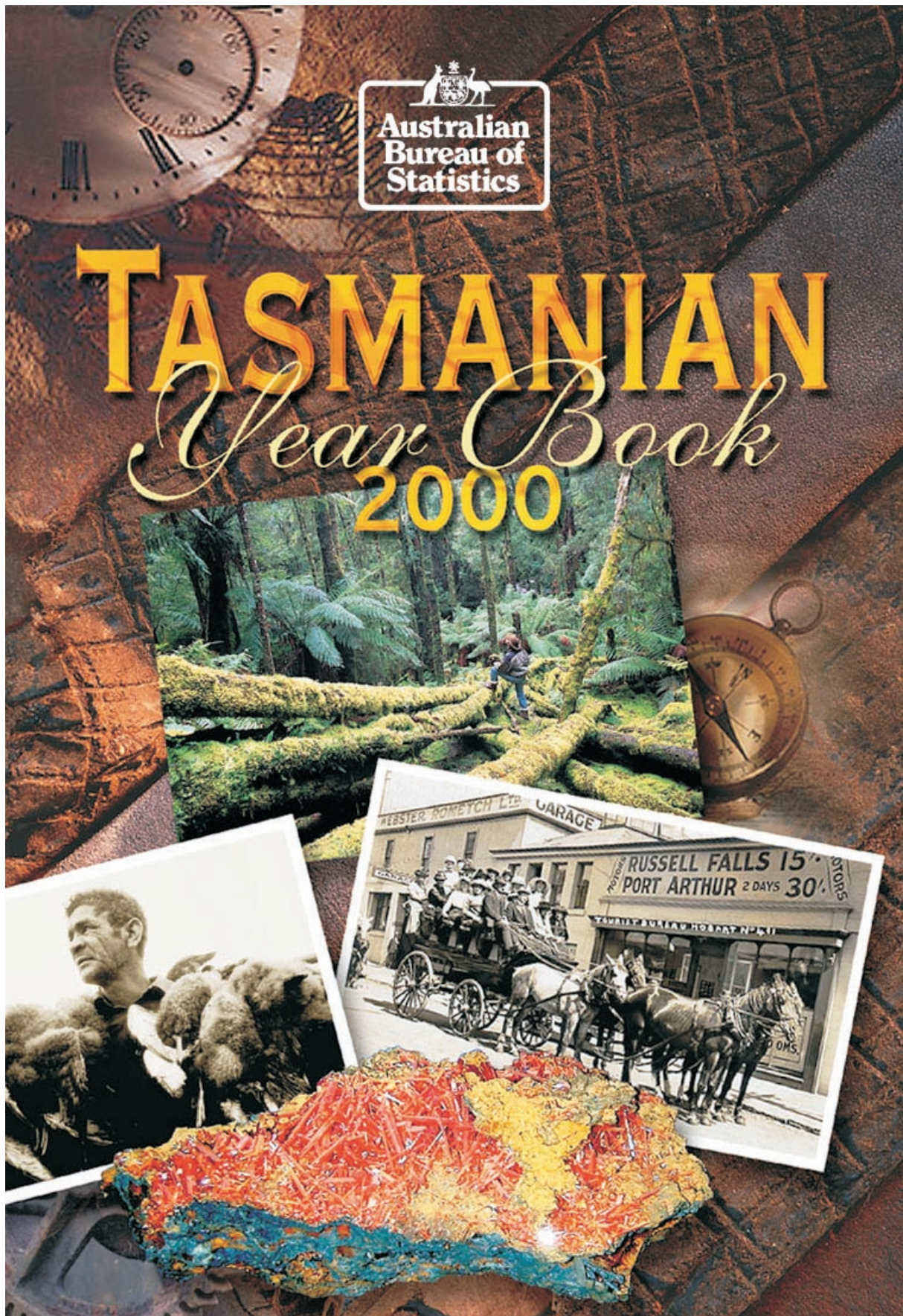




TASMANIAN *Year Book* 2000



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Tasmanian Year Book 2000

Stevan R. Matheson, Regional Director, Tasmania

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Preface

The Tasmanian Year Book has been produced since 1967. This is the twenty-seventh edition. Since its inception the Year Book has been an invaluable source of information about the State of Tasmania, providing a permanent record of economic and social developments. Subjects covered include Tasmania's physical environment and its history and structure of government, together with details of the wide range of economic and social statistics collected by the Australian Bureau of Statistics.

The Tasmanian Year Book is designed to be readily understood by all who wish to acquire a broad knowledge of the State as well as those who have a practical use for the statistics. For the 2000 edition, some chapters provide a broad historical context by reviewing the past 100 years and reporting on major developments during that time.

As far as possible, the latest available statistics have been included. More detailed, and in many cases more up-to-date, statistics may be obtained by reference to the related ABS publications listed at the end of each chapter.

ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. This continued cooperation is greatly appreciated. Particular thanks are extended to those who have provided material for the *Tasmanian Year Book 2000*.

Stevan R. Matheson
Regional Director, Tasmania
Australian Bureau of Statistics
November 1999

General information

SYMBOLS

The following symbols, where used, mean:

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
r	figure or series revised since previous issue
..	not applicable
—	nil or rounded to zero

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

Where reference is made to Acts of the Commonwealth or State Parliaments, the year quoted refers to the year in which the principal Act was passed; all subsequent amendments are inferred.

CHAPTER 1

History

Photo: Archives Office of Tasmania



Truganini is pictured here with William Lanne and Bessy Clarke c1868.

Aboriginal Occupation

The Aboriginal population of Tasmania became separated from the mainland some 12,000 years ago when the sea level rose, flooding the Bassian Plains. Archaeological excavations of the earliest known occupation site in Tasmania, at Warreen Cave in the Maxwell River valley of the south-west, have provided evidence of Aboriginal presence at least 35,000 years ago. This discovery means that the Tasmanian Aborigines were the most southerly peoples in the world during the Pleistocene era.

The complexity of changes in the social, cultural and territorial structures of the Tasmanian Aborigines over time is largely unknown. It is evident from the ethnographic and archaeological record, however, that at about 4,000 years ago the Aborigines dropped scale fish from their diet and increased their consumption of land mammals, such as kangaroos and

wallabies. At about this time they also stopped using bone tools, and refined their making of stone tool implements.

Canoes were crafted during the last 2,000 years and used to exploit the seal colonies of the west and south-east coasts. The archaeological evidence indicates that the Aboriginal population of Tasmania had been expanding, at least territorially, from 4,000–3,000 years ago until the British invaded their lands in 1803. The use of fire to open up forested areas may have played a major role in this expansion.

At the time of British colonisation the Aborigines were formed into nine tribes, each of which had between six to fifteen 'bands'. The population is thought to have been in the range of 4,000 to 10,000. As a predominantly nomadic people, their movements followed the seasonal changes in food supply, such as shellfish, seabirds, wallaby and a variety of vegetable foods.

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The first European visitors to Tasmania came in search of new trading and commercial opportunities. They made important observations on the Tasmanian landscape, its unique flora and fauna, as well as the native inhabitants. Initially, they found little reason to induce them to stay.

1642 *Nov 24* Abel Jansz Tasman of the Dutch East India Company, in command of the *Heemskerck* and *Zeebaen*, becomes the first European to sight the Tasmanian mainland. He names it 'Van Diemen's Land' in honour of Antony van Diemen, Governor General of the East India Co.

1772 *March 3* French explorer, Capt. Nicholas Marion du Fresne of the *Mascarin* and *Marquis de Castries*, sights Van Diemen's Land. The following day a party goes ashore, one Aborigine is shot and killed, others wounded.

1773 *March 9* Capt. Tobias Furneaux in the *Adventure* sights Van Diemen's Land. Furneaux had become separated from Capt. James Cook's *Resolution* during a British expedition of the Southern Ocean.

1777 *Jan 24* Capt. James Cook anchors the *Resolution* in Adventure Bay on his third southern expedition.

1788 *Jan 26* The first official European settlement in Australia begins at Botany Bay, New South Wales (NSW). *Aug 20* Capt. William Bligh of the *Bounty* anchors in Adventure Bay enroute from Britain to Tahiti.

1789 *July 3* Englishman Capt. John Henry Cox is off South West Cape in the *Mercury*. He later notices seals in Oyster Bay.

1792 *Feb 8* Capt. William Bligh of the *Providence* and *Assistant* sights Van Diemen's Land, and the following day anchors in Adventure Bay. He names Table Mountain (now Mt. Wellington). *April 21* Bruni D'Entrecasteaux (*Recherche*) with Capt. Huon de Kermadec (*Esperance*) sights Van Diemen's Land during their search for La Perouse's expedition. A survey is made of D'Entrecasteaux Channel.

1793 *Jan 21* D'Entrecasteaux (accompanied by naturalist Jacques-Julien Houton de Labillardiere) returns to Van Diemen's Land, and charts the River Derwent (which he calls Riviere du Nord). *April* John Hayes, of the British East India Co., in command of the *Duke of Clarence* and *Duchess*, enters and names the River

Derwent, unaware of D'Entrecasteaux's previous visits.

1797 *Feb 9* The merchant vessel, *Sydney Cove*, wrecked in the Furneaux Group, Bass Strait.

1798 Sealing operations by Charles Bishop (*Nautilus*) commence at Kent Bay, Cape Barren Island. *Oct 7* George Bass and Matthew Flinders begin a circumnavigation of Van Diemen's Land in the sloop *Norfolk*, proving that it is an island.

1802 *Jan 13* Frenchman Nicholas Baudin of the *Geographe* and *Naturaliste* anchors off Bruny Island, before exploring the south-east and east coasts of Tasmania.

1803–1850s: British Outpost

Governor King of the British settlement at New South Wales became increasingly nervous about the intentions of French explorers in the region. In March 1803 he commissioned Lt. John Bowen to form a settlement at the Derwent River to ward off French interests, to establish another base for convicts and to exploit the island's timber getting, agricultural and sealing resources. In 1804 a further settlement (Port Dalrymple) was commenced on the north of the island, under the command of Lt. Col. William Paterson.

The fledgling settlement on the Derwent was plagued by food shortages, convict unrest and internal conflicts. The food supply became so desperately low in 1806, that Lt. David Collins had six whalers from the *Ferret* flogged for refusing to hand over two casks of biscuits and three casks of flour for the relief of the settlement.

By 1853, however, as Tasmanians were celebrating the end of convict transportation to the colony, the population had reached over 70,000, whaling and wool exports had become the mainstay of the colony, and ship-building was also showing great potential. Over 127,000 acres were in cultivation. Tasmania had been made a separate colony in 1825, and in 1856 was granted responsible self-government.

The expansion of settlement, however, had caused the Aboriginal population to suffer both dispossession and depopulation. Prolonged conflict with settlers and sealers over resources, the abduction of Aboriginal women, and exposure to disease whilst held in captivity severely reduced their numbers. In the 1830s the

remnants of the Aboriginal population living in the bush were removed to Wybalenna, Flinders Island where they were housed in 'gaol-like' conditions. Children were routinely removed to the Orphan School, Hobart. In 1847 Wybalenna was abandoned and the 47 Aborigines left there were transferred to Oyster Cove Aboriginal Station, south of Hobart.

1803 *Sept 8 and 11* *Lady Nelson* and *Albion* arrive at Risdon Cove on Derwent, to establish the first European settlement on the island under the command of Lt. John Bowen.

1804 *May 3* An attack on Aborigines at Risdon Cove occurs. Eye-witness accounts of the massacre vary greatly with estimates of the dead ranging from three or four to fifty. *May 8* Lt. David Collins takes charge of the Risdon settlement, and subsequently removes it to Sullivan's Cove site. *June 15* Hobart Town adopted as name for new settlement. *Nov 5* A party under the charge of Lt. Col. William Paterson arrives in the *Buffalo*, *Lady Nelson* and 2 schooners at Outer Cove (George Town) under instruction from Governor King to begin a settlement on the north of the island. *Nov 12* An Aborigine killed, another wounded at Paterson's Camp.

1805 William Collins establishes a whaling station at Droughty Point on the Derwent. *June 24* Lt David Collins informs Governor King of an extreme shortage of food at settlement.

1806 *March* Paterson moves northern settlement (then called Port Dalrymple) to present site of Launceston.

1807 *Feb 3* Thomas Laycock and party embarks on first overland expedition from Port Dalrymple (in north) to Hobart (in south). *Nov 29* First settlers from Norfolk Island arrive.

1808 *Sept 29* The name 'Launceston' is first used to refer to the northern settlement in official correspondence.

1809 *March 30* Deposed Governor of NSW, William Bligh, arrives at Hobart Town and temporarily disrupts Lt. David Collins' power of authority over the settlement.

1810 *Jan 8* The first newspaper *The Derwent Star and Van Diemens Land Intelligencer* is printed in colony.

1811 *Nov 22* Governor Lachlan Macquarie (NSW) arrives and begins tour of inspection of

island. He names Elizabeth Town (New Norfolk), lays a geometrical plan for Hobart streets and issues instructions for the building of barracks, hospital, gaol, signal station and a new Government House there.

1812 *June 30* Northern settlements made subordinate to Hobart. *Oct 19* *Indefatigable*, the first direct convict transport from Britain arrives.

1813 *April 3* Ports of Van Diemen's Land open to commerce.

1814 First horse races held at New Town. *May 14* First issue of *Van Diemens Land Gazette and General Advertiser*. *June 1* Lt. Governor's Court established to deal with personal disputes under the value of 50 pounds.

1815 *May* Lt. Gov. Davey declares Martial law against bushrangers. *Dec 12* Capt. James Kelly sets out on circumnavigation of island, during which important observations are made on the resources of the west coast.

1816 *June 1* *Hobart Town Gazette and Southern Reporter* begins regular publication.

1817 *Feb 19* Foundation stone of old St David's Church, Hobart laid. *May* A regular weekly mail service established between Hobart and Launceston. *May 3* Hobart Town gaol nearly completed.

1818 A government flour mill installed at Hobart Town Rivulet.

1819 Reverend John Youl (Assistant Chaplain to Port Dalrymple), arrives in colony. *May 22* Port Dalrymple headquarters moved to George Town. *June 25* Hobart–New Norfolk road completed.

1820 *Feb 21* J. T. Bigge, undertaking a British inquiry into colonial administration, arrives in Van Diemen's Land. *March* Merino sheep introduced from Macarthur stud, NSW. *Oct 29* First Methodist meeting held in colony.

1821 *April 14* Rev. Phillip Conolly, first Roman Catholic clergyman, arrives. *May 30* Governor Macquarie, on his second tour of the island, selects a site for township of Perth, and later Campbell Town, Ross, Oatlands and Brighton. *Nov 12* A party of officials and convicts depart Port Dalrymple to form a penal settlement at Macquarie Harbour.

1822 *Jan 1* First meeting of an agricultural

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society held, Hobart.

1823 *Feb 3* The first official ministry of the Presbyterian Church in Australia begins in Hobart under Rev. Archibald McArthur. *Aug 11* Bank of Van Diemen's Land established.

1824 Northern settlement returned to Launceston site. *May 10* Opening of Supreme Court in Tasmania. *Dec* Aborigines Musquito (from NSW) and Black-Jack sentenced to hang for a resistance campaign against pastoralists which began at Grindstone Bay in November 1823. *Dec 28* Foundation stone of St. John's Church laid, Launceston.

1825 *Jan 1* Richmond Bridge opened. *Jan 5* *The Tasmanian and Port Dalrymple Advertiser* becomes first northern newspaper. *Feb 27* Party of soldiers and convicts leave Hobart to establish a penal settlement on Maria Island. *Dec 3* Van Diemen's Land proclaimed a separate colony from New South Wales, with its own judicial establishment and Legislative Council.

1826 *April* Tasmanian Turf Club first established. *April 12* Legislative Council meets formally for first time. *Oct 27* Van Diemen's Land Company settlers and stock arrive at Circular Head to begin pastoral and agricultural settlement of the north-west region.

1827 Van Diemen's Land Company begins settlement at Emu Bay (now Burnie). *Jan* Van Diemen's Land Mechanic's Institute founded, becoming the first of its type in Australia. *Jan 3* First boat regatta held on Derwent River.

1828 Reduction of English duty on whale oil opens way for expansion of local whaling industry. *Jan* Van Diemen's Land Company shepherds massacre 30 Aborigines at Cape Grim. *Jan 25* Derwent Bank opens for business. *Nov 1* Martial law proclaimed against Aborigines in settled areas.

1829 Women's convict gaol or 'female factory' at Cascades, Hobart opened. *May 14* Aboriginal mission on Bruny Island opened by George Augustus Robinson.

1830 Bridgewater convict chain gang commences work on the causeway across the Derwent River. *Jan 27* G. A. Robinson sets off on the first of six 'conciliatory' expeditions to inquire into the state of the Aboriginal population. *Sept 20* Port Arthur penal settlement established. *Oct 7* 'The Black Line' against Aborigines begins in an attempt to capture them

all. The campaign lasts 7 weeks and only succeeds in bringing two Aborigines to the authorities.

1831 Publication of Australia's first novel *Quintus Servinton* by Henry Savery, Hobart. System of disposing of land by free grants abolished. Foundation stone of New Town Orphan School laid.

1832 Erection of Cascade Brewery, Hobart commences. *Jan* Martial law against Aborigines revoked. *Sept* Maria Island penal settlement closed. *Oct* Wybalenna chosen as site for an Aboriginal Establishment, Flinders Island. *Nov 11* Derwent Light ('Iron Pot') first lit.

1833 *Oct* Cornwall Agricultural Society, Launceston formed. *Nov* Macquarie Harbour penal station closed and convicts transferred to Port Arthur. *Dec 17* First professional theatrical performance takes place in Hobart. *Dec 19* Low Head lighthouse first lit.

1834 Convict 'female factory', Launceston completed. *Feb 8* Point Puer boys convict establishment opened. *June 5* First shipment of coal leaves the convict mines, Tasman Peninsula. *Nov 4* Foundation stone of Theatre Royal, Hobart laid. *Nov 5* Trial by jury in all civil cases adopted. *Nov 19* Edward Henty and party, of Launceston, occupy land at Portland Bay, marking the beginnings of white settlement in Victoria.

1835 Colonial artist, John Glover, sends 35 paintings of Van Diemen's Land to an exhibition in London. *Jan 22* First meeting held to establish a Launceston Savings Bank. *April 12* Convict transport *George III* sinks in D'Entrecasteaux Channel claiming lives of 139 male convicts. *May 12* John Batman of Launceston sails to Port Phillip as agent for the Port Phillip Association.

1836 *Feb 5* Charles Darwin visits Van Diemen's Land in the *Beagle*. *July 1* Formal list of counties, hundreds and parishes of Van Diemen's Land gazetted.

1837 British Government begins Molesworth Committee Inquiry into Transportation. *Nov 27* State aid granted for construction of church buildings (all denominations).

1838 *Mar 31* Bruny Island lighthouse completed. *Aug 7* Government printery established by Act of Parliament. *Sept* Midland Agricultural Association forms. *Dec 1* First annual Hobart Regatta held.

1839 A registrar of Births, Deaths and Marriages appointed. *Jan* First regatta held on Tamar River.

1840 Economic depression begins. *Aug.* Capt. Ross arrives with Antarctic expedition of the *Erebus* and *Terror*. Rossbank meteorological observatory site established near Government House. *Nov 18* End of transportation to NSW leads to convict influx to Van Diemen's Land.

1841 Probation system of convict management introduced, leading to the establishment of over 70 Government work gang stations throughout the island.

1842 *Jan 1* First official census of Van Diemen's Land. *March* Sir John and Lady Jane Franklin undertake an overland journey to Macquarie Harbour. *March 12* *Launceston Examiner* first published. *Aug 21* Hobart Town proclaimed a city.

1843 *Aug 20* Rev. Francis Russell Nixon, first Bishop of Tasmania (Church of England), arrives in Hobart.

1844 *May 11* First Catholic Bishop, Rev. Robert William Willson arrives in Hobart. *Sept 12* Royal Society of Tasmania formed, being the first branch of the Society established outside Britain. *Sept 29* Norfolk Island annexed to Van Diemen's Land.

1845 Royal Victoria Theatre, Launceston opens. *March 1* Hobart Savings Bank established. *July 4* Hobart Synagogue dedicated. *Aug 4* Emigrant ship, *Cataraqui*, wrecked off King Island, 406 lives lost. *Oct 31* Legislative Council left without a quorum as the 'Patriotic Six' resign over what they considered unconstitutional means taken by the Governor to impose added duties on various goods.

1846 Swan Island and Goose Island lighthouses commence operations. *Feb* Aborigines at Flinders Island send a petition to Queen Victoria, being the first petition to a reigning monarch from an Aboriginal group in Australia.

1847 *March 23* 'Patriotic Six' reinstated to Legislative Council by new Lt. Governor Sir William Denison. *Oct 18* Forty seven Flinders Island Aborigines removed to Oyster Cove station.

1848 Deal Island Lighthouse erected.

1849 *Jan 26* An Anti-transportation League formed after public meeting at Launceston. *Aug 1* Tasmanian Public Library officially opened. *Oct* Irish political prisoners, including William Smith O'Brien, arrive in Van Diemen's Land.

1850 *Aug 5* A British Act of Parliament allows the introduction of a partly elected Legislative Council in Van Diemen's Land.

1851 Discovery of gold in Victoria prompts large scale emigration from Tasmania. *Feb 11* First Inter-colonial cricket match held, Launceston (Tasmania vs Victoria). *Dec 3* First meeting of the newly formed and partly elected Legislative Council.

1852 Hobart City Mission established. *Feb* Payable gold first discovered at Fingal.

1853 *Jan 2* Elections held for first municipal councils in Hobart and Launceston. *May 26* The last convict transport *St Vincent* docks at Hobart. *Aug 10* Jubilee Festival held in Hobart to mark the cessation of convict transportation to the colony.

1854 Regular Launceston–Emu Bay–Circular Head steamer begins. *July 5* First issue of the *Mercury* newspaper appears.

1855 Norfolk Island evacuated, convicts having been transferred to Port Arthur. First regional hospital established at Campbell Town. *Oct 24* *Constitution Act* proclaimed establishing Responsible Government in Tasmania.

1856 *Jan 1* Official change of name from Van Diemen's Land to Tasmania takes effect. *June 24* Norfolk Island separated from Tasmania. *Oct 17* First elections held to establish new Parliament under Responsible Government. *Nov 1* W.T.N. Champ becomes Tasmania's first Premier, and first ministry takes office.

1857 Launceston's water supply scheme from St Patrick's River completed. Hobart and Launceston Marine Boards established. *Aug 10* Telegraph line opens between Hobart and Launceston. *Dec 22* Hobart is incorporated.

1858 Municipal police forces established in Hobart and Launceston. *Feb 1* Voting by secret ballot adopted. *Oct 29* Launceston becomes incorporated.

1859 Hobart Town Council appoints a health officer due to concerns about public health. First attempt made to lay a submarine telegraph cable

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across Bass Strait. *Jan 2* Governor Henry Fox Young moves into new Government House, Hobart. *Dec* Charles Gould undertakes a geological expedition to the Western Ranges.

1860s–1900 Spirit of Optimism

During the 1860s–1880s a spirit of optimism pervaded the Tasmanian community as rich mineral deposits were unearthed, a railway system developed and the beginnings of a forest reservation system for the timber industry established.

The island's tourist potential was also becoming apparent. Premier Henry Dobson created a Tasmanian Tourist Association in 1893 to promote the island as a sanatorium and place of natural beauty. A government-produced guide to the island refers to Tasmania as 'The Garden of Australia'.

The scenery, go where you will, is of surprising beauty... There are lofty snow-capped mountains, noble rivers, cool and inviting fern glades, picturesque waterfalls, or striking coastal scenery to meet the eye almost at every outing.

Whilst the natural beauty of Tasmania was uncontested, the deplorable state of its cities caused many complaints from visitors and residents alike. Sewage and rubbish were openly discharged into the Hobart Town Rivulet and the Tamar River. Serious outbreaks of typhoid and diphtheria were attributed to such filthiness. Public pressure finally led the Government to introduce a regular system of drainage and sewerage in the early 1900s.

1860 Volunteer Corps of Cavalry, Artillery and Infantry established in Hobart and Launceston. *Jan 23* Glamorgan becomes the first rural municipality proclaimed under the *Rural Municipalities Act 1858*. *April 9* Launceston Mechanics Society opened.

1861 *Mar 6* Foundation stone of Hobart's new waterworks scheme laid. *Nov 1* Cape Wickham lighthouse first lit.

1862 *Feb* Charles Gould's second geological expedition to the west has disappointing results.

1863 *Jan* Opening of the newly constructed Tasmanian Museum, Hobart.

1864 Foundation stone of Launceston Town Hall laid. *April* First shipment of trout and salmon ova arrives in Hobart.

1866 *Sept 27* Hobart Town Hall opened. *Dec 20* A Symphony Society formed.

1867 First issue of *The Tasmanian Catholic Standard* appears. George Peacock begins one of the first jam factories in Australia at Hobart (later owned by Henry Jones and Co).

1868 The *Education Act* passes, making Tasmania the first place in Australia to introduce a compulsory state education system. *Jan 6* Tasmania's first Royal Visit begins, during which Prince Alfred (Duke of Edinburgh) lays the foundation stone of the new St David's Church, Hobart and turns the first sod of the Launceston and Western Railway.

1869 *May 1* A submarine telegraphic cable successfully establishes contact between Tasmania and Victoria. *March 3* Aboriginal, William Lanney, dies. His body is raided and mutilated for scientific study.

1870 Tasmanian Public Library formally constituted. *Aug 17* Britain withdraws its remaining garrison from Tasmania.

1871 *Feb 10* Opening of the Launceston–Deloraine (Western) Railway. *Dec 4* James 'Philosopher' Smith discovers tin at Mt Bischoff.

1872 *Oct 23* Direct telegraphic communication between Tasmania and England established.

1873 Mt Bischoff Tin Mining Co. formed.

1874 Payable tin deposits found in north-east Tasmania. Waverley Woollen Mills, Launceston established.

1875 Nightingale system of nurse training introduced to Hobart Hospital providing the first professional nurse training in Tasmania. Launceston Football Club formed. *Feb* Elwick Race Course opened by the Tasmanian Racing Club, Hobart.

1876 *March* Main Line of Railway from Hobart to Launceston opens. *May 8* Aboriginal woman, Truganini, dies. *Oct* Foundation stone of the Tasmanian Turf Club's Mowbray race course laid, Launceston.

1877 *July* Gold discovered at Beaconsfield. *Sept 17* Port Arthur penal station closed.

1878 Royal Society of Tasmania acquires Truganini's skeleton. Tin mining commences at Heemskirk. *Feb 1* Waratah–Emu Bay tramway

(later converted to a railway) opens to traffic.

1879 Esk Brewery (later J. Boag and Sons) established, Launceston. *March 1* Currie Harbour lighthouse first lit.

1880 *May 20* Derwent Sailing Boat Club (later Royal Yacht Club of Tasmania) formed.

1881 William Shoobridge makes first trial shipment of Tasmanian apples to Britain. *Waste Lands Act* allows for reservation of areas for preservation and growth of forests. *Jan 1* Name of capital changed from Hobart Town to Hobart. *Feb* An Aboriginal Reserve created on Cape Barren Island.

1882 *March* Announcement made that scab has been eradicated from Tasmanian sheep due to measures taken under the *Scab Eradication Act 1870*. *Oct 9* The *Married Women's Property Act* passes allowing married women to own property in their own right. *Dec* Silver discovered at Zeehan by Frank Long.

1883 Trades and Labour Council established in Hobart. Government telephone exchanges open in Hobart (Aug 6) and Launceston (Dec 12). *Nov* Gold discovered at the 'Iron Blow' at Mt Lyell. *Nov 20* Salvation Army branch established in Tasmania.

1884 Miss Swan founds a sketching club (later the Arts Society of Tasmania). *Nov 24* The *Fisheries Act* passes providing for inspection and regulation of the State's fisheries.

1885 *May 13* Parattah–Oatlands railway opens. *May 30* Deloraine to Mersey (Devonport) railway opens. *Dec 5* The *State Forests Act 1885* passes leading to the appointment of G. S. Perrin as the first Conservator of Forests.

1886 *Jan 1* Local Boards of Health established under the *Public Health Act 1885*. *Jan 1* Tasmanian Museum and Botanical Gardens transferred to the Government. *Jan 25* The first assembly of the Federal Council of Australia is held in Hobart. *Aug 2* Fingal railway opened.

1887 St. John's Ambulance Association established, Launceston. New Golden Gate mine, Mathinna opens. Diego Bernacchi floats a company to develop the resources of Maria Island. Outbreak of smallpox and typhoid in Launceston. *Sept 1* Derwent Valley railway line to New Norfolk opens.

1888 *Feb 1* Technical School opens in

Hobart. *Aug 1* Table Cape lighthouse officially opened. *Oct 9* Launceston proclaimed a city.

1889 *Jan 1* Launceston Technical School opened. *April 20* Zeehan Branch of the Amalgamated Miners Association formed. *May 1* Eddystone Point lighthouse first lit. *Aug 9* Scottsdale railway opened. *Sept 12* Mersey Bluff lighthouse first lit.

1890 Payment of Members of Parliament introduced. Foundation stone of Albert Hall, Launceston laid. *Jan 1* University of Tasmania established. *July 8* Devonport–Ulverstone railway line opens.

1891 *April* Queen Victoria Museum, Launceston opened. *June 1* Maatsuyker Island lighthouse first lit. *Aug 3* Van Diemens Land Bank collapses signalling start of economic depression. *Nov 25* Official opening of Launceston International Industrial Exhibition. *Dec* Council of Agriculture formed.

1892 First successful butter factory opened at Wynyard (Table Cape Butter and Bacon Factory Ltd). Maria Island Company goes into liquidation. *Feb 4* Railway line from Strahan to Zeehan opened.

1893 *March* Mt. Lyell Mining and Railway Company formed. *April* Labour oriented *Clipper* commences publication. *May* Tasmanian Tourist Association formed to promote island. *September 21* Electric trams begin operations in Hobart.

1894 *Feb 5* School of Mines, Zeehan, opens.

1895 *Dec 10* Launceston becomes first city in Australia to have streets lit by electricity (from the Duck Reach power station).

1896 J. W. Beattie appointed colony's official photographer. District Nursing Association formed. *Jan 7* Tattersall's Lottery established by George Adams.

1897 *Jan 20* Hare–Clark electoral system first used on trial basis. *Feb 5* First shipment of blister copper sent from Mt Lyell to London. *March 18* Official opening of Mt Lyell Railway from Queenstown to Teepookana. *May 4* Southern Tasmanian Football Association formed. *Oct* Queen Victoria Hospital for Women opened in Launceston (one of the first such institutions established by a group of Australian women). *Dec 31* Bushfires in southern Tasmania leave 6 people dead.

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1898 *June 3* Referendum held to determine if Tasmania should join Federation, Tasmanians vote 4 to 1 in favour. *Oct* The *Police Act* passed centralising Tasmania's police force. *Nov 18* Hobart streets lit by electricity. *Nov 28* British *Southern Cross* Antarctic Expedition led by Borchgrevink arrives in Hobart. Tasmanian Louis Bernacchi joins expedition as a physicist.

1899 *Feb* Gaiety Theatre opens in Zeehan. *June 28* Cape Sorell Lighthouse opened. *Oct 27* First troops leave for Boer War from Launceston. *Nov 1* Gurney's Agricultural Technical School opened, Ulverstone. *Nov 2* Mt Lyell Mining and Railway Company railway line (Teepookana to Regatta Point) opened.

1900 *Feb 22* Cessation of Hobart whaling operations with the return to port of the *Helen*. *Sept 14* Adult male suffrage for the House of Assembly introduced, with property qualifications and plural voting abolished. *Dec 21* Emu Bay Railway Rosebery–Zeehan opened. *Dec 29* Macquarie Island included as a Dependency of Tasmania.

1901–1940s A Federated State

On the first of January 1901 Tasmania became a State under the newly formed Federation of Australia. Despite the fact that Australia was now a united nation, Tasmanians' loyalties were still firmly with the Empire. Within two weeks of World War I being declared in 1914, 2,020 Tasmanians had registered at recruiting depots around the island.

Few households were untouched by the war. From 1914–1918 about 13,000 Tasmanians left to serve their country at war. Close to 2,500 of those lost their lives and many others were physically or psychologically damaged.

Whilst war was being fought in Europe, new power developments and industrial growth were changing the face of Tasmania. The opening of the Great Lake Power Scheme, in 1916, made power available for the establishment of new industries such as the Electrolytic Zinc Company's Risdon plant, Cadbury's chocolate factory, Claremont and the Electrona carbide works. By 1927 a line had been opened from the Great Lake to supply power to Sheffield, Devonport, Ulverstone and Penguin in the north-west.

Major public works were also undertaken by the Government during the Great Depression years of 1929–1939. These included the Lyell Highway

linking Hobart with the west, and the summit road on Mt. Wellington.

During World War II the State's industrial base was strengthened further as a number of factories were established or re-structured to supply war equipment and munitions for the armed services. Due to manpower shortages women increasingly worked in the factories, as well as on the land. By 1942 there were 1,364 factories in Tasmania employing 13,000 people (25% of whom were women).

1901 *Jan 1* Tasmania becomes a State in Australian Federal System of Government. *March* First elections for Federal Parliament held. *April 15* Ulverstone–Burnie railway line opened. *July 2* Royal visit by Duke (later King George V) and Duchess of York. *Sept* Conference held, Zeehan, leading to formation of the Tasmanian Workers Political League (forerunner to Labor Party).

1902 Last troops return from Boer War. *May 26* Board Of Commissioners for Closer Settlement appointed to purchase tracts of land for subdivision into smaller holdings.

1903 Women become enfranchised to vote in House of Assembly elections. Telephone line opened between Hobart and Launceston. *June* Outbreak of smallpox in Launceston. *June 4* A Conference held by the Hobart Workers Political League establishes the party's organisational structure. *Dec* The *Morning* and *Terra Nova* depart Hobart on a relief expedition to free Scott's *Discovery* from the Antarctic ice.

1904 Tasmanian Field Naturalists Club formed. Act passes allowing women to enter the legal profession. *June 15* The Tasmanian National Association inaugurated (forerunner to the Liberal Party). *Emu Bay Times* (Burnie) amalgamates with the *North Western Advocate* to provide a daily newspaper for the north-west.

1905 Experiments in wireless telegraphy between Tasmania and the mainland undertaken.

1906 *April 2* Tasman Lighthouse first lit.

1907 Royal Commission held into wages and wage-earners. *Feb* A new Public Library, built with money donated by American Andrew Carnegie, opened in Hobart.

1908 *Jan 30* Queen Alexandra Maternity Hospital opened in Hobart. *June 5* A day nursery

or creche first opened in Hobart. *Dec 3* State school fees abolished.

1909 Irish blight wipes out potato crop. Bush Nursing Association formed. *April 30* Hare–Clark electoral system first used statewide for a Tasmanian election. *Aug* Tasmanian Liberal League formed.

1910 *Factory Act* and *Wages Board Act* passed, setting maximum of 48 working hours a week and minimum wages in a number of areas. Free Kindergarten Association founded by Emily Dobson, providing poor children with pre-school education. *Dec 17* First sod of Great Lake hydro-electric project turned by Mrs Ida McAulay.

1911 *Feb* Philip Smith School for teacher training opens in Domain, Hobart. *July 12* Scottsdale–Branxholme rail line opened. *Aug 16* First tramway service in Launceston begins. *Nov 5* Mawson’s Australasian Antarctic Expedition vessel *Aurora* docks in Hobart.

1912 *March* Roald Amundsen arrives in Hobart on return from being the first expeditioner to reach the South Pole. *June 9* Baden-Powell appears in Launceston to promote the Scout movement. *June* Tasmania’s first Girl Guide company formed at Lindisfarne, Hobart. *Oct 12* Disastrous fire at Mt Lyell traps miners underground, killing 42 men. *Dec 6* The *Cape Barren Island Reservation Act* provides Aborigines with a leasehold arrangement for the island, and enforces strict Government regulation of their activities.

1913 First state high schools established in Hobart and Launceston. *Feb 1* Burnie–Wynyard rail line opens. *Feb 5* Marrawah tramway opens.

1914 Tasmanian Gold Mine, Beaconsfield closes. *Aug* Hydro-Electricity Bill passes bringing hydro-electricity under State control. *Aug 4* World War 1 declared. *Sept 2* Tasmania’s first contingent (engineers) sail for war. *Oct 20* The 12th Battalion leaves for war service.

1915 *Nov 26* The *Scenery Preservation Act* passes, creating the first special authority in Australia for the creation and management of parks and reserves.

1916 *April 25* First Anzac Day held in Tasmania. *May* Opening of Waddamana power station. *July 1* The first all Tasmanian battalion (the 40th) leaves for the war. *Aug 29* Tasmania’s first National Parks at Mt Field and Freycinet

declared. *Oct 1* Daylight savings introduced. *Oct 28* Nationwide referendum rejects conscription, although Tasmania largely votes in its favour.

1917 Construction of the Carbide works at Electra commenced. *Feb 9* Zinc first produced at the Electrolytic Zinc Company’s Risdon plant. *Dec 20* The second national referendum on conscription held, with voters again rejecting conscription.

1918 *May 15* The *Hospital Act* provides for the establishment of district hospital boards and the licensing and regulation of private hospitals. *Nov 11* Armistice Day.

1919 Spanish Influenza epidemic sweeps through Tasmania, affecting one third of the population. *Sept* First sod turned in the construction of war service houses, Moonah. *Dec* First aeroplane flight across Bass Strait.

1920 Site selected for Cadbury’s chocolate factory at Claremont. *July 19* Royal visit by Prince of Wales (later King Edward VIII).

1921 *Jan 1* Forestry Department formed following the *Forestry Act 1920*.

1922 *Feb 14* Legislation passed enabling women to stand for Parliament. *May 16* Cradle Mountain–Lake St Clair National Park proclaimed.

1923 *Jan 17* Official opening of the second stage of the Great Lake power scheme. *Feb 13* Kelsall and Kemp Ltd open woollen mills, Launceston. *Aug* Patons and Baldwins spinning mill opens, Launceston.

1924 *Feb 8* National Portland Cement Company begin operations on Maria Island. *Dec 17* 7ZL (later ABC) radio station goes to air for first time.

1925 The Electrolytic Zinc Company starts using zinc from Rosebery in its processing operations. *July 24* The Devon Cottage Hospital, Latrobe taken over by the Government.

1926 The Tasmanian Cement Company (later Goliath Portland Cement Company) begins operations at Railton. Acts passed granting forestry concessions to two companies in order to encourage the pulp and paper industry. *Jan* Federal Government appoints Sir Nicholas Lockyer to investigate Tasmania’s economy.

1927 Royal visit by Duke and Duchess of

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York (later King George VI and Queen Elizabeth). *Dec 19* First meeting of the Nurse's Registration Board held, marking an important step towards professional growth and regulation of nursing.

1928 Tasmanian Paper Pty Ltd construct an experimental pulp mill at Kermandie. Compulsory voting introduced.

1929 Start of the Great Depression. *April* Severe flooding experienced in the north of the State, causing the loss of 22 lives and massive damage to property.

1930 Unemployed Workers Movement branches formed in Hobart and Launceston. *Jan 18* Hydro-Electric Commission (HEC) established following a 1929 Act.

1931 *May 1* Opening of Shannon power station. *May 7* The United Australia Party forms with Joseph Lyons as leader.

1932 Lyell Highway linking Hobart with the west opened. *Jan 6* Tasmanian Joseph Lyons sworn in as Prime Minister of Australia.

1933 Commonwealth Grants Commission established to allocate grants to the States.

1934 *Oct* A thrice-weekly air service from Launceston to Melbourne is begun by Holyman Airways Pty Ltd (later amalgamated with Adelaide Airways to form Australian National Airways Pty Ltd, the forerunner of Ansett Airlines).

1935 *March* The Bass Strait steamer *Taroona* makes its maiden voyage.

1936 Hobart's ABC Orchestra established. *Jan* 'Area' school system established in rural districts. *Sept* Last Tasmanian Tiger (Thylacine) held in captivity dies at the Hobart Zoo. *Sept 28* The Federal aerodrome at Cambridge, Hobart first used.

1937 Nationwide poliomyelitis epidemic hits Tasmania. *Jan 25* The road to the summit of Mt Wellington opened.

1938 *Feb 25* Tarraleah power station opened. *Aug 27* Production begins at Associated Pulp and Paper Manufacturer's (APPM) Burnie mill.

1939 *Jan 18* New Hobart Hospital opened. *April 27* Official opening of the Lake Fenton water supply scheme for Hobart. *July 1* Transport Commission established. *Sept 3* World

War II begins.

1940 *Jan 10* Tasmanians leave in first contingent of the AIF (6th Division) for service in the Middle East. *May* New Spencer Hospital, Wynyard, opened. *Nov 7* Bass Strait closed to shipping following the sinking of British steamer *Cambridge* by a mine.

1941 Womens Land Army formed to carry out vital farming tasks during the war. *Feb 22* Production begins at Australian Newsprint Mills' Boyer (New Norfolk) mill, being the first in the world to produce newsprint from hardwood.

1942 Vegetable dehydration factories established at Scottsdale, Ulverstone and Smithton for defence food requirements. The new Launceston General Hospital buildings completed. *July 1* Uniform Federal income tax commenced. *Dec 2* An ammunition shell-case factory opens, Derwent Park.

1943 *Aug 21* Tasmanian Enid Lyons is elected, being one of the first two female members of Federal Parliament. *Dec 22* The floating pontoon bridge opened, Hobart.

1944 University of Tasmania begins transfer to Sandy Bay site. *Jan 1* The State Library of Tasmania established. *Feb* A vegetable canning factory (later Edgell's) begins at Quoiba in north-west. *Nov* A Commonwealth-State Housing Agreement signed providing for the development of large public housing estates.

1945 *May* Launceston Library is reconstituted as a free library. *Aug 15* World War II ends. *Dec* *War Service Land Settlement Act* passes providing for settlement of returned soldiers. Inaugural Sydney-Hobart yacht race held.

1946 *Feb* School leaving age raised to 16.

1947 *April* State Forestry Commission appointed. *July* British migrants under assisted passages arrive to work for the HEC. *July 23* Ben Lomond National Park declared. *Oct* 280 Polish migrants arrive to work for the HEC under 2 year contracts.

1948 ANARE sets up a permanent research station on Macquarie Island. *Jan* First 'displaced' persons arrive from Europe. *April 14* Tasmanian Symphony Orchestra formed. *May* Tasmania's first female parliamentarian, Margaret McIntyre is elected. *Dec* Australian Titan Products Pty Ltd (later Tioxide Australia) begins operations at Burnie, producing titanium oxide pigments.

1949 Outbreak of poliomyelitis causes cancellation of Hobart Show. *Oct* Large naturalisation ceremony held at Butler's Gorge and Bronte Park HEC villages for Polish migrants.

1950s–1990s Recent Times

Post-war Tasmania witnessed an influx of European migrants and displaced persons. In the census of 1966, of 371,410 people in the State, 18,551 were born in the United Kingdom, 3,367 in the Netherlands, 2,016 in Germany, 1,567 in Poland, 1,448 in Italy and 4,466 from other continental European countries. In 1951, some 3,800 'displaced persons' lived in Tasmania (although many of them had left by 1966). Many of Tasmania's new European migrants came under contract to work for the HEC at remote hydro-construction villages such as Bronte Park and Butler's Gorge.

With the swelling of its workforce the HEC's development program continued unabated. Power stations were opened at Butler's Gorge (1952), Bronte Park (1953), Tungatinah (1955), Wayatinah (1961), Liapootah (1961) and Catagunya (1962). The proposal to flood Lake Pedder in 1967, however, met with vehement opposition from environmentalists. Whilst the battle to save Lake Pedder was ultimately lost, the HEC's subsequent proposal for a Gordon-below-Franklin dam was blocked in 1983 when the Federal government intervened under a rising tide of pressure from environmental groups. The 'Greens' had emerged as a key political force in Tasmania.

Recent times have also witnessed a strengthening of Aboriginal activism. Today there are over 2,000 Tasmanians who, as descendants of Tasmanian Aborigines, have retained their Aboriginal identity. The struggle to have their Aboriginality recognised, claims for land rights and the return of Aboriginal skeletal and cultural material from museums and scientific collections have been major issues of concern for them.

Unemployment has reappeared as a major social issue in recent decades. In the early 1980s unemployment reached the 10% level, and in 1993 hit a post-war record maximum of 12.9%. Changing economic conditions have forced many small factories to close and the industrial giants to cut back their work forces. The Government, traditionally a major employer in Tasmania, has also reduced staff. The service and tourism sectors have, nevertheless, been areas experiencing some growth.

1950 *June 25* Korean War begins.

1951 Hartz Mountain National Park proclaimed. Cape Barren Island Aboriginal Reserve terminated in line with the Government's assimilation policy. *Feb/March* Italian and German migrants arrive to work under contract for HEC.

1952 Burnie General Hospital opened. *June* Serious floods experienced throughout island. *Nov 22* Butler's Gorge power station officially opened. *Dec 13* Launceston trams cease operating.

1953 Housing Department established to manage the State's public housing stock. Tasman Ltd diesel train service between Hobart and northern towns begins. *June 2* Pine Tier Dam of the Tungatinah power scheme officially opened. *July 27* End of Korean War.

1954 *Feb* Queen Elizabeth (accompanied by Prince Philip) becomes the first reigning monarch to visit the State. *June 6* Flooding occurs in eastern and southern Tasmania. *July 5* Tattersall Lotteries transfer to Melbourne. *Dec 31* Spouses of property owners granted eligibility to vote in Legislative Council elections.

1955 Lactos cheese factory established at Burnie. *March 23* Lake Pedder National Park proclaimed (it is later extended to form the South West National Park). *May 20* Tungatinah power station opened. *Sept 23* First ingot poured from Bell Bay Aluminium Refinery.

1956 Tasmania's first woman Mayor, Dorothy Edwards, appointed at Launceston. *Feb 9* Floods in north-east Tasmania. *Dec 12* Trevallyn Power Scheme officially opened.

1957 *Nov 1* Rivers and Water Supply Commission established by *Water Act*.

1958 *Jan 10* Devon Hospital, Latrobe merges with Meecroft Hospital to form the Mersey General Hospital.

1959 First election to fill 35 seats in an enlarged House of Assembly held. *Jan 1* Public Service Tribunal established as an industrial authority. *Oct 2* *Princess of Tasmania* becomes the first roll-on passenger ferry in Bass Strait service.

1960 Risdon Gaol, Hobart established. *April 22* Severe floods hit the Derwent Valley and Hobart. *May 23* Television begins transmission

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in Hobart. *June* Strahan–Zeehan railway line closed. *Oct 28* Hobart trams cease running.

1961 State matriculation college policy announced. *March 23* The power stations at Lake Echo, Wayatinah and Liapootah officially opened.

1962 Australian Paper Makers Ltd's pulp mill commences at Port Huon. *Feb* TEMCO's ferro-manganese plant opened at Bell Bay. *July* Catagunya power station begins operating.

1963 *March* Royal visit by the Queen and Prince Philip. *July 29* Television first goes to air in Launceston. *Aug 10* Last train runs on the Mt Lyell Railway from Queenstown to Strahan. *Dec 13* Opening of Murchison Highway linking the north-west with the west.

1964 Freshwater trout farm established at Bridport. *June 24* Shannon power station closed. *Oct 24* Glenorchy proclaimed a city.

1965 Tasmania sends first troops to Vietnam War under the National Service Scheme. Bass Strait oil drilling commences. Burnie General and Spencer Hospitals merge to form the North West General Hospital. *March 13* Official opening of Tasmanian Conservatorium of Music. *March 29* Tasman Bridge, Hobart, officially opened. *March 30* Poatina power station opened. *June 30* Closing of Waddamana 'A' power station.

1966 *Feb 7* Dental Nursing School opens. *Feb 14* Decimal currency introduced. *Dec 22* Principle of equal pay for women in the Public Service recognised by Act of Parliament.

1967 Tasmania joins rest of Australia in approving full constitutional rights for Aborigines. *Feb 7* Bushfires sweep state destroying over 1,000 homes and taking 62 lives. *March 15* Strzelecki National Park declared, Flinders Island. *May 25* HEC tables plans in Parliament for the damming of Lake Pedder in the south-west. *June 21* Rocky Cape National Park declared. *Oct 1* Daylight savings legislation introduced.

1968 *March 6* Savage River iron ore project officially opened. *May 18* Batman Bridge, Launceston opened. *July 1* Full adult franchise granted for Legislative Council elections.

1969 *May 30* Floods in Launceston. *Dec 24* Copper smelter at Mt Lyell closes.

1970 Tasmanian schools begin teaching metric system. Marine research laboratories established at Taroona. *April* Visit by Royal family. *Dec 8* *National Parks and Wildlife Act* proclaimed.

1971 Australian troops begin withdrawing from Vietnam. *March 12* APPM's Wesley Vale paper mill begins production. *April* Lake Pedder Action Committee formed to campaign against HEC Gordon River dam construction. *April* First shipment of woodchips leaves Tasmanian Pulp and Forest Holdings Ltd Triabunna mill. *July 2* Bell Bay thermal power station commences. *Aug 14* The first State Aboriginal Conference held, Launceston.

1972 *Feb* Tasmanian College of Advanced Education, Hobart opened. *May 23* Woodchip plant at Long Reach on the Tamar begins operations. *June 27* *Princess of Tasmania* makes last Bass Strait crossing, before being replaced by the *Empress of Australia*. *July 14* Maria Island National Park proclaimed. *Nov* Tasmanian Aboriginal Information Centre (later Tasmanian Aboriginal Centre) established. *Dec 19* Electrolytic Zinc Company begins trial dumping of jarosite waste at sea.

1973 General voting age for electors lowered to 18 years of age. *Feb 10* Hobart casino officially opened, being the first legally sanctioned casino in Australia. *March 16* Mersey–Forth power scheme officially opened. *Oct 3* Mt William National Park proclaimed.

1974 *Jan 11* *Environment Protection Act* comes into effect to control industrial pollution. *May 17* Bell Bay–Launceston rail link opened. *Dec 9* TAB begins operations. *Dec 31* Hobart suburban rail services cease.

1975 *Jan 5* Tasman Bridge, Hobart brought down by the *Lake Illawarra* causing 12 deaths. *Feb 28* Colour television first introduced. *Dec 19* Rokeby Police Academy completed.

1976 Freight subsidy scheme introduced for sea-cargo to Tasmania. *Jan 5* Family Law Court established in Tasmania (under the Federal *Family Law Act*) for handling of divorce cases. *April 30* Truganini's remains ritually cremated by Aboriginal community. *July 7* Asbestos National Park proclaimed. *Aug 23* Tasmanian Wilderness Society formed.

1977 Federal Inquiry conducted by Sir Bede Callaghan into Tasmanian industry and employment commences. *March* During a Royal

visit, Aboriginal activist Michael Mansell presents the Queen with a land rights claim. *May 19* Tasmanian Film Corporation established. *Oct 8* Tasman Bridge, Hobart re-opens for traffic. *Nov 17* State Fire Authority established.

1978 HEC report proposes a further power development scheme involving the Gordon, Franklin and King Rivers. *July 28* Tasman Ltd ceases operations, marking the end of regular passenger train services in Tasmania.

1979 Tasmanian College of Advanced Education moves to Launceston. *March* Tasmanian Parliamentary Hansard introduced. *April 27* Gordon Power scheme, stage 1 opened. *May 29* State's first ombudsman appointed.

1980 A Select Committee recommends the Gordon-below-Franklin dam as the next HEC development option. *May 17* Australian Maritime College at Beauty Point opened. *July 29* Gillian James becomes Tasmania's first female minister. *Dec 12* Antarctic Division, Kingston completed.

1981 Bushfires in Zeehan destroy 40 houses. *April 21* Devonport proclaimed a city. *April 30* Wild Rivers National Park proclaimed. *June 24* Walls of Jerusalem National Park proclaimed. *Oct 5* Royal visit by Queen and Duke of Edinburgh. *Dec 12* Referendum held on preferred HEC schemes, 47% voting in favour of Gordon-below-Franklin scheme, 8% for Gordon-above-Olga and a high percentage (45%) voting informally.

1982 *March 11* Macintosh power station (the first stage of the Pieman River scheme) begins operating. *May 13* Launceston Federal Country Club casino opened. *Dec 12* Tasmanian Wilderness World Heritage Area proclaimed including the Southwest, Franklin-Lower Gordon Wild Rivers and Cradle Mountain-Lake St Clair National Parks.

1983 Tasmanian Aboriginal Land Council established. *March 25* Tasmanian shearers join national strike over use of wide combs. *March 30* Royal visit by Prince Charles and Princess Diana. *March 31* Federal regulations passed blocking construction of the Franklin HEC dam. *July 1* The High Court rules in favour of Federal sovereignty, thus putting an end to the Gordon-below-Franklin power scheme.

1984 *Feb 23* Bowen Bridge across the Derwent officially opened. *June 18* A fire causes extensive damage to Hobart's historic Theatre Royal. *July 30* Atlantic salmon eggs first

introduced to Tasmania. *Dec* Launceston International Velodrome completed.

1985 *March* The last of Tasmania's drive-in theatres close at Elwick and Mowbray. *May* CSIRO Marine Laboratories opened, Hobart. *May 4* A four day cremation ceremony held at Oyster Cove for Aboriginal remains retrieved from the State's museums. *May 23* *Saltwater Salmonid Culture Act* provides Salmon Enterprises of Tas. Pty Ltd with a 10 year monopoly on Australian salmon smolt production. *June 2* *Empress of Australia* makes last Bass Strait crossing before being replaced by the *Abel Tasman*.

1986 *March 7* Confrontations between forestry workers and conservationists erupt at Farmhouse Creek in south. *Nov 27* Pope John Paul II visits Hobart and holds mass for 32,000 people at Elwick racecourse.

1987 *Nov 29* Launch of the replica of the tall ship *Lady Nelson*. *Dec 23* Antarctic supply ship *Nella Dan* sinks off Macquarie Island.

1988 *Jan* Bicentennial celebrations include a visit by an international fleet of Tall ships. *March* A High Court decision is passed preventing logging in areas of Lemonthyme and Southern Forests nominated for World Heritage Listing. *April 24* Royal tour by Queen. *April 26* Burnie proclaimed a city. *Nov 24* Clarence proclaimed a city.

1989 *March 15* Controversial Plans for a pulp mill at Wesley Vale scrapped as financial backers pull out in face of tougher environmental controls imposed by the Federal Government. *May 30* An experimental Labor-Green accord is struck between 5 Independents and the Labor Party to form government following the State elections. *June* A vote of no-confidence in Robin Gray's minority Liberal Government leads to Gray's resignation and Labor leader, Michael Field, being sworn in as Premier. *Sept* Amalgamation of Tasmania's three tertiary education institutions begins. *Dec 27* Douglas-Apsley National Park declared.

1990 *April* Launceston businessman Edmund Rouse stood trial and pleaded guilty to attempting to bribe Tasmanian Labor MHA Jim Cox, and Anthony Alois pleaded guilty to helping in the attempt. *Oct* the Labor-Green Accord dissolves when the Government announced its adoption of the Forests and Forest Industry Strategy. *Oct 28* World Rowing Championships held at Lake Barrington. *Dec 22* The *Sea Cat Tasmania*, built locally by Incat, begins summer

crossings of Bass Strait between George Town and Port Welshpool.

1991 Freedom of Information legislation passes. *Jan* Thousands of sheep culled due to glut in wool trade. *July* Port Huon pulp mill closes. *Sept* Savings Bank Tasmania and Tasmania Banks combine to begin trading as the Trust Bank. *Sept* Pioneer's Electrona silicon smelter closes. *Sept 18* Governor Island, Nine Pin Point and Tinderbox Marine Reserves proclaimed.

1992 *Feb 1* Liberal Party wins State election with Ray Groom sworn in as Premier. *May* Inaugural Targa Tasmania automobile rally held. *May 4* Aborigines occupy Risdon Cove in protest over land claims. *May 29* Final phase of King River Power scheme officially opened. *Nov 6* Royal Hobart Hospital nursing school closes, marking the end of hospital-based nursing training in the State. *Dec 15* Industrial relations legislation giving workers the choice of working under the existing award system or switching to enterprise agreements, causes a wave of protests and strikes. *Dec 21* The ordination of seven women as Anglican priests takes place at St David's Cathedral, Hobart.

1993 *Feb* Christine Milne (Tasmanian Greens) becomes the first female leader of a political party in Tasmania. *May 8* Mrs Jill Tabbart is commissioned as the first woman president of the Tasmanian Council of Churches. *Nov 3* Henty Gold mine launched. *Nov* The *Spirit of Tasmania* begins the Bass Strait passenger ferry crossing.

1994 HMAS Huon naval base decommissioned. Controversial Heemskirk to Zeehan link road commenced. *May 13* The Tribute power station, part of the Anthony power development opened. *Oct 9* Grounding of the catamaran ferry *Condor II* on Black Jack Rocks south of Hobart.

1995 *July 11* Grounding of the bulk ore-carrier *Iron Baron* on Hebe Reef off Tamar River causes an oil spill requiring a massive clean up operation. *Sept 15* Legislation regulating the growing Marine farm industry passes in the *Living Marine Resources Management Act* and the *Marine Farming Planning Act*. *Oct 17* The Premier announces legislation to transfer 3800 ha of land of cultural significance to the Aboriginal community, including Oyster Cove and Risdon Cove. *Nov 14* *Threatened Species Protection Act* passed. *Dec* Announcement made

that an aluminium and welding fabrication school is to be established to provide skilled labour force to INCAT. *Dec 8* *Inland Fisheries Act* and *Historic Cultural Heritage Acts* passed.

1996 Legislative Council electoral boundary reform results in 19 more evenly sized electorates. *Feb 24* State election returns Liberal Government. *April 28* Gunman Martin Bryant fires on residents, visitors and staff at Port Arthur Historic site, killing 35 people and injuring 21 more. *July 5* Tioxide Australia Pty Ltd ceases operations. *Aug 30* *Firearms Act 1996* passes regulating the possession, use, registration and licensing of firearms. *Nov 14* Mole Creek Karst National Park proclaimed.

1997 *Jan 1* Electronic gaming machines introduced into hotels and clubs. *March* Repeal of two old laws which together criminalised all male homosexual activity. *July 1* Removal of operational subsidies for community based childcare centres. *July 26* The Royal Hobart Hospital announces that it is to be partly privatised. *July 30* A joint Commonwealth-State inquiry headed by Hon. Peter Nixon OA into the Tasmanian economy and its prospects released, recommending a major reduction in the number of State MPs and an overhaul of the State bureaucracy. *July 31* Coats Patons Mill, Launceston closes. *Aug 13* Premier Tony Rundle, on behalf of the Tasmanian community, formally apologises to the Aboriginal people for past actions relating to the 'stolen generation', and reaffirms support for reconciliation. Tasmania is the first State to offer such an apology. *Sept 19* Official opening of Hobart's Aquatic Centre. *Oct 1* South Bruny National Park proclaimed. *Oct 25* Golden Triangle Resources propose a magnesite mine and smelter in the north-west. *Oct 26* The *Anson* makes its last voyage from the E.Z.(Pasminco) Company's works to dump jarosite at sea. *Nov 8* A Regional Forests Agreement between the Commonwealth and State Government is signed amid a wave of protest from environmentalists. *Nov 21* The controversial Oceanport development, Hobart declared as a project of state significance. *Dec 4* Macquarie Island gets World Heritage listing.

1998 *Jan* Widespread water shortages experienced throughout the State due to a very dry summer. *Jan 18* Bushfires in Hobart suburbs destroy 6 houses and burn 3,000 hectares. *Feb* Anti-logging forest protests begin at Mother Cummings Peak. *March 17* Official opening of King Island wind energy farm. *March 20* Hobart and Launceston airports sold by Federal

Government. *April 9* Patrick Stevedores stand down 30 waterside workers in Burnie as part of national cutbacks. Industrial unrest ensues with picket lines erected on the Burnie wharves. The men return to work in May following a High Court decision against the company. *April* Legislation passed giving the go-ahead to the disaggregation of the Hydro-Electric Commission into three separate bodies, namely Aurora Energy Pty Ltd, Transend Network Ltd and the HEC. *May 27* Nurses in public hospitals impose workbans which last until an industrial agreement is reached in September. *May 30* Crest Resources Australia announce plans for a proposed magnesite mine and refinery plant in the north-west. *June 28* Plans for a new Concert Hall for the Tasmanian Symphony Orchestra announced. *July 1* Yolla Consortium reports finding commercial quantities of gas in Bass Strait. *July 14* Premier Rundle announces an early State election, seeking approval for privatisation of the HEC. *July 23* An engine room fire strands the Antarctic supply vessel *Aurora Australis* in ice, marking the start of a series of mechanical failures which disrupt operations of the vessel over the next 6 months. *July 24* Federal Government funding for the restoration of the old Abt railway (Strahan to Queenstown) announced. *July 27* The *Parliamentary Reform Act* passes to cut the number of Members of Parliament from 54 to 40. *Aug 3* Three councils (Devonport City, Central Midlands and Southern Midlands) take legal action to stop local government elections following the announcement of the Local Government Board's proposed council amalgamation program. The Supreme Court finds that the proposed changes are beyond the provisions of the *Local Government Act*. *Aug 10* Re-opening of Launceston Coats Patons mill commenced by the Tasmanian Wool Company. *Aug 29* Labor wins State election with Jim Bacon becoming Premier.

Sept 16 Ansett announce plans to cease domestic flights to Hobart and Launceston, with its subsidiary Kendell Airlines taking over the routes. *Sept 23* Floods in the north; Deloraine is particularly hard hit. *Oct 23* Australian Paper Mills' (A.P.M.) Burnie pulp mill closes its operations. *Nov 2* The Government announces support for Basslink, an underwater cable linking Tasmania with the nation's electricity grid. *Dec* Stormy weather and massive seas cause the loss of 6 lives during the Sydney-Hobart yacht race, making it the most tragic in the race's history.

1999 Jan–June

Jan A spate of rioting and vandalism by prisoners at Risdon Gaol, Hobart, erupts, lasting two weeks. *Feb 26* The Queen Alexandra Hospital building, Hobart handed over to private operators on a lease agreement. *March* Local Government elections held. *March* Legislation passed handing Wybalenna, Flinders Island over to the Aboriginal community. *March 18* Official opening of the Port Arthur Visitor Centre. *April 13* A Parliamentary Inquiry into forced adoptions during the 1950s and 1960s announced. *April 20* The proposed Oceanport development, Hobart abandoned in light of findings outlined in a Resource and Planning Development Commission report. *May 12* The first 200 ethnic Albanian refugees from Kosovo arrive in Tasmania where they are housed at the Brighton Military Barracks (re-named the Tasmanian Peace Haven). *May 16* Golden Triangle Resources announce they may abandon Tasmania as a site for a magnesite refinery in favour of Victoria. *May 26* Financial pressures temporarily close the Hobart YMCA, but a joint rescue plan between the State Government and the Glenorchy City Council is announced in June. *May 20* Tasmanian Sea Mounts Marine Reserve (Australia's first deep sea reserve) is proclaimed.

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CHAPTER 2

Environmental issues

Photo: Rob Blakers, Wilderness Society of Tasmania



Cradle/Lemonthyme
Rally, December 1986

The environment-versus-development debate has led to deep community division in Tasmania over the past 30 years.

Managing Tasmania's Environment

Contributed by Bob Davies, a former Senior Policy Officer with the Department of Environment and Land Management

Attitudes to environmental management have changed over the past 30 years. In Tasmania this can be illustrated by briefly tracing the history of three socially divisive resource development issues which polarised the environment-versus-development debate. Lack of transparency in the development approval process, together with public and government frustration over the uncertainty of outcomes, eventually led to a review of environment and planning laws, and the subsequent development of an integrated resource management and planning system (RMPS). The objective of the RMPS as we move into the next century is to ensure a sustainable

future for all Tasmanians. This chapter describes the structures and processes that are now in place for environmental management.

Setting the scene for reform

Lake Pedder debate

In 1972, following 12 years of escalating public protest and criticism, Lake Pedder in South West Tasmania was flooded to supply 82 megawatts of electricity for industry. In hindsight this was effectively the end of an era that saw development over-ride environmental values. On the one hand UNESCO had described the lake as 'a unique wilderness of incomparable significance and value', on the other was the continuing government policy of hydro-industrialisation; a policy that involved developing Tasmania's potential hydro-electric power generation to attract resource development industries with offers of large

volumes of low-cost electricity. There was a fundamental public clash between the economic growth and efficiency model espoused by government and the Hydro-electric Commission (HEC), and the emerging conservation movement. Such was the depth of the public disquiet over the flooding of Lake Pedder that a Commonwealth Government Committee of Inquiry was established in 1974. The Committee recommended a revision of development approval processes to avoid similar confrontations in the future. These recommendations were ignored by the Tasmanian Government of the day, and further confrontation followed with the HEC's subsequent proposal to dam the Franklin River.

Franklin Dam debate

The 1980's Franklin Dam dispute was again primarily concerned with the environmental management of the South West and the protection of wilderness values. The dispute was to embroil the Labor Government, the HEC and the conservation movement in open confrontation, and was eventually resolved when the Commonwealth Government bought into the debate. It began with the HEC proposing that an integrated hydro-electric power development be built initially involving the damming of the Gordon River below its confluence with the Franklin River, and later damming the Gordon River above its confluence with the Olga River. The environmental cost would have been the destruction of 35% of the remaining South West Wilderness area including significant Huon Pine habitat.

Such was the adverse public feeling about the economic and environmental consequences of this development proposal that 10,000 people took to the streets of Hobart to protest. When a referendum was eventually called on the issue in late November 1981, 45% of the votes cast were informal, including 33% which were endorsed 'no dams'. This precipitated a political dilemma for the State's Labor Government who promptly prorogued parliament for four months and subsequently lost office when an election was called in May 1982. A Liberal Government with a significant majority was returned to office and determined to progress the Gordon-below-Franklin project.

A change of government, however, did not make the dams issue go away. The Commonwealth Government in Canberra had meanwhile applied to the World Heritage Commission for the listing of the threatened area. By October 1982 there

was growing antagonism between the State and Commonwealth Liberal Governments over the need for a dam. In some quarters it was thought an equivalent block of power could have been provided by a thermal power station. Amid continuing public protest, in December it was revealed that Australia's nomination of the South West as a World Heritage Area had succeeded. By now there was the prospect of a Federal election in the wind, and the Tasmanian Wilderness Society were actively campaigning on the "no dams" case in mainland capital cities. This worked to the benefit of the Australian Labor party who were elected to office on 5 March 1983. Nevertheless the Tasmanian government remained intransigent and refused to accept Commonwealth Executive Council approved regulations under the *National Parks and Wild Life Act* (Cwlth) aimed at halting the Franklin Dam development. The Tasmanian Government took the issue to the High Court, but in June 1983 the court ruled that legislation to stop work on the dam was valid. The Franklin was saved, but at huge political and social cost. The process had divided the Tasmanian community (up to 1,300 people had been arrested during the course of the Wilderness Society's Franklin blockade) and the rift has been slow to heal, a situation prolonged by a new and emerging environmental debate over forestry.

Wesley Vale pulp mill debate

Between March 1988 and March 1989 a conflict over the siting of a \$1 billion kraft pulp mill at Wesley Vale, the disposal of its processing wastes, and the availability of close to 2 million tonnes of pulpwod per year to feed the demands of the plant, took centre political stage. At issue was the transparency of development approval process, opportunity for public scrutiny of economic, social and environmental data, and the adequacy environmental impact assessment process conducted under the provisions of the *Environment Protection Act 1973*. The overlapping Commonwealth requirements were also of concern, especially for the developers' Noranda of Canada and North Ltd, as the project came under the purview of the Foreign Investment Review Board.

The conservation movement argued that the increase in woodchips needed to feed a pulp mill of the size proposed for Wesley Vale would inevitably lead to a substantial increase in woodchip demand, which in turn had the potential to threaten National Estate and World Heritage forests. But, from a State and

Commonwealth government perspective, the mill had the potential to provide employment and attract investment to an area of high regional unemployment. It was also claimed the mill would offer substantial balance of payment benefits to the Australian economy. With such polarised views the stage was once again set for confrontation. Local residents in particular felt threatened by the impact of a rail spur and sulphur dioxide emissions on the local rural economy, and there were further concerns about the risk of organochlorines, in waste water discharges, on the marine environment of Bass Strait. An added disquiet arose about the level of timber royalties to be paid for the wood used by the mill, and what benefits the State would actually gain from the mill's development with substantial profits to flow off-shore.

The basic issue was public access to information about the project, site selection, the adequacy of the environmental impact assessment conducted by the company, the role of the company in influencing or manipulating government policy, and timber availability. Matters began to come to a head with Government proposals to fast-track the development and limit opportunities for public comment. Normal public appeal processes under environment and planning legislation were to be by-passed. The media of the time reporting 'that the only people who would make use of such provisions would be the anti-development Greenies'.

Government and the companies (Noranda and North Forests) were at pains to stress that the project would eliminate any need for Ministerial exemptions under the *Environment Protection Act 1973* (exemptions had previously allowed businesses and others who were unable to meet discharge standards freedom from prosecution under the regulatory provisions of the Act). And further, that the company would spend \$100m on pollution control measures. The final analysis being that the proposed development offered considerable benefits to the community as a whole so substantial as to more than offset the limited range of adverse effects that might result.

In January 1989 State Parliament was recalled to debate the Department of Environment's guidelines for the environmental management plan. There was strong public criticism of the guidelines, a situation fuelled by a comment by the Director of the Department to Cabinet that the mill was a 'chemical plant rather than a pulp mill'. Parliament, however, approved the guidelines but the companies requested further

negotiation. They subsequently issued an ultimatum that unless the guidelines were reconsidered the agreement to development would be terminated. The Minister for Environment then threatened to resign if the guidelines were weakened. Interpretation of the guidelines led to more public disquiet and street rallies on a scale similar to those associated with the protests over the Franklin Dam. When the Tasmanian Government passed *The Northern Pulp Mill (Doubts Removal) Agreement 1989* the final decision on the future of the project lay with the Commonwealth Government.

While these matters were being debated and disputed at a State level, the Commonwealth Department of Environment had begun its assessment of the project for the Commonwealth Foreign Investment Review Board. This process helped to flush out the fact that the mill would release a quantity of dioxin in liquid wastes discharged into Bass Strait. Then, unexpectedly, the Commonwealth Minister for Primary Industries announced that the Commonwealth would conduct its own scientific assessment of the environmental effects of the mill because of his concern for the risks to the Australian export markets from dioxins or other chemical effluent. The evaluation concluded that the environmental impact statement (EIS) was grossly inadequate and was critical of the Tasmanian Government's Northern Pulp Mill (Doubts Removal) Agreement. On the 15 March 1989, the Commonwealth Cabinet decided that it was unable to recommend that the Foreign Investment Review Board approve the project. While the economic benefits of the project were recognised the environmental conditions set by Cabinet were in the wider national interest and should be met.

At this point the companies responded that they could not afford continued expenditure without a guarantee that approval for the project would finally be granted, and cancelled the project.

The need for change

As can be seen from these three examples, the planning and development approval process had failed to deliver outcomes which met the needs of Government for investment or increased employment; developers for certainty of process; or indeed the wider community. These failings had led to deep community division; concern for the transparency and adequacy of impact assessment processes; and, had given investors a negative impression of the difficulty of doing business in Tasmania. The Tasmanian

Government had not heeded the recommendations of the 1974 Federal Government Inquiry into the flooding of Lake Pedder, or other commentators who, over the years, had also called for legislative reform. However, by the late 1980s concern for the environment and the sustainability of past practices had become mainstream political and social issues. This change in community values was misread by the Government of the day. Thus, when an election was called by Premier Robin Gray in May 1989 the Liberal party lost office to the Green Independents and a reformist Labor Party which were more in tune with the changed community attitudes. The Labor-Green Accord, while short lived, heralded sweeping reforms affecting the processes of Government and the approach to environmental management.

In the May 1989 election 17 Liberal, 13 Labor and 5 Green Independent candidates were elected to the House of Assembly. The five Green Independents combined with the Labor Party to give the Labor Party government, and the arrangement was formalised through the Tasmanian Parliamentary Accord. The Accord committed both parties to work towards common objectives. A significant component of the reform agenda included proposals for broad and sweeping change to environmental management practices. However, Labor recognised that environmental protection was a complex and difficult issue, and would require a comprehensive overhaul of administrative systems. An early commitment was to put industry on notice that ministerial exemptions were to be phased out over a period of five years.

An integrated approach to sustainable development

With the decision to set a deadline on exemptions there was a further commitment to update environment and planning laws. With the recent experience in Tasmania of failed development projects, development control was recognised as a critical issue and, in the community consultation process that followed, industry and conservation interests indicated general dissatisfaction with the duplicate development approval processes that were in place. Since no one liked the fact that planning decisions were taken in isolation from environmental concerns, and that objections to separate appeal bodies failed to result in holistic appraisal of development proposals, there was

much common ground. Following extensive community consultation, and the release of a number of public discussion papers prepared by the then Policy Division of the Department of Environment and Planning, both industry and conservation interests were unanimous in agreeing that there was scope for bringing the two approval systems together. The pressure for this change of approach was not government initiated. Responding to calls for integration, government bureaucrats drafted proposals that took into account these community based views and advised government of a possible legislative framework. The result is now outlined in brief, but not before some brief comment is made about a significant change in political circumstance.

The Labor-Green Accord disintegrated because of differing views over the question of resource security for the forest-based industries. Tensions among the Accord partners had run high in the latter months of 1990 and an election was called for the new year. The election of a Liberal majority government early in 1991 changed the complexion of the legislative reform agenda. Under the Liberal administration there was a much stronger emphasis on development, and this was reflected in the hierarchy of legislation introduced. The point to stress, however, is that the suite of legislation introduced retained the fundamental objective of encouraging developments that were sustainable. While the administrative structures established were much different from those proposed under Labor, many of the environment and planning instruments, such as the objectives of the new laws together with transparent environmental impact assessment processes, common enforcement and appeal processes, were retained.

Legislation

State Policies and Projects Act 1997 (Tas)

The first of the Bills to be introduced and passed by Parliament was the *State Policies and Projects Act 1997*. It has four primary functions. First, the legislation provides the umbrella framework for implementing legally enforceable statewide policies for such matters as coastal protection and water quality management. All planning schemes controlling land use administered by local government are obliged to abide by these planning policies. The second function is to prescribe the development approval pathway and assessment process for projects of State significance that have the potential to impact

across the Tasmanian economy. The Resource Planning and Development Commission has been given the responsibility under the legislation (amended in 1997) for managing the assessment of economic, social and environmental effects of such projects. The Commission also has the responsibility for recommending to Government whether the proposal should be approved and with what development conditions attached. Government is the decision maker, but can only accept or reject the recommendations of the Commission.

The third function of the State Policies and Projects Act is to provide for State of the Environment Reporting. The purpose of such reports is to take a snap shot over time of changing environmental conditions, and to feed this information back into decision making processes. The reports look at the effects of human activity on the environment, as well as the implications for human health, the status of ecosystems, and economic well being. Over time the SOE reports will become a long term strategic planning tool which will encourage the targeting of scarce resources to priority, or emerging, environmental problems. The reports are produced every five years with the first Tasmanian report published in 1996. Finally, but importantly, the Act introduces and defines the important concept of sustainable development which is the core objective of the resource management and planning system. All decision makers are obliged to further this objective in administering the legislation, and further, the Crown is bound.

As stated in the legislation the objectives of the resource management and planning system are:

- to promote the sustainable development of natural and physical resources and the maintenance of ecological processes and genetic diversity;
- to provide for fair, orderly and sustainable use and development of air, land and water;
- to encourage public involvement in resource management and planning;
- to facilitate economic development in accordance with the preceding objectives; and,
- to promote the sharing of responsibility for resource management and planning between the different spheres of Government, the community and industry in the State.

In the objectives, 'sustainable development'

means managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety while:

- sustaining the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations;
- safeguarding the life-supporting capacity of air, water, soil and ecosystems; and
- avoiding, remedying or mitigating any adverse effects on the environment.

The objectives signal that decisions on the use or exploitation of resources needs to take into account the wider economic, social and environmental consequences of development activity. The emphasis has changed from where development is located to how use or development occurs, and what the effects of development might be. Consideration needs to be given to the long term consequences by:

- noting the wider social implications of decisions;
- thinking about future generations;
- planning for the conservation of biodiversity through the protection of habitat, species, and genetic diversity;
- erring on the side of caution (or taking a precautionary approach); and,
- ensuring the efficient use of resources.

This new emphasis comes about because many past practices have been unsustainable leading to, for example, declining water quality in river systems such as the Derwent and Tamar, and unacceptable air pollution in cities such as Launceston. At the extreme species have become extinct, for example, the demise of the Tasmanian Tiger.

Land Use Planning Approvals Act 1993

Since many environmental concerns in the past have arisen from land use planning decisions, the Land Use Planning Approvals Act was introduced to control development through the use of planning schemes. Planning schemes are administered by local government, use common planning principals, and take account of the sustainable development objectives of the law. The Act prescribes the time lines for development approvals together with a uniform set of environmental impact assessment (EIA) principles. Developments that accord with the

requirements of a planning scheme, and are a permitted activity, can usually be approved within 42 days. The legislation also provides for the Director of Environmental management to call in a proposal in circumstances where there is a perceived environmental risk.

In the event that there are objections to a development proposal, there is provision for hearings before the Resource Management and Planning Appeal Tribunal. The Tribunal was established by legislation to hear objections on their merit, and not on points of law. A developer can appeal the conditions of a development permit, and the public can appeal on planning, environmental or questions of a project's capacity to operate sustainably. In addition, the tribunal has a civil enforcement function under the *Environmental Management and Pollution Control Act* (EMPCA), and can issue orders for securing compliance with environment or planning requirements.

Environmental Management and Pollution Control Act 1994 (EMPCA) (Tas)

EMPCA completed the suite of legislation and was introduced in May 1994. It replaced the dated *Environment Protection Act 1973*, with its command and control approach to regulatory enforcement, with a new generation of environmental management and enforcement tools. These comprise incentives for industry to go beyond regulatory standards by providing for reduced taxes and permit fees to encourage excellence. Environmental audits are also encouraged, and there are mandatory provisions for industry to negotiate environmental improvement programs. These provide a mechanism for securing compliance with regulatory standards over a specified time frame of not more than three years. Failure to meet the conditions of such a program can attract penalties. The public can appeal the terms.

A more flexible approach to enforcement is also provided by the Act. There are environment protection notices, civil enforcement remedies, and a series of tiered penalties which, at the extreme, include goal terms and million dollar fines for corporate executives. These significant penalties are for what might be considered acts of environmental vandalism resulting in serious environmental harm; a concept underpinning the enforcement provisions of the legislation. The term Environmental harm is defined and has a specific meaning at law.

Lastly, EMPCA details the principles of the

environmental impact assessment (EIA) process found in the State Policies and Projects Act, and the Land Use Planning and Approvals legislation. These principles are applied in the assessment of all development projects. Activities listed in a Schedule to the Act are subject to what has become known as level two assessments, and the assessment is made by the Environmental Management Division of the Department of Primary Industry, Water and Environment. The local authority considers compliance with planning requirements. At the end of the approval process the proponent obtains a consolidated development permit with both planning and environmental conditions attached. No longer do investors have to face multiple approval or appeal processes in Tasmania.

National and international obligations

While Tasmania has relatively sophisticated legislation for the protection of the environment approaches to environmental management are still evolving. International treaty obligations also have to be factored in. Australia is signatory to over 90 environmental agreements the most notable of which relate to climate change, World Heritage, protection of wetlands and endangered species, marine pollution and biodiversity. And, on 16 July 1999 Commonwealth Parliament paved the way for further discussions with the States with the passage of the *Environment Protection and Biodiversity Conservation Act*. While at the time of writing the Act has still to be proclaimed, bi-lateral negotiations will have to be entered into with each of the States and territories to accredit the State's environmental laws. Under these agreements, the Commonwealth basically delegates to the States and Territories responsibility for EIA. The exceptions are six and will be reviewed every five years:

- World Heritage Properties;
- Internationally protected migratory species and whales;
- Nationally threatened species;
- Commonwealth marine areas;
- RAMSAR wetlands; and,
- Nuclear activities.

Even in these situations where the Commonwealth can intervene, delegation to the States for impact assessment, and scrutiny of activities for potential environmental harm or damage, is still possible. Fundamentally, the aim

is to achieve a greater degree of harmonisation between Commonwealth and State processes, particularly with respect to environmental impact assessment procedures and the trigger mechanisms that will require certain types of project to be assessed. The legislation should reduce, if not eliminate, the duplication between State and Commonwealth processes in major project assessment. For the moment there is an element of uncertainty within industry about the extent and reach of this new legislation.

The future

Outside the realm of environmental legislation, there are also a raft of other management tools which have the potential to deliver more sustainable environmental management practices. These include formalised environmental management systems such as international management standard ISO14 001. New corporations law is also starting to have an effect. Section 299(I), Corporations Law, requires businesses operating under certain environmental permits and licenses to produce public environmental reports. National guidelines for these reports are under development. The detail of what is required in an environmental report is at the moment not clear, but should be viewed as part of a wider process requiring enterprises to demonstrate 'due diligence'. Tasmanian firms are not immune from these trends. The connections are not always made between business efficiency and improved environmental outcomes. But pollution and environmental harm frequently result from waste discharged to either air, land, or water. Most people intuitively know that waste is bad, and in business waste costs money. Looked at in this light, improved environmental management and business efficiency are complementary. This understanding has implications for the State's 'green image'.

Geodiversity and Biodiversity

*Contributed by Nature Conservation Branch,
Department of Primary Industries, Water and
Environment*

Tasmania, including all its islands, supports a wide variety of landforms, plants and animals. There are approximately 1900 native plant species, 37 native mammals, 159 resident terrestrial species of birds, 21 land reptiles, 11 amphibians and 44 freshwater fish. Isolated from the Australian mainland for at least 10,000 years, Tasmania has both supported the continent's

biodiversity by providing a refuge for species that have died out on the mainland, and it has been protected from most of the introduced animal species that have so affected the flora and fauna of mainland Australia. The dingo is absent; the fox has never become established; and feral goats and pigs have restricted Tasmanian distributions. Among introduced species, the feral cat and rabbit are the greatest threats to native populations and their habitat.

Geodiversity

Geodiversity or the diversity of our non-living environment is a prerequisite for biodiversity. For example, Pedra Branca Rock is the only place in the world where the Pedra Branca skink lives. If we allow our waterways, landforms and soils to become degraded then this will adversely impact on natural diversity. Geoconservation is an essential part of bioconservation, as geodiversity provides the variety of environments and environmental pressures which directly influence biodiversity.

For its size, Tasmania has a large variety of rock types. These are representative of the different geological periods stretching back as far as one billion years. The break-up of the Gondwanic supercontinent has had a major influence on the geological evolution of the State, particularly the final break-up, which resulted in Tasmania taking up its roughly triangular shape by about 20 million years ago.

Other significant events have included a number of glaciations. These played a critical role in moulding the States mountains over the last two million years, but also influenced land-forming processes down to and below sea level, which was about 120 m below the current level, 20,000 years ago.

Perhaps one of Tasmania's most famous geological sites is Macquarie Island. It is a very rare example of a geological feature which occurs far below the ocean surface and the earth's crust. Rocks from the upper mantle are well-exposed on the island, as are basalt lavas which extruded on the sea floor about 10 million years ago. It is for these reasons that the island was nominated and listed as a World Heritage Area in 1997.

Flora

The loss of native vegetation is widely regarded to be the single most significant threat to biodiversity. Since European settlement in 1803 Tasmania has lost 30% of its original native

Tasmania's native orchids

~ Hans Wapstra, Department of Primary Industries, Water and Environment ~

With 195 species, the orchids are a substantial family in the Tasmanian flora. About one third of them are endemic to the State, and close to half the endemics are rare or threatened. Many of the species we share with other south-eastern Australian States are also in a precarious position.

