.8	7.9	22.3	2.1	1 069.0	1 081.6	743.6
1973	568.5	545.5	1 114.0	12.7	8.9	21.4	2.0	1 091.8	1 101.9	762.0
1974	584.6	561.4	1 146.0	12.5	19.7	32.0	2.9	1 113.7	1 127.9	785.8
1975	594.5	572.9	1 167.4	12.4	9.4	21.4	1.9	1 142.8	1 155.5	810.5
1976	605.9	585.7	1 191.7	13.0	10.9	24.3	2.1	1 166.9	1 178.9	832.8
1977	618.2	599.0	1 217.2	12.8	11.4	25.5	2.1	1 191.6	1 204.5	851.8
1978	627.2	609.2	1 236.4	12.9	5.0	19.2	1.6	1 217.1	1 227.9	869.0
1979	636.4	620.7	1 257.1	12.5	6.8	20.7	1.7	1 237.1	1 246.8	882.9
1980	648.9	634.6	1 283.5	12.5	12.6	26.4	2.1	1 257.2	1 269.3	899.4
1981	667.4	652.8	1 320.2	13.9	19.9	36.7	2.9	1 284.0	1 301.2	922.0
1982	684.8	670.2	1 355.0	14.1	17.6	34.8	2.6	1 320.3	1 338.7	952.4
1983	697.6	683.4	1 381.0	14.7	8.1	26.0	1.9	1 354.8	1 368.5	976.8
1984	708.1	695.0	1 403.0	13.1	5.6	22.0	1.6	1 380.6	1 391.8	995.6
1985	725.0	711.9	1 436.9	14.3	16.3	33.9	2.4	1 404.1	1 419.0	1 018.2
1986	745.2	732.2	1 477.4	14.9	24.2	40.5	2.8	1 437.5	1 457.9	1 050.1
1987	763.2	750.1	1 513.4	14.5	22.8	36.0	2.4	1 477.6	1 496.0	1 079.6
1988	785.8	773.1	1 558.9	15.6	31.3	45.6	3.0	1 515.1	1 536.4	1 110.5
1989	803.9	792.3	1 596.2	15.5	22.9	37.3	2.4	1 558.5	1 578.6	1 147.4
1990	817.5	806.9	1 624.4	15.9	13.4	28.2	1.8	1 596.7	1 612.5	1 175.4
1991 r	828.2	818.9	1 647.0	15.8	7.9	23.7	1.5	1 625.2	1 636.6	1 188.8
1992 r	838.4	829.0	1 667.4	14.8	5.0	19.9	1.2	1 647.7	1 658.3	1 205.5
1993 r	849.2	839.4	1 688.6	14.5	6.2	20.7	1.2	1 668.0	1 678.0	1 221.2
1994 r	863.1	853.1	1 716.2	14.5	12.4	26.9	1.6	1 689.7	1 703.5	1 238.8
1995 p	879.6	869.5	1 749.2	14.6	17.5	32.0	1.9	1 717.9	1 733.5	1 262.2
1996 p	896.3	886.4	1 782.7	13.8	19.6	33.3	1.9	1 750.0	1 766.1	1 295.1

- (a) Figures for 1960 and earlier exclude the indigenous population.
- (b) Population figures for 1971 and later refer to the estimated resident population. Estimates are based on final Census results.
- (c) Excess of births registered over deaths registered, including deaths of defence personnel, whether in Australia or overseas, between September 1939 and June 1947. Figures prior to 1972 are on a State of registration basis; those for 1972 and later are on the basis of State of usual residence.
- (d) Interstate and overseas.
- (e) For the years 1972 to 1991 differences between the sum of natural increase and net migration, and total increase are owing to distribution of intercensal discrepancy.
- (f) The rates represent total increase in population during the year expressed as a proportion of the population at the end of the previous year.
- (g) Prior to 1971 figures are at 31 December. Those for 1971 and later are as at 30 June.

## 21.2 - VITAL STATISTICS (a)

Year	Marriages No.	Divorces (c) No.	Live birth (d) No.	Deaths (d)(e) No.	Crude rate per 1,000 of mean population(b)(d)				Infant mortality (d)(f)(g)	
					Marriages	Births	Deaths(e)	Divorces	No.	Rate
					Rate	Rate	Rate	Rate		
1860	151	n.a.	588	209	10.0	39.0	13.2	n.a.	n.a.	n.a.
1870	153	n.a.	853	378	6.2	34.3	15.2	n.a.	100	117.2
1880	214	n.a.	933	382	7.3	31.8	13.0	n.a.	72	77.2
1890	278	n.a.	1 561	540	5.9	33.2	11.5	n.a.	140	89.7
1900	1 781	n.a.	5 454	2 240	10.2	31.2	12.8	n.a.	688	126.2
1910	2 107	n.a.	7 585	2 740	7.8	28.0	10.1	n.a.	593	78.2
1920	2 932	n.a.	8 149	3 388	8.9	24.7	10.3	n.a.	538	66.0
1930	3 205	n.a.	9 200	3 774	7.5	21.4	8.8	n.a.	430	46.7
1940	5 234	n.a.	9 121	4 486	11.1	19.3	9.5	n.a.	403	44.2
1950	5 434	720	14 228	5 058	9.7	25.5	9.1	1.3	386	27.1
1960	5 323	540	16 926	5 697	7.4	23.4	7.9	0.8	366	21.6
1961	5 150	466	17 078	5 729	7.0	23.2	7.8	0.6	336	19.7
1962	5 466	582	17 064	5 810	7.2	22.6	7.7	0.8	380	22.3
1963	5 755	553	17 290	5 976	7.4	22.2	7.7	0.7	353	20.4
1964	6 023	542	16 685	6 429	7.6	20.9	8.1	0.7	328	19.7
1965	<u>6 448</u>	<u>604</u>	<u>16 186</u>	<u>6 274</u>	<u>7.9</u>	<u>19.9</u>	<u>7.7</u>	<u>0.8</u>	<u>351</u>	<u>21.7</u>
1966	7 002	637	17 194	6 902	8.3	20.3	8.1	0.8	343	20.0
1967	7 430	726	18 023	6 779	8.4	20.5	7.7	0.8	314	17.4
1968	8 086	812	19 541	7 468	8.8	21.3	8.2	0.9	398	20.4
1969	8 993	872	20 754	7 350	9.4	21.7	7.7	0.9	453	21.8
1970	9 227	889	21 618	7 543	9.3	21.7	7.6	0.9	459	21.2
1971	9 382	1 064	24 239	7 806	8.9	23.0	7.4	1.0	464	19.1
1972	9 120	1 243	22 177	7 441	8.4	20.5	6.9	1.2	348	15.7
1973	9 102	1 424	20 510	7 845	8.3	18.6	7.1	1.3	394	19.2
1974	9 295	1 761	20 207	7 778	8.2	17.9	6.9	1.6	327	16.2
1975	9 026	2 240	20 338	7 972	7.8	17.6	6.9	2.0	271	13.3
1976	9 517	4 818	20 670	7 740	8.1	17.5	6.6	4.1	273	13.2
1977	10 063	3 975	20 651	7 899	8.4	17.2	6.6	3.3	251	12.2
1978	9 404	3 387	20 611	7 794	7.7	16.8	6.4	2.8	230	11.2
1979	9 239	3 397	20 469	8 020	7.4	16.4	6.4	2.7	247	12.1
1980	9 594	3 073	20 607	8 166	7.6	16.2	6.4	2.4	239	11.6
1981	10 111	3 481	21 877	7 993	7.8	16.8	6.1	2.7	193	8.8
1982	10 455	3 842	<u>22 236</u>	<u>8 187</u>	7.8	<u>16.6</u>	<u>6.2</u>	2.9	204	9.2
1983	10 519	3 822	23 087	8 369	7.7	16.9	6.1	2.8	179	7.8
1984	9 920	4 069	21 625	8 503	7.1	15.5	6.1	2.9	232	10.7
1985	10 398	4 039	23 109	8 836	7.3	16.3	6.2	2.8	209	9.0
1986	10 379	4 001	24 236	9 307	7.1	16.6	6.4	2.7	214	8.8
1987	10 150	4 044	23 332	8 880	6.8	15.6	5.9	2.6	196	8.4
1988	10 578	3 964	25 143	9 532	6.9	16.4	6.2	2.6	214	8.5
1989	10 739	4 089	25 051	9 543	6.8	15.9	6.1	2.6	195	7.8
1990	10 613	3 845	25 356	9 407	6.6	15.8	5.8	2.4	217	8.6
1991	10 659	4 446	25 417	9 528	6.5	15.5	5.8	2.7	183	7.2
1992 r	10 118	4 540	25 073	9 898	6.1	15.1	6.0	2.7	175	7.0
1993 r	10 382	4 654	25 081	10 316	6.1	15.0	6.2	2.8	147	5.9
1994 r	10 366	5 024	25 138	10 293	6.0	14.8	6.1	2.9	140	5.6
1995 r	10 404	5 040	25 139	10 364	5.9	14.5	6.0	2.9	129	5.1
1996 p	10 135	4 959	24 793	11 027	5.8	14.1	6.2	2.8	160	6.5

(a) Figures for 1965 and earlier exclude the indigenous population.

(b) Crude Birth, Death, Marriage and Divorce rates per 1,000 of the mean population are at 30 June except for 1994 and subsequent years, which are per 1,000 estimated mid-year resident population.

(c) Final orders - dissolution of marriages. 1975 marked the introduction of the Family Law Act in which the only ground for divorce was the irretreivable breakdown of the marriage.

(d) Births and deaths figures for 1982 and earlier years are on a State of registration basis. Figures for 1983 and later are based on State of Usual residence.

(e) Excludes fetal deaths (stillbirths) and between September 1939 and June 1947, deaths of defence personnel, whether in Australia or overseas.

(f) Deaths under 1 year of age included in deaths registered, excluding stillbirths.

(g) Per 1,000 live births.

# Historical Statistics

## 21.3 – SOCIAL SERVICE BENEFICIARIES AND REPATRIATION PENSIONS

Year ended 30 June	Social service benefits						Repatriation pensions	
	Pensioners (a) (b)		Total Age and Invalid	Widow	Family allowance (a)(c) (e)(f)(g)(h)	Unemploy- ment benefit (i)	Disability (a) (j)	Service (a) (k)
	Age (d)	Disability/ Invalid (d)						
1950	24 316	4 294	28 610	2 883	133 557	267	48 878	1 953
1951	24 317	4 184	28 501	2 789	172 186	60	51 027	2 022
1952	24 782	3 964	28 746	2 676	183 257	57	52 071	2 136
1953	25 679	3 996	29 675	2 686	192 991	844	52 607	2 343
1954	27 248	4 101	31 349	2 753	202 098	427	53 352	2 468
1955	28 833	4 191	33 024	2 848	212 025	157	54 117	2 692
1956	30 244	4 425	34 669	3 015	220 792	473	54 427	3 648
1957	32 192	5 039	37 231	3 243	230 922	1 940	54 987	4 306
1958	33 124	5 519	38 643	3 542	237 732	2 330	55 251	4 672
1959	34 629	5 941	40 570	3 833	245 090	2 852	56 008	5 009
1960	36 575	6 152	42 727	4 039	250 449	2 512	56 644	5 344
1961	37 656	6 945	44 601	4 348	257 037	2 154	57 123	6 101
1962	39 104	7 826	46 930	4 570	266 067	2 932	57 947	7 115
1963	40 661	8 170	48 831	4 486	270 736	2 674	57 580	7 526
1964	41 819	8 306	50 125	4 734	283 775	2 677	57 047	7 754
1965	42 706	8 615	51 321	4 926	288 486	1 679	55 920	7 780
1966	43 876	8 575	52 451	5 071	295 303	785	54 560	7 757
1967	45 741	8 307	54 048	5 228	306 325	718	52 967	7 674
1968	48 850	8 310	57 160	5 482	317 491	608	51 193	7 586
1969	50 432	8 413	58 845	5 559	329 593	524	49 526	7 298
1970	56 017	7 933	63 950	6 086	333 597	474	47 993	7 783
1971	58 224	8 155	66 379	6 392	347 585	872	46 514	7 767
1972	60 523	8 485	69 008	6 795	358 907	2 808	45 079	7 864
1973	68 701	9 518	78 219	7 948	364 590	4 960	44 093	9 599
1974	76 124	10 406	86 530	8 763	360 989	2 863	42 807	10 669
1975	79 831	10 961	90 792	9 442	368 626	9 317	41 747	11 814
1976	84 087	12 265	96 352	10 027	373 149	13 598	40 619	13 472
1977	86 470	13 263	99 733	10 691	376 346	15 706	39 459	15 338
1978	94 491	13 653	108 144	11 494	377 545	20 470	38 053	16 975
1979	96 558	15 045	111 603	12 232	371 315	(i)29 000	36 883	18 794
1980	98 887	15 894	114 781	12 476	375 013	(i)29 800	35 857	21 131
1981	101 042	16 352	117 394	12 526	377 113	28 638	34 920	23 704
1982	103 397	17 195	120 592	12 654	385 708	31 636	34 696	26 121
1983	105 784	18 598	124 382	12 830	391 885	50 992	34 726	29 346
1984	103 889	21 124	125 013	12 934	393 952	(i)59 400	34 808	32 640
1985	102 943	23 889	126 832	12 977	396 851	(i)57 900	34 952	34 815
1986	103 085	25 769	128 854	12 817	388 251	(i)54 358	35 223	36 423
1987	103 339	27 886	131 225	12 647	388 360	56 441	31 760	36 532
1988	103 743	28 522	132 265	11 898	367 107	46 091	31 362	36 798
1989	104 816	29 706	134 522	6 901	366 490	35 621	30 761	36 246
1990	106 301	30 590	136 891	6 488	362 930	34 770	30 285	35 570
1991	109 592	32 508	142 100	6 070	371 453	55 756	29 776	35 003
1992	115 397	35 136	150 533	5 816	373 002	78 420	29 355	34 514
1993	121 387	36 817	158 204	5 545	373 295	79 903	29 005	34 047
1994	126 315	38 614	164 929	5 224	354 586	71 916	28 604	33 070
1995	126 832	40 539	167 371	4 888	347 978	66 678	28 396	32 540

(a) Number at 30 June.

(b) Excludes wife/carer pension.

(c) Previously child and student endowment. Name of benefit, rates and conditions changed from 15 June 1976.

(d) Prior to June 1957 excludes pensioners in benevolent homes.

(e) Prior to 30 June 1957 excludes endowed children in institutions.

(f) From 20 June 1950 endowment extended to include first or only children.

(g) From 14 January 1964 includes students aged 16 and under 21; extended to 25 years in 1976.

(h) Family Income Supplement began in May 1983 and was subsumed by Family Allowance Supplement (FAS) from December 1987. From January 1993, Additional Family Payment replaced FAS and additional Pension/Allowance/Benefit for children.

(i) Average number of persons on benefit at end of each week.

(j) Includes pensions paid to incapacitated veterans and to dependants of incapacitated or deceased veterans.

(k) Comprises pensions paid to veterans and their dependants.

(l) Estimated.