All but two of our orchids are terrestrial. The richest orchid habitats are dry sclerophyll woodlands and open forests, especially those on sandy soils with heathy and grassy understorey, coastal heathlands and native grasslands. Most orchids flower in spring to early summer, but any month of the year has at least one or two species in flower.

Until the early 1990s orchids were a little known group to all but a handful of specialists, mostly amateur botanists. Unlike most other vascular plants, orchids flower for just a few weeks, in some species only two or three days. The leaves of non-flowering plants are above ground for many months but are hidden among other vegetation, and in any case, are of little help in identifying the species. In addition there have been numerous taxonomic problems. For instance, plants known as the common spider orchid had been a botanical 'catch-all' for at least half a dozen species for well over a century, most of them very rare and with a restricted distribution. With all these difficulties, it is not surprising that orchids rarely appeared by name in botanical surveys, and that most information on abundance or rarity was fragmented.

This has now changed. Since 1992 systematic taxonomic studies and field surveys have been in progress. A comprehensive revision of the Tasmanian orchid flora was published in 1998 and included the recognition and formal description of nearly fifty new species. No less than twenty have been discovered since 1995 which were not just new in the taxonomic sense but species never seen before. In 1999 the book *The Orchids of*

Tasmania was published, marking a turning point for Tasmanian orchid studies. The book has new identification keys, descriptions, distribution maps and colour photographs of every known species, enabling professional and amateur botanists to comprehend all our known species.

Perhaps the most exiting discoveries were on a golf course in the Midlands, where in one spring season three endangered orchids were found. One of these was the Gaping Leek Orchid (*Prasophyllum correctum*) previously known from one small and highly threatened colony in Victoria. Thousands of thriving plants were discovered in the golf course rough as a result of a wayward golf ball. The other two are the Pungent Leek Orchid (*Prasophyllum olidum*), an entirely new orchid with an overpowering smell, and the Black-tipped Spider Orchid (*Caladenia anthracina*), a native grassland species known from just a few plants in four Midland localities. Management measures by the golf club are now an excellent example of how landowners can contribute to conservation of rare plants or habitats.

Remnant native grasslands and grassy woodlands, like the Midlands golf course, are a haven for a large number of threatened plants, including about 20 orchids. Some of these are currently known from just one or two localities, and often only a handful of plants. Almost half of the native grasslands present at the time of settlement have disappeared, most of them in more recent times due to pasture conversion and improvement, by ploughing, application of fertilisers and sowing with introduced pasture species. Orchids in particular have been very sensitive to the use of fertilisers, which are taken up preferentially to levels toxic to the plants.

Effective management of rare habitats and species will increasingly rely on the understanding and goodwill of landowners.

vegetation. The greatest losses are an estimated 66% of swamp forests, 47% of coastal heathland, 46% of dry forest and woodland, and 40% of grasslands. The percentage decrease is lowest in the vegetation types on the most infertile soils. In the period 1988–94 an average of 10,500 ha were cleared annually (Kirkpatrick and Jenkin 1995).

Reservation is used to protect significant species, communities and habitats. A conservation reserve of world class standard requires 15% of pre-European extent or 60% and 100% of 1996 distribution of specific vegetation communities in the reserve system. For forest communities, these targets are being pursued through the Regional Forest Agreement implementation of the Comprehensive, Adequate and Representative (CAR) reserve system. Targets for non-forest native vegetation will be more accurately determined after the completion of detailed vegetation mapping. In many instances private land is required. The majority of the reservation targets are being met through special covenant agreements with landowners through the Regional Forests Agreement Private Land Reserve Program.

Most of the plant communities with the highest priority for conservation occur in the drier areas of the State, the Midlands and northern slopes and south eastern Tasmania bioregions, where extensive agricultural clearance or settlement has occurred. Over 95% of this land is in private ownership. Of the 50 forest communities mapped throughout Tasmania approximately 25 require some private land to be included into the reserve system. The dry sclerophyll forest/grassy woodlands are especially rare.

Wetlands

Wetlands are areas permanently or periodically inundated by water where sediments and nutrients accumulate. They form a critical link in many terrestrial and aquatic food webs, and the accumulation of nutrients means that they are highly productive areas. Wetlands support flora and fauna that have evolved to survive in a diverse and changeable environment. Because of their specialised physical adaptations and the isolation of many wetlands, there is a high rate of endemism (species that live only in Tasmania), among these organisms. Wetlands have an important role in ensuring water quality and controlling flooding.

Agricultural development conducted without prior ecological assessment is the major cause of

the decline and degradation of wetlands in Tasmania. Urbanisation is another pressure responsible for the decline in the diversity and complexity of wetlands in Tasmania.

Around 800 wetlands covering 41,546 ha have been studied in Tasmania. Of these, 92 are considered of national importance, with a further 61 considered to be of State significance. Ten are considered to be of international significance and are listed on the RAMSAR Convention on Wetlands.

Fauna

Since European settlement began in 1803, many changes to the Tasmanian landscape have occurred. Although these changes have benefited some species, some are now threatened with extinction. The demise of the Tasmanian Tiger or Thylacine in 1936, and the lack of concrete evidence for its existence since, should serve as a lesson. The last 100 years has seen the recognition that fauna protection includes not only the rich and diverse vertebrate fauna, but the equally fascinating invertebrate fauna. That recognition has resulted in the listing of 118 threatened invertebrates.

Up to 32 priority vertebrate and invertebrate species are being considered for protection under the private land Comprehensive, Adequate and Representative reserve system. Protection is achieved through a combination of dedicated and informal reserves, and off-reserve management prescriptions. Species include 3 mammals, 4 birds, 5 fish, 4 freshwater crayfish, 6 beetles, 5 snails and 4 other invertebrates, which include a butterfly and 3 velvet worms. Currently, minimum reservation requirements for 20 of these species are being met on public land.

Land clearing and soil degradation have been relatively less in Tasmania than on mainland Australia. Nevertheless, the habitats of much of Tasmania have been altered on a large scale by activities such as agriculture and forestry. Subdivision of land into small to medium-sized blocks for residential development poses a threat to conservation of native fauna in many municipalities. Large areas of native habitat are being divided, and reduced to isolated fragments, too small to sustain viable populations of native animals. Sensitive and careful land planning is needed, coupled with joint co-operative action involving the whole community, to ensure that the needs of native wildlife are met.

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Acknowledgments

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CHAPTER 3

Geography



Photo: The Mercury

O'Connor's shoe store sales assistants try to salvage boots and shoes damaged during the Hobart flood of 1954. The water reached a depth of about 1.3 metres in the storeroom when the windows at the back of the building gave way. Damage to business houses, garages and other stores along the Rivulet was estimated at £25,000.

The State of Tasmania is a group of islands lying south of the south-east corner of the Australian mainland. Roughly shield-shaped, with the greatest breadth in the north, the Tasmanian mainland extends from latitude $40^{\circ}38'$ south to $43^{\circ}39'$ south, and from longitude $144^{\circ}36'$ east to $148^{\circ}23'$ east.

The coastline is bound by the Southern Ocean on the south and west and the Tasman Sea on the east. Approximately 240 kilometres-wide on average, Bass Strait separates the island from the Australian mainland. Macquarie Island, a part of the State, is situated at $54^{\circ}38'$ south, $158^{\circ}53'$ east in the Southern Ocean.

The area of the whole State, including the lesser islands, is 68,114 square kilometres or about 0.9% of the total area of Australia; it is just under one-third the size of Victoria, the smallest mainland State.

Apart from the Great Dividing Range in the east, continental Australia is predominantly a land of low plateaux and plains with little elevation. In contrast, Tasmania could be called the island of mountains, because it has the largest proportion of high country to total area, compared with the other States.

Mainland Australia, extending north of the Tropic of Capricorn, and with much of its area in the zone of the sub-tropical anti-cyclones, is basically a warm, dry continent. Tasmania is in the temperate zone and practically the whole island is well watered with no marked seasonal concentration; there are no deserts or drought areas as found extensively on the adjacent mainland.

Being south of latitude 40° , it is on the edge of the wind belt commonly known as the Roaring Forties and, with South America the nearest land mass due west, Tasmania's weather is subject at

times to strong winds and heavy rain about the south and west coastal areas. Its insular position provides protection against temperature extremes; the variation between summer and winter mean temperatures in coastal towns rarely exceeds 8°C.

Physiography

Tasmania, a mere 296 kilometres from north to south and 315 kilometres from east to west, has a wide variety of mountains, plateaux and plains, of rivers, lakes, and tarns, of forest, moorland and grassland, of towns, farms and uninhabited country. The temperate maritime climate partly explains Tasmania being called the most English of all States but other factors operate to heighten the comparison: the pattern of agricultural settlement with orchards, hedges and hopfields; the lake country; the early freestone architecture still common in the east and south-east and the roadsides and villages dotted with oaks, elms and poplars.

With eight mountains exceeding 1,500 metres, 28 above 1,220 and a substantial part of the Central Plateau above 900 metres, Tasmania is an island of mountains. The tallest is Mt Ossa (1,617 metres) located with a group of mountains, including Cradle Mountain, to the north-east of Queenstown. The highland lake country on the Central Plateau contains Lake St Clair, Australia's deepest natural freshwater lake, with a depth of 167 metres.

Although its rivers are short, Tasmania is covered with a network of rivers and lake systems. In the south, the Derwent flows from the Central Highlands past Hobart, providing one of the world's best harbours, to the sea at Storm Bay. The Gordon River takes the waters of Lake Gordon and Lake Pedder and is joined by the Franklin River before flowing into Macquarie Harbour in the west. The Huon River drains eastwards from its headwaters at Scotts Peak Dam on Lake Pedder, reaching the sea in D'Entrecasteaux Channel south of Hobart. The State's longest river is the South Esk, which flows from the north-east to join the North Esk at Launceston to create the Tamar. Other rivers include the Mersey, Forth and Leven, which flow to the North Coast, and the Pieman and Arthur rivers on the West Coast.

PHYSICAL FEATURES (a)

	Measurement
MAJOR ISLANDS — area (km²)	
Bruny	353
Cape Barren	465
Clarke	82
Flinders	1 354
Hunter	71
King	1 094
Macquarie	123
Maria	101
Robbins	99
Schouten	28
Three Hummock	70
Other islands	827
Mainland Tasmania	63 447
Total Tasmania	68 114
MOUNTAINS — Height (m)	
Mt Ossa	1 617
Legges Tor	1 572
Barn Bluff	1 559
Mt Pelion West	1 560
Cradle Mountain	1 545
Stacks Bluff	1 527
Mt Massif	1 514
Mt Geryon	1 510
MAJOR LAKES — Area (km²)	
Lake Gordon (b)	280
Lake Pedder (c)	250
Great Lake (d)	170
Arthurs Lake (d)	64
Lake Sorell (d)	52
Lake Burbury (b)	49
Lake King William (b)	42
Lake Echo (d)	40
Lake Mackintosh (b)	30
Lake St Clair (d)	30
Lake Pieman (b)	22
RIVERS — Length (km)	
South Esk	214
Derwent	187
Gordon	181
Arthur	179
Huon	169
Mersey	160
Franklin	120
Pieman	97
North Esk	86

(a) Some values have changed since the last publication due to more detailed mapping becoming available, as well as the use of digital map data. This has allowed for more accurate calculations. (b) Man-made. (c) Man-made — inundated the smaller natural Lake Pedder. (d) Natural lake enlarged by dams.

Source: 1:250,000 topographic maps, Information Land Services, Department of Primary Industries, Water and Environment.

Tasmanian Mapping in the 20th Century

~ Contributed by Department of Primary Industries, Water and Environment ~

At the beginning of the 20th century, no accurate topographical maps of Tasmania existed, indeed, very little of Australia was accurately mapped. World War I provoked limited activity in this field and a contoured map of the area between Hobart and Kingston was prepared for defence purposes only and was not made available to the public.

Prior to this, the only maps or charts available were small-scale maps of the whole State or the cadastral or county charts at a scale of 40 chains to 1 inch. Such charts, while compiled from actual surveys, were not controlled by the State triangulation, which was carried out by James Sprent in the 19th century. As a result, compilation errors tended to accumulate over distance. Also, very little cognisance was taken of topographical detail and no contours were shown at all.

At some time during the early part of the 1920s, the Mines Department produced two large-scale multi-coloured maps with contours in the Montagu River area. These were prepared using theodolite and dumpy level and consequently could be considered as the first accurate topographic maps produced in Tasmania, but their existence was not widely known.

During the 1920s and 1930s, the Forestry Department carried out topographical surveys of its plantation areas, usually with prismatic compass and Abney level. Towards the latter part of this period, it commenced compilation of its divisional maps at a scale of 2 miles to 1 inch using any maps or charts available, together with some field reconnaissance. These maps did not, in general, show contours or form lines but were the best general topographical maps available up to that time.

The outbreak of World War II in 1939 made Australia realise that it did not have suitable

topographic maps available should an invasion of its shores occur. As a result, emergency mapping organisations were set up in each State under a Deputy Assistant Director of Surveys. In Tasmania, this operated under the umbrella of the Lands and Surveys Department as it did elsewhere. Sprent's triangulation was recalculated and used as control for the plane table surveying of four 1 mile to 1 inch maps. Three of these sheets, Brighton, Hobart and Sorell, were produced without contours but the Buckland sheet was published with 50-foot contours using an alidade in conjunction with the plane table surveys.

Prior to these maps, however, several sheets covering the State were compiled using county charts, Forestry maps etc., supplemented by detailed field checks of road classifications for military purposes. These maps were published at a scale of 4 miles to 1 inch. Both series were published in four colours but were never released to the general public because they were for defence purposes.

Even before the cessation of hostilities, steps were being taken to implement a national mapping program and in the post-war years the Division of National Mapping in Canberra was established as well as mapping organisations in the States. A National Mapping Council was formed, bringing together all States and including the Army, Navy and the Commonwealth Survey Department. Standard Map Specifications were promulgated.

The Division of National Mapping and the Royal Australian Survey Corps then commenced the triangulation and mapping of the whole of Australia at a scale of 1:250,000. This was to be followed by a series at a scale of 1:100,000.

Tasmania commenced its mapping by producing a trial series at a scale of 1:15,840

in the Longford–Cressy area. With increasing need by the Hydro-Electric Commission for contoured maps of the State's river systems, mapping was commenced of unsettled areas at a scale of 1:63,360. This was quickly altered to a scale of 1:31,680. This mapping was made possible by the use of aerial photography and imported stereoplotters. The Lands and Surveys Department commenced an on-going program of aerial photography in 1946 using contractors from interstate. Subsequently, it acquired its own aerial cameras and utilised local aircraft.

When the Commonwealth adopted the 1:100,000 scale, Tasmania entered into an agreement both to compile and print all the maps in this series covering Tasmania. By doing so it was able to produce a parallel series for its own use. The State series was produced in a slightly modified form and was marketed in a convenient folded format.

Thematic mapping was carried out also by some other Government instrumentalities, notably the Mines Department, Hydro-Electric Commission and the Town and Country Planning Commission.

As in so many other fields, the latter half of this century has seen dramatic changes in the methods used for the production of mapping data. The traditional theodolite or compass and chain together with dumpy level or aneroid barometer were, after World War II, largely superseded by the tellurometer and aerial photography in conjunction with photogrammetric plotting machines. Within 25 years, however, the computer age began to make an impact with digital photogrammetry, satellite imagery, etc.

The digital mapping era

Mapping in the last 10 years of the millennium has made the most rapid advances in its history to date. Prior to the 1990s, map production involved intricate and laborious manual processes that tended to make production of maps an expensive and time consuming task. Base topographical maps could take many months to produce and required the use of expensive 'repmat' (reproduction material) and photographic processing.

Because of the rapid advances in computer technology in terms of both speed and storage capacity, it is now possible to produce maps entirely on computer without the need to use manual or photographic processes. Maps produced in this way can, in many ways, be compiled using automated procedures with limited input and direction from the computer operator. Producing maps by this method makes the task much less time consuming and expensive than the previous cartographic processes used. Maps are also more accurate and much easier to update.

The digital mapping era, because of the accessibility of topographic information and computer technology, has widened the use of topographic data into many areas that previously had little exposure to mapping. The retail industry, for example, uses topographic data for market research and planning, while the police use topographic information for planning and crime analysis. The uses for digital topographic data are wide and varied and there is no doubt that in the future it is likely to become more so.

Climate

Tasmania, a large island in the middle latitudes, enjoys for the most part a temperate maritime climate, with temperatures moderated by the sea. The prevailing westerly airstream leads to a marked variation of cloudiness, rainfall and temperature. The result is a West Coast and highlands that are cool, wet and cloudy and an East Coast and lowlands that are milder, drier and sunnier.

Summers are mild, with any hot periods rarely lasting more than a few days. Rainfall is generally lower (in both amount and frequency) in summer, most notably in the west and north-west. Afternoon sea breezes are common along the coasts.

Winters are not excessively cold, especially compared to places at similar latitudes in the northern hemisphere that do not have the sea's moderating influence. Westerly winds with embedded cold fronts often cross the State, and these can bring 'cold outbreaks' and snow to low levels. Every so often, winds will be light, the skies clear and the mornings cold and frosty.

Winds

The mid-latitude westerlies, a belt of winds squeezed between the subtropical ridge and the sub-Antarctic trough and affectionately known as the Roaring Forties, affect Tasmania directly. The greatest strength and persistence of these winds occur during late winter and early spring, but the speed and direction vary with the passage of high and low pressure systems.

In the summer months, when the westerlies are weak, afternoon sea breezes become the

predominant wind in most areas. Periods of more humid north-easterly winds are most likely in the summer and early autumn.

Gales are most likely to come from the western quarter as deep lows pass just to the south of Tasmania. The highest recorded wind gust in Tasmania has been 176 km/h at Cape Grim on 28 July 1998. Higher, unrecorded gusts are likely to have occurred about the south-west coast.

Temperature

There are 3 main influences on the temperature climate of Tasmania. Proximity to the sea ensures coastal locations will have a milder temperature regime than inland ones. Temperature decreases with height (by about 0.7°C for every 100 m in the free atmosphere), making elevated locations generally cooler than low level ones. Finally, cloudiness in the west (a result of the persistent westerly winds) suppresses daytime temperatures there.

The normal daily temperature range close to the coast is around 7°C but can be double that inland. The high mountains and the Central Plateau are remote from the sea's moderating influence, and there the night temperatures in particular can be low, especially in winter. Tasmania only occasionally experiences the hot days common in the mainland States.

High temperatures in the east and the south-east generally occur when warm air is advected across the State from the mainland. Bass Strait cools the lower layers of this air, moderating temperatures along the northern coast.

Tasmania's mean maximum temperatures during summer are in the range of 18°C to 23°C, and

CAPITAL CITIES CLIMATIC AVERAGES (a)

	Hobart	Melbourne	Sydney	Brisbane	Darwin	Adelaide	Canberra	Perth
Temperature (°C) (b) (c)								
Mean daily maximum	17.1	20.0	22.1	25.4	32.0	22.1	19.6	23.9
Mean daily minimum	8.7	11.0	14.2	15.8	23.3	12.0	6.5	14.0
Extreme highest	40.8	45.6	45.3	39.6	38.9	46.1	42.2	46.7
Extreme lowest	-2.8	-2.8	2.1	0.6	10.4	-0.4	-10.0	-1.1
Sunshine								
Mean daily hours (d)	6.1	6.2	7.1	8.0	8.6	7.5	7.5	8.3
Rainfall (e)								
Mean annual (mm)	586	639	1 302	1 225	1 705	561	623	819
Mean annual days of rain	151	143	136	122	111	123	105	116

(a) Where sufficient data are not available from a central city location, observations from the nearby airport have been used. (b) Temperature means are based on available data from 1961 to 1990. (c) Temperature extremes are based on all available data; from Adelaide this includes both the current Kent Town site and the old West Terrace site. (d) Sunshine means are based on available data from 1977 to 1996. (e) Rainfall means are based on available data from 1961 to 1990.

Source: Bureau of Meteorology

TEMPERATURES AT SELECTED STATIONS, TASMANIA, 1998 (°C)

Station	Summer (Dec to Feb)		Autumn (Mar to May)		Winter (June to Aug)		Spring (Sep to Nov)	
	Mean max.	Mean min.	Mean max.	Mean min.	Mean max.	Mean min.	Mean max.	Mean min.
Burnie	20.5	12.8	17.2	10.2	13.1	6.9	15.9	8.1
Bushy Park	24.0	9.6	18.2	5.4	12.8	0.4	18.0	5.5
Flinders Island Airport	21.9	13.3	18.0	10.5	13.3	6.4	16.2	8.0
Hobart (Ellerslie Rd)	21.4	11.7	17.3	9.2	12.5	4.6	16.6	8.2
Launceston Airport	23.5	9.9	17.8	6.1	11.7	2.2	16.6	5.6
Liawenee (Great Lake)	18.5	4.5	12.7	1.8	5.8	-1.7	11.7	0.6
Macquarie Island	7.8	4.5	6.3	3.1	5.0	1.4	6.1	2.4
Strahan Airport	19.7	10.1	15.6	8.8	12.7	4.6	15.6	7.6
Swansea	22.4	11.9	19.2	8.3	13.8	3.9	18.0	7.5

Source: Bureau of Meteorology

during winter between 9°C and 14°C. In elevated regions, the temperatures are about 5°C lower.

Maximum temperatures may approach 40°C in the east and south-east of Tasmania during January and February, generally the hottest months throughout the State. The highest temperature recorded in Tasmania has been 40.8°C, recorded at Bushy Park on 26 December 1945 and at Hobart Regional Office on 4 January 1976.

Mean minimum temperatures during the summer months range from about 10°C to 15°C except at elevated locations away from the coast, where mean minimum temperatures range from 5°C to 8°C. During winter, mean minimum temperatures are typically in the range 4°C to 6°C in coastal areas, and between -2°C and +2°C in elevated and inland areas. The lowest temperature on record is -13°C, at Shannon, Tarraleah and Butlers Gorge on 30 June 1983.

Rainfall

The interaction of airstream and topography is the main factor governing rainfall in Tasmania. Consequently, the annual rainfall varies markedly across the State, averaging less than 600 mm in the Midlands but over 3,500 mm in some part of the mountainous west. The highest rainfalls occur in remote, unpopulated regions.

On the west coastal strip, average annual rainfall is around 1,500 mm, but it is more than double this on the nearby mountains. This is a result of the mountains intercepting the common moisture laden westerly winds, forcing the air to rise and cool, and rain to form. These westerly winds are less common in the warmer months, and in the west the rainfall in winter months is double that received in summer.

Annual totals decrease further to the east, then decline rapidly as the land falls away into the Midlands and the Derwent Valley. Here, the air in westerly winds descends and warms, and rain is less likely.

Along the North-west Coast, annual averages are around 800 mm, but the marked increase away from the coast (and into the hills) is also evident. Like the West Coast, rain is more prevalent in the winter. In the south-east corner, the high country extends almost to the shore but the annual rainfall falls away to around 600 mm on the coast. The peaks of the north-east highlands have annual totals of more than 1,500 mm, with the heaviest falls there coming not from westerly winds but as a result of 'east coast lows'.

While Tasmania experiences a generally reliable rainfall, there are periods when rainfall is significantly below or above the average. These are mainly due to changes to the broad meteorological and oceanographic situation, which affects the number of rain bearing systems over the State. Rainfall is less predictable over the eastern half of the State than in the west.

The highest rainfall accumulated in a calendar year was 4,504 mm at Lake Margaret Dam, in the highlands of the West Coast, in 1948. The greatest number of rain days in a year was 314 at Waratah in the North-west in 1955, which is also a record for Australia.

The highest rainfall in 24 hours between successive 9 a.m. readings was 352 mm at Cullenswood (in the north-east highlands), on 22 March 1974.

Snow

In the highlands, above the 900 metre level, snow can occur at any time of the year. Heaviest

ANNUAL RAINFALL, TASMANIA

Station	1996 mm	1997 mm	1998 mm	Long-term average (a)
Bicheno	712	494	808	n.a.
Burnie	1 121	725	837	987
Bushy Park	728	503	501	601
Currie (Post Office)	839	689	n.a.	902
Currie Airport	980	712	780	n.a.
Devonport Airport	875	643	710	816
Flinders Island Airport	745	435	690	780
Glenorchy Reservoir	999	666	615	764
Hobart (Ellerslie Road)	750	528	591	586
Hobart Airport	563	450	503	513
Lake Margaret (Power Station)	3 527	2 962	2 934	2 898
Launceston (Ti Tree Bend)	761	559	678	n.a.
Launceston Airport	800	518	619	660
Liawenee (Great Lake)	1 427	966	1 180	n.a.
Macquarie Island	984	945	1 068	906
Queenstown (CMT)	3 304	2 484	2 485	2 468
Scottsdale	1 131	816	987	n.a.
Smithton	1 320	n.a.	n.a.	1 104
Southport	1 295	987	973	n.a.
St Helens (Post Office)	693	474	732	754
Strahan Airport	2 016	1 426	1 446	n.a.
Strathgordon	3 066	2 608	2 393	n.a.
Swansea	558	364	549	572
Waddamana	1 038	689	701	805

(a) At least 25 years of observations are required for the calculation of this figure. The period covers 1961 to 1990.

Source: Bureau of Meteorology

snowfalls tend to occur in July and August. Extensive snow below 150 metres occurs less than once every 2 years on average, associated with a vigorous outbreak of cold air from the deep south. There is no permanent snowline, but patches of snow often remain on the highest peaks until December.

Significant low-level snowfall occurred on 2–4 August 1943 causing closure of the Lyell and Lake highways for some days. On 19–20 July 1951, snow covered most of Tasmania, blocking roads and interrupting mail services. Early on 25 July 1986, many places in Tasmania had their heaviest snow on record. Heavy snow fell in Hobart and most principal roads in the city were closed, isolating the city until almost the middle of the day.

Thunderstorms and hail

Thunderstorms may occur throughout Tasmania, but are more common in the west and north of the State. Accurate statistics are difficult to accumulate because of the short duration and local nature of thunderstorms, but the available information suggests that the number per year at any location in Tasmania is lower than 10. Severe thunderstorms (those thunderstorms producing wind gusts greater than 90 km/h, tornadoes,

large hail or flash flooding) are much less frequent again. Recent notable severe thunderstorms include the Pyengana storm of 9 December 1985, when rainfall rates in excess of 120 mm/hr caused flash flooding. The Smithton tornado of 22 November 1992 damaged 13 homes, left a trail of destruction 14 kilometres long and had wind speeds estimated to have reached 280 km/h.

Small hail, less than a couple of millimetres in width, may occur in showers that develop in cold air, but larger hail is associated only with thunderstorms. The far south-west of Tasmania has the highest number of days of hail occurrence recorded in Australia; most of this is showers of small (non-thunderstorm) hail.

Floods

In Tasmania, floods mainly occur in autumn, winter and spring. However, they can occur at any time of the year and some of the most significant floods have occurred in summer. The annual flood damage bill averages about \$5.2m.

One river system that experiences serious flooding is the South Esk River. This, along with the Macquarie, Meander and the North Esk rivers, forms the Tamar River Basin, with a

combined catchment area of nearly 9,000 square kilometres.

Floods can be widespread and disruptive, affecting Launceston and Longford, as well as many small rural townships.

Minor floods in the Derwent, Forth and Mersey rivers do not occur with the same regularity as in the South Esk, because of the Hydro-Electric Corporation power generation storages. However, these storages have little effect during major floods. Record floods swamped New Norfolk in April 1960.

Many of the smaller river systems in the north and north-west, about the East Coast and the south-east are subject to flash flooding. The rapid rise and fall of these fast flowing systems can cause significant damage. The Hobart floods of April 1960 caused damage estimated to have cost \$546,000. Flash floods about the south-east in February 1996 resulted in a \$10m damage bill.

River levels in the Huon River can also rise very quickly, particularly during spring when snowmelt can be significant. Flooding of rivers in the west and south of the State go largely unnoticed as they pass through rugged and sparsely populated regions.

Notable cases of severe flooding this century:

8–13 March, 1911

Heavy rainfall about the north-east caused serious flooding in the South Esk and Macquarie rivers, and on the East Coast. At Gould's Country, the George's River Bridge was washed away, as were the northern half of the Scamander Bridge and the suspension bridge over the Cascade and Derby rivers. The railway line between Clarendon and Evandale was also partly washed away.

5–29 December, 1916

Widespread flooding about the north-west, Midlands and south of the State, with considerable damage to roads, bridges and railway lines; widespread crop damage; and stock losses. A record flood in the Mersey River caused serious inundation in and around Latrobe. In the Midlands, the main railway line was washed away between Tunbridge and Campbell Town, and at Colebrook. At New Norfolk, flooding caused damage estimated at £50,000.

7–19 July, 1922

Widespread flooding about the State. One third of the Hamilton Bridge, over the Clyde River, was

washed away. The Macquarie River overflowed its banks covering the main road near Ross with 1.5 metres of water.

14–21 December, 1924

Extensive flooding at Buckland and in the Derwent Valley, together with general flooding about the east and south-east of the State. Extensive crop and stock losses occurred, with bridges being washed away.

4–6 April, 1929

The most disastrous floods experienced this century in northern and eastern Tasmania. Twenty-two people drowned, the greatest loss of life for any single Australian flood event. Fourteen people died when the Briseis Dam at Derby burst, and a further eight lives were lost near Ulverstone when a vehicle plunged into the flooded river. Longford and low-lying areas of Launceston were flooded and 4,500 people in Launceston were left homeless. The Duck Reach power station and a suspension bridge in the Cataract Gorge were washed away. Many road and rail bridges destroyed, and many others damaged. Serious flooding also occurred in the Midlands and about the south of the State.

5 July, 1944

Melting snow caused by heavy rain caused severe flooding in the Derwent River basin, leaving many roads impassable. Floodwaters completely destroyed the hop fields, and the Marlborough Highway Bridge over the Ouse River. General flooding occurred in northern rivers, resulting in the evacuation of people from their homes in the Mersey River basin and widespread stock and crop losses.

23–25 June, 1952

Heavy rainfall and melting snow on the Central Plateau caused widespread, severe flooding, in the Mersey River basin. Severe flooding also occurred along the West Coast, and in the south. Floodwaters invaded the township of Huonville. In the Derwent River basin many people were forced to evacuate their homes, with estimates exceeding £100,000 for the damage to the communications infrastructure.

20–23 April, 1960

Widespread flooding of all Tasmanian rivers, with the Macquarie, Elizabeth, Lake and Liffey rivers particularly affected. The greatest damage occurred in the New Norfolk area when over 250 mm of rain fell in less than 48 hours. At Macquarie Plains, 12 homes were destroyed and 650 people were made homeless. In Hobart, record losses were sustained through flooding of

the Hobart Rivulet, with flooding 1-metre deep through some city streets. Flooding also extended throughout the East Coast and Midlands.

30 May, 1969

Flooding about the East Coast and Midland areas. The severest flood in Launceston since April 1929. At Longford, 250 people were evacuated and 65 homes were inundated by rising floodwaters.

24 August, 1970

Record flooding occurred in the Mersey and Meander rivers, with extensive damage at Deloraine. One fatality was recorded and damage estimated in excess of \$5m. Serious flooding also occurred on the Ouse and Huon rivers.

7–22 July, 1974

Extensive flooding occurred throughout the South Esk and Macquarie river basins. Extensive flooding also occurred in southern Tasmania, with many roads cut in the Derwent and Lower Midlands areas.

27 March, 1977

Major flooding occurred in the north-west, leaving 4 houses at Penguin and 14 at Latrobe inundated with mud.

25 July, 1988

Seventy residents were evacuated from Branhholm when a nearby dam threatened to collapse following heavy rainfall. Many roads were cut along the north coast, a train was surrounded by floodwaters near Launceston, the Ringarooma Bridge was washed away and Scottsdale was only accessible by the Bridport Road. Coastal areas were also flooded by unusually high tides caused by a storm surge after a 960 hPa low pressure system passed over Tasmania.

21–30 December, 1993

State-wide rainfall associated with a series of low-pressure systems off the east coast of Tasmania. Gray recorded 280 mm of rainfall, its greatest daily rainfall in 11 years. The north-east of the State was subjected to extensive flash-flooding. Extensive flooding in the Midlands area resulted in an estimated \$5m worth of damage to roads and bridges and crop and stock losses.

22 September, 1998

Largest flood in 70 years in the Deloraine area when over 100 mm of rain fell in a 24-hour period along the Western Tiers. Extensive

flooding also in the Lake and Isis rivers districts. Reports indicated over a metre depth of flooding in the space of 2 to 3 hours.

Humidity

The mean relative humidity exceeds 50% at most Tasmanian stations throughout the year, the exceptions being inland stations in summer. Relative humidity is generally higher in the morning than the afternoon, and higher in coastal areas than inland. Days of high temperature combined with uncomfortably high humidity are rare, and usually associated with a north-easterly airstream. In the east, south-east and the Fingal Valley, warm dry winds from a west or north-west direction may occasionally have a relative humidity as low as 10%. This is a result of air descending from just above mountainous terrain into lowlands.

Droughts

Droughts have not plagued Tasmania to the same degree or severity as the mainland States of Australia. However, there have been several episodes of drought in the history of Tasmanian settlement that have had serious consequences. Drought in Tasmania is generally not widespread: it is not unknown for one part of the State to be suffering very low rainfall while in another the rainfall is very much above normal.

Significant droughts this century

1908–10

In 1908 there were severe drought conditions in almost all agricultural areas, and in the summer of 1908–09 serious stock and crop losses in the east and south-east. The autumn of 1910 was also dry in the southern areas, but winter rains alleviated the problem.

1913–15

A severe drought occurred, with 1914 being a very dry period in most parts of Tasmania. The drought lasted until the autumn of 1915.

1918–21

Low rainfall occurred in northern districts from July 1918 to May 1920. In the south there was a severe drought from August 1919 to June 1921.

1926

The failure of summer rains brought severe drought conditions to most of the State, especially the northern and north-western areas.

1933–34

There was drought from January 1933 in the

north and June 1933 in the south until substantial rain occurred in June 1934.

1935–36

The drought commenced in August 1935 and lasted until July 1936. It was the most severe in north-western Tasmania.

1945–46

Most of the State was affected by severe drought conditions in December 1945, with heavy stock losses occurring in the Midlands and south, until late summer rains ended the dry period.

1949–52

Severe droughts developed in most districts, particularly in the south. In the winter of 1950 there were low rainfalls, even in the west. It was not until the autumn of 1952 that significant relieving rains occurred.

1954–55

The drought occurred between July 1954 and March 1955, particularly in the south and east.

1967–68

Droughts occurred across south-eastern Australia, with Tasmania being affected between January 1967 and May 1968.

1972–73

The winter of 1972 was dry and the drought lasted until the autumn of 1973, particularly in the north-east.

1982–83

After the dry winter of 1982, the failure of rains during the summer of 1982–1983 increased the drought area to include most districts of Tasmania, with the exception of the west and east coasts. It was not until the autumn of 1983 that significant rains ended what was one of the worst droughts recorded over eastern Australia.

1987–88

Many areas experienced record droughts throughout both years. Relief occurred in some areas by rain and floods during April 1988.

1993–95

This dry period began in March 1993 and ended with good rainfall in the period November 1995 to January 1996. Serious to severe rainfall deficiencies occurred in the north and north-east, including Flinders Island.

Bushfires

Bushfires are a regular feature of the warmer Tasmanian months (loosely, October to April).

Although occasionally caused by lightning, they are more frequently started by accidental or deliberate human activity. The highly flammable nature of the dominant species in the buttongrass moorlands of western Tasmania means that fires fanned by strong winds can burn large areas, even when the ground is waterlogged. Bushfires in forest areas generally develop after a dry spell and may become particularly dangerous at times of strong winds, high temperature and low humidity, such as ahead of some cold fronts.

Huge amounts of flammable eucalyptus vapour, transpired from leaves, create fireballs, which often engulf the forest upper storey ahead of the main fire-front. The most significant damaging bushfires in recent history were those known as 'Black Tuesday' on 7 February 1967 in south-east Tasmania, in which 62 people died and nearly 1,500 houses and other major buildings were destroyed.

Some severe bushfires this century

1913–14

Fires coincided with a drought season, with a fire on Mt Wellington occurring. Orchards, buildings and stock were also lost in the Huon District.

1933–34

There were several serious outbreaks of fires. Intense bushfires occurred in south-east Tasmania on 16 January 1934. Smoke from these fires was carried over to Victoria. Major fires occurred in the Florentine and Derwent valleys on 9 February 1934, known as Black Friday in Tasmania (not the same date as Black Friday in Victoria). Homes were destroyed and there was some loss of life.

1939

On 2 February there were serious fires in the Huon, Derwent Valley, West Coast and King Island districts.

1940

Several severe fires occurred around Hobart between 11 and 17 March. On 13 March, 28 separate fires were reported. A total of 16,000 hectares of forest were burnt.

1945–46

During a drought period, several areas of Tasmania suffered from severe bushfires. Extensive areas of Mt Wellington were burnt by a bushfire on 26 December 1945.

1960–61

There were many bushfires throughout the State

in January. On 6 February, Parattah and Perth were threatened by bushfires, and there were many fires through the Midlands.

1963–64

Fire destroyed the bulk of pine plantations at Cambridge on 17 March 1963. On 17 January 1964, fires occurred State-wide, being fanned by high winds. Homes near Hobart, Snug and along the north coast were threatened.

1966–67

A total of 62 lives were lost during Tasmania's worst fire season, with the worst day being 7 February, when several bushfires burnt many houses in the Hobart suburbs.

1981

Fires occurred in Zeehan on 3 February and 40 homes were destroyed.

1991

Fires occurred at Pelverata and Bonnet Hill on 25 February and 6 houses were burnt.

1998

On 17 January, fires destroyed 3,000 hectares and 6 houses in Hobart's southern suburbs.

Evaporation

In the northern Midlands, the annual evaporation is nearly 1,500 mm due largely to the prevalence of winds coming from the Western Tiers, which become warmer and drier as they descend. This area of high evaporation extends to the lower Derwent Valley and the Huon. Mean monthly evaporation is nearly 200 mm in the summer in these areas, but is closer to 30 mm in winter. Evaporation in western, central and southern regions is much lower, normally less than 750 mm each year, ranging between 15 mm per month in winter and about 100 mm per month in summer.

Sunshine

At Tasmania's latitude, there is a marked change in day length from summer to winter. In midsummer there can be over 15 hours of bright sunlight, and twilight can extend to as late as 9.30 p.m. (daylight saving time). The lower solar angle in midwinter cuts sunshine to around 9 hours, with darkness falling by 5.15 p.m. In practice, cloud, rain and nearby hills will reduce the amount of bright sunshine on most days.

In January, the West Coast averages around 6 hours of bright sunshine per day, while the

northern Midlands average over 9 hours per day. Winter values are much less, averaging less than 2 hours in the west and around 4 hours in the east.

Frost and fog

Frosts can occur throughout the year in all areas apart from the extreme coastal strip, where the frost season extends from about March to November. The dates of first and last frost vary markedly from year to year. Local factors, such as valleys where cold air pools and bright sun does not penetrate, heavily influence frost occurrence. Fog is prevalent in Tasmania, particularly during autumn. It also occurs frequently in winter, especially in the inland river valleys.

Launceston is particularly susceptible to fog, while Hobart has occasional occurrences. Fog also occurs over the inland lakes, given the right conditions of light winds and cold nights. Occasionally sea fog is advected over coastal districts, especially along the northern and eastern coasts.

Hobart's climate

Rainfall

Hobart City has the second-lowest annual average rainfall of any Australian capital, after Adelaide. There is a strong gradient in rainfall from sea-level areas (around 600 mm) to the elevated suburbs (more than 1,400 mm). The annual rainfall at the observing site in Ellerslie Road, Battery Point, has averaged 622 mm over the past 117 years. The driest year was 1979 with 390 mm; the wettest 1916 with 1,104 mm. Rainfall is fairly uniform through the year. The wettest month recorded was March 1946 with 255 mm, and the driest was December 1994, with only 0.4 mm.

Temperature

Mean daily maximum temperatures are above 20°C in summer but below 12°C in winter. There are about 6 days each year when the temperature exceeds 30°C. The highest temperature recorded, 40.8°C in January 1976, is also the highest for the State. On some winter days, the temperature has not exceeded 5°C. Mean daily minimum temperatures are about 12°C in summer and 5°C in winter. Temperatures below 0°C normally occur only once or twice each year; the lowest temperature recorded in Hobart City was –2.8°C in June 1972 and again in July 1981.

A Brief History of Meteorological Observations in Hobart

~ Contributed by Bureau of Meteorology, Hobart Regional Office ~

The first fully equipped official meteorological station in Tasmania was established at Hobart Town and regular observations commenced on 1 October 1840.

The British Royal Society requested assistance from the British Government in 1836 in establishing a station and, as a result, a naval expedition under the command of Sir James Clark Ross, in the ships *Erebus* and *Terror*, left England in late 1839 and arrived in Hobart Town in August 1840. An observatory was erected on the Domain adjoining the present Government House, and was named the Ross Bank Observatory.

Under Lieutenant (later, Commander) J. H. Kay RN, the naval staff carried out hourly readings of magnetic and meteorological elements. Equipment included a barometer, thermometers and self-recording rain gauges. In April 1853, the observatory became the property of the Colonial Government and Mr Jeffrey, an assistant to Commander Kay, was appointed the first State Meteorologist. Records ceased at the observatory on 31 December 1854.

Mr Francis Abbott, a private citizen of the Colony, then assumed the position of observer at Hobart Town from 1 January 1855 and made observations at a private residence in Murray Street in the city centre. The instruments were exposed in his garden. He continued these readings until June 1880.

A break in the records then occurred until the formation of the State Meteorologic Department in April 1882, when observations were made by Captain J. Shortt until his death in 1892. The site granted to Captain Shortt was that of the present Bureau site in

Ellerslie Road, adjacent to the Anglesea Barracks. Upon the death of Captain Shortt, Mr H. C. Kingsmill was appointed Meteorological Observer and later Government Meteorologist. In 1908 meteorological observations became the responsibility of the Commonwealth and in 1911, Mr W. S. Watt succeeded Mr Kingsmill as the first Divisional Meteorologist for Tasmania under the Commonwealth Government.

Observations have been taken at the Anglesea Barracks site regularly from 1882 until the present day. A new building was erected adjacent to the old Bureau in 1966, and this entailed a very slight change of site.

An Automatic Weather Station (AWS) was installed and became operational on 17 August 1992. Manual screen and soil temperatures and rain gauge readings were performed at 0900 and 1500 hours. AWS data used with manual visual data were input for all other observations.

On 19 December 1994, the Bureau's regional office moved from Ellerslie Road to 111 Maquarie Street. Automatic observations were continued from the Ellerslie Road site via the AWS with manual readings of rainfall, screen and soil thermometers at 0900 hours. Manual input of visual parameters continued from the new regional office location via the AWS PC Manual Console for all synoptic observations.

The present instrument enclosure exposed to a south-easterly direction but is obstructed by buildings on the other sides. The site is on a small knoll some 54 metres above sea level and approximately one kilometre from the city centre.

CLIMATIC DATA FOR HOBART (a)

	Temperature					Rainfall			
	Mean maximum °C	Mean minimum °C	Extreme highest °C	Extreme lowest °C	Mean daily bright sunshine h	Maximum wind gust km/h	Mean monthly total mm	Mean monthly days no.	Highest daily total mm
January	21.5	11.8	40.8	4.5	7.9	130	48.2	11.0	75.2
February	21.6	11.9	39.3	3.4	7.2	121	40.9	9.5	61.0
March	20.1	10.8	37.3	1.5	6.3	128	45.7	11.3	88.1
April	17.2	8.9	30.6	0.7	5.2	141	52.5	12.4	132.3
May	14.3	6.9	25.7	-0.7	4.2	135	47.5	13.4	47.0
June	11.9	5.1	20.1	-2.8	3.9	147	54.8	14.0	147.3
July	11.6	4.5	21.0	-2.8	4.4	128	53.4	15.0	63.8
August	12.9	5.2	24.5	-1.8	5.0	141	52.6	15.3	64.8
September	15.0	6.3	31.0	-0.4	5.9	150	51.9	15.1	156.2
October	16.9	7.7	34.6	0.6	6.5	141	62.7	16.3	65.5
November	18.5	9.2	36.8	0.3	6.9	135	54.6	14.2	63.2
December	20.2	10.7	38.9	3.4	7.4	122	57.8	12.9	84.6
Annual	16.8	8.2	40.8	-2.8	5.9	150	622.7	160.5	156.2

(a) These means and extremes are based on all available data. The period of record varies between elements; rainfall and mean temperatures start in 1981, extreme temperatures in 1912, sunshine in 1931, and wind gusts in 1944. All except sunshine are still being recorded.

Snow and hail

Mount Wellington is often capped with snow (especially in winter and spring) but snow falls in Hobart City itself on average only once or twice a year. It is even rarer for this snow to settle on the ground. Hail occurs on average 3 days a year, mostly in spring.

Frost and fog

Frost occurs at the Battery Point site on an average of 25 days each year. It is more common in other locations in the city, such as sheltered valleys that receive little direct sun during winter.

Fog occurs in the city on an average of 5 days each year but some suburbs are more susceptible, particularly the northern suburbs such as Austins Ferry, Claremont, Chigwell and Berriedale.

Sunshine and cloud

Daylight hours are shorter in winter than summer, but cloudiness is about the same. The average number of hours of bright sunshine each day in January is about 8, but in June it is less than 4. Cloud cover averages about 70% of the sky throughout the year.

FURTHER READING

Other publications

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Bureau of Meteorology: <http://www.bom.gov.au>

Tasmania Online: <http://www.tas.gov.au>

Acknowledgments

Department of Primary Industries, Water and Environment

Climate & Consultancy Section, Bureau of Meteorology, Hobart Regional Office

CHAPTER 4

Government



Photo: The Mercury

Public debate and street protests became part of the political landscape in the 1960s and 1970s.

Since 1 January 1901, Australia has been a federation of six States. In 1911 two Territories, the Australian Capital Territory and the Northern Territory, were transferred to the Commonwealth from New South Wales and South Australia. This federal system of government is based on British-derived parliamentary institutions (the Westminster system) and American-derived federal arrangements. Under this system, government in Tasmania is exercised at three levels:

- Commonwealth Government, with authority based on a written constitution and centred in Canberra;
- State Government, with residual powers (powers not reserved for the Commonwealth), and centred in Hobart; and
- local government, with authority derived from State Acts, and operating in 29 subdivisions of the State.

Commonwealth Government

Legislative power of the Commonwealth is vested in the Commonwealth Parliament, which consists of the Sovereign, Queen Elizabeth II (represented by the Governor-General), the Senate and the House of Representatives.

The Governor-General

Under the Commonwealth Constitution, ultimate executive power is vested in the Crown and is exercised by the Governor-General as the direct representative of the Queen. The Queen's status is set out by the *Australia Act 1986*.

The Governor-General's powers include summoning, proroguing and dissolving Parliament; recommending appropriations; assenting to Bills; issuing writs for general elections; appointing and dismissing Ministers; submitting proposals for referendums; making proclamations and regulations; creating

government departments and making statutory appointments.

On 16 February 1996, Sir William Deane, a High Court Judge, was sworn in as Australia's 22nd Governor-General. He was appointed a Knight of the British Empire in 1982 and a Companion in the Order of Australia in 1988.

The Senate

The Senate was originally constituted with the aim of protecting the rights and interests of the States. Today, its main function has become generally that of a house of review.

Since 1984 each State has been represented by 12 senators. In addition, the Australian Capital Territory and the Northern Territory have been represented by 2 senators each since the election of 13 December 1975. Each senator's term is normally six years, as half the Senate seats come up for election every three years. However, in the case of a double dissolution of both Houses, half the senators are elected for a six-year term (the first six elected in each State) and half for a three-year term.

In Senate elections each State is an electorate. Electors are required to cast a vote for every candidate standing within the State in order of their preference or for a party or group. Election of members is carried out in accordance with the principles of proportional representation by the single transferable vote.

If a vacancy occurs in the Senate, the appropriate State Government, usually by a joint sitting of Parliament, nominates a replacement of the same political affiliation, who sits for the remainder of the term.

The House of Representatives

When designing the House of Representatives, the founders of the parliamentary system envisaged a legislative body representing the national interest. The party that has the support of a majority of members in the House of Representatives provides the Government. Australia is divided into 148 single-member electorates of which five must be Tasmanian.

Election of members is carried out in accordance with the principles of the absolute majority through use of preference voting. If a vacancy occurs, it is filled by holding a by-election. Elections must be held at least every 3 years.

Representation in the House of Representatives is based upon the general principle of having, as near as practicable, electorates with equal numbers of electors. This is provided by regular electoral redistributions undertaken by an independent Electoral Commission.

House of Representatives and Senate elections, 1998

The federal election of 3 October 1998 resulted in the re-election of the Liberal Party-National Party Coalition Government under the leadership of the Prime Minister, John Howard.

In Tasmania, the election resulted in the Labor Party retaining Denison, Lyons and Franklin, and gaining the seats of Bass and Braddon.

HOUSE OF REPRESENTATIVES MEMBERSHIP BY STATE, 1999

	Members no.
New South Wales	50
Victoria	37
Queensland	27
South Australia	12
Western Australia	14
Tasmania	5
Northern Territory	1
Australian Capital Territory	2
Total	148

Source: Australian Electoral Commission

HOUSE OF REPRESENTATIVES, TASMANIAN MEMBERS, MAY 1999

Member	Party affiliation	Electorate
Adams, D.	ALP	Lyons
Kerr, D. J. C.	ALP	Denison
Sidebottom, S.	ALP	Braddon
Quick, H.	ALP	Franklin
O'Byrne, M.	ALP	Bass

Source: Australian Electoral Commission

TASMANIAN SENATORS, MAY 1999

Senator	Party affiliation	Term expires
Abetz, E.	Liberal	2005
Brown, R. J.	Tas. Greens	2002
Calvert, P. H.	Liberal	2002
Denman, K.	ALP	2005
Gibson, B.	Liberal	2005
Harradine, R. W. B.	Independent	2005
Mackay, S. M.	ALP	2002
Murphy, S.	ALP	2005
Newman, J. N.	Liberal	2002
O'Brien, K.	ALP	2005
Sherry, N. J.	ALP	2002
Watson, J. O. W.	Liberal	2002

Source: Australian Electoral Commission

Tasmanians in Federal Cabinet: 1900–2000

During the first century of Federation, more than 30 Tasmanians have been Ministers in Federal Governments.

Members of the House of Representatives

Atkinson, Llewellyn (NAT)
 Barnard, H. C. (ALP)
 Barnard, Lance (ALP)
 Braddon, E. N. C. (FT)
 Culley, C. E. (ALP)
 Fysh, P. O. (FT)
 Groom, Raymond
 Kerr Duncan (ALP)
 Guy, James Alan (ALP/UAP/LIB)
 Hodgman, W. Michael (LIB)
 Jensen, J. A. (ALP)
 Lyons, Enid (LIB)
 Lyons, Joe (ALP/UAP)
 Newman, K. E. (LIB)
 O'Malley, K. (ALP)
 Smith, W. H. C. (ALP)
 Spence, W. G. (ALP/NAT)
 Townley, Athol Gordon (LIB)
 Smith, W. (LIB)

Senators

Clemons, J. S. (LIB)
 Earle, John (NAT)
 Frost, C. W. (ALP)
 Grimes, DR. D. (ALP)
 Henty, N. H. D. (LIB)
 Keating, J. H. (LIB)
 McKenna, N. E. (ALP)
 Marriott, J. E. (LIB)
 Newman, J. (LIB)
 Ogden, J. E. (ALP/NAT)
 Tate, M. C. (ALP)
 Turnbull, Reg J. D. (LIB)
 Wridt, K. S. (ALP)
 Wright, Reg C. (LIB)

Tasmanians in other national leadership positions

Joe Lyons: ALP Premier of Tasmania, 1916–19 and 1923–28, following which he switched to federal politics at the 1928 election and became Postmaster-general and then acting Treasurer. In May 1931, he switched to the newly formed United Australia Party as Leader and became Prime Minister at the December 1931 election. He died in office on 7 April 1939.

Lance Barnard was Deputy Leader of the Labor Party from 1967 until he became Deputy Prime Minister in the first ALP Government since 1949 on 5 December 1972. He held this position until 1974. He retired from parliament in 1975 and was appointed Australian Ambassador to Norway, Sweden and Finland.

Dame Enid Lyons, G. B. E. First woman member of the House of Representatives and first woman Minister of the Federal Government

Sir G. J. Bell. Speaker of the House of Representatives, 23 October 1934 to 19 November 1940

J. B. Hayes. President of the Senate, July 1938 to June 1941, and Senator for Tasmania, 1923 to 1947. Liberal Premier of Tasmania, 1922–23

J. O'Byrne. Elected Senator in 1946. Opposition Whip 1962 to 1972 and Government Whip 1972 to 1974. Elected President of the Senate 9 July 1974 to 11 November 1975.

In the Senate the Liberal Party won 2 seats, the Labor Party won 3 seats and the sixth seat was won by Senator Brian Harradine, Independent.

Tasmanian Government

The Tasmanian Constitution was limited by the establishment of the Commonwealth Constitution. In effect, the Parliament of Tasmania may make laws operative within the State upon all matters not within the exclusive power of the Australian Parliament but, on those matters for which the Australian Government may also legislate, the Tasmanian law may be

superseded by the passing of an Act by the Commonwealth Parliament.

Tasmania's legislature consists of the Queen, represented by the Governor, and two Houses of Parliament: the Legislative Council and the House of Assembly.

The Governor

The Governor of Tasmania is the representative of the Sovereign in the State and exercises the powers of the Crown in State matters. The Queen appoints the Governor on the advice of the Premier, generally for a five-year term.

SUCCESSION OF GOVERNORS, ACTING GOVERNORS, ADMINISTRATORS, FROM 1900

Name	Designation	Term of office	
		From	To
Sir John Dodds, Knt., C.M.G.	Administrator	14.08.00	08.11.01
Sir A. E. Havelock, G.C.S.I., G.C.M.G.	Governor	08.11.01	16.04.04
Sir John Dodds, K.C.M.G.	Lieutenant-Governor	16.04.04	28.10.04
Sir Gerald Strickland, K.C.M.G.	Governor	28.10.04	20.05.09
Sir John Dodds, K.C.M.G.	Lieutenant-Governor	22.02.08	18.09.08
Sir John Dodds, K.C.M.G.	Lieutenant-Governor	20.05.09	29.09.09
Sir H. Barron, K.C.M.G.	Governor	29.09.09	08.03.13
Sir John Dodds, K.C.M.G.	Lieutenant-Governor	08.03.13	06.06.13
Sir William Ellison Macartney	Governor	06.06.13	31.03.17
Sir Herbert Nicholls, Knt.	Administrator	31.03.17	06.07.17
Sir F. A. Newdigate Newdegate, K.C.M.G.	Governor	06.07.17	09.02.20
Sir Herbert Nicholls, Knt.	Administrator	09.02.20	16.04.20
Sir W. L. Allardyce, K.C.M.G.	Governor	16.04.20	27.01.22
Sir Herbert Nicholls, Knt.	Administrator	27.01.22	30.11.23
Hon. Norman. K. Ewing	Administrator	30.11.23	12.06.24
Sir Herbert Nicholls, Knt.	Administrator	12.06.24	31.10.24
Sir Herbert Nicholls, Knt.	Lieutenant-Governor	31.10.24	23.12.24
Sir James O'Grady, K.C.M.G.	Governor	23.12.24	19.12.30
Hon. Sir Herbert Nicholls, K.C.M.G.	Lieutenant-Governor	19.12.30	04.08.33
Sir Ernest Clark, KCB, K.C.M.G., CBE	Governor	04.08.33	04.08.45
Hon. Sir John Morris	Administrator	04.08.45	24.12.45
Admiral Sir Hugh Binney, KCB, K.C.M.G., DSO	Governor	24.12.45	08.05.51
Hon. Sir John Morris, K.C.M.G.	Administrator	08.05.51	22.08.51
Rt Hon. Sir Ronald Cross, Bt, K.C.M.G., KCVO	Governor	22.08.51	04.06.58
Hon. Sir Stanley Burbury, KBE	Administrator	04.06.58	21.10.59
Rt Hon. Lord Rowallan, KT, KBE, MC, TD	Governor	21.10.59	25.03.63
Hon. Sir Stanley Burbury, KBE	Administrator	25.03.63	24.09.63
Lt-General Sir Charles Gairdner, GBE, K.C.M.G., KCVO, CB	Governor	24.09.63	11.07.68
Hon. Sir Stanley Burbury, KBE	Administrator	11.07.68	02.12.68
Lt-General Sir Edric Bastyan, K.C.M.G., KCVO, KBE, CB	Governor	02.12.68	30.11.73
Hon. Mr Justice Green	Administrator	30.11.73	05.12.73
Hon. Sir Stanley Burbury, K.C.M.G., KCVO, KBE	Governor	05.12.73	01.04.82
Hon. Sir Guy Green, KBE	Lieutenant-Governor	01.04.82	30.09.82
Sir James Plimsoll, AC, CBE	Governor	01.10.82	08.05.87
Hon. Sir Guy Green, KBE	Lieutenant-Governor	09.05.87	18.10.87
General Sir Phillip Bennett, AC, KBE, DSO	Governor	19.10.87	30.06.95
Hon. Mr Justice William Cox	Administrator	30.06.95	02.10.95
Hon. Sir Guy Green, AC, KBE	Governor	02.10.95	present

Powers and duties of the Governor are similar to those of the Governor-General and were gazetted in March 1986.

On all official State occasions, the Governor performs the ceremonial functions as the representative of the Queen. The Governor summons and terminates Parliament; in special circumstances dissolving it after considering the advice of the Premier. Bills that have passed all stages in Parliament are submitted to the Governor for assent. The Governor opens each session of Parliament by outlining the legislative program of the Government, but takes no other part in the sittings of either House.

The Governor's executive powers include the appointment of ministers of the Crown, judges and other important State officers but not those whose appointments may be made by certain statutory corporations. By appointing ministers of the Crown, the Governor creates the Executive Council of the day and is required by instructions to be guided by the advice of this body. The Governor may act against the advice of the Executive Council, but the reasons for such action must be immediately reported to the Queen.

The Cabinet and executive government

In Tasmania, as in the other States and the Commonwealth, executive government is based on the system that evolved in Britain in the 18th century, and which is generally known as 'Cabinet', or 'responsible' government. Its essence is that:

- heads of the State (in Tasmania, the Governor) should perform governmental acts on the advice of ministers;
- they should choose ministers of State from members of Parliament belonging to the party, or coalition of parties, commanding a majority in the popular House;
- the ministry, the Cabinet, so chosen should be collectively responsible to that House for the government of the state; and
- the ministry should resign or advise an election if it ceases to command a majority there.

The Cabinet system operates chiefly by means of constitutional conventions, customs or understandings, and through institutions that do not form part of the legal structure of government.

In law, the executive power of the State is exercised by the Governor who is advised by, and appoints, the Executive Council.

The Premier

The Honourable Jim Bacon was sworn in as Premier of Tasmania on 14 September 1998, succeeding The Honourable Tony Rundle, Premier since 18 March 1996.

Mr Bacon was first elected as a member for Denison in 1996. From 1989 to 1995 he was Secretary of the Tasmanian Trades and Labor Council; a Member of the Australian Council of Trade Unions Executive; a Delegate to the International Labor Organisation's International Labor Conference, Geneva, 1994; Director of the

PREMIERS OF TASMANIA FROM 1900

Name	Term of office	
	From	To
Sir N. E. Lewis	12.10.99	09.04.03
W. B. Propsting	09.04.03	11.07.04
J. W. Evans	11.07.04	19.06.09
Sir N. E. Lewis	19.06.09	20.10.09
J. Earle	20.10.09	27.10.09
Sir N. E. Lewis	27.10.09	14.06.12
A. E. Solomon	14.06.12	06.04.14
J. Earle	06.04.14	15.04.16
Sir Walter Lee	15.04.16	12.08.22
J. B. Hayes	12.08.22	14.08.23
Sir Walter Lee	14.08.23	25.10.23
J. A. Lyons	25.10.23	15.06.28
J. C. McPhee	15.06.28	15.03.34
Sir Walter Lee	15.03.34	22.06.34
A. G. Ogilvie (a)	22.06.34	10.06.39
E. Dwyer-Gray	11.06.39	18.12.39
R. Cosgrove	18.12.39	18.12.47
E. Brooker	18.12.47	25.02.48
R. Cosgrove	25.02.48	26.08.58
E. E. Reece	26.08.58	26.05.69
W. A. Bethune	26.05.69	03.05.72
E. E. Reece	03.05.72	31.03.75
W. A. Neilson	31.03.75	01.12.77
D. A. Lowe	01.12.77	11.11.81
H. N. Holgate	11.11.81	26.05.82
R. T. Gray	26.05.82	29.06.89
M. W. Field	29.06.89	17.02.92
R. J. Groom	17.02.92	18.03.96
A. M. Rundle	18.03.96	14.08.98
J. Bacon	14.09.98	present

(a) Tasmania had an unbroken succession of Labor premiers, from the Ogilvie ministry (1934) until the electoral defeat of the Reece government on 26 May 1969.

Source: *Office of the Premier*

Ministers, Portfolios and Responsibilities

The Hon. J. Bacon: Premier and Minister for State Development			
Department of Premier & Cabinet		Department of State Development	
Support to Premier and Ministers	Cabinet office Issues management	Marketing Tasmania – industry, tourism, major events	Industry and development policy
Policy co-ordination	Inter-governmental relations	Regional Development	Project management
Public sector management	Multicultural, indigenous and women's affairs	Workforce planning	Small business development
Information Technology			Sport and recreation, culture and the arts
The Hon. P. Lennon: Deputy Premier; Minister for Infrastructure, Energy & Resources and Minister for Racing & Gaming			
Department of Infrastructure, Energy & Resources		Government Business Enterprises and Crown Owned Corporations	
Energy policy and planning	Forest policy, regulation and research	Hydro-Electric Corporation	Transend Networks
Mineral resources		Aurora Energy	TT-Line
Workplace standards	Transport policy, infrastructure and regulation	Forestry Tasmania	Port Corporations
Racing	Gaming and licensing functions	Motor Accidents Insurance Board	Metro Tasmania
		Printing Authority of Tasmania	
The Hon. D. Crean: Treasurer			
Department of Treasury and Finance			
Budget formulation and monitoring	Financial and taxation policy	Government accounting policy	Regulation reform
Economic monitoring and forecasting	Inter-governmental financial relations	Strategic asset management	Taxation collection
Gaming and licensing			
The Hon. P. Patmore: Attorney-General and Minister for Justice & Industrial Relations			
Department of Justice and Industrial Relations			
Support to courts and tribunals	Government legal services	Government industrial relations policy	Corrective services
Administrative review bodies	Consumer affairs and fair trading	Electoral affairs	
The Hon. J. Jackson: Minister for Health & Human Services			
Department of Health and Human Services			
Health policy	Community and public health	Hospitals	Ambulance services
Mental health	Fire services	Community services	Housing
The Hon. P. Wriedt: Minister for Education			
Department of Education, Training, Community and Cultural Development			
Education and training policy	Secondary colleges	Adult education	TAFE services
School education	Educational assessment	Library services	Office of youth affairs and family
The Hon. D. Llewellyn: Minister for Primary Industries, Water & Environment and Minister for Police			
Department of Police		Department of Primary Industries, Water and Environment	
Maintenance of law and order	Crime prevention and community safety	Primary industries	Fisheries and maritime resources
Emergency response planning and management		Land and water resources	Land-use planning and environmental management
		Parks and wildlife	Government laboratory services

Tasmanian Development Authority (1991–95); Member of the National Labour Consultative Council; and Delegate to the International Labor Organisation's Regional Conference, Bangkok, 1991.

During 1980–89 he worked as State Secretary of the Tasmanian Branch of the Builders' Labourers Federation and before that, between 1973 and 1979, as a union official for the Builders' Labourers Federation.

Mr Bacon holds the portfolios of Premier and Minister for State Development.

The House of Assembly

The Tasmanian Lower House comprises 25 members elected for a term of four years from five 5-member electorates.

HOUSE OF ASSEMBLY MEMBERS, JULY 1999

	Party affiliation
Bass	
Cox, J. G. (a)	ALP
James, The Hon. G. H.	ALP
Madill, The Hon. F. L.	Liberal
Napier, The Hon. S. D. (b)	Liberal
Patmore, The Hon. P. J.	ALP
Braddon	
Best, B. R.	ALP
Bonde, The Hon. W. B.	Liberal
Green, B. A.	ALP
Kons, S.	ALP
Rundle, The Hon. A. M.	Liberal
Denison	
Bacon, The Hon. J. A.	ALP
Cheek, R. R.	Liberal
Groom, The Hon. R. J.	Liberal
Jackson, The Hon. J. L.	ALP
Putt, M. A.	Tas. Greens
Franklin	
Bladel, The Hon. F. M.	ALP
Hodgman, The Hon. P. C. L.	Liberal
Lennon, P. A.	ALP
Wriedt, P. C.	ALP
Smith, M. A.	Liberal
Lyons	
Bacon, K. J.	ALP
Hidding, M. T.	Liberal
Llewellyn, The Hon. D. E.	ALP
Polley, The Hon. M. R. (c)	ALP
Swan, The Hon. D. E.	Liberal

(a) Chairman of Committees. (b) Leader of the Opposition.
(c) Speaker

Source: House of Assembly

Electoral system

Tasmania uses a system of proportional representation, known as the Hare–Clark system, in elections for the House of Assembly. The essential features of the system in Tasmania are:

- Party groups, if officially registered, are identified on ballot papers.
- Candidates' positions within groups are rotated, so that in 'preferred' positions all candidates appear on the same number of ballot papers.
- A valid vote must show at least 5 preferences.
- To secure election, candidates must gain a quota—the total first preference votes divided by 6, plus 1 vote.
- On polling day, no media advertising and no soliciting of votes near the polling booth is permitted.
- The constituencies are the same 5 divisions as used for House of Representatives elections.
- There are no by-elections; a vacant seat is filled by a count-back of the vote at the last election.

State election 1998

Although elections were not due until early in the year 2000, on 13 July 1998 Premier Rundle unexpectedly announced plans for the introduction of new legislation to reduce the number of parliamentarians, to be followed by a general election. The *Parliamentary Reform Act 1998* commenced on 28 July 1998 and the general election was held on Saturday, 29 August 1998. The election was for 25 seats, five per electorate, in which the Tasmanian Greens were expected to lose seats because of the higher quota needed for election. The expected occurred: three Greens lost their seats and the ALP, under the leadership of Jim Bacon, won an outright majority.

HOUSE OF ASSEMBLY ELECTIONS, 1998

Division	Liberal		Labor		Tas. Greens		Total
	Seats won no.	Vote %	Seats won no.	Vote %	Seats won no.	Vote %	
Bass	2	42.0	3	41.1	—	9.1	5
Braddon	2	42.3	3	44.1	—	8.1	5
Denison	2	36.2	2	46.3	1	13.1	5
Franklin	2	37.0	3	45.7	—	10.4	5
Lyons	3	33.4	2	46.6	—	10.1	5
Tasmania	10	38.0	14	45.0	1	11.0	25

Source: Tasmanian Electoral Office

Tasmanian election 1998: a background report

When in April 1997, the Premier, Mr Tony Rundle, delivered a 'directions statement' that included a radical restructuring of Parliament, he set in train events, which 16 months later, resulted in the defeat of his Liberal government and the election of Mr Jim Bacon as Premier of the first majority Labor government since the Lowe government was elected in 1977. In so doing, he achieved the most significant change to the structure of Parliament since the introduction of the Hare–Clark voting system almost 100 years before.

Among a series of proposed initiatives, Mr Rundle foreshadowed a referendum on parliamentary reform. He said that with 54 State MPs and 29 councils, Tasmania was over governed. While academics were critical of what they saw as an erosion of democratic values, business leaders, on the other hand, were critical of uncertainty caused by minority government and too many politicians. They saw economic development as dependent on majority government.

In July the peak industry body, the Tasmanian Chamber of Commerce and Industry (TCCI) released its plan for parliamentary reform: a single chamber house consisting of 40 members with 25 elected from five electorates and 15 elected from single-member electorates. The proposal meant retaining the Hare–Clark system of proportional representation but with a higher quota, which, combined with the 15 single-member electorates, would deliver majority government. The proposal would abolish the Legislative Council, which the TCCI saw as an unnecessary impediment to progress. To others, however, it represented an important and desirable check on unfettered government.

Shortly after, the Hon. Peter Nixon released a radical proposal (see TYB 98 pp51–53) for the creation of a single-chamber Parliament of 27 members, elected from nine, three-member electorates. Mr Nixon also focused on the Legislative Council and minority government as the cause of Tasmania's economic woes. He said governments needed to be able to get on with governing.

The Rundle plan

The foreshadowed Rundle proposal for reform of Parliament was tabled in Parliament on 16 September 1997. It proposed a single-house Parliament, of 28 members elected from four, seven-member electorates plus 12 elected from single-member electorates with a special mechanism for ensuring majority votes in the Parliament. As Mr Rundle knew, the challenge was to get such a proposal through the Legislative Council; Mr Rundle's proposal was to use a referendum that was designed to capitalise on clear public support for a cut in the number of MPs (see special article 'Parliamentary reform') to lead to support for his proposed structure. The Council, however, expressed support for the Labor Party's plan for a bicameral Parliament consisting of a 25-member Assembly elected from five electorates and a 15-member Council elected from single-member electorates. It substantially amended the Bill, killing the proposed referendum, in a manner unacceptable to the government. A compromise proposal for a bicameral 28-seat Assembly and a 12-seat Council also failed to win the support of the Council and the issue appeared dead.

Instead, it rested till May 1998 when it re-emerged in the form of a Labor Party Bill for a 25-seat Assembly and a 15-seat Council. The turning point came when a Liberal backbencher, Mr Bob Cheek, crossed the floor to vote for the ALP proposal. Then to the surprise of even his own Cabinet, Mr Rundle recalled Parliament for a special two-day sitting of Parliament to adopt the ALP's reduction proposal. At the same time, he announced his intention to sell the Hydro-Electric Corporation and the date for an early election. Despite vociferous protests from Tasmanian Green MPs, who could see their seats under threat, the legislation was quickly passed by both Houses, allowing for an election for 25 members. Yet although the proposal was largely welcomed, there were those who argued that it was not 'parliamentary reform'; merely a first step towards a substantial restructuring (see special article 'Parliamentary reform').

Historical background

The public rationale for the reduction in numbers of politicians was over-government; this was given a statistical framework by the Morling Inquiry.

RATIO OF POLITICIANS TO POPULATION

Jurisdiction	Ratio of politicians to population	Politicians per 100,000 population
Federal	1: 114 741	1.26
NSW	1: 42 720	2.34
Vic.	1: 33 850	2.95
Qld	1: 34 454	2.83
SA	1: 18 542	4.71
WA	1: 21 254	5.40
Tas.	1: 8 743	11.42

Source: Report of the Board of Inquiry into the Size and Constitution of the Tasmanian Parliament., 1994

The Tasmanian Parliament was constituted as a bicameral Parliament by the *Constitution Act 1854*, with its first sitting on 2 December 1856. There were 30 members of the Assembly and 15 Councillors. For the next 100 years, the Assembly numbers remained at 30 while the Council numbers rose to 19.

During the 1950s a problem of a deadlocked House developed. As the inaugural 1967 Tasmanian Year Book reported, 'one of the virtues claimed for the Hare-Clark [electoral] system is the adequate representation given to minorities. In a small House of 30 members, this virtue tended to be too evident and led to situations where the government of the day did not have the necessary majority to carry all its legislation with confidence'.

The first solution, to give the minority party the right to nominate the House of Assembly Speaker, was not seen as an adequate provision. The solution proposed was to increase the number of MHAs to an uneven 35, which was done.

It obviously went unnoticed, but the first election under the new provisions produced a 'hung' parliament (17 Labor, 16 Liberal and 2 Independents) prior to a period of 7 elections that produced 'majority' governments.

NUMBERS OF POLITICIANS, RATIO TO POPULATION, TASMANIA

Year	Assembly	Council	Total	Population (a)	Ratio
1856	30	15	45	81 492	1: 1 811
1871	30	16	46	99 328	1: 2 159
1885	30	18	48	115 705	1: 2 411
1898	30	19	49	146 667	1: 2 993
1907	30	18	48	190 745	1: 3 974
1947	30	19	49	267 936	1: 5 468
1958	35	19	54	346 545	1: 6 418
1998	25	15	40	(p) 471 885	1: 11 797

(a) For population figures, actual years were 1857, 1870, 1881, 1891, 1906.

Source: ABS unpublished data, House of Assembly, Legislative Council

This came to an end with the watershed 1989 election. While the Liberal Party won most seats (17), 5 Independents grouped together and produced an 'accord' with the minority Labor Party through which the ALP, with Mr Field as leader, became Government. It didn't work; the 'accord' collapsed and a Liberal majority government was elected in 1992 after an early election called when the Greens threatened a no-confidence motion. During the campaign the ALP vowed not to return to an 'accord' or coalition arrangement, leaving the Liberals in government but as a 'minority' government. But by 1998 their enthusiasm for such an arrangement had waned considerably; under the guise of 'parliamentary reform' the parliament itself was restructured.

REPRESENTATION BY PARTIES, TASMANIAN HOUSE OF ASSEMBLY (a)

Election year	Labor	Liberal	Other
1959	17	16	2
1964	19	16	—
1969	19	16	—
1972	21	14	—
1976	18	17	—
1979	20	15	—
1882	14	19	2
1986	14	19	2
1989	13	17	5
1992	11	19	5
1996	14	16	4
1998 (a)	14	11	1

(a) House of Assembly reduced to 25 seats.

Source: House of Assembly

It was the first majority Government for Labor since the Lowe government (1977–81) and the first for the State since the the Gray government lost office following the 1989 election that resulted in the election of five Green Independents (who subsequently became the Tasmanian Greens).

A new party, Tasmania First, also contested the election. Despite doing well in Lyons, where it gained almost 10%, it failed to win a seat. The Australian Democrats contested three seats for a State-wide vote of 1%.

The next election is due before 14 September 2002.

The Legislative Council

The Legislative Council has the tradition of being a non-party House; in July 1999 the composition of the Council was 11 Independents, 3 Labor Party members and 1 Liberal Party member.

The Leader for the Government in the Legislative Council therefore cannot rely upon a vote taken on party lines to ensure the passage of any Government bill. Contrary to the House of Assembly, where parties usually dominate to ensure the passage of Government legislation, no such certainty exists with legislation through the Council. As a result, it is not unusual for legislation to be amended or even rejected.

Until November 1996, where conflict occurred between the two Houses, 'managers' were appointed from each House to meet and attempt to resolve the dispute. Occasionally, even such 'Managers Conferences' failed to resolve the differences.

In November 1996, by resolution of the House of Assembly, 'Managers Conferences' were abolished. As at April 1999, a Joint Committee was examining the structure of the Parliament following the reduction in the number of members of each House.

Following conflict between the two Houses of Parliament over a money bill during 1924 and 1925, the *Constitutional Amendment Act 1926* was passed. This Act defined the relations between the two Houses especially with regard to the passing of money Bills. The main points of the Act are:

- the Legislative Council retains the right to reject any bill, including a money bill;
- the Council is specifically prevented from

amending bills to raise revenue for the ordinary annual services of the Government and bills imposing land and income tax; and

- it can suggest to the House of Assembly that amendments be made but the adoption or rejection of such amendments is at the discretion of the Assembly.

Apart from the above specific exception, the Council retains the right to amend money bills, such as those dealing with loan funds. The House of Assembly is given the sole right to initiate bills for the raising of revenue and the imposition of taxes. Finally, the powers of the two Houses are declared equal in all matters except for these specific exceptions.

With the passing of legislation to reduce the number of parliamentarians, however, a Joint Select Committee was established to inquire into the working arrangements of the Parliament. The terms of reference of this committee included the Council's power to reject money bills, procedures for resolving disputes and deadlocks, and the system of committees of the Parliament.

Legislative Council electoral boundaries

The commencement of the *Parliamentary Reform Act 1998* on 28 July 1998 set in train the establishment of a Redistribution Committee and Redistribution Tribunal under the provisions of the *Legislative Council Electoral Boundaries Act 1995*. The task facing the Committee was to make an Initial Proposal regarding new electorates to implement the reduction in the size of the Council from 19 electorates to 15, as provided for in the *Parliamentary Reform Act 1998*. The three-membered Committee comprised the chair, the Chief Electoral Officer, Mr David Farrell; the Surveyor-General, Mr Chris Rowe; and a representative, Mr Rod Caswell, nominated by the Australian Statistician. The Redistribution Committee published its Initial Redistribution Proposal on 7 November 1998.

The Redistribution Tribunal of five comprised the chair, a former Judge of the Supreme Court, the Hon. Robert Nettlefold; the members of the Redistribution Committee; and former Secretary of the Department of Justice, Mr Julian Green. The Redistribution Tribunal was charged with the responsibility to conduct hearings into objections to the Initial Redistribution Proposal. There were 20 submissions received and the Tribunal made a Further Redistribution Proposal on 9 January 1999. There were 14 comments, suggestions or objections received in regard to

the Further Redistribution Proposal, and, on 23 January 1999, the Tribunal made a 2nd Further Redistribution Proposal. There were 15 comments, suggestions and objections received but the Redistribution Tribunal reaffirmed the names and boundaries in the 2nd Further Redistribution Proposal without change. The Redistribution Tribunal final Determination of boundaries and names was published on 6 February 1999.

Following the determination of boundaries, the Redistribution Tribunal was charged with the responsibility to determine the transition arrangements to implement the redistribution. On 13 February 1999 the Tribunal called for public submissions. It received 7 written submissions. A hearing was conducted on 29 March 1999 and 6 oral submissions were made.

On 24 April 1999 the Redistribution Tribunal published its Initial Transition Proposal. The main elements of this proposal were the allocation of existing members to new electorates in accord with the 'majority principle' outlined in the Act; the termination of unallocated members terms on 1 July 1999; the compensation payable to the members as a result of their terms being reduced; and the restoration of the periodic cycle of elections for electorates not sharing a common boundary.

The Redistribution Tribunal called for public submissions and comment on the Initial Transition proposal and received 102 written submissions. A further 2 oral submissions were

received at public hearings held on 12 May 1999. The majority of submissions were objecting to the immediate cessation of the terms of the unallocated members. The Redistribution Tribunal published its Transition Determination, which was final, on 26 May 1999. In re-affirming the views it put forward in the Initial Transition Proposal, the Tribunal found that joint membership for the remainder of unallocated members' terms would be costly and inefficient, and would create anomalous situations in Parliament, being at odds with the principle of one vote one value.

At 1 July 1999 the changes in names of electorates and in the number of Councillors became effective.

Legislative Council elections

Members of the Legislative Council are elected by single-member electorates for six-year terms by preferential voting. Elections are held every year to elect either two or three members.

As for the House of Assembly, candidates' names are rotated on the ballot papers. To be elected, a candidate must obtain 50% of the valid votes plus one, including preferences. A valid vote must show at least 3 preferences.

During 1998–99, there were six periodic Legislative Council elections and one by-election (Newdegate). As at July 1999, the President was The Hon. R. F. Bailey and The Hon. S. J. Wilson was Deputy President and Chairman of Committees.

LEGISLATIVE COUNCIL MEMBERS, SEPTEMBER 1999

Electoral division	Member	Party	Term expires
Apsley	Ratray, The Hon. C.L.	Independent	2004
Derwent	Aird, The Hon. M.A. (a)	ALP	2003
Elwick	Crean, The Hon. D.M.	ALP	2004
Huon	Harriss, The Hon. A.P.	Independent	2002
Mersey	Squibb, The Hon. G.B.	Independent	2003
Montgomery	Smith, The Hon. S.L.	Independent	2002
Murchison	Fletcher, The Hon. A.W.	Independent	2005
Nelson	Wilkinson, The Hon. J.S.	Independent	2001
Paterson	Wing, The Hon. D.G.	Independent	2000
Pembroke	Edwards, The Hon. C.	Independent	2005
Rosevears	Bailey, The Hon. R.F. (b)	Independent	2002
Rowallan	Loone, The Hon. J.A.	Independent	2001
Rumney	Thorp, The Hon. L.	ALP	2005
Wellington	Parkinson, The Hon. D.J. (c)	ALP	2000
Windermere	Smith, The Hon. S.J.	ALP	2003

(a) Leader for the Government. (b) President. (c) Deputy Leader for the Government.

Source: *Legislative Council*

Local government

Local government in Tasmania is administered by 29 councils. These include the cities of Hobart, Launceston, Glenorchy, Devonport, Burnie and Clarence. They provide services such as garbage and waste disposal facilities, roads and footpaths, drainage, health inspection, parks, recreation facilities, gardens, cemeteries, community centres, and water supply and sewerage as prescribed under Section 20 of the *Local Government Act 1993*.

In Tasmania during the early to mid 1800s, 2 Councils (Hobart and Launceston) were established and by 1863, 16 rural municipalities co-existed with police districts. These were replaced in 1865 by 30 municipalities, and in the years following by a number of Boards and Trusts providing local government services. By 1906, local government services were provided through 149 local authorities.

MAYORS, JUNE 1999

Council	Mayor
Break O'Day	Cr Robert Legge
Brighton	Cr Tony Foster
Burnie City	Ald. David Currie
Central Coast	Cr Michael Downie
Central Highlands	Cr Geoff Ashton-Jones
Circular Head	Cr Ross Hine
Clarence City	Ald. Cathy Edwards
Derwent Valley	Cr Tim Morris
Devonport City	Ald. Mary Binks
Dorset	Cr Yvonne Thorne
Flinders	Cr Lynn Mason
George Town	Cr Lawrence Archer
Glamorgan/Spring Bay	Cr E. A. (Bill) Bailey
Glenorchy City	Ald. Terry Martin
Hobart City	Ald. Rob Valentine
Huon Valley	Cr Greg Norris
Kentish	Cr Roger Gee
Kingborough	Cr Reg S. Gee
King Island	Cr Vernon Philbey
Latrobe	Cr Bert Campbell
Launceston City	Ald. John Lees
Meander Valley	Cr Greg Hall
Northern Midlands	Cr Kenneth von Bibra
Sorell	Cr Carmel Torenus
Southern Midlands	Cr Colin Howlett
Tasman	Cr Neil Noye
Waratah/Wynyard	Cr Cyril Dixon
West Coast	Cr Murray Waller
West Tamar	Cr Max Burr

Source: Local Government Association of Tasmania

As a result of the Local Government Act in 1906, all local authorities, excluding Hobart and Launceston, were abolished and replaced by 47 municipalities. These 49 municipal and city areas remained unaltered until 1993 when amalgamations reduced the number of councils to 29.

A new Local Government Act, established in 1993, provided for a high level of 'competence power'. This has changed the focus of local government accountability from the State to the communities that they serve. The Act enables local government to take reasonable measures needed to give effect to their decisions, rather than being restricted to exercise only those few powers that are actually listed, as was the case with the former Local Government Act.

Two reviews undertaken in 1993 (the Report on the Independent Commission to Review Public Sector Finance [*McCarrey Report, 1993*] and the Report of the Independent Committee of Inquiry into National Competition Policy [*Hilmer Report, 1993*]) have resulted in the introduction of initiatives and reforms that are gradually being implemented throughout State and local government in Tasmania and more widely throughout Australia.

A number of councils have adopted new organisational structures that incorporate the separation of business units from normal activities. Full cost attribution has been applied to most council operations and transparent pricing policies are being implemented. Bylaws and policies are being reviewed to remove impediments to competition.

In April 1997 then Premier, the Hon. Tony Rundle MHA, released his Government's *Directions Statement* for Tasmania, with reform to local government a major issue. A major plank was a further review of local government boundaries to substantially reduce the number of local government bodies in Tasmania, and create a greater Hobart Council and greater Launceston Council.

This proposal became a significant issue in the 1998 State election. The ALP opposed further boundary rationalisation, and with its election to government, the proposal was dropped.

Parliamentary reform

In 1998 Tasmania's bi-cameral Parliament reduced its overall numbers by 26% and its lower or governing house by 28%. Coming almost exactly 100 years after the introduction State-wide of the Hare–Clark electoral system of proportional representation, it was arguably the most significant change since that event; comparatively it was a massive change.