## Historical Statistics

### 21.4 – AGRICULTURE

Year (a)	Livestock (b)			Wool production (c)		Area and production of principal grain crops (e)			
						Wheat			Gross Value of Prod'n
	Cattle	Sheep	Pigs	Quantity	Gross value (d)	Area	Yield per hectare	Production	
	'000	'000	'000	tonnes	\$'000	'000 hectares	tonnes	'000 tonnes	\$'000
1840	2	31	2	n.a.	n.a.	1	1.11	1	n.a.
1850	13	128	3	n.a.	n.a.	2	n.a.	n.a.	n.a.
1860	32	260	11	298	n.a.	6	1.00	6	n.a.
1870	45	609	13	811	n.a.	11	0.79	9	n.a.
1880	64	1 232	24	1 970	n.a.	11	0.62	7	n.a.
1890	131	2 525	29	3 161	n.a.	14	0.92	13	n.a.
1900	339	2 434	62	4 323	n.a.	30	0.70	21	310
1910	825	5 159	58	13 210	2 141	236	0.68	161	2 162
1920	850	6 533	61	18 947	4 552	516	0.65	333	11 023
1930	813	9 883	101	32 451	4 829	1 601	0.91	1 456	12 201
1940	789	9 516	218	32 362	7 889	1 062	0.54	573	8 648
1950	865	10 923	79	42 071	47 237	1 171	0.89	1 048	51 339
1960	1 030	16 412	131	72 979	75 302	1 505	1.06	1 597	82 361
1961	1 100	17 151	176	82 652	73 863	1 627	1.07	1 739	92 290
1962	1 218	18 314	174	83 159	79 283	1 773	1.01	1 788	100 023
1963	1 298	18 727	131	80 366	80 071	1 944	1.01	1 973	107 023
1964	1 299	20 165	128	95 053	116 331	1 878	0.76	1 424	74 389
1965	1 258	22 392	137	91 170	93 275	2 085	0.82	1 717	88 557
1966	1 271	24 427	144	108 116	115 183	2 489	1.12	2 780	153 050
1967	1 357	27 370	161	119 681	121 509	2 569	1.09	2 809	153 157
1968	1 427	30 161	183	131 379	116 653	2 690	1.08	2 911	170 102
1969	1 546	32 901	220	164 307	158 264	2 952	1.04	3 060	151 306
1970	1 681	33 634	250	144 527	120 819	2 747	0.66	1 815	90 961
1971	1 781	34 709	278	151 808	92 009	2 361	1.25	2 957	153 227
1972	1 975	34 405	427	170 219	135 137	2 042	1.06	2 165	115 934
1973	2 182	30 919	476	140 649	225 041	2 437	0.82	2 003	109 399
1974	2 330	32 451	344	143 147	251 712	2 978	1.41	4 211	461 049
1975	2 544	34 476	264	172 659	218 859	2 810	1.17	3 277	361 211
1976	2 654	34 771	260	174 807	242 027	3 171	1.30	4 122	427 507
1977	2 464	31 158	242	156 237	291 358	3 314	0.98	3 249	290 489
1978	2 271	29 823	237	143 127	258 034	3 609	0.82	2 945	292 901
1979	2 092	30 265	271	150 284	286 601	3 706	1.19	4 400	546 827
1980	2 065	30 431	293	147 840	348 214	4 121	0.91	3 739	571 158
1981	2 033	30 764	289	160 096	401 030	4 333	0.77	3 315	508 734
1982	1 942	30 268	263	145 126	378 540	4 593	1.05	4 803	762 706
1983	1 754	30 164	300	148 190	395 896	4 865	1.14	5 534	982 505
1984	1 730	29 518	300	141 359	407 451	4 746	0.91	4 316	702 330
1985	1 673	31 574	274	170 030	503 963	4 652	1.41	6 580	1 134 766
1986	1 690	33 213	278	175 859	577 273	4 148	1.05	4 362	736 334
1987	1 660	33 463	295	188 773	716 263	4 260	1.26	5 377	836 016
1988	1 705	33 951	307	188 527	1 252 674	3 312	1.17	3 882	649 969
1989	1 702	37 090	285	203 173	1 395 116	3 297	1.58	5 225	1 122 328
1990	1 672	38 422	272	236 079	1 253 637	3 476	1.38	4 800	951 537
1991	1 566	36 465	270	222 252	874 360	3 632	1.50	5 448	744 797
1992	1 649	34 060	318	182 027	608 237	3 230	1.47	4 736	950 333
1993	1 648	32 965	305	203 626	604 818	3 669	1.63	5 979	1 083 842
1994	1 806	31 952	312	217 648	604 700	3 852	1.74	6 689	1 156 900
1995	1 899	30 218	316	175 698	811 223	3 848	1.41	5 438	1 307 400
1996	1 924	29 834	314	161 018	618 800	3 892	1.75	6 827	2 202 700

- (a) Figures relate to varying time periods (eg. year ended 30 June, year ended 31 December, year ended 31 March), owing to changes in the method of data collection.
- (b) From 1943 figures relate to the season ended 31 March.
- (c) Comprises shorn, dead and fellmongered wool, and wool exported on skins. For 1947 and earlier, figures relate to the year ended 31 December; for the years 1949 to 1964 figures are for the year ended 31 March. From 1965 figures relate to the year ended 30 June in the following year.
- (d) Figures for 1949 and 1951 to 1955 exclude distributions of profits under the 1939-1945 War-time Wool disposals Plan, aggregating \$13,869,934. Separate State figures are not available for distributions made from 1956 to 1958 when payments were virtually complete.
- (e) From 1944 figures relate to the season ended 31 March.

# Historical Statistics

## 21.4 – AGRICULTURE - Continued

Year (a)	Area and production of principal grain crops (b) continued							Gross value of primary commodities produced (d)	
	Oats		Barley		Hay (all types)		Area used for crops (c)	Agri-culture	Fisheries (e)
	Area	Produc-tion	Area	Produc-tion	Area	Produc-tion			
	'000 hectares	'000 tonnes	'000 hectares	'000 tonnes	'000 hectares	'000 tonnes	'000 hectares	'000	'000
1840	n.a.	n.a.	n.a.	n.a.	—	n.a.	1	n.a.	n.a.
1850	n.a.	n.a.	n.a.	n.a.	1	n.a.	3	n.a.	n.a.
1860	—	—	1	1	2	8	10	n.a.	n.a.
1870	1	1	2	2	7	21	22	n.a.	n.a.
1880	—	—	2	2	8	20	26	n.a.	n.a.
1890	1	1	2	2	9	25	28	n.a.	n.a.
1900	2	2	1	1	42	106	81	n.a.	n.a.
1910	25	14	1	1	71	182	346	n.a.	n.a.
1920	78	37	4	3	108	268	730	(f)29 364	n.a.
1930	111	60	7	4	161	500	1 939	(f)38 747	544
1940	174	59	27	16	169	381	1 614	39 520	r562
1950	237	132	28	22	87	276	1 737	141 348	1 432
1960	502	356	170	161	129	440	2 583	256 002	8 621
1961	538	396	219	193	115	387	2 734	266 972	8 569
1962	498	366	199	165	119	402	2 823	280 475	10 689
1963	476	367	158	137	138	460	2 965	292 615	11 219
1964	455	324	121	92	117	395	2 714	300 766	10 187
1965	466	254	123	84	123	396	2 950	296 147	15 218
1966	502	422	167	147	118	421	3 419	406 097	15 733
1967	487	401	151	152	119	424	3 463	411 084	16 525
1968	469	359	168	159	129	428	3 595	428 258	21 954
1969	442	416	224	208	138	508	3 840	461 479	23 717
1970	461	281	364	273	202	576	3 916	370 557	19 660
1971	520	520	632	769	190	673	3 831	445 390	25 127
1972	454	414	911	1 000	177	653	3 751	461 581	30 817
1973	297	212	744	640	224	664	3 855	574 665	28 158
1974	325	383	510	626	220	734	4 133	1 034 191	30 494
1975	262	250	387	329	164	508	3 758	845 169	35 130
1976	320	386	419	505	163	536	4 207	996 633	51 079
1977	372	347	452	553	169	560	4 416	959 160	69 094
1978	415	416	614	751	191	597	4 910	993 889	88 340
1979	427	491	616	778	184	586	4 993	1 343 932	96 055
1980	370	399	523	632	208	636	5 280	1 572 744	85 652
1981	382	384	535	504	240	703	5 547	1 678 031	82 764
1982	432	442	580	576	255	711	5 963	1 874 267	99 254
1983	461	534	603	717	252	754	6 379	2 196 230	126 208
1984	448	456	771	797	238	676	6 526	1 940 863	142 658
1985	351	460	965	1 431	226	747	6 723	2 602 205	165 443
1986	288	338	826	1 024	201	633	5 970	2 213 118	143 034
1987	302	414	468	601	218	681	5 930	2 554 658	182 421
1988	373	502	461	617	243	778	5 334	2 991 232	254 399
1989	389	618	383	552	248	873	5 082	3 719 597	242 412
1990	340	529	421	628	229	811	5 174	r3 369 132	231 677
1991	323	496	498	742	219	772	5 354	2 736 407	264 484
1992	367	614	554	900	239	901	5 216	2 849 384	n.p.
1993	332	578	611	1 061	198	763	5 668	3 114 773	n.p.
1994	268	511	799	1 381	199	812	r6 062	3 365 074	n.p.
1995	256	425	579	915	217	787	r6 146	3 861 369	n.p.
1996	300	585	744	1 323	245	949	6 508	4 489 162	n.p.

- (a) Figures relate to varying time periods (e.g. year ended 30 June, year ended 31 December, year ended 31 March), owing to changes in the method of data collection.
- (b) From 1944 figures relate to the season ended 31 March.
- (c) Excludes pasture hay, and from 1967 also excludes lucerne.
- (d) Estimated value of recorded production based on wholesale prices realised at principal market.
- (e) From 1980 excludes pearling and whaling.
- (f) Includes hunting.

# Historical Statistics

## 21.5 – PRIMARY PRODUCTION

Year	Gold production (a) (b)		Coal production (c)		Average values f.o.b. (d)	
	Quantity	Value	Quantity	Value	Wool (greasy)	Wheat per
	'000 grams	\$'000	'000 tonnes	\$'000	per kg (e)	tonne (f)
					cents	\$
1890	622	171	—	—	n.a.	..
1900	43 980	12 015	120	110	n.a.	5.51
1910	45 753	12 494	266	227	16.20	14.85
1920	19 222	6 951	469	701	28.26	26.33
1930	13 001	3 729	509	770	19.37	16.69
1940	37 044	25 393	548	729	25.68	11.19
1950	18 973	18 933	827	2 575	105.91	57.03
1951	19 533	19 451	862	3 434	263.50	62.25
1952	22 706	23 696	843	4 915	138.10	62.64
1953	25 629	26 598	900	6 146	148.04	63.57
1954	26 469	26 627	1 034	7 178	156.20	60.90
1955	26 189	26 749	919	6 179	135.39	52.22
1956	25 256	26 405	843	5 448	112.66	46.57
1957	27 900	29 102	852	5 105	144.67	48.12
1958	26 967	28 357	885	4 561	130.80	56.35
1959	26 967	28 388	926	4 713	91.87	51.76
1960	26 625	28 140	937	4 878	115.37	49.48
1961	27 122	28 584	778	3 361	99.10	49.91
1962	26 717	28 115	934	3 962	109.80	51.90
1963	24 883	26 375	916	3 970	111.38	52.30
1964	22 177	23 383	1 003	4 679	134.47	52.01
1965	20 497	22 381	1 010	4 410	120.58	51.66
1966	19 564	23 316	1 078	4 562	116.00	51.12
1967	17 916	21 690	1 079	4 765	117.46	54.88
1968	15 925	19 407	1 104	4 817	105.69	51.31
1969	14 961	19 040	1 120	4 853	107.60	51.26
1970	12 310	15 811	1 178	5 407	98.11	47.72
1971	10 736	13 674	1 190	5 653	75.33	48.88
1972	10 848	14 835	1 188	5 855	74.94	49.52
1973	9 264	16 718	1 154	6 422	150.21	49.67
1974	7 173	19 183	1 197	7 237	215.36	98.75
1975	6 305	29 788	1 879	12 511	144.37	126.39
1976	7 644	27 141	2 157	17 613	147.62	116.89
1977	7 619	31 586	2 339	21 896	188.10	105.10
1978	13 653	64 741	2 435	24 846	195.76	92.52
1979	12 231	78 313	2 406	34 484	207.87	116.53
1980	11 598	158 253	3 039	54 464	253.81	146.45
1981	10 532	165 376	3 127	63 100	270.01	160.32
1982	16 135	178 566	3 435	75 132	288.61	155.48
1983	22 992	334 802	3 903	95 529	303.41	168.10
1984	26 183	365 453	3 942	106 325	317.08	173.81
1985	37 425	508 892	3 673	109 120	353.01	187.09
1986	46 072	707 114	3 765	126 841	376.50	185.14
1987	64 911	1 300 079	3 782	n.p.	430.31	144.86
1988(g)	107 290	1 913 146	3 790	158 004	651.33	146.18
1989	135 281	2 077 235	3 900	166 021	721.94	202.00
1990	176 347	2 794 000	4 831	214 254	627.18	223.06
1991	171 960	2 666 335	5 114	228 562	374.30	140.23
1992	181 286	2 739 447	5 655	251 763	374.28	187.26
1993	183 487	3 139 858	5 453	247 611	359.27	215.38
1994	r192 480	r3 256 456	5 035	r234 017	341.86	186.49
1995	r189 479	r3 163 659	6 062	280 656	507.07	206.99
1996	(h)221 033	(h)3 526 341	5 815	268 381*		

(a) Prior to 1971 comprises gold refined at the Mint and gold contained in gold-bearing materials exported.

(b) From 1971 covers gold and coal production as notified by the Department of Minerals and Energy.

(c) From 1969 figures relate to year ended 30 June.

(d) From 1978 figures relate to foreign exports only.

(e) From 1920 figures relate to year ended 30 June.

(f) Prior to 1940 averages generally are based on exports of the previous season's wheat; from 1940 they relate to exports during the year ended 30 June.

(g) From 1988, figures relate to year ended 31 December.

(h) Estimates.

## Historical Statistics

### 21.6 – SECONDARY PRODUCTION

Year (a)	Manufacturing	Persons	Wages and	Turnover(e)	Value	Industry
	establishments(b)	employed(c)	salaries(d)		added(f)	
	No.	'000	\$m	\$m	\$m	
1900	632	11.2	2.6	n.a.	0.0	
1910	822	14.9	3.5	10.2	5.5	
1920	998	16.9	6.1	26.3	9.7	
1930	1 466	19.6	8.3	33.8	15.0	
1940	2 129	23.0	9.2	40.6	18.1	
1950	3 023	40.7	30.6	173.0	522.1	
1960	4 279	49.7	83.3	431.2	172.7	
1961	4 334	50.7	90.3	481.1	193.3	
1962	4 418	51.0	92.8	487.0	196.1	
1963	4 492	53.4	99.9	517.9	216.4	
1964	4 609	55.7	108.5	555.1	230.5	
1965	4 734	58.1	120.0	616.4	260.6	
1966	4 906	60.3	134.2	678.8	288.8	
1967	5 167	63.8	153.6	765.2	335.8	
1968	5 404	67.3	175.1	887.4	388.3	
1969	2 585	59.9	183.2	919.6	361.5	
1970	2 705	62.6	208.4	1 028.8	415.0	
1971	(g)	(g)	(g)	(g)	(g)	
1972	2 727	64.2	255.9	1 240.1	472.0	
1973	2 814	64.1	275.5	1 375.9	501.0	
1974	2 818	67.9	346.9	1 741.0	658.4	
1975	1 974	65.9	434.3	2 032.4	779.8	
1976	2 054	66.0	508.9	2 432.7	944.5	
1977	2 035	66.8	594.5	2 882.4	1 151.6	
1978	2 037	65.7	629.1	3 031.5	1 208.7	
1979	2 202	65.2	670.8	3 498.8	1 321.7	
1980	2 301	66.0	734.2	4 259.1	1 643.3	
1981	2 426	68.9	869.2	4 902.2	1 876.7	
1982	2 603	70.8	1 013.4	5 491.0	2 052.7	
1983	2 499	65.0	1 038.3	5 596.5	2 040.9	
1984	2 408	62.0	1 047.4	5 922.7	2 136.7	
1985	2 451	64.2	1 137.6	6 788.5	2 513.2	
1986	(g)	(g)	(g)	(g)	(g)	
1987	2 660	69.3	1 407.0	8 215.1	2 998.7	
1988	2 675	72.1	1 604.8	9 416.9	n.a.	
1989	2 651	72.7	1 710.5	10 579.0	n.a.	
1990	r3 808	68.8	1 813.9	13 280.2	r57 98.9	
1991	r3 761	r65.7	r1 795.2	r13 231.6	n.a.	
1992	r3 896	r63.8	r1 811.6	r12 850.4	n.a.	
1993	r3896	r65.0	r1 872.5	r13 510.9	n.a.	
1994	3 936	65.4	1938.1	13 777.8	n.a.	
1995	n.a.	70.9	2 120.7	14 742.2	n.a.	
1996	n.a.	68.8	2 132.7	15 069.1	n.a.	4 187.8

(a) From 1930, year ended 30 June.

(b) Excludes details of single establishment manufacturing enterprises employing fewer than four persons. For details of breaks in series refer to publications of Censuses of Manufacturing Establishments statistics.

(c) Average over whole year including working proprietors. Prior to 1926–27 includes fellers and haulers employed by sawmills. From 1988, employment at 30 June.

(d) Figures for 1929–30 and later exclude amounts drawn by working proprietors.

(e) Selling value 'at the factory'.

(f) Value added in course of manufacture, representing sum available for payment of wages, rent, depreciation, other sundry expenses and for interest and profit. Not reported after 1995.

(g) No census of manufacturing establishments was conducted for this year.

(h) Industry gross product for manufacturing is the measure of the value which is added by the industry's production process to the raw materials and services which are input to those processes. Figures as from 1996.

## Historical Statistics

### 21.6 - SECONDARY PRODUCTION Continued

Year	Bricks (a) '000	Scoured wool (b) tonnes	Bacon and ham (c) tonnes	Butter (d) tonnes	Cheese tonnes	Timber from local logs (f) '000 cu m
1900	25 234	n.a.	n.a.	132	n.a.	266
1910	23 162	n.a.	n.a.	291	n.a.	412
1920	31 838	n.a.	850	553	n.a.	325
1930	47 720	n.a.	1 180	2 143	n.a.	377
1940	43 786	2 459	2 106	6 351	382	360
1950	58 943	7 110	3 599	6 878	712	363
1960	110 359	15 271	3 228	7 494	1 466	532
1961	119 998	13 420	3 214	7 784	1 373	496
1962	119 868	14 459	3 556	7 603	1 386	505
1963	131 176	13 312	3 899	7 075	1 462	486
1964	155 792	12 464	3 841	7 026	1 530	517
1965	146 057	12 040	4 047	7 887	1 838	550
1966	140 611	12 107	4 357	8 225	1 230	552
1967	163 166	12 148	4 654	6 529	1 726	533
1968	207 575	12 662	5 173	6 009	1 983	557
1969	273 078	14 415	5 591	6 332	2 022	444
1970	288 949	14 940	5 399	5 915	1 718	450
1971	240 323	10 724	4 863	5 425	1 917	449
1972	227 581	17 009	5 116	5 988	1 979	407
1973	278 610	11 987	5 257	5 324	1 869	405
1974	304 178	10 791	5 530	5 223	1 922	408
1975	262 905	11 779	5 294	4 981	2 291	392
1976	328 356	13 969	5 439	4 531	2 673	388
1977	385 942	15 818	5 836	3 340	2 074	375
1978	357 391	13 308	5 666	2 212	1 812	386
1979	381 092	16 129	5 516	1 373	2 364	341
1980	404 954	20 128	5 930	995	2 866	349
1981	381 909	21 645	6 062	834	3 342	347
1982	391 743	19 574	6 074	799	3 322	334
1983	279 164	13 747	6 405	914	3 417	257
1984	n.p.	17 053	6 807	1 269	3 665	265
1985	n.p.	21 938	7 862	1 582	3 736	305
1986	n.p.	22 992	8 174	1 595	3 400	329
1987	n.p.	29 109	8 502	1 400	3 727	317
1988	n.p.	25 820	8 377	1 505	3 772	319
1989	n.a.	19 475	9 937	r1 139	r3 586	324
1990	n.a.	19 511	9 937	1 339	4 129	955
1991	n.a.	22 815	10 674	1 478	5 256	263
1992	n.a.	27 320	9 974	r2 046	5 380	259
1993	n.a.	n.a.	10 574	2 665	5 804	n.a.
1994	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1996	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

(a) For years prior to 1964-65, figures represent clay bricks only (all sizes).

(b) Excludes fell-mongered, dead or waste wool.

(c) From 1977-78 excludes canned bacon and ham.

(d) For 1917 and earlier years, includes butter made on farms. Source: From 1977-78 to 1980-81, Western Australian Department of Agriculture; from 1981-82, the Australian Dairy Corporation.

(e) Source: 1933-34 to 1967-68, annual manufacturing census; 1968-69 to 1970-71, Commonwealth Dairy Produce Equalisation Committee Ltd. From 1971-72 to 1980-81, WA Department of Agriculture; from 1981-82, the Australian Dairy Corporation.

(f) Prior to 1968-69, figures also include hewn timber.

## Historical Statistics

### 21.7 – BUILDING COMPLETED (a)

Year ended 30 June	Houses (b) (c)		Other Residential buildings (b)(c)		Alterations and additions (f) to residential buildings	Non-residential building (g)				Total building (e)
	(d)	(e)	(e)	(e)	Value (e)	Factories	Offices	Educational	Total	(e)
	No.	\$m	No.	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1950	3 509	9.0	101	0.2	(h)	0.4	n.a.	n.a.	1.5	10.7
1960	5 997	35.5	263	1.0	(h)	2.4	1.5	5.8	23.8	60.2
1961	5 973	38.1	440	1.6	(h)	4.7	4.1	8.0	32.4	72.0
1962	6 082	39.5	265	1.3	(h)	3.0	2.9	6.0	27.3	68.1
1963	6 593	45.8	642	3.0	(h)	4.9	1.6	7.7	37.7	86.4
1964	7 276	51.8	1 295	5.6	(h)	5.4	6.0	6.2	35.5	92.9
1965	7 445	57.2	1 841	9.0	(h)	6.8	2.8	8.0	40.8	107.1
1966	7 265	58.1	1 624	9.1	(h)	9.6	10.6	8.5	63.0	130.2
1967	8 272	78.1	1 742	9.3	(h)	9.8	7.1	10.5	74.7	162.1
1968	9 858	97.4	2 392	12.6	(h)	15.1	14.6	12.1	85.5	195.4
1969	12 840	133.3	3 491	22.4	(h)	15.8	10.9	14.1	99.2	254.8
1970	13 933	151.3	5 596	40.5	(h)	16.6	14.3	13.3	111.6	303.4
1971	11 900	149.3	5 013	40.0	0.4	18.0	39.7	20.6	175.4	365.0
1972	13 209	165.5	1 595	13.9	1.2	21.3	19.4	16.3	150.8	331.4
1973	13 660	163.4	920	7.3	1.8	15.6	21.2	24.8	151.5	324.0
1974	12 517	176.4	3 546	32.8	2.8	23.4	19.0	21.8	139.2	351.2
1975	10 994	198.6	3 300	38.9	4.4	18.2	18.4	40.0	170.1	412.0
1976	12 080	253.8	2 948	44.0	8.7	22.4	45.7	58.3	227.3	533.8
1977	15 155	395.0	6 152	113.9	15.4	26.6	43.5	29.5	226.4	750.7
1978	12 685	378.8	4 681	98.9	21.5	34.6	18.2	46.1	234.1	733.3
1979	11 148	349.1	3 507	74.9	30.5	44.0	33.2	56.3	339.3	793.8
1980	11 648	380.9	4 156	93.2	33.3	51.5	49.9	33.2	301.9	809.4
1981	10 120	375.5	4 531	108.0	37.5	37.0	75.0	29.6	308.8	829.7
1982	9 440	398.5	5 255	165.0	51.9	52.6	131.5	39.9	495.6	1 111.0
1983	9 070	372.5	4 020	143.4	47.4	45.2	152.1	37.7	464.3	1 027.5
1984	10 340	407.4	2 124	75.9	41.0	19.0	75.0	45.1	351.0	875.4
1985	14 000	583.9	3 735	115.3	51.9	27.9	55.6	30.7	357.5	1 108.6
1986	12 620	615.7	4 217	158.1	60.5	91.5	149.9	65.3	630.8	1 465.1
1987	12 330	651.5	3 619	144.3	70.4	39.0	155.8	99.2	795.0	1 661.2
1988	12 390	694.4	3 518	140.6	80.2	63.4	208.1	120.9	884.5	1 799.7
1989	14 660	906.9	4 631	193.6	99.5	81.3	263.6	65.1	959.5	2 159.5
1990	17 690	1 296.1	7 229	367.9	142.0	97.4	343.5	161.9	1 194.0	3 000.0
1991	11 385	904.3	3 959	240.6	143.5	59.3	203.1	117.5	761.4	2 049.8
1992	11 539	892.7	3 377	195.5	139.6	19.1	611.6	91.6	1 081.0	2 308.9
1993	14 368	1 064.0	5 436	343.5	137.0	42.3	313.2	130.5	882.0	2 426.5
1994	16 069	1 284.3	5 770	370.3	143.3	46.5	87.0	123.0	744.4	2 542.5
1995	17 384	1 500.3	6 748	476.1	171.2	78.5	85.3	142.6	955.1	3 102.7
1996	12 951	1 287.8	4 490	354.6	180.1	61.8	157.0	72.3	795.6	2 618.1
1997	11 486	1 125.5	2 844	253.7	178.8	106.9	130.1	90.5	885.7	2 493.0

(a) From 1981 figures are not strictly comparable with those for earlier periods.

(b) Prior to 1970–71 figures include alterations and additions to dwellings. Data for 1970–71 and later years relate to new dwellings only.

(c) From July 1973 changes in the classification of residential buildings mean that figures for earlier years are not comparable.

(d) From 1981 numbers of new houses are rounded to nearest ten units.

(e) Excludes the value of land.

(f) Valued at \$10,000 and over.

(g) From 1 July 1990, valued at \$50,000 and over (includes alterations and additions). From 1 July 1985 to 30 June 1990, valued at \$30,000 and over (includes alterations and additions). Prior to 1 July 1985, valued at \$10,000 and over (includes alterations and additions).

(h) Not available separately: includes with Houses and Other residential buildings as appropriate.

## Historical Statistics

### 21.8 – TRANSPORT; CUSTOMS AND EXCISE

Year	State Government railways (a)		Private railways	Air passenger movements		Customs and excise gross revenue (c)		
	Route kilometres at end of year (b)	Paying goods '000 t	Route kilometres at end of year	Perth Airport		Customs	Excise	Total
				Internal '000	Inter- national '000	\$'000	\$'000	\$'000
1870	—	—	—	..	..	81	—	81
1880	55	2	61	..	..	186	—	186
1890	303	62	620	..	..	356	—	356
1900	2 181	1 406	1 003	..	..	1 889	63	1 952
1910	3 452	2 278	1 452	..	..	1 543	213	1 756
1920	5 695	2 656	1 477	..	..	1 311	799	2 110
1930	6 616	3 587	1 363	n.a.	..	3 882	1 527	5 409
1940	7 051	2 702	1 337	n.a.	..	3 769	2 395	6 164
1950	6 843	2 889	1 246	n.a.	..	10 166	10 943	21 109
1960	6 630	4 605	832	n.a.	n.a.	5 614	33 634	39 248
1961	6 635	4 911	755	n.a.	n.a.	7 470	33 835	41 305
1962	6 198	5 428	898	n.a.	n.a.	7 156	35 705	42 861
1963	6 111	4 870	888	n.a.	n.a.	8 996	35 944	44 940
1964	5 918	5 271	665	n.a.	n.a.	10 369	37 839	48 208
1965	6 008	5 133	34	n.a.	n.a.	10 692	43 349	54 041
1966	6 030	6 486	460	270	26	15 251	53 536	68 787
1967	6 140	7 999	455	294	36	13 569	58 176	71 745
1968	6 140	9 053	455	340	49	19 468	62 903	82 371
1969	6 157	9 078	882	382	54	21 202	69 289	90 490
1970	6 161	10 837	884	467	69	24 649	76 637	101 286
1971	6 175	13 457	884	541	84	32 262	88 978	121 240
1972	6 116	13 867	884	524	105	30 072	101 883	131 955
1973	6 168	13 706	1 220	596	117	25 714	106 054	131 768
1974	6 192	15 059	1 222	668	139	30 612	138 197	168 809
1975	6 075	16 348	1 181	681	165	44 114	148 310	192 424
1976	6 163	17 812	1 179	658	197	46 767	183 838	230 605
1977	6 165	19 003	1 155	746	206	63 037	203 852	266 889
1978	5 764	18 625	1 150	815	225	68 118	216 929	285 047
1979	5 764	19 288	1 155	879	261	71 704	256 486	328 190
1980	5 773	21 388	1 159	928	325	83 620	260 299	343 919
1981	5 773	20 271	1 160	960	377	110 939	283 499	394 438
1982	5 609	19 776	1 181	1 027	434	128 866	198 397	327 263
1983	5 610	19 791	1 177	1 005	414	130 752	379 889	510 641
1984	5 623	19 870	1 177	1 075	455	133 088	492 117	625 205
1985	5 563	22 085	1 285	1 195	502	176 416	496 172	672 588
1986	5 553	20 877	1 185	1 264	569	196 027	444 311	640 338
1987	5 553	21 264	1 185	1 432	649	213 647	284 677	498 324
1988	5 553	21 946	1 191	1 471	714	232 397	330 699	563 096
1989	5 553	24 294	1 198	1 140	812	260 204	326 816	587 020
1990	5 554	24 906	n.a.	1 399	861	258 328	376 293	634 621
1991	5 554	24 410	n.a.	1 939	824	n.a.	n.a.	n.a.
1992	5 554	25 890	n.a.	1 909	897	n.a.	n.a.	n.a.
1993	5 583	26 523	n.a.	2 210	1 001	n.a.	n.a.	n.a.
1994	5 583	27 726	n.a.	2 532(d)	1 121	n.a.	n.a.	n.a.
1995	5 583	29 317	n.a.	2 783	1 191(d)	n.a.	n.a.	n.a.
1996	5 369	31 081	n.a.	3 054(e)(f)	1 292(e)(f)	n.a.	n.a.	n.a.
1997	5 139	31 708	n.a.	n.y.a.	n.y.a.	n.a.	n.a.	n.a.

(a) From 1900, year ended 30 June.

(b) Open for general and passenger traffic.

(c) From 1920, year ended 30 June.

(d) Includes domestic and regional traffic and passengers in transit (total of embarkation and disembarkation).

(e) Excludes passengers in transit.

(f) Data includes estimates.

# Historical Statistics

## 21.9 – MOTOR VEHICLE REGISTRATIONS

Year	New motor vehicles registered (a)				Motor vehicles on register (d)			
	Motor cars (b)	Utilities, panel vans, trucks and buses	Motor cycles (c)	Total	Motor cars (e)	Utilities, panel vans, trucks and buses	Motor cycles (c)	Total
1890	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1900	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1910	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1920	n.a.	n.a.	n.a.	n.a.	3 404	n.a.	n.a.	n.a.
1930	n.a.	n.a.	n.a.	n.a.	31 130	11 358	7 707	50 195
1940	2 871	1 517	399	4 787	38 907	25 026	6 789	70 222
1950	8 926	4 707	2 346	15 979	48 632	43 206	12 897	104 735
1960	13 492	5 695	1 949	21 136	130 476	68 702	12 876	212 054
1961	15 161	5 542	1 080	21 783	141 612	70 974	12 589	225 175
1962	17 082	5 833	902	23 817	155 447	74 224	12 390	242 061
1963	23 175	6 367	754	30 296	169 800	75 500	11 500	256 800
1964	24 958	7 013	628	32 599	186 200	77 700	10 200	274 100
1965	23 304	6 897	553	30 754	197 800	78 500	8 900	285 200
1966	23 418	9 170	706	33 294	212 600	83 300	8 400	304 300
1967	27 922	9 404	1 158	38 484	231 200	86 300	8 400	325 900
1968	33 368	10 448	1 525	45 341	252 300	90 800	8 900	352 000
1969	35 379	11 018	1 539	47 936	275 300	94 500	9 600	379 400
1970	37 764	11 138	1 945	50 847	301 000	99 900	10 800	411 700
1971	37 769	10 872	2 718	51 359	328 500	104 900	12 200	445 600
1972	37 274	9 819	3 985	51 078	346 300	104 600	14 200	465 100
1973	36 904	11 425	4 914	53 243	364 400	107 400	16 800	488 600
1974	40 302	12 241	7 062	59 605	389 300	112 700	21 000	523 000
1975	41 474	13 693	6 613	61 780	414 800	125 000	24 600	564 400
1976	40 338	15 863	5 731	61 932	437 200	140 000	27 600	604 800
1977	44 363	17 362	3 887	65 612	473 731	153 174	28 022	654 927
1978	40 990	16 538	3 339	60 867	500 365	167 107	28 051	695 523
1979	40 882	14 025	2 713	57 620	518 705	174 064	26 916	719 685
1980	40 232	13 716	4 600	58 548	535 613	179 844	29 531	744 988
1981	41 660	15 223	6 088	62 971	552 552	187 599	33 009	773 160
1982	42 329	16 079	5 835	64 243	573 400	197 344	35 213	805 957
1983	38 812	15 043	5 147	59 002	576 893	196 539	35 852	809 284
1984	39 737	15 199	3 969	58 905	592 495	201 754	35 770	830 019
1985	46 070	17 956	4 310	68 336	615 442	214 649	36 229	866 320
1986	42 645	13 676	3 350	59 671	632 182	218 851	36 324	887 357
1987	33 642	10 198	2 305	46 145	647 734	223 030	35 287	906 051
1988	36 040	10 617	2 215	48 872	670 158	230 161	35 442	935 761
1989	44 100	14 149	2 522	60 771	708 253	241 698	36 294	986 245
1990	42 728	13 735	2 875	59 338	746 194	254 009	37 452	1 037 655
1991	36 926	10 874	2 784	50 584	764 157	259 246	38 240	1 061 643
1992	41 979	9 573	1 814	53 366	781 600	262 294	37 816	1 081 710
1993	45 567	11 556	2 117	59 240	803 728	269 408	37 894	1 111 030
1994	48 589	12 486	2 103	63 178	827 837	277 466	37 078	1 142 381
1995	52 094 r	12 861 r	2 355 r	67 310 r	855 129	286 243	37 440	1 178 812
1996	51 319 r	13 162 r	2 441 r	66 922 r	880 856	293 340	37 590	1 211 786
1997	56 984	13 035	2 692	72 711	911 887	302 658	39 181	1 253 726

(a) Year ended 30 June.

(b) From 1959 includes station wagons previously included with commercial vehicles.

(c) Including motor scooters.

(d) From 1929 to 1995, at 30 June; for earlier years, at various dates; for 1997 at 31 October; for 1996 at 2 November. For years before 1946, excludes Commonwealth Government-owned vehicles; from 1946, includes Commonwealth Government-owned vehicles other than those of defence services. From 1956 to 1976, series based on the results of the periodic census of motor vehicles. Improvements in the methodology used to produce statistics of motor vehicles on register have resulted in a break in the continuity of the series from 30 June 1983.

(e) From June 1956, includes station wagons previously included with commercial vehicles.