It was achieved amid the applause of many, mainly business and media interests, but to the anguish of others who saw the foundations of democratic representation severely strained.

Two critics of the move were notable for recognising that Tasmania's Parliament did need overhauling but their remedies were different from the reduction in numbers strategy. In 1997 Dr Ralph Chapman, formerly a member of the Morling Board of Inquiry into the Size and Composition of the Tasmanian Parliament, wrote an article that was prominently reported in the *Mercury* newspaper and is featured below. At the end of 1998 Harry Evans, Clerk of the Senate, gave a paper to the Australasian Study of Parliament Group's 20th Annual Conference proposing a similar parliamentary structure; an edited version is produced below.

~ Extract from 'Goodbye Westminster?
A Small State Perspective on Changing Political Institutions'

by Dr Ralph Chapman,
Honorary Associate, Department of Government, University of Tasmania ~

There are two alternative broad options for replacing Westminster. One is to move in the direction of a presidential executive system, the other is a different type of liberal democratic parliamentary system. Around the world there are numerous examples of parliamentary democracies in which legislature and executive are separate and which do not regard themselves as executive presidential systems because of the way in which accountability is maintained. The two offices of head of state and head of government can remain separate but as the representatives of the people parliament must retain the necessary authority to give legitimacy to those who govern.

Liberal democratic government demands an absolute commitment to governing in the public interest, on behalf of all people in the state. Accountability to the people for government actions is therefore of critical importance. Parliament must be so structured and its procedures so organised as to provide for true representation and accountability. A unicameral parliament is in greater danger of succumbing to executive dominance unless provisions to curb such occurrences are constitutionally entrenched. Parliament must be able to act as a forum for

public discussion rather than merely a theatre in which to dramatise the two party adversarial charade. Legislation and policies must be exposed to public debate and criticism through parliament.

Calling those clothed with state authority to account is a prime function of parliamentary democracies. In small states to ensure this happens solely through parliament is extremely difficult. Other means must be employed, such as an extra-parliamentary form of administrative law, including an ombudsman and freedom of information legislation.

A proposal

One possible institutional design for a single house in a state with a small population like Tasmania, is outlined below. It is intended to incorporate all the above facets. One issue on which I remain ambivalent is whether the parliament should appoint and dismiss the government. While I accept that parliament is not sovereign, in this proposal I am not certain that it is enough to rely on direct election of the premier and the representativeness of the parliament. I have therefore retained the need for there to be a constructive vote of confidence in the

premier much as occurs in the German Bundestag. The alternative would be some form of impeachment proceedings but this seems to much like letting the horse bolt when we could have shut the stable doors first.

- Tasmania would have a unicameral Legislative Assembly of 40 members elected from the four electorates (rather than the existing five based on federal electoral boundaries) using the Hare–Clark electoral system of proportional representation. This method of voting has strong and unequivocal public support in Tasmania, enabling and encouraging the expression of community values in its political representation. Having ten members in each electorate will ensure a low quota, guaranteeing the return of independents and minor parties, therefore broadening the representativeness of the parliament and decreasing opportunity for major parties to be sure of majorities.
- The link between the Legislature and the Executive will be broken by electing the Premier by a popular statewide vote. The election will be for a four year term with no opportunity to go to the people at will, as is now the case (although subject to some limits). The Constitution must provide for unforeseen eventualities such as death in office, corruption, maladministration, etc. and also for a situation where the Premier loses the confidence of the parliament.
- The Premier, once elected, must appoint no more than five ministers who will form the Executive. They must not be members of parliament but must be on the Tasmanian electoral roll. Their appointment will be subject to the formal approval of parliament. This procedure will ensure that the separation of legislature and executive will be maintained and the executive remains accountable, collectively and individually, to parliament.
- Because the ministers will not be members of parliament, procedures will be required to ensure they can introduce their legislation personally and be called before either the whole of parliament or its committees. A system of rostering ministers to appear before committees should be implemented. A committee system with power to subpoena is an essential aspect of accountability with separation of powers. A Legislative Assembly of 40 members will contain enough members to form a highly effective committee system. It is unlikely that the Executive would be able to control its operations through a majority on the floor of the House so it would be free to function as a strong constraint on government. At the same time it would be able to involve interested groups and community organisations in its deliberations engendering a participative political climate appropriate for a small population. A committee system would have to be protected in some way against the money power of the executive. It could be entrenched in the Constitution to ensure its protection from executive intervention or parliament could ensure control of funds for its functions.
- The organisation of the public service would be at the discretion of the Premier as would allocation of portfolios amongst appointees. There are a number of possible options from one for each executive (no longer cabinet) member to having each member responsible for several (as is now the case). Whatever is decided the CEOs of departments, i.e. appointed officials, would be required to appear before Legislative Assembly committees, if requested. The distinction, currently practised, between policy and operations (administration) would not prevail and CEOs would be able to be questioned on any aspect of their activity as part of government accountability. A body similar to a Public Service Commission would be needed to prevent nepotism etc.
- Parliamentary procedures would have to be changed and standing orders re-written. While the Premier or a proxy, would be required to attend Assembly sittings. Ministers whose legislation is before the Assembly will also be required to attend. They would not have a vote in the Assembly. There would be no

Question Time as at present and much of the effort that now goes into that would become part of the committee system. This would give much more time for debate on the policies for which legislation or regulation is required. It would also open up the opportunities for individuals and communities to become part of that process by their attendance at Assembly and committee sittings.

- A number of extra-parliamentary arrangements for accountability, such as the Ombudsman, the Auditor General, the various Commissions for Human Rights, against discrimination and corruption should be retained. Their establishment and functions should be constitutionally entrenched as directly responsible to the Legislative Assembly not the executive.

The above outline has not addressed many questions of detail but it is argued that there is sufficient to enable others to assess its

potential. Essentially, the proposals will guarantee the seven critical purposes of a democratic parliamentary system and the five functions of an effective parliament. It allows the community opportunities for involvement in political issues other than merely by protest rallies and confrontation. It removes the highly damaging adversarial two party and two house conflict which has the effect of making parliament irrelevant to the people. This proposal balances the exercise by the collectivity of final control over the agenda of government concerns and a commitment to individual liberty which Hindess posits as the essence of democracy. (B. Hindess "Democracy and disenchantment" *Journal of Australian Political Science* 1997 32(1) p. 83) It inhibits political arrangements tending to exclude the direct involvement of the people in their government, especially where a small population makes this probable.

~ Edited version of 'Constitutional Safeguards, Bicameralism, Small Jurisdictions and Tasmania'

by Harry Evans, Clerk of the Senate ~

Two of the primary difficulties of framing a satisfactory system of government are, first, to provide constitutional safeguards which are effective, and secondly, to provide such safeguards in small jurisdictions.

The aim of constitutional government is the avoidance of simple majoritarianism. In practice this means the avoidance of the situation where a political party which gains a simple majority, which is usually less than 50% of the total votes, rules the country. This form of government is exemplified by the so-called 'Westminster system' whereby such a party controls the legislature and forms the government. In the Australian context this means, or would mean but for constitutional safeguards, that the leaders of the faction which controls the party which gained the majority, rules the country.

Simple majoritarianism tends to destabilise democracies, because it produces overbearing majorities and alienated minorities. Simple majority government is

more easily captured by a self-perpetuating faction to bring about this situation.

The cure for the evils of simple majoritarianism are institutional arrangements, particularly in the construction of the legislature, to encourage the formation of distributed majorities. If institutions require, for the making of major political decisions, the support of majorities distributed across different groups in society and different regions, factional government is made more acceptable and stable.

Federalism is a particular institutional arrangement which seeks to ensure the formation of distributed majorities by requiring special majorities for the passage of laws. But in the individual states of the federation this safeguard does not operate. How then are safeguards to operate at the state level.

Small jurisdictions pose particular problems. Structures to ensure constitutional

government are inevitably complex and difficult to maintain; they are also relatively more expensive in small jurisdictions, yet have to operate often in a climate of concern about cost of government.

Tasmania has provided a particular manifestation of this problem. The moves to create a smaller parliament are an indication of the natural tendency to simplicity and economy of government. With a small legislature however, it is more difficult to secure adequate representation of all shades of opinion, and this makes an undistributed factional majority more likely. It also undermines a fundamental virtue of legislation by representative assembly, that of adequate deliberation as a small assembly tends to become more like a caucus and deliberation is contracted. In short constitutional government can be weakened by mere changes in the size of the legislature. There is an optimum size for a legislature which is not related to the size of the electorate and Tasmania is now below this optimum size.

There is a further problem; the maintenance of cabinet government where a Ministry is appointed from the majority and a shadow ministry from the minority. This is a system which evolved in a house of over 600 members. With a small house there are too few backbenchers left to undertake the parliamentary roles of monitoring executive activities and scrutinising legislation. The proper performance of such roles depends on there being significant numbers of

backbenchers who have no hope of ever reaching the front bench and therefore have no incentive to be either servile to their party leaders or simply troublesome in the hope of gaining promotion.

There is also the problem of restricting the choice of ministers to a small pool of candidates. This leads to the conclusion that cabinet government cannot work properly in small jurisdictions with small assemblies. It simply becomes a form of absolutism: the cabinet controls the legislative as well the executive power.

Difficult problems require radical solutions. The houses of parliament of the state could continue with their current composition and powers. At the same time as the lower house is elected, a governor would be directly and separately elected by the electorate. The governor would be head of state as well as head of government and would appoint a small cabinet of ministers from outside the parliament, thus enlarging the ministerial talent pool. The parliament would perform the legislative functions of passing laws and scrutinising the operation of government. As governor and parliament would each be elected for a fixed term, there would be no power of dissolution and no early elections.

It is suggested that the houses have the ability to scrutinise, but not to veto, executive appointments while an executive veto of legislation could be overridden by a special majority of the houses.

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CHAPTER 5

Law and police services



Photo: Tasmania Police

Speed camera operations have reduced the incidence of speeding vehicles. In 1997–98, speed detection devices were used to check 8,759,932 vehicles.

Tasmania's laws, legal system and institutions are derived from those of Britain. For a time English law applied directly to the colony. By the time of Federation in 1901, all Australian States had a legal system firmly based on the Common Law of England. With Federation, Tasmanians also became subject to Commonwealth laws enforced by administratively separate institutions.

The legal system is based on the political and philosophical ideal called the rule of law. This means that a person's relations with other people and the State are governed by law, not by force or arbitrary power. The Parliament enacts the law and officers who administer the law are responsible, through Parliament, to the people.

Another principle of the rule of law is that no person should be deprived of his life, liberty or property, except by fair trial in an open court presided over by impartial judges. In law, all people are equal.

Australia has two sources of law: case law and statute law. Case law, or common law, consists of rules resulting from the decisions of the courts. When a case comes before the courts, the judges generally apply the law as laid down or interpreted by earlier courts that decided similar cases. Statute law is made by the Commonwealth and State Parliaments within powers set out in their respective constitutions. Acts also give power to the Governor or a Minister to make regulations, rules, ordinances or bylaws.

Most laws fall into one of two categories: criminal or civil. Crime involves an offence against the community and punishment by the State. Civil wrong is a wrong against an individual that calls for compensation or repayment to the person wronged. Crimes are prosecuted by the State (or Commonwealth), while it is up to the individual to take a court case against a person who has committed a civil wrong.

Police

The State government agency Tasmania Police is directed by a Police Commissioner who is also the Secretary of the Department of Police and Public Safety and answerable to that Minister.

The State Emergency Service (SES) is part of the Department and operates under provisions of the *Emergency Service Act 1976*. The SES is responsible for the adequate preparedness of Tasmania in the event of an emergency or act of aggression (civil defence).

The vision of Tasmania Police is to be widely recognised as a premier police organisation. Its mission is to ensure that Tasmania is the safest State in the nation.

Overview

Significant internal reform was achieved in 1998. The building of a State-wide police call centre, continued rollout of personal computers with standardised software to stations and the phased implementation of a new mobile radio system had a major impact on operational police effectiveness.

A Customer Service Charter was completed and promoted throughout the agency and the Crime Prevention and Community Safety Council has commenced a number of research-based projects. The Council was formed to expand existing approaches to crime control and to focus on crime prevention, including a pilot project to reduce the incidence of repeat burglary victimisation and involvement in the National Fear of Crime Project.

Funding of \$100,000 from the Commonwealth Government's National Campaign Against Violence was used to establish a Secretariat to provide administrative and research support to the Council. The Council, chaired by the Commissioner of Police, consists of 11 members who come from business, public and community organisations.

Legislation

New legislation in relation to illegal drug use, telecommunication interception powers, witness protection and dangerous weapons has been proposed. This has the capacity to enhance operational policing and strengthen the capacity to solve crime.

Under consideration to replace the *Police Regulation Act 1898* is a new Police Act, which is designed to reflect modern management

practices as well as a partnership approach to law and order and community safety.

Police structure

At 30 June 1998, Tasmania's police service consisted of 1,092 officers supported by 380 State Service personnel in a number of specialist and administrative areas. Of these, 25 were employed full-time by the SES.

TASMANIA POLICE EMPLOYEES (POLICE AWARD)

	June 1997	June 1998
Commissioner (a)	1	1
Assistant Commissioner	2	2
Superintendent	8	8
Inspector	43	47
Sergeant	185	186
Constable	792	792
Trainee Constable	38	60
Total (b)	1 069	1 096

(a) The Police Commissioner is classed under the State Service Award. (b) Total includes 12 part-time officers.

Source: Department of Police and Public Safety, Annual Report 1997-98

A restructuring and refocusing of regional Criminal Investigation Branches resulted in significant improvements in crime clear-up rates. An integrated approach to crime-scene management is being developed that focuses equally on pro-active crime-reduction strategies and investigative aspects of crime detection.

Diversion projects

The department is currently reviewing its policy of providing young people with an alternative to the formal judicial process in an attempt to ensure that greater numbers of offenders receive a caution or are conferenced through the diversionary conferencing process.

The issue of a caution to first-time cannabis offenders aims to prevent the stigmatisation and criminalisation of young offenders, while at the same time reinforcing the illegality of this behaviour. The cautioning process also provides offenders with current information about the health and legal ramifications of cannabis use.

Preparation is well advanced to introduce cautioning trials for motorists who commit minor traffic offences. Cautioning is both an educative and deterrent process as well as a viable alternative to prosecution.

Business process improvements

The police call centre allows operational police to report crime information from the field and uses a data entry centre with browse technology to record and transfer data. There is no need for officers to return to the station to produce a report; the information is available State-wide to police; there is complete, accurate and standardised collection of information across all districts; and the customer is given enhanced service at the crime scene.

The replacement of the mobile radio network with a digital network and integration of communications into a central area has created greater efficiencies, lower maintenance costs and improved standards and procedures. Unauthorised persons can no longer 'scan' the airwaves and pick up police communications but, in line with the policy of facilitation, the media have been placed on a pager network to advise them of any incidents that may be of interest.

The standardisation of a computer environment across all police stations is a long-term project with all computers now being leased, ensuring machines are contemporary.

Major operational incidents

During the first part 1997–98, forest protests and the national waterside disputes placed additional demands on both staff and the department's budget. There were:

- 4 murder investigations;
- over 60 separate deliberately lit fires in the Devonport area; and
- 1,000 protestors blockading the forests at Mother Cummings Peak.

Crime**Offences against property**

The number of offences against property in 1997–98 was 59,190 compared with 54,382 recorded in 1996–97, an increase of 8.8%. This percentage increase for property offences is lower than the 13.8% increase recorded between 1995–96 and 1996–97. Offences relating to burglary of motor vehicles and damage to property increased substantially in 1997–98 (20% and 13% respectively), whereas burglary of buildings increased by 7%.

Offences against the person

The number of recorded offences against the person in 1997–98 was 2,788 compared with 2,538 recorded the previous year, an increase of 9.9%. An upward trend is evident over the past seven years with a slight decrease in 1996–97. The clearance rate for recorded offences against the person was 62% in 1997–98, an improvement of approximately 3% compared with the previous year.

RECORDED OFFENCES, TASMANIA

	1996–97 no.	1997–98 no.
Offences against the person	2 538	2 788
Offences against property	54 382	59 190
Fraud and similar offences	1 647	1 931
Other offences	157	161
Total	58 724	64 070

Source: Department of Police and Public Safety, Annual Reports

RECORDED OFFENCES, TASMANIA

	Rate per 100,000 population			
	1988–89	1995–96	1996–97	1997–98
Offences against the person	347	567	535	590
Offences against property	6 692	10 081	11 471	12 522
Fraud and similar offences	330	396	347	409
Assault (excl. sexual assault/assault police)	240	412	398	435
Sexual assault	32	41	45	55
Robbery (armed/unarmed)	12	28	32	38
Murder (a)	0	8	1	1
Burglary—buildings	1 701	2 547	2 873	3 087
Burglary—motor vehicles/other conveyances	493	917	1 083	1 304
Stealing—general (b)	1 399	1 551	1 826	1 822
Stealing—motor vehicles	276	547	582	605
Damage to property	714	1 245	1 351	1 525

(a) 35 Murders out of a total of 40 recorded in 1995–96 were committed at Port Arthur on 28 April 1996. (b) Stealing not connected with burglary and excluding shoplifting and stealing motor vehicles.

Source: Department of Police and Public Safety, Annual Reports

Drug law enforcement

Cannabis remains the most widely available drug in Tasmania and the Department has recently implemented a cannabis cautioning program for people found using or in possession of less than 50 grams of the substance.

Emergency management

Local government authorities with the assistance of municipal emergency management committees and the SES are responsible for developing and maintaining emergency management plans for their geographical areas. It is important that these plans are kept up to date and, as a rule of thumb, a full review once every two years is considered appropriate.

The Department has had a comparatively uneventful year in relation to major emergencies. Work has concentrated on consolidating preparedness of the State in an emergency. SES volunteers were active, however, in many non-major incidents and emergencies.

Perceptions of community safety

Just over three-quarters of Tasmanians aged 18 years and over believe that their neighbourhood has some crime or public nuisance problems, according to a community safety survey conducted throughout the State in October 1998.

The problems most commonly were housebreakings, dangerous/noisy driving and theft from motor vehicles. An estimated 96.7% of Tasmanians aged 18 years and over (330,200) believed there was a chance that their home could be broken into; 95.5% (326,100) believed there was a chance that their home/motor vehicle may be damaged; and 90.5% (308,900) believed there was a likelihood that they would be attacked or threatened by a stranger.

Concerns about the safety of public places at night was also expressed, particularly by victims of crime. An estimated 86.3% (40,300) of those who had experienced victimisation believed public toilets to be unsafe and 82.5% (38,500) perceived parks to be unsafe. Other public places commonly perceived to be unsafe by victims of crime included car parks (73.0%); bus terminals, bus malls and bus stops (65.5%); and shopping centres and shopping malls (64.2%).

Approximately 60.9% (207,900) of Tasmanians aged 18 years and over had been the victim of some sort of crime. Housebreakings (26.0%) and motor vehicle breakings (25.9%) were the most

PERCEPTION OF RISK OF BECOMING A VICTIM OF SELECTED CRIMES, OCTOBER 1998

	Persons '000
Chance of having home broken into	
High chance	59.1
Some chance	271.1
No chance	9.0
Not stated	2.2
Chance of having motor vehicle broken into	
High chance	63.1
Some chance	234.0
No chance	11.7
Does not have motor vehicle	28.9
Not stated	3.8
Chance of having motor vehicle stolen	
High chance	49.4
Some chance	243.7
No chance	15.6
Does not have motor vehicle	28.9
Not stated	3.8
Chance of being mugged and robbed	
High chance	24.1
Some chance	285.0
No chance	28.9
Not stated	3.5
Chance of having home/motor vehicle damaged	
High chance	50.1
Some chance	276.0
No chance	12.3
Not stated	3.0
Chance of being attacked/threatened by known people	
High chance	10.8
Some chance	187.9
No chance	139.2
Not stated	3.6
Chance of being attacked/threatened by a stranger	
High chance	26.7
Some chance	282.2
No chance	28.4
Not stated	4.1
Total	341.5

Source: ABS catalogue no. 4515.6

common types of victimisation, followed by home, motor vehicle or other property damage (25.1%). Some 12.1% of the female population aged 18 years and over (21,200) stated that they had been sexually assaulted by a known person(s), and/or by a stranger. The attacker in the majority of these cases was a person or persons known to the victim (17,800).

Road traffic control

The Traffic Branch is responsible for providing services aimed at minimising road trauma, improving the behaviour of road users, ensuring the free flow of traffic, responding to traffic

offences particularly those involving speed and alcohol or drugs, and attending vehicle accidents.

Dedicated traffic branches are located in each district with traffic policing operations supplemented by general uniform police, who also provide additional police for major road safety campaigns.

The Motor Accident Insurance Board has agreed to continue funding an integrated road safety strategy with the Transport Division of the Department of Infrastructure, Energy and Resources. This involves an educational campaign in the print media and on television together with a special Road Safety Task Force comprising speed camera operators and police, who have concentrated on random breath testing and other targeted operations.

The road toll

The number of road fatalities decreased in 1997–98 to 37, from 43 in 1996–97; 1997 was one of the most successful road safety years on record. There was also a decrease in the number of persons who suffered a serious injury as the result of a road accident, from 452 in 1996–97 to 413 persons in 1997–98.

ROAD ACCIDENT FATALITIES, TASMANIA

	1996–97 no.	1997–98 no.
Drivers	21	17
Passengers	17	7
Motorcyclists	2	7
Cyclists	1	0
Pedestrians	2	6
Total	43	37

Source: Transport Division, Department of Infrastructure, Energy and Resources

SERIOUS INJURIES AND ROAD ACCIDENTS, TASMANIA

	1996–97 no.	1997–98 no.
Serious injuries (persons)	452	413
Serious injury accidents	344	342

Source: Transport Division, Department of Infrastructure, Energy and Resources

In 1997–98 speed detection devices saw 8,759,932 vehicles checked, compared with 6,317,144 in 1996–97.

To counter the high number of fatal and crash injury road accidents on rural roads, the Department increased its overall speed camera

kerbside hours as well as devoting 50% of activity to designated rural areas.

SPEED CAMERA OPERATIONS, TASMANIA

	1996–97 no.	1997–98 no.
Vehicles checked	6 317 144	8 759 932
Photographs taken	70 422	64 975
Notices issued	46 482	45 059
Notices paid	37 428	35 316
Kerbside hours	15 459	33 423
% Speeding vehicles	1.00%	0.74%
Fines (\$)	3 400 000	2 825 280

Source: Department of Police and Public Safety, Annual Reports

Protection of resources

Primary industry resources

Tasmania continues to be the only Australian State licensed under United Nations Convention to grow opium poppies. The industry is economically important to Tasmania and indications are that it will remain so for the foreseeable future.

Tasmania Police, in liaison with the Poppy Advisory Control Board (PACB), was again responsible for the security of the poppy crop for the 1997–98 season, from October 1997 until March 1998. Poppy-crop protection and apprehension of offenders is the responsibility of the Poppy Task Force, which is established for the growing season.

The trial of high thebaine poppies, representing 20% of the crop, presented two areas of concern: firstly, security, and secondly, concerns about public health and safety. A policy was adopted of having thebaine crops grown in areas that were not primarily beside main roads, with the crops being restricted to the north and north-west of the State.

For the sixth year in a row, major interference to and thefts of poppies were down on the previous year in spite of the continued expansion of the industry.

Fisheries resources

The Department's Marine Division has both a preventative and enforcement role in Commonwealth and State waters south of latitude 39°12' south. The Marine Division is responsible for policing the State's abalone, rock lobster, crab and scale fisheries. The Commonwealth funds the Department to monitor Commonwealth fisheries within Tasmania's responsibility.

A number of major operations were conducted offshore in Commonwealth waters in 1997–98. Marine officers collaborated closely with police from other jurisdictions in an attempt to counter the activities of illegal poachers. Enforcement strategies led to a number of prosecutions for illegal fishing and substantial penalties were imposed by the Courts. These penalties are in recognition of the seriousness of fisheries offences and the damage that illegal fishing can cause to an important State fishery.

Courts

Tasmanian courts form part of a multi-layered system that incorporates both federal and State jurisdictions. Under the Australian constitutional system, legislative, executive and judicial powers are divided between the States and Commonwealth. As a result, there is a demarcation between the types of matters that may be dealt with in State and federal courts. For example, family law issues come within the jurisdiction of the Federal Parliament and are dealt with in a federal court called the Family Court of Australia and disputes arising under federal laws are largely dealt with in the Federal Court of Australia.

Court systems are hierarchical. At one level in Tasmania is the Magistrates Court, as well as a number of tribunals that deal with specialised matters such as workers compensation, land use and other areas of law. Above these courts and tribunals is the Supreme Court of Tasmania.

The courts and tribunals are usually open to the public, although some, such as Children's Courts, may restrict access.

Tasmanian Supreme Court

On 10 May 1999 the Supreme Court celebrated the 175th anniversary of its establishment. This makes the Tasmanian Supreme Court the oldest Supreme Court in Australia.

The first sitting of the Supreme Court was to try one William Tibbs for the crime of manslaughter. Mr Tibbs was convicted. The court was kept busy in the early years dealing with criminal matters: 302 criminals were ordered to be hanged between 1826 and 1842 alone.

Civil and criminal matters were both dealt with in the first court complex on the corner of Murray and Macquarie streets in Hobart. However, in 1860 the Holy Trinity Church at the junction of

Brisbane and Campbell streets was converted into a criminal court and a new court for civil cases was opened in the Public Buildings in Macquarie Street in Hobart. The court was unified in 1980, when the final phase of the new purpose-designed complex was opened at Salamanca Place.

The court has also sat regularly in Launceston since the 1850s. It has occupied the present site in Cameron Street since 1929, although the Launceston District Registry was not opened until 1940. Sittings of the Supreme Court also began on the North West Coast in the nineteenth century. They are now restricted to the Burnie Courthouse in Alexander Street.

Jurisdiction

Except in those matters excluded from it by specific legislation, the Supreme Court has unlimited jurisdiction in civil matters under Tasmanian law and exclusive jurisdiction in criminal matters under Tasmanian law. It also has jurisdiction, although not exclusive jurisdiction, to deal with criminal matters and some civil matters arising under federal law.

The court's jurisdiction falls into two categories: matters in which it exercises original jurisdiction and matters in which it has an appellate

The Supreme Court of Tasmania

Chief Justice

The Hon. Mr Justice William Cox,
appointed 1995.

Puisne Judges

The Hon. Mr Justice Peter Underwood,
appointed 1984.

The Hon. Mr Justice Christopher Wright,
appointed 1986.

The Hon. Mr Justice Ewan Crawford,
appointed 1988.

The Hon. Mr Justice Pierre Slicer,
appointed 1991.

The Hon. Mr Justice Peter Evans,
appointed 1998.

CHIEF JUSTICES SINCE 1900

Names	From	To
Sir John Stokell Dodds, KCMG	20.10.1898	23.06.1914
Sir Herbert Nicholls, KCMG	01.07.1914	31.10.1937
Hon. Sir Harold Crisp Kt.	21.12.1937	14.04.1940
Hon. Sir John D. Morris, KCMG	15.04.1940	03.07.1956
Hon. Sir Stanley Charles Burbury, KBE	28.08.1956	29.10.1973
Hon. Sir Guy Stephen Montague Green, AC, KBE	30.10.1973	01.09.1995
Hon. William John Ellis Cox, RFD, ED	04.09.1995	present

Source: Department of Justice

jurisdiction. Original jurisdiction means that a matter comes before the court for decision for the first time, whereas the appellate jurisdiction involves the court in determining appeals from other courts and tribunals.

Original jurisdiction*Criminal law matters*

People accused of serious offences, called crimes or indictable offences, are dealt with in the Supreme Court. Preliminary hearings are conducted in the Magistrates Court. If the defendant pleads guilty it is ordered that he or she appear in the Supreme Court for sentencing by a judge. If the defendant pleads not guilty and there is to be a trial, it is ordered that he or she appear in the Supreme Court for trial, by a jury of twelve people in a court presided over by a judge. Those found guilty by the jury are then sentenced by the judge. When the Supreme Court deals with criminal matters it is often referred to as the Criminal Court.

In 1997–98, approximately 78.2% of persons presented in the Supreme Court were convicted. This compares to 77.6% in the previous year and 69% in 1990–91.

Of all people presented in the Supreme Court in 1997–98, approximately 7% were acquitted, compared to 6% in the previous year. In 1990–91, this figure was almost 10%.

In 1997–98, of all persons presented in the Supreme Court, almost 15% were discharged, which compared to approximately 13% in the previous year and almost 19% in 1990–91.

Common crime

In 1997–98, of common crime prosecutions in the Supreme Court, the highest number of prosecutions was recorded for burglary and stealing including aggravated burglary and stealing (115), followed by aggravated robbery (32), assault (26) and stealing (26). There were 10 fewer prosecutions for arson, and 9 fewer prosecutions for rape than the previous year.

Civil law matters

While the Supreme Court has jurisdiction in all civil matters, normally only those matters involving a dispute over a sum in excess of \$20,000 are dealt with in this court. These cases are usually tried by a judge, but in some cases, at the election of a party, by a jury of seven people in a court presided over by a judge.

TASMANIAN SUPREME COURT, CRIMINAL PROSECUTIONS

	Persons presented no.	Persons convicted no.	Persons acquitted no.	Persons discharged no.	Persons absconding no.
1992–93	330	250	28	52	18
1993–94	316	237	20	59	6
1994–95	327	249	9	69	3
1995–96	324	255	14	55	4
1996–97	309	240	20	39	6
1997–98	335	262	24	49	14

Source: Director Public Prosecutions, Annual Report 1995–96

TASMANIAN SUPREME COURT, COMMON CRIME PROSECUTION

Offence	1992-93 no.	1993-94 no.	1994-95 no.	1995-96 no.	1996-97 no.	1997-98 no.
Burglary and stealing	51	70	70	60	51	115
Stealing	21	16	16	10	16	26
Unlawful sexual intercourse	5	5	13	4	4	5
Aggravated robbery	33	38	37	50	37	32
Fraud and false pretences	17	3	10	14	7	10
Dangerous driving	6	3	0	1	0	1
Rape	17	25	12	10	17	8
Arson	13	11	21	23	17	7
Selling and trafficking in dangerous drugs	39	25	19	18	22	18
Receiving	11	12	12	11	9	10
Assault	38	30	22	48	35	26
Murder	1	4	4	1	4	0
Manslaughter or causing death by dangerous driving	4	1	3	3	5	2

Source: Director Public Prosecutions, Annual Reports

Appellate jurisdiction*Appeals from lower courts and tribunals*

There is a right of appeal to the Supreme Court from the decision of a Magistrates Court and from most tribunals, although in some cases only on questions of law and not on questions of fact.

Criminal matters

Appeals from the decision of a Supreme Court judge and jury are usually heard by a court consisting of three or more Supreme Court judges, called the Court of Criminal Appeal. A convicted person may appeal either his/her conviction or the sentence imposed.

Civil matters

Where a matter has been determined by a single judge of the Supreme Court, or a judge and jury, in a civil matter, a party has a right of appeal to a court consisting of three or more Supreme Court judges. This is called the Full Court of the Supreme Court.

Magistrates Court

The Magistrates Court (the Tasmanian lower court) consists of a Chief Magistrate, a Deputy Chief Magistrate and Magistrates who are formally appointed by the Governor on the advice of the government of the day. By virtue of their office, Magistrates are also Justices of the Peace, and Coroners. In addition, Magistrates sit as chairpersons of various statutory tribunals, such as the Sex Discrimination Tribunal, the Police Disciplinary Tribunal and the Mining Division. As a result of this diversity of offices, the Magistrates Court handles a wide variety of legal actions.

The court sits on a permanent basis in 4 cities in Tasmania: Hobart, Launceston, Devonport and

Burnie. Magistrates also sit in 18 country courts on a regular circuit basis.

At August 1999, there were 12 Magistrates appointed to sit in the various jurisdictions of the court; with 7 based in Hobart, 3 based in Launceston, 1 in Devonport, and 1 in Burnie.

There were 68 administrative staff employed in the 4 permanent court registries.

The Magistrates Court also utilises the services of lay Justices of the Peace to conduct out-of-hours courts and adjudicate most minor traffic offences.

Courts of Petty Sessions

Magistrates in Courts of Petty Sessions hear and determine simple offences, crimes triable summarily under State and Commonwealth legislation, breaches of duty, applications under various State and Commonwealth statutes, and exercise a wide range of appellate, review functions and licensing functions. Magistrates also hear simple and indictable offences in the Children's Court as well as exercising child-protection and welfare responsibilities under various Acts for children and young people up to the age of 17 years.

The most common offences are drink driving and less serious instances of stealing, assault and drug offences.

In more serious criminal cases like murder, manslaughter or conspiracy to pervert the course of justice, Magistrates may hold preliminary (committal) hearings. These hearings are held to decide whether there is enough evidence to send the accused person to a higher court for trial.

COURTS OF PETTY SESSIONS, LODGEMENTS (a)

	1996 no.	1997 no.	1998 no.
Hobart	21 547	25 833	27 749
Launceston	14 447	12 345	14 395
Devonport	6 174	5 833	5 780
Burnie	5 256	4 861	5 069
Total	47 424	48 872	52 993

(a) Traffic Infringement Notices.

Source: Department of Justice, Annual Report 1995–96

**COURTS OF REQUESTS/CIVIL DIVISION
LODGEMENTS**

	1995 no.	1996 no.	1997 no.	1998 no.
Hobart	8 923	7 537	7 340	7 398
Launceston	2 646	2 835	2 427	631
Devonport	1 577	1 432	1 239	347
Burnie	1 626	2 519	1 558	1 569
Total	14 772	14 323	12 564	9 945

Source: Department of Justice

Civil Division

On 30 March 1998, the Civil Division of the Magistrates Court commenced with the proclamation of the *Magistrates Court (Civil Division) Act 1992*.

This created a new environment of civil litigation designed to encourage the delivery of civil dispute resolution services that are just, affordable and efficient.

The jurisdiction of the Magistrates Court in civil matters has been raised to \$20,000, or an unlimited amount with the consent of the parties. Also, the Civil Division is able to exercise an equitable jurisdiction. For example, it is able to hear and determine claims for specific performance of contracts for the sale of property. Similarly, the court is able to grant an injunction pending the hearing of a claim.

Previously, the pace of litigation was left entirely to the parties. While solicitors still have responsibility for pursuing and protecting their clients' interests *effectively*, the court has introduced case management to ensure matters are dealt with *efficiently*.

The new approach can be described as 'solicitor driven, court managed'.

Case management involves the use of directions hearings, conciliation conferences, and mediation conferences prior to an action being listed for hearing.

In addition, the rules provide new methods for gathering and presenting evidence before the court. These are designed to reduce the time and cost of proceedings.

Statistics indicate that only 3%–5% of defended cases proceed to a trial; the vast majority are resolved during the earlier stages.

Small Claims

The Small Claims Division was established in 1985 to deal with minor claims and now has a jurisdiction of up to \$3,000.

The primary function of the magistrate hearing the claim is to attempt to bring the parties in a dispute to an acceptable settlement. If the magistrate cannot do so, he or she may determine the matter in dispute. Proceedings in this jurisdiction are private, straightforward and informal. Legal practitioners are excluded as a general rule, and the Magistrate may proceed without the formal rules of evidence.

SMALL CLAIMS, ACTIVITIES

Year	Claims filed no.
1992–93	1 563
1993–94	1 680
1994–95	1 332
1995–96	752
1996–97	798
1997–98	803

Source: Department of Justice, Annual Report 1995–96

Children's Courts

The Court exercises jurisdiction in respect of:

- Offending children, neglected children and uncontrollable children: *Child Welfare Act 1960*
- Children who are in need of protection: *Child Protection Act 1974*
- Adoption of children: *Adoption Act 1988*

In Tasmania a 'child' is someone under the age of 17 years. Magistrates are able to make orders to ensure the safety and protection of children as well as making orders to deal appropriately with children who commit offences. A child remains a ward until their eighteenth birthday, unless they have been released earlier.

Magistrates also have the power to decide matters and make orders regarding the adoption of children.

Coroner's Courts

Coroners are appointed by the Governor and they have jurisdiction throughout the State. Under the *Coroners Act 1995* a coroner may hold an inquest concerning the manner of death of any person where this was:

- violent or unnatural;
- sudden, without the cause being known;
- from sudden infant death syndrome;
- in a prison; or
- in a mental institution.

At the direction of the attorney-general, the coroner may also be required to hold an inquest concerning any death. In addition, the coroner may have to determine the cause of a fire or explosion.

The duty of the court is to determine who the deceased was, and the circumstances by which death occurred. Medical practitioners and other people may be summoned to give evidence. For example, in the case of the death in an institution, the coroner may also inquire generally into the conditions and running of the institution. On the evidence submitted at the inquest, the coroner can order a person to be committed to the Supreme Court and can grant bail. In the case of murder, a coroner can issue a warrant for apprehension.

After considering a post-mortem report, the coroner may dispense with an inquest unless the circumstances of death make an inquest mandatory under the Act.

Commonwealth Courts

The High Court of Australia

The most senior of the Commonwealth courts is the High Court of Australia, constituted by the Chief Justice and six Justices. The High Court has original jurisdiction under the *Commonwealth of Australia Constitution Act 1901* in cases concerning treaties, consuls, the Commonwealth of Australia as a party, residents in different States and matters arising under the Constitution.

It is the final court of appeal for Commonwealth and State courts. The High Court hears appeals from State Supreme courts and the Federal

Court of Australia, and in some circumstances from the Family Court of Australia. If there is sufficient business, the High Court may sit in Hobart.

The Federal Court of Australia

The Court was created by the *Federal Court of Australia Act 1976*. It was established to reduce the work of the High Court, so that the High Court could give greater attention to its primary function as interpreter of the Constitution. It also replaces the former Australian Industrial Court and the Federal Court of Bankruptcy and sits in two divisions: Industrial and General.

The Family Court

The Family Court of Australia was set up by the *Family Law Act 1975*. It hears petitions for divorce and has jurisdiction in the welfare and custody of children and in disputes as to any property of marriage and maintenance payments.

The sole ground for divorce became the irretrievable breakdown of marriage. In Tasmanian in 1997 there were 1,321 divorces granted, a decrease of 261 on the number granted in 1996. Approximately 57% of the petitioners were females and 12% were joint applicants.

DIVORCES GRANTED BY SEX OF PETITIONER, TASMANIA

	Males no.	Females no.	Joint no.	Total no.
1992	528	740	97	1 365
1993	501	819	145	1 465
1994	486	898	160	1 544
1995	410	721	148	1 279
1996	459	875	248	1 582
1997	405	753	163	1 321

Source: ABS catalogue nos. 3307.0 & 3310.0

Sentences

The criminal law sets the maximum possible penalties or punishment for particular criminal offences. Sentencing decisions are now made under the *Sentencing Act 1997*, which commenced operation on 1 August 1998. Previously, sentencing provisions were scattered through at least seven different statutes.

While the Act consolidated the relevant provisions, it did not codify all sentencing law. The important sentencing principles developed by the common law over decades continue to

apply. The general sentencing options available to the courts remain:

- imprisonment;
- suspended imprisonment;
- community service orders;
- probation orders;
- fines;
- conditional release;
- discharge; and
- dismissal.

In accordance with sentencing principles, the courts exercise their discretion in individual cases to arrive at a proper sentence for each particular offender by taking into consideration the:

- impact of the crime on the victim;
- need for retribution;
- need to express the community's outrage and to condemn the offender's conduct;
- need to discourage further offences;
- circumstances of the offender and the offence;
- offender's prospects of rehabilitation; and
- the requirements to impose an appropriate punishment in individual cases.

Commencement of the Sentencing Act was a major initiative of the Department of Justice and Industrial Relations and in addition to consolidating the sentencing provisions, the Act:

- promotes the protection of the community as a primary consideration in sentencing offenders;
- promotes consistency in the sentencing of offenders;
- helps prevent crime and promote respect for the law by allowing sentences aimed at deterrence, rehabilitation and denunciation;
- promotes public understanding of the sentencing practices and procedures; and
- recognises the interests of victims of crime.

Historically, the most frequently imposed penalties are fines and periods of imprisonment. However, more recently, there has been a move away from imprisonment towards sentences focused upon restorative justice principles such as community service orders and probation orders. The provisions of the Sentencing Act continue to support this approach.

Fines

In 1997–98, the number of fines issued through the Magistrates Courts totalled 118,487.

Previously, the payment of fines could only be made at the court. With the establishment of Service Tasmania it is now possible to pay a fine at any of these shop fronts. Arrangements have also been put in place that allow the payment of fines by telephone (IVR). These two changes to the method of collection have increased the payment options for individuals and reflect an increased effort in the collection of unpaid fines.

The Department of Justice and Industrial Relations has also established a Fines Enforcement Unit, which has increased the number of warrants issued for unpaid fines. This has led to an increase in the value of fines from \$208,000 in 1996–97 to \$235,000 in 1997–98. In total, 62% of fines and fees were collected or enforced during 1997–98.

Imprisonment

Tasmania's prison system is operated by the Department of Justice and Industrial Relations, with the main prison at Risdon, near Hobart. There is also a minimum security prison farm at Hayes in the Derwent Valley. The Launceston prison is a temporary holding centre, where prisoners are held before being transferred to Risdon. In addition, since late 1998 the department has operated a new remand facility in Hobart.

People under the age of 18 years who receive a prison sentence are held at Ashley Detention Centre unless their behaviour is unsatisfactory.

In the year ended 1997–98, the average prison population in Tasmania was approximately 268 persons per day.

The cost of imprisonment in Tasmania for 1997–98 was \$149 per inmate per day. This is an increase of approximately 9.5% on the 1994–95 cost of \$136.60 per inmate, and an increase of approximately 6.4% over the 1995–96 cost of \$140.60 per inmate per day.

In 1997–98, there were 1,052 prisoners received: 971 males (92.3%) and 81 females (7.7%). Some 54% of the people sentenced to gaol in 1997–98 had been imprisoned previously. Of all prisoners received, 27% had been to prison at least three times before.

**PRISON INSTITUTIONS, TASMANIA,
30 JUNE 1998**

Institution	Capacity no.	Average occupancy no.
Risdon		
Maximum security (male)	216	142.67
Medium security	45	29.82
Women's prison	23	7.48
Prison hospital	28	18.71
Hayes prison farm	68	58.09
Launceston prison	33	9.09
Ashley Detention Centre (a)	n.a.	2.76
Total	413	268.62

(a) People under the age of 18 years who receive a prison sentence are held at Ashley Detention Centre unless their behaviour is unsatisfactory.

Source: Department of Justice, Annual Report 1997–98

Young offenders

A large proportion of prisoners were young offenders: over 42% of people sentenced to imprisonment during 1997–98 were under 25 years of age. The proportion of prisoners aged less than 25 years declined over the past 20 or more years and has now leveled out. In 1971–72 the proportion of prisoners aged less than 25 years was 62.1%, in 1981–82 it was 54.3% and in 1995–96 it was 42%.

The declining proportion of young offenders being imprisoned can be attributed to the greater use of non-custodial sentencing options (such as community service orders), and a decline in the proportion of young people in the population.

Community corrections

It is being increasingly recognised that harsh punishments are not necessarily effective in reducing offending behaviour. With this change in attitude, there has been a move towards imposing non-custodial sentences instead of imprisonment. The overall aim of this change is to reform the offenders.

In Tasmania, the Community Corrections Division of the Department of Justice and Industrial Relations is responsible for non-custodial sentences and community service orders. The major activities of Community Corrections are the provision of pre-sentence and pre-release reports; operations of the Community Service Order Scheme; supervision of people on parole; and supervision of people on probation.

Community Corrections works closely with the Department of Health and Human Services, the

Prison Service, the Police and community organisations. It is essentially a community-based operation involving close liaison with families, private relief agencies and public departments concerned with human problems and law enforcement. Community Corrections conducts over 200 prosecutions annually against people failing to fulfill the conditions of their supervision or community service orders.

In 1997–98, there were 1,091 people made subject to a total of 1,302 Community Service Orders to undertake 78,706 hours of community service work. At 30 June 1998 there were 1,184 Community Service Orders in place. The average length of each Community Service Order has generally decreased over recent years, reflecting the effect of conversion of unpaid fines to community service, as these orders tend to be shorter. However, in 1997–98 the average length of each order increased to 60 hours.

Victim-offender mediation

Mediation is a way of helping reduce the trauma felt by victims of crime, and to help reduce the incidence of crime by making the offender aware of how their actions affect others. It operates by giving the victim and the offender the opportunity to meet and talk about the crime under controlled conditions. This may even lead to the offender agreeing to do work to repair damage done.

A State-wide service, Victim Offender Mediation Program, is operated by Community Corrections, which has also initiated the majority of mediations. Effective links are being developed with the Victims of Crime Service to encourage an increasing awareness of the program among victims of crime.

Support and compensation for victims of crime

Services to victims of crime are provided through the administration of the Criminal Injuries Compensation Scheme and the Victims of Crime Service to ensure victims have the opportunity to recover as fully as possible from experiences related to the commission of crime and by enhancing the potential for them to be involved in the criminal justice process.

The Master of the Supreme Court is responsible for determining the level of compensation to be granted to victims who have suffered injuries as a result of criminal acts. Compensation is awarded in accordance with the *Criminal Injuries Compensation Act 1976*.

There were 238 claims for criminal injuries compensation received during 1997–98, with an average award of \$7,435, an average disposal time of 14 weeks and an average cost paid to legal practitioners of \$937.

VICTIMS OF CRIME SERVICE, CLIENT GROUP COMPOSITION, 1997–98

	Unit	Persons
Sex		
Male	no.	404
Female	no.	1 144
Age groups		
Under 18	%	8
19–29	%	19
30–39	%	30
40–55	%	31
56+	%	12
Crime category		
Against the person	%	59
Against property	%	23
Against both	%	18

Source: Department of Justice

Community Corrections Division supervises and supports the three regional Victims of Crime Services, which are provided by funding non-government organisations. The organisations that provide the information and advice services to victims of crime are:

- Lifeline Hobart;
- Launceston Community Legal Service; and
- Victims of Crime Service, North West Tasmania.

During 1997–98 these three services provided advice to a combined total of 1,548 people. All regions experienced increased demands on their services during the year. The majority of referrals dealt with related to crimes against the person. In more than 50% of cases the offender was known to the victim prior to the offence.

The police continue to be a major source of referrals to the Victims of Crime Service. Self referral from information available through the media, and agency referrals, are an increasing source, demonstrating that the Service is establishing a place in the community consciousness.

More than half the referrals were managed directly by the Victims of Crime Service. Referrals were also made to police, legal services and other community organisations for specialist assistance.

Legal aid services

Legal aid services provide legal assistance to help people who are unable to pay for a lawyer. In Tasmania, legal aid is offered through the Legal Aid Commission of Tasmania, with offices in Hobart, Launceston and Burnie. Legal aid is also offered through offices of the Community Legal Service in Hobart, Bridgewater, Launceston and Devonport. The private welfare agency Anglicare also offers legal aid. Other agencies that provide more specialised assistance include the Aboriginal Legal Service, the Human Rights and Equal Opportunity Commission, and the Child Support Agency.

The Legal Aid Commission of Tasmania offers services that range from giving basic legal advice to providing a lawyer in court. Free advice is given on any legal problem but if it is necessary to provide assistance beyond simple advice or referring a person to another service, a client must apply for legal aid.

Community Legal Services provide an alternative to mainstream legal aid provided through the Commission. Voluntary lawyers and community workers offer advice to clients, primarily during evening sessions. The primary form of assistance is referral to other services and the aim is to facilitate people to help themselves. In addition, Community Legal Services are involved in community legal education and advocacy of specific law reform issues.

100 YEARS OF THE PRISON SERVICE

Tasmania's history has a compelling link with prisons

Convicts transported from England's overflowing prison system made a major contribution to Tasmania's settlement and development. Although some convicts returned to the UK at the completion of their sentence, a substantial number settled down to become the farmers and business and professional people who helped build Tasmania into a thriving community.

When transportation ceased in 1853, the State was left with persons who still had lengthy sentences to complete. There was also a system of prison buildings and probation stations strategically located around the State to serve the needs of convicts who were allocated to work on farms or public works such as road and bridge building.

As the remaining number of imperial convicts reduced, country prisons and probation stations, including Port Arthur, fell into disuse. The existing facilities left over from colonial times in Hobart and Launceston became the basis of the Tasmanian Prison System for those persons who committed offences within the State.

Legislation

The first State law in Tasmania to control the operation of prisons was the *Prison Act 1868*. Its provisions very much reflected community standards of the day with a strong influence from the convict system. A significant change occurred with amendments in 1908, which introduced a system of parole. Under this enactment, the Controller of Prisons could recommend to the State Governor, acting alone (that is, not with the advice of the Executive Council) to grant a prisoner a licence to be at large.

The *Indeterminate Sentences Act 1921* gave courts the power to declare persons who committed a similar offence three times to be declared an habitual criminal to be detained in prison at the (State) Governor's pleasure. A board of five members

determined when an habitual criminal might be released on licence.

The three Acts became increasingly out of step with modern penological practices but remained in force with only minor amendment until the *Parole Act 1975* established a Parole Board and repealed the *Indeterminate Sentences Act 1921* and the *Prison Act 1908*. The *Prison Act 1977* finally repealed the *Prison Act 1868*. Thus, until 1977 'a gaoler' could sentence a prisoner who breached prison regulations or used 'profane language' to up to three days in solitary confinement on bread and water and, if a male, to be placed in chains. Three solitary confinement cells located in Risdon Prison were in use until the mid 1970s, when the Attorney-General ordered that solitary confinement be discontinued.

The *Corrections Act 1997*, which repealed the Prison Act, Parole Act and Probation of Offenders Act, is now the enabling legislation. Together with the *Sentencing Act 1997* it sets the course for treatment of offenders into the new millennium.

Administrative responsibility

At the turn of the century, the prison system was under the administration of the Sheriff's Department, responsible to Parliament through the Attorney-General. The governor of the Hobart gaol reported to the Sheriff in relation to the care of all prisoners in the State.

In 1936 an administration was established under a Controller of Prisons heading a new H.M. Gaol Department. The name was changed to the Gaols Department in 1944 and to the Prison Department in 1959.

On the retirement of the last Controller of Prisons in 1983, prison administration lost departmental status and was re-named the Corrective Services Division, a branch of the Law Department. The head of the division became the Director of Corrective Services. In 1989 the administrative responsibility for

corrections was transferred to a new Department of Community Services and for the first time ministerial responsibility moved away from the Attorney-General to the Minister for Community Services. The arrangement was short lived, however, as responsibility returned to the Department of Justice (successor of the Law Department) in 1992.

The first prison buildings

By 1900, two prisons remained in use, one in Campbell Street, Hobart and one in Launceston. The Hobart Gaol was under the control of a governor who reported to the sheriff. The Launceston Prison, which by then held only a small number of short-term prisoners, was under the control of a superintendent who reported to the governor in Hobart. Female prisoners were kept in each location in an annex attached to the male prison.

The main purpose of the Launceston Prison was as a repository for persons required to appear in courts in Launceston and those in transit to courts on the North West Coast.

The notion of prisons being centralised in the south of the State was well established at the beginning of the century and continued to dominate prison operations.

At the beginning of the century, both prisons were already old and in poor condition. The living conditions and security were very poor with regular escapes. Between 1900 and 1943 there were no less than four Royal Commissions and a Board of Enquiry and a number of other parliamentary committees of enquiry into the state of the prisons. There had already been three Royal Commissions before the turn of the century. Many recommendations for upgrading and replacement of the gaol at Campbell Street were only partly addressed. Token changes were made to living conditions until the gaol was finally replaced in 1960.

Launceston Prison

In 1914 part of the Launceston prison site was given to the Education Department for a new State high school. The incompatibility of the new high school and the prison

immediately adjacent resulted in the prison site being completely abandoned and the prison function transferred to the police watch house in 1917. The condition of the watch house was no better than the prison but continued in use until 1976 when new police buildings were constructed.

The management of the Launceston Prison was handed over to the Police Department after WWI although the prisoners remained the responsibility of the prison system. A police officer in Launceston and each of the major towns was appointed as gaoler under the prison legislation to provide administrative control of prisoners outside Hobart. This system persisted until 1991 when full control and staffing of the prison function in Launceston was returned to Corrective Services.

Hobart Prison

In 1916, the Parliamentary Standing Committee on Public Works inquired into the need for major remodelling of the Hobart Gaol. The committee recommended against the expenditure considering it more appropriate to build a new gaol. A lesser sum was provided to make temporary alterations to address the worst deficiencies. Cell accommodation was concentrated in the northern wing leaving the southern section, which dated from 1813, to be used for administration purposes. At the Royal Commission of 1943, it was reported that this part of the building was still in use as cells including four solitary confinement dark cells.

The work carried out in 1916 included improvements to the drainage by connection of the gaol (but not the cells) to the sewerage system and the conversion of lighting from gas to electricity. Other services for kitchen and workshops continued to be provided by a wood fired boiler and wood fired ovens.

Some cells were considered to have insufficient light and were so small as to only permit room for a bed. The governor of the day reported that he was much heartened by the alterations in which groups of two small cells were converted into new single cells. This made it more humane and convenient

to keep prisoners locked in the cells over weekends and holidays.

The 'temporary' alterations appear to have allayed concerns about the need for a new prison.

A Royal Commission into shortcomings in the prison system took place in 1935. This report was never printed and all trace has been lost. It was followed in the same year by an enquiry by the Parliamentary Standing Committee on Public Works. At that stage the gaol had accommodation for 142 inmates.

One of the recommendations of the committee was for the replacement of the gaol with a modern facility to replace the deplorable conditions in Campbell Street. It was considered that the gaol should be removed to the country 'but not more distant than 30 miles' and should be suitable for farming by the less dangerous prisoners. By this means it was considered that the prison system could be self sufficient in meat, vegetables, dairy produce and fuel.

A property was eventually selected in 1937 at Hayes to become the prison farm (see below). The idea of transferring all of the prison operations to Hayes was subsequently abandoned.

After another Royal Commission in 1943 resulting from a series of escapes from Campbell Street, a property was finally obtained by compulsory acquisition in 1949. The area of 90 acres acquired was on the eastern side of the Derwent, not far from Risdon Cove where the initial European settlement of Tasmania occurred.

Risdon Prison

It took until 1956 for positive moves to be made to commence the design of a new prison. Very little prison replacement had occurred in other States at that time.

The new prison was considered to be 'state of the art' and the most advanced concept in prison architecture in Australia. All prisoners were accommodated in single occupancy cells containing a toilet and hand basin with

running water. Heating was also provided in the cells together with access to local radio stations on headphones.

During the course of construction of the male prison, an upsurge in the prison population caused concern that the as yet incomplete prison would be too small. The plans were quickly modified. What had been intended to be three accommodation blocks were divided into six by adding a total of 72 additional cells in the exercise yards. Unfortunately, none of the other prison facilities, such as workshops and recreation space, were increased to allow for the enlarged capacity.

The prison was completed for occupation by male prisoners in November 1960 and Campbell Street closed. The female prison remained at Campbell Street until 1963, when a completely separate prison was built on the Risdon site for women.

In 1967, a fire started by prisoners in the prison paint shop almost totally destroyed the workshop complex. The building had used much timber construction and no fire protection system has been installed. Rebuilding occupied three years with most of the work performed by inmates under staff supervision. The cost of rebuilding was \$300,000.

Ron Barwick Medium Security Prison, Risdon

Increasing prisoner numbers through the 1960s gave rise to investigations into a new prison site in the north of the State. Public opposition resulted in the deferral of a northern prison in favour of adding 36 cells in a low security unit at Risdon. The unit, later to be named the Ron Barwick Medium Security Prison, was occupied in 1974 but declining prison numbers resulted in its closure in 1981. It was re-opened in 1991, but closed in 1997 on economic grounds.

Prison Hospital, Risdon

A 28-bed hospital was added to the eastern end of Risdon Prison in 1978. It is proclaimed as a special institution under the Mental Health Act to enable it to be used to house persons suffering mental illness who become subject to the criminal justice system. These

persons were previously detained in the State mental hospitals with persons who had no criminal involvement. The hospital, staffed with nurses employed by Corrective Services, also provides medical treatment for prisoners requiring in-patient care as well as the out-patient services for Risdon Prison inmates.

Hayes Prison Farm

The property acquired in 1937 consisted of an orchard, cleared grazing land and a quantity of timbered country. Prisoners built their own living accommodation consisting of single wooden huts for 30 persons. Over the years, sheep, cattle and poultry were produced; a piggery and a dairy were developed; and cereal cropping and vegetable production were undertaken. The market garden, piggery and poultry production have since ceased in favour of more remunerative pursuits such as vegetable processing and root-stock production.

After a number of transformations, the cell and administration buildings were replaced in 1964 in concrete block construction, still in use today. Accommodation is now available for 70 minimum security inmates.

DAILY AVERAGE PRISON POPULATION



Source: Department of Justice

Hobart Remand Centre

The newest addition to the prison buildings is the Hobart Remand Centre, occupied for the first time in January 1999. The Remand Centre contains 40 single-occupancy cells for persons awaiting trial, plus 10 cells for police watch house cases. It is built on five floors. All cells are centrally heated and fitted with a shower as well as toilet and hand basin. Outdoor recreation space is provided in a secure area on the roof. The Remand Centre connects on one side directly to the Hobart Police Station and on the other side to the Courts of Petty Sessions, which greatly reduces prisoner movement.

Prison population

The daily average prison population in 1899–1900 was 108. This represents an imprisonment rate of 62.53 prisoners per 100,000 of the State population. Over the years of the Great War, the prison population declined. By 1918–19 the daily average had dropped to a level never repeated: a mere 45 prisoners, an imprisonment rate of 21.5 per 100,000.

Not surprisingly, a similar effect occurred between 1940 and 1945 during WWII, with the prison population dropping from 117 to 82.

From 1945 the number in prison rose steadily, peaking in 1970–71 with a daily average of 385.85. During that year the highest ever muster since transportation ended was recorded, 414, with only one empty cell left in the male prison.

Legislation introducing Saturday work orders as an alternative to imprisonment enacted in 1972 followed by amendments to parole legislation in 1975 resulted in a steadily declining prison population through the 1980s, levelling out during the 1990s.

The daily average prison population for 1998–99 will be approximately 328. This represents an imprisonment rate of 69.6 per 100,000 of the general population, which is still one of the lowest in Australia.

FURTHER READING

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CHAPTER 6

Public finance

Photo: Department of State Development



The former Metropolitan Transport Trust was corporatised in 1998 to become a public trading enterprise. Metro Tas Pty Ltd continues to provide urban public passenger services in the major Tasmanian metropolitan areas with the intention of recovering a substantial part of costs.

The Australian Bureau of Statistics categorises the Australian economy into institutional sectors for the purposes of compiling statistics, particularly the Australian National Accounts. The three subsectors applicable to the public sector are:

- General government enterprises

General government enterprises are mainly engaged in the production of goods and services outside the normal market mechanism. The costs of production are mainly financed from public revenues. These goods and services are often free of charge, or provided at a nominal price well below their cost of production. Examples of general government entities are the Departments of Education, Community and Cultural Development; the Department of Community and Health Services; and the Department of Police and Public Safety.

- Public trading enterprises

Public trading enterprises are mainly engaged in the production of goods and services for sale in the market place. The intention is to maximise returns to their owners, to recover, as a minimum, a substantial part of costs. Public trading enterprises include the Hydro-Electric Corporation, TT-Line, and port authorities.

- Public financial enterprises

Public financial enterprises provide financial intermediation services or auxiliary financial services. These enterprises aim to recover a significant proportion of costs through revenues. Examples of public financial enterprises include the Tasmanian Public Finance Corporation (Tascorp) and the Motor Accidents Insurance Board (MAIB).

The classification system used in Government Finance Statistics is based on standards

STATE GENERAL GOVERNMENT TRANSACTIONS, TASMANIA

Item	1995-96 \$m	1996-97 \$m	1997-98 \$m
Current outlays			
Final consumption expenditure	1 275	1 358	1 346
Interest payments	222	212	200
Other	245	271	282
Total current outlays	1 741	1 841	1 828
Capital outlays			
Expenditure on new fixed assets	164	142	141
Expenditure on second-hand fixed assets (net)	-38	-47	-46
<i>Equals gross fixed capital expenditure</i>	<i>126</i>	<i>95</i>	<i>95</i>
Expenditure on land and intangible assets	1	4	2
Grants	37	32	29
Other	0	5	3
Total capital outlays	164	136	130
Total outlays	1 906	1 977	1 958
Revenue and grants received			
Taxes	625	631	632
Interest received	77	60	56
Grants received	1 113	1 124	1 143
Other	83	123	145
Total revenue and grants received	1 897	1 938	1 975
Financing transactions			
Borrowing and advances received (net)	-15	-51	-48
Less net advances paid	-64	-86	-70
Other financing transactions (net)	-40	5	-39
Total financing transactions	8	39	-17
Less increase in provisions (net)	0	0	0
Equals Deficit or Surplus (-)	8	39	-17
Of which			
Current deficit	-71	-29	-104
Capital deficit	79	68	87

Note: See glossary on page 89.

Source: ABS catalogue no. 5501.6

promulgated by the International Monetary Fund (IMF), and aims to organise the individual financial transactions of the public sector into meaningful categories appropriate for analysis, planning and policy determination. Government transactions are classified into three major categories:

- Economic Transactions Framework (ETF) which deals with the nature of the financial transactions. The ETF is made up of four major groups: current outlays, capital outlays, revenue and grants received, and financing transactions.
- Taxes revenue is further detailed by a separate classification.
- Government Purpose Classification, which classifies current and capital outlays according to the purpose of the transactions.

Stocks of financial assets and liabilities are also organised to show the net debt situation of sectors within the public sector.

Statistics are presented on a consolidated basis, which means that certain transactions flowing within a defined sector are eliminated. This is done to show the impact of a defined sector on the rest of the economy.

State Government finance

The major functions provided and administered by State Government include public order and safety, education, health, transport, welfare, and housing and community amenities.

The revenue used to perform these functions derives mainly from Commonwealth grants and various State government taxes (payroll taxes, stamp duties, gambling taxes etc).

STATE GENERAL GOVERNMENT FINAL CONSUMPTION EXPENDITURE, TASMANIA

Purpose	1995–96 \$m	1996–97 \$m	1997–98 \$m
General public services	164	155	147
Public order and safety	116	131	150
Education			
Primary and secondary	265	280	287
Tertiary	52	63	64
Other	69	58	65
Health	341	347	373
Social security and welfare	92	94	88
Housing and community amenities	12	11	8
Recreation and culture	35	54	55
Agriculture, forestry, fishing and hunting	23	22	30
Mining, manufacturing and construction	2	4	5
Transport and communications	62	69	55
Other	42	69	21
Total	1 275	1 358	1 346

Source: ABS catalogue no. 5512.0 and unpublished data

State general government sector

The total outlays of general government in 1997–98 were \$1,958 million, compared to \$1,977 million in 1996–97. Current outlays contributed \$1,828 million, of which \$1,346 million was final consumption expenditure.

The most important components of final consumption expenditure were education (30.9%) and health (27.7%). Capital outlays for

1997–98 were \$130 million, a decrease of 4.2% on the 1996–97 figure of \$136 million.

Total general government revenues increased by 1.9% to \$1,975 million in 1997–98. Grants received from the Commonwealth Government constituted the largest revenue item, increasing \$19 million, from \$1,124 million in 1996–97 to \$1,143 million in 1997–98. The proportion of revenue attributable to this source is virtually unchanged at 57.9%.

TOTAL STATE GOVERNMENT TRANSACTIONS, TASMANIA

Item	1995–96 \$m	1996–97 \$m	1997–98 \$m
Outlays			
Interest payments	515	479	423
Current grants to other sectors	168	172	178
Other current outlays	1 411	1 509	1 501
Capital grants to other sectors	10	5	3
Other capital outlays	285	250	270
Total outlays	2 389	2 416	2 375
Revenue and grants received			
Interest received	202	199	147
Grants received	1 109	1 124	1 172
Taxes	623	630	631
Net operating surplus	241	255	238
Other	36	57	44
Total revenue and grants received	2 211	2 264	2 232
Financing and deficit measures			
Borrowing and advances received (net)	-114	-120	-53
Less Net advances paid	4	2	-25
Other financing transactions	295	274	171
Total financing	177	152	143
Less Increase in provisions (net)	230	263	256
Equals Deficit or surplus (-)	-53	-112	-113

Note: See glossary on page 89.

Source: ABS catalogue no. 5501.6

**TOTAL STATE GOVERNMENT, GROSS FIXED CAPITAL EXPENDITURE,
TASMANIA**

Purpose	1995-96 \$m	1996-97 \$m	1997-98 \$m
General public services	3	-12	-5
Public order and safety	16	15	11
Education			
Primary and secondary	21	24	20
Tertiary	10	7	4
Other	2	2	3
Health			
Acute care institutions	21	14	11
Other	6	1	1
Housing and community amenities	31	13	11
Recreation and culture	10	15	12
Fuel and energy	97	107	126
Forestry	5	14	24
Transport and communication			
Road transport	50	44	44
Water transport	16	6	9
Other transport	0	0	0
Other purposes	-1	1	-2
Total	287	249	269

Source: ABS catalogue no. 5512.0 and unpublished data

State Government public enterprises 1999, Tasmania

Public Trading Enterprises

Housing Division of Department of Health
and Human Services

Burnie Port Corporation Pty Ltd

Egg Marketing Board

Hydro-Electric Corporation

Aurora Energy Pty Ltd

Transend Networks Pty Ltd

Forestry Tasmania

Flinders Island Port Company Pty Ltd

Hobart Ports Corporation Pty Ltd

King Island Ports Corporation

Metro Tasmania Pty Ltd

North West Regional Water Authority

Port Arthur Historic Site Management
Authority

Port of Devonport Corporation Pty Ltd

Port of Launceston Pty Ltd

Printing Authority of Tasmania

Private Forests Tasmania

Rivers and Water Supply Commission

Southern Regional Cemetery Trust

Stanley Cool Stores Board

Tasmanian Dairy Industry Authority

Tasmanian Grain Elevators Board

Tasmanian International Velodrome
Management Authority

The Public Trustee

Totalizator Agency Board (TAB)

TT-Line Company Pty Ltd

Public Financial Enterprises

Tasmanian Public Finance Corporation
(Tascorp)

Motor Accidents Insurance Board (MAIB)

Home Ownership Assistance Program
(HOAP)

Public trading enterprise sector

The public trading enterprise sector returned a reduced surplus of \$63 million in 1997–98, down from \$97 million in 1996–97. Expenditure on new fixed assets increased by \$26 million (up 16.3%) and interest payments decreased by

\$29 million (down 13.8%). Total revenue has declined by \$40 million (down 11.5%) mainly due to Net Operating Surplus falling by \$34 million. Net borrowing and advances received continue to be negative since repayments have been greater than receipts for the last three years.

STATE PUBLIC TRADING ENTERPRISES TRANSACTIONS, TASMANIA

Item	1995–96 \$m	1996–97 \$m	1997–98 \$m
Current outlays			
Interest payments	210	210	181
Dividends paid	58	53	48
Other transfer payments	50	62	68
Total current outlays	317	324	296
Capital outlays			
Expenditure on new fixed assets	159	158	183
Expenditure on second-hand fixed assets (net)	-4	-9	-10
Equals Gross fixed capital expenditure	155	148	173
Expenditure on land and intangible assets	-2	-1	-2
Other	4	-1	-1
Total capital outlays	158	146	170
Total outlays	475	470	466
Revenue and grants received			
Sales of goods and services	839	882	887
Plus subsidies received	43	38	35
Less Operating expenditure	607	623	659
Equals Net operating surplus	275	297	263
Interest received	11	13	6
Capital grants received	30	30	33
Other	6	8	5
Total revenue and grants received	321	348	308
Financing transactions			
Borrowing received (net)	-42	-10	-1
Advances received (net)	-51	-84	-42
Advances paid (net)	-2	-1	-2
Other financing transactions (net)	248	219	203
Total financing transactions	153	123	158
Less increase in provisions (net)	204	219	221
Equals deficit or surplus (-)	-51	-97	-63
Of which			
Current deficit	-174	-206	-195
Capital deficit	123	109	132

Note: See glossary on page 89.

Source: ABS catalogue no. 5512.0

Public financial enterprise sector

The public financial enterprise sector returned a surplus of \$31 million in 1997–98. This follows surpluses of \$18 million and \$28 million for 1995–96 and 1996–97 respectively.

Total outlays in 1997–98 were \$374 million, \$51 million lower than the previous year. Interest

payments, which form the bulk of total outlays, decreased from \$406 million in 1996–97 to \$364 million in 1997–98.

Revenue also decreased in 1997–98 to \$370 million from \$409 million the previous year. While sales of goods and services (\$78 million) increased by \$13 million, interest received from other sectors (\$128 million) fell by \$48 million.

STATE PUBLIC FINANCIAL ENTERPRISES TRANSACTIONS, TASMANIA

Item	1995–96 \$m	1996–97 \$m	1997–98 \$m
Current outlays			
Interest payments	426	406	364
Dividends paid	9	8	5
Other transfer payments	-4	5	3
Total current outlays	432	419	371
Capital outlays			
Gross fixed capital expenditure	5	6	1
Other	0	0	2
Total capital outlays	5	6	2
Total outlays	437	425	374
Revenue			
Sales of goods and services	59	65	78
Plus subsidies received	—	—	—
Less Operating expenditure	93	107	103
<i>Equals Net operating surplus</i>	-34	-42	-25
Interest received from general government	149	144	143
Interest received from public trading enterprises	137	129	121
Interest received from other sectors	175	176	128
Other	2	3	3
Total Revenue	429	409	370
Financing and deficit measures			
Borrowing and deposits received	-142	-170	74
Advances received (net)	—	—	—
Other financing transactions (net)	149	186	-71
Total financing transactions	8	16	3
Less increase in provisions (net)	26	44	34
Equals deficit or surplus (-)	-18	-28	-31
Of which			
Current deficit	-23	-34	-33
Capital deficit	5	6	2

Note: See glossary on page 89.

Source: ABS catalogue no. 5512.0

Local government finance

Tasmania's 29 local government authorities (6 city councils and 23 municipal councils) are responsible for a number of functions within their municipalities including:

- the administration, construction and maintenance of roads, water, sewerage and stormwater systems;
- the provision of garbage and other sanitary services;
- performing regulatory roles relating to construction supervisions, planning and animal registrations;
- the administration of recreational amenities including public halls, sports grounds, parks, swimming pools and beaches; and
- the administration of libraries, museums and other cultural facilities and services.

Local government authorities fund these operations principally through property taxes (rates) and grants from State and Commonwealth governments. Other forms of revenue include charges for goods and services rendered and interest.

The local government sector returned a surplus of \$14 million in 1997–98, compared with a deficit of \$9 million in 1996–97 and a surplus of \$4 million in 1995–96. The deficit in 1996–97 was mainly due to capital outlays on the Hobart Aquatic Centre and the Sandy Bay sewerage treatment project by the Hobart City Council.

Tasmanian local government councils raised \$150 million in taxes in 1997–98 compared with \$140 million in the previous year. Local government taxes constitute that portion of rates revenue not classified to user charges.

LOCAL GOVERNMENT AUTHORITIES FINANCES, TASMANIA, 1997–98

	Total revenue and grants received \$'000	Total outlays \$'000	Deficit (a) \$'000
Break O'Day	5 708	6 367	658
Brighton	8 432	8 288	-145
Burnie	22 255	21 871	-384
Central Coast	16 214	16 801	587
Central Highlands	5 379	4 064	-1 315
Circular Head	9 588	8 346	-1 242
Clarence	32 283	32 997	714
Derwent Valley	7 083	6 689	-394
Devonport	25 748	23 787	-1 961
Dorset	5 893	5 345	-548
Flinders	1 848	2 045	197
George Town	6 683	6 063	-621
Glamorgan/Spring Bay	5 531	5 720	189
Glenorchy	36 268	36 603	335
Hobart	58 632	63 274	4 642
Huon Valley	12 001	11 640	-362
Kentish	3 712	3 517	-195
King Island	3 143	2 764	-379
Kingborough	21 125	19 755	-1 370
Latrobe	6 938	6 059	-878
Launceston	64 114	62 813	-1 301
Meander Valley	10 544	8 625	-1 919
Northern Midlands	9 945	9 482	-463
Sorell	8 584	7 613	-971
Southern Midlands	6 275	6 209	-66
Tasman	3 280	2 771	-509
Waratah/ Wynyard	10 200	10 067	-133
West Coast	5 662	5 599	-63
West Tamar	11 903	13 127	1 223
Tasmania	424 972	418 299	-6 673

(a) Outlays minus revenue and grants minus increase in provisions.

Source: ABS catalogue no. 5501.6

At the 30 June 1998, the net debt position of Tasmania's local government sector was \$85 million, a \$5 million increase on the 30 June 1997 figure. The transfer of the Regional Water Boards from the State to the local government sector

and the drawing down of cash reserves by the Hobart City Council for the construction of the Hobart Aquatic Centre has resulted in an increase in net debt over the last two years.

LOCAL GOVERNMENT TRANSACTIONS, TASMANIA

Item	1995-96 \$m	1996-97 \$m	1997-98 \$m
Current outlays			
Final consumption expenditure	97	103	110
Interest payments	16	20	19
Other transfer payments	12	12	16
Total current outlays	125	135	146
Capital outlays			
Gross fixed capital expenditure	97	110	91
Other capital outlays	2	—	1
Total capital outlays	100	111	92
Total outlays	225	246	237
Revenue and grants received			
Taxes	135	140	150
Net operating surpluses of public trading enterprises	—	7	8
Interest received	12	10	8
Grants received	65	64	65
Other	17	13	11
Total revenue and grants received	229	234	243
Financing transactions			
Advances received (net)	—	-3	-4
Advances paid (net)	-1	—	—
Borrowing (net)	-7	-11	1
Increase in provisions	—	2	9
Other financing transactions	4	23	-11
Total financing transactions	-4	12	-5
Less Increase in provisions	—	2	9
Equals Deficit or surplus (-) (a)	-4	9	-14
Of which			
Current deficit	-89	-91	-92
Capital deficit	85	100	78

(a) Financing transactions less increase in provisions.

Source: ABS catalogue no. 5501.6

**LOCAL GOVERNMENT AUTHORITIES, ASSETS, LIABILITIES AND NET
WORTH, TASMANIA, 1997-98**

	Assets \$'000	Liabilities \$'000	Net worth per head of estimated resident population \$
Break O'Day	53 850	3 485	8 646
Brighton	63 156	8 185	4 285
Burnie	221 886	10 104	10 769
Central Coast	157 059	8 206	7 047
Central Highlands	39 838	669	15 593
Circular Head	58 016	4 211	6 335
Clarence	309 566	35 446	5 576
Derwent Valley	29 835	5 820	2 440
Devonport	248 592	20 671	9 240
Dorset	75 555	1 431	10 017
Flinders	42 312	361	44 346
George Town	44 993	9 395	5 217
Glamorgan/Spring Bay	45 493	2 431	10 341
Glenorchy	273 128	30 645	5 496
Hobart	391 883	21 437	7 966
Huon Valley	107 098	6 199	7 477
Kentish	26 226	1 244	4 569
King Island	22 752	993	12 022
Kingborough	164 799	5 376	5 641
Latrobe	38 418	3 104	4 444
Launceston	631 466	20 273	9 665
Meander Valley	98 047	2 122	5 548
Northern Midlands	105 348	1 614	8 779
Sorell	40 646	4 788	3 296
Southern Midlands	42 833	2 549	7 206
Tasman	19 300	817	8 237
Waratah/ Wynyard	73 889	6 687	4 816
West Coast	47 611	2 601	7 581
West Tamar	106 348	4 966	5 096
Tasmania	3 579 943	225 830	7 108

Source: ABS catalogue no. 5501.6 and unpublished data

Tasmania's financial relationship with the Commonwealth since Federation

With the coming of Federation on 1 January 1901 Tasmania became an original State of the Commonwealth. A number of developments since that time have affected the State's ability to raise the money required for current and capital purposes.

Since Federation, the Commonwealth Government has increasingly dominated State finances, mainly due to three events.

First, at Federation the control of customs and excise tax was transferred to the Commonwealth government. Second, under the Financial Agreement Act 1927, the Commonwealth became the borrowing agent for the States. Third, during World War Two the Commonwealth Government gained control of personal income tax and company tax, in order to fund the war effort. Whilst the Commonwealth is no longer the borrowing agent for the States (Tasmania created its own central borrowing authority in 1985) it still has a substantial degree of influence over State Government financial activity given that it controls the large tax revenue items including personal income tax, company tax, sales tax and excise duties. Accordingly, Tasmania relies heavily on Commonwealth specific and general purpose grants (58% of total General Government revenue in 1997–98) to fund public expenditure.

At the turn of the century, there was considerable controversy surrounding Tasmanian Government finances as a result of the transfer to a Federal system. The Tasmanian Treasurer noted that the State's share of customs and excise duties and revenues from posts and telegraphs had fallen since these functions had been transferred to the Commonwealth. At this time all surpluses were distributed to the States on a per capita basis.

Some States (including Tasmania) complained about the methodology used to distribute these surpluses and this eventually led to the establishment of the

Commonwealth Grants Commission (CGC) in 1933. The CGC is an independent statutory body operating under Commonwealth legislation, its main function being to make recommendations to the Commonwealth Government on the share of revenues to be allocated to the States and Territories on the basis of horizontal fiscal equalisation (HFE).

HFE ensures that each State or Territory is able to function, by reasonable effort, at a standard not lower than the average standard of other States or Territories. It takes account of differences in the expenditure required by those States in the performance of their functions and in the capacity of those States to raise revenue. For example the cost of providing government services in the Northern Territory, is roughly three times the national average and the Northern Territory is given extra funds to make up the shortfall. Other issues which can affect a State's ability to provide a reasonable service, and which are beyond its control, include:

- the size of the school-aged population;
- the size of the Aboriginal population or, the number of recently arrived migrants; and,
- cross border considerations such as the cost to the NSW government of providing services to residents of the ACT and vice versa.

The operations of the CGC remained largely unchanged until the late 1970s when the Fraser Government asked the CGC to look at the relative positions of each of the States. These positions are now upgraded every 5 years with updates taking place in the intervening years.

The CGC presents its recommendations at the annual Premiers' Conference and these can be the subject of further negotiation.

From 2001–02 Goods and Services Tax (GST) revenues will be distributed amongst

the States on a horizontal fiscal equalisation (HFE) basis and the CGC will be responsible for making recommendations on how the HFE will be calculated.

Commissioners are now appointed with the broad approval of the States. Terms of reference are negotiated with the States and approved by the Commonwealth. Both the Commonwealth and the States are encouraged to present their views via their respective Treasuries.

The CGC also relies on the States, and the Commonwealth, to comply with the terms of the Uniform Presentation Agreement (UPA). The UPA was agreed to at the May 1991 Premiers' Conference its primary objective being to ensure that a common 'core' of financial information is provided by Commonwealth, State and Territory governments in their budget papers. The resulting increased uniformity in the presentation of public sector financial information facilitates the analysis of this information on a consistent and comparable basis.

The Commonwealth Government acts independently of the CGC. For Tasmania the Freight Equalisation Scheme is a case in point. The scheme was introduced by the Federal Government on 1 July 1976, the intention being to make the door-to-door freight costs of eligible cargoes shipped from Tasmania to the mainland approximate the door-to-door cost of moving similar goods by road or rail over similar distances on the mainland.

A comparison of revenue and expenditure for the Tasmanian General Government Sector between 1901 and 1997–98 shows little change in the reliance on Commonwealth grants as the major source of revenue. There has however, been a changing emphasis in the allocation of expenditure, particularly in the areas of health and education.

In 1901 the redistribution of Commonwealth surpluses, to the States, accounted for 64% of Tasmania's revenues (Commonwealth grants accounted for 58% in 1997–98), taxes

accounted for 15% (32% in 1997–98) and other revenues accounted for 21% (10% in 1997–98).

Tasmania's taxation mix has certainly changed since Federation. In 1901 land tax accounted for almost half of all State General Government taxation revenue. In 1997–98 this had fallen to only 4%, while payroll tax, franchise taxes and motor vehicle taxes had become the major components of the State's tax base.

MAJOR COMPONENTS OF TAX REVENUE

	1901 %	1997–98 %
Land tax	46	4
Stamp duty	22	14
Personal income tax (a)	19	—
Probate duty	9	—
Company tax (a)	3	—
Payroll tax	—	23
Franchise taxes (b)	—	22
Motor vehicle taxes	—	10
Gambling taxes	—	10
Financial institutions' taxes	—	7
Other	—	10
Total	100	100

(a) The Commonwealth Government managed personal income tax and company tax after World War II. (b) Includes petroleum products, tobacco and liquor.

Source: *Finance 1902*, ABS catalogue no. 5501.6

Whilst personal income tax is no longer a State based tax it is interesting to note that it accounted for 52% of all Commonwealth government taxes in 1997–98. In 1901, personal income tax accounted for 19% of Tasmania's tax base.

Comparisons of State General Government expenditure can be problematic because of overlaps into local government and the Tasmanian Railways for the interest component (in 1901 a substantial component of the interest paid by General Government related to loans taken out on behalf of the Tasmanian Railways). Based on the comments of the Treasurer at the time, an estimate of the interest applicable to Railway loans can be made. For comparative purposes this amount has been treated as an imputed grant to the Tasmanian Railways

rather than interest paid. This enables a comparison of the major areas of expenditure for both eras on an approximate basis.

In 1901 interest accounted for 28%(10% in 1997–98) of State General Government expenditure, law and order 10% (8% in 1997–98), roads and bridges 8% (7% in 1997–98), education 8% (27% in 1997–98) and health 5% (20% in 1997–98).

Although the proportion of expenditure on education has more than tripled since Federation it must be remembered that there was a totally different emphasis on education at the turn of the century. In 1902 the State's major focus was on the provision of primary education. The only institutions to provide a secondary education were privately run and in 1902 there were less than 1000 students, aged 15 and over enrolled at privately run, grammar schools and colleges. Similarly, the University of Tasmania, in 1902, had a total enrolment of 70 students.

While the proportion of expenditure on health has quadrupled since Federation, this is more probably due to the increased cost of providing a more sophisticated health care system rather than the expense associated with the provision of low cost health care to all members of the community.

Some of the issues confronting Governments in the early 1900s were just as topical in 1901 as they are now.

The notion of public utilities operating on a commercial basis and being able to recover the bulk of their operating costs had certainly been given plenty of consideration at the

turn of the century. In his 1902 Budget speech the Tasmanian Treasurer made the following observations about the capacity of the Railways Department to use its operating profits to pay the interest on loans taken out to build and maintain the State's rail network. He said: 'This small profit of 32,000 pounds on the working of our Railways in 1901 is only equal to 0.85% on the capital expenditure.... When we can only show a profit of considerably under 1% towards the payment of our interest bill, which is quite 3.5%; it is evidently time that some action was taken to make our railways more profitable.'

As well, the debate in 1901, as to which level of government should assume the responsibility for the funding of Government services was just as lively as it is today. The State Treasurer made the following comments on the financial relationship that existed between the various "local bodies" and the State.

'I think the time is fast approaching — and our Federal relationship is going to hasten it — when the burden of liability for much of the public expenditure that has hitherto been borne by the State will have to be borne by local bodies in the districts especially benefited by the expenditure. It is absolutely certain that the State milch cow cannot continue to supply, as hitherto, the demands of financially thirsty communities and institutions in all parts of the island. For many of these the weaning time draws nigh. The weaning process may not be agreeable — it seldom is — but the result will be a relief to the State, and a useful lesson of local self-reliance to her children.'

Glossary

ECONOMIC TRANSACTIONS FRAMEWORK (ETF): This framework is used to classify economic transactions of government agencies. It applies to transactions between agencies, and between an agency and the rest of the economy.

Transactions have four main groups: current outlays; capital outlays; revenue and grants received; and financing transactions.

CURRENT OUTLAYS: Current outlays include expenditure on goods and services less receipts from sales of goods and services and superannuation contributions, plus required and unrequired current transfer payments.