## Historical Statistics

### 21.10 – EXPORTS OF SELECTED COMMODITIES ( a )

Year(b)	Live		Meats – Fresh, chilled and frozen					
	Cattle	Sheep (c)	Beef and veal		Mutton and lamb		Pigmeat	
	\$'000	\$'000	tonnes	\$'000	tonnes	\$'000	tonnes	\$'000
1890	n.a.	n.a.	—	—	—	—	—	—
1900	n.a.	n.a.	(d)	(d)	(d)	(d)	(d)	(d)
1910	n.a.	n.a.	—	—	—	—	—	—
1920	n.a.	n.a.	300	33	—	—	—	—
1930	1	46	5 162	272	—	—	—	—
1940	—	65	4 826	329	4 665	533	2 263	324
1950	5	426	8 625	1 183	2 392	485	163	59
1951	9	616	7 699	1 221	939	217	279	113
1952	23	631	6 028	1 135	1 044	301	424	232
1953	23	501	5 016	1 437	6 589	1 463	463	303
1954	29	568	6 148	1 748	3 309	875	215	152
1955	68	612	6 776	2 038	3 225	1 328	1 049	532
1956	177	625	7 601	2 343	6 602	2 156	743	482
1957	243	923	4 127	1 221	5 788	1 741	733	588
1958	308	841	11 025	3 302	5 083	1 900	2 324	1 462
1959	396	764	10 535	4 342	9 944	3 177	1 983	1 178
1960	325	845	13 597	6 742	8 735	2 378	1 188	953
1961	318	881	12 413	6 141	11 367	3 901	1 894	1 501
1962	55	1 254	12 544	6 299	8 468	2 436	3 151	2 025
1963	160	1 495	17 268	9 382	7 428	2 401	2 061	1 404
1964	331	1 433	20 528	11 497	5 385	1 895	861	718
1965	427	1 376	19 360	11 730	5 040	1 981	571	516
1966	283	1 633	18 115	12 108	10 319	4 357	420	376
1967	381	1 771	16 912	11 987	9 652	3 723	565	470
1968	1 229	2 191	16 821	12 995	13 153	4 745	547	474
1969	972	2 943	20 210	16 939	21 523	7 218	642	564
1970	760	2 876	23 645	21 508	29 661	11 271	1 437	1 175
1971	1 159	2 710	20 257	17 626	24 244	9 396	1 126	895
1972	1 865	3 871	24 435	22 528	42 994	17 645	2 503	1 995
1973	1 661	7 959	33 325	36 614	39 853	26 103	7 630	6 382
1974	2 111	12 539	34 778	43 039	27 189	23 682	5 939	5 772
1975	1 498	12 862	31 083	25 993	33 240	22 107	2 283	3 037
1976	1 464	14 436	35 732	32 693	52 120	34 009	2 451	3 696
1977	2 533	34 905	53 051	53 291	60 373	48 913	1 292	1 968
1978	3 071	35 985	57 827	64 896	42 532	40 885	620	984
1979	3 182	45 915	51 932	90 216	26 250	31 059	382	693
1980	1 748	91 763	41 372	93 547	44 699	51 230	204	460
1981	2 899	100 340	40 672	87 669	44 142	57 515	144	334
1982	3 039	94 825	38 399	73 673	25 367	37 057	225	446
1983	5 476	94 630	41 659	88 972	29 073	43 133	99	344
1984	5 824	92 700	32 492	80 442	26 000	39 114	282	829
1985	3 432	82 430	30 327	77 403	21 329	33 808	150	567
1986	5 339	84 317	28 012	76 709	27 055	41 766	122	373
1987	4 969	105 015	29 928	88 348	31 010	50 305	481	1 542
1988	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1989	3 371	62 256	24 980	74 722	19 844	38 006	36	133
1990	6 094	62 046	31 576	104 210	31 928	57 682	68	136
1991	7 537	43 432	32 038	90 710	45 219	81 803	74	180
1992	4 711	67 636	25 899	83 634	27 946	50 439	48	86
1993	13 841	89 098	28 794	95 435	31 755	67 859	61	239
1994	30 419	128 396	25 197	84 803	25 806	61 903	268	998
1995	66 860	128 019	21 691	67 130	21 049	50 249	89	390
1996	95 807	181 069	19 878	55 039	20 947	53 551	109	470
1997	122 193	139 575	20 583	50 732	32 511	86 003	90	208

(a) From 1980 figures relate to foreign exports only.

(b) From 1920, year ended 30 June.

(c) Excludes interstate exports. Details are not available for publication.

(d) Separate details not available. Total exports of fresh meats were 84 tonnes valued at \$9,164.

# Historical Statistics

## 21.10 – EXPORTS OF SELECTED COMMODITIES ( a ) Continued

Year(b)	Lobster(c)		Wheat (d)		Flour(e)		Potatoes	
	tonnes	\$'000	tonnes	\$'000	tonnes	\$'000	tonnes	\$'000
1890	—	—	27	—	—	—	—	—
1900	—	—	54 839	813	47	1	113	1
1910	—	—	249 049	5 083	2 559	49	18	—
1920	—	—	679 109	12 258	117 254	5 045	1 637	54
1930	—	—	—	—	62 659	1 540	5 037	151
1940	—	—	417 214	4 669	83 159	1 301	11 953	214
1950	518	463	585 406	33 384	105 065	8 335	10 090	384
1951	1 436	1 517	830 346	51 688	144 914	11 774	11 181	506
1952	1 311	1 861	730 002	45 728	146 584	13 669	13 514	733
1953	1 329	2 085	634 639	40 347	159 883	15 090	12 860	750
1954	1 461	2 342	185 066	11 272	134 126	11 704	16 026	1 300
1955	1 532	2 490	526 212	27 478	109 172	7 219	9 020	512
1956	1 601	3 022	619 779	28 860	117 409	7 766	2 275	171
1957	1 618	3 514	1 273 578	61 291	115 658	7 474	7 728	736
1958	2 136	3 965	725 131	40 861	101 448	6 907	13 998	832
1959	2 715	5 281	639 647	33 113	94 854	6 337	8 577	368
1960	2 996	6 499	999 164	49 442	79 697	5 100	9 612	436
1961	2 316	5 881	1 428 272	71 280	122 839	7 840	7 821	437
1962	3 607	9 778	2 010 766	104 356	88 889	5 891	10 328	632
1963	3 490	8 910	1 380 372	72 197	67 652	4 645	18 032	810
1964	3 416	9 211	1 497 453	77 881	62 677	4 396	9 925	353
1965	2 672	10 592	1 102 420	56 955	83 826	5 926	12 935	841
1966	3 193	13 821	1 887 996	96 515	49 130	3 378	21 362	1 393
1967	3 643	13 873	2 312 777	126 918	34 804	2 507	17 478	692
1968	3 919	17 989	2 373 195	121 764	41 918	2 944	13 142	622
1969	3 038	17 133	1 521 376	77 987	35 100	2 433	21 944	1 149
1970	2 976	15 695	1 814 787	86 593	31 173	2 257	19 888	831
1971	3 155	19 413	2 670 890	130 564	26 670	1 958	9 390	510
1972	3 425	24 626	2 587 504	128 132	18 882	1 345	8 600	371
1973	3 171	20 919	2 249 934	111 744	9 798	859	(g)4 911	(g)334
1974	2 656	18 511	2 139 973	211 333	11 232	1 380	(g)9 576	(g)1 113
1975	3 328	25 258	3 241 895	409 758	19 281	3 439	8 527	1 217
1976	3 128	27 777	3 215 792	375 897	11 658	2 022	12 196	1 636
1977	4 071	47 061	3 009 101	316 258	11 355	2 051	7 190	1 127
1978	3 902	48 043	3 795 969	351 190	8 291	1 481	5 853	390
1979	4 170	51 064	2 208 985	257 414	7 872	1 660	2 735	373
1980(h)	3 626	50 448	4 205 774	615 944	4 342	1 055	5 292	616
1981	2 858	42 480	2 634 951	422 433	4 952	1 279	3 824	585
1982	4 849	77 930	3 826 760	594 992	1 578	594	5 466	947
1983	5 424	88 175	5 031 977	845 855	1 086	343	7 274	1 278
1984	6 506	111 954	3 637 624	632 247	3 127	833	2 806	756
1985	4 778	126 644	4 543 782	850 090	3 140	876	5 084	946
1986	4 267	114 568	5 342 611	989 144	1 750	550	2 338	511
1987	4 884	143 665	4 872 265	697 557	1 879	528	2 311	570
1988	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)
1989	7 750	172 779	4 995 551	1 009 103	1 957	642	740	153
1990	6 835	181 047	4 244 130	946 683	650	276	4 271	1 000
1991	6 854	195 603	5 013 047	708 217	1 388	389	12 112	3 651
1992	9 316	282 124	1 764 475	276 779	994	367	12 364	3 725
1993	12 107	283 443	5 308 934	1 143 428	4 262	1 453	9 600	3 290
1994	11 745	338 132	6 018 653	1 122 434	8 667	2 664	11 779	3 819
1995	10 545	329 045	5 418 634	1 121 487	215	115	9 520	3 317
1996	11 059	292 139	6 538 155	1 825 813	11 809	5 097	9 940	3 684
1997	10 505	301 752	6 654 690	1 616 329	17 209	7 088	8 705	2 904

(a) From 1980 figures relate to foreign exports only.

(b) From 1920, year ended 30 June.

(c) For years 1950 to 1952, foreign exports only. Figures relate to rock lobster tails only until 1982. From 1982 figures include whole rock lobsters and tails.

(d) From 1920, year ended 30 June; from 1978, excludes interstate exports.

(e) From 1973, figures include meal and flour of wheat or meslin; from 1978, figures include meal and flour of all cereal grains.

(f) Details not available.

(g) Some interstate details for 1973 included in 1974.

(h) Figures for flour and potatoes represent foreign exports only.

## Historical Statistics

### 21.10 – EXPORTS OF SELECTED COMMODITIES ( a ) Continued

Year(b)	Fresh and dried fruit and nuts(c)	Hides and skins	Timber (d)		Wool (e)	
	tonnes	\$'000	'000t	\$'000	tonnes	\$'000
1890	—	8	19	133	1 970	543
1900	1	49	33	164	3 161	523
1910	11	150	162	916	4 125	541
1920	300	482	342	1 945	11 883	1 934
1930	312	1 246	143	931	27 034	7 875
1940	740	745	143	1 251	28 487	5 558
1950	1 780	2 329	81	1 949	45 766	50 923
1951	2 295	5 294	66	1 783	41 633	112 559
1952	2 853	3 194	68	2 075	46 633	67 680
1953	4 556	3 942	112	4 147	51 489	79 122
1954	3 300	3 295	109	4 480	51 083	82 260
1955	3 845	2 921	99	3 847	49 811	70 563
1956	3 393	3 274	129	5 598	58 982	70 313
1957	4 598	4 650	132	6 215	57 755	87 510
1958	3 725	3 898	158	7 496	52 167	72 686
1959	3 609	3 489	183	8 415	60 280	58 537
1960	2 437	4 767	174	7 760	62 838	77 957
1961	4 636	3 828	157	7 175	71 681	74 842
1962	2 818	4 580	161	7 528	73 584	83 865
1963	4 982	4 339	155	7 241	71 058	82 107
1964	4 016	4 966	149	6 813	82 628	114 239
1965	5 165	4 177	133	6 279	79 106	98 294
1966	4 838	5 447	69	3 687	97 698	115 128
1967	5 704	5 377	139	7 475	106 886	126 995
1968	4 068	4 699	85	4 947	124 708	126 417
1969	6 552	6 013	88	5 068	144 388	157 950
1970	6 054	7 968	96	5 666	132 778	134 796
1971	7 208	5 395	79	4 808	128 388	98 289
1972	5 245	5 356	101	6 440	159 284	120 460
1973	6 135	13 945	113	7 087	146 456	220 719
1974	5 835	13 536	100	7 407	121 113	263 330
1975	7 547	11 195	109	9 252	114 069	167 631
1976	6 047	13 728	94	9 823	153 248	231 301
1977	5 285	24 708	78	10 152	169 674	331 164
1978	5 976	21 147	59	8 885	123 071	251 321
1979	8 703	29 280	66	10 508	150 185	326 466
1980(f)	10 314	34 716	72	12 226	141 262	378 557
1981	9 506	17 467	32	7 050	135 529	398 051
1982	10 783	16 736	25	5 830	127 308	394 367
1983	12 655	18 783	18	4 813	123 953	392 144
1984	10 013	23 998	20	5 251	121 511	406 207
1985	10 220	27 629	22	7 173	140 675	523 304
1986	12 573	13 979	22	7 330	153 987	614 202
1987	13 879	40 292	10	4 199	161 085	731 352
1988	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1989	8 497	32 009	13	5 497	153 548	1 167 056
1990	10 501	39 078	20	7 556	124 308	779 639
1991	9 639	24 779	13	6 670	102 570	462 849
1992	10 400	21 678	41	10 307	160 120	660 221
1993	9 485	28 480	19	10 096	154 070	605 676
1994	10 774	17 172	20	13 249	176 414	653 592
1995	10 842	24 681	22	15 497	138 746	732 881
1996	11 642	31 962	20	15 521	148 112	693 092
1997	14 089	45 625	23	22 064	150 153	644 089

- (a) From 1980 figures relate to foreign exports only.  
 (b) From 1920, year ended 30 June.  
 (c) Includes tomatoes for 1933 and earlier years (includes nuts).  
 (d) Excludes fuel wood and wood chips.  
 (e) Includes greasy and degreased wool.  
 (f) Figures for fresh fruit, hides and skins represent foreign exports only.

## Historical Statistics

### 21.10 – EXPORTS OF SELECTED COMMODITIES ( a ) Continued

Year (b)	Iron ore and concentrates		Lead and zinc ores (c) (d)	Tin ore and concentrates	Ilmenite concentrate (including leucoxene) (e)		Iron and steel (f)	Gold mint bullion (g) (h)	
	'000t	\$'000	\$'000	\$'000	tonnes	\$'000	\$'000	grams	\$'000
1910	—	—	4	93	—	—	5	10 389	2 835
1920	—	—	102	129	—	—	16	1 275	452
1930	—	—	19	29	—	—	3	4	1
1940	—	—	2	14	—	—	31	36 329	24 056
1950	—	—	272	49	—	—	95	2	2
1960	809	1 601	229	415	90	713	11 198	18 662	18 738
1961	1 035	2 101	83	325	132	1 198	12 781	78 754	79 271
1962	1 069	2 209	45	563	159	1 441	13 826	14 090	12 195
1963	1 495	2 898	33	532	183	1 717	15 107	12 970	13 048
1964	1 381	2 743	18	1 080	263	2 571	15 029	11 975	12 045
1965	1 562	3 040	662	1 229	330	3 194	17 933	15 956	16 127
1966	2 657	6 967	124	1 521	430	4 181	14 458	25 909	26 147
1967	8 530	50 890	177	2 214	443	4 440	15 658	14 930	15 107
1968	14 563	104 506	58	2 330	462	4 645	11 442	11 602	11 816
1969	19 898	151 797	161	1 843	557	5 751	27 002	11 228	12 701
1970	31 542	233 580	41	1 386	573	6 068	34 306	12 037	13 874
1971	46 273	341 702	—	1 511	563	6 631	34 571	14 665	15 760
1972	48 658	347 500	—	2 043	580	7 416	36 415	17 646	21 950
1973	66 036	420 255	6	2 277	595	7 696	36 529	16 314	30 193
1974	79 286	488 239	15	2 732	728	9 774	60 811	10 093	27 393
1975	88 070	699 843	—	3 019	672	9 893	71 493	9 263	36 666
1976	83 090	772 199	—	2 538	647	9 995	60 765	13 659	50 527
1977	84 939	900 987	—	3 939	1 184	20 155	74 508	9 980	36 863
1978	80 128	935 018	—	4 947	986	17 653	50 285	10 344	50 906
1979	84 016	978 315	—	5 074	883	17 475	72 591	n.a.	(i)99 708
1980	76 725	1 025 660	220	5 841	1 119	25 433	83 447	n.a.	(i)56 317
1981	72 756	1 069 087	—	2 469	929	23 726	42 423	1 279	22 024
1982	72 532	1 195 486	11 285	1 057	890	25 003	6 645	5 054	72 060
1983	64 551	1 405 840	14 925	1 234	780	21 986	2 959	9 536	141 340
1984	80 942	1 551 299	18 420	127	1 068	35 176	2 473	21 312	308 580
1985	87 670	1 796 578	17 407	—	1 009	36 473	741	23 036	308 424
1986	80 309	1 861 779	6 040	—	999	45 149	747	28 483	458 728
1987	74 321	1 701 851	—	—	864	55 398	916	23 247	479 790
1988	(j)	(j)	(j)	(j)	(j)	(j)	(j)	(j)	(j)
1989	(k)94 949	(k)1 718 621	31 891	—	825	73 075	944	26 539	414 025
1990	(k)101 017	(k)2 142 511	52 171	—	752	73 146	1 087	19 844	331 658
1991	102 784	n.a.	124 836	22	907	90 823	5 096	95 874	1 519 559
1992	105 716	2 701 384	218 117	—	580	54 897	2 673	166 241	2 465 878
1993	107 189	2 883 594	189 640	—	n.a.	n.a.	4 613	171 524	2 706 741
1994	113 986	2 765 135	112 715	—	n.a.	n.a.	7 900	187 591	3 266 286
1995	128 458	2 760 946	106 551	—	n.a.	n.a.	7 170	178 582	2 930 708
1996	125 652	2 843 477	93 291	—	n.a.	n.a.	15 729	204 961	3 342 228
1997	145 412	3 148 735	121 398	—	n.a.	n.a.	8 975	203 736	2 936 116

(a) From 1980, figures relate to foreign exports only.

(b) From 1920, year ended 30 June.

(c) Includes silver-lead and silver-lead-zinc ores and concentrates.

(d) Between 1971 and 1988, the value of foreign exports of lead was nil. From 1973, figures exclude interstate exports of lead ores and concentrates, and from 1978 interstate exports of zinc ores and concentrates.