CAPITAL OUTLAYS: Capital outlays are capital expenditure on fixed assets, land and intangible assets less receipts from sale of fixed assets, land and intangible assets plus increases (decreases) in stock, plus transfers to other bodies to fund capital expenditure.

REVENUE AND GRANTS RECEIVED: Revenue and grants are those receipts available to finance outlays of public authorities and consist mainly of non-repayable receipts (such as taxes, grants and interest) and operating surpluses of public trading enterprises.

FINANCING TRANSACTIONS: Financing transactions are the means by which governments finance their deficits or invest their surpluses. Financing represents the difference between total outlays and revenue and grants.

DEFICIT: The sum of all outlays less revenue less increases (decreases) in provisions. Deficits are subdivided into current and capital deficits. The current deficit is equal to current outlays less current revenue and grants received less increase in provisions. The capital deficit is made up of capital outlays less capital revenues and capital grants received.

GOVERNMENT PURPOSE CLASSIFICATION: This classification categorises outlays in terms of the purpose for which the outlay is made. Because of the nature of the federal system in Australia, State governments have large expenditures on education, health, and police.

TAXES: Taxes are compulsory levies imposed by government to raise revenue. There is usually no clear and direct link between payment of taxes and the provision of goods and services. Council general rates based on the assessed annual property values are included as taxes.

Public Sector debt

The net debt of the State Government was \$2,704 million at 30 June 1998, of which 65% was attributed to the public trading enterprise sector. The local government sector's net debt was \$85 million at 30 June 1998, giving a total State and Local Government net debt figure of \$2,789 million. Local Government accounts for only 3% of total State and Local Government net debt.

Public trading enterprise debt has a different impact on public finances from general government debt, as public trading enterprises tend to borrow to attain assets which are used to generate revenue to service the debt. General government borrowing usually relates to assets used in the provision of services which do not generate revenue.

STATE, TERRITORY AND LOCAL GOVERNMENT NET DEBT

	As at 30 June		
	1996 \$m	1997 \$m	1998 \$m
NSW	18 439	17 838	17 440
Vic.	14 905	5 141	1 952
Qld	-935	-3 101	-4 102
SA	6 659	6 487	6 101
WA	6 012	6 222	4 447
Tas.	3 000	2 929	2 789
NT	1 235	1 159	1 083
ACT	122	55	-50

Source: ABS catalogue no. 5513.0

STATE AND LOCAL GOVERNMENT FINANCIAL ASSETS AND LIABILITIES, TASMANIA (a)

	As at 30 June		
	1996 \$m	1997 \$m	1998 \$m
State general government			
Gross indebtedness	2 416	2 324	2 298
Financial assets	1 035	929	948
Net debt (b)	1 382	1 395	1 350
State public trading enterprises			
Gross indebtedness	2 119	1 965	1 914
Financial assets	227	163	169
Net debt (b)	1 893	1 802	1 745
State public financial enterprises			
Gross indebtedness	4 236	4 117	4 299
Financial assets	4 544	4 465	4 689
Net debt (b)	-308	-349	-391
Total State Government			
Gross indebtedness	4 856	4 607	4 649
Financial assets	1 890	1 758	1 945
Net debt (b)	2 966	2 849	2 704
Local government			
Gross indebtedness	172	208	219
Financial assets	137	128	134
Net debt (b)	34	80	85
State and local government			
Gross indebtedness	4 879	4 639	4 669
Financial assets	1 879	1 710	1 880
Net debt (b)	3 000	2 929	2 789

(a) Totals between sectors may not add because of consolidation.

(b) Gross indebtedness less financial assets.

Source: ABS catalogue no. 5501.6 and unpublished data

State and local government taxation

State Government revenue from taxes, increased by \$1 million, from \$630 million in 1996–97 to \$631 million in 1997–98. Some notable movements include an increase in taxes on property of \$9 million (6%), while taxes on the use of goods and performance of activities decreased by \$7 million (3%). Local government revenue from taxes, increased \$10 million, from \$140 million in 1996–97 to \$150 million in 1997–98.

Tasmania's State and local government taxes per head figure was \$1,657 in 1997–98, a \$32 increase on the 1996–97 figure of \$1,625 and well below the average of all States and territories, \$2,041. Tasmania has the second lowest taxes-per-head figure in Australia, with Queensland recording the lowest (\$1,574).

STATE, TERRITORY AND LOCAL GOVERNMENT TAXES PER HEAD OF MEAN POPULATION

	1995–96 \$	1996–97 \$	1997–98 \$
NSW	2 033	2 202	2 372
Vic.	2 089	2 200	2 097
Qld	1 475	1 556	1 574
SA	1 666	1 739	1 841
WA	1 727	1 767	1 940
Tas.	1 597	1 625	1 657
NT	1 672	1 773	1 889
ACT	1 668	1 854	1 884
All States	1 865	1 979	2 041

Source: ABS catalogue no. 3201.0 and unpublished data

STATE AND LOCAL GOVERNMENT TAXES, TASMANIA

	1995–1996 \$m	1996–1997 \$m	1997–98 \$m
Employers payroll taxes	142	146	144
Taxes on property			
Municipal rates	135	140	150
Other	152	141	150
Total	287	281	300
Taxes on provision of goods and services			
Excises	14	14	15
Taxes on gambling	55	62	65
Taxes on insurance	29	28	28
Total	98	105	107
Taxes on use of goods and performance of activities			
Motor vehicle taxes	82	87	92
Franchise taxes			
Petroleum products	48	47	47
Tobacco franchise taxes	83	85	74
Liquor franchise taxes	18	19	18
Other	—	—	—
Total	231	237	230
Total taxes	758	769	782

Source: ABS catalogue no. 5501.6

FURTHER READING

ABS publications

Classifications Manual for Government Finance Statistics, Australia (1217.0)

Expenditure on Education, Australia (5510.0)

Government Finance Statistics, Australia (5512.0)

Government Finance Statistics, Australia, Concepts, Sources and Methods (5514.0)

Government Finance Statistics, Tasmania (5501.6)

Government Financial Estimates, Australia (5501.0)

Information Paper. Developments in Government Finance Statistics (5516.0)

Public Sector Financial Assets and Liabilities, Australia (5513.0)

Taxation Revenue, Australia (5506.0)

Other publications

Budget Paper No 1; *Budget Overview 1999–2000*, Department of Treasury and Finance, Hobart, 1999

Government Printer, *Finance 1901*

Government Printer, *Finance 1902*

State Grants Commission, *Annual Report 1997–98*

Websites

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

Tasmania Online: <http://www.tas.gov.au>

CHAPTER 7

Population

Photo: National Library of Australia



Joseph Aloysius Lyons and Dame Enid Lyons (at rear) with their 5 sons and 6 daughters.

The average family size in Tasmania in 1998 was 3 people.

The first human inhabitants of what is now Tasmania arrived more than 35,000 years ago, crossing the land bridge that then connected Tasmania to the mainland. The total population, before white settlement, has been estimated at between 5,000 and 10,000.

White settlement began in 1803 to secure British strategic interests against the French. In keeping with the penal nature of the early settlement, most of the population were convicts or government officials. At the Census of 1847, just over 50% of the total population of 70,000 were, or had been, convicts. Less than 20% were free immigrants.

Until the mid-nineteenth century, Tasmania experienced a fairly rapid build-up of population. However, in the early 1850s this rapid rate of population increase slumped. This decline was due to two major factors: the discovery of gold in Victoria in 1851, which led to a large-scale

emigration of Tasmanians, and the ending of transportation of convicts in 1853. This decline was reversed in the early 1870s, partly due to a growth in markets for Tasmanian primary products, and also important tin and gold discoveries in Tasmania. Between 1861 and 1876, the population increased from 90,000 to 105,000. The next 15 years to 1891 saw the population reach 147,000, an annual rate of increase more than double that of the previous period.

The effects of economic depression in Australia in the 1890s, while severe, were eased somewhat in Tasmania by the silver and copper mining boom on the West Coast. Tasmania's relative prosperity was reflected in a net migration in excess of 4,000 per year from 1896 to 1899. While federation in 1901 meant free access to mainland markets for primary producers, many small manufacturers faced strong competition from mainland firms.

Economic stagnation, exacerbated by the decline of the West Coast mining boom, was reflected in a drift of people to the mainland. Attracting manufacturing industries through the provision of cheap hydro-electric power came to be seen as a way out of the economic gloom. While this was partly successful, it was not wholly sufficient, especially during the economic depression of the late 1920s and 1930s. Rural industries, always important to Tasmania's economic well-being, were particularly affected by the depression. In the 35 years between 1900 and 1935, Tasmania's population grew at less than 0.7% per year.

After World War II, Tasmania shared in the prosperity of the Australian economy. The post-war baby boom and gains from overseas immigration resulted in an annual population increase of 1.5% in the 35 years from 1945 to 1980, more than double the pre-war rate. Tasmanians made up 2.9% of the total Australian population at 30 June 1976.

In the 1980s, Tasmania still lagged behind the mainland States. Tasmania's annual growth rate averaged 0.8% while the Australian growth rate averaged 1.5%. As a result, the proportion of the total Australian population living in Tasmania decreased to 2.7% at 30 June 1989.

In the 1990s, while the Australian growth rate has averaged 1.2% in the first eight years, Tasmania has averaged only 0.5%. With the annual rate below 0.5% since the beginning of 1993, Tasmania's proportion of the total Australian population at 30 June 1998 decreased to 2.5%.

Population growth

From 1978 to 1998, Tasmania's resident population growth rate was the lowest of all the States, followed by South Australia, Victoria and New South Wales. In 1991–92, the population growth rate fell below 1%, falling each subsequent year to less than a fifth of 1% in 1995–96. In 1996–97, Tasmania experienced a negative population growth rate of –0.20%. This was the first twelve month period since 1940–41 in which Tasmania's population has fallen. This decline in the population continued in 1997–98 with a further negative growth rate of –0.34%. Tasmania's declining population in recent years has resulted from net losses in interstate migration.

ESTIMATED RESIDENT POPULATION (a)

	1978 '000	1998 '000	Growth %
NSW	5 053.8	6 341.6	25.5
Vic.	3 863.8	4 660.9	20.6
Qld	2 172.0	3 456.3	59.1
SA	1 296.2	1 487.3	14.7
WA	1 227.9	1 831.4	49.2
Tas.	417.6	471.9	13.0
NT	110.0	190.0	72.8
ACT	218.0	308.4	41.5
Australia	14 359.3	18 751.0	30.6

(a) Year ended 30 June.

Source: ABS catalogue no. 3101.0

POPULATION GROWTH, TASMANIA

Year ended 30 June	Growth no.	Rate %	Australian rate %
1993	1 833	0.39	0.99
1994	1 280	0.27	1.06
1995	734	0.16	1.22
1996	770	0.16	1.32
1997	–965	–0.20	1.17
1998	–1 593	–0.34	1.22

Source: ABS catalogue no. 3204.6

MAJOR COMPONENTS OF POPULATION GROWTH (a)

	Natural increase %	Net migration %	Total growth %
NSW	0.63	0.46	1.10
Vic.	0.62	0.58	1.21
Qld	0.71	1.03	1.74
SA	0.44	0.07	0.51
WA	0.74	1.11	1.86
Tas.	0.45	–0.79	–0.34
NT	1.44	0.19	1.65
ACT	0.88	–0.75	0.13
Australia	0.64	0.57	1.22

(a) Year ended 30 June 1998.

Source: ABS catalogue no. 3101.0

Natural increase

Until the year ended 30 June 1987, Tasmania's rate of natural increase closely mirrored Australia's, which, in line with most of the developed world had been gradually falling. However, since 1987–88 the Tasmanian rate has fallen below the Australian rate. In 1997–98, Tasmania's rate of natural increase was 0.45%, compared with the Australian rate of 0.64%.

NATURAL POPULATION INCREASE, TASMANIA

Year ended 30 June	Live births no.	Deaths no.	Natural increase no.	Rate %	Australian rate %
1993	6 814	3 676	3 138	0.67	0.78
1994	6 870	3 754	3 116	0.66	0.76
1995	6 812	3 836	2 976	0.63	0.73
1996	6 377	3 856	2 521	0.53	0.68
1997	6 242	3 798	2 444	0.52	0.68
1998	5 893	3 760	2 133	0.45	0.64

Source: ABS catalogue no. 3234.6

Migration**Interstate migration**

Tasmania experienced net gains in interstate migration in the years 1988–89 to 1990–91. Since then, however, increasingly greater net losses have been recorded. In 1997–98, there was an estimated net loss of 3,966 people, or 0.84%.

Overseas migration

In Tasmania, the rate of population increase caused by overseas migration has always been low. In the year ended 30 June 1998, the rate of increase caused by overseas migration was estimated to be 0.05%; the Australian rate for the same period was 0.57%.

ESTIMATED INTERSTATE MIGRATION, TASMANIA

Year ended 30 June	Arrivals no.	Departures no.	Net no.	Rate %
1993	11 151	12 645	-1 494	-0.32
1994	9 547	11 654	-2 107	-0.45
1995	10 196	12 852	-2 656	-0.56
1996	10 531	13 121	-2 590	-0.55
1997	11 248	14 909	-3 661	-0.77
1998	10 890	14 856	-3 966	-0.84

Source: ABS catalogue no. 3234.6

ESTIMATED OVERSEAS MIGRATION, TASMANIA

Year ended 30 June	Arrivals no.	Departures no.	Net (a) no.	Rate %	Australian rate %
1993	1 979	1 582	103	0.02	0.17
1994	1 943	1 553	192	0.04	0.26
1995	2 189	1 723	310	0.07	0.44
1996	2 255	1 785	398	0.08	0.57
1997	2 161	1 843	252	0.05	0.47
1998	2 007	1 969	240	0.05	0.57

(a) Estimates of net overseas migration include an adjustment for change in travel intention.

Source: ABS catalogue no. 3234.6

Population distribution

In terms of population distribution, Tasmania is the most decentralised State with nearly 60% of the population living outside the capital city statistical division.

At 30 June 1998, the resident population of Tasmania was estimated at 471,885. On a regional basis, the Greater Hobart–Southern Region accounted for 48.7% of the population, the Northern Region 28.2% and the Mersey–Lyell Region 23.1%.

In the period 30 June 1996 to 30 June 1998, only twelve of Tasmania's 29 local government areas (LGAs) recorded population growth. Sorell municipality recorded the largest growth rate with an average annual increase of 1.19%. Other LGAs showing moderate growth were Latrobe (0.93%), Tasman (0.81%), Brighton (0.30%) and Kingborough (0.29%). Significant decreases occurred in West Coast (–3.31%), King Island (–1.85%), Flinders (–1.80%), Central Highlands (–0.83%), Burnie (–0.78%) and George Town (–0.77%).

ESTIMATED RESIDENT POPULATION IN LOCAL GOVERNMENT AREAS, TASMANIA

Local government area	1996 (a) no.	1998p (a) no.	Growth rate (b) 1996–98	Proportion of State %
Brighton	12 753	12 830	0.30	2.7
Central Highlands	2 554	2 512	–0.83	0.5
Clarence	49 550	49 158	–0.40	10.4
Derwent Valley	9 868	9 844	–0.12	2.1
Glamorgan/Spring Bay	4 152	4 164	0.14	0.9
Glenorchy	44 440	44 117	–0.36	9.3
Hobart	46 893	46 502	–0.42	9.9
Huon Valley	13 474	13 494	0.07	2.9
Kingborough	28 096	28 260	0.29	6.0
Sorell	10 624	10 878	1.19	2.3
Southern Midlands	5 575	5 590	0.13	1.2
Tasman	2 208	2 244	0.81	0.5
Greater Hobart-Southern Region	230 187	229 593	–0.13	48.7
Break O'Day	5 881	5 825	–0.48	1.2
Dorset	7 428	7 400	–0.19	1.6
Flinders	981	946	–1.80	0.2
George Town	6 929	6 823	–0.77	1.4
Launceston	63 896	63 237	–0.52	13.4
Meander Valley	17 267	17 289	0.06	3.7
Northern Midlands	11 842	11 816	–0.11	2.5
West Tamar	19 823	19 893	0.18	4.2
Northern Region	134 047	133 229	–0.31	28.2
Burnie	19 977	19 665	–0.78	4.2
Central Coast	21 351	21 122	–0.54	4.5
Circular Head	8 450	8 493	0.25	1.8
Devonport	24 935	24 667	–0.54	5.2
Kentish	5 462	5 468	0.05	1.2
King Island	1 879	1 810	–1.85	0.4
Latrobe	7 801	7 947	0.93	1.7
Waratahynyard	14 003	13 954	–0.18	3.0
West Coast	6 351	5 937	–3.31	1.3
Mersey-Lyell Region	110 209	109 063	–0.52	23.1
Tasmania	474 443	471 885	–0.27	100.0

(a) As at 30 June. (b) Average annual rate of increase or decrease in population.

Source: ABS catalogue no. 3204.6

SEX BY AGE DISTRIBUTION, TASMANIA, 1998 (a)

Age group (years)	Males no.	Females no.	Sex ratio males per 100 females
0–4	16 653	15 599	106.76
5–14	35 471	34 305	103.40
15–24	33 061	31 872	103.73
25–34	31 774	33 092	96.02
35–44	35 754	36 826	97.09
45–64	52 956	52 452	100.96
65 and over	26 967	35 103	76.82
All ages (b)	232 636	239 249	97.24

(a) As at 30 June. (b) There may be discrepancies between totals due to rounding.

Source: ABS catalogue no. 3234.6

Characteristics of Tasmanians

Sex

In 1998, the Tasmanian population contained an estimated 6,613 more females than males. This excess of females is concentrated in the 65 and over age group.

Age

Tasmania's population, like Australia's, continues to age. In 1998, the median age of Tasmania's population was 35.6 years. This was 5.1 years above the median age in 1986 and 6.8 years above that in 1981. By comparison, the median age of all Australians in 1998 was 34.6 years.

The age distribution of Tasmania's population has also changed markedly over time. In 1901, 47.8% of the population were aged under 20 years. This compares with 33.1% who were aged under 20 years in 1986, and 28.9% in 1998. Conversely, the proportion of persons in older age groups has increased. In 1901, 4.1% of the population were 65 years and over. This compares with 10.6% in 1986 and 13.2% in 1998.

Births and deaths

Births

The late 1950s to the early 1960s in Tasmania was a period of peak fertility in the post-war era, before a decline in the mid-1960s which continued through the 1970s. Since 1980, a period of stability has been reached, but at a level only slightly over 50.0% of the 1961 rate.

Prior to 1977 in Tasmania, the most fertile age group was 20–24 years; however, since 1977 it has been the 25–29 age group. A comparison of 1987 and 1997 Tasmanian age-specific birth rates reveals a small increase in the 15–19 year age

NET REPRODUCTION RATES, TASMANIA AND AUSTRALIA (a)

	Tasmania	Australia
1992	0.933	0.908
1993	0.923	0.895
1994	0.940	0.885
1995	0.916	0.877
1996	0.915	0.862
1997	0.859	0.853

(a) The extent to which the population can reproduce itself over time.

Source: ABS catalogue no. 3311.6

group of 1.5%, whilst the rates in the 20–24 and 25–29 year age groups fell by 21.3% and 14.9%, respectively. The birth rate for females in the 30–34 year age group increased by 19.7%, whilst the rate for the 35–39 year age group increased by 37.3%. In 1997, females in the 25–29 year age group continued to be the most fertile with 122.1 births per thousand, a drop of 4.6% from the figure of 128.0 recorded in 1996. In 1997 in Tasmania, the median age of the mother for all confinements was 28.2 years, a slight drop from the figure recorded in 1996 (28.3 years), but an increase from the figure recorded in 1987 (27.0 years).

Several factors have contributed to these changes, including later marriage and an increasing period between marriage and the birth of the first child. For example, in Tasmania since the early 1960s, the median age for spinster brides has increased, from about 21.0 years to 25.6 years in 1997. Also, in the mid 1960s, the median duration between marriage and the birth of the first child was about 12 months; in the 1990s, it has been, on average, about 2 and a half years.

The fertility rate, as measured by the net reproduction rate, is falling and since the early 1970s has been below replacement level both in Tasmania and Australia. The Tasmanian fertility rate has generally been higher than the national rate.

Deaths

Life expectancy

Life expectancy is a measure used to indicate changes in the health status of a community. It is the number of years that a person can, on average, expect to live past their present age; it is based on death rates of the population. In Australia in the early twentieth century, life expectancy at birth was less than life expectancy at age 5 for males, a reflection of high infant mortality rates.

More recently, with improvements in hygiene and health care, infant and early-age death rates have decreased significantly. Since the start of the century, based on figures for 1997, life expectancy in Australia at birth has increased by 20.4 years for males and 22.5 years for females.

Changes to life expectancy rates for older age groups were only minor until the 1970s. In Australia in 1970–72, life expectancy for males aged 60 was 15.4 years, compared with 14.3 years in the first decade of this century. For females, the difference was 19.7 years, compared with 16.2 years. Since 1970–72, there has been a significant increase in life expectancy of 60-year-olds. In Australia in 1995–97, life expectancy for males aged 60 was 19.9 years, an increase of 4.5 years from 1970–72. For females aged 60, life expectancy was 24.0 years, an increase of 4.3 years from 1970–72.

In Tasmania in 1995–97, life expectancy at birth was 74.8 years for males and 80.1 years for females, lower than the equivalent natural measure of Australian life expectancy at birth of 75.6 years for males and 81.3 years for females. Much of this recent improvement in life expectancy can be related to advances in the prevention and treatment of diseases associated with the circulatory system, including heart attacks and strokes.

LIFE EXPECTANCY, AUSTRALIA

Age (years)	1901–1910		1995–1997	
	Males years	Females years	Males years	Females years
0	55.2	58.8	75.6	81.3
5	57.9	58.6	71.2	76.8
10	53.5	56.0	66.2	71.8
20	44.7	47.5	56.5	62.0
40	28.6	31.5	37.8	42.5
60	14.3	16.2	19.9	24.0
70	8.7	10.0	12.7	15.8

Source: ABS catalogue no. 3311.6

Mortality

The 1970s, 1980s and 1990s were decades of considerable improvement in life expectancy. There was also a decrease in the death rate. In 1997, the Tasmanian standardised death rate was 6.8 per thousand of mid-year population, somewhat lower than the figure recorded in 1996 (7.1 per thousand), and a strong decrease of 18.1% from the 1987 figure (8.3 per thousand). The infant mortality rate has also fallen quite dramatically, from 16.3 per thousand live male births in 1977 to 8.4 in 1997, and from 13.4 to 4.5 among females.

Marriages and divorces

Marriages

Marriage is a legal contract, but it also has profound religious and cultural significance. There were 2,672 marriages registered in Tasmania during 1997. This was a decrease of 14.9% on the number registered in 1987 (3,141), but a 0.7% increase on the number recorded in 1996. The 1997 number was the second lowest number of marriages recorded since 1963. Tasmania's crude marriage rate for 1997 was 5.6 per 1,000 of mean population, the lowest rate since 1896 and significantly less than the figure of 7.0 recorded in 1987.

Although the marriage rate has generally declined, and the incidence of divorce and de facto relationships (especially among younger people) has increased over the past 20 years, 88.9% of Tasmanian couples counted in the 1996 Census said they were married. Associated with changes in living arrangements has been an increase in the age at first marriage. There has also been a trend towards civil rather than religious marriage ceremonies.

MEDIAN AGE OF BRIDES AND BRIDEGROOMS, TASMANIA

	1977 years	1987 years	1997 years
Brides			
Never married	21.2	23.1	25.6
All brides	24.4	24.6	27.3
Bridegrooms			
Never married	24.0	25.1	27.5
All bridegrooms	27.3	26.7	29.7

Source: ABS catalogue no. 3311.6

Age at marriage

Since the mid-1970s, there has been a move towards fewer marriages each year. In addition, the age of people in first marriages has steadily become older. The median age (the age where there are as many people marrying above the age as there are people marrying below it) at first marriage in Tasmania in 1997 was 27.5 years for men and 25.6 years for women (compared with 24.0 years for men and 21.2 years for women in 1977). The median age at marriage varies according to previous marital status. For divorcees remarrying in 1997, the median age at remarriage was 41.3 years for men and 37.9 years for women.

The move towards later marriage is clear when the ages at marriage are compared between 1977 and 1997. In 1977, 31.4% of all brides were 19-years old or less, whereas in 1997, only 2.7% of all brides were in this age group. Conversely, in 1977, 11.3% of all brides were aged between 25 and 29 years, whereas in 1997, 32.4% of all brides were in this age group.

A similar pattern emerges for bridegrooms. In 1977, 55.4% of all bridegrooms were 24-years old or less, whereas in 1997, only 19.2% of all bridegrooms were in this age group. Conversely, in 1977, 29.6% of all bridegrooms were aged between 25 and 34 years, whereas in 1997, 50.4% of all bridegrooms were in this age group.

Marriage ceremonies

There has been a shift from religious towards civil marriage ceremonies. Although almost half of the 2,672 Tasmanian weddings in 1997 were performed by ministers of religion, the proportion has steadily declined, from 65.1% in

1977 to 47.6% in 1997. Most of this shift occurred in the 1970s and can be attributed to the Commonwealth Government's introduction, in 1973, of authorised private civil celebrants to provide an alternative to religious ceremonies (conducted by a minister of religion registered as an authorised celebrant), and State Registry weddings.

In 1997, 71.7% of all Tasmanian religious weddings were performed by ministers of the Anglican, Catholic or Uniting Churches. This is broadly consistent with the incidence of these denominations in the population. Of the 1,272 marriages performed by ministers of religion in 1997, 459 (36.1%) were in the Anglican Church, 288 (22.6%) were in the Catholic Church and 166 (13.1%) were in the Uniting Church.

The number of marriages where at least one partner had previously been married has fallen in line with the decline in total marriages. However, the proportion of marriages involving a party remarrying has grown over the past 10 years. In 1987, 34.5% of all marriages involved a party remarrying; this figure increased to 37.7% in 1997.

Divorces

Under the *Family Law Act 1975*, the only ground on which a divorce may be granted is that of irretrievable breakdown of the marriage. This ground needs to be established by the fact that the husband and wife have lived apart for 12 months or more, where there is no reasonable likelihood of reconciliation.

There were 1,321 divorces granted in Tasmania in 1997. This represented a drop of 16.5% from

DIVORCES REGISTERED IN TASMANIA

	1977	1987	1997
Divorces granted	1 134	1 115	1 321
Crude divorce rate (per 1,000 population)	2.8	2.5	2.8
Median duration of marriage (years)	10.5	9.8	12.0
Median interval between marriage and final separation (years)	n.a.	7.5	8.7
Divorces involving children			
Number	776	736	831
Percentage of total divorces	68.4	66.0	62.9
Average number of children	2.1	1.9	1.9
Applicant			
Husband	396	415	405
Wife	738	660	753
Joint	n.a.	40	163

Source: ABS catalogue no. 3311.6

the previous year's figure of 1,582. In 1997, the crude divorce rate was 2.8 divorces registered for every 1,000 people; this was considerably lower than the 1996 figure of 3.3 per 1,000 of population, but higher than the rate recorded in 1987 (2.5 per 1,000 of population).

Age distribution

In 1987, the highest divorce rate for males was in the 30–34 year age group (14.1 per 1,000 population); for females, the highest divorce rate was in the 25–29 year age group (14.1 per 1,000 population). The highest age-specific divorce rates recorded in Tasmania in 1997 were in the 35–39 year age group for both males and females. The rate for males was 15.0 per 1,000 of population, whilst the female rate was 15.6.

Divorces involving children

The proportion of divorces involving children has fluctuated in recent years, rising to 64.0% of all divorces registered in 1996 after having fallen to 56.5% of all divorces in 1991 (the lowest proportion of divorces involving children since the introduction of the *Family Law Act* in 1976). In 1997, there were 831, or 62.9% of divorces involving at least one child under 18 years. In 1997, there were 1.9 children involved per divorce where there were children. This equalled the 1996 figure, but was lower than the 1977 figure when the average was 2.1 children.

Duration of marriage

In 1997, the median interval between marriage and divorce was 12.0 years, compared with 9.8 years in 1987. Similarly, by 1997, the interval between marriage and final separation had increased to 8.7 years, 1.2 years longer than the 1987 figure. The Tasmanian intervals have remained approximately one year longer than the national equivalents.

Religion

Religion plays an important part in the lives of many Tasmanians. Comparison of religious denominations of the population prior to 1933 is difficult due to changes in the wording of census questions.

Since 1933, there appears to have been a steady decrease in religious affiliation by Tasmanians. Of those Tasmanians responding, the 1933 Census showed that 99.9% of the population were religious adherents. At the 1971 Census, this figure had decreased to 94.0%; at the 1996 Census, just over 81.0% of the population were affiliated with various religions.

The Anglican Church has remained the largest of the Christian denominations in Tasmania. In 1933, Anglicans accounted for 53.7% of the population. In 1971, this figure had fallen to 46.2% and at the 1996 Census the proportion of Anglicans had decreased again, to 37.7%. While the percentage of the population affiliated with the Anglican Church has fallen over the past 70 years, the percentage of the population affiliated with the Catholic Church has increased. In 1933, 16.9% of the population were adherents of Catholicism, compared with 21.5% in 1996.

Of those Tasmanians responding, the 1933 Census showed there were 87 persons (0.04%) who identified themselves as non-Christian believers with over 80.0% of these being Hebrews. In 1981, the proportion of non-Christian believers rose to 0.3% and in 1996 this figure increased again, to 0.9%. This latter increase was partly due to the increase in Asian immigrants. Buddhists now make up the largest group of non-Christian believers.

There has been a large increase in the number of Tasmanians who are not affiliated with any religion. In 1971, 5.5% of the population indicated no religion. In 1981, this figure had increased to 9.9% and in 1996 this figure nearly doubled with 76,859 persons (18.6%) indicating no religious affiliation.

RELIGIOUS AFFILIATION, TASMANIA

	1986		1991		1996	
	no.	%	no.	%	no.	%
Christian						
Anglican	154 748	41.0	166 492	41.0	156 192	37.7
Baptist	8 092	2.1	9 924	2.4	9 727	2.3
Brethren	3 856	1.0	3 354	0.8	3 078	0.7
Catholic	80 479	21.3	89 496	22.1	89 156	21.5
Churches of Christ	2 046	0.5	1 621	0.4	1 681	0.4
Jehovah's Witness	2 062	0.5	2 250	0.6	2 268	0.5
Latter-day Saints	1 414	0.4	1 479	0.4	1 608	0.4
Lutheran	1 753	0.5	2 324	0.6	2 176	0.5
Orthodox	1 960	0.5	2 145	0.5	2 148	0.5
Pentecostal	1 953	0.5	3 471	0.9	3 784	0.9
Presbyterian and Reformed	12 084	3.2	13 300	3.6	13 977	3.4
Salvation Army	3 437	0.9	3 096	0.8	2 866	0.7
Seventh Day Adventist	1 413	0.4	1 215	0.3	1 163	0.3
Uniting Church (a)	36 724	9.7	38 612	9.5	34 901	8.4
Other Protestant	3 034	0.8	346	0.1	889	0.2
Other Christian	9 737	2.6	6 591	1.3	6 854	1.7
Total Christian	324 792	86.2	345 716	85.2	332 468	80.3
Non-Christian						
Buddhism	438	0.1	713	0.2	1 014	0.2
Islam	569	0.2	620	0.2	807	0.2
Hinduism	305	0.1	442	0.1	444	0.1
Judaism	160	—	194	—	167	—
Other religions	495	0.1	703	0.2	1 229	0.3
Total non-Christian	1 967	0.5	2 672	0.7	3 661	0.9
Other groups						
Inadequately described	2 379	0.6	1 891	0.5	1 279	0.3
No religion	47 852	12.7	55 326	13.6	76 859	18.6
Total other groups	50 231	13.3	57 217	14.1	78 138	18.9
Total	376 990	100.0	405 605	100.0	414 267	100.0
Not stated (b)	59 363	..	47 232	..	44 327	..
Overseas visitors	n.a.	..	n.a.	..	1 065	..
Total persons	436 353	..	452 837	..	459 659	..

(a) The Uniting Church was formed in 1978 from members of the Congregational, Methodist and Presbyterian churches. (b) 'Not stated' is excluded from calculations of percentage.

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

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SUMMARY OF POPULATION AT SELECTED CENSUS DATES, TASMANIA (a) (b)

		At 30 June								
	Unit	At 31 March 1901	At 4 April 1921	1933	1947	1961	1971	1981	At 6 August 1991	At 6 August 1996
Persons										
Males	no.	89 624	107 743	115 097	129 244	177 628	196 442	208 641	223 755	226 338
Females	no.	82 851	106 037	112 502	127 834	172 712	193 971	210 316	229 082	233 321
Total	no.	172 475	213 780	227 599	257 078	350 340	390 413	418 957	452 837	459 659
Masculinity (c)	no.	108	102	102	101	103	101	99	98	9
Age distribution										
(years)										
0–15	no.	64 025	77 637	73 030	77 483	123 331	129 307	116 942	114 190	111 489
0–15	%	37.1	36.3	32.1	30.1	35.2	33.1	28.0	25.2	24.3
16–64	no.	101 280	125 533	138 515	159 925	200 001	230 069	261 151	286 726	290 465
16–64	%	58.7	58.7	60.9	62.2	57.1	58.9	62.3	63.3	63.2
65 and over	no.	7 023	10 029	16 054	19 670	27 008	31 037	42 540	51 921	56 640
65 and over	%	4.1	4.7	7.0	7.7	7.7	7.9	9.9	11.5	12.3
Religion										
Church of England	no.	83 812	112 222	105 228	123 158	159 101	169 089	151 207	166 492	156 192
Methodist	no.	24 961	27 171	26 470	33 358	42 236	42 173	19 906	—	—
Catholic (d)	no.	30 314	35 465	33 189	39 844	63 993	77 250	78 143	89 496	89 156
Presbyterian	no.	11 523	14 796	13 194	12 644	16 757	17 281	11 575	13 300	13 977
Baptist	no.	4 716	5 332	4 666	5 374	7 227	8 039	7 965	9 924	9 727
Congregational	no.	5 544	4 543	3 963	4 007	4 193	4 134	1 790	189	144
Churches of Christ	no.	1 729	1 935	1 892	2 039	2 507	2 500	2 110	1 621	1 681
Salvation Army	no.	1 454	1 357	1 142	1 612	2 316	3 176	3 202	3 096	2 866
Uniting Church (e)	no.	—	—	—	—	—	—	17 668	38 612	34 901
Other Christian	no.	3 557	5 868	5 509	6 179	13 204	20 753	23 848	22 989	23 968
Total Christian	no.	167 610	208 689	195 253	228 215	311 534	344 395	317 414	345 719	332 468
Non-Christian	no.	559	245	87	173	268	561	1 263	2 669	3 661
Indefinite	no.	515	520	373	797	1 766	993	11 162	1 845	1 279
No religion	no.	411	399	159	506	775	20 221	36 222	55 372	76 859
Not stated	no.	3 380	3 927	31 727	27 387	35 997	24 243	52 896	47 232	44 327
Marital status										
Never married (f)	no.	49 520	54 297	61 009	53 912	58 039	65 213	80 067	93 421	101 750
Married (g)	no.	51 241	76 482	86 014	114 625	157 110	181 855	197 069	209 745	203 973
Widowed	no.	7 232	8 874	10 954	12 933	15 563	18 621	21 362	23 185	24 953
Divorced	no.	57	118	416	1 319	2 329	3 401	10 855	19 038	24 512
Not stated	no.	431	565	616	918	(h)	(h)	(h)	(h)	(h)
Birthplace										
Australia	no.	147 938	196 245	215 213	247 379	317 478	350 150	371 624	396 313	394 774
New Zealand	no.	1 193	1 360	1 201	1 030	1 128	1 550	2 421	3 468	3 563
United Kingdom/ Ireland	no.	19 815	12 779	9 588	7 123	16 741	22 513	23 289	24 251	23 103
Netherlands	no.	13	13	11	13	3 556	3 183	3 008	2 959	2 687
Germany	no.	773	387	238	171	2 223	2 009	1 936	2 030	2 015
Italy	no.	50	37	92	64	1 536	1 485	1 343	1 334	1 233
Other European	no.	625	485	334	325	5 789	6 184	5 530	5 456	5 194
Other Birthplace	no.	2 068	2 474	922	973	1 889	3 339	9 806	170 174	27 090

(a) Tribally born Aborigines excluded from census data prior to 1966. (b) As recorded. Not adjusted for under-enumeration. (c) Number of males per 100 females. (d) Includes Catholic and Roman Catholic. (e) The Uniting Church was formed in 1978 from members of the Congregational, Methodist and Presbyterian churches. (f) 15 years and over. (g) Includes separated not divorced. (h) Marital status was allocated where this information was not stated.

Source: Various Censuses of Population and Housing

100 years of diversity in Tasmania

It is widely recognised, both within this country and internationally, that contemporary Australia has one of the most ethnically heterogeneous populations in the world today. Tasmania, however, is sometimes regarded as being the exception to this phenomenon, the state in which the population is ethnically and culturally homogeneous. While this state today receives only a small proportion (less than 0.01%) of the annual migrant intake, it is far from true to say that Tasmanian society is not culturally diverse. Indeed, it may be said that Tasmania's population has been characterised by cultural diversity for the last 100 years.

In 1900, persons born in more than 32 countries were resident in Tasmania¹, comprising 14.2% of the total population. Nearly one hundred years later, at the 1996 Census, persons born in more than 140 countries were resident in Tasmania², making up 10.2% of the state's total population. These figures cannot be compared directly, however, as the categories used for the enumeration of the birthplace groups are different. Furthermore, the figures for 1900 are somewhat misleading in today's terms. More than 90.0% of those born in countries other than Australia were born within the British Empire, and as such would have been largely indistinguishable from the Australian-born of the day.

Tasmania's trend towards increasing diversity is consistent with national and global patterns of greater mobility. It also reflects

the impact of Australia's post-war immigration program, one of the largest and most protracted planned migration intakes in modern history. Numerous migrants have come to Tasmania in the post-war years and thereafter, joining the Australian-born and the Aboriginal community. A number of sizeable communities have been established, notable among them the Italian, German, Polish, Dutch, Chilean and Greek communities.

In the early years of the post-war migration program, significant numbers of 'displaced persons' from the Baltic States and the Ukraine also arrived in Tasmania, many of them joining Italians and Poles working on hydro-electric schemes as a condition of their entry. More recently, communities originating from countries as diverse as Vietnam, Laos (the Hmong), El Salvador, Bosnia-Herzegovina, the Sudan and Somalia have been established in Tasmania, largely composed of those coming to Australia as refugees or humanitarian entrants. Other birthplace groups of significant size in Tasmania include the English-, Scottish- and New Zealand-born.

Hilary Lovibond Johnston

¹ Figures drawn from Statistics of the Colony of Tasmania for the Year 1900, Government Printer, Tasmania, 1901.

² Figures drawn from ABS unpublished statistics, 1996 Census of Population and Housing.

The Census in Tasmania – Then and Now

From the time of the first settlement in Tasmania at Risdon Cove in 1803, the colonial government saw the necessity of maintaining records of both the convict and free settler population to plan for the needs of the colony. These events which were the precursor of the Census as we now know it, were termed 'Musters' and were not much more than head counts of the population.

While convict musters were conducted as often as weekly, general musters of the whole population (requiring assembly at an appointed place and time) were undertaken approximately every three months. The first true Census involving the distribution of an official form to every household and institution in Tasmania, took place on 1 January 1842. The nature of the information collected, the timing of the counts and the frequency have changed over time, yet the Census has always provided us with a snapshot of the community of the day.

The 1901 Census had 14 questions, compared with 37 topics recommended for the 2001 Census. This does not necessarily mean that less detail was collected at the turn of last century. Rather, it is a reflection of the progress made with the design of the Census form itself, the processing of the form and the use of standardised ways of measuring aspects of life.

The modern form requires little 'writing' on the part of the person filling in the form. Most responses are given by marking a box. As a result, more questions do not mean more time is required to fill in the form. It is evident that the Census has been and remains the only practical way to get information on how many people there are in Australia, what they do and how they live – information that is essential for the planning required to successfully meet the challenges of the 21st Century.

Population

The 1901 Census Report prepared by the Government Statistician and

Registrar-General, Robert M. Johnston, expressed concerns about Tasmanian population growth, similar to present day concerns. Johnston noted Tasmanian fertility rates were declining and though death rates were also declining, the change was not enough to outweigh a reduction in the number of births, given that more people were leaving the state than were arriving. Immigration was not encouraged at that time; as a result the annual net increase in population for Tasmania in 1901 was 1.64%; it is currently –0.3%.

Within the state, it was noted there was a large movement of people from the East to the West of the state in response to the development there of rich silver and copper mining fields. Johnston also calculated that though 20% of the Tasmanian population had been born elsewhere, 91% of the population at that time was derived from British and Irish ancestry.

Age

Statistics relating to the age of the population have long been collected. However, in 1881, special reference was made to the proportion of the male population aged 21 years and over, as only males aged 21 years and over had the right to vote.

For men, the years from 20–40 were referred to as the Soldier Years, as these were regarded as a man's most 'vigorous' time of life; also, the years 20–65 were referred to as the Working Years. For women, the years from 15–45 years were considered the Fertile Years, a standard still employed by demographers today.

Marriage and relationships

Rather than asking for Marital Status, the Census a hundred years ago asked after your 'Conjugal Condition'. The descriptions regarding relationships between persons did not include de-facto relationships nor separations.

Men were considered marriageable from the age of 20 years, women from the age of 15 years. In 1901, there were 119.29 marriageable women in Tasmania for every 100 men.

Occupations

The Tasmanian Census first recorded the occupation of all individuals in 1881. A perusal of the tables of occupations from the early Censuses reveals that many aspects of work have changed over time. Some occupations have become less common or have disappeared, some have had a change of name, while of course new ones have evolved. For example, we now refer to Pharmacists, while earlier, the same occupation was called Druggist and a person who was an Amanuensis is now more likely to be called a Secretary. The Ostler was the person who tethered the horses outside of the inn or tavern, and while working with tin and the finishing and polishing of metal goods is still an occupation, it is rarely described as being performed by a Whitesmith. Before the advent of septic tanks or sewerage systems, it was the Nightman who came and collected our waste, a practise that continued in some Australian cities into the 1960s.

Interestingly, we often think of Victorian times as being particularly conservative, yet in 1881, both prostitutes and opium sellers were counted as such in the Census alongside clergyman and soldiers, albeit in different categories. Opium sellers were placed in Sub-Order 3, Others Working and Dealing in Drink and Stimulants, while Prostitutes were assigned to the Criminal Class. Categories of occupations have developed and expanded over time and by 1901, the two principal divisions were Dependants: Non Breadwinners and Breadwinners.

The Census of today also asks us to nominate our income bracket, information not requested by the early Censuses.

Health

In earlier Censuses such as the 1901 Census, questions were asked about the well-being of individuals, but in a way that would not be acceptable today. Such information came under the heading of Sickness and Infirmary. The descriptions used in this classification demonstrate not only that the meaning of words can change over time, but also how much more simple and blunt life was in those days. The descriptions were: Sick, Accident (suffering from), Deaf and Dumb, Blind, Insane, Idiotic, Epileptic, Crippled, Deformed, and Other Infirmities. Blindness was considered to be a normal consequence of old age.

Education

Literacy standards improved quite markedly in Tasmania from 1881 to 1901. Johnston proudly writes that while Tasmania was behind the average of the seven Australasian States from 1881 to 1901, that rapid progress resulted in the State being ahead of the average by 1901. In 1881, three-quarters of the population aged five years and over could read and write. At the time of the 1901 Census, 88.1% of Tasmanians aged five years and over could read and write, while the national average was 87.1%. Also at this time, 80.5% of children aged 7–14 years were at school of some kind and 7.2% were educated at home.

Housing

In the same period as discussed above, the quality of housing, or Habitations, as they were called, also improved significantly. This quality was measured in terms of the number of inhabited houses together with the number of rooms and occupants. The other measure used was value, usually assessed by annual rental. To illustrate this point, Johnston compared Tasmanian housing to that of England and Wales, and also to Glasgow thus: the percentage of inhabited dwellings with an annual value of 20 pounds and over in 1886 was 15.35% for England and Wales and 33.50% for Tasmania in 1901 and the percentage of houses with five and more rooms in 1901 for Tasmania was 42.32%, while the equivalent for Glasgow in 1889 was 30.04%.

FURTHER READING

ABS publications

Australian Demographic Statistics (3101.0)
Population by Age and Sex, Australian States and Territories (3201.0)
Regional Population Growth, Australia (3218.0)
Population Projections, Australia (3222.0)
Births, Australia (3301.0)
Causes of Death, Australia (3303.0)
Deaths, Australia (3302.0)
Demography, Tasmania (3311.6)
Hobart A Social Atlas (2030.6)
Marriages and Divorces, Australia (3310.0)
Population, Tasmania (3234.6)
Population by Age and Sex, Tasmania (3235.6)
Australian Social Trends (4102.0)
Tasmania's Young People, 1996 (4123.6)
1996 Census Hobart Suburbs (2026.6)
1996 Census Launceston Suburbs (2028.6)
1996 Census Burnie and Devonport Suburbs (2027.6)
1996 Census Selected Family and Labour Force Characteristics for Statistical Local Areas (2017.6)
1996 Census Selected Social and Housing Characteristics for Statistical Local Areas (2015.6)
1996 Census Selected Characteristics for Urban Centres and Localities, Tasmania (2016.6)
1996 Census Aboriginal and Torres Strait Islander People (2034.6)

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Census of the State of Tasmania, 1891
Census of the State of Tasmania, 1901
Census of the Commonwealth of Australia, 3rd April, 1911
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E. C. Nowell, *Census of the Colony of Tasmania, 1881*, Government Printer, Hobart
R. M. Johnston, *Census of the Colony of Tasmania, 1891*, Government Printer, Hobart
R. M. Johnston, *Census of the Colony of Tasmania, 1901*, Government Printer, Hobart

Websites

ABS website: <http://www.abs.gov.au>
Tasmania Online: <http://www.tas.gov.au>

Acknowledgments

Hilary Lovibond Johnston

CHAPTER 8

Labour

Photo: Archives Office of Tasmania



Messrs. Summergreene & Co. Tailoring Establishment, c1914

Small, overcrowded and poorly lit, establishments such as this employed many of Hobart's working people early this century.

Statistics relating to the labour force are a major economic indicator in Australia. The ABS collects information on labour statistics such as the level of employment, unemployment, earnings and other labour costs, overtime, job vacancies and industrial disputes. Together, they can provide us with insights into the economy and measure the effectiveness of government policy changes. Labour statistics can also provide an insight into the way in which the Australian community lives and works, in particular, in relation to the numbers of hours worked, job mobility and retirement.

The ABS collects information on labour statistics via its monthly population survey. This survey was conducted as a quarterly collection from 1964 to 1978. Since that time, the survey has been undertaken on a monthly basis. Labour

statistics from this collection are supplemented by Census statistics every five years.

The monthly population survey is based on a multi-staged sample survey and aims to collect information from private (houses, flats etc.) and non-private dwellings (hotels, motels etc.). The survey covers about 0.5% of the Australian population (around 30,000 dwellings) and collects information from all selected persons aged 15 and over except:

- members of the permanent defence forces;
- certain diplomatic personnel of overseas governments;
- overseas residents in Australia; and
- members of non-Australian defence forces (and their dependants) stationed in Australia.

Tasmania has in recent times had the highest level of unemployment of all Australian States, peaking in July and August 1993 at 12.9%. The unemployment rate has fluctuated since this time, reaching a low of 9.5% in July 1995. Unemployment at January 1999 stood at 10.2%.

The 1990s has seen Tasmania's worst period of unemployment since the great Australian depression during the 1930s. In the interim, Tasmania experienced relatively low levels of unemployment due, in part, to major construction works associated with the development of Hydro-Electric Commission schemes, where labour was often imported into the State.

Tasmania's unemployment rate has exceeded or equalled 10.0% for long periods in the 1990s, from March 1991 to May 1995, and from January 1996 to the present.

Several factors have contributed to the high level of unemployment in Tasmania in recent times. In particular, there has been fundamental change to the operation of the Australian labour market through the introduction of workplace and enterprise bargaining. The introduction of this system has seen a move away from a centralised method of wage and condition determination, to a system where organisations and even individuals have the capacity to negotiate their own working conditions and wages. This trend towards localised bargaining has often resulted in productivity increases being achieved through reductions in staffing levels.

Rapid advancements in technology and communication have resulted in the centralisation of large companies and the banking industry. Because communication has become fast and inexpensive, many companies have closed regional offices in Tasmania and now operate from the mainland. This has resulted in some movement of skilled labour interstate as staff move with their employer. Similarly, banks are leaving regional centres around the State and conducting their business more and more from major urban centres. This has helped to place upwards pressure on unemployment rates in country areas.

Despite adverse factors affecting the labour market in Tasmania in recent years, there have been some sectors where employment prospects have improved. One such sector is the call centre industry, with centres being established in major population areas including Burnie, Launceston and Kingston, south of Hobart. Tasmania is a

particularly attractive location to set up telephone call centres, as set up costs and overheads are invariably cheaper than in mainland States and cities and the labour market has an ample supply of employees with relevant skills.

Women are playing a larger part in the Tasmanian workforce than previously. In September 1998, the participation rate for females in the Tasmanian labour force was 49.9% compared with figures around 41.0% in the late 1970s. The unemployment rate for women in September 1998 was 8.8%, significantly lower than the figure for men at 12.0%.

There has been a considerable shift away from public sector employment in Tasmania in recent years. The number of State public sector departments have been reduced which in turn has led to a decrease in the number of State public servants. Many of the functions previously undertaken by State agencies are now being performed on contract by the private sector. The private sector, because of its different operational structures and conditions, can often complete this work with fewer staff.

The Labour Force

In December 1998, there were 215,400 Tasmanians, or 58.4% of the State's working age civilian population, in the labour force (either working or looking for work).

Participation in the labour force

The labour force is a measure of the total supply of labour available to the labour market during a given week. The labour force consists of those persons aged 15 years and over who were either employed (on a full-time or part-time basis) or were unemployed and actively seeking work and available to start work during the reference week.

The Tasmanian participation rate has historically been below the national average. In January 1999, the participation rate for Tasmanians was 58.2%, the lowest of all States and Territories. This compared with a national participation rate of 63.1% and was just over one percentage point lower than at the same time the previous year.

Often there is a psychological element to the participation rate; some people will actively seek work only if they believe it is worthwhile to do so. Thus, an increase in the participation rate is

Labour Force Definitions

TREND SERIES

Figures given in this chapter are monthly *trend estimates*, unless otherwise indicated.

Trend estimates 'smooth out' erratic movements in the data. The *trend series* reflects the general drift or underlying path of the data. The monthly series that are 'smoothed', or averaged out, are *seasonally adjusted series*.

Seasonally adjusted series remove known seasonal and calendar-related influences. Examples are the effects of Easter and Christmas on employment and retail sales. However, these *seasonally adjusted series* can still show erratic movements, due to irregular influences such as strikes. These erratic movements may be 'smoothed' by averaging figures over a period of months; the resultant series is known as a *trend series*.

EMPLOYMENT

A person aged 15 and over is considered employed if, during the week of the Labour Force Survey, they worked for one hour or more for pay, profit, commission or payment in kind in a job, business, or on a farm.

UNEMPLOYMENT

Unemployed persons are persons aged 15 and over who were not employed during the week of the Labour Force Survey, and:

(a) had actively looked for full-time or part-time work at any time in the 4 weeks up to the end of the reference week and:

(i) were available for work in the reference week, or would have been available except for temporary illness (i.e. lasting for less than 4 weeks to the end of the reference week); or

(ii) were waiting to start a new job within 4 weeks from the end of the reference week and would have started in the reference week if the job had been available then; or

(b) were waiting to be called back to a full-time or part-time job from which they had been stood down without pay for less than 4 weeks up to the end of the reference week (including the whole of the reference week for reasons other than bad weather or plant breakdown).

LABOUR FORCE

The labour force is defined as the total number of employed plus the total number of unemployed.

PERSONS NOT IN THE LABOUR FORCE

Many people are neither employed nor unemployed, according to ABS categories. Examples of people in these categories are retirees, those who choose not to work, and those who are unable to work. These groups form an important part of the labour force framework and contain people who are known collectively as persons not in the labour force.

PARTICIPATION RATE

The participation rate is the proportion of the population aged 15 and over who are in the labour force. For example, the participation rate for females is derived by adding the number of females employed to the number of females unemployed and dividing this number (the female labour force) by the total number of females in the population aged 15 and over and expressing this as a percentage.

For more detail see Explanatory Notes in ABS catalogue no. 6202.0.

sometimes a leading indicator of employment growth. Similarly, a decrease in the participation rate is sometimes a leading indicator of employment decline.

The participation rate for Tasmanian males in January 1999 was 67.6%, almost four percentage points below the national rate of 72.8% and 2.5 percentage points below the January 1998 figure of 70.1%.

There have been a number of reasons why the participation rate for Tasmanian males has fallen over recent years. These reasons include the restructuring of the Tasmanian labour market, in particular the shift towards centralisation and mechanisation, and decreasing public sector employment as non-core government services have been opened up to the private sector.

The participation rate for Tasmanian females in January 1999 was 49.1%, similar to the 48.8% recorded in January 1998, but down on the 1998 high of 50.2% recorded in June and July. The participation rate for Tasmanian females has historically been low, averaging around 41.0% in the early 1970s, climbing slightly to around 43.0% by the mid-1980s, before reaching the higher levels attained at present. Much of this more recent change has been brought about by changing patterns in work practices, in particular the increased frequency of both parents working, greater access to child care facilities and part-time or casual work.

During the 1980s, male employment was at a minimum of 105,400 in early 1983, and a maximum of 119,900 in December 1989. In the 1990s, the number of employed males peaked at 120,600 in June 1990. Since this time, the level of male employment has declined to the January 1999 figure of 108,700.

For females in the 1980s, there was an overall increase in employment from around 60,000 in 1980 to a peak of 80,800 in December 1989, a rise of approximately 34.0%. From the beginning of 1990 through to the end of 1994, female employment was usually between 80,000 and 82,000. During 1995, female employment markedly increased to reach a peak of 87,300 in December 1995. The level of female employment has fluctuated since this time, currently standing at 84,000 at January 1999.

During the 1990s up until January 1999, the number of part-time workers in Tasmania rose, with an average of approximately 46,000 in 1990, 53,300 in 1994, 54,500 in 1995, and 57,000 in

1996. The figure at January 1999 was 57,500. The majority of these were female (42,700).

Public sector employment

Total employment in the public sector in Tasmania has been declining since 1988–89, when employment reached almost 53,000. In November 1998, the number of persons employed in the public sector stood at 42,200. The fall recorded during this time (20.4%) is consistent with the national fall in public sector employment.

In the Commonwealth Government sector, employment peaked in 1985–86 at approximately 10,300. During the 1990s, employment has steadily declined to the current situation where only 5,700 employees worked in the Commonwealth Government sector as of November 1998.

In the State Government sector, employment peaked in 1988–89 at approximately 40,000. Due to significant restructuring in recent years, the level of employment has declined to a low of 29,600 in February 1998, before recovering somewhat to the November 1998 level of 32,700.

Local government employment has been affected by restructuring of boundaries that has seen the number of Local Government Authorities decline from 42 in 1993 to 29 in 1999. Consequently, the level of employment in the local government sector has also declined, with approximately 3,800 employees as of November 1998.

The majority of Tasmanians employed in the public sector are employed in the fields of Education (34.8%), Government Administration and Defence (23.7%), and Health and Community Services (20.4%).

Employment by industry

The retail trade sector continued to be Tasmania's largest industry in terms of persons employed. In 1998, average employment in the retail trade sector was 31,400, up from 27,800 in 1992, but down slightly on the 1996 figure of 32,200. The next largest industry in 1998 was manufacturing, with an average employment of 23,500 followed by the Health and Community Services sector with 22,700.

The Government Administration and Defence sector had the largest decrease in average employment numbers in 1998, decreasing by 3,500 to 10,600 (24.8%). This decrease was

INDUSTRY EMPLOYMENT DISTRIBUTION, TASMANIA ('000)

Industry	Average(a) 1992	Average(a) 1994	Average(a) 1996	Average(a) 1998
Agriculture, Forestry and Fishing	15.6	17.0	17.3	15.9
Mining	2.6	1.6	2.4	1.7
Manufacturing	26.4	23.6	24.9	23.5
Electricity, Gas and Water Supply	3.2	2.3	1.8	1.5
Construction	12.3	15.0	12.8	11.2
Wholesale Trade	9.9	9.5	10.2	8.0
Retail Trade	27.8	31.3	32.2	31.4
Accommodation, Cafes and Restaurants	9.2	10.4	10.4	10.4
Transport and Storage	7.1	6.7	7.3	9.4
Communication Services	3.8	2.5	2.7	2.3
Finance and Insurance	6.5	5.1	5.0	5.4
Property and Business Services	10.1	11.5	11.9	13.7
Government Administration and Defence	11.4	12.6	14.1	10.6
Education	14.1	15.4	14.3	14.2
Health and Community Services	20.9	19.3	21.6	22.7
Cultural and Recreational Services	4.0	3.7	4.6	4.7
Personal and Other Services	7.5	7.0	7.2	8.6
Total all industries	192.0	194.5	200.5	195.5

(a) The average is the average of the February, May, August and November figures.

Source: Unpublished ABS monthly Labour Force Survey data

primarily due to restructuring of the Tasmanian public service.

Hours worked

The average number of hours worked in Tasmania during 1998 for males was 38.3, while for females the figure was 26.9 hours. The overall decrease in average hours worked in the 1990s is largely due to the increasing number of males and females working part-time.

There has been a continual fall throughout the 1990s in the average hours of overtime worked per employee. In 1990, Tasmanian employees worked on average 1.3 hours of overtime; by

1998, this figure had fallen to 0.7 hours per employee. Throughout the same period, the average weekly overtime per employee working overtime decreased from 7.0 hours to 6.7 hours.

The percentage of the workforce working overtime in 1998 was 10.5%, compared with 18.7% in 1990.

AVERAGE HOURS WORKED, TASMANIA

	1990 (a) hours/ week	1996 (a) hours/ week	1998 (a) hours/ week
Males			
Full-time	40.9	42.2	42.0
Part-time	14.8	15.1	15.9
Total	38.9	38.9	38.3
Females			
Full-time	36.9	37.8	38.4
Part-time	14.6	15.3	15.9
Total	27.0	26.7	26.9
Persons			
Full-time	39.8	40.9	40.9
Part-time	14.7	15.2	15.9
Total	34.1	33.7	33.4

(a) The average is the average of the February, May, August and November figures.

Source: Unpublished ABS monthly Labour Force Survey data

OVERTIME, TASMANIA

	Average hours per employee	Average weekly overtime per employee working overtime	Percentage of employees working overtime
1990	1.3	7.0	18.7
1991	1.1	7.0	15.4
1992	1.0	6.7	15.2
1993	1.0	7.0	14.3
1994	1.0	6.7	15.1
1995	0.9	6.2	14.8
1996	0.8	5.9	14.3
1997	0.7	6.3	11.8
1998	0.7	6.7	10.5

Source: ABS catalogue no. 6354.0

Unemployment

In the Labour Force Survey, people are considered to be unemployed if they satisfy three criteria, that is if they are unemployed, available for work and actively seeking work. There are two basic measures of unemployment, namely the total number of persons unemployed and the unemployment rate. The unemployment rate is defined as the number of unemployed persons expressed as a percentage of the labour force.

The level of unemployment has historically been high in Tasmania compared with the national average. This high level of unemployment reached a post-war peak of 12.9% in July and August 1993. Since this period, the level of unemployment has fluctuated, reaching a low of 9.5% in the period July to September 1995. As of January 1999, the unemployment rate for Tasmania stood at 10.2%, representing 21,900 Tasmanians who were unemployed, actively seeking work and available to start work.

As discussed earlier in this chapter, several factors have contributed to the relatively high level of unemployment in Tasmania. Changes in the international economy have seen Tasmania exporting less commodities, particularly aluminium, woodchips and wool. Changes in the Tasmanian economy have seen many private sector firms restructuring by shedding labour. At the same time, the State Government has pursued a vigorous policy of rationalising its services.

The number of unemployed Tasmanians steadily increased in the 1990s from approximately 18,800 in January 1990 to a peak of 28,400 in August 1993. It reached a relative minimum of 23,200 a year later in August 1994. By December 1994 and January 1995, the number of unemployed had risen again, to 24,500. By August 1995, the number of unemployed had fallen to 20,900. A new peak of 24,800 was reached in October 1997. In January 1999, the number of unemployed was 21,900.

Throughout the 1990s, male unemployment in Tasmania peaked at 17,900 (an unemployment rate of 14.0%) in July and August 1993. Since this time, the level of unemployment fell to 13,300 in September and October 1995 before climbing again to 15,700 in January 1998. As at January 1999, there were 13,800 males classified as unemployed in Tasmania. It is worth noting that as the number of unemployed has decreased since the high of mid-1993, so too the participation rate of Tasmanian males in the labour force has steadily declined.

In the 1990s, female unemployment in Tasmania followed a similar pattern to that of males. Female unemployment peaked at 10,500 in August 1993, falling to a low of 7,300 in July 1995 before climbing again to a level of 9,900 in August and September 1997. The level of female unemployment at January 1999 was 8,200. The participation rate for females in the labour force has been relatively constant over this period, averaging around 50.0%.

LABOUR MOBILITY, FEBRUARY, 1998

	Tasmania		Australia		Difference (a) % points
	no.	%	no.	%	
Length of time in the same job					
Under 1 year					
under 3 months	16 700	8.4	708 600	8.4	—
3 and under 6 months	7 600	3.8	459 200	5.5	-1.7
6 and under 12 months	12 600	6.4	667 700	7.9	-1.5
total	36 900	18.6	1 835 500	21.8	-3.2
1 and under 2 years	19 900	10.0	1 036 900	12.3	-2.3
2 and under 3 years	19 400	9.8	880 500	10.5	-0.7
3 and under 5 years	30 800	15.5	1 178 300	14.0	1.5
5 and under 10 years	37 400	18.8	1 431 300	17.0	1.8
10 years and over					
10 and under 20 years	35 300	17.8	1 335 600	15.9	1.9
20 years and over	18 600	9.4	720 600	8.6	0.8
total	54 000	27.2	2 056 200	24.5	2.7
Total	198 400	100.0	8 418 700	100.0	..

(a) A positive percentage points difference means Tasmania has proportionally more of the workforce in a particular category than Australia.

Source: ABS catalogue no. 6209.0

Labour mobility

Figures for February 1998 suggest the Tasmanian workforce is more stable than the Australian workforce. A total of 27.2% of employed Tasmanians had held their current job for 10 years or more, compared with 24.5% of employed Australians. In February 1998, 81.4% of Tasmanians employed (161,500 out of 198,400) had been in their current job for one year or more.

A total of 220,900 Tasmanians had worked at some stage during the year ended February 1998. Of these, 198,400 were still working in February 1998. During the year ending February 1998, 43,300 workers had ceased a job and, of these, 20,800 were working in February 1998.

Persons not in the labour force

Persons defined as not in the labour force are those not in work and not actively seeking work. They represent the proportion of the working aged population (civilians aged 15 and over) who were neither employed nor unemployed during the reference week of the Labour Force Survey.

Those not in the labour force are categorised either as those marginally attached to the labour force or as those not marginally attached. Those defined as marginally attached are those who want to work and are available to start work; however, they are not actively seeking work. Examples of these include discouraged job seekers who are not actively seeking work as they do not believe they will find any.

In September 1998 in Tasmania, there were 107,900 persons, or 33.3%, not in the labour force out of a civilian population of 325,800 aged 15 to 69. Of these 107,900 persons, 25.6% (27,600) were marginally attached to the labour force.

**PERSONS NOT IN THE LABOUR FORCE,
TASMANIA, SEPTEMBER ('000)**

	Marginally attached	Not marginally attached	Total
1992	24.2	81.5	105.7
1993	27.8	75.0	102.8
1994	29.2	76.5	105.7
1995	25.9	74.9	100.8
1996	28.0	74.9	102.9
1997	29.4	80.5	109.9
1998	27.6	80.2	107.9

Source: ABS catalogue no. 6220.0

**PERSONS NOT IN THE LABOUR FORCE,
TASMANIA, SEPTEMBER 1998 ('000)**

	Marginally attached	Not marginally attached	Total
Males	7.9	31.9	39.9
Females	19.7	48.3	68.0
Total	27.6	80.2	107.9

Source: ABS catalogue no. 6220.0

Of those not in the labour force in September 1998, 63.0% (68,000) were female. The number of males not in the labour force increased 13.0% to 39,900, compared with 35,305 in September 1996.

The main reasons for males who were marginally attached to the labour force not actively looking for work were attendance at an educational institution or own ill health or physical disability.

The main reasons for females who were marginally attached to the labour force not actively seeking work were home duties and child care or attendance at an educational institution.

Underemployed workers

In the Labour Force Survey, underemployment is defined as preference to work more hours by people who are not working full-time hours. These may be part-time workers who indicate they would prefer to work more hours or full-time workers who, for economic reasons such as insufficient work, did not work full-time hours.

The number of underemployed workers is an important indication of labour market performance as it highlights the lack of adequate work for those seeking it.

In September 1997 in Tasmania, there were 16,200 persons working part-time hours who wanted to work more hours. The majority of these were females (10,100). The total number of extra hours preferred for all persons was 284,600 hours per week. This represents the lack of adequate work available in the labour market and was the equivalent of 8,130 additional full-time jobs (assuming 35 hours/week as a full-time equivalent).

The average number of preferred extra hours for those working part-time and desiring full-time employment was 17.6 hours per week.

LABOUR FORCE STATUS OF THE CIVILIAN POPULATION AGED 15 TO 19, DECEMBER 1998

	Persons employed full-time '000	Persons employed total '000	Unemployed looking for work '000	Labour force '000	Not in labour force '000	Civilian population aged 15-19 '000	Unemployment rate %	Participation rate %
Tasmania	5.9	14.2	6.2	20.4	14.0	34.5	30.6	59.2
Australia	249.0	657.2	169.4	826.6	485.3	1 311.9	20.5	63.0

Source: ABS catalogue no. 6202.0.40.001

Teenage unemployment

The level of teenage unemployment in Tasmania has always been high compared with the Australian rate. The higher level of unemployment amongst the State's youth is consistent with the State's overall level of unemployment which itself has been consistently higher than the national average in recent times.

There has been some structural change in the Tasmanian workforce in recent years with the number of apprenticeships, a traditionally high employer of teenage labour, decreasing significantly. Many businesses are also in the process of downsizing their operations, and thus are reluctant to take on new labour.

In December 1998, the Tasmanian teenage unemployment rate was 30.6%, compared with the Australian rate of 20.5%. The participation rate of teenagers in Tasmania in December 1998 was 59.2%, slightly lower than the national figure of 63.0%.

Employment, education and training

Government labour market assistance

In the 1996-97 Budget, the Commonwealth Government announced major changes to the delivery of labour market assistance. These reforms included:

- the formal establishment of an integrated Commonwealth service delivery agency (known as Centrelink) to provide income support, basic employment and student assistance services. Centrelink, in its employment services role, undertakes a range of duties formerly undertaken by the Commonwealth Employment Service (CES), such as job seeker registration, assessment and employer referral services;

- the formation of the new Job Network, which consists of more than 300 private, community and government based organisations supplying employment services to job seekers and employers on a competitive basis; and
- the establishment of Employment National, a corporatised government entity, which provides employment services on the same terms as other providers.

The new Job Network has been developed with the aim of increasing client choice, with those in the market, namely job seekers and employers, free to choose which organisation in the network will best meet their needs.

Organisations within the network also have the flexibility to tailor their services to meet the needs of individual job seekers and employers. Because the services are provided on a competitive basis, that is organisations are contracted and paid on the outcomes they achieve, there is more incentive for service providers to match job seekers with employers.

Some of the services offered by the new Job Network from its 1,400 locations Australia-wide are:

- matching of job vacancies to job seekers;
- training of unemployed people in the skills necessary to gain a job;
- intensive assistance for long-term unemployed and other disadvantaged job seekers to overcome their employment barriers and place them in jobs;
- new apprenticeship centres (NAC's) for providing integrated and streamlined apprenticeship and traineeship services to employers and job seekers; and
- New Enterprise Incentive Scheme (NEIS) to provide assistance to unemployed people to help them establish their own businesses.

The Job Network is funded by money previously provided for labour market programs and case management. A small number of previous programs were retained, however, to provide

entry-level training incentives, regional assistance and special support for indigenous people and migrants.

The overall objective of the new system is to assist the efficient, effective and equitable functioning of the labour market by reducing unemployment, in particular long-term unemployment, through the provision of services to job seekers and employers.

State Government employment and training schemes

The four objectives of the Tasmanian Government's Employment Opportunities Program were to:

- develop and implement State Government labour market programs designed to expand employment;
- encourage and assist the creation of employment opportunities at local and regional levels through the development of an enterprise culture;
- assist in the co-ordination and development of employment opportunities through the programs and services of other agencies; and
- provide policy advice to government on employment programs, matters and services.

There were two employment programs operated by the Regional Business Development Branch of Tasmania Development and Resources (TDR) during 1997–98. These were the Local Employment Initiatives (LEI) Program and the Tasmanian Trainee and Apprentice Incentive Scheme (TTAIS).

LOCAL EMPLOYMENT INITIATIVES is a job-creation initiative of the State Government, in partnership with local communities. Support is provided under the program to local organisations which work within their local community to generate economic activity and create jobs. In 1995–96, funding of \$400,000 was available, provided to 11 organisations State-wide by enterprise and employment creation projects. In 1997–98, 16 organisations located around Tasmania were successful in applying for funding under the program. These organisations were provided with funding of up to \$40,000 matched by contributions from the local community. These funds were used to employ a locally based facilitator who worked with the community to strengthen economic development capacity and to create jobs.

A total of 184 new businesses were started under the LEI Program, while a further 94 businesses expanded and 21 businesses were saved through LEI assistance. The number of estimated jobs created by businesses assisted by an LEI organisation was 468 while an estimated 64 jobs were saved in businesses assisted by an LEI organisation.

TASMANIAN TRAINEE AND APPRENTICE INCENTIVE SCHEME was introduced from 1 July 1994 as the Tasmanian Apprentice Incentive Scheme and provides assistance to private sector employers of apprentices and trainees. In October 1995, the scheme was extended to include trainees and was renamed. The scheme recognises a need for an appropriately trained workforce and the costs involved in such training, especially in the less productive early years. It is jointly administered by TDR and the State Revenue Office of the Department of Treasury and Finance.

The TTAIS operates at two levels: a rebate of payroll tax paid on wages of apprentices and trainees for larger employers and a \$500 grant for smaller employers. In 1997–98, grant payments totalling \$506,500 were made to smaller employers, equating to 1,013 trainees or apprentices.

The scheme has seen an increase in the number of trainees employed in the Tasmanian workforce since its inception. The number of trainees employed in 1997–98 rose again, indicating the increasing importance of this form of entry into the labour market for young people.

Two other programs, Tas. Jobs for Youth and Business Advisers for Rural Areas (BARA), were operational in the early part of the 1990s. The Tas. Jobs for Youth program, introduced in July 1992 and ceasing operations in July 1994, was aimed at employing young people aged 16–25 who had been out of work for at least three months. The program approved 823 grants during its lifetime.

The BARA program was funded by the Commonwealth Department of Primary Industries and Energy; two major projects were funded as part of this program. Funding ceased in June 1997.

Apprenticeships and traineeships

The number of apprenticeships commenced in the year to June 1998 in Tasmania was 509 which

was 20.8% lower than the 643 recorded for the same period in 1997. The number of apprenticeships completed in the year ending June 1998 was 534, slightly higher than the 529 completed to June 1997.

There has been a shift in the labour market in recent times away from apprenticeships to traineeships and this trend continued for the early part of 1998. The number of traineeships commenced during the first six months of 1998

CHANGES IN REAL WAGES

	Tasmanian AWE % (a)(c)	Hobart's CPI % (b)(c)	Percentage points difference % (d)
1990			
March quarter	7.3	7.2	0.1
June quarter	6.3	6.1	0.2
September quarter	6.9	5.5	1.4
December quarter	6.6	6.1	0.5
1991			
March quarter	4.4	4.2	0.2
June quarter	3.1	3.8	-0.7
September quarter	4.1	3.6	0.5
December quarter	3.0	1.8	1.2
1992			
March quarter	3.2	2.1	1.1
June quarter	4.3	1.1	3.2
September quarter	2.6	0.8	1.8
December quarter	3.2	0.6	2.6
1993			
March quarter	2.7	1.6	1.1
June quarter	2.0	2.2	-0.2
September quarter	2.7	3.2	-0.5
December quarter	4.2	3.3	0.9
1994			
March quarter	4.0	2.6	1.4
June quarter	3.2	2.7	0.5
September quarter	2.5	2.1	0.4
December quarter	2.5	2.3	0.2
1995			
March quarter	1.2	3.8	-2.6
June quarter	3.0	4.2	-1.2
September quarter	2.1	4.5	-2.4
December quarter	2.4	4.4	-2.0
1996			
March quarter	3.8	3.4	0.4
June quarter	4.2	3.0	1.2
September quarter	4.1	2.3	1.8
December quarter	5.3	1.8	3.5
1997			
March quarter	5.8	1.5	4.3
June quarter	6.0	0.6	5.4
September quarter	5.9	-0.4	6.3
December quarter	5.4	-0.1	5.5
1998			
March quarter	5.3	-0.3	5.6
June quarter	3.4	0.6	2.8
September quarter	3.0	1.8	1.2
December quarter	2.0	1.2	0.8
Average	3.9	2.6	1.3

(a) AWE means Average Weekly Earnings of full-time adults, ordinary time earnings. (b) CPI means Consumer Price Index. (c) Annual percentage changes from one quarter to the same quarter in the previous year. (d) Calculated by subtracting the CPI figure from the AWE figure. A positive figure means an improvement in real wages.

Source: ABS catalogue nos. 6302.0 and 6401.0

was 1,403 which was 26.6% higher than the 1,108 traineeships commenced for the year to June 1997. The number of traineeships completed for the corresponding periods in 1998 and 1997 were 726 and 549, respectively.

Working environment

Earnings

In Tasmania during the 1990s (up until the end of 1998), annual percentage changes in the quarterly average weekly earnings amount for Tasmanians were mostly greater than annual percentage changes in prices, as measured by the Hobart Consumer Price Index (CPI) quarterly figure. In other words, there was an improvement in real wages in the period 1990 to December 1998. This was particularly so during 1997 when the percentage increase in average weekly earnings was significantly higher than the percentage increase in the CPI.

In November 1998, the average weekly ordinary time earnings figure for full-time Tasmanian males was \$734.50 (Australian males, \$790.00). This was virtually unchanged from the \$729.20 recorded in November 1997. For females, the

corresponding figure was \$622.00 (Australian females, \$661.30), 4.4% higher than the \$592.60 recorded in November 1997.

Industrial disputes

The number of working days lost per thousand employees in Tasmania during 1997 was the second lowest of all States. Tasmania recorded 35 working days lost per thousand employees, second only to South Australia. The national average for days lost per thousand employees was 75 days.

On an industry basis, the majority of days lost were in the Education and Health and Community Services sectors where 109 days per 1,000 employees were lost in 1997.

WORKING DAYS LOST

	Tasmania		Australia	
	Working days lost ('000)	Working days lost per thousand employees	Working days lost ('000)	Working days lost per thousand employees
1992	43.0	271	941.2	147
1993	4.5	28	635.8	100
1994	4.6	29	501.6	76
1995	3.5	22	547.6	79
1996	13.0	78	928.5	131
1997	5.7	35	534.2	75

Source: ABS catalogue no. 6322.0

FURTHER READING

ABS publications

Average Weekly Earnings, Australia (6302.0)

Award Rates of Pay Indexes, Australia (6312.0)

Consumer Price Index, Australia (6401.0)

Industrial Disputes, Australia (6321.0)

Job Vacancies and Overtime, Australia (6354.0)

Labour Force, Australia, Preliminary (6302.0)

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Underemployed Workers, Australia (6265.0)

Other publications

Department of Vocational Education and Training, *Annual Report, 1996–97*

Tasmania—Development and Resources, *Annual Report, 1997–98*

Websites

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

Tasmania Online: <http://www.tas.gov.au>

Acknowledgments

Tasmania—Development and Resources

Tasmanian Department of Vocational Education and Training

CHAPTER 9

Education



Photo: John Tucker

In 1998, there were 12,468 student enrolments at the University of Tasmania, an increase of over 47% on the 1988 figure of 8,453 enrolments.

Education is the lifelong process by which people obtain knowledge, skills, attitudes, and socially valued character and behavioural traits. Commencing at birth, developed through schooling and other informal pathways of learning, education is important for occupational success, and essential for personal growth and development.

The educational and training needs of Tasmanians are serviced in a variety of ways.

The Tasmanian Department of Education is the core provider of compulsory education in the State. In 1998, the department operated 220 schools and colleges in its 7 education districts. There is, however, an important non-government sector emerging, as well as growing interest in home education as an alternative to the more traditional methods of schooling.

Technical and Further Education (TAFE) is an alternative for individuals who have left school and need vocationally oriented learning. Included within Tafe Tasmania is the Adult Education program, which provides a selection of classes primarily directed towards leisure and recreational interests. TAFE Tasmania's eleven State-wide programs are administered by the Office of Vocational Education and Training (OVET), a division of the Department of Education. For those wanting to pursue academic interests within the higher education sector, the University of Tasmania and the Australian Maritime College cater specifically for such needs.

The University of the Third Age, a self-funded body, provides educational opportunities for semi-retired and retired people. It is a relatively small, informal, and enthusiastic organisation, presenting a range of subjects that depend on

the availability of volunteer lecturers and student demand.

Tasmania's education and training system, like others around Australia, is subject to significant budget restraint. This budget restraint manifests itself in the examination, and wherever possible, the elimination of unnecessary levels of administration. In some cases, schools have introduced user-pays fees, increased pupil to teacher ratios, reduced courses on offer, or even closed.

At the same time, reduced employment opportunities and technological changes have placed further demands on educational institutions. They have responded with curriculum changes that promote subjects with a potentially higher vocational relevance. The changing needs of society are also reflected in continuing efforts to educate people to make more effective use of increased leisure and recreation time.

Structure of schools in Tasmania

Primary and secondary schools contribute significantly to the education process, providing opportunities for further study, and laying the foundations for a future skilled workforce. Attendance at Tasmanian schools is compulsory for children aged 6 to 16 years of age.

Most school children attend government schools, although approximately one-third of the school-age population attends accredited non-government schools. Most non-government schools are associated with religious denominations, although others are committed to particular teaching methods or philosophies.

In the non-government sector in 1998, 37 Catholic schools were attended by 62% of the children who received non-government education. Most non-government schools are funded partly by private sources; however, those that conform to government requirements receive further State and Commonwealth funding.

Government schools are provided by, and therefore subject to, the overall administrative control of the State education system. Although funded primarily by the State Government, they do receive some assistance from the Commonwealth.

The Department of Education aims to educate children in their local communities, and integrate children with special needs into regular schools. Parents are, however, free to choose which government school their child attends, although admission is not always guaranteed.

Primary education provides a general elementary program lasting for 7 or 8 years until Year 6. Secondary education commences at Year 7, with students following a more comprehensive curriculum. Government schools are generally co-educational, while a significant, though declining proportion of non-government schools are single-sex based. Usually primary and secondary schools are separate institutions, although in some country areas, district schools provide both levels of education. Senior secondary colleges provide the final 2 years of government-school education.

Kindergarten education

Prior to commencing primary school, over 90% of children attend kindergarten classes part-time for one year. Enrolment is voluntary, with children being placed in either morning or afternoon sessions, 2 to 5 days per week. Here, children acquire learning skills and are inducted into the culture of the classroom and school.

Minimum age of entry into kindergarten is 4 years of age, on or by 1 January in the year of admission. The Department of Education's aim to make early childhood education available to all children has resulted in 139 of the 140 government primary schools having attached kindergartens. In 1999, the total for government kindergarten enrolments was 5,863. Non-government kindergartens form only a minor part of total non-government school enrolment.

Primary education

Primary education is the first level of compulsory education, with age of entry to preparatory classes (Prep) being five years, and for Year 1, 5½ to 6 years of age. Most schools offering primary education go from the Prep year, up to and including Year 6. Within each class, all students follow a common curriculum, and each class is taught in the main, by one teacher. Designed to cater for the mental, physical, social and emotional development of children during their critical formative years, the curriculum emphasises the acquisition of basic literacy,

PRIMARY SCHOOLS, TASMANIA

	Number of schools (a)		Student enrolments (b) (c)		Teaching staff (d) (e)	
	Government	Non-government	Government	Non-government	Government	Non-government
1988	165	38	36 509	9 553	2 119	513
1989	165	38	36 857	9 977	2 149	523
1990	165	38	37 881	10 321	2 196	538
1991	163	37	37 674	10 789	2 081	545
1992	160	37	37 918	11 029	2 063	563
1993	154	36	37 380	11 218	2 127	579
1994	151	38	37 033	11 314	2 157	593
1995	150	38	36 341	11 245	2 122	592
1996	150	36	36 097	11 110	2 150	589
1997	144	34	35 663	10 808	2 208	587
1998	143	33	35 661	10 660	2 177	599
Change 1988–98						
Number	-22	-5	-848	1 107	58	86
Per cent	-13.3	-13.1	-2.3	11.6	2.7	16.8

(a) Excludes primary schools with secondary classes (e.g. district high schools). (b) Includes primary grades in combined primary and secondary schools. (c) Includes those educated in special schools. (d) Full-time equivalents. (e) Includes those teaching at special schools.

Source: ABS catalogue no. 4221.0

numeracy and language skills. The school's task is to provide programs which develop the child's capacity to communicate, think and value, as well as prepare them for future educational opportunities at the secondary level.

The number of government and non-government primary schools operating in Tasmania has decreased steadily over the past 10 years. In 1998, there were 143 government primary schools, and a further 26 which were combined primary and secondary schools (district and district high schools).

There were 33 non-government primary schools, 25 of which were affiliated with the Catholic Church. A further 26 non-government schools were combined primary and secondary schools.

Overall student enrolments have remained relatively stable in the past decade, despite enrolments within the government primary sector having decreased to a low of 35,661 in 1998. This stability is mainly the result of a significant increase in non-government student numbers during the period 1988 to 1994, from 9,553 to 11,314 (a rise of 18.4%). From 1995 onwards there has been a gradual decrease in student numbers in both the government and non-government primary sector. Despite a slight decline in student numbers, non-government staffing numbers have increased steadily over the past decade, to a high of 599 in 1998 (a rise of 16.8%). Staffing numbers within the government sector have fluctuated considerably during this same period, and have risen only 2.7% in comparison.

Secondary education

Secondary education is the second level of compulsory education, in which the emphasis shifts from the mastery of basic skills in literacy, numeracy and social behaviour, to a greater emphasis on individual subjects taught by specialist teachers. The minimum leaving age of 16 years generally coincides with the completion of Year 10. Almost all Tasmanian children attend some form of secondary schooling.

Entry age to secondary school is usually between 11½ and 13 years of age. The first four years of secondary education (Years 7 to 10 inclusive) are catered for in high schools and district high schools. All government high schools and district high schools are co-educational, with the exceptions of the all-girls Ogilvie High and the all-boys New Town High. Senior secondary colleges cover Years 11 and 12.

Most Year 7 and 8 students follow a common course developed by the school and endorsed by the Schools Board of Tasmania. In Years 9 to 12, students follow courses derived from the Tasmanian Certificate of Education (TCE) syllabus. Schools generally require all Year 9 and 10 students to follow a core set of subjects. The TCE is issued to all students who have successfully completed one or more subjects studied in Years 9 to 12. Requirements for tertiary entrance are determined by the University of Tasmania.