(e) From 1972, figures exclude foreign exports of beneficiated ilmenite; from 1978, figures also exclude interstate exports of all ilmenite and leucoxene. From April 1987, figures exclude ilmenite ores and concentrates in bags, drums and similar containers.

(f) Principally pig-iron, cast iron and basic shapes and sections of iron and steel.

(g) Gold sold abroad before consignment is not recorded as an export until actually shipped.

(h) Includes additional premiums on sales of industrial gold.

(i) Includes all processed gold, but excludes gold ores and concentrates.

(j) Details not available.

(k) Source: Department of Minerals and Energy.

## Historical Statistics

### 21.11 – INTERNATIONAL AND INTERSTATE TRADE

Year(a)	Imports (b)			Exports (b) (c)			Excess of (d)		Ships' and
	Foreign	Interstate	Total	Foreign	Interstate	Total	Imports	Exports	aircraft stores
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1890	1.0	0.7	1.7	1.0	0.4	1.3	0.4	..	..
1900	6.6	5.4	11.9	11.2	2.3	13.5	..	1.6	0.2
1910	8.8	7.1	15.8	11.7	4.6	16.3	..	0.5	0.3
1920	9.9	14.8	24.7	28.9	2.4	31.3	..	6.6	0.8
1930	17.8	19.8	37.6	32.0	2.2	34.2	3.4	..	1.3
1940	12.6	27.5	40.0	19.3	28.5	47.8	..	7.8	1.4
1950	68.8	70.0	138.9	106.6	12.4	119.0	19.9	..	4.7
1951	80.5	95.8	176.3	197.7	18.8	216.5	..	40.1	7.2
1952	120.5	124.2	244.7	151.6	35.4	187.0	57.7	..	8.4
1953	59.7	137.2	197.0	166.3	49.7	215.9	..	19.0	10.3
1954	85.1	165.4	250.4	136.8	39.2	176.0	74.4	..	7.3
1955	101.3	182.1	283.4	137.0	47.3	184.3	99.1	..	7.9
1956	93.0	178.0	270.9	152.3	68.5	220.8	50.2	..	10.6
1957	80.4	188.7	269.1	216.6	81.5	298.1	..	29.0	12.9
1958	91.8	195.1	286.9	179.5	79.8	259.4	27.5	..	11.6
1959	90.0	202.4	292.4	174.6	68.9	243.5	48.9	..	9.5
1960	92.4	246.7	339.1	231.8	77.3	309.0	30.0	..	9.0
1961	110.5	245.5	356.0	309.3	89.9	399.3	..	43.2	10.3
1962	100.2	245.2	345.4	287.6	84.6	372.2	..	26.9	9.4
1963	112.6	313.7	426.4	246.8	91.6	338.5	87.9	..	7.9
1964	121.7	323.2	444.9	286.1	101.8	387.9	56.9	..	9.7
1965	153.5	343.9	497.4	243.1	120.0	363.0	134.4	..	9.0
1966	175.7	403.1	578.7	314.4	119.6	434.0	144.7	..	10.1
1967	159.4	474.9	634.2	421.3	116.0	537.4	96.9	..	10.9
1968	207.0	527.1	734.0	475.3	124.5	599.8	134.3	..	14.8
1969	203.5	562.3	765.8	546.4	149.9	696.3	69.6	..	14.3
1970	242.3	640.2	882.5	675.0	149.9	824.9	57.6	..	15.1
1971	278.3	726.8	1 005.1	862.4	163.8	1 026.2	..	21.1	20.6
1972	283.3	787.8	1 071.1	946.5	156.3	1 102.8	..	31.8	22.5
1973	227.3	786.2	1 013.5	1 154.4	173.8	1 328.2	..	314.7	17.5
1974	368.9	939.4	1 308.3	1 415.0	222.2	1 637.2	..	328.9	29.2
1975	577.4	1 134.5	1 711.9	1 880.1	253.4	2 133.5	..	421.6	50.2
1976	637.4	1 418.7	2 056.2	2 117.9	290.7	2 408.6	..	352.5	46.6
1977	829.4	1 641.5	2 471.0	2 596.1	305.8	2 901.9	..	431.0	64.1
1978	937.4	1 828.5	2 765.9	2 589.0	355.2	2 944.1	..	178.2	71.0
1979	1 161.2	2 044.4	3 205.6	2 820.1	446.2	3 266.3	..	60.7	72.6
1980	1 449.7	2 337.8	3 787.5	3 854.0	635.4	4 489.4	..	701.9	126.2
1981	1 663.4	2 841.1	4 504.5	3 595.0	813.0	4 408.0	96.4	..	144.3
1982	2 535.1	3 141.1	5 676.2	3 907.6	888.5	4 796.2	880.0	..	134.2
1983	2 523.0	3 160.8	5 683.8	4 797.8	1 155.7	5 953.5	..	269.1	129.5
1984	1 935.6	3 638.9	5 574.4	5 062.1	1 410.1	6 466.3	..	891.8	110.7
1985	2 155.3	4 291.2	6 446.5	6 028.4	1 507.4	7 535.9	..	1 089.4	123.2
1986	2 202.9	4 783.5	6 986.4	6 529.3	1 623.0	8 152.4	..	1 165.9	87.7
1987	2 768.7	5 071.5	7 840.1	6 911.4	1 805.7	8 717.1	..	877.0	84.5
1988	3 217.0	5 404.5	8 621.5	7 491.8	1 808.5	9 300.3	..	678.7	87.2
1989	3 581.8	6 430.7	10 012.5	9 013.1	1 777.1	10 633.7	..	621.3	72.5
1990	3 984.8	6 516.0	10 500.8	10 138.6	2 282.4	12 510.2	..	2 282.4	90.1
1991	3 635.8	5 861.6	9 497.3	12 659.3	1 970.1	14 396.9	..	4 899.6	91.9
1992	3 548.2	6 043.7	9 591.9	14 055.0	2 533.6	16 573.1	..	6 981.2	56.0
1993	4 966.5	6 368.8	11 160.6	14 994.2	2 457.6	18 117.1	..	6 956.6	70.2
1994	4 793.4	n.a.	n.a.	15 611.0	n.a.	n.a.	..	10 817.6	68.5
1995	5 799.4	n.a.	n.a.	16 434.6	n.a.	n.a.	..	10 635.2	88.5
1996	6 289.6	n.a.	n.a.	18 925.9	n.a.	n.a.	..	12 636.2	83.3
1997	6 753.8	n.a.	n.a.	19 328.5	n.a.	n.a.	..	12 574.7	78.2

(a) From 1920, year ended 30 June.

(b) From 1976, excludes interstate value of horses. Details are not available for publication.

(c) Excludes ships' stores up to and including 1982. Ships' and aircraft stores for foreign owned vessels and aircraft are included in foreign and total exports from 1983 onwards. From 1982, excludes value of re-exports.

(d) From 1994, excess of trade is based on foreign imports and exports only and excludes interstate trade.

## Historical Statistics

### 21.12 – INDUSTRIAL DISPUTES; WAGE RATES

Year	Industrial disputes (a)				Award rates of pay indexes (c)	
	Number of disputes	Workers involved (b)	Working days lost		Full-time adult male employees (d)(e)	
			Number	Average per worker	Weekly	Hourly
	No.	'000	'000	No.	\$	\$
1930	2	0.5	27.1	57.85	n.a.	n.a.
1940	4	3.0	7.4	2.44	36.8	33.1
1950	15	2.0	5.7	2.93	71.0	71.7
1960	43	25.7	27.3	1.06	126.8	127.1
1961	22	9.7	23.2	2.40	128.8	129.0
1962	28	8.4	6.3	0.75	129.5	129.7
1963	28	42.6	32.0	0.75	132.8	133.0
1964	26	6.2	7.1	1.16	137.5	137.6
1965	33	12.6	10.0	0.79	143.5	143.5
1966	25	2.9	6.2	2.17	153.6	153.8
1967	26	5.1	6.0	1.18	159.6	159.9
1968	70	18.7	21.8	1.16	169.0	168.7
1969	104	59.1	101.4	1.72	179.5	179.3
1970	125	46.5	141.1	3.03	198.2	198.0
1971	132	35.8	69.4	1.94	219.5	219.4
1972	105	28.3	94.6	3.34	234.2	232.5
1973	160	37.6	117.3	3.12	267.9	266.3
1974	257	188.1	256.9	1.37	357.7	356.5
1975	236	53.8	100.7	1.87	401.2	398.5
1976	250	100.7	252.1	2.50	104.8	104.8
1977	229	54.9	220.5	4.02	116.0	116.0
1978	306	76.1	197.9	2.60	125.3	125.3
1979	252	169.5	348.1	2.06	131.7	131.7
1980	368	69.4	191.0	2.75	145.7	145.8
1981	364	72.9	244.0	3.35	166.1	166.2
1982	436	63.6	158.9	2.50	187.6	190.3
1983	300	42.3	270.6	6.40	197.2	200.9
1984	406	69.2	119.2	1.72	205.9	210.7
1985	361	48.7	92.9	1.91	103.8	103.8
1986	267	50.6	143.1	2.83	106.3	106.5
1987	245	43.1	115.3	2.68	110.0	110.3
1988	221	60.9	160.6	2.64	118.5	119.1
1989	226	54.7	102.1	1.87	124.4	126.7
1990	190	73.2	108.4	1.48	129.1	132.3
1991	156	63.1	119.1	1.89	134.0	134.7
1992	134	28.8	53.6	1.86	137.1	137.6
1993	111	27.6	29.5	1.07	138.5	139.3
1994	82	15.9	27.4	1.72	140.0	141.0
1995	70	99.7	101.6	1.02	142.5	143.5
1996	54	36.2	47.8	1.30	144.2	145.3

(a) Excludes disputes involving cessation of work of less than 10 person-days. Details of the number of disputes and workers involved in disputes which commenced in any year and were still in progress during the following year are included in the figures for both years.

(b) Includes workers indirectly involved, i.e. those put out of work at an establishment where a stoppage occurred but not themselves parties to the dispute.

(c) End of December. Prior to 1976 – Base: weighted average wage rate for Australia, June 1985 = 100.

(d) Excludes workers in rural industry.

(e) Prior to June 1985, index related to wage earners only. From June 1985, relates to wage and salary earners.

## Historical Statistics

### 21.13 – CONSUMER PRICE INDEX: PERTH

(Base of each index: Year 1989-90 = 100.0).

June quarter	Food	Clothing	Housing	Household equipment and operation	Transportation	Tobacco and alcohol	Health and personal care	Recreation and education	All groups	All groups Per cent change(a)
1973	21.5	22.2	20.6	23.0	19.6	18.0	15.7	n.a.	20.8	n.a.
1974	24.5	26.0	22.5	24.9	21.7	19.6	18.7	n.a.	23.3	12.0
1975	28.0	31.1	26.8	30.6	26.4	24.1	24.5	n.a.	28.0	20.2
1976	31.0	36.5	32.6	35.2	30.9	29.8	20.2	n.a.	31.8	13.6
1977	35.5	41.2	37.0	38.0	33.2	31.1	42.9	n.a.	36.3	14.2
1978	40.0	44.9	39.9	41.4	36.7	32.8	44.9	n.a.	39.6	9.1
1979	45.1	48.3	41.5	44.0	41.1	39.4	39.4	n.a.	43.0	8.6
1980	49.1	51.5	43.3	48.6	46.2	41.5	49.6	n.a.	47.2	9.8
1981	53.3	55.8	47.2	53.0	51.3	44.5	47.4	n.a.	51.1	8.3
1982	58.1	59.5	51.7	59.2	56.0	48.2	68.8	61.1	56.8	11.2
1983	64.6	63.4	55.4	63.7	61.7	54.5	78.6	66.8	62.4	9.9
1984	67.8	67.4	58.3	68.3	66.5	63.0	59.0	68.1	65.0	4.2
1985	72.3	71.6	61.7	71.6	72.5	67.8	61.6	72.3	69.4	6.8
1986	78.1	79.3	67.2	78.2	74.9	75.2	66.9	77.1	74.8	7.8
1987	82.8	86.5	73.3	85.0	86.7	83.9	79.3	85.3	82.6	10.4
1988	89.2	92.6	76.3	90.9	91.6	89.6	87.5	91.4	88.1	6.7
1989(b)	96.3	98.4	88.9	96.4	95.9	93.6	94.2	95.4	94.7	7.5
1990	102.8	101.6	103.8	102.9	102.1	103.8	103.8	102.3	102.9	8.7
1991	105.2	105.9	100.6	106.1	105.4	109.7	110.9	103.5	105.1	2.1
1992	107.6	108.5	89.7	107.4	109.9	111.9	116.9	105.3	105.6	0.5
1993	109.2	108.9	87.9	107.7	111.6	115.6	122.3	107.2	106.8	1.1
1994	109.9	108.5	87.8	107.9	116.0	131.8	125.5	107.5	109.1	2.2
1995	115.7	107.5	99.0	110.0	121.4	140.2	135.7	112.3	114.9	5.3
1996	117.8	107.0	101.6	112.3	123.9	150.0	141.1	114.8	117.9	2.6
1997	121.9	106.3	91.8	113.6	122.2	153.0	151.0	116.4	118.1	0.2

(a) Per cent change is change from the June quarter of previous year.

(b) Series for Housing and All groups have been affected by a change in the treatment of mortgage interest charges from March Quarter 1989.

Source: ABS Consumer Price Index (6401.0).

## Historical Statistics

### 21.14 – STATE AND LOCAL AUTHORITIES: RECEIPTS AND OUTLAYS

Year ended 30 June	Receipts						Outlays					Total outlays \$m
	Taxes, fees, fines \$m	Net operating surpluses	Property and other income \$m	Grants from the Government	Financ- ing trans- actions \$m	Total funds avail- able \$m	Final con- sumption expendi- ture \$m	Capital expendi- ture on goods(a) \$m	Trans- fer pay- ments \$m	Net advances paid \$m		
		public trading enter- prises \$m		Common wealth								
1976	322	66	99	772	53	1 312	728	435	131	18	1 312	
1977	371	37	120	844	155	1 528	871	483	157	17	1 528	
1978	423	80	168	974	259	1 905	1 005	551	330	19	1 905	
1979	466	90	172	1 056	315	2 100	1 113	608	363	16	2 100	
1980	519	98	185	1 168	352	2 321	1 267	646	409	—	2 321	
1981	590	130	212	1 307	281	2 520	1 425	627	466	2	2 520	
1982	690	155	249	1 430	316	2 840	1 609	717	516	-1	2 841	
1983	772	194	316	1 619	857	3 757	1 864	1 196	677	20	3 757	
1984	924	274	355	1 874	835	4 262	2 096	1 252	850	63	4 262	
1985	1 062	301	394	2 067	585	4 410	2 313	1 102	972	22	4 409	
1986	1 145	401	510	2 214	644	4 915	2 581	1 147	1 110	76	4 915	
1987	1 397	518	529	2 395	679	5 518	2 815	1 328	1 294	81	5 518	
1988	1 699	563	600	2 594	432	5 888	3 134	1 222	1 482	50	5 888	
1989	1 984	601	793	2 586	805	6 769	3 505	1 414	1 601	60	6 769	

(a) Includes gross fixed capital expenditure, increase in stocks and expenditure on land and net intangible assets.

NOTE: This series replaced Table 21.16 'Public Revenue and Expenditure: Consolidated Revenue Fund' and Table 21.17 'Net Expenditure from Loan Funds; Public Debt'.

### 21.15 – STATE AND LOCAL AUTHORITIES: REVENUE, FINANCING AND OUTLAYS

Year ended 30 June	Revenue			Financing				Outlays		
	Taxes, fees, fines \$m	Other \$m	Total \$m	Increase in prov- isions \$m	Net	Other \$m	Total \$m	Current \$m	Capital \$m	Total \$m
					borrow ings \$m					
1990	2 080	4 391	6 471	303	384	148	835	5 500	1 807	7 306
1991	2 207	4 489	6 696	341	1 006	-367	980	5 961	1 714	7 675
1992	2 334	4 676	7 010	262	1 343	-899	706	6 127	1 589	7 716
1993	2 438	4 858	7 296	252	757	-343	666	6 287	1 675	7 962
1994	2 819	4 991	7 810	286	-59	-140	87	6 417	1 480	7 897
1995	3 025	5 114	8 138	387	-51	-493	-158	6 640	1 340	7 981
1996	3 191	5 570	8 761	548	154	-1487	-785	7 179	797	7 975

NOTE: This series replaced Table 21.14 'State and Local Authorities: Receipts and Outlays'.

## Historical Statistics

### 21.16 – PUBLIC REVENUE AND EXPENDITURE: CONSOLIDATED REVENUE FUND

Year (a)	Revenue						Expenditure						Total expen- diture \$'000
	Common- wealth funds \$'000	Public utili- ties \$'000	Depart- mental (b) \$'000	Taxa- tion \$'000	Terri- torial (c) \$'000	Total revenue \$'000	Public utili- ties \$'000	Interest and sinking fund \$'000	Departmental				
									Educa- tion \$'000	Health \$'000	Other \$'000		
1850	n.a.	n.a.	n.a.	n.a.	4	38	n.a.	n.a.	n.a.	n.a.	n.a.	33	
1860	n.a.	n.a.	n.a.	n.a.	35	140	n.a.	n.a.	3	n.a.	n.a.	123	
1870	n.a.	n.a.	n.a.	n.a.	40	196	n.a.	n.a.	7	n.a.	n.a.	226	
1880	n.a.	n.a.	n.a.	n.a.	72	360	n.a.	40	19	n.a.	n.a.	409	
1890	n.a.	n.a.	n.a.	n.a.	217	829	n.a.	144	23	n.a.	n.a.	803	
1900	n.a.	2 612	182	244	380	5 751	1 863	880	138	198	2 049	5 231	
1910	1 407	3 916	551	673	649	7 315	2 440	2 006	367	328	1 533	6 895	
1920	1 197	6 364	1 188	1 688	818	11 727	5 156	4 124	829	642	1 931	13 063	
1930	1 547	10 596	3 134	2 906	950	19 501	8 073	6 891	1 385	649	2 872	20 537	
1931	1 547	9 228	3 279	2 269	678	17 374	6 654	7 243	1 346	486	3 950	20 215	
1932	1 547	8 818	2 766	2 014	585	16 071	5 724	7 015	1 098	328	4 543	19 186	
1933	1 947	8 873	2 701	2 257	558	16 664	5 682	7 009	1 108	333	3 761	18 392	
1934	2 147	8 867	2 240	2 737	626	16 963	5 870	7 095	1 153	309	3 560	18 541	
1935	2 413	9 837	1 562	3 804	812	18 663	6 391	7 100	1 225	326	3 342	18 997	
1936	2 617	10 366	1 677	4 372	767	20 067	6 756	7 135	1 331	341	3 595	19 891	
1937	2 013	10 633	1 727	4 807	773	20 371	7 247	7 237	1 432	381	4 024	21 113	
1938	2 097	11 148	1 980	5 190	749	21 638	7 249	7 579	1 474	380	4 158	21 659	
1939	2 087	11 159	1 786	5 728	634	21 899	7 857	7 779	1 514	401	3 992	22 340	
1940	2 137	11 102	1 942	5 992	632	22 240	7 662	8 021	1 545	416	4 070	22 534	
1941	2 247	11 366	1 916	6 255	638	22 864	7 534	8 114	1 568	421	4 262	22 842	
1942	2 207	12 133	2 204	6 222	620	23 880	8 282	8 204	1 662	436	4 293	23 877	
1943	7 852	13 518	2 497	1 330	634	26 303	9 377	8 183	1 627	458	5 564	26 254	
1944	7 935	13 626	2 868	1 553	700	27 178	9 870	8 185	1 747	506	5 780	27 102	
1945	8 044	13 618	3 402	1 715	697	27 908	10 064	8 251	1 778	485	6 261	27 899	
1946	9 960	13 303	2 519	1 936	709	28 815	10 825	8 168	2 005	1 010	5 621	28 815	
1947	11 461	11 769	3 105	2 138	1 053	29 962	10 866	8 012	2 447	1 369	5 910	30 057	
1948	14 515	13 242	3 575	2 354	1 202	35 421	13 996	8 089	3 298	1 841	7 280	36 125	
1949	17 136	15 032	4 564	2 683	1 106	41 121	16 720	8 215	3 519	2 613	9 942	42 756	
1950	22 975	17 792	5 733	3 240	1 225	51 622	20 237	8 508	4 160	3 633	13 096	51 574	
1951	25 343	19 085	5 911	3 912	1 230	56 312	21 974	8 994	5 269	4 465	13 180	55 994	
1952	29 923	24 335	6 863	4 633	1 300	67 910	27 490	9 741	7 262	6 269	15 696	69 094	
1953	39 056	22 385	8 557	5 247	1 513	77 768	32 044	10 611	8 686	6 926	17 639	78 784	
1954	38 342	29 860	8 378	6 468	1 929	86 292	35 234	12 147	9 503	7 675	18 797	86 497	
1955	38 759	32 645	9 433	7 258	2 014	91 440	36 089	13 857	11 217	8 026	19 838	92 408	
1956	43 373	33 969	9 779	8 036	2 498	99 225	39 184	15 451	12 482	9 344	21 501	102 886	
1957	46 759	37 133	12 548	9 027	2 433	108 662	42 022	17 043	13 636	10 067	33 645	112 487	
1958	51 808	34 525	13 640	10 729	2 516	114 108	40 103	19 303	15 172	11 026	25 572	116 355	
1959	55 496	36 080	14 522	10 368	2 783	120 136	40 317	20 844	15 819	11 967	29 244	123 506	
1960	58 871	38 575	15 696	11 834	2 878	128 776	42 418	23 053	17 282	13 565	29 861	131 587	
1961	65 519	40 830	16 372	12 079	2 797	138 665	41 072	24 628	19 541	15 018	35 160	141 075	
1962	73 430	42 456	16 549	12 926	3 283	149 852	42 097	27 250	21 417	14 935	40 131	151 780	
1963	75 847	43 559	18 134	14 762	3 501	157 182	42 267	29 980	22 850	16 073	41 254	158 687	
1964	78 988	45 376	20 948	17 604	3 751	167 888	44 247	31 771	25 880	18 705	43 430	170 681	
1965	88 565	39 778	26 712	19 512	4 107	180 143	43 360	34 669	29 133	21 160	49 401	184 840	
1966	103 459	45 683	28 753	22 574	4 598	206 655	47 106	37 926	34 016	23 086	56 869	206 665	
1967	106 748	52 787	31 461	27 536	7 655	228 146	53 182	41 662	36 746	26 429	61 512	228 174	
1968	112 617	56 226	33 135	34 916	11 845	250 738	60 728	43 864	41 224	29 294	65 362	249 909	
1969	126 621	54 407	33 035	41 602	17 301	275 081	64 016	47 083	46 441	33 613	74 822	276 135	
1970	141 326	62 921	36 905	50 865	23 633	318 189	71 166	51 427	55 839	41 343	87 660	318 901	
1971	170 396	68 350	45 583	48 434	32 187	367 252	79 717	54 178	66 341	52 575	107 129	371 620	
1972	180 132	73 446	54 131	78 490	34 992	423 999	82 410	62 029	82 472	59 862	125 260	424 890	
1973	200 633	69 158	66 711	97 141	37 162	473 840	88 372	65 280	94 547	71 866	144 005	477 330	
1974	232 111	85 291	76 306	126 929	43 346	567 683	104 178	69 200	115 982	100 841	168 122	573 414	
1975	313 846	108 921	96 930	160 307	49 010	734 240	121 494	75 300	165 705	148 161	213 042	743 373	

(a) From 1900, year ended 30 June.

(b) Reimbursements, fees, etc.

(c) Revenue from sales, leases, licences and royalties relating to land, mining and timber.

NOTE: This table was replaced by Table 21.14 'State and Local Authorities: Receipts and Outlays'.

## Historical Statistics

### 21.17 – NET EXPENDITURE FROM LOAN FUNDS AND PUBLIC DEBT

Year (a)	Net expenditure from loan funds on public works and services (b)						Public debt (at end of year)		
	Railways, tramways and buses	Electricity supply	Harbours, rivers, light-houses, etc.	Water supplies, sewerage, drainage and irrigation	Public buildings	Other	Total	Gross amount outstanding	Sinking fund
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1860	—	—	—	—	—	—	—	4	—
1870	—	—	—	—	—	—	—	—	—
1880	(c)549	—	(d)38	—	—	n.a.	(d)802	722	n.a.
1890	3	—	6	2	(e)76	n.a.	32	2 735	170
1900	302	—	395	949	—	110	1 757	23 349	754
1910	908	—	174	199	152	626	2 058	46 575	5 139
1920	242	—	204	94	21	4 765	5 327	93 644	13 656
1930	1 819	—	529	610	108	4 226	7 291	142 389	2 081
1940	200	—	104	1 615	732	974	3 624	192 461	608
1941	214	18	152	1 649	306	480	2 819	195 583	1 147
1942	110	25	111	605	70	437	1 359	194 718	535
1943	157	92	133	100	55	217	754	193 976	347
1944	49	31	-143	75	166	34	212	192 957	140
1945	140	11	61	150	241	492	1 094	191 790	254
1946	142	208	75	473	451	276	1 625	193 852	1 008
1947	535	332	173	1 453	772	821	4 087	198 005	1 091
1948	676	1 471	316	1 388	1 097	125	5 074	200 549	309
1949	913	2 131	449	1 626	1 099	942	7 161	207 377	126
1950	4 496	4 691	804	2 002	1 357	2 859	16 209	219 100	142
1951	3 723	6 591	1 164	4 091	2 003	3 081	20 653	246 374	17
1952	15 198	6 684	2 694	4 803	2 729	3 409	35 517	276 577	647
1953	13 533	179	2 422	4 858	5 432	8 787	35 213	306 144	1 861
1954	11 295	1 406	2 328	3 939	3 144	6 276	28 388	331 565	822
1955	9 752	1 410	1 920	5 661	3 993	6 726	29 462	355 763	442
1956	6 139	2 049	1 638	5 516	4 187	7 098	26 629	377 465	245
1957	5 519	4 200	950	7 119	5 599	9 169	32 556	410 290	112
1958	4 209	2 480	1 398	7 694	5 891	6 599	28 272	436 857	147
1959	5 711	2 200	1 428	8 395	7 410	7 199	32 342	464 237	173
1960	4 953	1 553	1 373	9 547	8 723	6 355	32 504	493 575	171
1961	4 221	400	1 966	10 314	10 479	8 037	35 418	523 070	94
1962	5 432	300	2 587	10 952	12 032	6 449	37 751	555 130	222
1963	6 204	500	2 438	10 770	13 420	5 563	38 894	587 336	485
1964	7 496	—	3 028	10 537	15 630	6 409	43 100	626 045	442
1965	6 800	794	2 822	10 957	19 948	5 457	46 779	665 620	473
1966	7 628	1 434	2 583	12 667	19 908	3 580	47 800	705 514	267
1967	9 068	2 427	1 746	13 642	18 230	5 902	51 015	748 601	216
1968	7 750	4 542	2 402	14 552	18 816	5 115	53 177	792 969	408
1969	10 547	5 679	1 190	12 560	20 116	4 765	54 859	840 343	3 015
1970	6 331	4 566	2 055	13 330	24 627	8 594	59 504	886 778	182
1971	7 194	27	2 202	15 176	25 549	13 492	63 640	924 111	582
1972	5 919	3 666	1 902	18 369	23 994	32 606	86 456	975 958	1 216
1973	4 179	4 104	2 371	23 598	32 872	21 882	89 006	1 030 060	265
1974	5 569	3 467	2 505	26 708	34 324	3 291	75 863	1 074 111	4 899
1975	6 185	4 069	3 728	24 487	45 262	6 140	89 871	1 120 313	1 037

(a) From 1900, year ended 30 June. Sinking fund at 31 March from 1900 to 1928.

(b) From 1928 includes expenditure from Loan Suspense Account.

(c) Total amount for the years 1877 to 1881.

(d) Total amount for the years 1872 to 1881.

(e) Includes expenditure prior to 1890.

NOTE: This table was replaced by Table 21.14 'State and Local Authorities: Receipts and Outlays'.

## Historical Statistics

### 21.18 – WESTERN AUSTRALIA IN RELATION TO AUSTRALIA

	Unit	Date or period	Western Australia	Australia	%
Area	sq km	..	2 525 500	7 682 300	32.9
Proportion of area having rainfall —					
Under 250 mm	per cent	..	58	39	..
250 mm and under 500 mm	per cent	..	29.2	31.8	..
500 mm and over	per cent	..	12.8	29.2	..
Population (a)	number	30 June 1996	1 765 738	18 311 486	9.6
Population increase	number	1995–1996	32 326	248 230	13.0
Rate of population increase	per cent	1995–1996	1.86	1.37	..
Births registered (b)	number	1996	24 793	253 834	9.8
Deaths registered (b)	number	1996	11 027	128 711	8.6
Marriages registered	number	1996	10 294	106 103	9.7
Divorce - Dissolutions granted	number	1996	4 959	52 466	9.5
Employed labour force (c)	'000	May 1997	850	8 389.3	10.0
Average weekly earnings (trend)—					
full-time adult females, total earnings	dollars	May 1996	810.5	773.1	..
full-time adult males, total earnings	dollars	May 1996	583.6	605	..
full-time adult persons, total earnings	dollars	May 1996	729.0	713.7	..
Unemployed on benefit	number	30 June 1995	66 678	812 387	8.2
Industrial disputes - Working days lost	'000	1996	47.3	928.5	5.1
Area under crop	'000 hectares	1995–96	6 419	19 409	33.1
Area of —					
Wheat for grain	'000 hectares	1995–96	3 892	9 221	42.2
Oats for grain	'000 hectares	1995–96	300	1 136	26.4
Barley for grain	'000 hectares	1995–96	744	5 823	12.8
Pastures cut for Hay	'000 hectares	1995–96	112	1 152	9.7
Fruit and vineyards	'000 hectares	1995–96	11	214	5.1
Livestock —					
Sheep	'000	31 March 1996	29 834	121 116	24.6
Cattle	'000	31 March 1996	1 924	26 377	7.3
Pigs	'000	31 March 1996	314	2 526	12.4
Production —					
Wheat for grain	'000 tonnes	1995–96	6 727	16 504	41.4
Wool (d)	'000 tonnes	1995–96	161	641	25.1
Meat (e)	'000 tonnes	1995–96	241	3 134	7.7
Whole milk (f)	mil. litres	1995–96	343	8 716	3.9
Value of agricultural commodities produced	\$m	1995–96	4 489	27 370	16.4
Manufacturing establishments (i)—					
Employment - At 30 June	'000	1995–96	68.8	907.7	7.6
Wages and salaries paid	\$m	1995–96	2 132.7	29 555.9	7.2
Turnover	\$m	1995–96	15 069.1	197 503.6	7.6
New dwelling units commenced	number	1995–96	15 347	124 531	12.3
Value of all building commenced	\$m	1995–96	2 488.6	25 856.5	9.6
Foreign imports	\$m f.o.b.	1995–96	6 289.5	77 792	8.1
Foreign exports	\$m f.o.b.	1995–96	18 924.3	76 043	24.9
Motor vehicles on register	'000	31 Oct 1996	1 187.2	10 941.7	10.8
New motor vehicles registered	'000	1996–97	70	663.8	10.5
Motor Vehicle accidents —					
Persons killed	number	1996	241	1 942	12.4
Retail turnover (excluding motor vehicles, etc.)(j)	\$m	1996–97	13 097.4	128 827.5	10.2

(a) Based on estimated resident population.

(b) Based on State of usual residence.

(c) In civilian employment and seasonally adjusted. Excludes defence forces and employees in agriculture and private domestic service, and trainee teachers.

(d) In terms of greasy wool. Comprises shorn wool, dead wool, felmongered wool and wool exported on skins.

(e) Comprises sheep, cattle, pig and poultry meat. Excluding Tasmanian poultry production. Dressed carcass weight. Excludes offal.

(f) Source: Australian Dairy Corporation.

(g) Excludes establishments predominantly engaged in quarrying sand and gravel.

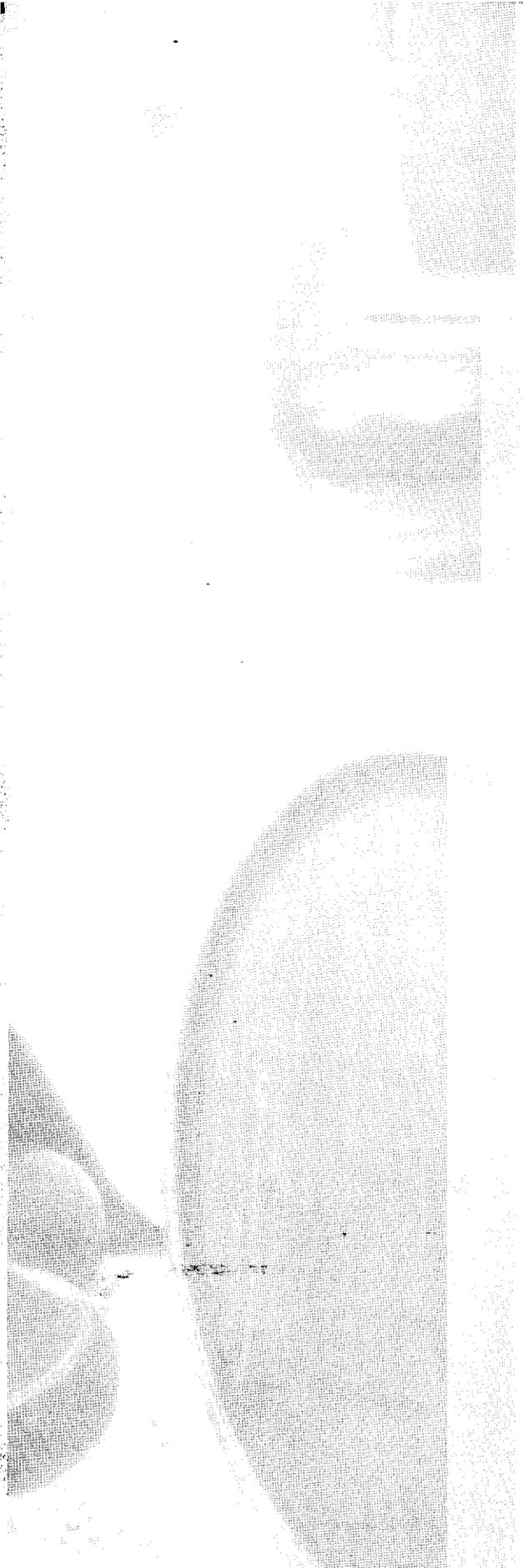
(h) Source: Department of Minerals and Energy.