The trend in non-government secondary school enrolments and staffing numbers is similar to

SECONDARY SCHOOLS, TASMANIA

	Number of schools (a) (b)		Student enrolments (c) (d)		Teaching staff (e) (f)	
	Government	Non-government	Government	Non-government	Government	Non-government
1988	68	27	28 148	8 242	2 523	640
1989	67	28	27 432	8 417	2 423	657
1990	68	28	27 408	8 709	2 350	670
1991	68	28	27 988	9 163	2 090	713
1992	68	29	27 795	9 547	2 164	742
1993	68	29	27 347	9 816	2 133	761
1994	68	30	27 028	9 984	2 050	779
1995	69	31	26 943	10 130	2 032	781
1996	68	33	26 679	10 296	2 056	800
1997	67	32	27 258	10 428	2 129	815
1998	67	32	27 317	10 478	2 102	803
Change 1988–98						
Number	-1	5	-831	2 236	-421	163
Per cent	-1.5	18.5	-3.0	27.1	-16.7	25.5

(a) Includes senior secondary colleges. (b) Includes the secondary classes of combined primary and secondary schools. (c) Includes those educated in special schools. (d) Includes those enrolled in Years 11, 12 and 13. (e) Full-time equivalents. (f) Includes those teaching at special schools.

Source: ABS catalogue no. 4221.0

that encountered at the primary school level, with both enrolment and staffing numbers increasing over the period 1988 to 1998 (27.1% and 25.5% respectively). The number of teaching staff employed in government secondary schools has dropped by 16.7%, from 2,523 in 1988, to 2,102 in 1998. This, along with a drop of 3.0% in student enrolments, has placed considerable pressure on the State schooling sector.

Retention rates in secondary schools

The apparent retention rate to Year 12 is the percentage of students who remain in secondary education from Year 7 to Year 12. To calculate the apparent retention rate of Year 12 students in 1998, the number of students in 1998 is expressed as a percentage of the number of students who were in Year 7 in 1993.

A range of factors affects the calculation of the apparent retention rate, with no adjustments being made for these effects. These include migration, students repeating a year of education, and transfers between the government and non-government systems at the end of Year 10. In addition, some Tasmanian non-government schools have no senior secondary college for Year 11 and 12 students, or their senior secondary colleges do not match the range of subjects offered at the equivalent government institutions. Despite these differences, the majority of non-government schools continue to have higher retention rates than government schools.

The number of students remaining in school to a senior secondary level has increased significantly over the past two decades. This steady increase has occurred at both a national and State level, despite Tasmania's retention rates being relatively low in comparison with Australia's. The total Year 12 retention rate for Tasmanian schools has improved from 26.9 in 1980, to 62.1 in 1998.

APPARENT RETENTION RATES, YEARS 7 TO 12

	Tasmania rate	Australia rate
1980	26.9	34.5
1981	26.7	34.8
1982	21.9	36.3
1983	24.7	40.6
1984	27.6	45.0
1985	28.7	46.4
1986	30.3	48.7
1987	33.0	53.1
1988	37.6	57.6
1989	39.7	60.3
1990	44.7	64.0
1991	52.6	71.3
1992	60.2	77.1
1993	60.6	76.6
1994	58.3	74.6
1995	59.7	72.2
1996	53.1	71.3
1997	58.6	71.8
1998	62.1	71.6

Source: ABS catalogue no. 4221.0

Alternative schooling arrangements

Some parents prefer to have their children with disabilities educated in a special school or unit. In 1998, approximately 696 students with significant disabilities were enrolled in such schools.

Home education occurs when parents choose to assume responsibility for planning, implementing and evaluating their children's learning program from home. The Home Education Advisory Council was established in February 1993 to monitor and advise on the adequacy of these individual programs. There were 534 students and 279 families enrolled in the home education program for 1999.

The Tasmanian Open Learning Service operates as a unit within the State Government's Department of Education. Its primary purpose is to cater for the educational needs of children who are unable to attend school in the same way as their peers. Reasons for enrolment are typically because of isolation, travel and health. Over the 1998 year, a total of 500 students accessed the school.

Tertiary education

Tertiary education encompasses any institution offering post-school education. Tertiary courses are offered at a number of institutions, including those providing higher education, Technical and Further Education (TAFE), and specific business courses.

Higher education

Once students have completed Year 12, or qualified as mature-age entrants, they may be eligible to proceed to higher education. In Tasmania, the Australian Maritime College and the University of Tasmania provide higher education courses. Entrance into these higher education institutions is usually by academic merit.

University of Tasmania

Organisation

With 2 main campuses, as well as several branch campuses and a study centre, the University of Tasmania (as the only university in the State) provides higher educational opportunities to all eligible Tasmanians. It is, however, administered as a unified institution, with a single governing body (the Council), and an Academic Senate,

which advises the Council on all academic matters.

There are 5 university-wide faculties: Arts, Commerce and Law, Education, Health Science, and Science and Engineering. These faculties are responsible for curriculum, teaching and assessment in a range of courses, from associate diploma to doctorate. The 34 Schools, each assigned by Council to a Faculty, form the basic units within the university's structure of academic governance and management.

Teaching

The university offers full-time and part-time courses as well as external study. In 1998, 69% of students were enrolled in full-time study. Courses are delivered at 2 main campuses: Sandy Bay in Hobart, and Newnham in Launceston. Branch campuses are situated in the Hobart City centre. The Conservatorium of Music is located in Harrington Street, the Clinical School in Collins Street, and The Tasmanian School of Art in Hunter Street. Located at the Launceston General Hospital are parts of the Schools of Medicine and Nursing. Study centres were located in Burnie and Devonport before the University's North West Centre was opened in 1995.

Courses offered (at either one or both of the 2 main campuses) include urban design, surveying and spatial information, law, agricultural science, economics, computer science, zoology, music, fine arts, aquaculture, engineering, architecture, social welfare and nursing.

Student and staff profile

Over the past ten years, the University of Tasmania has expanded considerably. In 1998, student enrolments were 12,468, an increase of 4,015 on the figure for 1988 (8,453). There were 4,449 commencing students in 1998, 35.7% of all enrolments. Of the 1998 student population, 806 were higher degree research students, and 412 were higher degree coursework students. Approximately 87% were enrolled for bachelor degrees. The past few years have seen a decrease in the number of student graduates, with 2,721 students completing their degrees in 1997, compared to 2,976 graduates in 1995.

From 1988 to 1995, there was a 26% increase (344 persons) in the number of staff. Staffing numbers have since declined, with 1998 numbers having dropped to a low of 1,466 (87% of the 1995 figure of 1,677). Of the current staff, 1,007 are located in Hobart, 444 in Launceston, and 15 at the new North West Centre.

UNIVERSITY OF TASMANIA STUDENT NUMBERS 1988-96

Enrolments	1988 no.	1998 no.
Commencing		
Launceston	1 308	1 424
Hobart	2 225	2 726
Off-shore	n.a.	151
NW Coast	n.a.	136
Other (a)	n.a.	12
Total	3 533	4 449
Continuing		
Launceston	1 795	2 486
Hobart	3 125	5 051
Off-shore	n.a.	287
NW Coast	n.a.	157
Other (a)	n.a.	38
Total	4 920	8 019
All students		
Launceston	3 103	3 910
Hobart	5 350	7 777
Off-shore	n.a.	438
NW Coast	n.a.	293
Other (a)	n.a.	50
Total	8 453	12 468

(a) Other includes Distance education and Interstate students.

Source: Statistics '98, University of Tasmania

UNIVERSITY OF TASMANIA STAFF NUMBERS 1988-96

Staff (a)	1988 no.	1998 no.
Launceston		
Women	141	227
Men	195	217
Total	336	444
Hobart		
Women	360	429
Men	637	578
Total	997	1 007
NW Centre		
Women	n.a.	10
Men	n.a.	5
Total	n.a.	15
University		
Women	501	666
Men	832	800
Total	1 333	1 466

(a) Full-time and fractional full-time staff only.

Source: Statistics '98, University of Tasmania

Research

Like all higher education institutions, the University of Tasmania has a dual role, involving both teaching and research. Research and research training across a wide range of disciplines is fundamental to the mission of the University of Tasmania. Research funds are received from the Commonwealth Government, from other public bodies, and from the private sector. The university is a major partner in 4 of Australia's Cooperative Research Centres (CRC): Antarctic and Southern Ocean Environment, Aquaculture, Australian Maritime Engineering, and Sustainable Production Forestry. Other nationally funded centres include the Menzies Centre for Population Health Research (which recently celebrated its tenth anniversary), and the National Key Centre for Research and Learning in Regional Australia. A Special Research Centre (SRC) for ore deposit research is also funded by the Commonwealth Government. The University also has several Strategic Research Centres.

Funding

In 1998, the university's annual operating budget was \$161m. This included \$95.5m from the Commonwealth Government, and \$29.9m from the Higher Education Contribution Scheme (HECS).

The Australian Maritime College

The Australian Maritime College is the Commonwealth Government's national centre for maritime education and training. Its teaching campus is located at Newnham, a suburb of Launceston, and its training facility is at Beauty Point, near the mouth of the Tamar River. In 1998, the Australian Maritime College enrolled 1,551 students.

AUSTRALIAN MARITIME COLLEGE STUDENT ENROLMENTS, 1998 (a)

Faculties	Enrolment no.
Fisheries and Marine Environment	813
Maritime Transport and Engineering	738
Total	1 551

(a) The enrolments detailed include all students, internal and external, and courses conducted by AMC in NSW, NT and Vic.

Source: Australian Maritime College

This growth in student enrolments from previous years is because of an increase in the number of courses being offered, as well as an increase in the number of TAFE students

enrolled by the college. While government funding has been reduced, there has been over 50% growth in the number of overseas full-fee paying students during the period 1996 to 1998.

Through its 2 main Faculties (Maritime Transport and Engineering, and Fisheries and Maritime Environment), the college offers a range of accredited courses from certificate to postgraduate level. Additional special-purpose courses are conducted using the equipment and facilities of the Centre for Marine Simulation.

Courses offered prepare those individuals wishing to become:

- operators of merchant ships and fishing vessels;
- shore-based managers in the shipping industry;
- technologists and managers in the fishing industry; or
- engineers, ship designers and technologists for shore-based careers in the maritime and related industries.

Credit for skills and knowledge gained on-the-job, provides an opportunity for those who did not complete senior secondary schooling to gain a diploma and professional recognition in their occupation.

**VOCATIONAL EDUCATION AND TRAINING
ACTIVITY, STUDENT ENROLMENTS, 1998 (a)**

Program	Region			
	North no.	North West no.	South no.	Tasmania no.
Natural Resources	567	1 633	1 216	3 416
Automotive and Engineering	1 028	602	793	2 423
Construction, Printing and Textiles	567	292	2 002	2 861
Drysdale	954	390	2 015	3 359
Metals and Electrical	887	1 273	1 801	3 961
Office Admin. and Information Technology	2 392	2 693	2 460	7 545
Management and Accounting	1 040	895	2 239	4 174
Community and Health Services	501	523	1 147	2 171
Access Learning and Languages	1 693	2 269	2 984	6 946
Applied Design	342	208	251	801
Total	9 971	10 778	16 908	37 657

(a) Total enrolments rather than total number of students. A student may have more than one enrolment during the year.

Source: 1998 TAFEMIS Collection

Vocational education

The Vocational Education and Training (VET) sector of education provides an array of post-compulsory courses that are neither part of general secondary education nor higher education. The main purpose of the VET program is to ensure that Tasmanian industry has a well-trained, highly skilled workforce. Providers of VET courses include TAFE Tasmania, the Australian Maritime College, and private trainers.

TAFE

Most formal VET activity in Tasmania is provided by TAFE Tasmania, which was established as a statutory authority under the *TAFE Tasmania Act 1997* as from 1 January 1998. The creation of TAFE Tasmania as a State-wide training provider represented a major shift away from the previous regionally based administration. TAFE Tasmania began in 1998 with the job of implementing an entirely new structure based around five State-wide product aligned institutes:

- the Institute of Adult Education and Community Service;
- the Institute of Business;
- the Drysdale Institute;
- the Institute of Industry; and
- the Institute of Natural Resources.

In May 1999, with one year's operational experience, and in light of staff concerns and government views, TAFE Tasmania's structure was fine tuned by moving from five institutes to eleven delivery programs. TAFE Tasmania remains committed to the State-wide delivery model, as it enhances industry and community relationships and facilitates the sharing of resources between regionally based staff.

Learning is TAFE Tasmania's core business; the State programs are its 'building blocks'. TAFE Tasmania's eleven State-wide programs are:

- Access Learning and Languages
- Adult Education
- Applied Design
- Automotive/Engineering
- Construction/Textiles/Printing
- Community and Health Services
- Drysdale
- Management and Accounting

- Metals/Electrical
- Natural Resources
- Office Administration and Information Technology

During the 1998 year, TAFE Tasmania delivered over 5.0 million hours of accredited vocational education and training. In 1998 there were 37,657 student enrolments in vocational education and training State-wide. Training was delivered in a variety of modes, including face-to-face at TAFE campuses, in the workplace and at home via computer-managed learning.

Over 55% of enrolments were achieved beyond the South of the State, with 28.6% in the North West and 26.5% in the North. Consistent with the growth of technological innovation in the workplace, the Office Administration and Information Technology Program accounted for the highest number of enrolments State-wide, with 20% of total enrolments.

Adult education

The Adult Education class program enables adults to become aware of changes taking place outside their own field of employment or experience, and to enhance their personal development.

In 1998 the program provided 1,200 vocational and personal development courses and workshops around the State. Over 390,000 hours of class activity were delivered to over 30,000 participants.

ADULT AND COMMUNITY EDUCATION ACTIVITY, HOURS OF TRAINING, 1998

Type of Training	Region			
	North no. hrs (a)	North West no. hrs (a)	South no. hrs (a)	Tasmania no. hrs (a)
Non- accredited	68 895	54 624	265 318	388 837
Accredited	—	1 111	1 570	2 681
Total	68 895	55 735	266 888	391 518

(a) Annual hours of curriculum has been used as the unit of measure for accredited training. Non-accredited training is expressed as actual hours of training delivered.

Source: 1998 AelMS Collection

The Adult Education program offers a diverse range of activities, featuring visiting lecturers, artists, exhibitions, seminars and forums, tours and recitals, courses and workshops, and weekend, summer and day schools.

Many courses provide a starting point for encouraging people to go on to award courses, while others fulfil the social needs of community members without leading to formal qualifications.

University of the Third Age

Originating in France in 1972, the University of the Third Age is a world-wide organisation which has emerged more recently in Australia as the direct result of changing educational attitudes.

In recognition of the need to provide educational services to a rapidly growing section of the community, the University of the Third Age offers enrichment courses for people over the age of 50. One of the primary aims of the University of the Third Age is to encourage the pursuit of learning without reference to entry criteria, qualifications, assessments or rewards.

The University of the Third Age commenced in Hobart following a public meeting in December 1989, with representatives from the University of Tasmania, the Council of the Ageing, and Adult Education in attendance. The first classes were held at Jane Franklin College in April 1990, with financial membership totalling 87 people. Membership in 1999 was approximately 720, with the majority of classes taking place at the Springvale Boys Hostel in New Town. Although the main campus is situated in Hobart, two other groups have emerged in Clarence and Cygnet.

The program varies depending on the availability of staff, with approximately 45 subjects being offered each term. Courses cover a range of topics: humanities, social sciences, sciences, languages, art and music. Tutors and administrators support the program on a volunteer basis. The program's focus is on enjoyment and understanding, rather than academic achievement. There are no entry requirements, no exams and no limit to the number of courses that can be attended.

A hundred years of University life

The growth in the University of Tasmania illustrates well the explosion in higher education in the past 25 years. The university awarded its first degrees in 1890 (though all had actually qualified elsewhere), but it took almost another 70 years, until 1957, for enrolments to reach 1,000. Enrolments topped 2,000 in less than 10 more years (1966), 3,000 only 4 years later (1970), and 5,000 in 1973. In 1999 the university has enrolled 14,656 students.

UNIVERSITY OF TASMANIA ENROLMENTS

Year	Enrolments no.
1900	2
1910	87
1920	200
1930	393
1940	448
1950	672
1960	1 346
1970	3 002
1980	6 785
1990	10 593
1999	14 656

Source: University of Tasmania

Although in its early days lectures were delivered in Launceston as well as Hobart, the university comprised a single campus in the southern city until 1991, when the Hobart-based University of Tasmania amalgamated with Launceston's Tasmanian State Institute of Technology to form a multi-campus university.

In its first years the university was mainly accommodated in the old Hobart High School at the Domain. By the 1920s, however, this site was clearly inadequate for even the modest rise in student numbers. A number of alternative sites were considered in the 1920s and 1930s, with the Sandy Bay rifle range emerging as preferred site. The actual move did not, however, happen until the mid-1950s, and considerable discomfort was experienced by students and staff for a number of years at the old site.

The change in the role of women in the university has been dramatic in recent years, though the first female Master of Arts (MA) was awarded in 1899, only one year after the first male MA, and the first Master of Science (MSc) went to a woman in 1900. The first woman graduate, Elizabeth Wilson, also became its first female academic in 1899.

Apart from the peaks in female enrolments during the two World Wars, female enrolments only reached 50% of all enrolments in 1989. Since then, women have represented the majority of enrolments.

Women took part in the student association early in the life of the university — women were on the management committee by 1903 — but the Tasmania University Union (TUU) did not have a female president (Cynthia Johnson) until 1941, and the second female president was elected as late as 1989. During the 1990s there have been 5 more female Presidents elected.

Most of the elements of a university's cultural and political life have been present from early in the University of Tasmania's life. Students from Asia were first enrolled in the 1950s, under the Colombo Plan.

The first student magazine, *Platypus*, appeared in 1914, superseded by the present *Togatus* in the 1930s. In 1924 the first student sports team, a rowing eight, competed in an inter-varsity sports carnival, and the team won in the following year. The university student review, *Old Nick*, started shortly after World War II.

Political activity in some form or other also appears to have been a feature of the university's life from early times. Students disrupted Commemoration, as the graduation ceremony was then called, in 1912, and when this continued students were encouraged to transfer their more lively disruptive activities to their own ceremony known as Mock Commem. Even this mock ceremony was banned in 1934, though only

for one year as it turned out. The TUU lobbied for student representation on university bodies in the 1930s, and achieved representation on University Council, albeit without voting rights at first.

In the 1950s there was controversy surrounding the infamous Orr case, and

general dissatisfaction with the speed of the planned move to the present Hobart campus' Sandy Bay site; dissatisfaction supported by the findings of a government inquiry. Activism grew during the 1960s and 1970s, focused on the major political issues of the time, and continues to the present.

FURTHER READING

ABS publications

Education and Training in Australia (4224.0)

Schools, Australia (4221.0)

Transition from Education to Work, Australia (6227.0)

Other publications

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Websites

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

Tasmania Online: <http://www.tas.gov.au>

Acknowledgments

Home Education Advisory Council

Tasmanian Open Learning Service

Office of Vocational Education and Training

University of Tasmania

Department of Education

CHAPTER 10

Culture and the arts

Photo: Ricky Maynard



Elliott Maynard, carrying buckets of salt water used in boiling pots to clean muttonbirds. Elliott is typical of many young men who are taken out of school to learn traditional Aboriginal practice. The young men are given small tasks to perform until the adult men are sure they are ready to become skilled hunters.

Culture is a difficult concept to define. It has become one of the most common words used in public discourse and, as such, an increasingly imprecise word. 'Popular' definitions refer to culture as a 'quality', with certain people 'more cultured' than others. Distinctions, as a result, are drawn between 'high' and 'low', 'popular', 'folk' and 'mass' culture.

Culture can be seen to be a broader concept than this. It constitutes the way of life for an entire society, encompassing its customs, rituals, pastimes and pleasures. Defined in this light, cultural activities include cultural and natural heritage, language, religious practices, identity and background, the creative and performing arts, literature, film and video, libraries, the Internet, and radio and television.

Such cultural activities are essential to a shared sense of quality of life.

Cultural and natural heritage

Tasmania's heritage is drawn from its cultural and natural environments. Heritage is increasingly perceived as a record of our past, in all its facets, which assists us to understand our identity: where we have come from and where our future lies. There has been a growing awareness of the importance of this heritage and the role it plays in cultural expression.

Register of the National Estate

The functions of identifying and conserving Australia's national heritage are shared between all levels of government. The Register of the National Estate, maintained by the Australian Heritage Commission, is a listing of those places of Australia's Aboriginal, historic and natural heritage that have special value for present and future generations. Listing on the Register alerts planners, decision makers, researchers and the

general community to the heritage value of these places.

At 30 June 1999, some 12.0% of places on the National Register were in Tasmania; the number of Tasmanian places had increased by 7, to 1,480 from 30 June 1998. A further 29 places were placed on the Interim List (12 Aboriginal, 4 historic and 13 natural) during this period.

During 1998–99, the following places in Tasmania were notified to the Commission as being added to the National Estate:

- Bridgewater Bridge and Remains, Bridgewater (historic);
- Boullanger Bay–Robbins Passage Bird Habitat, Montagu (natural);
- North Esk Powder Magazine Group, Launceston (historic);
- Henderson Lagoon Coastal Area, Falmouth (natural);
- Tunbridge Tier Road Remnant Vegetation, Tunbridge (natural);
- Linda Moraine, Queenstown (natural); and
- Scotts Peak Dam and Lake Pedder, Strathgordon (historic).

Aboriginal places

Over many thousands of years, Aboriginal people have left signs of their occupation in Tasmania. The reminders of where they lived, ate, hunted or collected food, and their art and their sacred sites are all part of Tasmania's heritage.

At 30 June 1999, there were 77 Aboriginal places in Tasmania listed on the Register of the National Estate, accounting for 8.5% of all Aboriginal places. The three main types of places protected were occupation sites (27), shell middens (17)

and site complexes (13); these accounted for 74.0% of all Tasmanian Aboriginal places on the Register, including those on the Interim List.

Historic environment places

Tasmania has a rich and diverse historic heritage. Within the Register of the National Estate, the category 'historic' refers to places associated with people since European settlement. These can range from internationally recognised buildings to cemeteries, and farming and grazing land.

At 30 June 1999, there were 1,182 historic environmental places in Tasmania listed on the Register of the National Estate, accounting for 12.2% of all historic environment places. The three main types of places protected were residential buildings (374), farming and grazing places (188) and religious places (141); these accounted for 59.5% of all historic heritage places on the Register, including those on the Interim List.

Natural environment places

Management of the natural environment ensures the preservation of local flora and fauna, controls or reduces development of the area for fishing, forestry, mining or agriculture and ensures areas involved are generally accessible to the public.

There were 250 natural environment places in Tasmania listed on the Register of the National Estate at 30 June 1999, accounting for 11.8% of all natural environment places. The four main types of places protected were vegetation communities (41), geological sites and areas (37), fauna habitats (32) and flora species sites and habitats (30); these accounted for 56.0% of all natural environment places on the Register, including those on the Interim List.

THE REGISTER OF THE NATIONAL ESTATE

State/Territory	30 June 1998	30 June 1999			
	Total (a) no.	Aboriginal no.	Historic no.	Natural no.	Total (a) no.
NSW	3 538	218	2 973	443	3 634
Vic.	2 569	106	2 280	215	2 601
Qld	1 144	149	731	280	1 160
WA	1 196	74	916	244	1 234
SA	1 555	147	1 165	383	1 695
Tas.	1 473	65	1 178	237	1 480
NT	247	104	130	59	293
ACT/Jervis Bay	206	27	157	30	214
External Territories	33	—	36	17	53
Total	11 961	890	9 566	1 908	12 364

(a) Does not include those on the Interim List.

Source: Australian Heritage Commission, Annual Report 1998–99

**ABORIGINAL AND TORRES STRAIT ISLANDER PLACES ON THE REGISTER
OF THE NATIONAL ESTATE, 30 JUNE 1999 (a) (b)**

Place type (c)	Tasmania no.	Australia no.
Fish and eel traps	—	19
Burials, cemeteries and graves	3	32
Places of significance to Aboriginal people	2	121
Art sites	5	211
Ceremonial sites	—	19
Grinding grooves	—	19
Hunting hides and traps	—	3
Historic and contact sites	1	48
Modified trees (scarred and carved)	—	62
Occupation sites	27	97
Organic resource area	1	1
Stone arrangements	3	55
Site complexes	13	108
Shell midden	17	68
Wells	—	11
Quarries	5	35
Total	77	909

(a) Includes registered places and places on the Interim List. (b) At present there are no Torres Strait Islander places on the Register of the National Estate. (c) Most of these places encompass a number of Aboriginal sites. There are many thousands of individual sites covering a wide range of site types on the Register.

Source: Australian Heritage Commission, *Annual Report 1998–99*

World Heritage listings

Natural and cultural properties that are considered to be of 'outstanding universal value' and that meet the criteria of the World Heritage Convention may be entered on the World Heritage List. The list is compiled by UNESCO's World Heritage Committee. Signatories to the Convention (such as Australia) undertake to identify, protect, conserve, present and transmit to future generations the properties entered on the World Heritage List.

There are two World Heritage properties in Tasmania, the Tasmanian Wilderness, which occupies approximately 1.3 million hectares of western Tasmania (listed in two stages, in 1982 and 1989), and Macquarie Island, which was listed in December 1997.

Macquarie Island is situated about 1,500 km south-south-east of Tasmania, about half way between Tasmania and Antarctica at around 55 degrees south. The main island is approximately 34 km long and 5.5 km wide at its broadest point. The total land area is 12,785 hectares, but the World Heritage Area includes the surrounding waters to 12 nautical miles.

A management structure for the Macquarie Island World Heritage Area is being formulated. The Commonwealth Government announced, in June 1999, its intention to establish a 16 million hectare Marine Park on the eastern side of Macquarie Island to enhance the protection of

endangered and vulnerable marine species. Over one-third of the Marine Park will be totally protected from fishing and mining.

The second plan of management for the Tasmanian Wilderness World Heritage Area, to provide an improved strategic approach to the management of the property, took effect in March 1999. A new system of monitoring and evaluation with reports every two and a half years was also implemented. Commonwealth support was provided for a range of priority projects to implement aspects of the plan.

Forests

Regional Forest Agreements (RFAs) are the Commonwealth Government's and the State Government's major mechanism for implementing the National Forest Policy Statement, including protection of natural and cultural heritage values of Australian forests and providing for economic and social benefits from use of these forests. RFAs represent the cumulation of joint Commonwealth-State Government comprehensive regional assessments of economic, social, environmental and heritage values of public and private forests within defined regions of Australia.

Historic Heritage Cultural Act

A new historic heritage law, the *Tasmanian Historic Cultural Heritage Act 1995*, proclaimed in February 1997, established the Tasmanian Heritage Council and Tasmanian Heritage

**HISTORIC ENVIRONMENT PLACES ON THE REGISTER OF THE NATIONAL ESTATE,
30 JUNE 1999**

Type of place	Tasmania (a) no.	Australia (a) no.
Shipwrecks	2	66
Hotels, motels and inns	77	478
Retail and wholesale	82	657
Government and administration	26	213
Finance	8	225
Community facilities	3	213
Recreation and entertainment	16	270
Parks, gardens and trees	13	234
Education	35	381
Religion	141	871
Cemeteries and burial sites	13	96
Monuments and memorials	3	145
Health services	4	80
Postal and telecommunications	16	191
Rail transport	10	240
Road transport	22	206
Air transport	—	7
Water transport	25	153
Maritime industry	—	14
Mining and mineral processing	3	118
Forestry and timber industry	1	5
Manufacturing and processing	32	157
Farming and grazing	188	821
Law and enforcement	29	447
Military	17	184
Scientific facilities	—	11
Exploration, survey and places of historic events	5	67
Urban area	28	375
Historic landscape	1	13
Residential buildings	374	2 682
Public utilities	8	98
Total	1 182	9 718

(a) Includes registered places and places on the Interim List.

Source: Australian Heritage Commission, Annual Report 1998–99

**NATURAL ENVIRONMENT PLACES ON THE REGISTER OF THE NATIONAL
ESTATE, 30 JUNE 1999**

Type of place	Tasmania (a) no.	Australia (a) no.
Geological sites and areas	37	227
Landform sites and areas	17	110
Palaeontological sites	2	39
Vegetation communities	41	407
Wilderness	6	31
Coastal environments	11	137
Island environments	20	97
Marine environments	2	32
Alpine environments	10	32
Antarctic and sub-antarctic environments	1	2
Arid environments	—	28
Semi-arid environments	—	19
Sub-tropical environments	—	33
Temperate environments	16	101
Tropical environments	—	26
Wetlands and rivers	24	215
Soil sites	1	3
Fauna habitats	32	271
Flora species sites and habitats	30	316
Total	250	2 126

(a) Includes registered places and places on the Interim List.

Source: Australian Heritage Commission, Annual Report 1998–99

Register. The Act includes criteria for the assessment, provisional entry, appeals against, and registration of places or heritage areas in a Tasmanian Heritage Register.

The Act also provides for owners to enter into heritage agreements with appropriate authorities for the conservation and management of places on the Register, and for stop-work orders and repair notices to protect the significance of registered places.

Over 5,000 sites had been listed on the Register at June 1999 and the Tasmanian Heritage Council plans to continue to add properties to the Register.

The Council also has the task of approving all works on listed sites; by June 1999, over 300 applications had been received.

Ethnic and cultural identity

An individual's background or place of origin is a major component of cultural identity. It provides a sense of membership and belonging. Cultural identity is that which gives us a sense of ourselves.

The Tasmanian Aboriginal (Palawa) population has obtained increasing recognition in recent years. Changing social attitudes, political developments, improved statistical coverage and a broader definition of indigenous origin have all contributed to the increased likelihood of people identifying as being of Aboriginal origin.

While the Tasmanian population has been characterised by ethnic and cultural diversity since colonisation, it was not until the 1970s that there was the formal recognition that the State, like the rest of Australia, was 'multicultural'.

Palawa Story

~ Patsy Cameron ~

At the 1996 Census, there were 13,873 Aboriginal and Torres Strait Islander people living in Tasmania. The present day Palawa (Tasmanian Aboriginal) population is predominantly descended from a small number of women who were stolen by, or traded to, white sealers in the early 1800s. Apart from this official population, there are believed to be some other families who have descended from unions between Aboriginal women and non-Aboriginal men who lived in isolated rural districts of Tasmania. Official records establish that there are three recognisable community groups, which constitute large families, making up Palawa society today:

- original families born in the Bass Strait islands;
- families of Dalrymple Johnson who was born in the islands and later lived on the North West coast; and
- the families of Fanny Cocheran-Smith who lived in the Channel district, south of Hobart.

The Palawa ancestors practised rich, dynamic and diverse cultures spanning 35,000 years, or 2,000 generations; their unique heritage

testifies to cultural continuity that is among the oldest living cultures on earth. The ancient origins of the Palawa date from the beginnings of the last Ice Age, in an environment that was freezing cold, dry, with icebergs floating up the coastline and glaciers occupying the highlands. During this time, Palawa peoples were living in the most southerly place of any humans on earth. As they moved into Tasmania across the Bassian Plain, they followed the hunting grounds camping in caves and rock shelters, and fishing, hunting and collecting a rich variety of food resources across the Tasmanian landscape.

As the sea levels rose with climatic warming at the end of the Ice Age, and the ocean intruded into Bass Strait, Palawa people were isolated from the mainland of Australia and the rest of humanity for over 10,000 years, until Tasmania was invaded by the British in 1803.

Palawa people today are recapturing their past, and strengthening their identity, through the revival of cultural traditions such as language projects, funerary practices, material culture, ceremonial activities and dance, and land management practises. Many

cultural traditions have been handed down and reinforced through the generations, especially those from the Bass Strait islands, including stringing shells, mutton birding, language, spiritual beliefs and stories, taboos, land management, maintaining kinship lines and obligations, knowledge of bush foods and medicine, ocean navigation, reading the seasons and forecasting weather patterns.

Palawa people are very strong in their identity with the land. Since the early 1800s, the people have petitioned the Governor for the return of land and mutton bird islands, access to cultural resources on the land and sea, and the protection of burial sites and human remains. The return of 12 significant places under the *Aboriginal Lands Act 1995* (Tas.) testifies to the State Government's real commitment to recognising the relationship between Aboriginal people and the land, and to redressing their dispossession of lands and displacement, since the invasion.

These areas of land comprise: mutton bird rookeries of Big Dog, Babel, Chapell, Badger, Steep Head Islands; historic places, such as an area on Cape Barren Island, Risdon Cove (the site of the first massacre of Aboriginal people in Tasmania); Oyster Cove (a condemned penal station where the 47 surviving people were sent after the Wybalenna 'death camp experiment'); and archaeologically significant caves (Ballawinne, Kutikina and Wargata Mina) in the south west and Preminghana, north of Marrawah on the North West coast.

In May 1999, Wybalenna, on Flinders Island, was also returned to the Palawa people. This place, although historically tragic, is considered by many Aboriginal people as a most spiritually sacred area and includes the chapel and burial ground. Wybalenna was a place of attempted social, cultural and spiritual genocide in the 1830s and 1840s. It is a place where about 200 ancestors of Palawa people are interred, far from their lands on mainland Tasmania. They died from broken hearts, broken promises, disease and

neglect. With the return of this land, their spiritual resting place will be cared for and will be a place of remembrance and healing for the Palawa communities today.

There are a number of Aboriginal organisations that have been established throughout the State over the past two decades. These organisations provide many services and programs for the communities, which are specific to the needs and aspirations of Aboriginal people, including areas such as health and housing, justice, youth, child care, arts and crafts, education, employment, elderly, culture, business and resource management.

It is of paramount importance that these programs and services are funded through, and delivered by, Aboriginal organisations as past practices of 'mainstreaming' through other agencies have failed Aboriginal people. Aboriginal organisations are located in major urban centres of Hobart, Launceston, Burnie and Devonport, and rural areas of Deloraine, Cygnet, Queenstown, Smithton, Flinders Island and Cape Barren Island.

Palawa people are very proud of their unique heritage and celebrate their cultural, social and spiritual survival through artistic expressions, cultural festivals, family traditions and kinship networks. There are many talented female and male artists who work in a variety of mediums including ceramics, textiles, painting, photography, natural fibres, sculpture and drawing.

There are also a growing number of performers, writers, poets and playwrights located throughout this State and mainland Australia. Cultural festivals are planned annually at Oyster Cove, south of Hobart, in January and Wybalenna, on Flinders Island, during January/February. Family traditions include seasonal muttonbirding activities, camping out, collecting 'bush tucker' and medicinal remedies, visits to significant places, story telling, visiting families and reinforcing kinship networks.

Multicultural Tasmania - 100 years

~ Hilary Lovibond Johnston, University of Tasmania ~

The concept of 'culture' in the sense of 'multicultural' may best be understood as describing shared systems of meanings, the myriad different elements of our lives that enable us as human beings to communicate with each other and to take part in society. A person may simultaneously be part of more than one culture, and the cultures with which he or she identifies will probably change over time. Used in this sense, 'culture' may be applied to groups within the community which are defined or delimited in different ways: Ferals or Goths may be considered cultures (often they are referred to as 'sub-cultures'), while members of the deaf community who communicate in the sign language Auslan are also a recognisable cultural group.

Perhaps the most readily identifiable cultures within the Tasmanian community, however, are the Aboriginal community and the different ethnic communities represented in the State. It is to describe the participation of the members of these communities within the wider society that the term multiculturalism is most commonly used. To quote the office of Multicultural Affairs, 'In a descriptive sense multicultural is simply a term which describes the cultural and ethnic diversity of contemporary Australia. We are, and will remain, a multicultural society.'

At the level of public policy, multiculturalism is a dynamic concept which has changed over time. Recently, the National Multicultural Advisory Council presented a report which advocates the retention of the term with the qualifying prefix 'Australian' and recommends a new definition. The underlying concept, however, remains the same. Today, multiculturalism is at a policy level accompanied by the concepts of cultural diversity and to a lesser extent, productive diversity (both terms which in a descriptive sense are very close to the meaning of multiculturalism cited above). We can therefore, with equal validity, describe

Tasmanian society as multicultural or as culturally diverse.

While the ethnic composition of Tasmania's population has shifted over time, as rates of migration from particular countries have increased and decreased, and community members have moved interstate or overseas, its diversity has increased markedly in the last 100 years. Multiculturalism, however, is about more than diversity. A truly multicultural society is one in which the principles of social justice ensure that people are treated equitably regardless of their national or ethnic origin, religion, language or gender, and in which divergent cultural identities can be maintained and celebrated, within an overarching framework of commitment to common values. Seen in this context, multiculturalism is enormously significant for those people who have migrated to Australia and settled in this State, as well as for the wider Tasmanian society.

Prior to the introduction of a policy of multiculturalism at a national level in the mid-1970s, Tasmania like the rest of Australia, espoused the view that migrants should, and indeed inevitably would, assimilate to the 'Australian way of life', which was understood as essentially British in its origins and aspirations. This expectation, which dominated the experience of non-British migrants in the years before the Second World War, was formalised from 1947 with the introduction of a settlement policy of assimilation aimed at ensuring the rapid absorption of all migrants into the dominant culture. Assimilation gave way to integration in the 1960s. However, little real change occurred. It was still generally believed that migrants would eventually shed their differences and 'become Australian'.

The significance of multiculturalism lies in its acknowledgment of and support for the retention of distinctive cultural elements, and its recognition of the fact that the wider

society can embrace difference. Multiculturalism has brought with it an awareness of the special needs of some migrant groups, and an understanding that the provision of services such as Adult Migrant English and the funding of ethnic community workers benefit society as a whole.

Today, Tasmania has a wide range of services for migrants, including two Migrant Resource Centres, Adult Migrant English Services in four cities, English as a Second Language tuition for children at school, a counselling centre for survivors of torture and trauma, and interpreting and translating services.

Government organisations have Migrant Liaison Officers and provide information materials in community languages, while private sector business operators increasingly recognise the value of employing people from diverse cultural backgrounds. Numerous ethnic-specific organisations also exist within the State, catering for the particular needs of members of that ethnic group or community. As we approach the

end of the century, these things are an integral part of Tasmanian life.

Multiculturalism has brought much to Tasmania. While its impact is often reckoned in terms of food, music and dance, multiculturalism is about much more than this. By constantly highlighting differences and reducing culture to these few tangible elements, this view of multiculturalism can result in individuals being defined by differences.

Multicultural Tasmania is a society in which all cultures are part of the mixture, not just those labelled 'ethnic' or 'other'; multiculturalism includes the Tasmanian-born and the migrant from England or New Zealand together with people who identify as members of particular ethnic groups.

The many cultures represented in Tasmania have shared the meanings and values of their cultural backgrounds across all spheres of social interaction, broadening the definition of 'Tasmanian' and helping the State to take its place in the global community.

Cultural pursuits

In the 12 months to March 1995, Tasmanian visiting or attendance rates were higher than national rates for museums (35.6% compared with 27.8%) and classical music performances (10.0% compared with 7.7%).

Tasmanian visiting or attendance rates were lower than national rates for cinemas (50.4% compared with 62.1%), opera or musicals (8.4% compared with 19.3%), animal and marine parks (27.3% compared with 35.3%), and popular music (22.6% compared with 26.9%). These lower attendance rates in Tasmania may relate to the lack of accessibility to some of these cultural venues or attractions.

Tasmanian attendance at the cinema and popular music concerts was highest among people aged 15–24 years. Attendance at public libraries was highest among people aged 15–17 years.

The highest attendance rates for art galleries, classical music and opera or musicals were by people aged 45–54 years. The highest

attendance rate for museums was by people aged 35–44 years.

ATTENDANCE AT CULTURAL ACTIVITIES, PARTICIPATION RATES (a)

Venue/activity	Tasmania %	Australia %
Cinema	50.4	62.1
National, State or local library	37.2	38.4
Botanic garden	37.0	38.5
Museum	35.6	27.8
Animal and marine parks	27.3	35.3
Popular music	22.6	26.9
Art gallery	21.4	22.3
Other performing arts	18.1	18.7
Theatre	15.2	16.6
School, college or university library	14.2	17.1
Classical music	10.0	7.7
Circus	9.3	8.1
Zoo	9.0	22.2
Opera or musical	8.4	19.3
Dance	6.9	10.0
Children's dance	2.3	3.0

(a) Those who attended a venue/activity at least once in the 12 months ended March 1995.

Source: ABS catalogue no. 4114.0

People with the lowest attendance rates at most venues or activities were people aged 65 years and over.

An estimated 50.4% of the Tasmanian population aged 15 years and over (184,900 people out of 367,000) had visited a cinema at least once in the year ended March 1995. This was almost 12.0% less than the Australian attendance rate for the same period. Some 37.2% (136,500 people) had visited a public library and 37.0% (135,600 people) had visited a botanic garden. These attendance rates were similar to the corresponding national figures.

Museums and art galleries

In the 12 months to March 1995, attendance rates for Tasmanians visiting museums ranged from 48.1% of those aged 35–44 years to 21.1% of those aged 65 years and over. For art galleries, the highest attendance rates were for those aged 45–54 years (27.3%); the lowest rates were for those aged 65 years and over (11.6%). An estimated 35.6% of Tasmania's population aged 15 years and over visited a museum (compared with the national figure of 27.8%) while 21.4% visited an art gallery in the 12 months to March 1995 (compared with the national figure of 22.3%).

In November 1997, museum and art galleries were perceived by 80.4% and 70.7% of Tasmanian residents, respectively, to be either very important or important in the community.

The Tasmanian Museum and Art Gallery

The Tasmanian Museum and Art Gallery (TMAG) houses collections in the fields of botany, geology, zoology, visual arts and crafts, history, indigenous cultures, and applied science. TMAG is an integrated institution, concerned with a diverse range of natural and cultural heritage, with particular emphasis on Tasmania. The museum's traditional function, and still the major part of its operation today, is to collect, conserve, study and display items of cultural or scientific value to the community. Its income is provided mainly by an annual grant from the State Government, supplemented by a contribution from the Hobart City Council and the fundraising activities of the Art Foundation of Tasmania and the Friends of the TMAG. Significant corporate support, both as donations and 'in kind', have enabled a stimulating travelling exhibition program to be maintained. TMAG has benefited

from the energy and enthusiasm of more than 50 volunteer guides and curatorial assistants.

Public program highlights

With 156,601 visitors to over 20 exhibitions, displays and public events in 1998–99, the Tasmanian Museum and Art Gallery maintained attendance levels of the previous two years.

The major exhibition highlights included the opening on Threatened Species Day of *Tasmanian Tiger: the Mystery of the Thylacine*, an exhibition developed in-house for touring nationally, and TMAG Commissions (funded by the Visual Arts/Crafts Board), which were six specially commissioned contemporary works for the collection.

Collection highlights

Collection highlights included the acquisition of over 1,000 architectural drawings of Tasmanian buildings and residences from the mid-nineteenth century by Henry Hunter and Associates, and 6 major contemporary art works commissioned with the assistance of the Visual Arts/Crafts Board of the Australia Council. There were several significant gifts and donations to the visual arts collections from individuals, corporations and estates. These included works by Thomas Wainwright, Benjamin Sheppard, 200 bird drawings by Susan Lester and the work of several unknown miniaturists.

Queen Victoria Museum and Art Gallery

The Queen Victoria Museum and Art Gallery was established by the Tasmanian Government in 1891. Since 1895, its management has been vested in the Launceston City Council, with financial support from an annual State Government grant. It is the largest museum and art gallery outside a capital city in Australia, and has developed as an important institution, recognised nationally, and particularly known for its fine collections of Australian colonial art, contemporary art and craft, Tasmanian natural and social history, Chinese temple and planetarium.

The Queen Victoria Museum and Art Gallery is consolidating its activities on the Wellington Street site and on new premises at the Inveresk Rail Yard site, which are due to be completed by 2001. In spite of the redevelopment at both sites, the Museum continued to maintain an active exhibitions and public activity program. A total of 24 new exhibitions and displays were

QUEEN VICTORIA MUSEUM AND ART GALLERY STATISTICS

Venue/activity	1996–97 no.	1997–98 no.
Museum and Art Gallery attendees	90 224	73 279
Public inquiries	9 978	13 494
Exhibitions mounted	25	24
Exhibitions toured	6	7
Public programs	88	153
Internet visits	21 862	40 906

Source: Queen Victoria Museum and Art Gallery, Annual Report 1997–98

presented during 1997–98, including:

- Framework: Frames in Tasmania from 1830. This was the culmination of a long-term research project by Painting Conservator, Therese Mulford, and was the first major exhibition on this subject in Australia;
- Marerlopepetar: to tell a story in the manner of the Palawa. Curator Victoria Kimpton worked with members of the Palawa community to develop this exhibition displaying some of the Museum's important collection of Tasmanian Aboriginal material; and
- Origins and New Perspectives: Contemporary Australian Textiles. This exhibition, curated by Glenda King and undertaken in conjunction with Craft Australia, was the focus of Australia's representation at the 9th International Triennale of Tapestry in Lodz, Poland.

Libraries

In November 1997, libraries were perceived by 94% of Tasmanians to be very important or important to the community. In addition, 93% of Tasmanians were in favour of some financial support for libraries being provided by Government.

Tasmanian libraries range from public libraries, academic libraries, school and college libraries to special and corporate libraries.

The State Library of Tasmania

The largest library organisation is the State Library of Tasmania providing public library and information services throughout the State supported by specialist services at the State level.

History

The first public library in Hobart was opened in 1849 in a house that still stands at the corner of Barrack and Davey Streets. It was financed by a

government grant for books and the yearly subscription of members. In 1850, it was legally established by an Act of Parliament as the Tasmanian Public Library. The library, which moved to the Royal Exchange building (now the Tasmanian Club) in Macquarie Street in 1859, was opened free to the public in the next year. It closed, heavily in debt in 1867.

From 1870, when the library re-opened in its premises in the Town Hall, it was freely available to the public, although the borrowing of books was not permitted. A new public library building at the corner of Argyle Street and Davey Street, erected with funds supplied by Mr Carnegie, was opened in 1907 as a Free Library. The precursors to the public library system in Tasmania included the Mechanics Institutes in the State, private circulating libraries and library societies.

The *Libraries Act 1943* provided for the establishment of the State Library of Tasmania, to include a network of public libraries, which was to be administered by the Tasmanian Library Board. It also directed that the State Library was to be the legal deposit library for the State. In 1949, the State Archives came under the control of the Tasmanian Library Board. In 1984, new legislation created a State Library Service and established the Tasmanian Library Advisory Board and three regional Library Advisory Committees.

The Library has been enriched by several important bequests: the William Walker Collection in 1924 and 1933; the Allport Library and Museum of Fine Arts in 1965; and the W. L. Crowther Library in several stages in the 1960s and 1970s.

The new State Library building in Murray Street was opened in 1962, and the second stage building was completed in 1972.

Services

The State Library of Tasmania delivers its services through a State-wide network of 7 city libraries,



Photographer: Lucia Rossi

Heroes (1993), Terrapin Theatre

Puppeteers Danielle Baker, Melina Henderson and Bruce Paterson in a scene from the 1993 season of *Heroes*, a poignant story, told without words. Beautiful imagery and the magic of puppetry combine in this inspirational myth about inner strength and heroism. *Heroes* was awarded the 'Best Professional Tasmanian Theatre Production' by the Variety Club inaugural Tasmanian Theatre awards in 1993.

Photographer: Argent Photography



Little Red (1995), Terrapin Theatre

Puppeteers Lynne Kent and Melissa King with the King puppet in a scene from the 1996 season of *Little Red*. This hilarious retelling of the classic fairy tale places *Little Red* in a totally modern context with the best of traditional and contemporary puppetry techniques and is an excellent demonstration of object theatre.

Photographer: Noeline Robinson



Desires (1996), Terrapin Theatre

Puppeteer Philip Mitchell performs in The Drudge puppet in a scene from *Desires*, which comprises 4 short works written by leading Australian playwrights and explores a diverse range of topics, all linked to aspects of human desires. This startling visual theatre production for adults premiered to Tasmanian audiences in 1995.

Photograph: Glenn Dickson



The BFG (1998), Terrapin Theatre

The Queen and Sophie puppets from Terrapin's 1998 season of *The BFG* at the Theatre Royal, Hobart. *The BFG* is filled with all the magic of shadow puppetry, black theatre and stilt-walking giants.

Photographer: Glenn Dickson



Blueback (1999), Terrapin Theatre

Abel and Blueback puppets in a scene from *Blueback*, Terrapin's 1999 school touring production which was seen by over 8,000 students in Tasmania. *Blueback* centres around a young boy and his mother's life by the sea; their relationship with the land and their desire to protect and preserve the natural habitat and the place they call home.

Photographer: Craig Blowfield



Bite of the Apple (1997), Salamanca Theatre Company

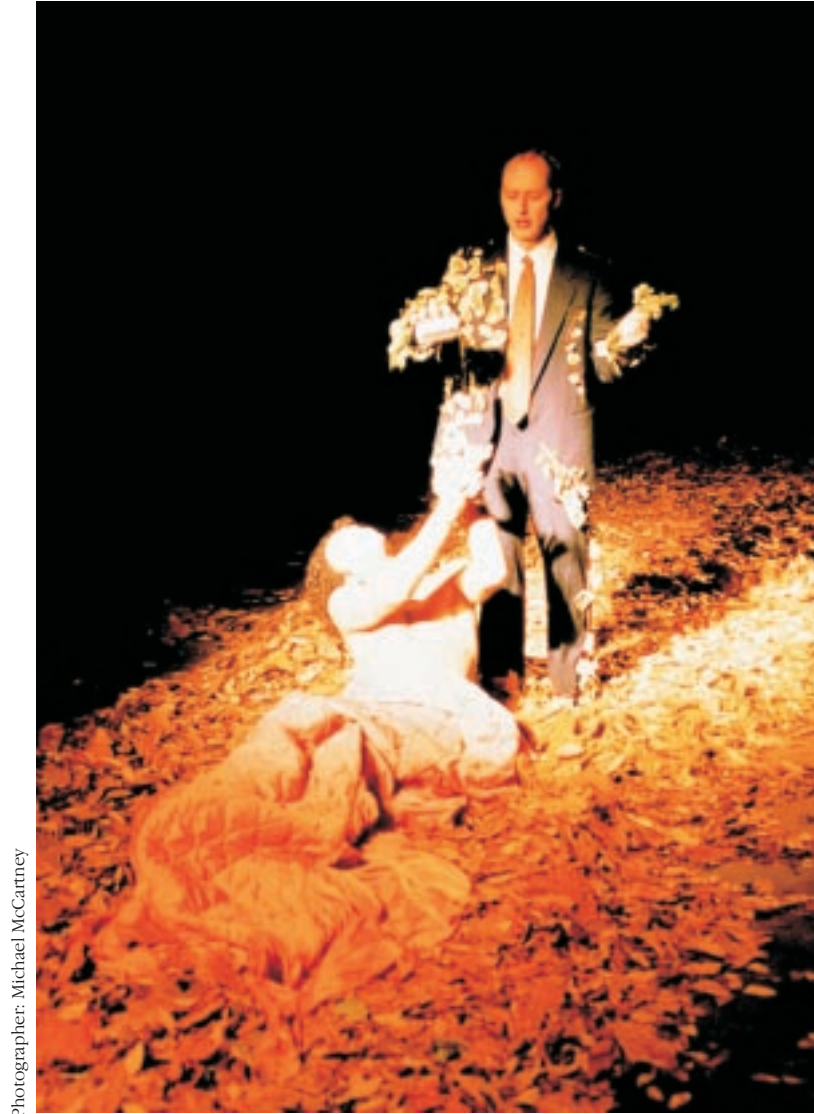
Bite of the Apple was produced by Salamanca Theatre Company's Salamanca Youth Theatre in 1997. The work is a collaboration between visual and performance artists and contains vignettes of manipulation, titillation and betrayal.

Photographer: Craig Blowfield



The Ecstasy of Communication (1998), Salamanca Theatre Company

A collaboration between established and emerging artists from Sydney and Hobart, *The Ecstasy of Communication* was a large multi-media maze constructed in Hobart's Long Gallery. The maze was inspired by the works of Jean Baudrillard and looks at the effects of technology on contemporary perceptions of everyday life.



Photographer: Michael McCartney

Days and Nights with Christ (1997), IHOS

Days and Nights with Christ is for 4 solo singers who sing in Greek, and a dancer, Christ, whose movements, although choreographed, are not obviously 'dancey'. A battery of musicians, electro-acoustic instruments, wind and brass stand on a podium close to the audience. Placed in this way, they enter the circuit of energy binding spectators and performers. The spectators are seated in tiers opposite each other, mirroring each other, as the Christ figure between and below then mirrors them all.



Photographer: Paul Scambler

SKIN DEEP (1999), TasDance

SKIN DEEP was a collaboration between leather sculptor Garry Greenwood and TasDance. It was performed in March 1999 at the Earl Arts Centre in Launceston and the Peacock Theatre in Hobart. Dancers David O'Neile, Jonathan Rees-Osborne and Catherine Freeman.



Photographer: Paul Scambler

SKIN DEEP (1999), TasDance

Dancers Catherine Freeman (foreground) and Cassie Carlos in Praxis mask (background).

Photographer: Paul Scambler



A-Peeling from the *Passion fruit* program (1999), TasDance—A visual journey through the sumptuous sights and smells of the tantalising fruits that delight our palate.

Passion fruit was the first program developed for the company under the new artistic direction of Annie Greig in 1997. The production was remounted in 1999 for inclusion in the Made to Move national touring circuit and was performed in Launceston, Burnie and Hobart before touring Canberra and Geelong. Dancers Jay Watson and Trisha Dunn.

Photographer: Paul Scambler



Bar Blu from the *Passion fruit* program (1999), TasDance

When people are lost, they often seek out other lost souls for comfort and solace. *Bar Blu* is the meeting place for these lost souls. Dancers Stewart Thistlethwaite and Trisha Dunn.

42 branch public libraries and 7 reference and specialist libraries. These include:

- the Tasmaniana Library — a comprehensive collection of historical and contemporary Tasmanian publications;
- the W. L. Crowther Library — a collection of printed, manuscript, pictorial and museum material, mainly Tasmanian; and
- the Allport Library and Museum of Fine Arts — an outstanding collection of 18th and 19th century antiques, colonial paintings and books.

The State Library of Tasmania provides:

- lending and reference services;
- access to specialist collections;
- electronic information resources; and
- access to public Internet computers.

The libraries are part of the Tasmanian Automated Library and Information System (TALIS), an automated catalogue and electronic information service, which is accessible from any of the libraries in the public library system and is also available through the Internet. TALIS contains the holdings of all public libraries in the State, together with those of 8 senior secondary colleges and 123 school and TAFE libraries.

The State Library has responsibility, under the *Libraries Act 1984*, for collecting and preserving a copy of every item published in Tasmania and publishers are required to deposit a copy of each item, including digital and audio products, with the library.

The Tasmaniana Library also collects ephemeral items and indexes the three Tasmanian daily newspapers for Tasmanian content. This index is available through TALIS. The website Our Digital Island has preserved over 150 Tasmanian web sites (<http://www.tased.edu.au/library/odi>). From this location, these preserved sites can be accessed by title, subject and through a specialised search engine.

During 1998–99, there were 2,903,195 visits to the State Library and its city and branch libraries, and almost 4.6 million items were borrowed, equating to 9.7 items borrowed per head of Tasmanian population. About 345,000 reservations for specific items were registered, and more than 659,000 reference and information enquiries were answered, an increase of 2.4% for the year.

Over 44,000 books were purchased by the State Library to add to their collections.

There has been a steady increase in the number of electronic information resources and databases for use on a wide area network, local area networks and on stand-alone computers by clients of the State Library. The availability of electronic information enables the delivery of information beyond physical and temporal boundaries to all Tasmanians.

Two new services that reflect the changes in information service delivery using information technology are Tasmania Online and Tasmanian Communities Online. Tasmania Online is the official website for all electronic Tasmanian Government information. Tasmania Online won the 1998 Australian Society of Indexers Web Indexing Award and continues to provide the only comprehensive State-based index of this type in Australia.

The Tasmanian Communities Online project is designed to accelerate the uptake of new technology by Tasmanians by providing free access to, and training in the use of, computers, and the free use of the Internet.

By the end of 1999, there will be 60 Online Access Centres operating throughout Tasmania including the major islands. The centres are a community-managed enterprise and are staffed by a co-ordinator and supported by trained volunteers.

The project is funded by 'Networking the Nation' funds and is supported by the State Government of Tasmania.

Archives Office of Tasmania

The Archives Office provides centralised archives and records management services for all Tasmanian State and local government agencies, and facilities for government and public access to records of continuing value in all media formats. The office preserves valuable records that are no longer of immediate administrative use.

For the year ended June 1999, approximately 10,500 daily visits were made by researchers using the services provided by the Archives Office. This figure was similar to that recorded in previous years, although the number of records used showed an increase on previous years.

The number of written inquiries received by the Office also increased, by about 20%.

The Tasmanian Parliamentary Library

The Parliamentary Library maintains records of Tasmanian political and parliamentary information from colonial times to the present

In existence since 1852, its principal function is to provide Members and Officers of Parliament with information they need in connection with their parliamentary duties. The library also has a section for recreational reading.

The information gathered for Members of Parliament is obtained from the library's own collection, other parliamentary libraries and the State Library.

A significant part of the library's work is media monitoring. There is an extensive newspaper clippings file dating from the early 1970s and, more recently, monitoring of radio and television current affairs programs has taken place.

During 1998–99, at the request of Members of Parliament, library staff prepared 54 transcripts taken from either radio or television broadcasts compared with 86 in the previous year.

From 1990, a small Parliamentary Research Service has been established to provide more in-depth research papers on request. The Parliamentary Research Service provided 391 briefings for Members in 1998–99, compared with 322 in 1997–98. There were 5,238 reference requests in 1998–99, compared with 4,675 in 1997–98.

Arts Tasmania

Arts Tasmania is the State Government's arts agency, the primary function of which is to assist in the development of a viable arts industry in Tasmania.

It promotes excellence and participation in, and access to, a wide range of arts and cultural activities for all Tasmanians.

In 1998, the State Government raised the status and focus for the arts by moving it to the Department of State Development. Arts Tasmania is accepting the challenge to develop the arts and cultural industry as a major focus of social and economic growth for this State.

To this end, Arts Tasmania has been creating new, and maintaining existing, partnerships in support of increased investment in the arts at

State, national and international levels to increase market share and improve economic viability of arts organisations.

Arts Tasmania works with the 13-member Tasmanian Arts Advisory Board (TAAB) appointed by the Minister for the Arts. Assistance to the arts is provided in accordance with the *Arts Advisory Board Act 1975* (Tas.), which empowers the TAAB to provide advice to the Minister for the Arts on all policy and funding matters for the development of the arts in Tasmania.

Arts Grants and Loans Program

Arts grants provide support to arts organisations and individual artists in all art forms and in all regions of Tasmania.

Funding to organisations, usually on a triennial basis, provides support for infrastructure and arts activities across all art forms. Larger companies are co-funded with the Commonwealth through the Australia Council. The Tasmanian Arts Advisory Board oversees multi-year funding agreements with the major arts organisations.

Established funding programs include: the Creative Communities Fund; the Performing Arts Touring Scheme; the Art for Public Buildings Scheme; the Arts Industries Program; and various forms of assistance to individual Tasmanian artists.

New for 2000 is the Heritage Residency program to build on the highly successful Dombrovskis Wilderness Residencies. This program offers residencies in various sites of historical and cultural significance to Tasmanian artists working in any art form. The sites include the Gorge Cottage in Launceston, the Tasmanian Writers Cottage, Salamanca Place in Hobart, and Highfield House in north-west Tasmania.

Arts Tasmania also provides annual allocations to regional art galleries and museums, history associations, art foundations, and the secretariat for the Cultural Ministers Council. Also to be introduced in 2000 is a small grants program for public and private museums, and collections, recognising the need to make their collections accessible to a public demanding ever increasing sophistication of display and curatorship.

Tasmanian Artists - 100 years

~ Sue Backhouse, *Tasmanian Museum and Art Gallery* ~

Tasmania has provided inspiration to many artists since European settlement. There has been a strong tradition of landscape painting due to the sublime beauty of the island's diverse scenery. A unique sense of place and an acute awareness of the environment has evolved.

Among Tasmania's most well-known artists are William Charles Piguenit (1836–1914), Jack Carington Smith (1908–72) and Bea Maddock (born 1934). Piguenit, who has been described as the 'first Australian-born professional painter', executed numerous traditional landscapes, often of remote areas, especially the Tasmanian Highlands. A unique collection of his work is in the Tasmanian Museum and Art Gallery. Carington Smith, born in Launceston, studied in Sydney then London and taught at the School of Art, Hobart for thirty years. He gained a national reputation particularly for his portraits, received many commissions, won numerous national prizes, and exhibited widely especially in Melbourne and Sydney. His influence as a teacher and painter of portraits reaches far beyond the State.

Bea Maddock's studies took her from Hobart to London and Europe before she began teaching in Launceston. She then taught printmaking at the Victorian College of the Arts from 1970 and returned to Tasmania as Head of the School of Art, Launceston in 1983–84. She now works in studios in Launceston and Oatlands and has produced many complex prints and drawings. Her latest work features the depiction of the entire Tasmanian coastline.

Edith Holmes (1893–1973) and Dorothy Stoner (1904–92) are major artists who have worked continually throughout their careers developing an important legacy of work. Edith Holmes' distinctive paintings reveal her love of light and atmosphere while Dorothy Stoner's powerful canvases display a love of colour and shape.

Many artists made Tasmania their home. Haughton Forest worked prolifically, painting detailed seascapes and landscapes until his death at the age of 99 in 1925. David Chapman retired from Melbourne to Cressy, Tasmania in 1975 to paint large, colourful canvases. Artists coming to Tasmania for shorter periods included John Eldershaw, who excelled in watercolour landscapes, in the 1920s and 1930s, and Edwin Tanner, who was originally an engineer and became a full-time painter while residing in Tasmania in the 1950s.

After establishing reputations as major artists overseas and interstate, Ewa Pachucka, Stephen Walker and Keith Looby have made Tasmania their home as have Tom Samek, Ron Brookes and Stephen Lees.

Numerous Tasmanian-born artists remain living and working in the State with only short periods away, usually for study or travel. Louisa Swan, Mabel Hookey and Blanche Murphy were significant figurative and landscape painters who worked in the first half of this century. George Davis, best known for his colourful landscapes and perceptive portraits, has worked for over 40 years in Tasmania.

C. L. (Lily) Allport, printmaker and painter, and Florence Rodway, a miniaturist and pastellist, chose to return to Tasmania after living and working for over 20 years in London and Sydney, respectively. Contemporary painters and printmakers, Denise Campbell, Betsy Gamble, David Keeling, Helen Wright, Barbie Kjar and Jeff Burgess, also a sculptor, have all chosen to work in Tasmania. Philip Wolfhagen and Stephen Lees are younger artists who paint inspired, textural landscapes drawn from their Tasmanian experiences.

Carington Smith, Robert Campbell and John Eldershaw were instrumental in generating a strong tradition of watercolour landscape

painting within Tasmania. Joseph Connor, Harry Kelly and Roy Cox preferred this medium for their work from the 1940s to 1960s. Adept watercolourists working today include Max Angus, Patricia Giles and Christine Hiller.

A number of Tasmanian artists established reputations both interstate and overseas. Loudon Sainthill, born in Hobart in 1918, had considerable success in England as a theatre designer. Oliffe Richmond studied in Hobart then Sydney before travelling to England in 1949 to study with Henry Moore. He settled in England and taught sculpture at the Chelsea Art School. Francis McComas, born in Fingal, Tasmania moved to America where he had considerable standing as a member of the 'Monterey School'. The painter Jean Bellette and Gerald Lewers, a sculptor, became well known artists in Sydney, and painters Peter Clarke, Tony Woods and Kevin Lincoln all reside and work in Victoria.

There are many teachers who have had a major influence on art and artists in the State. Lucien Dechaineux, Belgian-born, came to Tasmania from Sydney in 1895 and initially settled in Launceston where he taught for 12 years before he was appointed Head of the Art Department and Principal of the Hobart Technical College for 32 years. Mildred Lovett taught in Sydney and then in Hobart during the 1920s and 1930s and had an important impact on her students, particularly as a result of her own studies in Paris.

Robert Campbell, taught at the Launceston Technical College and influenced a great many artists in the north of the State, including Geoff Tyson and Alan McIntyre. Campbell left Tasmania in 1947 to become Curator of Art at the Art Gallery of Western Australia, followed by directorships of the Queensland and South Australian galleries.

Important teachers of the 1960s and 1970s were: Rod Ewins, who set up the printmaking department at the School of Art; Geoff Parr, who established the first photographic course to be offered as a subject in an art school in Australia; Udo Sellbach, a master draughtsman and printmaker; and painters Anton Holzner and Dusan Marek who brought with them wider influences of abstraction and surrealism from Europe. Sculptors Ken Unsworth, Peter Taylor and David Hamilton have also exerted an important influence.

Significant teachers of the 1980s and 1990s include: Paul Zika and Tim Payne, who established a papermaking mill at the School of Art in Hobart; sculptor, Bob Jenyns; American photographer, David Stephenson; Terry O'Malley, painter, sculptor and performance artist; and Ray Arnold a printmaker with a national reputation.

Tasmanian inspired works are numerous as are the number of artists who have been associated with the State. Work has emerged which has strong regional appeal and which also contributes to a wider Australian genre.

Music and performing arts

At 30 June 1997, there were 27 businesses in Tasmania that employed people in the performing arts industry. Approximately 59% of these businesses were engaged in music and theatre production.

Music

Music is an important aspect of the cultural life of Tasmanians. An estimated 22.6% of the Tasmanian population aged 15 years and over (83,100 people) attended a popular music concert, and 10.0% (36,800 people) attended a

classical music concert at least once in the year ended March 1995. The proportion of people attending popular music concerts peaked for 18–24 year olds (33.8%), while the proportion attending decreased as the age of the population increased. For classical music concerts, the highest proportions of people attending were recorded for 45–54 year olds (15.3%), followed by 55–64 year olds (13.0%) and 25–34 year olds (9.7%).

Tasmanian Symphony Orchestra

The Tasmanian Symphony Orchestra (TSO) is the largest professional performing arts

**PERSONS ATTENDING POPULAR MUSIC
CONCERTS, 12 MONTHS TO MARCH 1995**

	Number '000	Participation rate %
NSW	1 228.6	25.7
Vic.	932.4	26.3
Qld	672.7	26.6
SA	341.8	29.2
WA	402.7	30.2
Tas.	83.1	22.6
NT	38.7	32.0
ACT	90.8	39.6
Australia	3 790.7	26.9

Source: ABS catalogue no. 4114.0

**PERSONS ATTENDING CLASSICAL MUSIC
CONCERTS, 12 MONTHS TO MARCH 1995**

	Number '000	Participation rate %
NSW	363.2	7.6
Vic.	261.6	7.4
Qld	158.1	6.3
SA	102.0	8.7
WA	113.3	8.5
Tas.	36.8	10.0
NT	13.8	11.5
ACT	32.5	14.2
Australia	1 081.3	7.7

Source: ABS catalogue no. 4114.0

organisation in Tasmania and is regarded as the premier cultural asset of the State. This status was confirmed in 1998 when the State Government declared the TSO an 'icon' under its Tasmanian Icons Program, pledging \$500,000 a year to the orchestra over an initial four-year period.

The orchestra presents over 80 concerts annually through its subscriptions series, specials series, education program and free outdoor events such as ANZ Symphony under the Stars.

The orchestra's core repertoire is that of the classical period; however, it is also recognised for promoting contemporary music.

It has performed numerous premieres of Australian works and given first Australian performances of European works. The orchestra also enjoys great success playing a range of jazz and popular music.

Performing arts

The performing arts sector includes all forms of theatre, dance, opera and music theatre, variety and cabaret. In November 1997, performing arts venues were perceived by 77.8% of Tasmanian residents to be either very important or important in the community.

An estimated 15.2% of the Tasmanian population aged 15 years and over (55,800 people) attended a theatre performance, 8.4% (30,700) attended an opera or musical, 6.9% (25,400 people) attended a dance performance, and 18.1% (66,600) attended a performance of other performing arts at least once in the year ended March 1995.

Theatre consists of live performances by actors or puppets, and of plays where the entire or major part of the performance does not use song and music. Included are alternate, playback, puppet, fringe, youth and community theatre,

TasDance

Based in Launceston, TasDance was established in 1981 as Australia's first dance-in-education company. Under the artistic direction of Jenny Kinder, TasDance developed a unique Schools Residency Program, through which the company became renowned for its dedication and innovation both in dance education and artistic development.

After its first decade, TasDance broadened its role to include significantly more activity in the areas of theatre-based performance,

dancer development and community work. The company under artistic director Annie Greig continues to focus on presenting high quality Australian choreography and on developing audiences in Tasmania and around Australia.

From its beginnings as a dance-in-education team, the company has experienced a significant growth in stature and has earned a national reputation for the strength, diversity, innovation and accessibility of its repertoire of contemporary Australian work.

theatre sports and theatre of the deaf as well as drama, comedy, mime and theatre-in-education.

The highest participation rate for those attending theatre performances was for people aged 45–54 years (22.3%), followed by people aged 15–17 years (22.1%); for dance performances, the highest participation rate was also for people aged 45–54 years (9.8%); for opera or musicals, the highest participation rate was again recorded by people aged 45–54 years (12.4%); and for other performing arts, it was people aged 25–34 years (27.3%).

Film, Television & Multimedia

As part of the Labor Government's Arts Policy, an allocation of \$1 million was made to establish a

world class Film, Television and Multimedia Office as a flagship for Tasmania. This Office was established in 1999, and provides a framework under which a wide range of creative disciplines are brought together to create world class film and digital products.

The primary objective of the Office is to foster, develop and support the film, television and multimedia industries in creating world class work with the aim of seeking to both stimulate such work within Tasmania and capture such work from outside the State.

The Film, Television and Multimedia Office's aim is to position the industry to the best advantage for Tasmania within a global and national context as we start the new century.

Tasmanian Feature Films

~ Paul Bywater, Hobart Film Society ~

- 1908: *For the Term of His Natural Life* (Charles MacMahon)
Some sequences were filmed at Port Arthur. A 'lost film'.
- 1911: *The Life of Rufus Dawes* (Alfred Rolfe)
Set in Tasmania but filmed in NSW. A 'lost film'.
The Lady Outlaw (Alfred Rolfe)
Set in Tasmania but filmed in NSW. A 'lost film'.
Assigned to His Wife (John F. Gavin Productions)
Set in Tasmania but filmed in NSW. A 'lost film'.
- 1916: *The Pioneers* (Franklyn Barrett)
Based on K. S. Prichard's novel. Filmed in NSW. A 'lost film'.
- 1925: *Jewelled Nights* (Louise Lovely Productions)
Some sequences were filmed in Tasmania (convict based). A 'lost film'.
- 1926: *The Pioneers* (Raymond Longford for Australasian Films)
Based on K. S. Prichard's novel (convict based). Filmed in NSW. A 'lost film'.
- 1927: *For the Term of His Natural Life* (Norman Dawn for Australasian Films)
Some sequences were filmed in Tasmania.
- 1951: *Wherever She Goes* (Michael Gordon for Faun Film Productions)
A film about Eileen Joyce, born in Queenstown, Tasmania.
- 1962: *They Found a Cave* (Andrew Steane for Visatone Island Pictures)
Based on Nan Chauncy's novel. Filmed entirely in Tasmania.
- 1980: *Manganinnie* (John Honey for Tasmanian Film Corporation)
Based on Beth Robert's novel. Filmed entirely in Tasmania.
- 1981: *Save the Lady* (Leon Thau for Tasmanian Film Corporation)
Based on Yoram Gross's novel. Filmed entirely in Tasmania.
- 1987: *The Tale of Ruby Rose* (Roger Scholes)
Filmed entirely in Tasmania.
- 1994: *Exile* (Paul Cox)
Filmed entirely in Tasmania.
- 1998: *The Sound of One Hand Clapping* (Richard Flanagan)
Based on Richard Flanagan's novel. Filmed entirely in Tasmania.

Terrapin

~ Alicia James, *Terrapin* ~

A puppet-based theatre company, Terrapin is recognised as one of Australia's premier visual theatre companies. Founded in 1991, Terrapin Theatre creates productions that draw on the best of contemporary and traditional techniques, always striving to explore the unimagined.

Terrapin's productions are developed collaboratively by puppeteers, designers, writers, directors and composers. The company's work explores a wide variety of puppetry styles and hybrid art forms. The diverse repertoire includes both original works and adaptations of well-known books, such as their 1998 production of *The BFG*, adapted from Roald Dahl's novel. The combination of new ideas and traditional

skills has come to fruition in recent years with the company's increased success and profile, in its home State of Tasmania, across Australia and internationally.

Works by the company include small touring productions that travel to children in their schools and large in-theatre works for both family and adult audiences. In 1998, almost 90,000 people of all ages enjoyed Terrapin's unique brand of entertainment. Of these, 21,000 were audiences in Sri Lanka, Malaysia, South Korea and Taiwan who experienced Terrapin's work during three international tours mounted by the company. The success of these overseas tours testifies to puppetry's ability to transcend language and cultural boundaries.

Royal Tasmanian Botanical Gardens

Tasmania's Royal Botanical Gardens were established in 1818, shortly after European settlement. They are Australia's second oldest botanical gardens. The Gardens have, however, a longer human history as there are remains of a number of Aboriginal middens on the site.

The diagnosis of *Armillaria luteobubalina* in March 1994 represented a major threat to the survival of the Gardens. The infection covered almost 10% of the Gardens, had killed numerous large trees and had threatened the survival of many more. During 1997–98, there was significant progress in the fight against *Armillaria luteobubalina*.

Funds raised from the previous year's public appeal (The Mercury Save the Gardens Appeal) were used to excavate infected stumps and remove infected non-essential trees. This strategy appears to have been successful with no recurrence of *Armillaria luteobubalina* fruiting bodies in the treated areas.

During 1997–98, work on the Gardens' visitor and information centre began. The focus of the centre, called the Botanical Discovery Centre, is on the role plants play in supporting all life on

Earth, the role of botanic gardens, and Tasmanian flora. The Centre is to make innovative use of the Internet and intranet technology to ensure flexibility and easy updating of displays.

The Australian Antarctic Foundation's Sub-Antarctic Plant House, a cool climate greenhouse which will be used to display sub-antarctic plants, was also constructed. Other highlights included the completion of the Chinese Plants Section and the development of the ABC Vegie Patch.

Horticultural advice and assistance and flora conservation work continued to be provided throughout the State, including continuing involvement with plant conservation programs at the TEMCO site and with the northern-based community group, the Understorey Network.

Through its work on Tasmanian plants, environmental education and maintenance of its living collections, the Gardens plays an important role in the conservation of the world's biodiversity.

The Gardens' exotic collection is of world significance. It includes the largest public collection of conifers in the southern hemisphere with over 40 of these species facing extinction in their countries of origin.

The Gardens have also been cultivating and conserving Tasmanian native plants. The A.P. May Tasmanian Section displays over 400 Tasmanian species, of which around 80 are listed as rare and threatened.

The Gardens are also propagating endangered species for re-introduction to the wild as part of a Commonwealth Government funded Recovery Project.

There were over 330,000 visits to the Gardens during 1997–98. This was a slight decrease over the previous year, but about the same as the average over the previous five years.

Employment and participation

Employment in cultural occupations

At August 1996, 5,759 or 3.2% of all employed people in Tasmania had their main job in a cultural activity. Of this number, 3,407 people were employed in a cultural occupation, while 2,352 worked in a non-cultural occupation within cultural industries.

Involvement in culture and leisure activities

Culture and leisure activities make an important contribution to the economy. As well as those

persons employed in the cultural industry, it is heavily supported by voluntary workers.

During the 12 months ended March 1997, there were 57,900 people involved in selected culture and leisure activities (excluding involvement solely for respondents' own use or that of their family).

The participation rate for paid involvement was slightly higher for males than for females, 6.9% and 4.9%, respectively. Females had higher unpaid involvements than males, with 20,900 (11.1%) females with unpaid involvement only, compared with 15,100 (8.3%) males. Overall, 16.1% of females were involved in a cultural and leisure activity, compared with 15.3% of males.

Festivals

Festivals have become an important part of Tasmanian life, offering a unique and valuable contribution to cultural life. They range in size from small community celebrations to major cultural events, and feature a variety of themes as diverse as heritage, food and wine, multicultural events, music and the arts.

From November 1995 to September 1996, there were 88,000 Tasmanians aged 18 years and over who attended at least one festival in the 12 months prior to interview. Some 30% of Tasmanian females and 22% of males aged 18 years and over had attended at least one festival in the 12 months prior to interview.

Suncoast Jazz Festival

The first Suncoast Jazz festival was held in St Helens in 1984, the brainchild of the then chairman of the East Coast Regional Tourism Association, Bruce Haley. Providing a vehicle for Tasmanian and guest jazz musicians to enjoy spontaneous jazz, as well as attracting visitors to St Helens, the festival won the 'Significant Regional Festivals and Special Events' category of the 1997 Tasmanian Tourism Awards.

From its humble beginnings, the festival has grown and been refined over the years. In 1999, some 700 people attended the weekend of non-stop jazz. Occurring over the last weekend in June, it has become the

biggest jazz party in Tasmania and is listed on the Australian Jazz Calendar as a major event.

The Suncoast Jazz festival features top-line guests and local musicians. World-class Australian jazz musicians who have played include Bob Barnard, Tom Baker, Eric Holroyd, Paul Furniss, Alex Hutchinson and Ian Pearce.

The Suncoast Jazz club, formed in 1992, grew out of the festival and administers the Suncoast Jazz festival. The club is very active and holds regular jazz concerts, including the annual summer Jazz in the Cherry Orchard at Cerise Brook, an outdoor concert.

FURTHER READING

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Patsy Cameron

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Sue Backhouse, Tasmanian Museum and Art Gallery

Terry Newman, Tasmanian Parliamentary Library

Ursula Kohl, Suncoast Jazz Club Inc.

CHAPTER 11

Sport and recreation

Photo: Department of Infrastructure, Energy and Resources



A hunting party in the 1930s

In 1997–98 in Tasmania, 50.4% of the population aged 18 years and above participated in a sport or physical recreation activity.

Tasmanians have an abiding interest in sport and physical recreation, an interest which is derived from a mixture of economic, sociological and historical factors. Such factors include ready access to public land within the State. They also include the relatively decentralised population of the State, and the subsequent growth of close-knit communities that compete against each other through sport. Boating and fishing, in particular, owe their popularity to the State's maritime history and association with the sea. Other adventurous outdoor sports could be explained by the way Tasmanian history has been shaped by habitation of a rugged and remote island.

Sporting custom and folklore are deeply etched within the Tasmanian psyche, ensuring that

Tasmania provides residents and visitors alike with abundant opportunities to participate in sport and recreational activities.

A number of sports are played in the State with levels of participation ranging from social to professional. Consequently, some sporting facilities rival the best in the nation, while the natural environment provides unique opportunities for outdoor activities, including bushwalking, fishing and rafting.

Tasmanians are becoming more aware of the physical, social and psychological benefits to be gained through sport and recreation. These benefits are not confined to individuals; there are important social and economic benefits that also extend to the wider community.

Sport

Organised sport in Tasmania developed with colonial settlement, and mirrored the trends of other colonies. The first horse race meeting occurred in Hobart in about 1810. What is now called Australian Rules Football is said to have commenced in Victoria in 1856 and then soon spread to Tasmania. By 1875, the first team, Launceston, was formed and football became the major winter sport in the State.

Cricket became the major summer sport, starting earlier than football. The first match was played between troops and civilians in 1825 and the first club, Hobart Town, was established in 1832. As in other States, cricket fields in the summer became football fields in the winter. The dual use of grounds in such a way led to the development of high standard playing fields in most centres. Major carnivals to sporting events continue to provide a full sporting calendar for Tasmanians to participate in, or to sit back and enjoy.

Involvement in Sport

In 1997–98 an extensive national survey measured the frequency of participation in various sports and physical activities. The results showed that 47.8%, of the population of Australia above the age of 18, (6,338,100 persons) participated in a sport or physical activity in the twelve months period prior to the survey. In Tasmania participation rates were higher than the national average, with 50.4% of the population above the age of 18, (169,200 persons) participating in a sport or physical recreation activity.

Age

Tasmanian males had a higher participation rate than females with 57.2% of the male population

SPORT PARTICIPATION, TASMANIA, 1997–98 (a)

Age	Males %	Females %	Persons %
18–24	83.0	67.2	75.4
25–34	70.7	49.6	60.2
35–44	56.8	51.9	54.3
45–54	49.0	37.2	43.1
55–64	46.8	25.7	36.2
65 and over	35.5	31.7	33.4
Total	57.2	43.9	50.4

(a) Relates to persons aged 18 years and over who participated in sport or physical activity over a 12-month period prior to the interview during 1997–98.

Source: ABS catalogue no. 4177.0

above the age of 18, (94,800 persons) participating in sport and physical recreation. Females above the age of 18 had a participation rate of 43.9%, (74,400 persons). Participation rates were higher for younger age groups. Males from the age of 18–24 had the highest participation rate with 83.0% of the population, 18,500 persons, participating in sport and physical recreation. The highest participation rates for females was in the 18–24 age group with 67.2% of the population, 13,900 persons, participating in sport and physical recreation.

Marital status

Marital status may influence participation in sport and physical recreation. In the 12 months prior to October 1994, 70.2% of never-married, single persons, participated in sport and physical recreation in Tasmania. Participation rates for those involved in a defacto relationship for the same period was 66.9%. Those who are married participated 57.0% of the time, those who are separated 56.3%, those divorced 51.5% and those who are widowed 31.3% of the time. These decreasing participation rates are also a factor of age.

Educational qualifications

Level of educational qualification may influence participation in sport and physical recreation in Tasmania. In the 12 months prior to October 1994, those who were still attending school had the highest participation rate in sport and physical recreation (80.4% of the population). Those who completed a bachelor or higher degree had a participation rate of 73.9%. Persons who had completed secondary school had a participation rate of 62.2%. Those who did not complete secondary education had participation rates of 40.7%. As with marital status, participation may be a factor of age.

Type of involvement in sport

Sport in Tasmania relies to a large extent on unpaid volunteers. Of the 105,400 playing participants in sport in Tasmania between 1997 and 1998, just 2,100, (2.0%) were paid for their contribution to sport, 103,300 players (98.0%)

TYPE OF INVOLVEMENT IN SPORT, TASMANIA, 1997

	Paid '000	Unpaid '000	Total '000
Playing	2.1	103.3	105.4
Total non-playing	5.3	76.0	81.3
Total	7.4	179.3	186.7

Source: ABS catalogue no. 6285.0

did so without any form of financial remuneration. A similar trend is evident for non-playing sporting roles such as coaching. In 1997–98, 81,300 persons participated in a non-playing aspect of sport either as a coach/instructor/teacher, a referee/umpire, a committee member, an administrator or other types of non-playing involvements. Out of the 81,300 participants, 5,300 persons (6.5%), were paid whereas 76,000 persons (93.5%) did so without remuneration. In both the playing and non-playing categories, 186,700 persons participated in sport; 7,400 (4.0%) were paid and 179,300 (96.0%) were not.

Non-participation in sport

In the 12 months prior to October 1994, 147,300 persons above the age of 18 (31.3% of the population of the State) consisting of 63,300 males and 83,900 females, did not participate in any sport or physical recreation activity in Tasmania. The statistics for non-participation in Tasmania more than doubled to 66.0% of the population (313,236 persons) in 1995–96. In 1997–98 this figure dropped to 49.6% of the population (234,062 persons).

The main reasons for non-participation include no time and too busy (31.7%), don't like sport and not interested (22.2%) and injury and illness (20.5%). Other reasons accounted for 13.6% of non-participation in sport and physical activities.

PERSONS WHO DID NOT PARTICIPATE IN SPORT OR PHYSICAL RECREATION, TASMANIA, OCTOBER 1994 (a)

	Males '000	Females '000	Persons '000
Injury/illness	11.9	18.3	30.2
No time/too busy	22.2	24.3	46.6
Expense/cost	1.3	2.1	3.4
Too unfit/overweight/ too old	5.4	8.9	14.3
Don't like sport/not interested	14.5	18.2	32.7
Other reasons	8.1	12.0	20.1
Total	63.3	83.9	147.3

(a) Includes the main reasons why respondents did not participate during the 12 months prior to October 1994. Respondents aged 15 and over.