(i) Excludes details for manufacturing establishments employing fewer than four persons. Excludes electricity and gas establishments.

(j) At current prices.



# Appendix



# APPENDIX

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# APPENDIX

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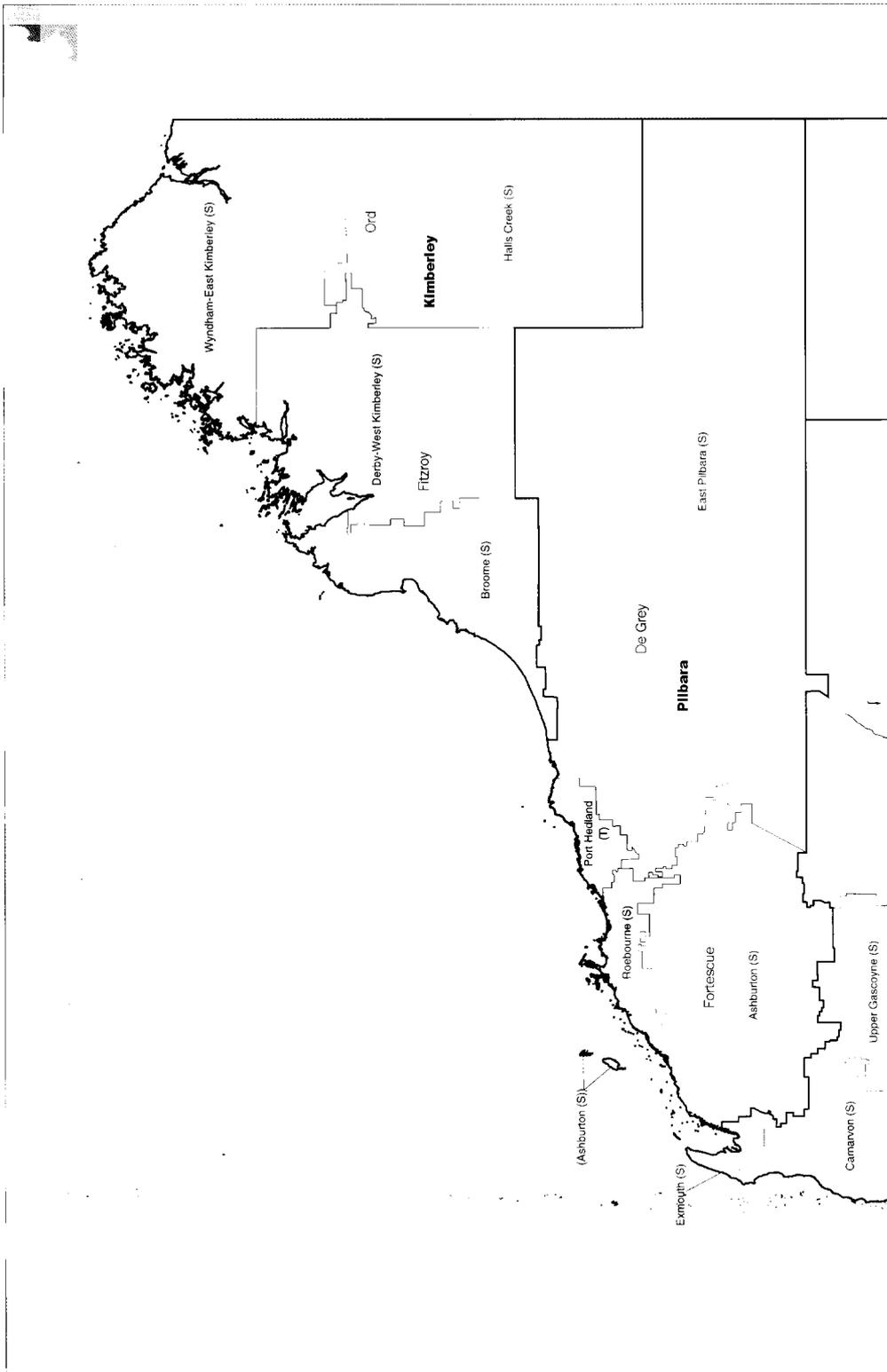
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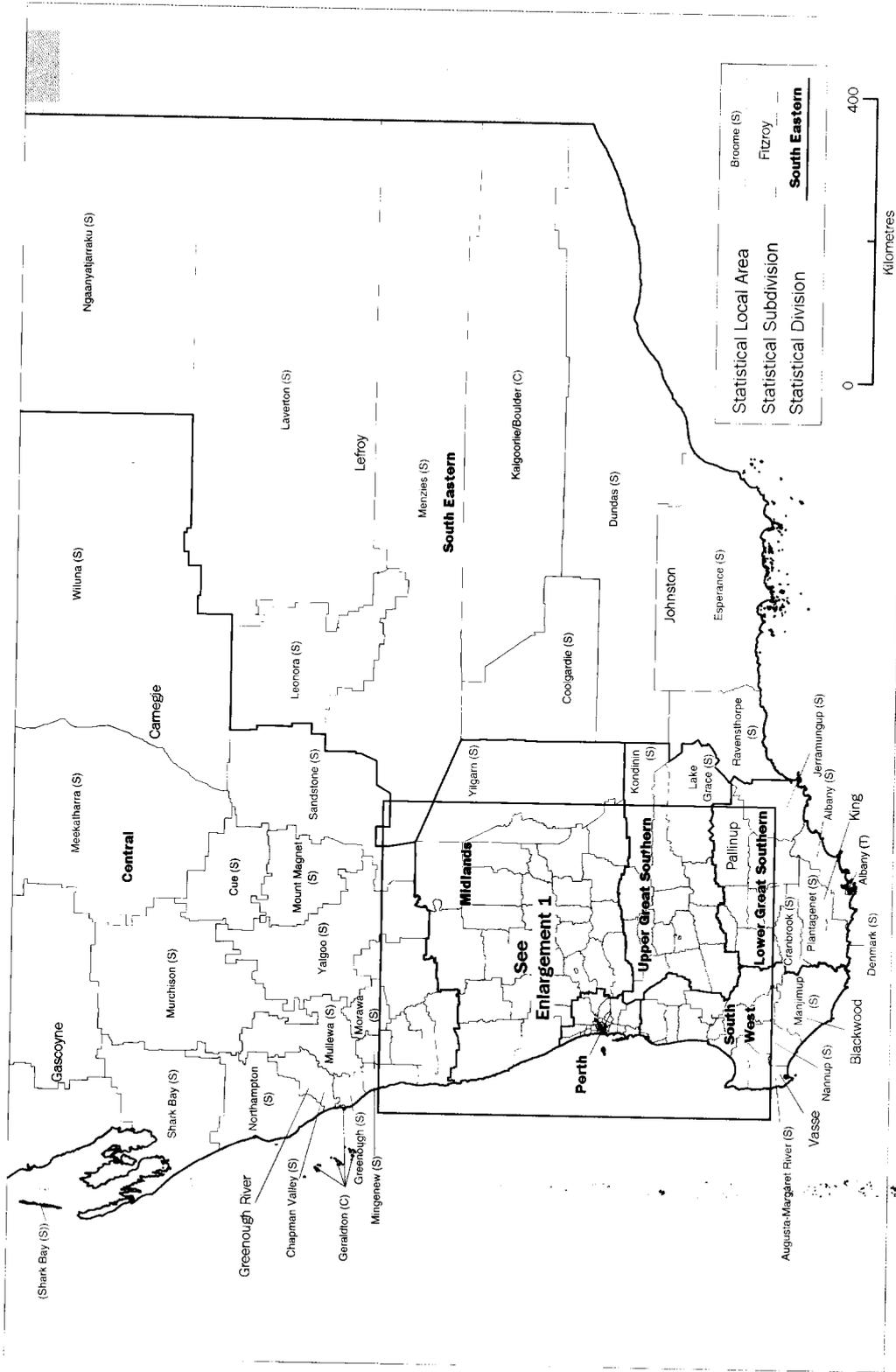
## STATISTICAL DIVISIONS, SUBDIVISIONS AND STATISTICAL LOCAL AREAS AT 30 JUNE 1997

Name	CODE	Name	CODE	Name	CODE	Name	CODE
<b>PERTH</b>	<b>05</b>	<b>PRESTON</b>	<b>1010</b>	<b>LAKES</b>	<b>2010</b>	<b>CENTRAL</b>	<b>35</b>
CENTRAL METROPOLITAN	0505	Bunbury (C)	1190	Comign (S)	2100	GASCOYNE	3505
Cambridge (T)	1310	Capel (S)	1400	Kondinin (S)	4620	Carnarvon (S)	1540
Claremont (T)	1750	Collie (S)	1890	Kulin (S)	4760	Exmouth (S)	3360
Cottesloe (T)	2170	Dardanup (S)	2660	Lake Grace (S)	4900	Shark Bay (S)	7770
Mosman Park (T)	5740	Donnybrook-Balingup (S)	2870			Upper Gascoyne (S)	8470
Nedlands (C)	6580	Harvey (S)	3990	<b>MIDLANDS</b>	<b>25</b>		
Peppermint Grove (S)	6930	<b>VASSE</b>	<b>1015</b>	<b>MOORE</b>	<b>2505</b>	<b>CARNEGIE</b>	<b>3510</b>
Perth (C)-Inner	7081	Augusta-Margaret River (S)	0280	Chittering (S)	1680	Cue (S)	2380
Perth (C)-Remainder	7082	Busselton (S)	1260	Dandaragan (S)	2590	Meekatharra (S)	5250
Subiaco (C)	7980			Gingin (S)	3570	Mount Magnet (S)	5810
Vincent (T)	8570			Moorra (S)	5600	Murchison (S)	6160
<b>EAST METROPOLITAN</b>	<b>0510</b>	<b>BLACKWOOD</b>	<b>1020</b>	Victoria Plains (S)	8540	Ngaanyatjarraku (S)	6620
Bassendean (T)	0350	Boyup Brook (S)	0770	<b>AVON</b>	<b>2510</b>	Sandstone (S)	7630
Bayswater (C)	0420	Bridgetown-Greenbushes (S)	0840	Beverley (S)	0560	Wiluna (S)	9250
Kalamunda (S)	4200			Cunderdin (S)	2450	Yalgoo (S)	9590
Mundaring (S)	6090	Manjimup (S)	5180	Dalwallinu (S)	2520	<b>GREENOUGH RIVER</b>	<b>3515</b>
Swan (S)	8050	Nannup (S)	6300	Dowerin (S)	2940	Camamah (S)	1470
<b>NORTH METROPOLITAN</b>	<b>0515</b>	<b>LOWER GREAT SOUTHERN</b>	<b>15</b>	Goomalling (S)	3710	Chapman Valley (S)	1610
Stirling (C)-Central	7911	<b>PALLINUP</b>	<b>1505</b>	Koorda (S)	4690	Coorow (S)	2030
Stirling (C)-West	7912	Broomehill (S)	1050	Northam (T)	6650	Geraldton (C)	3500
Stirling (C)-South-Eastern	7913	Gnowangerup (S)	3640	Northam (S)	6720	Greenough (S)	3850
Wanneroo (C)-Central Coastal	8751	Jerramungup (S)	4130	Quairading (S)	7350	Irwin (S)	4060
Wanneroo (C)-North-East	8753	Katanning (S)	4340	Tammin (S)	8190	Mingenew (S)	5530
Wanneroo (C)-North-West	8755	Kent (S)	4480	Toodyay (S)	8330	Morawa (S)	5670
Wanneroo (C)-South-East	8757	Kojonup (S)	4550	Wongan-Ballidu (S)	9310	Mullewa (S)	6020
Wanneroo (C)-South-West	8758	Tambellup (S)	8120	Wyalkatchem (S)	9450	Northampton (S)	6790
<b>SOUTH WEST METROPOLITAN</b>	<b>0520</b>	Woodanilling (S)	9380	York (S)	9730	Perenjori (S)	7000
Cockburn (C)	1820	<b>KING</b>	<b>1510</b>	<b>CAMPION</b>	<b>2515</b>	Three Springs (S)	8260
East Fremantle (T)	3150	Albany (T)	0070	Bruce Rock (S)	1120	<b>PILBARA</b>	<b>40</b>
Fremantle (C)-Inner	3431	Albany (S)	0140	Kellerberrin (S)	4410	DE GREY	4005
Fremantle (C)-Remainder	3432	Cranbrook (S)	2240	Merredin (S)	5460	East Pilbara (S)	3220
Kwinana (T)	4830	Denmark (S)	2730	Mount Marshall (S)	5880	Port Hedland (T)	7280
Melville (C)	5320	Plantagenet (S)	7210	Mukinbudin (S)	5950	<b>FORTESCUE</b>	<b>4010</b>
Rockingham (C)	7490			Narembeen (S)	6370	Ashburton (S)	0250
<b>SOUTH EAST METROPOLITAN</b>	<b>0525</b>	<b>UPPER GREAT SOUTHERN</b>	<b>20</b>	Nungarin (S)	6860	Roebourne (S)	7560
Armadale (C)	0210	<b>HOTHAM</b>	<b>2005</b>	Trayning (S)	8400	<b>KIMBERLEY</b>	<b>45</b>
Belmont (C)	0490	Brookton (S)	0910	Westonia (S)	9030	ORD	4505
Canning (C)	1330	Cuballing (S)	2310	Yilgam (S)	9660	Halls Creek (S)	3920
Gosnells (C)	3780	Dumbleyung (S)	3010	<b>SOUTH EASTERN</b>	<b>30</b>	Wyndham-East Kimberley(S)	9520
Serpentine-Jarrahdale (S)	7700	Narrogin (T)	6440	<b>LEFROY</b>	<b>3005</b>	<b>FITZROY</b>	<b>4510</b>
South Perth (C)	7840	Narrogin (S)	6510	Coolgardie (S)	1960	Broome (S)	0980
Victoria Park (T)	8510	Pingelly (S)	7140	Kalgoorlie/Boulder (C)	4280	Derby-West Kimberley (S)	2800
<b>SOUTH WEST</b>	<b>10</b>	Wagin (S)	8610	Laverton (S)	4970		
DALE	1005	Wandering (S)	8680	Leonora (S)	5040		
Boddington (S)	0630	West Arthur (S)	8890	Menzies (S)	5390		
Mandurah (C)	5110	Wickepin (S)	9100	<b>JOHNSTON</b>	<b>3010</b>		
Murray (S)	6230	Williams (S)	9170	Dundas (S)	3080 *		
Waroona (S)	8820			Esperance (S)	3290		
				Ravensthorpe (S)	7420		

Statistical Divisions are indicated thus: **SOUTH WEST**; Subdivisions thus: BLACKWOOD; Statistical Local Areas thus: Manjimup (S). Cities are marked (C), Towns (T) and Shires (S).