Source: ABS catalogue no. 4175.6

Most popular organised sport

The most popular organised sport and physical activity in Australia in 1997–98 was swimming with a participation rate of 12.3% (1,628,800 persons). This was followed by aerobics/fitness with 10.4% of the population (1,379,200 persons) participating and golf with 8.4% of the population (1,116,200 persons) participating.

The most popular sport and physical activity in Tasmania in 1997–98 was golf with 10.8% of the population (36,100 persons) participating. This was followed by swimming with 10.6% of the population (35,500 persons) participating and aerobics/fitness with 8.4% of the population (28,100 persons) participating.

The most popular sport for Tasmanian males was golf with a participation rate of 16.8% (27,900 persons). This was followed by fishing with a participation rate of 12.4% (20,600 persons) and swimming with a participation rate of 8.7% (14,400 persons).

The most popular sport for Tasmanian females was swimming with a participation rate of 12.4% (21,100 persons). This was followed by aerobics/fitness with a participation rate of 11.8% (20,000 persons) and equally by netball and tennis with participation rates of 5.6% (9,500) persons.

PARTICIPATION IN MOST POPULAR ORGANISED SPORT AND PHYSICAL ACTIVITIES, TASMANIA, 1997–98

Sport and physical activity	Persons	
	Number '000	Participation rate %
Aerobics/fitness	28.1	8.4
Australian Rules football	8.7	2.6
Badminton	4.4	1.3
Basketball	6.8	2.0
Billiards/snooker/pool	7.2	2.1
Carpet bowls	3.7	1.1
Cricket (indoor)	4.9	1.5
Cricket (outdoor)	9.6	2.9
Cycling	10.9	3.2
Dancing	3.6	1.1
Darts	5.3	1.6
Fishing	24.5	7.3
Golf	36.1	10.8
Horse riding	7.7	2.3
Ice/snow sports	3.8	1.1
Lawn bowls	8.2	2.4
Martial arts	7.4	2.2
Netball	12.3	3.7
Sailing	5.4	1.6
Scuba diving	3.0	0.9
Soccer (outdoor)	3.7	1.1
Squash/raquetball	6.8	2.0
Surf sports	5.9	1.8
Swimming	35.5	10.6
Tennis	16.9	5.0
Tenpin bowling	6.9	2.1
Walking(a)	6.8	2.0
Weight training	4.9	1.5

(a) Excludes walkers not organised by a club or association.

Source: ABS catalogue no. 4177.0

Golf in Tasmania

According to 1997–98 figures, golf was the most popular sport played in Tasmania. During this time 36,100 persons (10.8% of the population) participated in a game of golf in Tasmania. Tasmania also boasts the highest number of golf courses per capita. Currently there are 65 courses in the State, one for every 7,000 persons. The high number of golf courses is explained by three factors: the sport's popularity, the relatively decentralised nature of the State, and the ready availability of land to build a course.

Golf has a high level of membership for a sport; this is directly attributable to the need to be a member in order to play on most courses. Throughout the State there are 16,693 members playing golf: 11,847 are men, 3,293 are female (including juniors) and 1,553 are junior males.

Traditionally golf has been a male dominated sport where membership by women was prohibited. Before 1983 women could only join as 'associates' of the club and not attain full membership. Women can now join both

as associates and as members. Over the last few decades there has been increasing female participation in the sport. In 1997–98, 8,200 females, 4.8% of the female population, participated in golf. By comparison, 27,900 males, 16.8% of the male population participated in golf.

There are a number of junior golf programs available for the young golfer. 'Go Go Golf', run by the Tasmanian Golf Council, was set up in 1992 to introduce golf to younger people. Members conducting the program visit primary and high schools. According to the Tasmanian Golf Council, in 1998 the program visited 57 schools, 19 in the north, 12 in the north-west and 26 in the south. A total of 215 sessions of 'Go Go Golf' were conducted in 1998.

A total of 2,471 students across the State participated in the program, including 1,356 boys and 1,115 girls. The aim of the program is to visit each child in the State at-least once before they leave school.

Recreation

Time spent on recreation

The activities on which people spent their time can be divided into four categories: necessary time, contracted time, committed time and free time. Australians spend the largest part of their day (46.2%) on necessary time activities such as sleeping and eating. Contracted time such as employment and education takes up 15.4% of the day. Committed time such as domestic activities and child care amount to 16.3% of the day. Free time takes up 21.9% of the day.

The majority of our free time was spent on recreation and leisure activities. Males spent an average of 286 minutes a day on recreation and leisure activities, whereas females spent an average of 257 minutes a day on recreation and leisure. Generally, males spent more time than women on sport and outdoor activities and audio visual and media-based activities. Women spent more time reading and talking on the phone and on social and community interaction.

AVERAGE TIME SPENT ON FREE-TIME ACTIVITIES, 1997, MAIN ACTIVITIES

Activity	Males minutes per day	Females minutes per day	Persons minutes per day
Sport and outdoor activity	33	20	27
Games/hobbies/arts/crafts	17	15	16
Reading	24	26	25
Audio/visual media	145	118	131
Attendance at recreational courses	1	1	1
Talking (including phone)	27	44	35
Other	38	32	34
Recreation and leisure total	286	257	271
Social and community interaction	43	48	45

Source: ABS catalogue no. 4173.0

Gambling

Before the introduction of gambling machines into public bars, Tasmanian households spent 34.6% more on gambling than the national average. From 30 June 1995 to 30 June 1998, there was a 34.0% (from 147 to 197) in the number of business locations with gambling facilities.

National Parks in Tasmania

In 1998, nearly three-quarters of a million people entered Tasmania's six most popular National Parks. This figure includes 284,600 people visiting the Cradle Mountain–Lake St Clair National Park. Over the same year, 239,600 people and 129,200 people visited the Freycinet National Park and the Mt Field National Park respectively. The Asbestos Range National Park had 33,500 people visit the area. The Marakoopa Cave had 27,539 visitors and the Maria Island National Park had 13,671 visitors. Visitors to the State's National Parks engaged in a number of recreational activities such as bushwalking, boating, skiing, camping and rafting.

TASMANIAN NATIONAL PARK ATTENDANCES, 1998 (a)

Park	Person entry
Cradle Mountain (Lake Dove) (b)	185 500
Lake St Clair (Cynthia Bay) (b)	99 100
Freycinet (b)	239 600
Mt Field (b)	129 200
Asbestos Range (Bakers Beach) (c)	33 500
Mole Creek Karst (Marakoopa Cave) (d)	27 539
Maria Island (Darlington) (e)	13 671

(a) A 'person entry' occurs whenever a visitor enters a National Park. Measurement occurs at the designated site in brackets. (b) Estimated through a combination of both traffic and booth counts. (c) Estimated through traffic counts. (d) Number of people taken on a guided tour. (e) The sum of ferry arrivals and estimated plane passengers.

Source: *Tasmanian Parks and Wildlife Service, Department of Primary Industry, Water and the Environment and ABS catalogue no. 1303.6*

Bushwalking in Tasmania

Bushwalking in Tasmania has been a major source of physical recreation since the early 1900s. Organised, or club bushwalking, began in the early 1900s with the establishment of the Tasmanian Field Naturalist Club (TFNC) and then the Hobart Walking Club (HWC) in 1929.

The HWC grew with official support from the Director of the Government Tourist Bureau who, having noticed the number of walkers on the Sunday excursion trains in Melbourne, believed that by stimulating bushwalking in Tasmania he could secure passengers for the railways and at the same time provide another means of publicising Tasmania's attractions.

Early bushwalking for those in the club was confined to within about 20 miles of Hobart. However by the late 1930s, long summer trips from Cradle Mountain to Lake St Clair became increasingly popular.

Bushwalking shared in the general post-war boom in recreational activity. Hobart Walking Club enrolments rose from 62 members in 1939–40 to 146 members in 1946–47. The increasing popularity of bushwalking in the State saw the development of the Launceston Walking Club (LWC) in 1946.

During the 1950s and 1960s there was an expansion in the number of areas visited by walkers. The south-western regions of the State became popular for long summer trips; new aerial photographs and maps, food drops from the air and air charter flights all helped make this remote region more accessible.

By 1960–61 the combined walking clubs in Tasmania had 470 members. The Hobart Walking Club had 85 walks per year with a yearly attendance of 1,064 people. Two-thirds of all walks that the Hobart Walking Club organised were day walks, 70% of all walks were within 20 miles of Hobart and most of these were around the Mt Wellington area. In contrast, the Launceston Walking Club organised trips further away in locations such as the northern beaches of the State and the Western Tiers.

The objectives of the Hobart Walking Club in its early days were to "encourage walking, skiing and similar outdoor activities, and promote interest in the preservation of flora, fauna and natural scenery".

Tasmania's reputation as a bushwalking centre has grown internationally, as visitors

from Europe, New Zealand and North America come to Tasmania to sample the States bushwalking opportunities. However, the growth of bushwalking in Tasmania has come at a cost of environmental degradation.

Environmental problems include the rapid deterioration of walking tracks, the degradation and proliferation of campsites, the development of new unplanned tracks and crowding and sanitation problems.

To address the increasing problems associated with bushwalking, the Government has implemented the Walking Track Management Strategy for the World Heritage Area. Strategies to address the problems of visitor impacts include a comprehensive track works program; a focus on 'Priority Erosion Control'; an expanded education program, and ongoing monitoring and research. In addition, walker limits on tracks are being considered.

Popular tracks

Throughout the State there are over 1000 kilometres of established tracks and routes ranging from easy family walks of up to several hours duration to more arduous walks up to days, even weeks, in duration.

Walks around Mt Wellington

Mt Wellington is one of the most popular destinations for walkers being only 15 minutes drive from Hobart's city centre. There are dozens of walks ranging in time and difficulty. The walks, as they ascend and descend the mountain, pass through different types of environment ranging from dry sclerophyll to temperate rainforest to alpine environments.

The Overland Track

The Overland track is an 80-kilometre long track that passes through high plains, rainforest and button grass in the Cradle Mountain–Lake St Clair National Park. The park is one of Tasmania's most popular walking destinations, with the Overland track attracting about 4,500 walkers each year. The popularity of the track is evidenced by the increasing number of visitors each year, reaching 7,202 visitors in 1998. The walk

TRACKS IN NATIONAL PARKS, WALKER REGISTRATIONS, 1998 (a)

Track	Walkers
Overland (b)	7 202
South Coast (c)	924
Freycinet (d)	2 675
Port Davey (c)	242
Frenchman's Cap	688

(a) Numbers include only walkers who registered and represents their intention. (b) Sum of registrations at Cradle Mountain and Lake St Clair. (c) Sum of registrations to walk the length of the track, in any direction, irrespective of starting point. (d) All overnight walkers registered in the park.

Source: Tasmanian Parks and Wildlife Service, Department of Primary Industry, Water and Environment and ABS catalogue no. 1303.6

takes between four and seven days crossing from north to south through landforms formed by glaciation. Walkers also pass through button grass plains and thick forests of myrtle, King Billy Pine, Pencil Pine, Sassafras and Celery Top Pine. Walkers can also get glimpses of native fauna such as the Tasmanian Pademelon, Bennett's Wallaby, the Tasmanian Devil, the Long-tailed Mouse and the Eastern Quoll.

South Western Tasmania

The south-west of the State is undoubtedly the most rugged region and can only be reached by walking, flying or boat. There are several tracks in south-western Tasmania including the popular South Coast and Port Davey Tracks which cross through button grass plains and pass over mountain ranges. These walking tracks lie entirely within the Southwest National Park and take you through the heart of 600,000 hectares of wild country. In 1998, 924 people attempted the 5–8 day, eighty-kilometre long, South Coast Track.

Frenchman's Cap

This track leads to the top of the magnificent white quartzite dome of Frenchman's Cap at a height of 1443 metres above sea level. It is known as one of the more arduous walks in the State, the track length being 46 kilometres and taking three to five days for the return trip. Each year around 700 walkers use the track, with about 600 visiting from December to March. In 1998 the number of walker registrations for those attempting the walk was 688 persons.

TASMANIAN SPORTING HALL OF FAME

1998 HONOUR ROLL

THE MEMBERS

ATKINS, Ron — <i>Snooker</i>	HALE, Ted — <i>Rowing</i>
ATKINSON, J (Snowy) — <i>All-Rounder</i>	HALLAM, Len — <i>Rowing</i>
BADCOCK, Jack — <i>Cricket</i>	HARRISON, Lucilla — <i>Golf</i>
BAKER, Max — <i>Jockey</i>	HARRISON, Virginia — <i>Swimming</i>
BALDOCK, Darrel — <i>Australian Football</i>	HART, Royce — <i>Australian Football</i>
BARWICK, Bill — <i>Athletics</i>	HITE, Bev — <i>Badminton</i>
BATT, H Neall — <i>Yachting</i>	HODGSON, Arthur — <i>Australian Football</i>
BATT, Harry — <i>Yachting</i>	HORDER, Denise — <i>Table Tennis</i>
BATT, W (Skipper) — <i>Yachting</i>	HUDSON, Peter — <i>Australian Football</i>
BOON, David — <i>Cricket</i>	KENT, Julie — <i>Diving</i>
BURGESS, Judy — <i>Hockey</i>	KING, Dulcie — <i>Badminton</i>
BURKE, Nita — <i>Basketball</i>	LEAN, David — <i>Athletics</i>
CALDOW, Margaret — <i>Netball</i>	LIVINGSTON, Ross — <i>Badminton</i>
CARTER, Bruce — <i>Australian Football</i>	LUKE, Gail — <i>Athletics</i>
CASHION, Terry — <i>Australian Football</i>	MARSHALL, Sperry — <i>Shooting</i>
CAZALY, Roy — <i>Australian Football</i>	MARTIN, Geoff — <i>All-Rounder</i>
CHARLESWORTH, Connie — <i>Hockey</i>	McDONALD, Edgar (Ted) Arthur — <i>Cricket</i>
CHETTLE, David — <i>Athletics</i>	McVILLY, Cecil — <i>Rowing</i>
CLARK, Danny — <i>Cycling</i>	MILLAR-CUBIT, Jocelyn — <i>Athletics</i>
DALGLEISH, Betty — <i>Golf</i>	MOORE, Audrey — <i>Swimming</i>
DEVLIN, Wayne — <i>Boxing</i>	MURDOCH, Elvie — <i>Golf</i>
DUNBABIN, Penny — <i>All-Rounder</i>	MURRAY, Don — <i>Badminton</i>
EADY, Charles — <i>Cricket</i>	NASH, Laurie — <i>All-Rounder</i>
FISH, Maree — <i>Hockey</i>	NETTLEFOLD, Len — <i>Golf</i>
FOSTER, Kathy — <i>Basketball</i>	PENNEY, Trevor — <i>Shooting</i>
FRANKS, Elizabeth — <i>Diving</i>	PICKETT, Ted — <i>All-Rounder</i>
FRATANGELO, Luigi (Gino) — <i>Weightlifting</i>	SHERRIFF, Ron — <i>Woodchopping</i>
FREE, Reg — <i>Rowing</i>	SMITH, Bill — <i>Boxing</i>
FREEMAN, Gerald — <i>Boxing</i>	STEWART, Ian — <i>Australian Football</i>
FRENCH, Graeme — <i>Cycling</i>	STOKES, Ray — <i>All-Rounder</i>
GARWOOD, Rex — <i>All-Rounder</i>	THOMPSON, Tim — <i>Badminton</i>
GILMORE, Graeme — <i>Cycling</i>	THURLEY, Brett — <i>Water Skiing</i>
GOGGIN, Lindy — <i>Golf</i>	TOOGOOD, Peter — <i>Golf</i>
GORRINGE, Horrie — <i>Australian Football</i>	TURNER, Ken — <i>Badminton</i>
GOURLAY, Helen — <i>Tennis</i>	WALKER, Max — <i>Cricket</i>
GOWER, Ron — <i>Boxing</i>	WILSON, Michael — <i>Cycling</i>
GRENDAL, Alfred — <i>Cycling</i>	YOUD, Doug — <i>Woodchopping</i>
GRENDAL, Michael — <i>Cycling</i>	YOUD, Merv — <i>Woodchopping</i>

Source: Office of Sport and Recreation, Department of State Development

FURTHER READING

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Tasmania Online: <http://www.tas.gov.au>

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CHAPTER 12

Health

Photo: District Nursing Association and the *Mercury*



A district nurse heads off on her rounds in the late 1960s.

Life expectancy is the average number of additional years of life remaining to a person at a specified age if current age-specific mortality experience does not change during the person's lifetime.

A Tasmanian male born in 1999 could expect to live 74.8 years and a female could expect to live 80.1 years. By comparison, in 1900, life expectancy at birth was 54.2 years for males and 55.6 years for females.

Recent reductions in the death rates at the older ages, especially from diseases of the circulatory system, have led to improvements in life expectancy of adults. In 1900, life expectancy for males aged 65 years was 11.2 years, compared with 15.4 years in 1999.

For women aged 65 years, life expectancy in 1900 was 12.0 years, compared with 19.0 years in 1999.

Throughout history, people have always endeavoured to protect their health, at first by devising techniques and selecting special individuals to ward off 'evil spirits'. Observation and experience gradually identified ways for keeping well. Laws were developed to govern health and, as large communities developed, methods of sanitation were devised. It was not until the 1800s with the discovery that germs caused disease however, that significant advances in society's understanding of illness, and the ability to successfully treat it, were made.

Despite impressive health gains during the 20th century, many people still die prematurely, while many more suffer a reduced quality of life through health problems, many of which are the results of lifestyle or environmental factors. For example, the adverse effects of the use of tobacco on health and of excessive alcohol consumption are well known and widely

publicised. Research also shows that a large proportion of premature deaths (especially those caused by heart attack and stroke) are diet-related and preventable. Organisations like the Menzies Centre for Population Health Research in Tasmania, the Australian Institute of Health and Welfare, the National Health and Medical Research Council and the National Heart Foundation are promoting means of disease prevention and awareness of better health.

Since the 1980s, Tasmania has implemented a series of public health strategies and programs as part of a national campaign to tackle some major causes of death, illness and disability and contributing risk factors, including HIV/AIDS, breast and cervical cancer, alcohol, tobacco and illicit drugs, immunisation and mental health. Goals and targets were set for all health issues of concern in Tasmania (for example, lowering the high rates of death and morbidity due to injury, and increasing the proportion of Tasmanian children who are fully immunised) and strategies were formulated to achieve improvements and achieve the goals.

In 1995, 80.8% of the Tasmanian population aged 15 years and over reported that their health was either good, very good, or excellent. Just 4.9% reported that their health was poor while 14.3% reported that their health was fair. However, Tasmanians were more likely to assess their health as fair or poor than people living elsewhere in Australia.

Illness conditions

In the 1995 National Health Survey, long-term illness conditions were reported by 77.0% of the Tasmanian population. These are defined as an illness, injury, or disability which has lasted at least six months, or which is expected to last for six months or more. Recent conditions (illness,

injury, or disability, experienced in the two weeks prior to interview) were reported by 70.0% of the population. More females (78.2%) reported long-term conditions than males (75.9%).

Of all people reporting recent illness conditions, the most common were headache, 11.4%; hypertension, 9.7%; arthritis, 7.2%; asthma, 5.9%; diseases of the musculoskeletal system and connective tissue (other than musculoskeletal deformities), 5.8% and the common cold, 5.0%.

Of all people reporting long-term illness conditions, the most common conditions reported were hypermetropia, or far-sightedness, 21.1%; myopia, or short-sightedness, 20.1%; arthritis, 17.9%; hayfever, 14.2%; hypertension, 11.6%; deafness, 10.8%; asthma, 10.0%; and sinusitis, 8.5%.

Tasmanians recorded the highest rates in Australia for arthritis (including osteo and rheumatoid), deafness, hypertension and circulatory conditions in general. The Northern Statistical Division in Tasmania (including Launceston), recorded the highest proportion (89%) of persons experiencing an illness or injury in the State.

Notifiable diseases

A disease may be made notifiable to State health authorities if there is potential for its control. Factors considered include the overall impact of the disease on morbidity and mortality and the availability of control measures. Notification allows authorities to detect outbreaks early and take rapid public health action, if necessary, and to plan and monitor these efforts. It also provides information on patterns of occurrence of disease.

There were 1,264 cases of selected notifiable diseases in Tasmania in 1997. This represents 1.4% of all cases of these diseases in Australia. Over a quarter of all cases in Tasmania were attributable to *Campylobacteriosis* (a disease usually causing diarrhoea, abdominal pain, malaise, fever, nausea and vomiting for a few days). It is thought to be transmitted mainly by food.

Just over 20% of all cases of notifiable diseases were attributable to *Chlamydial infection* (a sexually transmissible disease), 18.7% were attributable to *Hepatitis C* (unspecified), while just under 10% were attributable to *Pertussis* (Whooping cough).

SELF-ASSESSED HEALTH STATUS, TASMANIA, 1995

Status	Males (a) %	Females (a) %	Persons (a)	
			Number '000	Proportion %
Excellent	19.6	19.7	72.2	19.6
Very Good	35.7	37.2	134.0	36.5
Good	26.1	23.4	90.8	24.7
Fair	14.0	14.6	52.5	14.3
Poor	4.6	5.2	18.1	4.9
Total (b)	100.0	100.0	367.5	100.0

(a) Persons aged 15 years and over. (b) Any discrepancies between the sums of component items and totals are due to rounding.

Source: ABS National Health Survey 1995 unpublished data

SELECTED NOTIFIABLE DISEASES, TASMANIA, 1997

	Tasmania no.	Australia no.	Tas. prop. of total %
Campylobacteriosis	361	11 848	3.05
Chlamydial infection	263	9 126	2.88
Hepatitis C — unspecified(a)	236	19 689	1.20
Pertussis (Whooping cough)	119	10 668	1.12
Salmonellosis NEC	116	7 004	1.66
Measles	38	852	4.46
Hepatitis B — unspecified(a)	31	7 114	0.44
Rubella	17	1 446	1.18
Tuberculosis	15	1 008	1.49
Ross River virus infection	14	6 683	0.21
Total (b)	1 264	89 576	1.41

(a) Unspecified numbers should be interpreted with some caution as the magnitude may be the reflection of numbers of testing being carried out. (b) Total figures will include other notifiable diseases not listed above.

Source: National Notifiable Disease Surveillance System Annual Report 1997

Selected diseases**Multiple sclerosis**

Tasmania has the highest incidence of multiple sclerosis per capita in Australia. Multiple sclerosis is a disease of the central nervous system and interferes with nerve impulses in the brain, the spinal cord and the optic nerves. It causes intense fatigue and numbness in the body and limbs, spasms, weakness, blurred vision and restricted mobility. Research shows that as many as 7 people per thousand have the disease in Tasmania.

Research is being conducted at Hobart's Menzies Centre for Population Health Research, in conjunction with interstate neurologists, to establish reasons for Tasmanian's high incidence, which are thought to be geographic, environmental and/or genetic.

Poliomyelitis

Before 1956 when poliomyelitis immunisation was introduced, Tasmania experienced a number of poliomyelitis outbreaks. Some of the more notable outbreaks occurred in 1909, 1929–30, 1946, 1949–50 and 1952–53. The most severe epidemic was in 1937–38, when over 1,000 cases were reported.

The last reported outbreak was in 1960–61 when 52 cases were reported. Since 1964, there have been no reported incidences of poliomyelitis in Tasmania.

Menzies Centre for Population Health Research

The Menzies Centre for Population Health Research was established in 1988 to conduct research into causes of disease with the emphasis on diseases important to Tasmania. It was established in Tasmania because the island provides an opportunity to obtain complete information on causes of disease within a defined area and to access relevant data from all such cases within that area.

Cancer

Some 2,200 new cases of cancer were registered as diagnosed in residents of Tasmania in 1996.

Treatment

Although limited radiotherapy treatment facilities became available in Hobart in 1963, it was not until 1968 that equipment suitable for the treatment of all patients needing radiotherapy was available in Hobart. Until this time, patients travelled to Launceston for treatment from all over the State. The radiotherapy clinics in Hobart and Launceston operated under the auspices of the Peter MacCallum Hospital, Melbourne, until the mid-1980s when responsibility was transferred to Tasmania and the name changed to the WP Holman Clinics. Around the same time, the growth of the University of Tasmania's Medical School and the increasing complexity of cancer treatment saw the development of specialised cancer clinics that provide chemotherapy.

Early detection and prevention

In 1952, two cancer detection clinics were opened in Hobart and Launceston. They operated until May 1956, when it was decided that the money devoted to the clinics could be better spent on educating the public, and by extending cytological screening programs throughout the community. Two doctors were recruited to lecture to women's organisations under the direction of the Tasmanian Cancer Committee.

The Tasmania cervical cytology register commenced in 1994. This register provides records of women's screening history and a back-up reminder service to women overdue for

Advances in the care of Tasmanians with diabetes, 1900–2000

~ Contributed by Maggie Lasdauskas, Diabetes Australia - Tasmania ~

During this century, the life expectancy and quality of life has improved greatly for Tasmanians with diabetes. In 1900, a child or adult who developed Type 1 diabetes (then known as 'Juvenile Onset Diabetes') had a short and miserable life. Treatment prolonged life through a severely restricted diet, but the disease was inevitably fatal. People with Type 2 diabetes lived longer, but their lives had little quality.

It was known that the pancreas (a gland situated near the stomach) was involved in allowing the body to use glucose. In 1910, fifty or more years before the first successful organ transplantation, Dr John Ramsay, at the Launceston General Hospital, undertook a pancreas transplant. His female patient had Type 2 diabetes (then known as 'Mature Onset Diabetes'). For some days after transplantation, the woman's urine was free of glucose, then the diabetes returned as her body rejected the pancreas. Today, Tasmanians benefit from the same operation, which tissue typing and immune system-suppressing medications make successful.

In 1922, insulin was discovered and became available in Australia. Insulin in 1922 was not the pure, easily measured medication we know today. Needles required constant sharpening and syringes were boiled. Painful abscesses caused by injections were common. As only short-acting insulin was available, injections were needed several times a day.

Until the 1940s when oral drugs were discovered, people with Type 2 diabetes also injected insulin. Around this time, research began into the effects of diet on diabetes.

A simple urine test was developed in 1956, enabling people to check their glucose levels.

By the 1960s, Tasmanians were able to check their blood glucose levels using 'Dextrose Sticks', a more accurate method of checking control. For parents of children with diabetes, this was an accurate way to see

what was happening to their child, and relieve some of their fear and anxiety.

Throughout the 1970s, many scientific and medical advances were made. Insulin became highly purified, nutrition was recognised as a cornerstone of diabetes care, the first blood glucose meters appeared on the market, and blood testing strips became available on the National Health Scheme.

By the 1980s, the pace of change was increasing. More Tasmanians tested their blood glucose levels at home. 'Human' insulin improved the action and availability of insulin. Tablets to control Type 2 diabetes improved and there was a greater choice than before. By the middle of the decade, Diabetes Nurse Educators were appointed to all major Tasmanian hospitals. Diabetes Australia administered the 'National Diabetics Supply Scheme' for the Commonwealth Government to ensure costs of diabetes were kept to a minimum. In 1986, the Menzies Foundation set up the Register for Diabetes in Tasmania (which later expanded to become the National Register for Diabetes).

Throughout the 1990s, there has been a massive increase in knowledge about diabetes and its care. Improved technology has resulted in smaller, cheaper, more accurate meters; and easier injections due to smaller, sharper needles and disposable syringes. Pen injectors make insulin delivery more convenient. Insulin is now available in a variety of lengths of action. Research into nutrition and exercise has relieved dietary stress, a 'sugar-free' diet is no longer expected or desired in order to achieve good control. The 1993 United States 'Diabetes Control and Complications Trial' and 1998's 'United Kingdom Prospective Diabetes Study' have provided doctors with information. This ensures they have proven guidelines to work with when helping people live well in the presence of this incurable, but treatable disease. Tasmanians with diabetes can now look forward to a life as long and fulfilling as the rest of the population.

screening. This register is supported by public and professional education activities, encouraging women in the target age group of 20–69 years to ask their doctors for regular two-yearly Pap smears. In the 27-month period to the end of April 1999, 72% of women aged 20–69 years were registered as having had a Pap smear.

Five years after BreastScreen started in 1993, approximately 61% of women in the target age group of 50–69 years were participating in the program. In 1998–99 more than 20,000 women are expected to be screened.

Health-related actions

According to a 1995 ABS national health survey, an estimated 75.2% of Tasmanians took one or more health-related actions in the two weeks prior to interview. The most common action taken was the use of medication other than vitamins/minerals/herbal/natural medications, by 60.2% of the population; this was followed by consumption of vitamins/minerals/herbal/natural medications, by 33.4% of the population. Next were doctor consultations, with 22.3% of Tasmanians having at least one consultation with a doctor in the prior two weeks, while a further 9.5% of Tasmanians had at least one consultation with other health professionals.

People in Tasmania consulted doctors less often than the national average. Around 31% had not consulted a doctor in the last 6 months, compared with 28% nationally. The same pattern was evident for dentist consultations.

Immunisation

As part of a national strategy to increase childhood immunisation rates in Australia, the Australian Childhood Immunisation Register (ACIR) commenced operation on 1 January 1996.

As at March 1999, of the 46,410 Tasmanian children under the age of 7 years registered with the ACIR, 87.2% of those aged 12 months to less than 15 months were fully immunised to the highest level appropriate for their age group. The Mersey-Lyell Statistical Division recorded the highest percentage of children in this age group who were fully immunised, with 89.5%. For children aged 24 months to less than 27 months, 71.6% were fully immunised. The Mersey-Lyell Statistical Division also recorded the highest percentage of children in this age group that were fully immunised, with 75.7%.

In 1995, an Australian Bureau of Statistics Survey of health issues found that among Tasmanians aged 15 years and over who lived in a household where children were present, 73.7% believed that immunisation is very effective in preventing childhood disease.

Over 90% of Tasmanians thought that the provision of immunisation services by councils and by doctors is either important or very important. An estimated 69.9% of persons aged 15 and over thought that children who have not been immunised should be excluded from school during infectious disease outbreaks.

HEALTH-RELATED ACTION TAKEN, TASMANIA, 1995 (a)

	Males '000	Females '000	Persons	
			Number '000	Proportion % (c)
Hospital inpatient episode	2.5	2.5	5.0	1.1
Visit to hospital outpatients/emergency	4.3	5.6	9.9	2.1
Visit to day clinic	2.8	2.5	5.3	1.1
Doctor consultation	47.3	58.1	105.5	22.3
Dental consultation	9.9	14.1	24.0	5.1
Consultation with other health professional	18.0	27.0	45.0	9.5
Seen or talked to anyone else	11.4	6.7	18.0	3.8
Used medication vitamins/minerals, natural/herbal medicines	63.6	94.6	158.2	33.4
Used other medications	127.1	157.8	284.9	60.2
Days away from work/school	18.5	15.5	33.9	7.2
Other days of reduced activity	13.1	18.7	31.9	6.7
Total taking action (b)	164.5	191.6	356.0	75.2
Took no action	70.4	47.2	117.6	24.8
Total	234.9	238.7	473.6	100.0

(a) In two weeks prior to interview. (b) Persons may have taken more than one type of action during the two weeks prior to interview and therefore components do not add to totals. (c) Of total persons.

Source: ABS National Health Survey 1995 unpublished data

Health in Tasmania since 1900

~ Contributed by the Department of Health and Human Services ~

Health care issues have been a major part of life in Tasmania over the past hundred years although the major health concerns of 1900 would be barely recognisable in a list of the major health concerns in the year 2000.

In 1900, major surgery was at an early stage of development in Hobart and Launceston, with the larger rural centres falling somewhat behind. A turn of the century history of the local hospital at Queenstown proudly records that a Mt Lyell Company engineer successfully treated a man with a partially severed foot.

That same history reported industrial injuries, burns, epidemics of typhoid fever, diphtheria, scarlet fever, influenza and midwifery services as being major health concerns of that small but thriving remote part of the State.

Finding sufficient money to support health services has always been a concern, and statements along the lines of 'Institute X is in serious financial difficulties' appear almost without relief in any record of Tasmania's health service throughout the 20th century.

Infectious diseases

Numerous advances have been made in health services throughout the century. The prevention, treatment and control of infectious diseases is arguably the area in which the most spectacular gains have been made. Immunisation is the only way of providing effective prevention against tetanus, diphtheria, whooping cough, poliomyelitis, measles, mumps and rubella, all of which were well-known, feared and often fatal infectious diseases at the turn of the century. While only smallpox has been totally eradicated, the other infectious diseases are now a relatively minor cause of illness and death among children. Immunisation also prevents the relatively recently discovered disease of haemophilus influenza Type B (HIB) and hepatitis Type B. The era of isolation wards and even special

hospitals for the treatment of infectious diseases has been replaced by an era in which sophisticated computer-based reminder systems, and partnerships with local government encourage parents to maintain full immunisation coverage of their children.

Wide use of antibiotics from the Second World War years, the poliomyelitis epidemics of the 1940s and 1950s, the emergence of new types of hepatitis infections, the tragic and still largely untreatable consequences of HIV/AIDS and the rise and fall of sexually transmitted diseases have been other major features of infectious diseases throughout the century.

Technology

Technology in health at the turn of the century extended little beyond the use of x-rays in the diagnosis of fractures and some other conditions.

The use of radiation to treat cancer was introduced into Tasmania in the 1920s under the pioneering head of Dr W. P. Holman at the Launceston General Hospital. The treatment rays used for radiotherapy are similar to, but much more powerful and penetrating than, those used for taking x-ray pictures for diagnosis.

The early radiotherapy treatment machines have been progressively superseded by highly sophisticated linear accelerator equipment which enables precise doses of radiation to be directed to precise areas of the body to destroy cancerous cells.

Similar huge advances have been made in the use of radiation for diagnostic purposes, and over the last twenty years of the 20th century in the use of powerful electromagnetic fields for diagnostic imaging.

Technology now forms a major part of almost every specialist branch of medicine.

Nutrition

Daily food intake

Between February 1995 and March 1996 across all States and Territories in Australia, the ABS conducted a national nutrition survey which provided information about the patterns of daily food intake.

The results for Tasmania showed the following mean daily food intakes:

- vegetable products and dishes (281 grams per person per day)
- milk products and dishes (269)
- cereals and cereal products (185)
- meat, poultry and game products and dishes (150)
- fruit products and dishes (119)
- cereal-based products and dishes (103)
- soup (45)
- fish and seafood products and dishes (31).

Alcoholic beverages

Of all States and Territories, Tasmania has the lowest proportion of its population that consumes alcoholic beverages (29%). Tasmania does, however, have the third highest average daily intake of alcoholic beverages (266 grams).

Fats and oils

Of all States and Territories, Tasmania has the highest proportion consuming fats and oils (82%), and the highest mean daily intake of fats and oils at 16 grams per person (aged 19 years and over) per day.

Fish and seafood products

Of all States and Territories, Tasmania has the highest proportion of persons aged 19 years and over who consume fish and seafood products,

8%. This compares with 6% for Australia. As well, Tasmanians consume the highest mean daily intake of fish and seafood products (14 grams per person) and fin fish (excluding canned) (9 grams per person) of all States and Territories.

Health risk factors

A variety of health risk factors have been identified and are being addressed by health authorities in an effort to further improve the health of Tasmanians. More Tasmanians are becoming overweight, smoking among young adults remains at a high level, and higher rates of childhood immunisation are sought to achieve population immunity against diseases which once caused life-threatening epidemics.

Tasmanian perceptions

According to a Tasmanian survey of health issues conducted in October 1995, an estimated 38,600 Tasmanians aged 15 years and over indicated their smoking habit to be the main factor that affects their health. Arthritis was perceived by 10,400 to be the main factor that affected their health, while allergies affected an estimated 9,000 people.

The main work-related factor identified as affecting Tasmanian's health was stress, with an estimated 11,500 people being affected. All stress (work-related, social, and stress not elsewhere classified) affected an estimated 37,500 persons.

In the 3 months prior to the survey, an estimated 27,900 Tasmanians suffered an injury. Of these, 8,100 were injured at home, 6,800 at work, and 6,000 at a sporting event. Leg or foot injuries were the most common with 12,600 people reporting these, followed by back injuries reported by 7,500 people. Dislocations or strains accounted for 71.0% of all injuries.

SMOKER STATUS, TASMANIA, 1995 (a)

Status	Males		Females		Persons	
	No. '000	Proportion %	No. '000	Proportion %	No. '000	Proportion %
Smoker	45.6	26.9	42.2	24.1	87.8	25.5
Ex-smoker	63.4	37.4	46.4	26.5	109.8	31.8
Never smoked	60.5	35.7	86.9	49.5	147.3	42.7
Total (b)	169.5	100.0	175.4	100.0	344.9	100.0

(a) Persons aged 18 years and over. (b) Any discrepancies between sums of component items and totals are due to rounding.

Source: ABS National Health Survey 1995 unpublished data

Smoking

Health risks associated with smoking include cancers, respiratory diseases such as bronchitis and emphysema, and circulatory diseases including thrombosis and heart disease.

The 1995 National Health Survey showed that 25.5% of Tasmanians aged 18 years and over were smokers, 31.8% were ex-smokers and 42.7% had never smoked. A higher proportion of males were smokers (26.9%), than females (24.1%). There was also a higher proportion of male ex-smokers (37.4%) than females (26.5%).

Tasmanians were more likely than people in other States and Territories to have ever smoked (57%) and the proportion who were current smokers (258.1 persons per 1,000 population) was second only to the Northern Territory.

Alcohol

Excess alcohol intake is associated with many chronic diseases and conditions, including coronary heart disease, stroke, hypertension, certain types of cancer, cirrhosis of the liver and brain damage. Alcohol is one of the most widely used drugs in Australia.

The ABS's 1995 National Health Survey showed that 56% of Tasmanians aged 18 years and over said that they had consumed an alcoholic drink in the survey week. Results showed that for people aged 18 years and over who consumed alcohol, 13.9% of males and 10.5% of females had either a moderate or high health risk based upon their level of consumption. In the week prior to the survey, 66.8% of males aged 18 and over and 45.6% of females aged 18 and over had consumed alcohol.

The average daily intake of alcohol for drinkers in Tasmania (44 ml) was the lowest in Australia.

Body weight

Being overweight or obese are risk factors for many diseases, including coronary heart disease. The 1995 National Health Survey showed that for Tasmania, 47.1% of males and 35.0% of females aged 15 years and over were either overweight or obese, based on their score on the Body Mass Index.

Body Mass Index

For the National Health Survey, persons were categorised into groups according to their body mass index (based on height and weight as reported by the respondent). Body mass index is derived by dividing weight (kg) by the square of height (m²).

Categories were:

Underweight: Less than 20

Acceptable weight: 20–25

Overweight: Greater than 25–30

Obese: Greater than 30

Exercise

In 1995 an estimated 34.8% of Tasmanians aged 15 years and over did not exercise in the two weeks prior to the survey, 34.5% exercised at a low level, 23.1% at a moderate level and 7.6% at a high level. A higher proportion of males (10.7%) exercised at a high level than females (4.7%); but more females (38.5%) exercised at a low level than males (30.3%).

BODY MASS INDEX, TASMANIA, 1995 (a)

	Males		Females		Persons	
	No. '000	Proportion %	No. '000	Proportion %	No. '000	Proportion %
Body mass index						
Underweight	9.0	5.0	22.1	11.8	31.1	8.5
Acceptable weight	73.1	40.5	77.4	41.5	150.5	41.0
Overweight	66.4	36.7	44.4	23.8	110.7	30.1
Obese	18.7	10.3	20.9	11.2	39.6	10.8
Not stated/not known	13.5	7.5	21.9	11.7	35.5	9.7
Total	180.7	100.0	186.7	100.0	367.5	100.0

(a) Persons aged 15 years and over. Derived from self-reported height and weight.

Source: ABS National Health Survey 1995 unpublished data

EXERCISE LEVEL, TASMANIA, 1995

Exercise level (a)	Males		Females		Persons	
	No. '000	Proportion %	No. '000	Proportion %	No. '000	Proportion %
Did not exercise	60.3	33.4	67.5	36.2	127.8	34.8
Low	54.7	30.3	71.9	38.5	126.7	34.5
Moderate	46.4	25.7	38.6	20.7	85.0	23.1
High	19.3	10.7	8.7	4.7	28.0	7.6
Total	180.7	100.0	186.7	100.0	367.5	100.0

(a) Persons aged 15 years and over. Based on reported intensity, frequency and duration of exercise undertaken for recreation, sport or fitness in the two weeks prior to interview.

Source: ABS National Health Survey 1995 unpublished data

Exposure to the sun

According to a 1995 Tasmanian survey of health issues, the estimate of persons whose skin 'always burns and never tans' (an indication of the number of people at risk from skin cancer) was 52,500 persons in Tasmania.

In 1995, an estimated 82,000 Tasmanian males spent 30 hours or more per week exposed to the summer sun. In comparison, an estimated 34,200 females spent 30 hours or more exposed to the sun.

Of all Tasmanians aged 15 and over, 14.7% (51,900) sunbake, with 56.8% of these being female. Of all Tasmanians in the 15 and over age group, by far the majority of sunbakers are in the younger, 15 to 34 age group, (61.3%).

An estimated 29,700 persons had a history of skin cancer, with those in older age groups (55 and over) accounting for 65.3% of all persons with a history of skin cancer.

Employment injuries

In 1997–98, there were 13,185 compensable injuries reported to the Workplace Safety Board. Of this number, there were 10 fatalities, all of which involved male workers. The estimated total cost of those fatalities was \$0.53 million, an estimated average cost per fatality of \$53,000. The number of non-fatal compensable injuries in 1997–98 was 13,175. Of this number, 28.6%

(3,772) were men, and 71.4% (9,410) were women.

The total cost of all compensable injuries reported during the year was estimated as all actual payments made on reported injuries to 30 June 1998 plus estimated outstanding payments as at 30 June 1998.

Mortality and cause of death

The great killers of earlier times, such as gastroenteritis and pneumonia among young children, and tuberculosis at all ages, now comprise only a very small proportion of all fatalities. In recent years, the trend has been for a declining frequency of deaths of persons aged less than 40 years.

Mortality in 1997

In 1997, the deaths of 3,809 resident Tasmanians were recorded. Male deaths accounted for 1,966 of the total whilst female deaths numbered 1,843, a ratio of 106.7 male deaths to every 100 female deaths.

The crude Tasmanian death rate for 1997 was 8.0 per thousand of mid-year population and remains the highest of any State or Territory in Australia. The Australian crude death rate for 1997 was 7.0 deaths per thousand of mid-year population.

In comparison, the 1997 Tasmanian standardised death rate (which allows a comparison of death rates between populations with different age structures by relating them to a standard population) was 6.8 thousand of mid-year population, compared to the Australian standardised death rate of 6.2 per thousand of mid-year population.

Of all States and Territories, only Tasmania and the Northern Territory (9.8 per thousand of

NUMBER AND TOTAL COST OF EMPLOYMENT INJURIES, BY SEX, 1997–98

	Fatalities		Non-fatal injuries	
	Number no.	Total cost \$m	Number no.	Total cost \$m
Males	10	0.53	3 772	47.0
Females	—	—	9 410	22.7
Total persons	10	0.53	13 175	69.8

Source: Workplace Safety Board of Tasmania

AGE-SPECIFIC DEATH RATES, TASMANIA, 1997

Age group years	Males deaths/'000	Females deaths/'000
Under 1	8.4	4.5
1-4	0.4	0.5
5-14	0.2	0.2
15-24	1.1	0.4
25-34	0.9	0.3
35-44	1.3	1.0
45-54	3.7	2.1
55-64	10.9	7.7
65-74	28.8	18.0
75-84	79.4	49.9
85 and over	202.9	145.5
All ages	8.4	7.7

Source: ABS catalogue no. 3311.6

mid-year population) had standardised rates significantly higher than that for Australia. All other States and Territories were within 0.3% of the national figure.

For those aged under one year, the principal causes of death in 1997 included congenital anomalies and certain conditions originating in the perinatal period, while for those aged 1-44 years, accidents, poisonings and violence were the main cause of death. For those aged 45 years and older, malignant neoplasms and diseases of the circulatory system were the leading causes of death.

Leading causes of death

During 1997 the most common cause of death was diseases of the circulatory system at 42.4%; more than a quarter were caused by malignant neoplasms and diseases of the respiratory system accounted for a further 11%.

Diseases of the circulatory system

In 1997, heart disease accounted for almost 29% of all deaths in Tasmania. The crude death rate for males (245.9 deaths per 100,000) was higher than for females (219.9 deaths per 100,000).

Heart disease becomes a major cause of death for people aged 45 years and over (accounting for 12.4% of deaths of people aged 45-54 years, 17.4% of deaths of people aged 55-64 years and 23.8% of deaths of people aged 65 years and over. Of all persons who died of ischaemic heart disease in Tasmania in 1997, 88% were aged 65 years and over.

The standardised death rate due to heart disease was 190.8 deaths per 100,000 population for Tasmania in 1997, while for Australia the figure was 173.0 per 100,000 population.

DEATHS, TASMANIA, 1997

Age group years	Males no.	Females no.	Persons no.
Under 1	26	13	39
1-4	5	6	11
5-14	7	6	13
15-24	36	14	50
25-44	77	47	124
45-54	114	63	177
55-64	228	162	390
65-74	478	330	808
75-84	655	614	1 269
85 and over	340	588	928
Total	1 966	1 843	3 809

Source: ABS catalogue no. 3311.6

In 1997, cerebrovascular disease accounted for 9.6% of all deaths in Tasmania. Of the 365 deaths attributable to cerebrovascular disease, almost 58% were of females. The crude death rate from cerebrovascular disease for females in 1997 was 88.4 deaths per 100,000 population, compared to 65.9 deaths per 100,000 population for males.

Of all persons who died as a result of cerebrovascular disease, almost 90% were aged 65 years and over. Cerebrovascular disease accounted for 12.6% of all female deaths in this age group in 1997, compared to 9.1% of all male deaths in the same age group.

The standardised death rate for cerebrovascular disease for Tasmania in 1997 was 62.5 deaths per 100,000 population in comparison to 55.8 deaths per 100,000 population for Australia as a whole.

In May 1999, the Australian Institute of Health and Welfare (AIHW) and the Heart Foundation of Australia (HFA) released a Report which identified that in 1995-97, Tasmanian males had the highest death rates from coronary heart disease (209.1 per 100,000) and peripheral vascular disease (20 per 100,000) of all States and Territories. Tasmanian men also had the third highest death rates from heart failure (after the Northern Territory and the Australian Capital Territory) (17.9 per 100,000) and the second highest death rates from stroke (after the Northern Territory) (69.5 per 100,000).

Tasmanian women had the highest death rate from peripheral vascular disease (9.3 per 100,000) of all States and Territories, and the second highest death rates from heart failure (17.5 per 100,000), stroke (61.4 per 100,000) and all cardiovascular disease (233.6 per 100,000) (after the Northern Territory).

PRINCIPAL CAUSES OF DEATH BY AGE GROUP AND SEX, TASMANIA, 1997

Cause	Males no.	Females no.	Persons no.	Persons (a) %
Under one year				
Certain conditions originating in the perinatal period	8	5	13	33.3
Congenital anomalies	11	2	13	33.3
Sudden death, cause unknown	2	3	5	12.8
All causes	26	13	39	100.0
1–14 years				
Accidents, poisonings and violence	6	5	11	45.8
Malignant neoplasms	1	2	3	12.5
Diseases of the nervous system and sense organs	1	2	3	12.5
All causes	12	12	24	100.0
15–24 years				
Accidents, poisonings and violence	21	5	26	52.0
Diseases of the nervous system and sense organs	3	2	5	10.0
All causes	36	14	50	100.0
25–44 years				
Accidents, poisonings and violence	49	13	62	50.0
Malignant neoplasms	8	19	27	21.8
Diseases of the circulatory system	7	7	14	11.3
All causes	77	47	124	100.0
45–54 years				
Malignant neoplasms	44	34	78	44.1
Diseases of the circulatory system	31	14	45	25.4
Accidents, poisonings and violence	15	2	17	9.6
All causes	114	63	177	100.0
55–64 years				
Malignant neoplasms	91	91	182	46.7
Diseases of the circulatory system	80	31	111	28.5
Diseases of the respiratory system	18	13	31	7.9
All causes	228	162	390	100.0
65–74 years				
Diseases of the circulatory system	200	120	320	39.6
Malignant neoplasms	164	108	272	33.7
Diseases of the respiratory system	53	47	100	12.4
All causes	478	330	808	100.0
75–84 years				
Diseases of the circulatory system	277	312	589	46.4
Malignant neoplasms	189	122	311	24.5
Diseases of the respiratory system	85	75	160	12.6
All causes	655	614	1 269	100.0
85 years and over				
Diseases of the circulatory system	193	338	531	57.2
Diseases of the respiratory system	49	69	118	12.7
Malignant neoplasms	45	67	112	12.1
All causes	340	588	928	100.0
Total all ages				
Diseases of the circulatory system	793	821	1614	42.4
Neoplasms	555	451	1006	26.4
Diseases of the respiratory system	214	215	429	11.3
Accidents, poisonings and violence (external causes)	134	54	188	4.9
All causes	1966	1 843	3 809	100.0

(a) Of all deaths in the same age group.

Source: ABS catalogue no. 3303.0

Malignant neoplasms (cancer)

In 1997, cancer was the major cause of death for those aged 45–64 years, accounting for 44% of all deaths of people aged 45–54 years, and almost 47% of all deaths of people aged 55–64 years. For people aged 65 years and over, the percentage of deaths attributable to malignant neoplasms decreased with age, while other diseases such as those of the circulatory and respiratory systems replaced cancer as the principal cause of death. Malignant neoplasms accounted for almost 34% of all deaths in the 65–74 years age group, dropping to 24.5% of all deaths in the 75–84 years age group and 12% in the 85 years and over age group.

Cancer was one of the principal causes of death for the 25–44 years age group, accounting for almost 22% of all deaths in the 25–44 years age group, and in the 1–14 years age group, accounting for 12.5% of all deaths.

For persons aged 45 years and over, there was a slightly higher rate of cancer among men than women. In 1997, 29.4% of males aged 45 years and over died of malignant neoplasms while a corresponding 24.0% of females in this age group died from this cause.

For all ages, many more men (134) than women (63) died from cancer of the trachea, bronchus and lung. For men, death from cancer of the genito-urinary organs (107) was more common than for women (57).

Some 54 women died from breast cancer in 1997, compared to 62 in 1992, and 71 in 1987.

For all ages, 543 men (almost 28% of all male deaths) and 445 women (24%) died from malignant neoplasms in Tasmania in 1997.

Diseases of the respiratory system

Of all deaths in Tasmania in 1997, 11.3% were attributable to diseases of the respiratory system. The crude death rate for males (91.5 deaths per 100,000 population) was slightly higher than that for females (89.7 deaths per 100,000 population). Almost all deaths from diseases of the respiratory system (98%) were of people aged 45 years and over.

In 1997, the standardised death rate due to diseases of the respiratory system was 75.1 deaths per 100,000 population for Tasmania, second highest of all States and Territories (after the Northern Territory). The figure recorded for

the whole of Australia was 62.1 deaths per 100,000 population.

Trends in infant mortality

During the last century, there has been a decline in the rates of infant mortality for both Tasmania, and Australia as a whole. In 1901, the infant mortality rate in Tasmania was 89.0 deaths per 1,000 live births, compared to 6.5 deaths per 1,000 live births in 1997. The Tasmanian figure of 89.0 deaths per 1,000 live births for 1901 was lower than that recorded for Australia as a whole (103.6 deaths per 1,000 live births), however, the Tasmanian figure in 1997 (6.5 deaths per 1,000 live births) was slightly higher than that recorded for Australia as a whole (5.3 deaths per 1,000 live births).

In 1997, there were 39 infant deaths recorded in Tasmania (26 males and 13 females), compared to 439 infant deaths recorded in 1901.

The male infant mortality rate in 1997 was 8.4 per 1,000 live births whilst for females, it was 4.5 per 1,000 live births.

INFANT MORTALITY RATES (a), TASMANIA AND AUSTRALIA, SELECTED YEARS

	Tasmania	Australia
1901	89.0	103.6
1925	55.2	53.4
1950	23.8	24.5
1975	18.8	14.3
1997	6.5	5.3

(a) Per 1,000 live births

Source: ABS catalogue no. 3102.0 and 3302.0

Health services**Hospitals**

Public acute-care hospitals have long been the major focus of health care in Tasmania. The Royal Hobart Hospital was founded in 1820, second only to Sydney Hospital on the list of Australia's oldest hospitals. Launceston General Hospital was not established until 1863, 57 years after the settlement of Tasmania's second city. By the early years of the twentieth century, every major town had its local hospital.

Today Tasmania is served by major acute health facilities: the Royal Hobart Hospital, incorporating the Repatriation General Hospital, the Launceston General Hospital and the North West Regional Hospital, Burnie.

Causes of Death in Tasmania since 1900

Overview

In 1900, the main recorded cause of death for Tasmanians was old age, accounting for 13.2% of deaths, followed by diseases of the circulatory system (12.8%), diseases of the nervous system (11.7%), diseases of the respiratory system (9.3%), tuberculosis (8.4%) and diseases of the digestive system (6.7%). Accidents (excluding motor vehicle accidents, suicide and homicide) accounted for 5.5% and at this time, cancer accounted for only 4.9% of all Tasmanian deaths.

By 1925, diseases of the circulatory system and diseases of the respiratory system had emerged as main causes of Tasmanian deaths, accounting for 15.5% and 10.6% respectively, followed by cancer (10.2%). Tuberculosis fell to 6.9% while old age was responsible for 8.2% of total deaths.

By 1950, diseases of the circulatory system had increased by 125.3% to be the main cause of death, accounting for 34.9% of all deaths, followed by malignant neoplasms which now accounted for 13.1% of all deaths. The third highest major cause of death was cerebrovascular disease, accounting for 10.8% of all Tasmanian deaths (figures for diseases of the circulatory system for 1900, 1925 and 1950 do not include cerebrovascular disease).

A similar pattern followed for 1975, with diseases of the circulatory system now accounting for 52.9% of all deaths. Heart disease accounted for 67.3% of this figure, while cerebrovascular disease accounted for 25.2%. Malignant neoplasms now accounted for 16.4% of all deaths. Motor vehicle accidents (including both traffic and non-traffic accidents) at this time accounted for 3.8% of all deaths. Diseases of the respiratory system as a main cause of death had been declining since 1925. It now accounted for just 7.5% of all Tasmanian deaths.

While diseases of the circulatory system remained Tasmania's leading cause of death

in 1997 (1,614 deaths), this was 152 fewer than the number in 1975. As a proportion of total deaths, diseases of the circulatory system accounted for 42.4%, with 68.2% of these attributable to heart disease and 22.6% to cerebrovascular disease.

Malignant neoplasms accounted for 25.9% of all deaths in Tasmania in 1997. Since 1975, the number of deaths due to malignant neoplasms increased by almost 70% and accounted for 1,006 deaths in 1997.

Between 1975 and 1997, total deaths in Tasmania increased by just over 14%.

In 1997, the number of deaths attributable to diseases of the respiratory system accounted for 11.3% of all Tasmanian deaths. Accidents, poisonings and violence accounted for almost 5%, suicides accounted for 1.3% of all deaths while motor vehicle deaths accounted for only 0.7% of total deaths.

Male and female comparisons

In 1900, while old age was the main cause of death for males (15.1% of all male deaths), it was diseases of the nervous system at 13.6% that was the primary cause of death for females. Diseases of the nervous system was the third ranked cause of male deaths at 10.3% of all deaths. Diseases of the circulatory system was the second ranked cause of death for both sexes.

By 1925, diseases of the circulatory system had become the main cause of death for males and females. While in 1900, females had a higher proportion of deaths attributed to diseases of the circulatory system than males, by 1925 the situation was reversed. In 1925, 17.0% of Tasmanian male deaths related to diseases of the circulatory system compared with 13.7% of female deaths.

Diseases of the nervous system remained a significant cause of death for females in 1925, accounting for 11.6% of deaths. However for males, diseases of the nervous system failed to rank in the top five leading causes of death, although the total number of male

deaths (111) exceeded the number of female deaths (106).

Diseases of the respiratory system remained a significant cause of death for males (11.2%) and for females (9.8%). 1925 also saw the emergence of malignant neoplasms as a significant cause of death, approximately double the proportion of deaths in 1900 at 10.5% for males and 9.8% for females.

The period between 1925 and 1950 saw the emergence of diseases of the circulatory system as the primary cause of death for both males and females. In 1950, 36.3% of male deaths and 33.2% of female deaths were attributed to this cause (479 recorded male deaths in 1950 compared to 184 in 1925, and 381 female deaths in 1950 compared to 125 in 1925). Malignant neoplasms continued to grow as a significant cause of death, increasing to 14.3% of all female deaths and 12.1% of male deaths.

The previously significant diseases of the nervous system disappeared as a major cause of female deaths by 1950, although the number of female deaths in 1950 (169) was higher than that recorded in 1925 (106). Diseases of the respiratory system also declined in importance, accounting for 8.8% of male and 7.8% of female deaths in 1950.

By 1975, diseases of the circulatory system were responsible for the majority of all female deaths (56.9%). While proportionately more females died of diseases of the circulatory system, males also followed the trend with 49.6% of all male deaths attributed to this cause in 1975. The number of male deaths (918) however, exceeded the number of female deaths (848).

As a percentage of all deaths, malignant neoplasms marginally increased for both males and females in the period 1950 to 1975. The proportion of males dying from respiratory diseases in 1975 changed little

from the 1950 level; however, the number of recorded male deaths in 1975 (165) was higher than that recorded in 1950 (116). For females the proportion of deaths declined from 7.8% to 5.6% (89 recorded deaths in 1950 and 84 recorded deaths in 1975).

Nearing the end of the century, diseases of the circulatory system remain the primary cause of death of Tasmanians. The proportion of females (44.5%) still exceeds males (40.3%) in 1997 and was significantly lower than 1975 levels. The recorded number of female deaths in 1997 (821) was lower than the recorded number of female deaths in 1975 (848) while the recorded number of male deaths in 1997 (793) was also lower than the number recorded in 1975 (918).

With improvements in treatment, education and awareness of risk factors associated with heart disease all contributing to the relative decline in the proportion of diseases of the circulatory system, malignant neoplasms significantly increased as a cause of death. In 1997, malignant neoplasms accounted for 27.6% of all male deaths and 24.1% of female deaths. Respiratory diseases remained the third ranked cause of death at 10.9% for males and 11.7% for females, a reversal of trend also contributed to by the significant reduction in the proportion of people dying from diseases of the circulatory system.

The classifications used to determine cause of death have changed over time.

Descriptions of cause of death used in this article are based on classifications used at the respective dates.

For the 1975 and 1997 figures, disease of the circulatory system includes both heart disease and cerebrovascular disease.

Figures for diseases of the circulatory system for 1900, 1925 and 1950 do not include cerebrovascular disease.

A network of smaller district hospitals and multi-purpose centres also provides a high standard of local care.

In the private sector, there are nine hospitals: the Hobart Clinic at Rokeby, Calvary, St Helens and St Johns (all in the Hobart area); St Lukes and St Vincents (Launceston); North West Private (Burnie); Mersey Community (Latrobe); and Rosebery Community (Zeehan).

Public hospitals continued as the predominant focus of health care in Tasmania until as recently as the 1960s, after the 1950s explosion of medical knowledge. Complex surgical procedures became commonplace, along with great advances in anaesthesia, making these procedures possible. These were also supported by intensive care units which kept many people alive who previously would not have survived.

Throughout the State, specialist referral services are maintained in hospitals, offering diagnostic and treatment activities to support the work of Tasmanian general practitioners. Radiation and oncology services provided by the W.P. Holman Clinics, located at the Royal Hobart and Launceston General Hospitals, provide specialist work in cancer treatments. Oncology and Radiation services are also provided by the NWRH, Burnie.

Equally rapid advances in medical and diagnostic specialities such as endoscopy, chemotherapy, computed tomography and a host of others have expanded diagnostic and treatment options and led to an increasingly more specialised role for larger hospitals, with university affiliations and centre-of-excellence designations in some cases.

Over the century, the role and place of hospitals in the health care system has continually evolved, with the year 2000 position reflecting a smaller number of high cost, high technology centre-of-excellence hospitals, with a steady move back to community-based care for the vast majority of health services which do not require institutional or hospital-based care.

Mental health

In keeping with a policy of mainstreaming wherever possible, specialist psychiatric care for people experiencing acute episodes of mental illness is primarily provided at the three major general hospitals in the State. A smaller service remains at the Royal Derwent Hospital for more acutely disturbed individuals, as well as for the longer term residents.

Case management and support in the community include community-based mental health services in each district for adults with mental illness, community dementia and psychogeriatric support services and case management and support services for children and adolescents with mental health problems and mental disorders.

Residents at the Royal Derwent Hospital are progressively being transferred to supported accommodation in the community. A long-term residential unit operates at Longford in northern Tasmania and a new facility commenced operation in Devonport early in 1997. In the South, long-term supported residential accommodation continues to be provided for the elderly and adults at Royal Derwent Hospital, in addition to a residential service in the community.

Rehabilitation and long term support services are provided in the community for people with long term functional mental illnesses through a range of day programs.

The *Mental Health Act 1996* replaces the provision of the 1963 Act regarding the compulsory hospitalisation of people with mental illness with a much more modern approach. It ensures the least restrictive means for providing treatment is used and also allows for patients to remain in the community subject to obligations to attend outpatient services or a medical practitioner for treatment.

The Mental Health Review Tribunal will review all orders and will periodically review all patients who are on long term orders, rather than only undertaking reviews on request. This will ensure greater protection of the rights of those subject to treatment care orders.

Ambulance services

The Tasmanian Ambulance Service provides a State-wide emergency service built around an extensive fleet of well-equipped vehicles, urban headquarters, a volunteer rural service and the professional expertise of highly-trained staff.

During 1998–99 ambulance services responded to 32,523 emergency cases and provided transport for 11,143 non-urgent cases.

Mental Health Services

~ Mary Blackwood, former State Manager, Mental Health ~

At the turn of the last century, mental illness was regarded as a fortunately rare problem to be managed in an institutional rather than a societal way. Public mental health care revolved almost entirely around treatment in residential complexes unashamedly termed lunatic asylums. Society's concern was only that these asylums be managed in a humanitarian, responsible and kindly way, with proper attention to the physical needs of the unfortunate inmates. Although the early part of this century saw the flourishing of profoundly influential schools of thought in psychiatry and psychology and these (such as Freudian theory) relied on the individual psyche as the guide to disorder, the public provision of service was overwhelmingly institutional.

In Tasmania, the Hospital for the Insane at New Norfolk had been established as a Lunatic Asylum, an attachment to the Invalid Hospital for convicts, by 1834.

In the first half of this century and a little beyond, the reality and desirability of institutional life was, it seems, simply unquestioned. The imperatives were about improvements and expansion, staffing, humanitarian treatment, and resident comfort. Overcrowding and increasing demand were constant issues; numbers were high (522 in 1916; over 600 in the 1940s), and the solutions were to provide the same kind of service, but to provide it better.

In the 1940s a Parliamentary Standing Committee considered the development of a new hospital to replace the old; new wards were constructed and occupied in 1957 and 1959, with a nurses home and library soon to follow.

By the early 1960s the institutional complex was an almost complete community within its local community, New Norfolk. Tailoring, laundry, bootmaking, hairdressing, day activity and industrial therapy, mortuary,

pharmacy, catering, radiology, recreation and occupation were all provided on site.

Yet the germs of modern service philosophies are to be found even in the very early days of the asylum and in the subsequent developments. Segregation of people with intellectual disability from those with mental illness was always sought and was underlined by legislation in 1922; the idea of recovery, and integration back to the community was embodied in the establishment of Millbrook Rise in 1934 as a convalescent hospital for mentally disturbed ex-service men and women. Millbrook acted also as a 'halfway house', a much later concept, for people in transition from the mental hospital itself.

The landmark date for the establishment of modern services, however, is 1968, when the Mental Health Services Commission was set up in response to perceived inadequacies in psychiatric services throughout the State. The focus began to shift almost immediately. In its very first annual report, the Commission recorded the creation of a Board of Management for the mental hospital (by now called the Royal Derwent Hospital), the establishment of a Chair in Psychiatry, and of a Professional Psychiatric Unit, the creation of acute psychiatric units across the State in general hospitals, and the establishment of a Combined Childrens Centre.

The Commission sowed the seeds of modern service: early detection, extended hours services, general practitioner liaison and involvement of non-government organisations are all included as part of the 1968 directions for mental health. Yet in 1968 of the Commission's budget allocation of \$2,434,500 the Royal Derwent component was 89%, and there were 930 patients accommodated there.

The task, clearly, was to shift the balance and

the resources in favour of the new community directions, and there were only two ways to do this, given the perennial public sector axiom that new State funding was never to be expected. The first way was to reduce admissions. From 1974, when the Commonwealth Government funded community mental health teams, reliance on the institution reduced and admissions dropped; to the present day admissions to the institution are regarded as a last resort. The second way was to provide specific alternative facilities and ensure direct transfer of residents and ward closure.

This occurred with the opening of rehabilitation and psychogeriatric services in Hobart in 1987 and the transfer of residents; Subsequently the Howard Hill Centre in Longford and Curraghmore in Devonport opened; nursing homes began to take elderly patients, and community centred psychiatric services expanded. The twin strategies have seen the institutional population now dropped to 90, from 573 in 1970.

In the new century there will be no institution as such; but there will be a range of small scale residential services to meet the needs the institution once met.

In 1989 the Mental Health Services Commission was integrated into the Department of Health Services as part of a national trend towards 'mainstreaming', the alignment of mental health with health generally. Mental Health, it is claimed, has outgrown its need for special attention because its place is so firmly assured. Intellectual disability services were formally structurally separated to become part of the wider disability framework, as first

recommended in 1962 and progressively implemented by the Mental Health Services Commission.

In 1992 the State's directions towards mainstream care, community integration and legislation reform were given huge impetus by the National Mental Health Strategy. In the recognisable sequence of outrage, enquiry and reform which has often characterised major change (for example in Tasmania in 1883), the Human Rights and Equal Opportunity Commission inquired into mental health services across Australia, and the Commonwealth Government established reform and incentive funding (\$1.2m annually for Tasmania by 1997–98) as well as substantial national project funding in areas such as community awareness. Tasmania has participated fully in all these developments, with a strategic plan resting on the key components of promotion, prevention, reduction of the impact of mental illness, consumer rights, quality and partnerships.

In parallel, the State's own reform agenda has seen the establishment of local residential and community facilities in a network of care across the State, and 70,000 Tasmanians have accessed those services in the last decade.

These changes, though gradually implemented, represent a radical change in mental health care, from custodial to community, from containment to participation and from congregate asylum care to specialised individual treatment.

The changes rest on two foundations: a growing knowledge base and massive social change. The certainty is that both will continue into the next century.

FURTHER READING

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Workplace Safety Board of Tasmania

CHAPTER 13

Community welfare



Photo: The Mercury

In Hobart in the 1930s, during the Great Depression, a number of charities set up soup kitchens like this one, staffed by volunteers.

Tasmania faces a number of challenges in meeting the welfare needs of the community. The changing demographic structure and changing workforce have increased social and economic pressures within the community, and Tasmania's small and decentralised population poses further challenges to the provision of effective welfare services.

It is the Commonwealth Government (with income maintenance), the Tasmanian Government (with direct services) and non-government welfare organisations that, in the main, respond to these community needs. Throughout the 1990s each of these providers has seen an increase in demand for their services. One consequence has been a movement towards increased cooperation between government and private sector providers in an effort to meet the changing needs of the community.

Income maintenance

Income maintenance payments are provided to individuals by the Commonwealth Government, primarily through the Department of Family and Community Services (FaCS) and the Department of Veterans' Affairs (DVA).

At the turn of the century there was no social security system in Australia. Charitable relief was provided to needy persons by voluntary organisations, in some case with the assistance of government grants. The main areas of need that attracted assistance were the 'sick poor', neglected children, old people who were destitute and women who had been deserted or who had 'fallen' pregnant. The unemployed were assisted by grants of wages, or rations, in return for relief work provided by the government.

Pensions for aged people were introduced in

**DEPARTMENT OF FAMILY AND COMMUNITY
SERVICES, PENSIONS, BENEFITS AND FAMILY
PAYMENTS, TASMANIA, 1998**

Type of payment	Recipients at June 1998 no.
Age Pension	45 132
Disability Support Pension	19 607
Sickness Allowance	438
Mobility Allowance	901
Child Disability Allowance	2 642
Newstart Allowance long term (a)	16 195
Newstart Allowance short term (a)	9 934
Youth Training Allowance (a)	1 387
Mature Age Allowance	2 048
Family Allowance	51 299
Parenting Payment (single)	10 987
Parenting Payment (partnered)	19 824
Double Orphan Pension	27
Maternity Allowance	5 825
Special Benefit	141
Widow B Pension	345
Widow Allowance	709
Partner Allowance	3 027
Wife Pension	4 155
Carer Payment	1 253
Total	n.a.

(a) As at May 1998.

Source: Department Family and Community Services

Australia in 1909, which was the beginning of the national provision of social security payments. Since then many other regular income payments have been added to provide income security to groups such as:

- the retired;
- people with disabilities;
- the sick;
- the unemployed; and
- families.

The provision of income to these groups aims to ensure that people have adequate levels of income to support themselves and their dependants. Carers of these particular groups are also entitled to various benefits.

Income security for the retired

The Age Pension seeks to ensure that people who have reached retirement age have an adequate level of income.

A major issue facing the program is the expected increase in the aged population into the first half of the next century. Tasmania's population is projected to age the most rapidly of all States, overtaking South Australia as the 'oldest' State in

about twenty years' time and reaching a median age of around 51 years by 2051. By 2051, the population aged 65 and over is projected to reach 32% in Tasmania, well above the average of 24% for total Australia.

Also, changing patterns of employment, including a trend towards early retirement, present a challenge to the delivery of adequate retirement incomes. Recent government policy has focused on cost reduction as well as shifting costs and responsibility from the public sector to individuals, families, community groups and private business. A strong emphasis is placed on providing financial information services to encourage self-provision and maximise the use of resources for self support.

Age pensions

Subject to income and assets tests, women aged 61 years and over and men aged 65 and over are eligible for the Age Pension. From 1 July 1998, people who qualify for an Age Pension but delay their retirement and keep working, will get a lump sum bonus payment when they stop working and take up their pension entitlement.

At 30 June 1998, there were 45,132 people receiving an Age Pension, 55.2% of the estimated 81,762 Tasmanians aged 60 years and over. At 30 June 1998 of all Australian Aged Pension recipients, 2.7% were living in Tasmania.

AGE PENSIONS, TASMANIA

Year	Number at 30 June (a)
1993	43 223
1994	45 168
1995	43 074
1996	43 483
1997 (b)	45 049
1998	45 132

(a) Includes Wife/Carer Pensions. (b) Wives and carers transferred from age pension to separate appropriations.

Source: Department of Family and Community Services

A Wife Pension may be paid to the wife of an age pensioner who is not receiving any other income support payment in her own right. New grants of Wife Pension ceased after 30 June 1995. At 30 June 1998 in Tasmania there were 1,058 wives of age pensioners receiving a Wife Pension.

Service pensions

In addition to the Department of Family and Community Services Age Pension, the Department of Veterans' Affairs provides Service Pensions to male veterans aged 60 years and over and female veterans aged 55 years and over.

This pension is also subject to an income and assets test.

At 30 June 1998 in Tasmania there were 13,825 Service Pensions being paid (including Wife and Widow Pensions).

SERVICE PENSIONS, 30 JUNE 1998 (a)		
	Tasmania	Australia
War service		
World War 1	10	275
World War 11	9 589	227 348
Korea and Malaya	479	13 012
British Commonwealth	1 964	43 576
Allied Veterans	624	9 667
Special Overseas Service	1 008	20 028
Far East Strategic Reserve	40	1 052
British Com. and Allied Mariners	15	695
Australian Mariners	96	2 926
Gulf War 1991	0	5
Total	13 825	318 584

(a) Comprises service pensions payable to veterans and partners and widows/widowers of veterans.

Source: Department of Veterans' Affairs

Income security for people with disabilities and the sick

Over the past decade, increasing numbers of people have become reliant on disability-related income support payments. This trend will continue with the increasing incidence of disability associated with an ageing population, changes in labour market structure leading to a decrease in the availability of certain types of work, and the extension of eligibility criteria for the Carer Pension.

The implementation of the Disability Reform Package in 1991 aimed to encourage people with disabilities to maximise their workforce potential through rehabilitation, training, and labour market programs in order to minimise long-term dependency on income support.

Disability Support Pension

To be eligible for this support a person must be aged 16 years or over and have not reached Age Pension age. People who are permanently blind automatically qualify for a Disability Support Pension. A physical, intellectual or psychiatric impairment of 20 points or more on the Department of Family and Community Services impairment tables and a continuing inability to work for at least 30 hours a week at full award wages or a continuing inability to undertake education or vocational or on the job training likely to re-skill them for work, also qualifies a person for this pension. At 30 June 1998, there were 19,607 people receiving this pension in Tasmania.

DISABILITY SUPPORT PENSIONS, TASMANIA

Year	Number at June 30 (a)
1993	17 705
1994	19 088
1995	15 401
1996	16 993
1997(b)	18 393
1998	19 607

(a) Includes Wife/Carer Pensions. (b) Wives and carers transferred from age pension to separate appropriations

Source: Department of Family and Community Services

A Wife Pension may be paid to the wife of a disability support pensioner, if she does not qualify for a pension in her own right. New grants of Wife Pension ceased after 30 June 1995. At 30 June 1998 there were 3,097 wives of disability support pensioners receiving Wife Pension.

Disability Pension

In addition to the Disability Support Pension provided by the Department of Family and Community Services, the DVA provides a similar pension to veterans to compensate for service-related injury or disease. At 30 June 1998, 6,634 Tasmanians were receiving a disability pension.

DISABILITY PENSIONS (VETERANS), TASMANIA

War service	Veterans no.
World War 1	4
World War 11	4 657
Korea and Malaya Forces	239
Far East Strategic Reserve	30
Special Overseas Service	868
Defence Force/Peacekeeping Forces	820
Seaman's War Pension	16
Total	6 634

Source: Department of Veterans' Affairs

Carer Payment

A Carer Payment is payable to a person providing full-time personal care or supervision to a severely disabled person. From July 1998 Carer Payment was extended to carers of children with profound disabilities under 16 years of age.

At 30 June 1998 in Tasmania there were 342 Carer Payment recipients caring for age pensioners, 792 recipients caring for disability support pensioners and 119 recipients caring for other pensioners or non Family and Community Services customers.

Disability, Ageing and Carers

Disability and ageing are factors that may influence a person's need for support or assistance. Relatives and friends provide a major part of the assistance needed, while government, commercial and private non-profit sources provide additional support.

Disability

In Tasmania in 1998, 105,100 people had a disability (22.3% of the Tasmanian population), compared to 19.3% of the Australian population. Disability usually exists as a consequence of disease, disorder or injury. In 1998 in Australia and Tasmania, physical conditions, including musculoskeletal disorders such as arthritis, were the most common cause of disability (85.3% and 89.0% respectively). However, 14.7% of people with a disability in Australia and 11.0% of people with a disability in Tasmania identified a mental or behavioural disorder as their main condition.

Self care, mobility and communication are fundamentally important activities underlying all aspects of everyday life. In Tasmania most people with a disability (77.5% of those with a disability or 17.3% of the Tasmanian population) were restricted in one or more of these core activities.

The rate of disability increased with age, from 6.6% for children aged 0–4 years to 90% for those aged 85 and over. While the proportion of males and females with a disability was similar in Tasmania (around 22%) it varied across age groups. Disability rates for males were higher for those who were young with 9,000 or 17.2% of all males with a disability in the 0–24 year age group. In comparison 4,800 or 9.1% of all females with a disability were in the 0–24 year age group. Disability rates were also higher for males approaching older age. Approximately 22% of all males with a disability were 60–69 years of age. In comparison 14.6% of all females with a disability were 60–69 years of age. The greater proportion of females in the older age groups, where disability rates are

higher, affects the overall disability rates for females.

In 1998 in Tasmania, 60.3% of the 100,700 people with a disability living in households needed assistance to move around or go out, shower or dress, prepare meals, do housework, light property maintenance, paperwork or communicate. Most people in need of assistance received some help: 57.2% had their need fully met, and 38.9% partly met. However, there were 4.0% who felt their needs were not met at all.

Of the 92,300 persons with a disability aged 17 years and over living in households, 52.7% drive daily, while 13.4% always need to be driven.

Ageing

In 1998, in Tasmania 61,900 people (13.1% of the total population) were aged 65 and over with 35,400 of this age group (57.2%) having a disability. Of those people aged 65 and over 31,200 (50%) needed assistance with at least one activity.

Of the 57,600 persons aged 65 years and over, living in households 43,300 (75.2%) received a government pension or allowance as their principal source of cash income, while 10,300 (17.9%) relied on superannuation or annuity, dividends or interest or other private income including child support or maintenance as their principal source of cash income.

In 1998 in Tasmania the main activities participated in away from home for those persons aged 65 years and over living in private dwellings were visits to family or friends (47.2%), church-related activities (11.5%), sport/physical recreation (10.1%), attending performing arts/arts craft group activity (8%) and going to a restaurant or club (6.9%).

Carers

In 1998 in Tasmania, there were 67,200 people who provided some assistance to

those who needed help because of disability or ageing. The majority of these were female (55.7%).

Primary carers are those who provide most informal assistance with personal activities to a person with a disability and therefore caring plays a major part in their lives. In 1998, 23.7% (15,900) of all people providing assistance were primary carers, and most of these (66%) were female. Nearly 33.8% of all persons who were carers were over 55 years of age.

PRIMARY CARERS (a), REASON FOR TAKING ON CARING ROLE

	Reasons no.
Could provide better care	6.1
Family responsibility	8.1
No other family or friends available or willing	4.5
Emotional obligation	5.7
Had no choice/alternative care unavailable	7.0
Other reason/not stated	(b) 1.5
All persons (b)	15.7

(a) Aged 15 years and over. (b) Total may be less than the sum of the components as carers may report more than one reason.

Source: ABS catalogue no. 4430.6.40.001

Mobility Allowance

Mobility Allowance is paid to provide assistance to people with disabilities who are in employment, vocational training or voluntary work of at least 8 hours a week and are unable to use public transport without substantial assistance. This particular allowance aims to encourage self help and independence for disabled people. At the 30 June 1998 there were 901 Mobility Allowance customers in Tasmania.

Child Disability Allowance

To provide further financial help to a person caring for a child with a disability, the Department of Family and Community Services provides a Child Disability Allowance. This allowance aims to encourage family-based care rather than institutional care of disabled children. Qualification for the Allowance is based upon the level of severity of the disability. In Tasmania at 30 June 1998, there were 2,642 persons claiming this benefit on behalf of 2,940 eligible children.

Sickness Allowance

To claim Sickness Allowance a person must have suffered a loss of income as a result of illness or injury and have a job or study to return to. The payment of Sickness Allowance is only for 12 months, extendable to 24 months or longer under special circumstances. In Tasmania at 30 June 1998, 438 people were receiving Sickness Allowance.

Income security for the unemployed

The aim of this program is to ensure unemployed people receive adequate income support. Where possible, payments are linked to provision of opportunities and incentives to enter or re-enter the workforce.

Income support for the unemployed was introduced, as unemployment benefit, in 1945. At the time it was primarily a short-term payment for people moving from one full-time job to another. In recent decades the labour market has undergone significant structural change. High levels of unemployment and particularly long-term unemployment have persisted through the late 1980s and into the 1990s.

Newstart Allowance

Newstart Allowance customers are separately identified as short-term (persons registered as unemployed for up to 12 months) and long-term recipients (persons registered as unemployed for over 12 months). The primary aim of Newstart Allowance is to ensure an adequate level of income while encouraging participation in activities designed to enhance employment prospects. To receive Newstart Allowance a person must be aged from 18 to Age Pension age, unemployed, actively seeking work and be prepared to enter into, comply and vary an activity agreement. A Newstart activity agreement is negotiated between the person and Centrelink or their Job Network member. It describes the activities that the person has agreed to undertake in order to improve their employment prospects.

At May 1998 there were 9,934 short-term recipients and 16,195 long-term recipients of Newstart Allowance in Tasmania.

BENEFITS FOR UNEMPLOYED, TASMANIA

Year	Number at 30 June
1993 (a)	29 936
1994 (a)	30 058
1995	27 581
1996	25 982
1997	26 923
1998	26 129

(a) Figure is the annual average number on benefits during the year.

Source: Department of Family and Community Services

Youth Allowance

Youth Allowance, which was introduced by the Commonwealth Government in July 1998, is a payment for young Australians who are either studying, looking for work, or who are sick. It replaces the Youth Training Allowance, AUSTUDY for 16–24 year olds, and Newstart and Sickness Allowance for people under 21 years. It also replaces Family Allowance for some 16–18 year-old secondary students. In Tasmania at May 1998 there were 1,387 people receiving this allowance.

Mature Age Allowance

Mature Age Allowance was introduced in March 1994 to assist older long-term unemployed people facing difficulties obtaining work. To be eligible a person must be over 60 years of age, but less than Age Pension age, have been in receipt of income support for at least 9 months and on Newstart Allowance at the time of claiming or have received a Department of Family and Community Services or Department of Veterans' Affairs pension at any time in the 13 weeks prior to claiming. Mature Age Allowance recipients must also have no recent workforce experience.

At 30 June 1998, there were 1,871 Tasmanians receiving Mature Age Allowance.

Partner Allowance

Partner Allowance is intended to provide adequate income for partners of income-support recipients who face barriers to finding employment because of their previous limited participation in the workforce. Partner Allowance is paid to eligible partners of current Newstart, Sickness and Mature Age Allowance, Special Benefit, Rehabilitation Allowance, Age Pension or Disability Support Pension recipients. The

recipient must be born on or before 1 July 1955 and have no recent workforce experience.

In Tasmania at May 1998, there were 3,027 people receiving this allowance.

Payments for families with children

The objectives of this program are to ensure that families with children (including sole parent families) have adequate levels of income, receive fair levels of assistance toward the cost of raising their children and are able to overcome the barriers to workforce participation that arise in part from the presence of children.

Family Allowance

This is payable, subject to income and assets tests, to a person with dependent children under 16 years of age or with a secondary student aged 16, 17 or 18 years of age who is not receiving a prescribed education scheme payment. Most families are entitled to Family Allowance at the minimum rate. Those with low incomes and those receiving an income support payment receive Family Allowance at a rate above the minimum rate. Hardship provisions exist to assist those who do not meet the assets test but are in genuine hardship.

At 30 June 1998, there were 51,299 Tasmanian families receiving Family Allowance on behalf of 95,340 children under 16 years of age and 3,135 children aged 16 years and over. Of the Tasmanian families receiving Family Allowance 76.3% had 2 children or less while 16.5% had 3 children, 4.5% had 4 children and 1.3% of Tasmanian families receiving Family Allowance had 5 or more children.

FAMILY ALLOWANCE CUSTOMERS, TASMANIA, JUNE 1998

Number of children per customer	Customers no.
1	19 577
2	20 213
3	8 486
4	2 333
5+	690

Source: Department of Family and Community Services

Child Care Assistance

Child Care Assistance is a scheme to help low and middle income families with child care fees. Child Care Assistance helps with the cost of child care for long day care, family day care, occasional care, outside school hours care and vacation care. The amount of assistance depends on

family income and assets levels and the number of children attending child care in any given type of approved service. Families applying for Child Care assistance for the first time for a child under the age of seven are required to have that child immunised or have an exemption from the immunisation requirements. At 30 June 1998 in Tasmania there were 10,861 Child Care Assistance customers.

Double Orphan Pension

If both parents of a child are deceased, a guardian may be paid a Double Orphan Pension for a child under 16 years of age or a full-time student not yet 22 years of age. The pension is also payable where only one parent is deceased and the whereabouts of the other is unknown, or they have been imprisoned for at least 10 years, or they require care in a mental hospital or nursing home etc. for an indefinite time.

A double orphan is also a child who has been granted refugee status by the Australian Government and whose parents are outside Australia or whose parents whereabouts are unknown. To qualify for the Double Orphan Pension a person must have care and control of a double orphan and must also claim Family Allowance for the child.

At 30 June 1998 in Tasmania there were 27 Double Orphan Pension customers claiming on behalf of 29 children under 16 years and 3 children over 16 years of age.

Maternity Allowance

Maternity Allowance was introduced in February 1996 to assist families with costs incurred at the time of giving birth to a baby. This includes the direct costs of a new baby and foregone income from non-participation in the paid workforce around the time of birth. Maternity Allowance may also be paid for adoptions, for stillborn babies and for babies who die shortly after birth. Maternity Allowance has the same income and assets tests as Family Allowance. In 1997–98 there were 5,825 Maternity Allowance customers in Tasmania.

Maternity Immunisation Allowance

Maternity Immunisation Allowance is paid for children born on or after 1 January 1998 after a child reaches 18-months old and is fully immunised. Maternity Immunisation Allowance can be paid for children who have a valid exemption from immunisation such as medical reasons or a parent's/carer's conscientious objection to immunisation.

Parenting Payment

The Parenting Payment is available to a person responsible for caring for children irrespective of their marital status. Parenting Payment is subject to an income and assets test; however, partnered parents can get the basic Parenting Payment without counting their partner's income or combined assets. This allowance aims to provide an independent source of income to the partner who earns little or no personal income and mainly cares for the children. It provides increased choice for parents in balancing work and family responsibilities.

At 30 June 1998 in Tasmania there were 19,824 Parenting Payment customers who were partnered as well as 10,083 female and 904 male Parenting Payment customers who were single.

Family Tax Payment

The Family Tax Payment commenced on 1 January 1997. It is part of the Family Tax Initiative aimed at providing extra assistance to families with taxable incomes less than \$70,000. The assistance is paid to most low income families by Centrelink (Family Tax Payment) with the remaining families accessing assistance through the Australian Taxation Office (Family Tax Assistance).

At 30 June 1998 in Tasmania there were 15,088 Family Tax Payment part A customers and 11,657 Family Tax Payment part B customers.

Jobs, Education and Training

The Jobs, Education and Training (JET) Program recognises there are a number of major barriers that may affect the ability of some customers to join the paid workforce including primary responsibility for caring for children, generally lower levels of educational attainment and/or long periods outside the paid workforce which results in lack of skills and self-confidence to find a job and difficulties with accessing child care. JET can help people overcome these barriers by helping with access to education, training and employment and, where required, child care.

The Child Support Scheme aims to improve financial support for children of separated parents by ensuring that both parents contribute to the support of their children according to their capacity to pay. It also aims to ensure that neither parent is discouraged from participating in the workforce and to reduce social security outlays.

Provision for special circumstances

This group of income payments is provided for people in situations of special need or hardship where they are ineligible for other payments.

Special Benefit

A Special Benefit is a discretionary payment that may be paid to a person who is not otherwise eligible for a pension or allowance, but is in severe financial hardship and unable to earn a sufficient livelihood for themselves and their dependants for reasons beyond their control. People considered for Special Benefit payments include, for example, victims of natural disasters, the dependant(s) of a person on remand or a person providing constant care for a sick or disabled person who is ineligible for Carer payment. Payment can be made immediately in an emergency. In June 1998 there were 141 people receiving Special Benefit in Tasmania.

Widow B Pension

This pension provides payments to particular categories of older widows. The Widow B Pension is gradually being phased out and is confined to women who have reached the prescribed age of eligibility (50 years of age, or 45 years of age if previously receiving a Parenting Payment Single) before 1 July 1987. From 20 March 1997, there have been no new entrants to the Widow B Pension. At 30 June 1998 in Tasmania there were 345 Widow B Pension customers.

Widow Allowance

Widow Allowance provides support for older women who are widowed, divorced or separated after turning 40 years of age and who have no recent workforce experience. Widow Allowance is paid at the same rate as Newstart Allowance but is not activity tested. At 19 June 1998 there were 709 Widow Allowance customers in Tasmania.

Bereavement Allowance

This is a short-term payment for people without children in the period immediately following the death of their partner.

Farm Family Restart Scheme

The Farm Family Restart Scheme commenced on 1 December 1997. It is delivered by Centrelink on behalf of the Department of Primary Industries and Energy. The scheme provides time-limited access to income support, financial counselling and re-establishment grants for low-income farmers experiencing financial

hardship who are unable to access commercial finance. At 30 June 1998 there were 53 Farm Family Restart Scheme customers in Tasmania.

Exceptional Circumstances Relief Payment

This is provided to assist farmers living in 'exceptional circumstances' affected areas who are experiencing difficulties in meeting family and personal living expenses. This payment replaced the Drought Relief Payment from 1 December 1997. At 30 June 1998 there were 11 Exceptional Circumstances Relief Payment customers in Tasmania.

Other general payments, services and provisions relevant to the circumstances of low income farmers and their families include Centrelink's Financial Information Service, Pensions Loan Scheme and Asset hardship provisions.

Supplementary Payments and Entitlements

Recipients of Department of Family and Community Services benefits may also be eligible for a range of supplementary payments and entitlements. These include:

- Pharmaceutical Allowance;
- Health and Concession cards;
- Rent Assistance;
- Telephone Allowance;
- Remote Area Allowance; and
- Disaster Relief Payment.

State Government direct services

In Tasmania, the Department of Health and Human Services is the principal agency for the delivery of State Government-based community, health, and housing services.

The department has a responsibility to maintain and improve the health and wellbeing of Tasmanians. It also strives to maintain and improve the quality of life for people who experience illness, injury, or disability and for people in need of personal or social support. There is also a focus on enhancing the capacity and increasing opportunities for Tasmanians to contribute to their own health and wellbeing.

Services are delivered from some 327 sites State-wide, including three major public hospitals, rural hospitals, community health centres and multi-purpose service centres.

Community and Rural Health Services

Services include community development, health promotion and community recovery activities. Many rural-based residents access inpatient and non-admitted services through district hospital and community-based services. Specialised services are aimed at the following key client groups:

- People with a disability;
- People who are frail aged;
- People with a mental illness;
- People whose disease is not responsive to curative treatment; and
- Carers.

Aged, Rural and Community Health

Services are provided both to develop and support communities and to help Tasmanians to retain, maintain or improve levels of physical function or independence in the community. Services include community nursing, home help, home maintenance, assessment, case management, home and community care services, outreach services, rehabilitation, health promotion, service co-ordination, community development and services through district hospitals. Where possible, services are delivered in a multi disciplinary framework, with strong links to general practitioners.

Mental Health Services

Mental Health Services work with clients and their families to treat, support and manage mental disorders to maximise mental health, wellbeing and quality of life for people with a mental illness. Mental Health Services include the provision of acute inpatient care, assessments, treatment, care and rehabilitation in the community, care in supported institutional and community-based accommodation and forensic and secure services. These services are provided for children, adolescents and adults with mental illnesses or mental health problems and their families.

Palliative Care Services

The Palliative Care Service provides multi-disciplinary services for people who are dying and their families, through specialist inpatient and community outreach services.

Child, Youth and Family Support Services

These services aim to improve the safety and well-being of individuals, children, young people and families.

Special Needs Accommodation

Special Needs Accommodation includes brokerage services and specialist advice in the provision of accommodation for people with special or complex needs.

Adoption and Information Service

The Adoption and Information Service locates secure permanent families for children unable to remain in the care of their birth family and provides a counselling and information service for adopted people, their birth families and adoptive families.

In 1997–98 grief and trauma counselling services were expanded in accordance with the Cunningham Report on issues relating to historical adoption practices in Tasmania. Following community consultation, changes were drafted to the *Adoption Act 1988*.

Youth Justice

Youth Justice services provide advice to the Children's Court on juvenile offenders and supervises young people who are found guilty of offences. Youth Justice also provides support to the families of young people who offend, and provides custodial care and rehabilitation services at the Ashley Youth Detention Centre.

The total number of individuals admitted as well as the number of admissions have reduced during 1997–98, reflecting magistrates' response to youth crime where sentences are time limited and appropriate to the crime.

Of the 67 young offenders admitted to the Ashley Youth Detention Centre in 1997–98, 16 or 23% were re-admitted more than once.

Family Services

Family Services provide assistance in the provision of care and protection for children with an emphasis on supporting and strengthening families. This covers community sector programs such as family support services, neighbourhood houses, personal and family counselling, financial counselling, heating allowance and assessment and protection services such as the child protection assessment committee, intensive family support services,

Family Life

- In Tasmania in 1998 there were 186,000 households of which 26.1% were lone-person households and 38.9% were households with three or more persons.
- In Tasmania in 1998 there were 131,000 families of which 110,000 (84%) were couple families.

Couple only families comprised 54.3% of all couple families while defacto couple families (including same-sex couples) comprised 11.1% of all couple families.

Of all families with children under 15 in Tasmania in 1998 77% were couple families with children under 15, 20.6% were lone mother families with children under 15 and 2.4% were lone father families with children under 15.

Of all families with children under 15, 43.4% were families with at least one child aged under 5. The average family size in Tasmania in 1998 was 3 persons, compared with 3.1 persons nationally.

Of all couple families with children under 15, 51.9% had both parents employed, and 12.1% had neither parent employed. Of all

one parent families with children under 15, 48.5% had a parent employed.

- In 1998 in Tasmania of all persons aged 65 and over 33.7% lived alone. This is a higher proportion than any other State or Territory.
- In 1997 in Tasmania, 7.6% of all births were births to mothers aged under 20. With the exception of the Northern Territory this figure is higher than any other State or Territory. Of all births 11.4% were births to mothers aged 35 and over.
- In 1998 Tasmania had the lowest proportion of households who owned or were buying a computer (36%) and the lowest proportion of households with Internet access (10%).
- In Tasmania in 1997, 85.5% of all housing stock consisted of separate houses, 5.1% were semi-detached or townhouses and 8.0% were flats or apartments.
- In Tasmania in 1997, house owners with a mortgage accounted for 27.1% of the population while owners without a mortgage accounted for 42.3% of the population.

financial assistance, protective intervention and natural disasters.

As at 30 June 1998 the rate of children on care and protection orders per 1,000 was 3.92. A continuing trend to focus resources on families has decreased the number of children entering long-term guardianship and increased the number of children and young people maintained within their own family. Family-based foster care is the most utilised placement.

Crisis Care

Crisis Care provides support and accommodation services for families and individuals in crisis including victims of domestic violence and sexual assault.

In 1997–98 the Domestic Violence Crisis Service was contacted 7,490 times, which resulted in

1,080 new Domestic Violence Crisis Service clients.

Alternative Care

Alternative Care provides safe, responsive and therapeutic environments for children who are unable to live with their families. This includes case management of wards of the state, approved children's homes (residential care services), carer support (home-based care services) and high support program (Ashley).

Housing Services

Housing Tasmania aims to provide access to adequate, affordable and appropriate housing for people on low incomes, and particularly for people who have specialist housing requirements.

Housing Tasmania has a prominent public profile; direct client services are delivered through eight Housing Service Centres with access being extended through Service Tasmania.

In 1998–99 expenditure was \$102.976m, of which the Commonwealth State Housing Agreement (CSHA) contributed \$43.626m. The housing options provided are:

- public rental accommodation;
- Aboriginal rental;
- financial assistance to access or maintain housing in the private rental market;
- rental accommodation in housing managed by non-profit community or tenant organisations; and
- assistance to purchase a home.

Rental Accommodation

Housing Tasmania provides assistance to low income earners renting in both the private and public rental market.

Public housing is provided to people assessed as having high housing need. At the end of 1998–99 there were just over 1,700 households waiting for public housing. There have been no significant changes to waiting times over the past 4 years with the majority of applicants (68% in 1998–99) waiting less than one year.

Housing Tasmania manages over 13,500 properties. The majority of capital funds are increasingly directed towards the maintenance and upgrading of these properties because of their age, which now averages 20.6 years.

Occupancy rates during 1998–99 in public housing continue to be higher than in the private rental market (95.0% and 91.5% respectively). Occupancy rates provide a good indicator of the balance between supply and demand.

Private rental assistance is provided in Hobart through Colony Assistance Service for Housing (CA\$H) and in Launceston, Devonport and Burnie through Anglicare Inc. Services include bonds, removals, and rental assistance for people renting accommodation in the private sector.

Home Ownership

The Home Ownership Assistance Program (HOAP) is targeted at public housing clients and private borrowers wishing to purchase public

rental dwellings that have been identified as no longer required by Housing Tasmania. Assistance is available to low and moderate income households to enable them to access home finance. During 1998–99, there were 200 loans issued through HOAP.

Community Housing

Community Sector Housing is low-cost rental accommodation managed by community organisations and includes accommodation targeted for groups with support needs such as young people and people with a disability. Funding is provided to local government, community organisations and non-profit housing co-operatives to encourage their involvement in the development and management of housing options.

Rental housing for Aboriginal people is also available through the Aboriginal Housing Rental Program, which includes community involvement in the management of properties.

Housing Tasmania received \$1.621m in Commonwealth funds under the Community Housing Program for the 1998–99 financial year. \$0.969m was received for the Aboriginal Rental Housing Program.

Non-government agencies

It has long been recognised that many volunteer agencies provide effective and efficient welfare services. This is partly because the non-government (or community) sector is often more able to respond quickly to emerging community needs. Also, the specialised nature of some welfare agencies means they have detailed knowledge of the needs of their target group.

Non-government welfare agencies also provide significant voluntary support to government-funded services. However, many community service agencies are finding it increasingly difficult to meet the growing demand for services. Reduced resources and increased hardship in the community has placed increased pressure on existing social services, while limited government funding and heightened competition for support from donors and volunteers make it difficult for organisations to maintain or expand current services. The Commonwealth Government's decision to cut funding to labour programs has reduced the extent of community-based employment programs. As a result more people are seeking non-government welfare assistance.

Community Services

In all States and Territories 'not for profit' organisations were the main source of expenditure on community service activities in 1995-96. In Tasmania 'not for profit' organisations accounted for 57% of the total expenditure on community service provision.

EXPENDITURE ON DIRECT COMMUNITY SERVICES ACTIVITIES, 1995-96

Community service activity	Tas. \$m	Aust. \$m
Personal and social support	28.9	1 567.2
Child-care	53.8	1 025.7
Training and employment	11.6	375.5
Financial and material assistance	3.9	153.2
Residential care and accommodation	168.2	5 004.6
Other	7.6	389.1
Total	274.0	8 515.2

Source: ABS catalogue no. 8696.0

Generally, direct community service expenditure of \$8,515m was outlaid among the States and Territories in a manner broadly similar to their shares of the estimated resident population of Australia;

however, the types of activity on which expenditure was incurred in each State/Territory and the types of organisations providing the services varied considerably.

- Residential care and accommodation support was the major community service activity in all States and Territories; however, the proportions vary from a high of 62% in New South Wales to a low of 32% in the Northern Territory. Tasmania had a relatively high expenditure on residential care and accommodation, 61%.
- For child-care services, the Northern Territory was the highest, accounting for 28% of its expenditure on community services, followed by the Australian Capital Territory with 23% and Tasmania with 20%. New South Wales and South Australia had the lowest proportions with 10% and 7% respectively.
- In Tasmania personal and social support services that provide support for personal and social functioning in daily life accounted for 10.5% of its expenditure on community services. This was lower than any other State or Territory.

Tasmanian Council of Social Service Inc. (TasCOSS)

TasCOSS is an independent, non-government organisation representing a wide range of interests in the fields of social welfare, health, housing and community services. TasCOSS is also part of a national network comprising Councils of Social Service in all States and Territories and the national body, Australian Council of Social Service (ACOSS) which addresses social and economic reform at the national level.

The objectives of TasCOSS are to:

- act as the coordinating body within Tasmania for non-government welfare organisations;
- promote and uphold the rights of disadvantaged members of the community by supporting non-government welfare organisations working to prevent or relieve injustice, poverty, disability or sickness;

- inform the public of the causes and effects of poverty, injustice, disability, sickness and all related matters;
- provide representation and advice to non-government welfare organisations;
- liaise and cooperate with Federal, State and local governments, government departments, statutory authorities and other organisations necessary to further the objects of the Council; and
- cooperate with ACOSS and other national and international organisations in promoting the interests and objectives of non-government welfare organisations.

The Jobs, Education and Training (JET) Program is an example of a project operating under the auspices of TasCOSS. Administered jointly by several Commonwealth departments, the program aims to assist sole parents to enter or re-enter the workforce.

Religious agencies

Many churches provide a range of social welfare services for the wider community, including accommodation, financial, emotional and spiritual assistance.

In Tasmania, major welfare assistance is provided by the Anglican Church (Anglicare) and Catholic Church (Centacare), the Salvation Army, the Society of St Vincent de Paul, and the Hobart City Mission.

Anglicare

Anglicare officially came into existence on 1 March 1983, to provide financial and budgeting advice particularly to low-income families and individuals.

Anglicare today sponsors a wide range of welfare programs: accommodation, counselling services and employment to needy Tasmanians.

An example of Anglicare's work is its financial counselling service, which encourages people to take control of their finances and to help them out of debt. In 1998 over 1,500 additional clients (individuals, families or couples), in addition to existing clients, were assisted.

Centacare

Centacare is the Catholic Church's primary social welfare agency. It provides help for families and their children, married couples and the long-term unemployed.

Centacare offers education sessions, self help and support groups, accommodation, counselling and adoption services.

Centacare is one of the main marriage counselling agencies in Tasmania approved by the Commonwealth Attorney-General's Department. At present, counsellors operate in Hobart, Launceston, Burnie and on the West Coast.

Violence within relationships continued to be the subject of many counselling sessions undertaken by Centacare. In response, Centacare has a group program for men, the Changing Abusive Behaviours Group, aiming to help break the cycle of violence.

The Salvation Army

The Salvation Army provides a broad range of services to disadvantaged and needy people. In Tasmania, services are divided into six primary areas: family and community services, aged care,

housing and support services, employment services and disaster and emergency relief.

An example of the work of the Salvation Army is the provision of family support aimed at assisting clients to escape poverty traps and live independently. Support includes emergency relief, financial counselling, life skills training, advocacy, intensive outreach assistance, referral and information. In 1998–99, 14,800 individuals or families sought help from the Salvation Army's various Tasmanian family support services.

The Society of St Vincent de Paul

This Society is a voluntary, non-profit, charitable organisation providing:

- support to those in need of material (food, clothing, etc.), financial, emotional or spiritual help;
- accommodation for homeless men, young people, recent arrivals in the State (particularly refugees) and the aged;
- assistance to intellectually disabled people through supported employment, life skills training and a halfway house; and
- other general assistance, including help given through the secondhand shops, a home nursing service, meals on wheels, a child care centre, youth activities and an alcohol and drug dependency program.

The primary work of Society members is visiting people in their own homes. Where appropriate assistance may be given in the form of food, clothing, furniture, advice or friendship. Visits are made on a regular basis to facilitate the friendship aspect of their service.

The Hobart City Mission

Established on 23 November 1852, the Hobart City Mission is the oldest independent welfare agency in Australia. It operates 14 programs of assistance, which, in addition to addressing immediate needs, are designed to provide new life skills and offer those in need a new direction.

The Family Assistance Program aims to encourage independence and self reliance, while offering physical and spiritual support. Trained welfare officers work with clients as friends to create budgets, restore relationships and cope with crises.

The Employment Simulation Program provides a work environment to prepare long-term

unemployed for the discipline of part-time or full-time work.

Crisis Accommodation is offered for women and children who are the victims of domestic violence. Two case management counsellors work with victims to support and guide them

through the early stages of these traumatic situations.

The Community Living Program aims to develop dormant skills and encourage community interaction of intellectually disabled past residents of Willow Court.

FURTHER READING

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Community Services 1995–96 (8696.0)

Disability, Ageing and Carers, Summary of findings (4430.0)

Disability, Ageing and Carers, Summary Tables, Tasmania (4430.6.40.001)

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Centrelink Information, *A guide to payments and services 1998–99*

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Commonwealth Department of Veterans' Affairs, *Benefits Statistics summary June 1998*

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Salvation Army, *Annual Report 1996*

Society of St Vincent de Paul, *Annual Report 1997–98*

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Websites

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Housing Tasmania: http://www.dchs.tas.gov.au/services/housing_tasmanians

Acknowledgments

Tasmanian Department of Health and Human Services

Commonwealth Department of Family and Community Services Statistical Help Desk

Anglicare

Centacare

Salvation Army

Hobart City Mission

CHAPTER 14

Tourism

Photo: Department of State Development



The biggest penny-farthing race in the world, held each February in Evandale, attracts 60 penny-farthing enthusiasts from around the world and up to 10,000 spectators. The race is held in conjunction with the Evandale Fair.

Tourism encompasses all short-term travel away from the normal place of work and residence, including that undertaken for business and pleasure. It includes both domestic and international travel and involves the consumption of a wide range of goods and services provided by, for example, accommodation establishments, transport and tour operators, museums and historic sites, restaurants, travel agents and souvenir retailers.

The tourism sector continues to successfully market Tasmania as the 'natural state', promoting its accessible wilderness areas, clean air and water and quality foods, wines and crafts. The focus is on niche marketing rather than mass tourism and on establishing Tasmania as an increasingly popular destination for activities such as bushwalking, visiting historic sites and villages, craft shopping and trout fishing.

Results from a 1997 study by the University of Tasmania's Centre for Regional Economic Analysis (CREA) showed the contribution of Tasmanian tourism to the State's Gross State Product (GSP) and employment continued to increase and demonstrated the economic strength and growth potential of tourism in Tasmania.

CREA based its study on an analysis of the economic impact of travel expenditure in 1995 and compared it with the results of a similar study for 1992. The contribution of tourism to GSP increased from 7% (\$531m) in 1992 to approximately 10% (\$735m) in 1995.

Jobs in tourism increased from 17,290 in 1992 to 18,700 in 1995, an increase of 8.2%.

Tourism 21, the joint State Government and tourism industry strategic plan, was launched in June 1997 as a three-year plan. Specific achievements include:

- development of the Tourism Accreditation Program and implementation with Tasmanian tourism operators;
- implementation of a community awareness campaign and development of an integrated visitor signage and information strategy;
- establishment of the Tourism in Natural Areas Advisory Group to develop strategies for improving wilderness tourism;
- development of Brand Tasmania;
- establishment of a University of Tasmania tourism degree course; and
- introduction of regular industry forums and communication with tourism operators.

VISITOR ARRIVALS TO TASMANIA

Year	Adult visitors (a) no.
1990	366 600
1991	404 700
1992	398 100
1993	420 200
1994	455 900
1995	480 500
1996	476 600
1997	489 700
1998	505 100

(a) Visitors who stay at least one night.

Source: *Tourism Tasmania — Tasmanian Visitor Survey*

Visitors

Before the Port Arthur tragedy in April 1996, overall visitor numbers to Tasmania had grown by an average of 6.5% a year from 1992 to 1995.

The total number of visitors to Tasmania in 1998 was 505,100, with domestic visitors accounting for 85.4% of this total. The largest number of interstate visitors came from Victoria (186,300), followed by New South Wales (111,300), the two major markets for tourism to Tasmania.

Tasmania's summer of 1995–96 was the wettest on record and domestic growth in 1996 slowed to 0.9%. After the Port Arthur tragedy, international visitor numbers also decreased in the three remaining quarters of 1996, for a total decline of about 10.0% from 1995.

In 1995, international arrivals accounted for 15.5% of all visitors to the State; this percentage decreased in 1996 to 14.1%. In 1997, the number of international arrivals increased to 14.7% of all visitors and in 1998 this figure decreased marginally to 14.6%.

The biggest increase since 1996 was in visitors from the British Isles, whose numbers rose from 13,200 (2.8% of all visitors) in 1996 to 18,300 (3.6%) in 1998. The biggest decrease since 1996 was in visitors from Asia, whose numbers fell from 11,200 (2.4%) in 1996 to 10,100 (2.0%) in 1998. In 1998, North Americans (20,000) were the most frequent international visitors, followed by visitors from the British Isles (18,300) and visitors from Continental Europe (15,700).

ORIGIN OF VISITORS TO TASMANIA

Origin of visitors (a)	1993 no.	1994 no.	1995 no.	1996 no.	1997 no.	1998 no.
New South Wales	110 800	102 100	105 600	112 400	118 700	111 300
Victoria	160 700	176 300	176 700	184 200	186 900	186 300
Queensland	37 200	42 500	52 200	45 500	49 500	54 300
South Australia	24 600	32 800	32 400	28 300	24 100	30 400
Western Australia	17 500	20 200	20 800	22 700	22 100	28 400
Northern Territory	2 400	2 100	3 300	3 000	2 800	3 500
Australian Capital Territory	16 800	14 500	14 900	13 200	13 800	17 100
Total Australia	370 000	390 500	405 900	409 400	417 800	431 300
British Isles	10 700	12 900	14 300	13 200	14 800	18 300
Continental Europe	11 100	14 700	14 400	14 400	14 700	15 700
North America	14 500	17 300	20 300	18 500	20 200	20 000
New Zealand	6 700	7 900	11 900	7 300	7 800	7 200
Asia (incl. Japan)	5 000	9 500	11 300	11 200	11 400	10 100
Other overseas	2 200	3 200	2 500	2 500	2 900	2 600
Total overseas	50 200	65 400	74 600	67 100	71 900	73 800
All adult visitors	420 200	455 900	480 500	476 600	489 700	505 100

(a) Tasmanian Visitor Survey estimates do not include passengers on charter flights and crews of naval vessels. Cruise ship passengers are technically not visitors as most do not stay overnight.

Source: *Tourism Tasmania — Tasmanian Visitor Survey*

In 1995, domestic visitors accounted for 84.5% of all visitors; this increased in 1996 to 85.9%. Since 1996, this figure has fluctuated by less than 1.0% with domestic visitors accounting for 85.3% of all visitors in 1997 and 85.4% in 1998.

Visitor activities

The number of people visiting the State on holidays in 1998 was 370,900 or 73.4% of all visitors. This was an increase over 1997 when 351,400 people (71.8%) visited the State on holiday.

Historic sites maintained their position as the most popular attraction, drawing 55.4% of all visitors in 1997 (no data are available for this activity for 1998). In 1998, some of the most popular activities were browsing at markets (45.9%), wildlife viewing (34.6%), visiting antique shops (31.7%), viewing gardens (30.1%) and visiting casinos (26.9%).

In 1998, bushwalking was also popular, with 133,200 people (26.4% of all visitors) engaging in walks of less than two hours. Growth activities included winery visits, boating and sailing, attending the theatre and performing arts, scenic flights, sea fishing and trout angling, canoeing and sea kayaking, and cycling.

The single most popular destination was the Port Arthur Historic Site, which attracted 202,000 visitors (40.0% of all visitors). Other major

drawcards were Sullivan's Cove/Salamanca Place, Cataract Gorge, Cradle Mountain, Mt Wellington and Coles Bay/Freycinet Peninsula.

In 1998, a total of 74,100 people (14.7% of all visitors) visited Tasmania on business and a further 29,900 (5.9%) attended conferences or conventions. Since 1996, there has been a steady increase in the number of visitors attending conventions or conferences. In 1998, sporting events, festivals and other special attractions drew 17,000 visitors (3.4%), while school or college trips drew 3,000 visitors (0.6%).

Visitor spending and length of stay

Visitors to Tasmania spent \$556.7m in the State in 1998, a per capita outlay of \$1,100. Of this amount, \$212.4m was spent on accommodation and \$108.3m on transport.

The average length of stay for visitors in 1998 was 9.6 nights. In 1998, 25.3% of visitors stayed between one and three nights, compared with 28.2% in 1996 and 26.5% in 1997. There has been a corresponding increase in the proportion of visitors staying for longer than three nights. In 1996, 59.8% of all visitors stayed between 4 and 14 nights, compared with 60.7% in 1997 and 62.1% in 1998. However, the percentage of visitors staying for 31 nights or more has decreased from 3.1% of all visitors in 1996 to 2.8% in 1998.

HOLIDAY ACTIVITIES UNDERTAKEN IN TASMANIA

Activity	1995 no.	1996 no.	1997 no.	1998 no.
Visiting historic sites	272 000	268 100	271 400	n.a.
Browsing at markets	219 500	205 900	213 000	231 700
Visiting antique shops	148 400	148 500	147 000	159 900
Visiting gardens	147 700	146 700	140 300	152 200
Visiting casinos	141 300	132 400	129 400	136 000
Bushwalking				
less than 2 hrs	139 600	141 300	136 700	133 200
2 hrs to all day	77 100	88 200	96 400	103 500
overnight or longer	14 700	18 500	16 000	21 000
Visiting wineries	54 900	63 700	69 500	75 900
Boating/sailing	29 000	25 500	32 600	51 700
Theatre/performing arts	22 900	23 800	20 900	30 200
Scenic flight in light aircraft	17 000	15 900	13 700	19 400
4WD/recreational vehicle	15 400	15 100	19 300	19 500
Trout angling	12 800	14 500	15 900	17 300
Canoeing/sea kayaking	1 900	2 600	2 800	5 200
Sea fishing	n.a.	n.a.	13 700	16 300
Horse riding	n.a.	n.a.	8 400	7 600
Cycling/mountain-bike riding	n.a.	n.a.	7 000	8 200
Total visitors	480 500	476 600	489 700	505 100

(a) Includes Gordon River cruise.

Source: *Tourism Tasmania — Tasmanian Visitor Survey*

Most visitors to Tasmania passed through or stayed overnight in Hobart, Launceston or Devonport. This is to be expected as these are the main population and business centres as well as being the major entry and exit points for the State. There has been little change in the ten most visited cities and towns since 1994.

In 1998, the ten most visited cities and towns were: Hobart (83.2% of all visitors), Launceston (63.7%), Devonport (46.1%), Richmond (40.6%), Deloraine (39.5%), Swansea (34.2%), Burnie (32.8%), Bicheno (31.5%), New Norfolk (31.5%) and Queenstown (31.4%).

ADULT VISITORS, SPENDING AND LENGTH OF STAY, TASMANIA

	Unit	1995	1996	1997	1998
Spending					
Accommodation	\$'000	204 000	202 000	193 800	212 400
Transport	\$'000	129 000	135 000	123 000	108 300
Other	\$'000	245 000	241 000	247 200	236 000
Total	\$'000	578 000	578 000	564 000	556 700
Per capita	\$	1 200	1 200	1 150	1 100
Length of stay per visitor					
1 to 3 nights	no.	123 600	134 300	129 900	127 600
4 to 7 nights	no.	156 300	154 100	167 300	167 200
8 to 14 nights	no.	139 400	130 700	129 600	146 500
15 to 30 nights	no.	45 400	42 900	48 300	49 500
31 nights and over	no.	15 800	14 500	14 400	14 300
Average length of stay	no. of nights	9.9	9.8	9.7	9.6

Source: Tourism Tasmania — Tasmanian Visitor Survey

PLACES VISITED IN TASMANIA

Places visited	1995 no.	1996 no.	1997 no.	1998 no.
World Heritage Areas				
Cradle Mountain National Park	133 500	133 500	139 400	152 700
Gordon River	103 100	95 300	92 900	92 800
Lake St Clair National Park	73 000	73 800	77 500	85 700
Hartz Mountains National Park	24 300	21 900	20 300	18 700
Lake Pedder	21 100	19 600	16 700	24 100
National Parks and Other Reserves				
Cataract Gorge	165 300	164 300	164 500	159 300
Mt Wellington	140 800	126 300	136 600	140 100
Freycinet National Park	78 500	82 400	88 800	99 600
Mt Field National Park	64 300	62 400	59 000	66 300
Abel Tasman Forest Reserve	20 900	23 400	23 100	28 000
Liffey Falls	23 400	21 700	22 300	19 300
Douglas-Apsley National Park	16 600	19 200	21 700	20 300
Other Areas				
Port Arthur Historic Site	208 600	195 000	192 400	202 000
Sullivan's Cove/Salamanca Place	177 300	168 300	174 900	181 500
Hobart Botanical Gardens	86 800	82 800	79 600	87 700
Mole Creek Caves	33 400	34 800	36 900	36 300
Hastings Caves	27 100	26 100	23 700	28 300
Wielangta Forest Drive	19 600	19 400	17 400	14 800
Arve Road Forest Drive	18 400	17 100	14 100	14 500
Central Plateau/Great Lake area	42 100	15 400	33 200	33 100
All Visitors	480 500	476 600	489 700	505 100

Source: Tourism Tasmania — Tasmanian Visitor Survey

100 years of tourism development of the Cradle Mountain area

Cradle Mountain is one of Tasmania's most popular tourist attractions. There has been significant tourism development and immense growth in visitor numbers to the Cradle Mountain area since it was first developed as a tourist focal point in 1912.

Renowned for its pristine wilderness, rugged mountains, spectacular landscapes and its rich European and Aboriginal history, Cradle has been part of the Tasmanian Wilderness World Heritage Area for almost twenty years. It is part of the Cradle Mountain–Lake St Clair National Park, the third largest national park in the State.

The park itself has two main focal points: the northern one is Cradle Mountain (about 60 km south of Burnie) and the southern one is Australia's deepest lake, Lake St Clair (about 50 km southeast of Cradle Mountain). Its total size is about 161,000 hectares (397,840 acres) and it covers some of Tasmania's highest country.

It is famous for its lakes, peaks, rainforest and moorland. Tasmania's highest mountain is here, Mount Ossa (1,617 metres or 5,305 feet), as is the island's best known walking track, the Overland Track (85 km or 53 miles), which takes about five days to

walk. Situated below Cradle Mountain is Dove Lake.

Prior to 1912

The development of Cradle Mountain as a tourist destination followed the construction of the first chalet in 1912. For most of the period prior to this, European activity in the area was limited to selective primary resource utilisation. Some mining was carried out from about 1890 to 1920 between Cradle Mountain and the Pelion area. In about 1930, a small copper mine (the 'Welcome Home' mine) was worked along the Dove River. The logging of local pines began in the 1860s and in the 1890s possum trappers began work in the area. The death of 16-year-old Bert Hanson in blizzard conditions in 1906 was the first death of a European in the area.

Cradle's beauty, spectacular landscapes and its fascinating animals and plants inspired a dedicated group of people to lobby for its conservation as a national park.

Prominent in the push for such a park was Gustav Weindorfer, an Austrian migrant, and his wife Kate, who first visited the Cradle Valley in 1909 and settled in the area in 1912 at a time when it was not connected by road.



Photo: Archives Office of Tasmania

Waldheim Chalet, 1933

Weindorfer envisaged the area as a national park during his second visit to the area. It was from the summit of Cradle Mountain he spoke of his vision:

'This must be a National Park for the people for all time. It is magnificent, and people must know about it and enjoy it.'

Development 1912–21

Early visitors were introduced to the beauty and splendour of Cradle after Weindorfer built a rustic home and guest chalet on 200 acres (81 ha) of land. He named the chalet Waldheim (forest home) and from Christmas 1912, Waldheim was open to visitors. Records of the early days are filled with the warm hospitality and friendship, of the Weindorfers' generous serves of wombat stews, sing-songs around the fire and guided trips across the moorlands and lakes.

The summer after he first opened his accommodation house for business (1913–14), Weindorfer was host to 25 guests. The original house had three rooms, a combined dining/living room and two bedrooms. To reach Waldheim, visitors could drive in horse-drawn vehicles to the Middlesex Plains, but then had to make the rest of the journey on foot or with packhorses. The chalet had grown to eight rooms by 1914 and a small hut nearby accommodated extra guests. There were also a number of tents for visitors who preferred to camp. After Kate's death in 1916, Weindorfer made Cradle Mountain his permanent home.

1921–present day

Regular motorised transport into the Cradle Mountain area started in 1921. Development of the Lake St Clair end was slow until the road to the Lake went through in 1934. The Overland Track from Cynthia Bay to the Pelion Plains via the Cuvier Valley was completed in 1935. In the 1934–35 annual report of the Scenery Preservation Board, the track was deemed safe for tourists to undertake the trip from south to north or vice-versa, without any fear of losing their way. However, it was not until 1937 that it

was announced tourists could safely go through without guides.

During 1936, work on the Lake Track began, the Cuvier River was bridged and Pelion hut was constructed. The Mt Rufus track was marked the following year and work on the Narcissus hut began in 1938. Tracks to Lake Marion, Mt Gould and Pine Valley were cleared in 1940–41 and the Pine Valley hut was built in 1942. That year also saw the connection of the Rufus and Hugel tracks. The Pine Valley tracks to the Acropolis and Labyrinth completed the main network in the south. In 1941, the Commonwealth Government funded the major reconstruction of the Cradle Mountain Road from a rough cart track to an all-weather vehicular track.

During the period 1947 to 1971, much of the infrastructure of the park was consolidated and several important items added. The road to Dove Lake was constructed in 1965 and the extension of track and hut facilities in the area facilitated a wide range of potential recreation sites and activities, especially in the context of day visitor access to the region. This period also saw significant increases in the number of visitors, estimated at 15–20,000 annually by 1970.

Today's Waldheim Chalet is a replica of Weindorfer's original guesthouse. By the 1960s, the chalet had fallen into disrepair and in 1976 it was demolished and replaced. Visitors can explore the chalet which features many spoken and written background displays on the lives of the Weindorfers and their associates.

The Pencil Pine Lodge, now called the Cradle Mountain Lodge, was built by the Ellis brothers in the late 1960s and early 1970s. The original building housed a dining room, kitchen, bar and seven rooms on the first floor. There were five original cabins along with a staff house.

The Lodge was sold to Simon and Ann Currant and extended in the 1980s to include the Guest and Tavern bars, extra conference and dining areas and thirty more cabins. The

Lodge was expanded again in the late 1980s and is now owned by P&O Resorts, providing accommodation for 350 guests.

Cradle Mountain Enterprise operates Waldheim Cabins (44 beds), the park shop and gallery. The shop and gallery are housed in the Cradle Mountain Visitor Centre, which was built as part of the World Heritage Program and officially opened in 1989.

The Cradle Mountain Campground was established in 1987 and is leased to the Park family and operated as part of their Cosy Cabin Chain. It is expected that 25 self-contained cabins will be constructed next door to the campground by 2000.

The construction of the West Coast link road, sealing of the Cradle Mountain access road to the park boundary and extension of HEC power to the park have all been part of infrastructure developments in recent years.

Preservation

Gustav Weindorfer put a lot of energy into promoting the area and conducted a series of lecture tours. He lobbied tourism and government officials and campaigned for the preservation of the area. On 16 May 1922, an area of 158,000 acres (63,943 ha) from Cradle Mountain down to Lake St Clair was proclaimed a Scenic Reserve under the *Scenery Preservation Act 1915*.

The consequent widespread publicity ensured the 1921–22 Christmas season was the busiest up to that point. In 1923, Waldheim accommodated visitors right up until Easter time. Over the years, Weindorfer added to the original chalet and constructed a number of outbuildings including a personal accommodation hut, a toilet, fowl shed and yard, stables, workshop, woodshed and bath-house.

The Cradle Mountain Reserve was proclaimed a Wildlife Sanctuary in 1927. That same year, the Cradle Mountain Reserve Board was proclaimed to administer the northern half of the park and the National

Park Board was formed to look after the southern half. In 1947, under the Cradle Mountain–Lake St Clair National Park Board, the northern and southern sections were united.

Work started on the metalling of the access road to Cradle Valley in 1929. In May 1932, Weindorfer suffered a heart attack. Following his death, Waldheim was upgraded by the Connell family and was incorporated into the reserve in 1945. By this time, annual visitation to Cradle Valley exceeded one thousand. In 1935, the Scenery Preservation Board appointed Lionel Connell as the first permanent ranger at Cradle Mountain.

In 1936, the reserved area nearly doubled in size and in 1971 the reserve was proclaimed a State Reserve under the National Parks and Wildlife Act; responsibility for the area was transferred from the Scenery Preservation Board to the newly formed National Parks and Wildlife Service.

The Cradle Mountain–Lake St Clair National Park was added to the World Heritage list in 1982. Then in 1990, a large wilderness area to the west of the park (incorporating the Eldon Range) was included. Today, management of the park is governed by the Tasmanian Wilderness World Heritage Management Plan 1999.

Overland Track

The Overland Track is Tasmania's best known walking track and joins the two ends of the park. The longest running commercial tent-based guided walking business is Craclair Tours, established by Eric Sargent in 1970. Cradle Mountain Huts just completed its 10th year of operation offering hut-based guided walks through the park.

Two other commercial tent-based guided walking businesses based on the Overland Track are Tasmanian Expeditions and Tasman Bush Tours. Parks and Wildlife Service statistics show that 8,000 people completed the five-day Overland Track during 1997–98, compared with about 400 annually in the 1950s.

Visitor numbers

Visitor numbers have escalated over the decades making the park one of the State's top tourist attractions. In 1938–39, there were 536 entries in the Waldheim visitor book; the following year there were 861 entries. During the 1950s, the number of annual visitors reached over 2,000 and by the end of that decade there were close to 3,000. By the early 1970s, numbers had reached 20,000 annually. According to the 1997–98 Tasmanian Visitor Survey results, 153,900 visitors to Tasmania visited Cradle Mountain that year and 82,600 visited Lake St

Clair/Derwent Bridge. Parks and Wildlife Service statistics show that total entries in 1997–98 to Cradle Mountain were 185,000 and to Lake St Clair, 99,000.

Activities

Recreational opportunities in the Cradle Mountain area include the traditional National Park activities such as bushwalking, canoeing, rock climbing and abseiling, fly fishing, and nature study. In recent years, activities such as scenic flights, mountain bike riding, 4WD tours, horse riding, and gold panning have been introduced.

PURPOSE OF TASMANIAN VISIT

Purpose	1995 no.	1996 no.	1997 no.	1998 no.
Leisure/holiday	227 600	221 900	233 900	259 200
Visit friend/relatives	117 400	133 500	117 500	111 700
Business/employment	67 300	69 000	76 300	74 100
Conference, etc.	29 200	19 500	26 200	29 900
Sporting event	16 600	7 700	11 700	8 500
Major event/festival	4 300	6 800	6 500	8 500
School/college trip	2 700	2 700	2 200	3 000
Other reason	15 400	15 600	15 400	10 300
Total	480 500	476 600	489 700	505 100

Source: Tourism Tasmania — Tasmanian Visitor Survey

Intrastate travel

Tasmanians travelling within Tasmania continue to make an important contribution to the tourism industry.

In 1997, Tasmanians undertook an estimated 2.4 million trips within the State, spending 6.7 million nights away from home. Although the number of trips has remained steady in comparison to 1995, nights away have increased almost 9%.

The average number of nights per trip were 2.8 in 1997, an increase from the figure of 2.6 in 1995. The share of business trips decreased from 18% in 1995 to 14% in 1997, while attending/participating in sporting events/activities grew 25% over 1995. Holiday/recreation remains the most popular reason for travel.

INTRASTATE TRAVEL, TASMANIA

	No. of trips '000	No. of nights '000	Average nights per trip
1991	2 771	7 406	2.7
1992	2 427	5 998	2.5
1993	3 040	7 525	2.5
1995	2 419	6 183	2.6
1997	2 419	6 713	2.8

Source: Tourism Tasmania — Intrastate Travel Survey

ACCOMMODATION OCCUPANCY RATES, TASMANIA

Year	Hotel/motel rooms and guest houses	Holiday units %	Caravan park sites %
1987	50.0	52.9	20.6
1988	46.5	51.9	20.2
1989	45.5	52.8	21.1
1990	48.5	56.8	22.1
1991	48.9	54.2	20.6
1992	51.2	50.1	(a) 25.1
1993	50.7	53.4	30.7
1994	54.0	54.8	30.1
1995	53.9	52.0	32.7
1996	51.8	48.9	33.5
1997	49.7	48.9	34.7

(a) From September quarter 1992, the treatment for permanently reserved caravan parks has been changed. Total site occupancy rates for caravan parks from September quarter 1992 are not comparable with those of previous years.

Source: ABS catalogue no. 8635.6

ACCOMMODATION CAPACITY, TASMANIA

	At December	
	1996	1997
Hotel rooms with private facilities	3 532	3 519
Motel rooms and guest houses with facilities	2 072	2 402
Holiday units	861	944
Caravan park sites, cabins	6 500	6 477

Source: ABS catalogue no. 8635.6

Accommodation

Since 1995, the number of motel rooms has grown by 24.0%, while the number of hotel rooms with facilities has decreased by 1.3%. Holiday units numbered 830 in 1995, grew to 861 in 1996 and increased further to 944 in 1997, an overall increase from 1995 to 1997 of 13.7%. There was a slight increase (less than 1.0%) in the number of caravan park sites and cabin accommodation from 1995 to 1997.

The March quarter is the peak occupancy period for hotels, motels and guest houses. The annual room occupancy rate for hotels, motels and guest houses decreased from 53.9% in 1995 to 51.8% in 1996. This decrease continued in 1997 with an annual room occupancy rate for hotels, motels and guest houses of 49.7%.

Annual unit occupancy rates have remained steady between 1996 and 1997 at 48.9%; however, this figure represents a decrease from the 1995 unit occupancy rate of 52.0%. The annual site occupancy rate for caravan parks has increased from 32.7% in 1995 to 34.7% in 1997.

Backpackers

Backpackers are defined as visitors who stay one or more nights in a youth hostel or backpacking accommodation whilst in Tasmania.

In 1997, it was estimated that backpackers:

- comprised 5% of all visitors (26,200); and
- contributed approximately 4% of all visitor spending (\$25 million).

Approximately 39% of backpackers came from Victoria and New South Wales with a further 36% coming from Continental Europe, the British Isles and the USA. Over three-quarters (78%) came to Tasmania with the purpose of touring or sightseeing.

ORIGIN OF BACKPACKERS (TOP 5), TASMANIA, 1997

Origin of backpackers (top 5)	Number	Percent of all backpackers
Victoria	5 100	20.0
NSW	4 900	19.0
Continental Europe	4 200	16.1
British Isles	3 400	13.1
USA	1 900	7.2

Source: Tourism Tasmania

MAIN PURPOSE OF VISIT (TOP 5), TASMANIA, 1997

Main purpose of visit (top 5)	Number	Percent of all backpackers
Touring/sightseeing	20 400	77.7
Visit friends/relatives	1 600	6.1
Business/employment	1 300	5.0
Sporting event	700	2.7
Other reason	1 200	4.6

Source: Tourism Tasmania

Cruise ships

Tasmania recorded 10 cruise ship visits in 1996–97, with nine visiting Hobart and one visiting Devonport. The cruise ship season runs from December to March. Since 1996, the number of cruise ship visits has more than doubled. In the 1998–99 cruise ship season, 27 visits were made to Tasmania with cruise ships carrying approximately 20,400 passengers.

A number of these cruise ships stopped at more than one Tasmanian locality. There were 27 cruise ship visits to the Port of Hobart, and also visits to Beauty Point (2 visits), Devonport (5), Port Arthur (4), Port Davey (2) and one visit each to Coles Bay, Maria Island and King Island.

Special events

Tasmania's calendar of special events extends over the whole year, and includes international, national, State and local sporting events, agricultural shows and floral festivals as well as craft, food, wine and entertainment extravaganzas.

The Sydney–Hobart Yacht Race, which celebrated its 50th anniversary in 1994, attracts yachts from throughout Australia and overseas as an internationally recognised blue water ocean racing classic.

For the men and women who sail through Sydney Heads each Boxing Day and head south, the 630-nautical-mile journey provides an enormous challenge. The reward is to be safely inside Hobart's Constitution Dock for reunions with friends, New Year's Eve celebrations and the city's enticing Taste of Tasmania Festival.

The week-long Taste of Tasmania is included in the Hobart Summer Festival, which is a month of diverse cultural activities held across the southern region culminating in the Festival of Southern Lights on Mount Wellington.

The Taste of Tasmania features numerous stallholders cooking up a storm showcasing Tasmania's gourmet food and wine. It coincides with the finish of the Sydney–Hobart Yacht Race and the waterfront festivities of the New Year's Eve celebrations.

Three other blue-water ocean races originate from Melbourne with the destinations of Hobart, Devonport and Stanley. The Melbourne to Hobart Yacht Race is regarded as one of the toughest yacht races in the world as it travels

down the rugged west coast of Tasmania to Hobart.

Tall Ships 1998 was a partnership event of the State governments of Tasmania and New South Wales with over 100 sailing vessels from all over the world arriving in Hobart from Sydney in the first week of February 1998. In the eighteenth and early nineteenth century, Tasmanian ports were home to many large, ocean going sailing vessels. However, the first visit of a large number of such vessels, comparable with the Tall Ships events of 1988 and 1998, was the visit to Hobart by the Australian squadron of the Royal Navy in 1897.

Tall Ships 1998 celebrated the bicentenary of the first circumnavigation of Tasmania by explorers George Bass and Matthew Flinders as well as the United Nations International Year of the Ocean. For the purpose of the Sydney to Hobart Tall Ships, the term tall ship is used to mean a single hulled sailing vessel at least 30ft (9.1m) long with more than half the crew being young people (16 to 25 years) who are undergoing professional seamanship training or character/adventure training. One of the star attractions was *The Cuauhtemoc*, the 90m flagship of the Mexican Navy training fleet. It featured three masts, the tallest towering over 50m above the deck, and 23 sails.

At the same time as the tall ships visit, Hobart staged a variety of festivals including the Tasmanian Wooden Boat Festival, a vintage and veteran car rally featuring about 120 cars all predating 1966 and the 160th Royal Hobart Regatta.

Founded by the famous English explorer and then Governor of Van Diemen's Land, Sir John Franklin, the Royal Hobart Regatta is one of the southern hemisphere's largest aquatic events and includes rowing, sailing, power boating, swimming and a great variety of other carnival events.

The Three Peaks Race, an annual competitive endurance running and yachting event, starts at Beauty Point near Launceston on Good Friday. It involves fleet calls to Flinders Island, Freycinet Peninsula on the East Coast and Hobart, with runners required to scale three mountain peaks en route.

Targa Tasmania is an intensive six day, 2,000 km international standard rally around the island for a maximum field of 280 classic, modern and 'thoroughbred' cars. Tasmania's highways and

mountain and country roads are closed to all but the competitors during the special Targa stages, allowing vehicles to be driven as they were designed to be driven.

The Cradle to Coast race each March involves teams of competitors running, paddling and cycling from Cradle Mountain through Tasmania's World Heritage Area to Coles Bay on the East Coast. During late winter, a similar event, the Winter Challenge with the addition of a snow-skiing leg, starts from Mt Field National Park with a finish in Hobart.

The Tour of Tasmania is a six day competitive road cycling event and is one of only three Australian races to be granted international status. In 1998, it attracted over 170 cyclists and support crew. It continues the rich history of cycling in Tasmania, the first Tour of Tasmania being staged in 1930 and won by the late Sir Hubert Opperman.

In May, Agfest is held in the North of the State. This is Tasmania's largest agricultural fair with displays, crafts and food stalls.

The Tasmanian Trout Fishing Championships held each November attract some of the country's best anglers to the lakes and streams of Tasmania's highlands.

A series of floral festivals and exhibitions are held throughout the State from September to May. These include floral shows, commercial ventures, and public and private gardens. The beauty of Tasmania's native plants and blooms is evident in national parks and reserves.

On the first weekend in November, Deloraine, in the Meander Valley, hosts the largest working craft fair in Australia, the Tasmanian Craft Fair. The four day fair showcases Tasmania's finest crafts and crafts-people and reinforces the national and international reputation for quality and unique design.

FURTHER READING

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Acknowledgments

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Port of Devonport Authority

TT Line Company Pty Ltd

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CHAPTER 15

Agriculture

Photo: Department of State Development



The apiary industry in Tasmania contributes over \$4.4 million per annum to the economy.

Agriculture in Tasmania has for a long time relied heavily on exports both to mainland and overseas markets. Recently, these markets have undergone rapid changes due to economic instability in Asia, the emergence of new industries, especially in aquaculture and horticulture, and particularly due to the increasing trend towards globalisation. Some sectors of the rural economy have been affected more than others. The contribution to the Tasmanian economy of wool and sheep meat has declined in recent years, whereas dairying and cropping have shown modest increases. Less traditional activities such as growing oil poppies for medical uses, grapes for wine-making and the production of certified seed have provided farmers with new and valuable sources of income.

The weather was not kind to most farmers in Tasmania in the 1997–98 season. Rainfall was

below average in farming areas, whereas maximum temperatures were above average in all areas except in the north-west where temperatures were lower on average. Minimum temperatures were below average except for a small area in the south-east and east of the State.

Tasmanian farming can be characterised by the fact that many farm enterprises carry out a range of farming activities. Livestock can be found on most farms in the State. Sheep are mainly found in the drier areas of the State down through the midlands from Campbell Town to the Derwent Valley. Beef cattle are found in most areas of the State, but are concentrated in wetter areas. Dairying mainly occurs across the north of Tasmania with most of the dairy herd in the north-west, Meander Valley and the north-east.

Livestock and livestock products account for around half of the gross value of agricultural production for the State, with dairying (20%),

wool (17%) and beef cattle (17%) accounting for most of this contribution.

Barley and oats continue to be the most popular broadacre crops grown in Tasmania. Broadacre crops are grown in areas of low to medium rainfall in the midlands and the north-east. Barley is processed into malt, and oats are used as stock feed in winter months.

Vegetables are produced in the high rainfall, high fertility areas of the State in the north-west, around the Meander Valley, in the north-east and increasingly in drier areas of the State where irrigation is available. Niche markets are being sought for fresh vegetables, but most vegetables are grown under contract for processing.

Potatoes (\$92.4m), Onions (\$27.1m), Carrots (\$11.9m), Peas (\$11.4m) and Beans (\$4.7m) were the principle contributors to the \$170.0m worth of vegetables grown in the State in 1997–98. Combined, these five vegetable crops made up nearly 87% of the gross value of vegetables produced. Vegetable growing as a whole contributed 25% of the gross value of agricultural production (GVAP) for the State.

The fruit sector contributed nearly \$46.4m or 7% to GVAP in 1997–98. Apples make up 81% of this contribution. The apple industry is predominantly in the south of the State, although some newer orchards are to be found in the Tamar and Mersey Valleys. Cherry growing continues to be a small but growing industry.

Grape growing areas are to be found mainly in the Tamar Valley and nearby north-east, although some small vineyards have been established in the south and east of Tasmania.

Farm finances

The annual Agricultural Finance Survey (AFS) collects information from farm businesses about their financial operations. Typically, data are collected about turnover, expenditure, value added, cash operating surplus, value of selected assets, capital expenditure, indebtedness and net worth of farm businesses. Each of these items is classified by 13 agricultural industries for each State and Australia. Information from the AFS can be used for the financial analysis of agriculture, and can be compared with financial information collected from other economic sectors.

PROFIT MARGINS FOR FARM BUSINESSES, TASMANIA

	Profit margin %	Return on farm operating costs %
1990–91	16.7	19.1
1991–92	14.4	16.3
1992–93	14.7	16.9
1993–94	16.1	18.8
1994–95	17.1	20.3
1995–96	15.8	18.3
1996–97	16.2	18.6
1997–98	14.9	17.2

Source: ABS catalogue no. 7507.0

Definition of terms

TURNOVER is the sum of all proceeds received by farm businesses in the year, for example: proceeds from sales of crops; livestock; livestock products and miscellaneous income items.

CASH OPERATING SURPLUS is obtained by deducting expenses from TURNOVER. These expenses include payments for fertilisers, seed, livestock, electricity, fuel, rates and taxes (other than income and company tax), wages and salaries, interest payments and rent, but do not include any drawings taken by working proprietors and partners of unincorporated businesses.

PROFIT MARGIN is the ratio of CASH OPERATING SURPLUS to TURNOVER, expressed as a percentage. In effect, it represents the proportion of each dollar of turnover which converts into cash operating surplus.

RETURN ON FARM OPERATING COSTS is calculated by dividing cash operating surplus by operating costs. Farm operating costs are the sum of purchases and selected expenses plus rates and taxes plus insurance payments plus other expenses plus wages and salaries and supplements plus interest paid plus land rent paid.

TURNOVER OF FARM BUSINESSES, TASMANIA

	Aggregates			Averages		
	1995–96 \$m	1996–97 \$m	1997–98 p \$m	1995–96 \$'000	1996–97 \$'000	1997–98 p \$'000
Sales from crops	262.8	290.4	231.8	65.7	56.6	74.3
Sales from livestock	155.3	139.2	148.3	49.7	45.7	53.0
Sales from livestock products	205.3	172.2	207.9	84.2	95.4	82.9
Turnover	693.4	701.8	726.3	221.8	230.6	259.7
Purchases and selected expenses	399.6	397.6	409.7	127.8	130.7	146.4
Value added (a)	322.9	319.6	304.2	103.3	105.0	108.7
Cash operating surplus (b)	109.6	113.7	108.5	35.0	37.4	38.8
Net capital expenditure	40.9	81.3	67.8	13.1	26.7	24.2
Value of assets	3 192.3	3 156.1	3 482.9	1 020.9	1 037.2	1 244.8
Gross indebtedness	533.8	576.7	602.7	170.7	189.5	215.4
Net worth	2 658.3	2 579.3	2 880.2	850.2	847.6	1 029.4

(a) Includes estimate for increase in the value of livestock. (b) Excludes estimate for increase in value of livestock.

Source: ABS Unpublished data

Turnover

In 1997–98, Tasmanian farm businesses generated \$726.3m in turnover from sales of crops, livestock, livestock products and other miscellaneous income such as land rent. Turnover in 1997–98 was up by 3.5% on 1996–97. A fall in turnover from the sales of crops (down 20%) was offset by rises in sales of livestock (7%), livestock products (21%) and other miscellaneous revenue. The average turnover per Tasmanian farm business in 1997–98 was \$259,600, an increase of 12.6%. This follows increases in 1995–96 and 1996–97 of 19.6% and 4.0%, respectively.

The principal Tasmanian agricultural industries, in terms of turnover, were vegetable growing (\$216.5m or 29.8% of total turnover), dairying (\$154.4m or 21.3%), beef (\$84.3m or 11.6%) and sheep (\$76.5m or 10.5%).

Financial performance of Tasmanian farm businesses

Performance ratios indicate that Tasmania's agricultural industry is the lowest performing of any State. In 1997–8, Tasmanian farm businesses had a profit margin of 14.9%. This meant that for every dollar of turnover made, 14.9 cents of cash operating surplus was created. This was the lowest farm business profit margin for any State.

Tasmania's main agricultural industries in 1997–98 (in terms of turnover) were vegetables, dairying, beef and sheep. They had profit margins of 20.8%, 11.7%, 16.3% and 23.8%, respectively.

Tasmanian farm businesses' return on operating costs in 1997–98 was 17.2%, i.e. for every dollar of farm operating costs incurred, farm businesses made 17.2 cents of cash operating surplus. This

was lower than the Australian average of 28.0%. Tasmanian farmers achieved an average return on assets of 3.3% in 1997–98; the Australian average was 4.4%.

In 1997–98, Tasmanian farm businesses had a debt to asset ratio of 1:5.8. In other words, every dollar of farm debt was backed by \$5.80 of assets. This was a rise of 6% from the previous year when every dollar of farm debt was backed by \$5.47 of assets. The Australian farm debt to asset ratio for 1997–98 was 1:6.4.

The gross value of agricultural production (GVAP) for Tasmania was around \$680m in 1997–98. The GVAP has remained steady at around \$600m per annum since the early 1990s. Estimates of the overall contribution of agriculture to the State economy, including all downstream processing and manufacturing, range as high as one third of the Gross State Product.

In the past, wool production was the foremost agricultural activity in Tasmania, but continuing problems in the wool market have resulted in declining prices for wool and have seen farmers leaving the industry. In 1997–98, the vegetable industry with a GVAP of \$170m and the dairying industry with \$134m have relegated wool production with \$93m into third place. The beef cattle industry contributed a GVAP of \$78m and the fruit industry \$42m. All other agricultural industries, combined, contributed \$164m.

Tasmanian agricultural industries have a strong export focus. Agricultural exports make up approximately a quarter of all Tasmania's direct exports to overseas destinations. Tasmanian produce is also exported to mainland Australia and a significant part of this is then further exported out of Australia.

Land use

Structure of the agricultural sector in Tasmania

There were about 4,500 agricultural establishments in Tasmania in 1997–98. Beef cattle farming remains the most common farming activity with approximately 68% of farmers in Tasmania having some beef cattle on their properties. Sheep farming is the second most popular activity with 43% of farms running some sheep. Vegetable growing and dairying is carried out on 20% of Tasmanian farms. Cereal cropping was conducted on 17% of farms and fruit cropping was conducted on 7% of farms.

The viticulture industry has continued to expand in Tasmania. In the 1997–98 season, there were 103 farmers involved in viticulture, a rise of 54% since the 1993–94 season.

Crops

Just over 4% of Tasmania's 1.9 million hectares of agricultural land is used for cropping. Unlike mainland States, most of Tasmania's crops are smaller area intensive crops such as fruit and vegetables rather than broadacre crops such as wheat and barley.

PRODUCTION OF PRINCIPAL CROPS, TASMANIA

Crops	1993–94 tonnes	1994–95 tonnes	1995–96 tonnes	1996–97 tonnes	1997–98 tonnes
Potatoes	291 423	255 738	302 035	317 448	373 578
Pastures cut for hay	229 272	183 479	267 428	216 277	207 432
Onions	70 709	73 537	91 119	59 677	51 945
Peas, green (pod weight)	77 855	37 946	65 671	71 737	70 461
Apples	54 954	57 050	52 398	55 649	46 693
Barley for grain	40 755	27 073	38 463	35 237	30 916
Carrots	19 422	21 540	21 256	22 546	31 953
Oats for grain	12 744	11 287	18 445	13 983	14 898
Beans, french and runner	7 698	8 462	9 453	14 154	12 225
Wheat for grain	5 321	2 769	4 068	7 549	11 651
Grapes	1 125	2 201	1 989	1 497	3 136

Source: ABS catalogue no. 7114.6

GROSS VALUE OF CROPS, TASMANIA

Crops (a)	1993–94 \$m	1994–95 \$m	1995–96 \$m	1996–97 \$m	1997–98 \$m
Barley for grain	6.1	6.1	9.3	6.6	5.1
Oats for grain	1.5	2.5	3.4	2.2	1.9
Wheat for grain	0.9	0.7	1.0	1.4	1.8
Apples	33.2	42.8	34.8	54.2	37.4
Pears (excluding nashi)	0.7	0.6	0.6	0.6	0.6
Apricots	0.4	0.8	0.4	0.4	0.2
Cherries	0.2	0.8	1.4	2.2	1.1
Raspberries	0.5	0.7	0.5	0.7	0.6
Grapes	1.7	4.2	3.8	3.0	4.2
Beans, french and runner	2.6	3.6	4.7	5.5	4.7
Peas, green	10.6	12.1	9.9	12.8	11.4
Potatoes	60.5	52.2	62.6	84.8	92.4
Carrots	3.4	4.8	4.6	8.3	11.9
Onions	19.2	16.8	19.9	16.3	27.1
Other vegetables for human consumption	18.7	20.3	28.7	27.5	22.4
Pastures and grasses cut for hay	23.6	20.6	27.5	29.2	30.9
Pasture seed (b)	2.1	1.2	1.7	2.2	6.5
Other crops	65.6	65.0	82.7	59.3	58.6
Total	251.5	255.5	301.7	317.2	318.8

(a) Excludes crops and pasture harvested for hay, green feed or silage. (b) Includes lucerne.

Sources: ABS catalogue no. 7114.6 and unpublished data

Cereals

Barley is the largest broadacre crop in Tasmania. In 1997–98, just under 30,916 tonnes of barley for grain were produced from 13,154 hectares. Barley is grown mainly in the Northern Statistical Division, around the Northern Midlands and Meander Valley municipalities.

Oats (14,898 tonnes), wheat (11,651 tonnes) and triticale (6,957 tonnes) are the other main cereals grown for grain in Tasmania.

Hay

In 1997–98, there was a further 4% decrease in the amount of hay cut after the 19% decrease in 1996–97. The amount of hay produced from pasture was 207,432 tonnes, with a further 8,878 tonnes coming from cereals.

Vegetables

Potatoes, onions and green peas are Tasmania's most important vegetable crops; together, they accounted for 87% of the total area of vegetables planted.

Potatoes

The estimated value of Tasmania's potato crop for 1997–98 season was \$92.4m, making potatoes the single most valuable crop grown in Tasmania.

In 1997–98, the production of potatoes increased by 18% to 373,578 tonnes. Almost three-quarters of the crop was grown in a wide strip along the north-west coast from the Circular Head municipality, through to the Northern Midlands municipality south of Launceston, together with sections of the Dorset municipality in the north-east.

POTATOES, TASMANIA

	Area ha.	Production '000 t	Value \$m
1991–92	5 967	250	52
1992–93	6 116	270	54
1993–94	6 863	291	61
1994–95	6 068	256	52
1995–96	7 565	302	63
1996–97	7 436	317	85
1997–98	8 344	374	92

Source: ABS catalogue no. 7113.0

Onions

Tasmania's production of white and brown onions has decreased 43% from the peak in 1995–96 of 91,119 tonnes to 51,945 tonnes in

1997–98. The decrease has been due to the loss of export markets in Europe and Asia and poor weather conditions. Despite the loss of some export markets, onions are still mainly grown for export.

About 80% of the onions produced in Tasmania are grown on the fertile soils in the north-west and almost all the rest are grown around Scottsdale in the north-east.

Green peas

In 1997–98, Tasmania produced 70,461 tonnes of green peas, but only 344 tonnes were sold as fresh produce. Most of the peas grown are sold to processors and end up as frozen or tinned peas. Tasmania produced just over 93% of Australia's green peas for processing in 1997–98.

Apples

Apples are, by far, the most important fruit crop in Tasmania. In 1997–98, Tasmanian farmers produced 46,693 tonnes of apples.

The five most common varieties of apples grown in 1997–98 in Tasmania were:

- Red delicious (18,036 tonnes)
- Golden delicious (7,412 tonnes)
- Democrat (3,453 tonnes)
- Fuji (4,333 tonnes)
- Granny smith (2,631 tonnes)

Just under three-quarters (74.6%) of all apples produced came from the Huon Valley municipality. Growers in the Huon Valley produced 39,100 tonnes of apples, which were more than that grown in either Western Australia (34,174 tonnes), Queensland (31,249 tonnes) or South Australia (24,849 tonnes).

The apple crop was valued at \$37.4m, and accounted for nearly 90% of the total value of all fruit grown in Tasmania.

APPLES, TASMANIA

	Trees '000	Production '000 t	Value \$m
1991–92	1 452	50.4	36.9
1992–93	1 506	56.2	41.0
1993–94	1 490	55.0	33.2
1994–95	1 583	57.0	42.8
1995–96	1 650	52.4	34.8
1996–97	1 676	55.6	54.2
1997–98	1 660	46.7	37.4

Source: ABS catalogue no. 7113.0

The Invisible Farmers

~ Ruth Paterson, Dept of Primary Industries, Water and Environment ~

Women have always worked the land and helped to provide the food to nourish Australians. Aboriginal women gathered their food as it ripened with the seasons in the annual cycle of migration.

When the Europeans arrived in 1788, the women worked with their husbands or farmed in their own right to develop primary production in Australia and their roles went unacknowledged. Even now, as then, many of these women remain unacknowledged. The traditional perception of an Australian farmer is still that of a tall, bronzed, tough Aussie man in an akubra hat – despite the fact that one third of the rural work force are women.

The lack of recognition for rural women in Australia actually has a historical basis. In the late 19th century, the Australian government felt there was a sense of shame for a developing nation such as Australia to admit the extent of women's involvement in Agriculture. There was a deliberate avoidance of recognising women in agricultural pursuits for fear of creating the impression that women were in the habit of working in the fields as they were in some of the older countries of the world – not something a new and prospering country like Australia wanted to publicise. As a result, the census no longer recorded women's farm work and until 1994, the legal status for farm women was "sleeping partner, non productive."

Australian agriculture can boast a huge range of primary products and food processing industries. Women have always played a part in their development and the rural communities in which they are based. When World War II came, many of Australia's women joined the Land Army and kept the economy afloat.

Responding to needs, often because of hardship and isolation, women have brought innovation to country Australia. The Country Women's Association, formed in NSW in 1922, brought health services to the Australian bush. The School of the Air,

established in 1952, and since the late 1980s, the Landcare environmental movement were both developed by women.

Through socialisation, women have tended to accept their role as the invisible farmers. These stereotypes were especially reinforced by the media through the imagery of advertising and editorial decisions. How often did you see women featuring in glossy rural advertising? How often were women's perspectives put on the front of magazines, rather than being buried down the back in the pink girlie pages? Did these images really reflect modern agriculture? Even though farming is primarily a family business, was the male primary producer the only recipient and user of information and services relating to primary production? This emphasis has generally ignored a customer base – hardly good business ethics.

We went through a period of change when the contribution of farming women began to be publicly recognised. We saw some of the tall and brave poppies being unjustly branded with by-lines like, 'Well who does she think she is! You'd think her husband didn't work on the farm when you read/hear that!'. Thankfully, those reactions are beginning to disappear. It is now commonplace to see and read about farming couples and families – women and men commanding equal recognition for their hard work and expert skills in their own right.

Coinciding with the developing rural women's movement, the Australian Broadcasting Corporation developed the Rural Woman of the Year Award. The Award, which was aimed at raising awareness of the role and contribution of rural women, ran for four years between 1994 and 1997 with approximately 1,200 women involved in some way. It helped highlight, time and time again, the incredible array of skills and talents of rural women.

In an effort to address some of these cultural and social problems, government-sponsored Rural Women's Networks have established

themselves since the early 1980s at National, State and local levels. These networks encourage rural women to look beyond their individual context and to identify themselves as part of a much larger group of women. There is also a Federal Government National Action Plan to ensure an increase of women's participation at decision-making levels, to improve the design and delivery of services for all clients and to ensure that women's roles are reflected positively in the media.

Today, more than 70,000 women define themselves as farmers or farm managers. In economic terms, women's contributions amount to at least 28% of the market value of farm output or a gross figure of \$4 billion annually.

Women's main contribution to on-farm output are in the areas of livestock care, value adding, farm tourism and business management. Women also contribute to the overall viability of farming enterprises through off-farm work worth about \$1.1 billion per year.

In recent years, it is off-farm work (81% of which is done by women) which has enabled many farming families to maintain their enterprises and lifestyle through years of prolonged drought and the decline in commodity prices.

As well as contributing to their farming enterprises, women also make essential voluntary contributions to their rural communities. It is estimated that this amounts to at least \$0.5 billion a year in addition to the about \$8 billion a year they contribute to the rural economy through unpaid household work. Yet, with all these skills, women occupy less than 20% of paid management and board of management positions in the agricultural sector. This imbalance reduces the diversity in leadership needed to improve performance, both domestically and in a competitive global market.

If agriculture is to respond to the challenges of the next century, including the opportunities of the global market place, it will need to draw on the diverse talents and perspectives within the sector, particularly those of rural women and young people. As an industry, it can no longer have the men up the front of the hall making the decisions and the women down the back serving the tea and scones.

Australian agriculture can and will benefit from women's perspectives, skills and experiences as it does from those of farm men. It's not about men being less – just women being more.

Grapes

Tasmanian wine makers have concentrated their efforts into producing premium quality table wines. The two most popular varieties of grape grown are Pinot Noir and Chardonnay which are ideally suited to Tasmanian growing conditions. Some of the larger mainland wine makers are now acquiring a significant amount of the Tasmanian crop, especially for use in the production of sparkling wines.

Grape production for winemaking continues to grow as does the value of the wine produced. Over the last four seasons, the area of bearing grape vines has increased by 51%. In 1997–98, there were 393 hectares of bearing vines in Tasmania and a further 119 hectares had been planted but were not yet bearing fruit.

GRAPES, TASMANIA

	Area		Production tonnes	Value \$m
	Vines-non bearing ha.	Vines-bearing ha.		
1991–92	67	149	629	0.9
1992–93	112	177	1 087	1.6
1993–94	106	261	1 125	1.7
1994–95	107	301	2 201	4.2
1995–96	151	324	1 989	8.7
1996–97	143	341	1 497	2.9
1997–98	119	393	3 136	4.2

Source: ABS catalogue no. 7113.0

A total of 3,136 tonnes of grapes were produced and almost all were grown for winemaking.

Over half of all vineyards in Tasmania are situated in the George Town and West Tamar municipalities, on either side of the Tamar River. Other vineyards are found around Launceston, Hobart and along the east coast.

Four varieties of grapes accounted for just under 90% of all production: pinot noir (1,210 tonnes), chardonnay (996 tonnes), cabernet sauvignon (279 tonnes) and reisling (316 tonnes). White grapes have overtaken red varieties as the preferred type planted, although production of red grapes (1,590 tonnes) is still greater than production of white grapes (1,546 tonnes).

Livestock and livestock products

Sheep and wool

The number of sheep and lambs in Tasmania decreased by 108,000 (3%) in the year ending 31 March 1998 after a rise of a similar amount the previous year. Sheep flocks are predominantly located in the drier eastern half of the State.

SHEEP AND LAMBS SLAUGHTERED, TASMANIA

Year ended 30 June	Sheep '000	Lambs '000
1990	532.3	588.8
1991	448.3	555.9
1992	446.7	489.8
1993	473.4	456.5
1994	526.1	437.8
1995	569.3	477.2
1996	349.7	393.3
1997	384.4	364.0
1998	461.0	423.3

Source: ABS catalogue no. 7215.0

SHEEP AND LAMB NUMBERS AND WOOL PRODUCTION, TASMANIA

	Sheep numbers '000	Shorn wool production tonnes
1989-90	5 336.8	24 104
1990-91	4 803.9	21 293
1991-92	4 294.8	17 845
1992-93	4 263.6	17 384
1993-94	4 323.9	18 633
1994-95	3 852.9	17 577
1995-96	3 862.3	15 997
1996-97	3 976.6	16 706
1997-98	3 868.9	16 085

Sources: ABS catalogue no. 7113.0 and 7215.0

Over the last 20 years, these flocks have been developed around the Merino and Comeback breeds which produce finer wools. As a result, Tasmanian produced wool is on average one micron finer than wool produced on the Australian mainland.

Wool prices have stabilised somewhat in 1998 after reaching a low in late 1997. Average prices remain depressed although returns from wool sales for Tasmanian growers increased 12% to \$89.5m in 1998.

Cattle

Beef cattle

Tasmania's meat cattle herd decreased by 4,100 head (down 1%) in the year ending 31 March 1998. Although meat cattle are found in all parts of the State, the highest concentrations are in the north-west (King Island and Circular Head) and the north-east (Dorset Municipality). Smaller herds are found throughout the Central Highlands and Northern Midlands municipalities.

Tasmania mostly produces premium grass fed beef for domestic and international markets. Producing beef in perhaps the cleanest agricultural environment in the world gives Tasmanian farmers the opportunity to market their beef as equivalent in eating quality to 'short fed' feedlot beef.

Well over half the beef produced in Tasmania is exported, with Japan and the USA being the principle markets. The value of beef and veal produced in Tasmania increased 3.3% to \$77.6m in 1998. Although beef cattle numbers have increased in recent years, they have not returned to the numbers reached in the peak periods of the late 1970s. However, increased carcase weight has meant the overall return to the Tasmanian economy has been high.

CATTLE NUMBERS, TASMANIA

At 31 March	Beef cattle '000	Dairy cattle '000
1990	432.8	135.8
1991	444.4	139.9
1992	446.7	146.0
1993	445.2	159.5
1994	507.3	171.6
1995	507.4	185.6
1996	521.0	196.6
1997	514.6	210.6
1998	510.4	217.7

Source: ABS catalogue no. 7114.6

CATTLE AND CALVES SLAUGHTERED, TASMANIA

Year ended 30 June	Total cattle (excluding calves) '000	Calves '000
1990	191.7	34.9
1991	191.3	30.6
1992	198.3	32.3
1993	189.4	32.7
1994	187.0	23.2
1995	207.9	28.8
1996	184.2	41.4
1997	203.6	43.6
1998	217.0	53.9

Sources: ABS catalogue no. 7114.6 and 7215.0

Dairying

Most of Tasmania's milk cattle are found in the north-west around Circular Head, Meander Valley, Wynyard and King Island, and in the north-east throughout the Dorset municipality.

The number of milk cattle has increased by 27% over the last five years, up to 217,719 head.

There has been little change in the volume of milk produced for either human consumption or manufacturing in the last year. The value of milk produced was up slightly, to \$133.7m in 1998.

Other livestock and livestock products

The number of eggs produced rose slightly to an estimated 4.0 million dozen in the year ended 31 March 1998.

The number of deer fell from 17,200 to 12,200.

Pig numbers have continued to fall over the last five years, down from 45,500 in 1994 to 24,300 in 1998.

Production of honey fell by 27% in 1998, down to 741,000 kilograms after an increase of 37% to 1,012,000 kilograms in the previous year.

GROSS VALUE OF LIVESTOCK PRODUCTION (a), TASMANIA

	1993-94 \$m	1994-95 \$m	1995-96 \$m	1996-97 \$m	1997-98 p \$m
Livestock slaughtering and other disposals					
Cattle & calves	112.5	106.1	77.5	75.1	77.6
Sheep & lambs	13.9	11.7	18.9	18.9	22.0
Other (b)	12.0	21.7	21.6	22.1	21.4
Total	138.4	139.5	118.0	117.1	121.1
Livestock products					
Wool (c)	74.2	106.8	69.1	82.1	92.9
Milk	126.8	107.5	148.5	132.6	133.7
Eggs	7.2	7.7	9.3	9.0	11.4
Honey & beeswax	1.0	2.1	2.2	2.1	2.0
Total	209.2	224.0	229.1	225.8	240.0

(a) Includes the net export of live animals. (b) Pigs, goats and poultry slaughterings and other disposals. (c) Shorn (includes crutchings), fellmongered and exported on skins.

Source: ABS catalogue no. 7215.0

Agricultural Education – past, present and future

~ Professor Rob Clark, University of Tasmania ~

Over the last 100 years, the face of agriculture in Tasmania has changed from one more characterised by a “way of life” philosophy and a subsistence farming approach to an industry which needs to be internationally competitive and which needs to focus on whole of supply chain issues. In this global market, successful agricultural industries will build on the State’s comparative advantages of abundant natural resources, island status and southern hemisphere position. To capture these opportunities, it is essential that Tasmania develops and invests through education and training, in its richest resource – people.

Increasingly, the skills and the knowledge base required to support agriculture cannot be acquired by experience or from previous generations, since much of the skills and knowledge base is new, technologically sophisticated and rapidly changing. Issues such as food health and safety, training in safe chemical handling, quality assurance, integrated pest and disease management strategies, sustainable resource management, genetically modified plants and animals, greenhouse gases and global warming, a changing business environment and international trade, etc. are all issues at the forefront in agriculture. As a result, the investment in education and training to deliver the science knowledge, business management and the technical skills base required by those engaged in agriculture, to turn our comparative advantages into competitive advantages, is increasingly important.

The outcomes of the national review of agricultural education in Australia (McColl, 1991), along with a Tasmanian review (Lazenby, 1992) and commitment from all stakeholders in Tasmania have all been catalysts to bring about major change in the provision and focus of agricultural and related education and training in Tasmania over the last 5 years. Perhaps the most

significant outcome has been the establishment of a network of stakeholders within the Tasmanian Board of Agricultural Education (TBAE). This Board is comprised of representatives from the University of Tasmania, TAFE, Department of Education, Department of Primary Industry, Water and Environment (DPIWE), the Tasmanian Rural Industry Training Board (TRITB), the Tasmanian Farmers and Graziers Association and representatives from agri-industry. Along with the TRITB, the TBAE has overviewed several significant outcomes for agricultural education and training in Tasmania, namely:

- introduction of new 3 year applied science courses in agriculture and horticulture;
- introduction of traineeships, certificates of agriculture, diplomas and vocational education in schools;
- development of articulation pathways between TAFE and the University;
- agreement on a “State Plan” for agricultural and related education and training in Tasmania – with undergraduate agricultural science training focused in Hobart within the School of Agricultural Science and skills training in agriculture based at Burnie within the School of Rural Industries;
- as part of the Tasmanian Institute of Agricultural Research initiative, establishment of research laboratories at Burnie, to focus research into vegetable and dairy industries; and
- introduction of competency based training and national frameworks for vocational education.

In addition to the traditional agricultural education and training, in recent years there has been an increased emphasis on professional development and training using flexible delivery packages. These programs have been delivered by a variety of private and public providers and have been

resourced through commonwealth and industry based training schemes.

Despite the increase, both in education and training opportunities available and in participation rates within these programs, there is still concern in agri-industry that the supply of new entrants into education and training programs is not sufficient to meet either current or forecast demands by industry.

Recruitment of new entrants into agriculture remains a challenge. This issue of recruitment of sufficient quality and quantity of new entrants to all levels of education and

training within agriculture is recognised locally and nationally as one of the largest impediments to today's agriculture capturing its future potential.

Too often, agriculture is portrayed in a very negative manner and there is failure to promote the scope, diversity and extent of career opportunities that are available to those who have the required skills and knowledge base. Agriculture and the related natural resource management professions will be increasingly looked to when seeking solutions to future management of our food and fibre systems, while managing our natural resources.

FURTHER READING

ABS publications

Agricultural Industries, Financial Statistics, Australia (7507.0)

Agricultural Industries, Financial Statistics, Australia, Preliminary (7506.0)

Agricultural Commodities, Australia (7121.0)

Agriculture, Australia (7113.0)

Agriculture, Tasmania (7114.6)

Livestock Products, Australia (7215.0)

Livestock and Meat, Australia (7218.0)

Value of Agricultural Commodities Produced, Australia (7503.0)

Value of Agricultural Commodities Produced, Australia, Preliminary (7501.0)

Other publications

Department of Primary Industries, Water and Environment, *Tasmanian Rural and Fishing Industry Profiles*, DPIWE Feb 1999

Lazenby, A., *A Review of Agriculture and Related Education in Tasmania*, University of Tasmania, 1992

McColl, J., Robson, A. and Chudleigh, J., *A Review of Agriculture and Related Education*, DPIWE, Department of Employment, Education and Training, 1991

Websites

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

Tasmania Online: <http://www.tas.gov.au>

CHAPTER 16

Mining

Photo: Department of State Development



Savage River mine on the rugged West Coast of Tasmania. In 1997–98, a total of 3,743,000 tonnes of ore was mined from the Savage River open cut iron ore mine.

Capital investment in exploration and mining ventures has resulted in significant ore discoveries and far-sighted mine upgrades in Tasmania during 1997–98. While the traditional base metal mines provide the backbone of the current mining industry, the recent focus on the new underground gold mines, two giant magnesite resources, and high class iron and silica deposits highlight the quality and diversity of mineralisation in the State.

The need for further energy to refine magnesite to magnesium metal has resulted in an approach by the State Government to the Commonwealth Government for \$300m to help fund the construction of a gas pipeline from Victoria. The State Government has given exclusive rights to natural gas infrastructure to Duke Energy International, who plan to use the gas pipeline to feed an existing power station at Bell Bay, which would be converted from oil to gas fired.

Additionally, gas discoveries from new drilling at the Yolla field in the Bass Strait by Boral Energy Resources Limited have the potential to be piped ashore in northern Tasmania. Basslink, the planned undersea power cable, which will link Tasmania's electricity grid with Australia's national grid, is also part of the Government's energy strategy.

Large investment programs in 1997–98 have underwritten the future of several of Tasmania's established mines. The Savage River iron mine and Port Latta processing plant were reopened, and are now operated by Australian Bulk Minerals. The company has installed a conveyor to replace the haul road in order to increase the mining rate. After a short period on the market, the Mt Lyell copper-gold mine was sold to Sterlite Industries, which owns India's largest copper smelter. The new owner has a ten-year mining plan and intends to use the concentrate

in its own smelter. The fortune of the operation is thus less susceptible to commodity prices.