STATISTICAL DIVISIONS, SUBDIVISIONS AND STATISTICAL LOCAL AREAS, 1996 EDITION









ENLARGEMENT 2 - STATISTICAL SUBDIVISIONS AND STATISTICAL LOCAL AREAS, 1996 EDITION



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Air routes at 30 June 1969	1970, between p. 448 and p. 449
Areas of current development	1970, facing p. 336
Comprehensive Agricultural Areas Water Supply Scheme	1985, p. 258
Electoral Boundaries (Federal)	1989 p. 78
Electoral Provinces and Electoral Districts (State)	1969, between p. 96 and p. 97
Electricity supplies	1967, facing p. 320
Epcentres of large earthquakes	1971, p. 33
General map of the State showing statistical divisions, local government areas, roads, railways, air routes and isohyets	1973, inside back cover
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Tel: (08) 9427 3111

Edith Cowan University  
Mt Lawley Campus Library  
2 Bradford Street  
MT LAWLEY WA 6050  
Tel: (08) 9370 6251

Murdoch University Library  
South Street  
MURDOCH WA 6150  
Tel: (08) 9360 2563

**TERTIARY LIBRARIES**

Curtin University of Technology  
TL Robertson Library  
Kent Street  
BENTLEY WA 6102  
Tel: (08) 9351 7167

University of Notre Dame  
Fremantle Campus Library  
34 Mouat Street  
FREMANTLE WA 6160  
Tel: (08) 9430 0500

Edith Cowan University  
Bunbury Campus Library  
Robertson Drive  
BUNBURY WA 6230  
Tel: (08) 9780 7740

University of Notre Dame  
Broome Campus Library  
Guy Street  
BROOME WA 6725  
Tel: (08) 9192 2032

Edith Cowan University  
Churchlands Campus Library  
Pearson Street  
CHURCHLANDS WA 6018  
Tel: (08) 9273 8217

University of Western Australia  
Library  
Stirling Highway  
NEDLANDS WA 6009  
Tel: (08) 9380 1589

Edith Cowan University  
Joondalup Campus Library  
Joondalup Drive  
JOONDALUP WA 6027  
Tel: (08) 9400 5636

**LIBRARY EXTENSION PROGRAM** (Continued)

**PARLIAMENTARY LIBRARY**

Parliament Library  
Parliament House  
(no public access)  
Harvest Terrace  
PERTH WA 6000

Broome Public Library & Information Service  
Weld Street  
BROOME WA 6725  
Tel: (08) 9192 1635

**TAFE COLLEGES**

C.Y. O'Connor College of Tafe  
Hutt Street  
NORTHAM WA 6401  
Tel: (08) 9622 3905

Bunbury Public Library  
& Information Service  
Parkfield Street  
BUNBURY WA 6230  
Tel: (08) 9721 5585

South West Regional College of Tafe  
Robertson Drive  
BUNBURY WA 6231  
Tel: (08) 9780 7000

Busselton Public Library  
Stanley Street  
BUSSELTON WA 6280  
Tel: (08) 9754 1588

Rockingham College of Tafe  
Simpson Avenue  
ROCKINGHAM WA 6168  
Tel: (08) 9528 0369

Camaron District Public Library  
Stuart Street  
CARNARVON WA 6701  
Tel: (08) 9941 1680

**REGIONAL AND PUBLIC LIBRARIES**

Albany Public Library  
& Information Service  
221 York Street  
ALBANY WA 6330  
Tel: (08) 9841 2333

Nedlands Library Service  
60-64 Stirling Highway  
NEDLANDS WA 6009  
Tel: (08) 9386 6230

Armadale Public Library  
& Information Service  
Orchard Avenue  
ARMADALE WA 6112  
Tel: (08) 9399 0125

Claremont Public Library  
308 Stirling Highway  
CLAREMONT WA 6010  
Tel: (08) 9384 0588

Bassendean Memorial Public Library  
46 Old Perth Road  
BASSENDEAN WA 6054  
Tel: (08) 9279 2966

Collie Public Library  
Wittenoom Street  
COLLIE WA 6225  
Tel: (08) 9734 1334

**LIBRARY EXTENSION PROGRAM** (Continued )

Dianella Public Library  
Dianella Plaza Shopping Centre  
Waverley Street  
DIANELLA WA 6062  
Tel: (08) 9275 4022

Esperance Public Library  
Windich Street  
ESPERANCE WA 6450  
Tel: (08) 9071 1666

Floreat Park Library  
Floreat Forum Shopping Centre  
Howtree Place  
FLOREAT PARK WA 6014  
Tel: (08) 9387 4700

Fremantle City Library  
Cnr Newman and William Streets  
FREMANTLE WA 6160  
Tel: (08) 9430 2266

Geraldton Regional Library  
Cathedral Avenue  
GERALDTON WA 6530  
Tel: (08) 9921 2165

Gosnells City Library  
2240 Albany Highway  
GOSNELLS WA 6110  
Tel: (08) 9398 1210

Hillarys Public Library  
Cnr Banks & Marmion Avenues  
HILLARYS WA 6025  
Tel: (08) 9401 8222

Kalamunda Public Library  
7 Williams Road  
KALAMUNDA WA 6076  
Tel: (08) 9293 2199

Joondalup Public Library  
102 Boas Avenue  
JOONDALUP WA 6027  
Tel: (08) 9400 4741

Kalgoorlie Public Library  
(William Grundt Memorial  
Library)  
Robert Street  
KALGOORLIE WA 6430  
Tel: (08) 9021 4744

Karratha Community Library  
Millstream Road  
KARRATHA WA 6714  
Tel: (08) 9159 6852

Karrinyup Public Library  
Davenport Street  
KARRINYUP WA 6018  
Tel: (08) 9446 8944

Leederville Public Library  
Cnr Loftus and Vincent Streets  
LEEDERVILLE WA 6007  
Tel: (08) 9273 6090

Mandurah Public Library  
331 Pinjarra Road  
MANDURAH WA 6210  
Tel: (08) 9535 4424

Manjimup Public Library  
Cnr Rose and Mount Streets  
MANJIMUP WA 6258  
Tel: (08) 9771 2895

Melville City Library  
& Information Service  
Almondbury Road  
ARDROSS WA 6153  
Tel: (08) 9316 4959

**LIBRARY EXTENSION PROGRAM** (Continued)

Merredin Regional  
Library Service  
Queen Street  
MERREDIN WA 6415  
Tel: (08) 9041 1611

Riverton Public Library  
High Road  
RIVERTON WA 6155  
Tel: (08) 9354 5871

Midland Public Library  
45 Helena St  
MIDLAND WA 6056  
Tel: (08) 9267 9020

Rockingham TAFE/Public Library  
Simpson Avenue  
ROCKINGHAM WA 6168  
Tel: (08) 9527 5873

Morley Public Library  
Morley Square Shopping Centre  
7 Dewar Street  
MORLEY WA 6062  
Tel: (08) 9375 1766

South Hedland Public Library  
& Information Service  
Leake Street  
SOUTH HEDLAND WA 6722  
Tel: (08) 9140 1985

Mundaring Library  
& Information Service  
Albert Facey Memorial Library  
Nichol Street  
MUNDARING WA 6073  
Tel: (08) 9295 1275

Spearwood Public Library  
9 Coleville Crescent  
SPEARWOOD WA 6163  
Tel: (08) 9411 3491

Narrogin Library  
& Information Service  
Fortune Street  
NARROGIN WA 6312  
Tel: (08) 9881 1944

Subiaco Public Library  
Cnr Rokeby and Bagot Roads  
SUBIACO WA 6008  
Tel: (08) 9381 5088

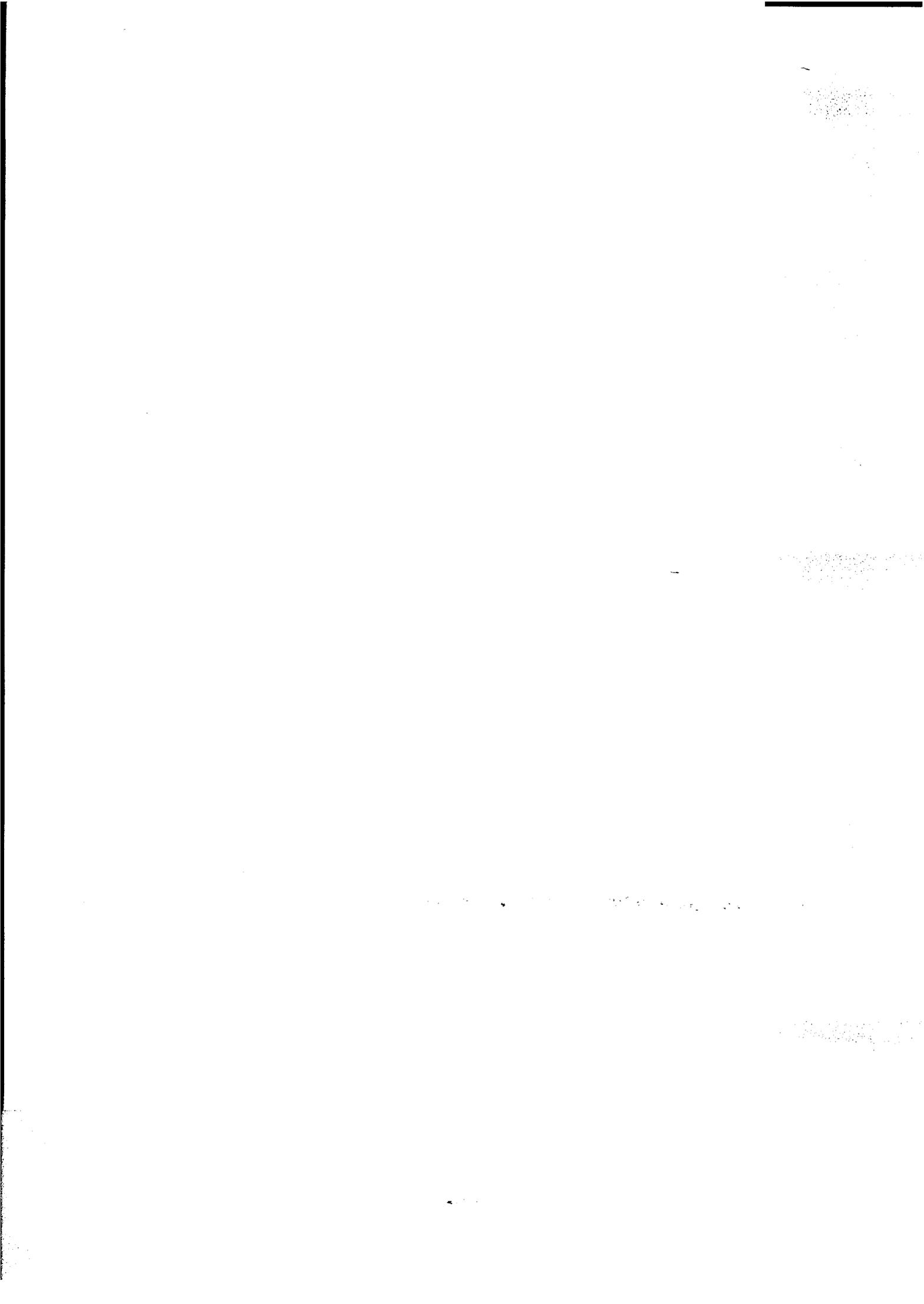
Northam Regional Library  
298 Fitzgerald Street  
NORTHAM WA 6401  
Tel: (08) 9622 1830

Thornlie Public Library  
Cnr Connemara Drive  
and Curloss Avenue  
THORNLIE WA 6108  
Tel: (08) 9459 2499

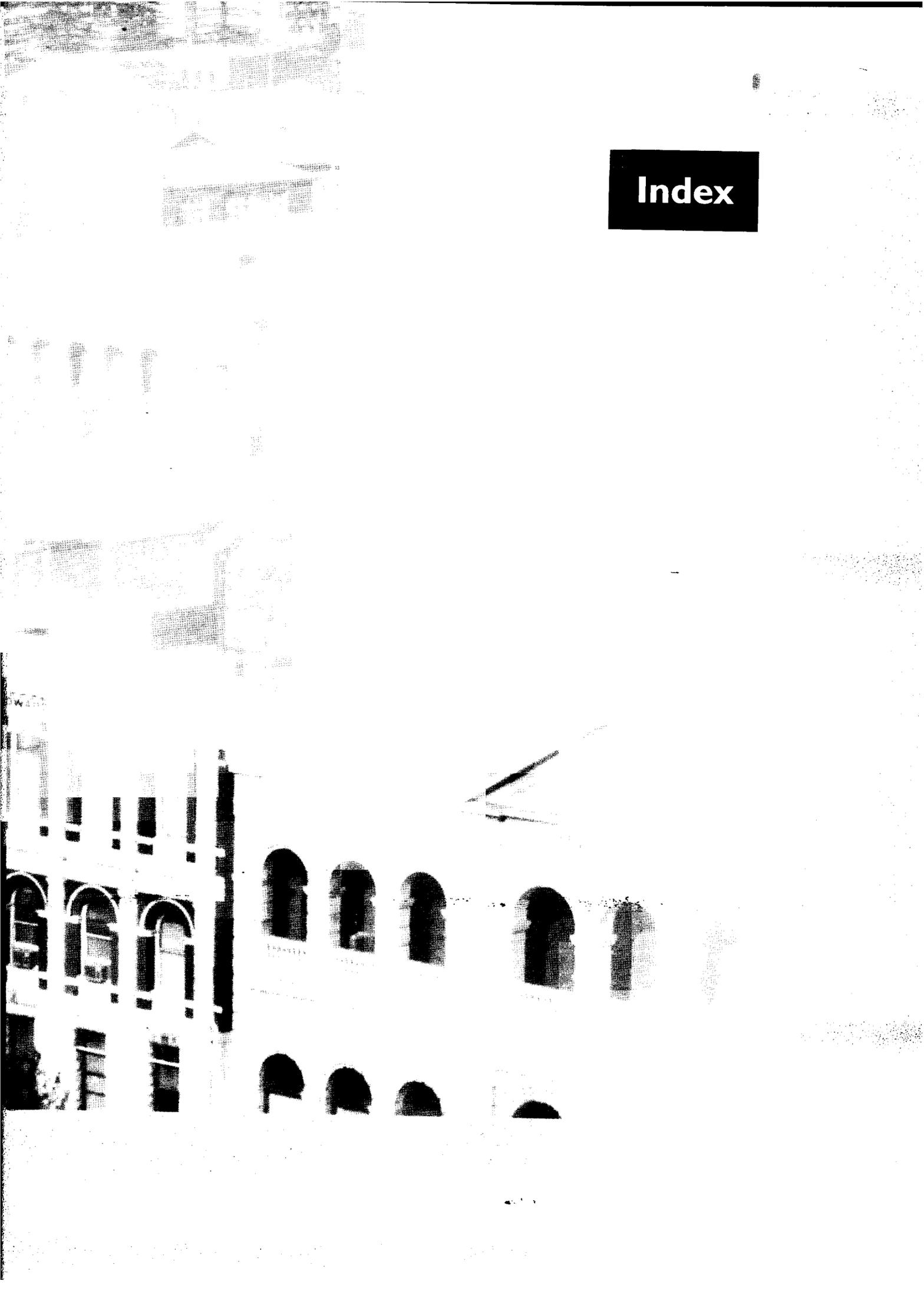
Perth City Library  
Law Chambers  
575 Hay Street, Lower Floor  
PERTH WA 6000  
Tel: (08) 9265 3373

Victoria Park Public Library  
27 Sussex Street  
VICTORIA PARK WA 6100  
Tel: (08) 9361 1977

Wambro Public Library  
Swallowtail Parade  
WARNBRO WA 6169  
Tel: (08) 9593 4608



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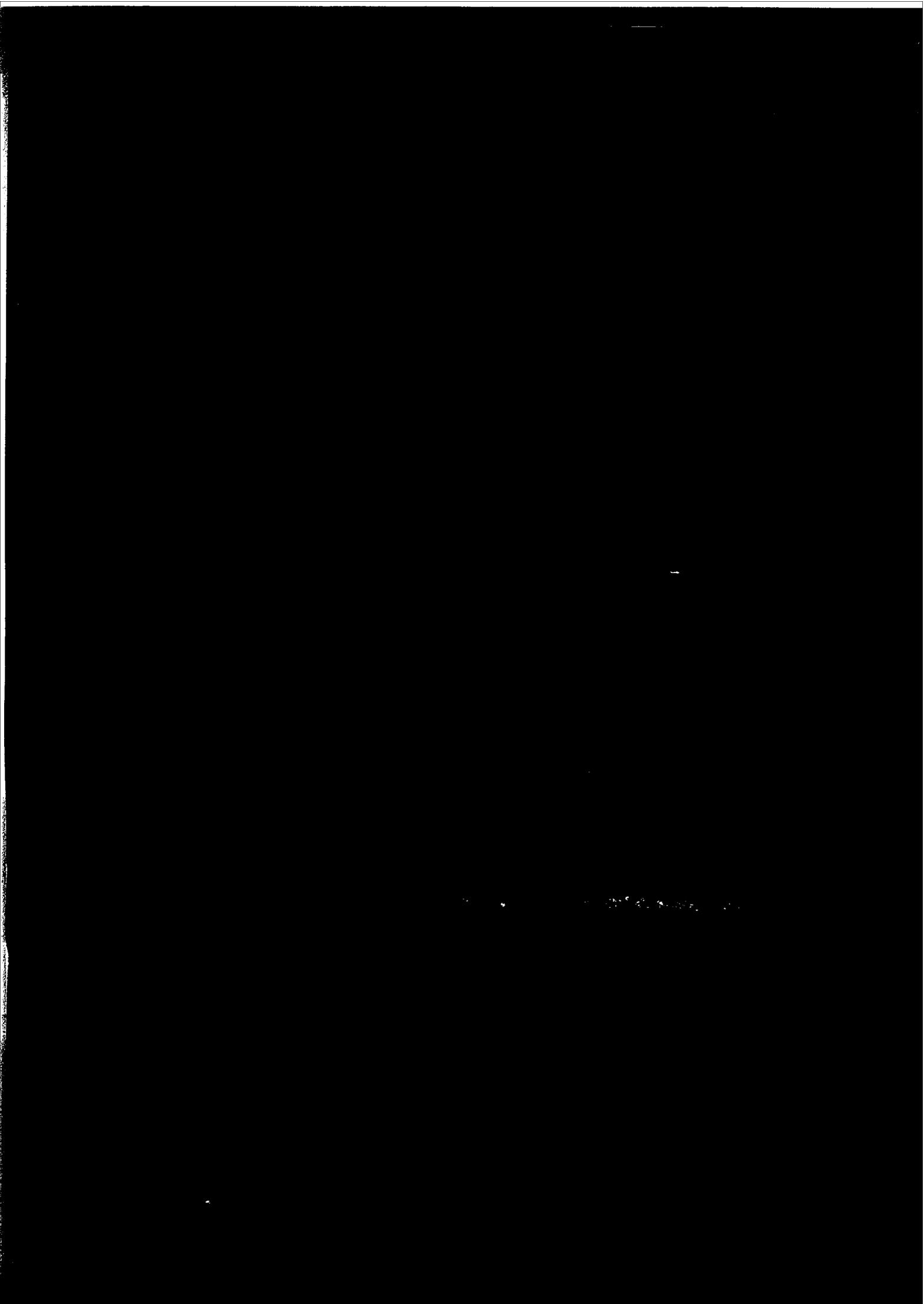
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