The development of the Beaconsfield gold mine by the Beaconsfield Joint Venture proceeded well in 1997–98, with first tests on the accessed ore returning 28 grammes per tonne gold exceeding grade estimates previously obtained from drilling. The State's other gold mine, the Henty mine is now owned by Goldfields Exploration as a result of restructuring of the RGC Ltd group of companies. The company is to invest \$8.4m on exploring recently discovered resources. Following the restructuring of RGC Ltd, the Renison tin mine was sold to Brisbane-based Murchison United NL and generated a profit of \$8.1m in 1997–98.

Western Metals Resources Limited mounted a successful takeover of Aberfoyle Limited and now operate the Hellyer base-metal mine. The mine is due for shutdown in 2000, but the operators are investigating reprocessing the Hellyer and Que River mines tailings, which comprise 11 million tonnes grading 3% zinc and 2.7 grammes per tonne gold. Pasminco's Rosebery base metal mine has begun mining new ore lenses deep in the mine and has also reported improved throughput and recovery.

The environment of change was also felt in the mineral processing sector, with BHP selling the TEMCO plant at Bell Bay to Billiton. Most operations reported upgrades to equipment resulting in improved environmental performance and efficiency. Comalco at Bell Bay successfully commissioned the most technically advanced fume scrubbing system available to the industry in September 1997, resulting in a 90% reduction in gaseous fluoride emissions and negligible particulate emissions.

At Pasminco's Risdon smelter, a major environmental milestone was achieved with the introduction of the paragoethite production process in December 1997, which resulted in the end of jarosite dumping at sea. TEMCO completed the upgrade of Number 3 furnace. The Goliath Portland Cement Company Limited at Railton completed a number of capital works, including installing a crusher and conveyor belt system at its new mine site.

On the legislative front, Tasmania has been proactive in providing a modern legislative and regulatory environment for explorers. The State has up-to-date mining legislation (1995), resource security legislation (1993), a new royalty regime (1997) and increased security of

land access for the next twenty years with the signing of the Regional Forest Agreement (1997).

Despite a sharp downturn in mineral exploration activity, there is a vibrant and healthy minerals industry in Tasmania, shown by dramatic changes in project ownership, promising gold and magnesite exploration results, the imminent return to production of the historic mine at Beaconsfield, strong production performances from the established world class mines and a robust level of capital expenditure over the past two years.

Mining and the State economy

Employment

The average number of employees in the Tasmanian mineral industry at June 1998 as reported to Mineral Resources Tasmania was 3,935 (down 3% on the previous year). According to figures obtained by the Tasmanian Minerals Council the total equivalent full-time employment on mine sites was 3,948 with a gross annual payroll of \$119m.

Value

According to figures obtained by the Tasmanian Minerals Council surveys, the total value of sales or shipments for 1997–98 was \$1,294m, a 10% increase on the previous year. Government taxes and charges, including royalties, amounted to \$19.3m, with electricity and port charges adding a further \$132m. The minerals industry spent a total of \$634m on goods and services (excluding electricity), of which \$364m was spent within Tasmania.

In Tasmania a sales and profit-based royalty applies to metallic and coal mines, while a production-based royalty is payable on

GROSS STATE PRODUCT PRINCIPAL COMPONENTS, MINING, TASMANIA

	Compensation of employees		Gross operating surplus and gross mixed income	
	\$m	% of State total	\$m	% of State total
1992–93	109	2.4	58	1.6
1993–94	119	2.7	59	1.6
1994–95	130	2.7	129	3.2
1995–96	149	2.9	148	3.5
1996–97	154	3.0	116	2.6
1997–98	127	2.4	112	2.4

Source: ABS catalogue no. 5220.0

non-metallic materials. The two-tiered metallic and coal royalty consists of an ad valorem percentage payable on net sales, and a formula-based percentage of profits. The 1997–98 royalty revenue was \$8.2m, compared to \$5.8m in 1996–97. This increase mainly resulted from a full year of production at Savage River and the impact of a further incremental increase in royalty rates.

TURNOVER, PURCHASES AND SELECTED EXPENSES AND VALUE ADDED, MINING, TASMANIA

Year	Turnover \$m	Purchases and selected expenses \$m	Value added \$m
1991–92	382.6	179.2	204.1
1992–93	330.4	173.8	147.1
1993–94	343.7	188.3	165.4
1994–95	371.0	149.4	210.1
1995–96	375.7	156.7	225.0
1996–97	433.5	218.6	219.8

Source: ABS catalogue no. 8414.0

Metal prices and future trends

Although it was expected that strong industrial production and economic growth would result in strong growth in mineral consumption, the Australian Bureau of Agricultural and Resource Economics reported that world markets for minerals remained subdued throughout 1997 and 1998, primarily reflecting the significant downturn in economic growth in Asian economies. Production of major minerals remained strong, and the building of stocks was accompanied by falling prices, with world prices expected to fall further.

The low commodity prices are impacting on mineral exploration, with Australian expenditure levels declining by almost 6% in 1997–98, the first fall in six years.

SELECTED STATISTICS, MINING, TASMANIA

Year	Establish- ments no.	Net fixed capital expend. \$m	Wages and salaries \$m	Employ- ment at 30 June persons
1992–93	9	29.0	89.1	1 526
1993–94	9	34.8	84.7	1 398
1994–95	9	44.6	77.0	1 086
1995–96	9	126.2	70.9	1 206
1996–97	10	39.7	85.0	1 039

Source: Australian Mining Industry, ABS catalogue no. 8414.0

Mineral production

The value of mining and metallurgical production in Tasmania for 1997–98 was \$1,233.9m (using June 1998 Australian metal prices), down 8% on the previous year. This total comprised 41.8% metallic minerals, 3.7% non-metallic and fuel minerals, 1.8% construction materials and 52.6% metallurgical production from other than Tasmanian ores.

Exploration and development

The 1997–98 financial year was a difficult one for the Tasmanian minerals industry, with volatile conditions experienced by the mineral exploration, mining and mineral processing sectors.

Following several years of growth, culminating with an annual exploration expenditure of \$26m in 1996–97, there was a decline in mineral exploration expenditure to \$20.7m during 1997–98. The previously buoyant conditions continued into the September 1997 quarter, when an expenditure of \$9.7m represented 3.2% of the Australian total, the highest proportion for more than a decade. Since that time there has been a decline, with the June 1998 quarter expenditure of \$3.5m making up only 1.3% of national investment in exploration.

The decline during the year was also reflected nationally, but the Australia-wide decrease of 7% was exceeded by the 20% decrease of expenditure in Tasmania.

The main reason for the fall in expenditure was the successful completion of a number of exploration projects on mining leases. The decline in expenditure on exploration and retention licences of 5.4% was less than the overall national decrease, but the overall level of expenditure on these tenements of \$7.84m needs to be improved to enhance the possibility of discovery of economically-viable mineral deposits.

Highlights for the year included the continuation of successful exploration programs on the Rosebery and Henty mine leases, excellent progress towards demonstrating the viability of producing magnesium metal from Tasmanian resources, and interesting nickel discoveries.

Continuing exploration by Pasminco Limited resulted in a 14% increase in the total resources at the Rosebery mine during the year to

VALUE AND PRODUCTION OF MINERALS, TASMANIA

	1996-97		1997-98		Change %
	tonnes	\$'000	tonnes	\$'000	
Gold	2.44	—	3.26	—	47.5
Silver	166	—	139	—	-16.3
Zinc	186 406	—	183 198	—	-1.7
Copper	24 759	—	27 698	—	11.9
Lead	65 724	—	57 041	—	-13.2
Tin	8 732	—	9 868	—	13.0
Tungsten	2	—	5	—	150.0
Iron ore pellets	809 359	—	1 074 655	—	32.8
Metallic minerals	—	460 907	—	516 367	12.0
Non-metallics and fuel minerals	—	48 452	—	45 819	-5.4
Construction materials	—	27 797	—	22 280	-19.8
Metallurgical production from imported ores	—	706 686	—	649 427	-8.1
Value of mining and mineral processing sectors	—	1 243 842	—	1 233 893	-0.8

Source: Mineral Resources, Tasmania, Annual Review 1997-98

11.7 million tonnes of ore at 12.3% zinc, 4.3% lead, 0.35% copper, 139 grammes per tonne silver and 2.2 grammes per tonne gold. The resources are derived from a 2.3 million tonne measured resource, an indicated 1.5 million tonnes and an inferred 7.9 million tonnes.

RGC Limited announced the discovery of two new inferred resources at the Henty gold mine. The Mt Julia prospect, located 1 km south of the existing mine contains 731,000 tonnes of gold mineralisation grading 7.6 grammes per tonne, and Zone 15, located down-plunge from existing mining operations in Zone 96, contains 233,700 tonnes of ore at 9.2 grammes of gold per tonne. The company has committed \$8.4m on underground development toward the Mt Julia prospect, and associated underground drilling of accessible targets en route.

Crest Resources NL announced an indicated resource at the Arthur River magnesite deposit of 29 million tonnes of ore grading 42.8% magnesium oxide. The company announced that it would fast track the magnesium project after

securing exclusive rights to metallurgical technology from a Ukrainian research institute.

Golden Triangle Resources NL announced an inferred resource of 47.4 million tonnes of ore with 43.36% magnesium oxide at their Main Creek magnesite deposit, including sections with mineable widths in excess of 10 metres with grades of better than 45% magnesium oxide.

Allegiance Mining NL discovered further lateritic nickel resources in the Andersons Creek area near Beaconsfield, and intersected significant nickel mineralisation in a drill hole at the Avebury prospect, west of Zeehan.

Defiance Mining NL and its joint venture partner, Connemara Gold Pty Ltd, reported the discovery of Dylans Reef, approximately 150 metres north of the historic New Golden Gate shaft at Mathinna in north-east Tasmania. The better intersections included 11 metres at 7.8 grammes per tonne gold and 4 metres at 12.0 grammes per tonne gold. The joint venture partners believe the region has significant potential to yield a number of high-grade gold resources of 50,000-100,000 ounces, suitable for underground mining.

The year also marked a changing of the guard in the Tasmanian exploration scene, with some major contributors to the total Tasmanian industry leaving or diminishing their activities. Rio Tinto Limited effectively ceased exploration in Tasmania and the continued involvement of Aberfoyle Limited was uncertain because of the takeover bid by Western Metals Resources Limited. The decision of RGC Limited to focus on mineral sands and sell its 56% stake in

MINERAL EXPLORATION EXPENDITURE (a)

Year	Tasmanian expenditure \$m	Australian expenditure \$m	Tasmania as proportion of Australian expenditure %
1992-93	7.8	631.7	1.23
1993-94	10.2	792.6	1.29
1994-95	14.9	893.4	1.67
1995-96	18.8	960.3	1.96
1996-97	26.0	1 148.6	2.26
1997-98	20.7	1 066.8	1.94

(a) Other than petroleum.

Source: ABS catalogue no. 8412.0

Goldfields Limited, as well as divest its base metal interests including the Renison mine, added to the uncertain climate. On the credit side, Pacific-Nevada Mining Pty Ltd was granted or applied for 18 exploration licences covering a total area of 4,233 square kilometres at King Island, the Hunter Group, north-west Tasmania, Cape Sorell and Cygnet.

Work on geochemical and geophysical surveys on some of these areas is well underway. In addition, several small companies and individuals were acquiring ground for exploration, including Cobra Resources NL, Jervois Mining NL, CO Haslam, Griffith Geological Consulting Pty Ltd, Anglo Australian Resources NL, and Low Impact Diamond Drilling Specialists.

In short, the mineral exploration industry appears to be in a phase of global contraction and Tasmania is placed in an increasingly competitive market to attract exploration investment.

STRATEGIC PROSPECTIVITY ZONES, TASMANIA, JUNE 1998

SPZ	Metallic		Non-metallic	
	Area km ²	Occupied %	Area km ²	Occupied %
Adamsfield	—	—	—	—
Arthur	937.6	84.7	1.6	0.1
Balfour	2 073.4	53.0	3.4	0.1
Beaconsfield	19.0	99.7	4.0	21.0
Cape Sorell	709.2	51.3	—	—
Mount Read	1 463.3	20.4	—	—
North East	2 024.9	20.9	265.0	2.7
Zeehan/Waratah	479.0	26.1	—	—

Source: Mineral Resources, Tasmania, Annual Review 1997–98

Oil and gas exploration

In April 1998 an appraisal well (Yolla 2) was drilled in permit T/RL-1 in the Bass Basin. Drilling confirmed volumes of between 450 billion cubic feet and 600 billion cubic feet of liquids-rich gas in the Yolla field. A second appraisal well is planned to confirm the economic viability of the field.

The retention license (T/RL-1) over the Yolla gasfield is held by a consortium of headed by Boral Energy Resources Limited. Efforts are continuing to find a market in either Tasmania or Victoria.

The White Ibis 1 well was drilled in May 1998 in permit T/18P on a prospect 40 km west of the

Yolla field. This well made a gas discovery that is sub-commercial on a stand-alone basis, but which may be tapped as part of the development of the Yolla field.

Another offshore permit was granted for oil and gas exploration in 1997. This permit, covering an area west of King Island, was granted to the Malaysian company Benaris International NV.

Two offshore areas in the Sorell Basin, off the west coast of Tasmania, were gazetted for release in May 1998.

Exploratory drilling by Great Southland Minerals Ltd continued onshore in southern Tasmania.

Mineral operations, 1997–98

Metallic minerals

Base metals

Aberfoyle Resources Limited, Hellyer mine

A total of 1,413,690 tonnes of ore at an average grade of 11.2% zinc, 5.2% lead, and 141 grammes per tonne silver was mined from underground. Waste rock mined totalled 129,451 tonnes. The mined ore grade was in line with predictions, although lower than that of the previous year. Ore recovered from pillars accounted for 60% of the total production as the mine prepares to exhaust its reserves and shut down in 2000.

The mill processed 1.44 million tonnes of ore, a record, at a headgrade of 10.6% zinc. Concentrate production was 229,016 tonnes zinc concentrate at 50.7% zinc, 65,185 tonnes lead concentrate at 57.1% lead, 26,209 tonnes bulk concentrate at 32.6% zinc, 15.3% lead and 10,791 tonnes copper-silver concentrate at 11.6% copper, 4,638 grammes per tonne silver.

The total workforce was 294, comprising 161 employees, 113 contractors and 20 apprentices and casuals.

A \$270,000 Lead Cleaner High Intensity Conditioning (HIC) unit and mechanical blast hole cleaner were commissioned. The HIC has improved lead cleaner circuit performance to give 1–2% overall lead recovery gain. Capital expenditure totalled \$1,096,000. The Hellyer water treatment plant was commissioned and will contribute to further improvement of the quality of water released from the site.

Pasminco Mining, Rosebery

Ore production at the Rosebery Mine totalled

482,936 tonnes from underground, 61,826 tonnes from the upper levels, and 28,267 tonnes from open cuts. Most of the ore (64%) was extracted from J Lens, and all the rest except 4% of the total was from B Lens. Ore reserves stand at 3,430,000 million tonnes.

A 1.4% increase in tonnage was treated, included the Rosebery and Hercules ores, bringing the total to 649,657 tonnes. The ore assayed 9.8% zinc, 2.8% lead, 0.42% copper, 84.5 grammes per tonne silver and 1.39 grammes per tonne gold. Gold production fell to 50% of the previous year with recovery remaining well below expectations coupled with deterioration in head grade. While zinc recovery was maintained, the results for copper improved and that for lead declined. The mill produced and shipped 106,719 tonnes zinc concentrate (52.6% zinc), 19,646 tonnes lead concentrate (62.32% lead, 1,293 grammes per tonne silver), 5,553 tonnes copper concentrate (23.5% copper, 8.0% lead, 2,179 grammes per tonne silver, 65.3 grammes per tonne gold) and 113 kg dore (70% gold, 30% silver).

The mine had 90 staff employees and 230 award employees. Over \$26m was spent on capital developments.

Hercules Resources Pty Ltd

Following the commencement of the redevelopment of the Hercules Mine in August 1996, stable production from the operation was achieved as of November 1997. The ore delivered to Pasminco's Rosebery mill totalled 59,844 tonnes in 1997-98, at 8.8% zinc, 2.0% lead, 0.3% copper, 34.9 grammes per tonne silver and 0.8 grammes per tonne gold. The remaining inferred resource as at March 1998 was 130,064 tonnes.

The mill processed 85% of its capacity with plant recovery consistent at 98%. Gold production increased by 38% to 77,000 ounces gold, with 69,300 ounces shipped. Employment was 73 employees and 103 contractors.

Copper

Copper Mines of Tasmania Pty Ltd

At the Mt Lyell mine, a total of 2,080,838 tonnes of ore at an average grade of 1.28% copper was mined from underground, 95% by sub-level caving. A front caving mining method was introduced during the year in order to extract remnant ore from the caved area above the existing workings. The reserve stood at 27.6 million tonnes.

Mill availability increased to 89.4%, processing all the mined ore. Copper production increased to 24,500 tonnes and gold production remained stable at 14,034 ounces. Employment totalled 229, comprising 82 employees and 147 contractors.

CMT participated in the Riverworks program, which is trialling treatment options for the historic acid drainage that emanates from the lease. CMT treated 9.8% (over 3 times CMT's commitment) of the acid drainage pumped from the Prince Lyell mine by co-treatment with alkali tailings. Revegetation work on the waste rock dump involved direct seeding of locally occurring rainforest species, a first for the west coast. CMT received a highly commended in the Tasmanian Landcare Awards BHP Landcare Research category for work undertaken in the bioremediation of hydrocarbon contaminated soil on the lease.

Gold

Beaconsfield Mine Joint Venture

Stoping was to commence late in 1998 in order to establish an ore stockpile of around 20,000 tonnes by the time of mill commissioning scheduled for mid-1999. Waste rock mined over the past year was 88,641 tonnes. The reserve was 1.44 million tonnes at 16.9 grammes per tonne gold. The joint venture workforce was 43, and contractors are extensively used on the site.

Goldfields (Tasmania) Limited

During its second year of production the Henty mine increased ore production by 40% to 102,000 tonnes at a grade of 23.9 grammes per tonne gold, 13% higher than last year. Production was dominantly from sill drives and flat back stopes, but bench retreat stoping introduced late in the year will provide 60% of the ore in the coming year. The reserve stood at 24,000 tonnes at 17.8 grammes per tonne gold.

The mill processed 85% of its capacity with plant recovery consistent at 98%. Gold production increased by 38% to 77,000 ounces gold, with 69,300 ounces shipped. Employment comprises 73 employees and 103 contractors.

Henty's continuing commitment to environmental management was recognised by the Australian Minerals and Energy Environmental Foundation (AMEEF) with an award in the Environmental Excellence in the Organisation category. Henty was also awarded the Fuji-Xerox Business Award by Landcare Australia.

William's Hill Mining Group

Open cut production at the Linton mine, located in north-east Tasmania, was 300 tonnes assaying 2.0 grammes per tonne gold from the Nos. 1, 2 and 3 Reefs. Some gold was processed locally in Tasmania, and some shipped as loaded carbon to Western Australia for processing. About 900 m³ was stripped as ore, and an equivalent volume as waste. The open cut at Linton requires 2 casual operators and 2 staff.

Paraclete Resources Pty Ltd

Paraclete, together with Stonyfell Mining NL, has spent \$1,100,000 in site works at the King River gold mine near Queenstown. Plant construction has been completed and work on the tailings dam is proceeding.

Iron ore*Australian Bulk Minerals**Tasmanian Operations*

A total of 3,743,000 tonnes of ore was mined from at the Savage River open cut iron ore mine. Waste rock stripped totalled 12,635,000 tonnes. Reserves stood at 78.297 million tonnes.

The production of iron ore pellets totalled 820,841 tonnes at 65.99% iron, and of iron ore concentrate totalled 74,159 tonnes at 67.5% iron. At the Port Latta site, 704,275 tonnes of iron ore pellets and 32,299 tonnes iron ore concentrate was shipped. The total workforce was 385 contractors and 11 direct employees.

The capital expenditure invested in the Savage River–Port Latta redevelopments have totalled \$56m in 1997–98. A feasibility study into pig iron/steel production at Port Latta was started.

Land within the former Savage River township was remediated. This included a weed management program. A Coastcare grant has been won to assist in remediating Port Latta. This project includes cleaning, revegetation, contaminated land assessment, weed control, a botanical survey and other clean up activities including community tree planting days during the year.

Tasmania Mines Limited

The Kara mine produced 55,038 tonnes of magnetite and 950 metric ton units scheelite. Sales consisted of 55,900 tonnes magnetite and 3,979 metric ton units scheelite. Ore reserves stood at 221,000 tonnes of scheelite-bearing ore at 0.51% tungstic oxide (WO₃) and 632,250 tonnes of magnetite ore at over 30% iron.

The average number of employees at the mine was 25. Capital expenditure at the mine totalled \$621,624.

Tin*Renison Limited*

At the Renison mine, 755,775 tonnes were mined at an average grade of 1.75% tin. The Rendeep orebodies contributed 32% to this figure. The ore was mined by silling and benching. Ore reserves stood at 4.57 million tonnes.

Ore processed was 757,459 tonnes at 1.74% tin head grade to produce 16,231 tonnes of concentrate containing 60.8% tin for an average recovery of 75%. Grade and recovery improved as more amenable ore types were accessed. Tin production for the year was the highest on record. Shipments to south-east Asia totalled 16.458 dry metric tonnes concentrate averaging 60.2% tin.

The total workforce was 294 comprising 161 employees, 113 contractors and 20 apprentices and casuals.

Leading edge research with CSIRO into tailing dam hydrology and geochemistry continued with the longer-term objective of ensuring the sustainable protection of receiving waters.

Coal*The Cornwall Coal Mine NL*

Production from the various mines totalled 456,336 tonnes raw coal with an additional 58,000 tonnes of coal being purchased from the Stanhope mine. Washery throughput totalled 535,000 tonnes for the production of 378,809 tonnes of saleable coal.

A total of 85 people were engaged in the operation. Capital Expenditure was \$349,000 during the year mainly in developing the new portal at the Blackwood Colliery and on plant improvements at the Fingal Washery.

The Duncan Colliery remains on care and maintenance.

Merrywood Coal Company Pty Ltd

Total raw coal production for the year was 75,624 tonnes, with washed coal totalling 52,180 tonnes. At the Stanhope Colliery, 953,000 cubic metres of waste were moved to achieve the required production. Eighteen people were employed in the operation.

Non-metallic minerals

Limestone and dolomite

Beams Brothers Pty Ltd

Production for the year from Flowery Gully and Cressy comprised aglime and dolomite fines (76,748 tonnes), metallurgical limestone (30,138 tonnes), other crushed stone (8,909 tonnes) and concrete production stone (2,800 tonnes). At least 10 years worth of reserves are available.

Circular Head Dolomite and Trading Co. Pty Ltd

Production for the year totalled 49,021 tonnes of agricultural dolomite and 9,115 tonnes of dolomite screenings. Employment totalled 12.

David Mitchell Limited (Mole Creek)

The Mole Creek Lime Plant has reported a record year of sales and production with sales for the year comprising 30,710 tonnes of agricultural limestone, 4,182 tonnes crushed limestone, 4,531 tonnes chemical limestone and 41,965 tonnes of other limestone product. A new ground limestone plant was commissioned, and the lime kiln production capacity was increased. There were 35 full-time employees.

Silica flour

Cominex

Sales of silica flour to the company's principal customer in Japan have resumed, following a suspension in 1996–97 as a result of disruption caused by the Kobe earthquake. The mine produced 5,700 tonnes of high purity silica flour and 5,800 tonnes of gravel. Estimated ore reserves were 90,000 tonnes. The workforce strength was eight.

Kaolin

Tonganah Clay Mine

Production of kaolin clay totalled 5,058 tonnes. Sales and production were reduced early in the financial year because of the Burnie Mill no longer requiring product from Tonganah. There were nine full-time employees.

Construction materials

Allan Summers Transport

Production of 545 m³ of concrete aggregate and 3159 m³ of road aggregate was recorded from Margetts Quarry at Wynyard.

ML & P Barwick

The quarry at Clives Hill produced 20,000 tonnes road construction material. Reserves of 800,000 tonnes are present.

Besser Tasmania Pty Ltd

A total of 20,140 tonnes of sand and gravel was produced from the quarry at Calder, and was sold to local users including Besser's Ulverstone production centre for bricks, blocks and paving.

Boral Resources

Production from Boral quarries State-wide amounted to 820,000 tonnes of crushed rock and aggregates. Forty-four people were employed full-time.

Brambles Industrial Services

The total production from Brambles' quarries was 240,000 tonnes of road base, 200,000 tonnes of aggregates and dust for use in concrete and sealing aggregate, and 30,000 tonnes of various rock fills.

Caroline Quarries P/L

Production from the quarry at Railton was 21,543 tonnes of silica sand, 727 tonnes of general sand, and 25 tonnes of concrete sand.

CSR Construction Materials

CSR terminated its lease on the Mornington Quarry in April 1998. Production for the year was 118,000 tonnes of crushed dolerite, mainly for road construction.

Duggans Pty Ltd

A total of 45,262 tonnes of construction materials were produced, including 9,725 tonnes aggregate, 4,229 tonnes subbase, and 18,584 tonnes scalps.

Hobart Blue Metal Industries

Production for the year comprised 223,000 tonnes of crushed rock, 7,000 tonnes of gravel and 21,400 tonnes of sand by 19 employees.

Industrial Sands and Silica Pty Ltd

Production totalled 21,000 tonnes of base gravel and 5,000 tonnes of sand.

Males Sand

Concreting sand, bedding sand and coarse sand were produced from pits at South Arm.

Pioneer Concrete (Tasmania) Pty Ltd

Production of crushed dolerite from the Flagstaff Gully quarry was 200,593 tonnes. This comprised concrete product (79,800 tonnes), road construction material (63,400 tonnes) and other product (57,393 tonnes).

Ceramics

K & D Bricks and Pavers

Production of clay bricks and pavers continued at the New Town plant.

Nubrik

Clay, shale and sand, extracted from a number of quarries, were processed into 29,300 tonnes of bricks and pavers. Product was exported to overseas markets: China, Taiwan, Japan and New Zealand. Raw material reserves are deemed sufficient for at least 15 years. There were 36 full-time employees.

Mineral processing operations

Comalco Aluminium (Bell Bay) Limited

Aluminium production for 1997 was 138,000 tonnes. The business engages 683 employees and 78 full-time contractors.

In September 1977 the smelter successfully commissioned a fume scrubbing system. Dry scrubbing provides the smelter with the world's best environmental practice resulting in 90% reduction in flouride gas emission and negligible flouride particulate emission and is recognised as the most technologically advanced system available to the aluminium industry.

Goliath Portland Cement Company Limited

Production for the 1997–98 year totalled 1,000,000 tonnes of clinker and 1,100,000 tonnes of cement, with over 900,000 tonnes shipped on the *MV Goliath* to NSW and Victoria. Raw material consumption was 1,500,000 tonnes limestone, 70,000 tonnes clay, 22,000 tonnes magnetite, 25,000 tonnes silica, 50,000 tonnes gypsum and 156,000 tonnes coal. Employment totalled 189 people.

Impact Fertilisers Pty Ltd

Production totalled 185,000 tonnes of single superphosphate, including 73,000 tonnes shipped to mainland destinations. Raw material requirements were 114,000 tonnes of imported phosphate rock and 70,000 tonnes of sulphuric acid from the Pasminco Hobart Smelter. Employment totalled 69 people, and an additional 21 people were employed at depots.

Tasmanian Electro Metallurgical Company P/L

Production totalled 95,900 tonnes ferro manganese, 89,400 tonnes silco manganese, 5,600 tonnes fines and 270,900 tonnes sinter. The operation employed 286 people including 11 contractors.

Major development projects included the upgrading and relining of No 3 Furnace, Sinter Plant waste gas 'main' replacement and fan modification and upgrading of the security system. A slag metal separation plant including a jig plant was commissioned to recycle valuable material and provides sized slag for sale.

Two waste water recycling initiatives were carried out: utilisation of contaminated water for furnace off gas scrubbing and storm water recycling were introduced.

A sustainable quantum reduction in dust emissions was achieved through improvements of the electrostatic precipitator at the sinter plant and overcoming problems with pyrophoric dust collection at No 1,2 and 3 Furnaces.

Pasminco Australia Limited, Pasminco Hobart Smelter

From 435,000 tonnes of zinc concentrate that was treated from Broken Hill (169,600 tonnes), Rosebery (111,000 tonnes) and Hellyer (118,600 tonnes), zinc metal and alloy production was 197,000 tonnes. Major by-products produced were sulphuric acid (390,900 tonnes), secondary leach residue (26,700 tonnes), copper sulphate (3,000 tonnes) and cadmium (360 tonnes). Overall zinc sales were 206,000 tonnes. Zinc and alloy production was adversely affected by the introduction of a process change from jarosite to paragoethite production.

Major development projects included Loogana and Inshalla jarosite storage rehabilitation, upgrade of the wharf cranes, foreshore stack replacement, paragoethite drying plant, paragoethite process plant, gypsum production, office automation and contaminated water pond upgrade and extension of the contaminated water pond. A total of 856 people were engaged in the operation.

FURTHER READING

ABS publications

Australian Mining Industry (8414.0)

Australian National Accounts: State Accounts (5220.0)

Mining Industry, Australia, Preliminary (8401.0)

Tasmanian Statistical Indicators (1303.6)

Actual and Expected Private Mineral Exploration, Australia (8412.0)

Other publications

Mineral Resources Tasmania, Annual Review 1997–98

Websites

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

Tasmania Online: <http://www.tas.gov.au>

Acknowledgments

Mineral Resources Tasmania

CHAPTER 17

Marine and coastal fishing

Photo: Department of State Development



Tasmanian commercial fishing of the Southern Rock Lobster has been one of the major contributors to the Tasmanian fishing industry for over a century.

Tasmanian fisheries and marine farming continue to make a very substantial contribution to the social and economic well being of the State. There have been significant developments in both fishing and marine farming in recent years. Management plans have been introduced for the State's major fisheries while marine farming development plans have led to substantial increases in the amount of water available for marine farming.

The Rock Lobster and abalone fisheries continue to be the most valuable commercial fisheries for the State. Recent years have however seen increasing interest directed towards relatively new fisheries such as the live fish fisheries for species like Banded Morwong and Wrasse. Further restrictions on these fisheries have therefore become necessary. The fisheries for Arrow Squid and Calamari present a similar picture of recent rapid development.

Marine farming continues to be based largely on the culture of Atlantic Salmon and Pacific Oysters. The salmon farming industry in particular has shown substantial growth and is forecast to continue that growth in coming years.

The importance of recreational fishing in terms of social and economic benefits to the State has become more widely recognised and recreational fishery issues are now receiving greater management attention. Examples include the introduction of specific recreational fishing areas and greater regulation of the use of recreational fishing gear.

Aboriginal cultural fishing activities have been the subject of continued consultations between Government and the Aboriginal community although few specific management arrangements have been introduced to date.

SEAFOOD EXPORTS, 1997-98

	Tasmania (a)		Australia (a)	
	Quantity tonnes	Value \$'000	Quantity tonnes	Value \$'000
Fish				
Live	n.a.	62	n.a.	16 042
Fresh, chilled or frozen				
Whole	1 564	14 310	14 649	134 094
Fillets	1 786	16 812	3 913	32 321
Other	322	1 677	5 079	51 103
Total fish	3 671	32 861	23 642	233 561
Crustaceans and molluscs				
Canned	1	44	539	8 168
Rock Lobster	665	28 653	12 247	424 175
Prawns	—	—	12 297	232 918
Abalone	1 119	75 808	3 003	191 716
Scallops	16	320	1 346	36 391
Oysters	17	150	42	515
Crabs	38	1 604	2 706	27 261
Other	26	1 841	1 956	33 519
Total crustaceans and molluscs	1 882	108 420	34 136	954 663

(a) State totals include Commonwealth fisheries exports.

Source: ABARE, Australian Fisheries Statistics 1998

There are some complicated jurisdictional distinctions in the management of wild fisheries. The State manages certain fisheries outside the normal 3 nautical mile State waters boundary. Most significantly, the State manages both Rock Lobster and abalone out to the 200 nautical mile limit of the Australian exclusive economic zone, or to the Tasmanian-Victorian border at 39°12'. The Commonwealth manages others, particularly the mobile pelagic species. Still others are to be managed under joint authority arrangements.

According to the 1996 Census there were 1,400 Tasmanians employed in commercial fishing, of whom 684 were employed in aquaculture, and 398 were employed in marine fishing.

This figure of 1,400 compares with 1,121 Tasmanians employed in commercial fishing at the time of the 1991 Census, and 1,028 at the time of the 1986 Census.

Legislative developments

Governments must ensure that fisheries resources are used in an ecologically sustainable manner and as efficiently as possible, while yielding a return to the community.

These objectives were the primary motivation behind the introduction in 1995 of the *Living Marine Resources Management Act 1995* (Tas.) and the *Marine Farming Planning Act 1995* (Tas.). These Acts, which came into effect in May 1996, allow the Government to manage

Tasmanian aquaculture and wild fisheries while balancing the continued environmental sustainability of fisheries against the need to derive economic benefits from them.

Management plans

The *Living Marine Resources Management Act 1995* makes provision for the formulation and introduction of management plans to manage each of the State's wild fisheries. These plans go through a comprehensive process of consultation and advice.

The abalone fishery management plan commenced on 1 January 1998, the Rock Lobster fishery management plan on 1 March 1998, the scalefish fishery management plan on 1 November 1998, and the management plan for the giant crab fishery has been introduced and will commence on 30 September 1999.

Management plans for the scallop, Jack Mackerel and charter boat fisheries are under development and should be completed ready for implementation during the year 2000.

To ensure that plans cannot become outdated, each has a built-in period for review. The first plan to commence for the abalone fishery will undergo this formal review process in the second half of 1999. The major issue being considered for the abalone fishery management plan is the introduction of zones as a more refined management technique.

Marine farming

The *Marine Farming Planning Act 1995* provides for the planned development, management and control of marine farming activities in Tasmania. Sustainable development of the aquaculture industry is to be fostered through the preparation of marine farming development plans, which establish the zones where marine farming is allowed in Tasmania's coastal waters.

The Act requires that an environmental impact assessment be made on each proposed marine farming development plan, and it provides considerable opportunity for community input.

The marine farming development plan outlines the extent and type of marine farming allowed and the management controls which apply within each zone. The zone is then available for lease applications. All marine farm lessees must comply with an environmental monitoring program which is specific to the species farmed.

Leases cover the water column, water surface and sea bed and are for 30 years, with an option to renew for a further 30 years.

By June 1999 plans had been finalised for Huon River and Port Esperance, D'Entrecasteaux Channel, Tasman Peninsula and Norfolk Bay, Macquarie Harbour, Far North West, Pipeclay Lagoon, Georges Bay, Great Oyster Bay and Mercury Passage. Plans for Blackman Bay, Pittwater, and the Furneaux Group were under way, and those for Tamar Estuary and Port Sorell were scheduled for immediate commencement.

Research and development

The Tasmanian Aquaculture and Fisheries Institute (TAFI), established in July 1998, is a joint venture between the State Government and the University of Tasmania. It was established as a centre of excellence in applied marine research to support the development and sustainable management of Tasmania's living marine resources. TAFI is a stand-alone Institute within the University's Faculty of Science and Engineering.

TAFI's research is centred on the key areas of Wild Fisheries, Aquaculture and the Marine Environment and combines the marine research resources of four research centres:

- the School of Aquaculture, at the University's Launceston campus;

- the Fish Health Unit of the Mount Pleasant Animal Laboratories of DPIWE in Launceston;
- the Marine Research Laboratories of DPIWE in Hobart; and
- the School of Zoology, at the University's Hobart campus.

The Joint Venture Agreement between the Crown and the University of Tasmania provides an annual core grant of \$2.437 million from DPIWE to TAFI to conduct marine research and development in the State. University input includes specialist and support staff, a range of specialist facilities, administrative support and funding from central sources and the Faculty of Science and Engineering, as well as access to federal funding initiatives through the Department of Education Training and Youth Affairs (DETYA). Additional external income is sourced from several State and Federal funding bodies and industry partners.

Wild fisheries

Abalone

Two species of abalone are harvested in Tasmania: *Haliotis rubra* (Blacklip Abalone) and *Haliotis laevis* (Greenlip Abalone). Both species are mobile bottom dwellers that graze on drift seaweed and algae on rock surfaces.

Commercial fishing of abalone is carried out by divers using compressed air (usually supplied from the surface by hookah gear). The vast majority of the catch is taken close to shore in depths of less than 20 metres. Records indicate that abalone divers, on average, dive on about 51 days a year. In 1997–98 Tasmanian abalone production was valued at \$81 million.

The abalone fishery has been managed for over 15 years by means of a quota system. The total allowable catch (TAC) was set at 2,520 tonnes in 1997. The TAC remained at this level for 1998 and 1999, a 20% increase over the level of the previous few years. This was the first increase in quota since the introduction of quota management.

The TAC is divided into 3,500 parts, called abalone quota units. Abalone divers need to be authorised by the holder of abalone quota units before they can take the weight of abalone corresponding to the abalone quota unit. There are 125 abalone diving licences, which permit a diver to fish commercially for abalone.

**GROSS VALUE OF MARINE AND COASTAL
FISHERIES PRODUCTION, TASMANIA**

	1996-97 \$m	1997-98 \$m	Change %
Rock lobster	53.3	45.5	-13
Abalone	63.1	81.0	29
Giant Crab	2.0	2.5	25
Other Crustaceans	—	0.08	165
Scalefish	15.1	17.5	16
Shark	4.1	2.3	-44
Octopus	0.1	0.10	—
Squid	0.06	0.110	85
Other	0.01	0.004	-60
Total wild fisheries	138	149	8
Salmonids	58.5	63.6	9
Trout	n.a.	n.a.	n.a.
Oysters	19	10	48
Other	1.2	1.3	10.0
Total aquaculture	79.0	75.0	5

Source: Department of Primary Industries, Water and Environment

While the TAC limits the amount of the legal commercial catch, the legal minimum size limits provide further protection for abalone stocks. The size limits are set to protect a proportion of the reproductively active abalone population, thereby enabling all animals to have the opportunity to reproduce twice before they can be harvested.

Major consumer markets for Tasmanian abalone are Taiwan and Hong Kong, with mainland China preferring the canned product.

Rock lobster

Tasmanian commercial fishing of the Southern Rock Lobster (*Jasus edwardsii*) has been one of the major contributors to the Tasmanian fishing industry for over a century. It is a high value product, like abalone, but is taken by a diverse fleet of vessels, many of which engage in some other fishing activities.

In the 1997–1998 season the commercial sector caught 1,465 tonnes. The average price received in 1997–1998 was \$31.13 per kg, placing the value of production at \$45.6 million. It is estimated that approximately 800 people are directly employed in the fishery, assuming each vessel is manned by a skipper and one or two crew members.

The rock lobster fishery is both a commercial and recreational fishery. Commercial fishers' methods take rock lobster from coastal reefs over a depth range of 2 to 150 metres, using baited pots. Regulations require pots to have escape gaps to allow juvenile rock lobster to

escape. Similar pots are used by many recreational fishers. Recreational fishers also dive for lobster, or use hoop style lift nets (rock lobster rings).

The commercial rock lobster fishing fleet comprised approximately 312 vessels in 1997–1998, ranging in size from 6 to 26 metres in length. Each vessel can fish with a number of rock lobster pots, varying from 15 to 50, depending upon vessel size and quota holding. There is a total of 10,650 pots spread across the fleet.

On 1 March 1998, the Government introduced fishery management plan for the rock lobster fishery based on quota management.

At the end of a three year transition period the system of individually transferable quotas will consist of 10,507 quota units, each representing one 10,507th of the total allowable catch.

The total allowable catch for the first year of quota management, 1 March 1998 to 28 February 1999, was set at 1502.5 tonnes. This figure was chosen, on the basis of scientific advice, as one which would ensure a sustainable fishery.

There are also controls on recreational fishing of rock lobsters that restrict access to one pot per licence holder, and impose a daily bag limit of 5 rock lobster and a possession limit of 10.

Wild finfish

Despite the domination of crustaceans and molluscs in Tasmanian fisheries, the contribution of wild finfish is still substantial. In 1997–98 the landed value of all scalefish and shark was around \$19.91 million. Key target species landed in the fishery include Blue and Spotted Warehou (*Seriotelella brama* and *S. punctata*), Silver Trevally (*Pseudocaranx dentex*), various species of flathead (*Platycephalus spp.*), flounder (mainly *Pleuronectidae*), Jackass Morwong (*Nemadactylus macropterus*), Bastard and Striped Trumpeter (*Latridopsis forsteri* and *Latris lineata*), and Garfish (*Hyporhamphus melanochir*), all destined for the table fish market.

Other important species include Jack Mackerel and shark. Although the dark oily flesh of the Jack Mackerel is not appreciated here, large quantities are converted into fishmeal. Catches have, however, been very variable in the past decade.

Shark, particularly School Shark (*Galeorhinus*

galeus) and Gummy Shark (*Mustelus antarcticus*), are an important part of the catch in State fishing waters, in terms of both volume and value. Among the most widely distributed of all fish species, shark inhabit waters up to 2,000 metres deep, as well as shallow coastal waters, and sometimes venture deep inland into freshwater systems. The commercial catch supplies the table fish market, usually being sold as flake.

In 1997–98 the total catch of shark landed in Tasmania, from both State and Commonwealth waters, was 497 tonnes. Scientific studies have concluded that in Tasmania the current School Shark stock may be as little as only one-seventh of its original size, and that the fishery requires conservative management to avoid biological collapse.

Several protective measures have been put into place to try to reverse the trend. A number of significant bays and inshore waters have been defined for some years as shark nurseries, to protect young sharks and encourage rebuilding of the stock.

Recent developments in markets and fish handling have seen significant increases in effort targeted at species such as Banded Morwong (*Cheilodactylus spectabilis*) and wrasses (of the genus *Notolabris*). These rocky reef species are sold on the premium live fish market.

Implementation of a comprehensive management plan in 1998 now sees specific licences for access to Tasmanian scalefish resources, with corresponding gear limitations.

VALUE OF SELECTED WILD FINFISH CATCHES, TASMANIA, 1997–98

Species	Weight (a) t	Value (b) \$'000	Price \$/kg
Australian Salmon	476	671	1.41
Flathead species	63	127	1.29
Flounder species	30	119	2.40
Garfish	83	416	5.01
Blue Grenadier	1	1	0.73
Ling Species	83	187	1.64
Blue Mackerel	1	2	2.19
Snoek (Barracouta)	65	82	1.25
Trevalla species	115	574	4.19
Trevally species	4	10	2.59
Trumpeter species	116	539	3.28
Tuna species	6	21	2.46
Blue Warehou	172	424	2.46

(a) Catch figures have been adjusted to reflect an equivalent whole weight. (b) The valuation is based on product weight (not necessarily whole weight) multiplied by the beach price.

Source: Department of Primary Industries, Water and Environment

Other controls in the fishery include minimum size limits for key species, mesh size limits, and net length regulations for some gears. Many areas are closed for fishing.

Scallops

The Tasmanian scallop fishery has traditionally been a winter fishery, opening in May/June and closing around November/December. The fishery peaked in 1983–84 when 8,702 tonnes (live weight) were landed at a value of \$8 million. A blow out in fishing effort led to over-exploitation and the fishery closing in September 1987.

Exploratory fishing seasons and surveys were conducted during 1993, 1994 and 1995, to assess stock recovery and the viability of conducting a scallop season.

From June to November during 1996 the fishery was again opened to commercial and recreational scallop licence holders, yielding 52 tonnes at a value of \$495,000. The fishery was not opened during 1997. The 1998 season was opened in September and closed in December, yielding 475 tonnes which was valued at \$5.8 million.

The predominant species of scallop taken by fishers has been the Commercial Scallop (*Pecten fumatus*). The Queen Scallop (*Equichlamys bifrons*) and Doughboy Scallop (*Mimachlamys asperrimus*) have also been taken, but on a minor scale.

Monitoring and enforcement

Within the wild fisheries the abalone, rock lobster, scallop and Jack Mackerel fisheries are managed and monitored through quota management mechanisms and other limits on total catch.

Legislatively entrenched reporting requirements, for the abalone, rock lobster and scallop fisheries, ensure that the major regulatory authorities, the Tasmania Police and DPIWE, have the necessary information to manage the resources in an environmentally sustainable manner.

In the abalone fishery divers must make telephone reports prior to fishing and after fishing. They must also declare their exact weight on landing and various other details on a Commercial Abalone Diver's Docket. The processors are required to complete further details on the Docket.

A similar combination of telephone reporting and paper documentation are used in the rock lobster and scallop fisheries.

In the abalone fishery each quota unit is equivalent in value to 1/3500th of the Total Allowable Catch (TAC) for the year. During 1999 each quota unit is equivalent to 720 kilograms.

In the rock lobster fishery there are two types of quota units. The first type are of equal value to each other. For the second type, value is directly related to the previous catch history for the entitlement.

In the scallop fishery the value of each unit for the 1999 fishery is 975 kilograms. In addition to the total allowable catch other restrictions have also been implemented. The fishery has been divided into three fishing periods and a catch limit of 500 kilograms per unit may be caught in any one period, but the catch limit of 975 kilograms for the season may not be exceeded. Parts of the scallop fishery have also been designated as closed areas and fishers are not permitted to fish in these areas.

Research in wild fisheries

Most major fish stocks around Tasmania are fully exploited and some of the key fisheries may be over-exploited. The future development and security of these resources is dependent on fishing being managed to levels that are sustainable.

Management decisions of this sort are critically dependent on research and assessment. The wider duties of government are embodied in the *Living Marine Resources Management Act 1995*, which explicitly broadens the responsibility of management to cover the whole marine ecosystem.

The goals of the various current research programs on wild fisheries reflect the basic need for methods to monitor stock performance, knowledge of the dynamics of the species and the development and articulation of management advice.

The research programs in the abalone and rock lobster fisheries are regarded as among the best in the world. In both cases sophisticated analysis of information provided by fishers is supplemented by independent surveys, and combined in models that now have years of development behind them.

Aquaculture

The water around Tasmania's coastline is relatively clean and unpolluted and its sheltered inlets provide ideal locations for aquaculture. Coastal marine and estuarine waters provide the basis for most of the marine farming in Tasmania. At June 1999 there were almost 4,300 hectares of water available for marine farming in Tasmanian State waters. The industry is concentrated mainly in the south-east of the State because of the cooler waters, range of sheltered inlets and proximity to infrastructure such as markets, transport services and airports. A relatively new development is that of land-based farming using pumped seawater. Recent technical improvements, particularly in abalone husbandry, should see this increase.

Aquaculture is an increasingly important part of Tasmanian primary industry, and its total value is fast approaching that of the wild fisheries. Marine farming activity is primarily in Atlantic Salmon, Pacific Oysters and Ocean Trout. Other species produced include scallops, seahorses, mussels, native flat oysters and abalone. Research into other species is ongoing, with current focus being on Rock Lobster and Striped Trumpeter.

Environmental programs

Under new legislation, marine farming in Tasmania is required to abide by the principle of ecologically sustainable development.

Separate environmental monitoring programs have been developed for shellfish and for finfish marine farming activities. At a farm level, programs have been tailored to the size and location of the farm, the species to be farmed, and the environmental sensitivity of the area.

Atlantic Salmon

The Atlantic Salmon (*Salmo salar*) industry in Tasmania has developed in the past fifteen years. The industry was established as a result of a joint venture project between the State Government, the Norwegian company Noraqua and a group of private Australian companies.

The first 55 tonnes of salmon was harvested in 1985–86. This production has rapidly grown to an estimated live weight production harvest of the order 10,000 tonnes in 1998–99. Industry farm gate value in 1998–99 was over \$100 million.

Tasmania is the only State in Australia with environmental conditions suitable for sea pen

culturing of Atlantic Salmon. The majority of salmon farms are located in the south-east of the State: D'Entrecasteaux Channel, the Huon River and Tasman Peninsula, but Macquarie Harbour on the State's west coast also has a number of salmon farms.

Most of the fish is sold into the Australian domestic market in a fresh chilled form. The value-added sector of smoked products, caviar and the like is increasing. Approximately 25% of production is sold into Asian export markets (particularly Japan) where it attracts a quality premium over product from other countries

Pacific Oysters

The Pacific Oyster (*Crassostrea gigas*) was introduced to Tasmania after the Second World War, but collection from natural spat settlements was marginal and unreliable. Since the 1980s, farmers have had access to reliable supplies of oyster spat grown in a hatchery environment. With this development the Tasmanian industry rapidly progressed into full commercial production and now leads the country in oyster culture technology.

Annual production of Pacific Oysters in Tasmania is currently over 4 million dozen oyster annually, worth about \$20 million.

Approximately 14% of production is sold in Tasmania; most of the remaining 86% is sold to mainland Australian markets and 4% is sold overseas to markets such as Japan, Singapore, Hong Kong and Thailand.

Scallops

The depletion of the wild fishery, especially in the 1980s, and the marked cyclical changes in scallop abundance, have encouraged the development of a cultured scallop industry.

Through cooperation between local fishermen, Japanese technologists and the Tasmanian Government, a company was set up to develop the culturing techniques for the scallop industry. It is based at Triabunna and has a special lease covering a substantial area of Mercury Passage and Great Oyster Bay. Early attempts at bottom re-seeding were unsuccessful, but the company has survived using hanging culture methods.

Blue Mussels

The Tasmanian Blue Mussel (*Mytilus edulis planulatus*) industry began some dozen years ago with oyster farmers diversifying into hanging

culture of wild-caught spat. It also became practice for some farmers to collect mussels as part of the process of cleaning salmon cages on which spat had settled. The industry is now making a transition towards using hatchery-cultured spat.

Most of the production is sold live/unopened into mainland markets, where it attracts a premium because of large size, high meat content and flavour.

Mussel production is located in the D'Entrecasteaux Channel, Huon River, Port Esperance, Tasman Peninsula and Norfolk Bay.

Abalone

Two commercial abalone hatcheries were established in 1986 and advances in hatchery technology, genetics and artificial feeding have led to the commercial production of significant numbers of abalone seed on a regular basis. There are 3 types of hatchery seed available for on-growing, Greenlip Abalone (*Haliotis laevis*), Blacklip Abalone (*Haliotis rubra*), and the hybrid 'tiger' species.

Development of the industry has been constrained by growing costs with animals fed on their natural diet of seaweed being expensive to produce, and artificial feeds being (until recently) unsuccessful.

Greenback Flounder

Greenback Flounder (*Rhombosolea tapirina*) have been successfully cultured by the Department of Primary Industries, Water & Environment in conjunction with the University of Tasmania's Department of Aquaculture. The work has been published and trialled commercially, with development being so far constrained by investment levels and marketing issues.

There is growing interest in the species, with some interests of the view that a large scale venture with the capacity to supply enough product to gain entry to markets will be successful.

Seahorses

Husbandry of the Big Bellied Seahorse (*Hippocampus abdominalis*) has developed from laboratory to full scale commercial production over the last two years.

The bulk of production is likely to be sold into the Asian traditional medicine market.

Emerging aquaculture possibilities

The development of new species for marine farming requires a considerable investment in specialist expertise and equipment. It also requires a long-term investment in activities for which there are often no direct beneficiaries, so government has always had some role in this area. Current research programs include the following examples.

Rock Lobster

Southern Rock Lobster (*Jasus edwardsii*) is considered to offer potential as an aquaculture species.

TAFI researchers are working on closing the life cycle under a special State Government grant. They have also carried out successful trials at husbanding wild caught juvenile animals. Consideration is presently being given to allowing a limited commercial capture of peurulus (the stage at which the animals are first recruited to the reef habitat) to be husbanded through to saleable size.

Striped Trumpeter

Finfish culturing is recognised as being an important part of the aquaculture industry in the future particularly as the world will experience shortages in the supply of white fish in the near future.

At the Department of Primary Industries, Water & Environment, Striped Trumpeter (*Latris lineata*) have been successfully spawned in an artificial environment, with juveniles being reared to 2 years of age. Technical difficulties with rearing have imposed delays on the research, but it continues to be pursued by university and Tasmanian Aquaculture and Fisheries Institute (TAFI) researchers.

Marine reserves

There are currently 4 marine reserves in Tasmania, and additional reserves are being planned. The existing reserves, declared in 1991, are located at Maria Island (1,500 ha), Governor Island (60 ha), Tinderbox (45 ha) and Ninepin Point (60 ha). They are managed jointly by the Resource Management and Conservation Division and Marine Resources of the Food, Agriculture and Fisheries Division in the Department of Primary Industries, Water and Environment. The reserves operate on the "no-take" principle, with no fishing permitted in the Governor Island, Tinderbox and Ninepin

Point reserves and in the majority of the Maria Island reserve.

Recreational fishing

Recreational fishing is very popular in Tasmania with a high level of community involvement in a range of fishing activities.

The Department of Primary Industries, Water and Environment administers all sea fishing through Marine Resources, with the famous trout fishery under the control of the Inland Fisheries Commission.

The fishers

A 1994 ABS sport and recreation survey found that fishing was second only to walking as the most popular physical recreation activity of Tasmanians. An estimated 30,900 people fished regularly during the twelve months to October 1994, some 80% of these people (24,800) were male. The number of people who fished at least occasionally has been estimated at up to 100,000. Most recreational fishers fished frequently, with 81% fishing at least once a month.

The Department of Primary Industries, Water and Environment estimated in 1983 that over 80% of fishers fished in salt water, though of course many fish in both salt and fresh water. The Inland Fisheries Commission issued 31,176 angling licences for freshwater fishing in 1997–98.

Recreational fishing is also popular among visitors to Tasmania. In 1995–96 most visiting fishers came from Victoria (46%), and 27% came from New South Wales. A majority of overseas fishers were from the United States (40%); other countries of origin included Japan, New Zealand, Canada, the United Kingdom and Germany.

Main activities

Rock lobster

Rock lobster are mainly caught by recreational fishers using rock lobster pots and rings baited with fish, or taken by diving using SCUBA, surface air supply or snorkeling.

In the 1998–99 licensing year to 16 June 1999 7,843 recreational licences were issued for taking rock lobster by pots, 4,276 for diving and 2,026 for using rings. This was the first season a licence was required for using rock lobster rings.

In 1996 the Department of Primary Industries, Water and Environment conducted a comprehensive catch survey. Results of the recreational fishing survey suggested that in 1997 there were an estimated 113,000 rock lobsters taken by licensed recreational fishers, or, 5% of the total catch.

Abalone

Abalone are taken by divers on reef areas around the State, often while diving also for rock lobster. The estimated catch for abalone for 1997 was 100,000 fish, or, less than 5% of the total abalone take.

In the 1998–99 licensing year to 16 June 1999 about 6780 abalone dive licences were issued.

Scallop

Recreational scallop fishing, using both dredges and diving, was once important in Tasmanian inshore waters, but since the collapse of the inshore fishery in the early 1970s, opportunities for recreational fishing in State waters have been limited.

The fishery was closed in 1997 but a season was opened to diving and dredging outside shark nursery areas in 1998 and 1999. Only 160 scallop dredge and 371 scallop dive licences were issued for the 1998–99 licensing year to 16 June 1999.

Scalefish

A wide variety of scalefish species, as well as squid and octopus, are fished by using lines, nets and spears. The most popular species taken are flathead (several species), flounder (taken by spear and light), Australian Salmon, pike, trevally, Warehou, Bastard and Stripey Trumpeter, morwong, bream, cod, cotta and various reef fish. Spearing flounder is a popular recreational method. Stocks of some species, particularly of the reef fish, have come under increasing fishing pressure.

Shark

Recreational fishing for school and gummy shark (with a combined bag limit of 2) is important in some areas, particularly off beaches in north eastern Tasmania and around the Bass Strait islands. Shark fishing is also popular in the North West. Despite controls on the commercial fishery there are still major concerns about the sustainability of School Shark stocks.

Game Fishing

Tasmania is recognised internationally for its game fishing, and several world records are held. Fish are taken by trolling offshore, mainly on the east coast from Flinders Island to the Tasman Peninsula, between January and June.

Southern Bluefin Tuna is the premier game species in the south, particularly around Eaglehawk Neck. Fish average around 18 kg, but fish up to 40 kg are not uncommon. Yellowfin Tuna, which tend to be larger, averaging 31 kg, are more common in the north. Striped Tuna and Albacore Tuna are also frequently caught. Striped Marlin are often encountered and small numbers taken.

Economic impact

The Department of Primary Industries, Water and Environment estimated over 10 years ago that, by applying national averages to Tasmania, the likely value of tackle, clothes and boats owned by Tasmanian salt water fishers was around \$145 million, with an annual expenditure of \$49 million.

Saltwater fishing was also popular among visitors to Tasmania. In 1992 about 16,000 visitors (about 4% of all visitors) fished in salt water and spent \$24 million in Tasmania.

In 1990–91, the Tasmanian fresh water angling industry was worth \$28 million per year. However, fishing was not an expensive recreation for most since, according to a 1994 ABS survey, 47% of fishers spent less than \$100 a year on their interest.

Management of the recreational fishery

Left unmanaged, the increase in fishing effort that results from competition and better gear leads to lower individual catches in the recreational fishing sector. It may also lead to over capitalisation and reduced financial returns in the commercial fishing industry.

The Department of Primary Industries, Water and Environment has developed management plans for both commercial and recreational fisheries. New minimum size limits and netting restrictions have been introduced, plus other measures, with the aim of establishing sustainable fishing in Tasmania.

FURTHER READING

ABS publications

Participation in Sporting and Physical Recreational Activities, 1993–94 (4175.6)

Unpublished Census data, 1996

Other publications

Australian Bureau of Agricultural and Resource Economics, *Australian Fisheries Statistics, 1997–98*

Department of Primary Industries, Water and Environment, *Annual Report 1997–98*

Websites

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

Tasmania Online: <http://www.tas.gov.au>

Acknowledgments

Marine Resources Division, Department of Primary Industries, Water and Environment

CHAPTER 18

Forestry



Photo: Forestry Tasmania

Leprana mill and loading wharf, north of Catamaran in the south east of Tasmania, pictured in the early 1900s. The mill operated from 1884 until 1939.

Although timber gathering has occurred in Tasmania since the beginnings of European settlement, it was not until the 1914–18 war that there was a general recognition of the importance of forest resources.

Before 1920 a small forestry unit within the Lands Department looked after forests on Crown land. Local constables acted as Crown land bailiffs, issuing licences and collecting royalties, the latter introduced in 1898, with any revenue generated going straight into the Government reserves.

The Secretary of Lands Mr E. A. Counsel (1894–1924), in many of his annual reports, called attention to the need for afforestation and for better control of forest exploitation. In January 1908 a board was formed to advise the minister in matters of constructive forestry. This board established a small, tree nursery in the Hobart Botanical Gardens and a small

experimental plantation on Hobart Corporation land at Ridgeway.

In 1910 the nursery and plantation part of the Land Department's forestry responsibility was handed over to the Department of Agriculture and transferred to its farm at Deloraine in 1911. Due to the small return generated by the nursery, the department in 1917 decided to reduce the scale of work pending the adoption of a re-afforestation policy and by 1919 distanced itself from forestry activities.

The Conservator of Forests, in charge of the management and control of the timber reserves and lands, including lands reserved for public recreation, had been created under the *State Forest Act 1885*. In December 1919 the State Government appointed Mr Llewellyn Irby as Conservator, initially an officer in the Lands Department.

This changed in December 1920 with the State Government passing the Forestry Act and the creation of a separate Forestry Department in January 1921 with the Conservator as its head. One-half of all revenue raised was directed to fund the activities of the forest service, but over time it was recognised that this was inadequate and the level was raised to three-quarters in 1930 and to a hundred per cent in 1935.

The department's first experimental pine plantations began in 1922 with small-scale plantings of radiata pine in areas including Beaconsfield, Sheffield, Sisters Hills, Strahan and Strathblane. Another plantation was established on King Island. These early plantations often failed.

During the 1920s and 1930s many farmers walked off the land, unable to make a living during the Depression. In 1935, it was recognised that softwood plantations in Tasmania had a role to supply local requirements and to provide employment. Conservator Sam Steane (1930–45) initiated the purchase of these derelict farmlands in 1937 to provide fertile sites suitable for pines, and by 1939 guidelines for land purchase were developed.

In an effort to attract investment in the forests and new timber processing to Tasmania, the State Government offered to private companies the exclusive use of large areas of State forest; known as concessions. The first in 1926 was the granting of 250,000 hectares in the Burnie area, under the *Wood Pulp and Paper Industry Encouragement Act 1926*, to what eventually became known as Australian Pulp and Paper Mills Ltd (APPM). In July 1932 another concession of some 80,000 hectares was granted to the Derwent Valley Timber Company, later Australian Newsprint Mills (ANM). During the same period other pulp mills were established at Burnie in 1938 and at Boyer in 1941.

During this period the department also set up the first of its nurseries at Strahan, providing employment for returned servicemen. The Perth Forest Nursery was acquired in 1936. In 1935–36 the *Bush Fires Act* made the Forest Department responsible for the control of fires on Crown land.

A Royal Commission on Forestry Administration in 1946 inquired into alleged irregularities in the department. This Royal Commission and a Parliamentary Select Committee led to the amendment of the Forestry Act with the establishment of a Forestry Commission in 1947.

Two Forestry Department officers were fired with criminal proceedings instituted against them, as well as a former Minister for Forests and five sawmillers.

Alec Crane was appointed the first Chief Commissioner for Forests in 1947, replacing the office of Conservator. Together with industry and Minister for Forests (the Hon. W. P. Taylor), Crane set about regulating forest management, improving forest access and refining the local control of harvesting operations.

After World War II, a major focus was in new industry investment, reflected in the *Forest Act 1954*, which provided for an integrated sawmilling and pulpwood industry in the Geeveston District. As a result of the legislation, the 1959 APM Concession in the Southern Forests was granted with the establishment in 1962 of a new pulp mill at Port Huon. Other concessions granted to encourage the development of the State's pulpwood resource included the 1961 APPM Wesley Vale Concession (with the Wesley Vale paper mill opened in 1971) and the Tasmanian Pulp and Forest Holdings Concession of 1968.

Following the creation of the Forestry Commission, by 1948 some 22,000 hectares of derelict farmland had been purchased and Crane announced the commission's target to establish 25,000 acres of softwood plantation in the north of the State over the next 12 years. In 1962 a pine plantation establishment program commenced at Fingal, to provide employment to former miners following the closure of the local coalmines.

In 1967, Crane reported to the Grants Commission that the Commonwealth and State Governments had adopted a target to establish an additional two million acres of softwood plantation in Australia over 40 years to meet estimated timber requirements after the year 2000. The plan was to replace imports and offset hardwood restrictions. Tasmania was allotted 200,000 acres to be established at an annual rate of about 4,400 acres. In fact, Tasmania planted 21,929 acres under the first five-year agreement incorporated in the *Softwood Forestry Act 1966*.

The Rural Fires Board was set up under new legislation in 1950. The aftermath of the devastating 1967 bushfires resulted in sweeping changes in legislation and new responsibilities for rural fire control on all lands given to a separate fire authority.

In the early 1970s, woodchipping operations opened up new possibilities for utilising more of the forest harvest potential and regenerating more forest to full production. Production of woodchips grew steadily, reaching 3,042,600 tonnes in 1973–74 and remained at the 3,000,000 level until 1979–80 when output reached 3,673,000 tonnes.

In 1981–82, production continued to climb to 3,650,700 tonnes in 1984–85 and reached the highest on record of 4,260,500 tonnes in 1988–89. During the 1990s production has been more fluctuating with 4,440,100 tonnes produced in 1997–98.

In 1977, the State Government passed private forestry legislation, which established a Private Forestry Board, incentives for private tree growing and technical assistance to tree growers. From 1977 until June 1994, private forestry in Tasmania had administrative links with the Commission. This changed with the *Private Forests Act 1994* (Tas.), with responsibility for private forestry passing to Private Forests Tasmania.

In the early 1980s, the environmental movement became a political strength federally and in the late 1980s at the State level, with the 1989 Labor–Green Accord. During this period by using its diverse powers, the Commonwealth Government instituted a number of inquiries or reviews into forestry in Tasmania.

The political landscape was also reflected with the Commonwealth Government passing the *Australian Heritage Commission Act* and the *World Heritage Properties Conservation Act* in 1983. Both of these Commonwealth Acts had significant policy implications for forest land management in the States. A Memorandum of Understanding (MOU) was agreed between the Commonwealth Government and the Tasmanian Government in June 1986 regarding the extension of Woodchip Export Licences.

As significant areas of forest had been taken out of the State forest estate and made National Parks, concern mounted at the loss of certainty these decisions created for investment in the timber industry.

The Forestry Commission worked at State and Commonwealth levels to develop agreed processes and policies to provide a foundation for longer term sustainable forestry, resulting in the 1989 Salamanca Agreement.

Forest Practices Act 1985

The increased emphasis on improved environmental performance was reflected in the *Forest Practices Act 1985* (Tas.), the first such legislation of its kind in Australia.

This legislation, along with the Forest Practices Code, governs forestry operations on public and private land and provides for trained Forest Practices Officers to strictly enforce forest environmental standards. The main emphasis of the legislation is, however, on education and training.

The Forest Practices Code (FPC) provides a set of standards to protect special values during forest operations such as logging and road construction. The Code is regularly revised as a result of operational experience and research findings and is managed by a separate body, the Forest Practices Board. Under the Forest Practices Act, Timber Harvesting Plans (THPs) must be drawn up for commercial forest harvesting operations before they are allowed to proceed.

Forests and Forest Industry Strategy

In 1990, the Forests and Forest Industry Council (FFIC) was formed. The council, which includes representatives of all forestry interests, is a forum in which strategies for sustainable timber and other forest resources could be reviewed. The Council formulated the Forests and Forest Industry Strategy (FFIS), which commits the parties involved to the following principles.

- Setting eucalypt veneer and sawlog harvests from State multiple-use forest at sustainable levels, reviewed every five years.
- Forest land areas should be set aside for long-term multiple-use forestry.
- Forest areas to be set aside on scientific grounds for conservation purposes.
- The setting aside of ‘deferred forests’—public land identified as having potentially high conservation and timber values, to be excluded from timber harvesting or reservation, pending further evaluation.
- An intensive forest management program including thinning native forest, establishing plantations and the more efficient use of forest land and timber resources, including the transition from principally oldgrowth forests to regrowth and plantations resources.

The Commonwealth Government’s Resource Assessment Commission (RAC) Inquiry into the

Forest and Timber Industries in 1992 found that the forest management agencies have in place sustained yield strategies for wood production.

Forestry Tasmania was created in 1994 following the initial commercialisation of the Forestry Commission in the 1990s. The new corporation was established with an independent board with a responsibility to improve commercial outcomes while delivering multiple-use management of State forests.

Regional Forest Agreement, 1997

Following the 1994 National Forest Policy, the Tasmanian Regional Forest Agreement was signed between the Commonwealth Government and the Tasmanian Government in November 1997. In association with this agreement, in January 1999 the two governments signed the joint Statement on Sustainable Forest Management. The first of its kind in Australia, the statement provides assurance to domestic and international customers that the wood has been harvested in Tasmania in a manner where environmental values are well protected, both in reserves and through appropriate sustainable forest management practices in wood production forests.

The Tasmanian RFA covers the whole State, including all public and private forests. Key components of the RFA include:

- the establishment of a comprehensive, adequate and representative (CAR) reserve system that meets nationally agreed criteria;
- improved certainty of access to production forests for the wood-based industries with resource maintained at least at current levels;
- a program of intensive forest management on State forests to increase the supply of wood and boost employment in the industry; and
- improvements to the systems for the ecological sustainable management of Tasmania's forests.

The RFA funding package for Tasmania is \$110m. Of this, Forestry Tasmania has the responsibility of applying \$67m to Intensive Forest Management (IFM), implementing State Government policy in relation to forest resource expansion.

Forestry Growth Plan

Following the RFA, the Tasmanian Government announced a Forestry Growth Plan in November 1998. The plan involves a partnership between

the State Government, Forestry Tasmania and industry partners. The plan includes new road infrastructure, the investigation of partnership opportunities between Forestry Tasmania and private tree growers and sawmillers, the introduction of merchandising flitch mills and the investigation into the feasibility of new port facilities to improve export opportunities.

In June 1999 after a three-year program supported by successive State governments, Forestry Tasmania entered into a joint venture arrangement with international fund manager GMO RR, to develop State-owned softwood plantations to world scale. This joint venture involves a 50% sale of the northern softwood plantation resource for \$48.8 million and accelerated investment in plantation expansion.

Forested land

As at 30 June 1998, Tasmania had 3,218,000 hectares of forested land and a further 72,000 hectares of softwood plantation and 62,000 hectares of hardwood plantation. This represented approximately 49% of the State's total land area. Approximately 30% (1,026,000 hectares) of Tasmania's forested land is privately owned. Of the 2,327,000 hectares of public land that is forested, 55.7% is State Forest and 29.7% is Forest Reserve or State and Crown Reserve including protected areas.

The forests are often classified according to:

- Oldgrowth forest was used in Tasmania in the past to describe mature and overmature forests aged more than 110 years (and up to 400 years or so). However, the term is now used more rigorously throughout Australia to mean ecologically mature forest where the effects of disturbance are now negligible. Approximately 1.2 million hectares of oldgrowth forest, which is 39% of all native forest, has been mapped in Tasmania. The National Forest Reserve Criterion for reservation of oldgrowth forest is 60% of each forest community. About 68% of oldgrowth forest in Tasmania is within the reserve system with 35 of the 42 oldgrowth communities on public land. Oldgrowth forest outside the reserve system is mostly on State forest and some of this is still available for harvesting because of the high value its products yield, particularly for the veneer and sawmilling industry. Approximately 9% of oldgrowth forest is on private land.

SUMMARY OF FOREST TYPE BY LAND CLASSIFICATION, TASMANIA

Forest type	State Forest	Forest Reserves	State and Crown Reserve	Unallocated Crown	Other Crown	Private land	Total area
Tall native eucalypt forest (a)	552	20	129	40	5	164	910
Low native eucalypt forest (b)	430	29	271	108	22	728	1 588
Subtemperate (myrtle) rainforest (c)	183	21	188	148	1	26	567
Other native forest (d)	67	4	29	15	1	38	154
Softwood plantation	50	—	—	—	—	22	72
Hardwood plantation	14	—	—	—	—	48	62
Non-forest (e)	222	10	1 057	420	104	1 643	3 456
Total	1 517	84	1 674	731	132	2 669	6 808

(a) Eucalypt forest with current or potential height of 34 m or more. (b) Eucalypt forest with current or potential height of less than 34 m. (c) With no significant eucalypt or acacia. (d) Including acacias and melaleucas. (e) Including scrub, moorland, farmland, rock and lakes.

Source: Forestry Tasmania, Annual Report 1997–98

- Regrowth forest is native eucalypt forest regenerating after wildfire or other disturbances where there is no deliberate site preparation or sowing of seed. It may contain scattered individuals or stands of ecologically mature trees.

Plantations and reforestation

Although Tasmania's native forests produce some very valuable softwood timber, these are very slow growing and in short supply. They include King Billy Pine, Huon Pine and Celery Top Pine. Although they are of high commercial value, most of these stands are now permanently reserved from timber harvesting and attention has been given to building up plantations of exotic species, particularly *Pinus radiata*.

Hardwood plantations in Tasmania consist particularly of eucalypts or blackwood. The most valuable eucalypts for commercial use are those that belong to the 'ash' group; Stringybark (*Eucalyptus obliqua*), Gum Top Stringybark or Alpine Ash (*E. delegatensis*) and Swamp Gum or Mountain Ash (*E. regnans*).

All native forest that is harvested on public land is regenerated either to plantation or back to native forest.

Forestry Tasmania owns and operates the Forest Nursery in Perth, in the north of the State and the Tasmanian Seed Centre. The Perth Nursery propagates plants and grows more than 7 million trees each year for reforestation and farm planting. The species produced include *Pinus radiata*, *Eucalyptus globulus*, *Eucalyptus nitens* and *Acacia melanoxydon*. The trees are grown for both Forestry Tasmania's districts and private customers.

At 30 June 1998, in Tasmania there were 134,000 hectares of plantations located on private and State lands. An increase in the area of plantations, especially eucalypt plantations has been a feature of recent years. While the majority of softwood plantations are grown on State lands (50,000 hectares or 69% of all softwood plantations), the majority of hardwood plantations are grown on privately owned land (48,000 hectares or 77% of all hardwood plantations).

Publicly-owned forests

Forestry Tasmania manages 1.6 million hectares of forests for wood production, recreation, conservation and other values. About 39% of Tasmania's forest is in the World Heritage Area, National Parks or other reserves which are unavailable for timber harvesting. As part of the RFA, an assessment of wilderness quality in Tasmania was carried out using the National Wilderness Inventory procedures. A total of 1.944 million hectares of high-quality wilderness area was defined in the RFA.

The Department of Primary Industries, Water and Environment is responsible for management of all National Parks, reserves except forest reserves and Crown lands, approximately one-third of the State's land mass.

Forestry Tasmania administers the State forests through five districts. Forest Management Plans have been completed for 2 districts while the remaining 3 are being updated to reflect the RFA outcomes and are expected to be completed by February 2000.

Private Forestry

Approximately 16% of private forested land in the State is owned by the large industrial companies, with the balance owned by individual private owners. North Forest Products is the largest private forest manager in the State. Fletcher Challenge is the largest private softwood estate manager. Non-industrial tree farmers constitute the remainder of the forest estate with many of these growers forming market co-operatives to sell their timber.

Tasmania is unique among the Australian States in the extent that private forests contribute to the State's forest sector, with 14.7% of all sawlogs and 52.6% of pulplogs coming from private property.

Farm forestry

Many farming industries face declining productivity of cleared land. Incorporating different forms of commercial tree growing into farming systems can help reverse declining productivity and land degradation.

In Tasmania in 1996–97 there were 985,100 trees planted on agricultural land, an increase of approximately 26% on the 781,100 trees planted in 1995–96.

Over 5,000 hectares of private forested land are dedicated as private conservation areas. Over 285,000 hectares are declared as Private Timber Reserves giving the landowners some additional security regarding harvesting rights.

AGRICULTURAL LAND, TREE PLANTING, TASMANIA (a) ('000)

Statistical Division	1996	1997
Greater Hobart	4.3	28.6
Southern	68.6	384.1
Northern	369.6	382.3
Mersey Lyell	338.7	190.1
Total	781.1	985.1

(a) At 31 March.

Source: ABS catalogue no. 7113.0

Private Forests Tasmania (PFT)

Private Forests Tasmania (PFT) is a Tasmanian Government funded authority established under the *Private Forests Act 1994* to specifically promote and assist the private forest sector to sustainably manage native forests and encourage the expansion of plantations. The authority also has a commitment to foster the use and value of trees in land management.

As part of its responsibilities, PFT carries out a regular review of the commercial private forest resource. The most recent review shows that up to 250,000 cubic metres of hardwood sawlog will be available annually over the next decade. Hardwood pulpwood availability will continue at about 3 million tonnes annually, with an increasing proportion sourced from plantations. A number of forestry companies, investment companies and landowners are establishing new hardwood and softwood plantations on private land at a rate of more than 7,000 hectares annually.

FOREST AREA ON PRIVATE LAND, TASMANIA

	Area '000 ha	Proportion %
Commercial native forest	773	29
Plantations	75	3
Other (includes pasture)	1 840	68
Total	2 688	100

Source: *Private Forests Tasmania and Regional Forest Agreement documents 1997*

Forestry production

Both multiple-use-forest land on State forests and private lands are available for wood production. The average annual volume of wood harvested from public and private forests over the past 5 years is 4.5 million cubic metres.

Log usage

For total log usage (later changed to log delivery), a peak of 5,071,200 m³ was reached in 1988–89. In 1997–98, 4,878,300 m³ of logs were delivered for sawmilling and woodchipping. From 1988, log deliveries were classified separately as coming from Crown or private land. In that year, 58% came from Crown land and 42% from private land. In 1997–98 log deliveries from private land were 46% of the total.

LOG USAGE AND PRODUCTION, TASMANIA (green weight)

	Total log usage '000 m ³	Woodchips produced '000 t	Sawn timber '000 m ³
1990–91	4 281.2	3 559.1	297.3
1991–92	3 978.7	3 356.0	297.1
1992–93	4 233.7	3 565.8	324.1
1993–94	4 349.2	3 726.1	348.0
1994–95	5 037.6	4 343.1	360.1
1995–96	4 470.9	3 820.1	349.3
1996–97	4 079.3	3 609.3	328.5
1997–98	4 878.3	4 440.1	344.2

Source: ABS catalogue no. 1303.6

Sawn timber

In 1997–98 production was 344,200m³. The quantity of suitable log resource available for sawmilling has been a regulating factor affecting production levels.

Woodchipping

Usage of off-cuts (mill waste) to produce woodchips reached a high of 457,900 m³ in 1995–96 and 1997–98. In 1997–98, some 3,998,100 m³ of whole logs were chipped.

Total production of woodchips in 1997–98 reached a new record level of 4,440,100 m³.

Conservation, protection and recreation

Threats

A number of natural and man-made agents threaten forest, including wildfire, disease, insect and animal pests, weeds, roads and introduced animals. These are all subject to ongoing research and monitoring.

Fire management

Forestry Tasmania, Tasmania Fire Service and DPIWE Parks and Wildlife Service are the three government agencies with responsibility for fire management on public land in Tasmania. In 1994, the three agencies developed an Inter-Agency Fire Management Protocol, designed to ensure that vegetation fire management including fire suppression operations would be based on co-operation and mutual support. 1997–98 was the worst fire season since the droughts and wildfires of 1991–92. Forestry Tasmania spent just over \$3m on the suppression of 135 wildfires. A total of 31,085 hectares was burnt by wildfire.

Research and development

In Tasmania there are several key research organisations. The Cooperative Research Centre for Sustainable Production Forestry is located in Hobart. This is a collaborative venture between major Australian forestry companies, The Commonwealth, State Governments and universities. The centre conducts research and training for those in the business of growing trees. Efforts are focused on three main areas: genetic improvement, sustainable management and resource protection. The CSIRO has a research centre in Tasmania. Forestry Tasmania has a large forest research division and North Eucalypt Technologies is recognised as a leading

eucalypt research centre. The Forests and Forest Industry Council and the Forest and Wood Products Research Development Council also play a significant role in research.

The Warra Long Term Ecological Research (LTER) site is situated in the Southern Forests of Tasmania. It is a sister site to dozens of LTER sites across the world and provides an experimental research base to underpin forest management for conservation and sustainable wood production. The Warra project is a major long-term investment by a number of Tasmanian and national research agencies including Forestry Tasmania, DPIWE, and the Cooperative Research Centre for Sustainable Production Forestry. Warra offers research opportunities in the earth sciences, hydrology, forest productivity, silviculture, biodiversity and ecology from the local scale to landscape level.

National Estate

Approximately 1.030 million hectares (31%) of Tasmania's forests are part of land included on the Register of the National Estate by the Australian Heritage Commission in recognition of their natural and cultural heritage values.

Community information and consultation

Legislation requires both the Parks and Wildlife Service and Forestry Tasmania to seek public input into management plans prepared for Crown lands under their control. These two organisations are committed to providing educational information about forests and forestry to the general public.

Parks and Wildlife co-ordinates the Commonwealth-funded Bushcare program overseeing 5 Bushcare extension officers around the State. In addition, the Landcare program has been active in fostering community interest in tree planting, forest protection, bushland management and other forest-related activities.

Recreation

Tasmanians have a strong tradition of using forests for recreational purposes. However, there is a growing interest in the forests by interstate and overseas tourists, who are largely responsible for the growth in visitor numbers to forest attractions. Tasmania's forests attract about 400,000 visitors each year.

Water quality

Timber Harvesting Plans under the Forest Practices Act identify water catchments and specify measures to protect water quality.

The Tasmanian Native Forest Industry

~ Don Frankcombe, Frankcombe Forestry Services Pty Ltd ~

From the early days of first European settlement in 1803 a succession of products have been produced from Tasmanian forests. Initially these included shingles, split posts, rails, palings and pit sawn lumber. In the latter half of the past century water and steam powered sawmilling became established and in the current century sawmilling technology has become increasingly sophisticated. The pulp and paper industry which developed in the late 1930s has experienced turbulent times. Finally, the controversial wood chip export industry commenced in 1972.

This article examines the history of each of the main products derived from Tasmanian grown hardwoods.

Split products

Before the advent of steam powered sawmills in the 1850s split or hewn timber was the predominant form of forest product. In fact this form of timber exceeded sawn timber production for the first 70 years of the colony.

Production of shingles, posts and barrels required very little capital or organisation. Trees were felled and converted to the final dimension on the spot. As fire consciousness grew the use of shingles for roofs was progressively phased out. Split posts and palings continued to be produced well into the second half of the twentieth century. The production of barrels from blackwood and eucalypt was a significant industry which continued into the present century.

Hewn beams and piles

The local shipbuilding industry developed after 1825 creating a market for long squared beams for keels, masts and hulls. Blue Gum was favoured for these uses. The local wooden shipbuilding industry peaked between 1850 and 1870 and then quickly declined as road and rail replaced the need for coastal shipping.

Late in the century a growing market developed for heavy beams and piles for wharves particularly from South Africa and England. This market rapidly declined after WW1 when it was found that Tasmanian eucalypts were inferior in durability and resistance to marine borers to Western Australian Jarrah and NSW Turpentine.

Railway sleepers

The construction of railways created an enormous demand overseas and in other States for Tasmanian sleepers between 1900 and 1914. When it was found that Tasmanian untreated hardwood sleepers had an average service life of only seven years, repeat orders did not eventuate.

Sawmilling

The first sawn hardwood was produced manually by pit-sawing. This method was still being employed as late as 1870.

The first water powered sawmill was built at the Cascades (South Hobart) in 1825. The number of mills increased from two in 1850 to 22 in 1855. By 1885 the number of mills had risen to 62. The prolonged depression of the 1890s forced the closure of all but 37 mills.

The State Government in 1898 embarked on a policy of granting long term forest leases. In response to this initiative two large sawmills were built in the southern forests at Dover. However, both mills were over-capitalised, lost money and were closed in 1925.

Following the development of a steaming treatment of partially dried timber known as reconditioning and further developments in seasoning and machining, the use of Tasmanian hardwoods in house construction expanded progressively from 1935.

Apple boxes

The advent of refrigerated shipping early this century resulted in a large expansion of apple

and pear orcharding and a concomitant proliferation of small case mills in southern Tasmania. However, by the late 1950s cardboard cartons replaced wooden boxes for the export of all fruit.

Weather Boards

Weather boards were used as exterior cladding for cottages from early settlement. Initially these were rough sawn and unpainted but by the 1890s most weather boards were machined and painted. In the 1970s the use of weather boards was rapidly phased out in favour of brick.

Flooring

Until the 1930s hardwood flooring was not popular due to the propensity of Tasmanian hardwoods to collapse. CSIRO research led to a reconditioning process involving the steaming of the partly dried timber in a chamber for about eight hours, followed by further kiln drying. This process stabilised the timber. Since the 1960s wooden flooring has largely been replaced by concrete and particle board.

Framing

Hardwood scantling has been used as the common house frame since first settlement and survived the change to brick exteriors in the 1970s. However, it is now under pressure from cheaper pine and steel.

There is a continuing market for Tasmanian hardwood for roof construction in areas subject to cyclones in northern Australia.

Mouldings

Mouldings include such internal fittings as architraves and skirtings. Prior to the 1930s these were commonly made from either imported spruce and pine or from Kauri and Red Cedar. Subsequently, Tasmanian hardwoods became more popular, until the recent decline in the use of mouldings.

Packaging

Packaging provides a very large, albeit low value, market for timber in the form of pallets, crates and bolsters. In recent years

the industry has been subject to strong competition from lighter pine products and reusable plastic.

Plywood and veneer

Thin rotary plywood was manufactured at Somerset from hardwoods for a number of years in the 1940s but succumbed to competition from Taiwan in the 1950s. Sliced fancy veneer production commenced in Tasmania in the 1950s at Somerset and currently three plants produce veneer from eucalypts, minor species and *P. radiata*. Veneer leaf is traded internationally and markets tend to be strongly influenced by fashion and local tradition. For example, the market for Tasmanian eucalypt veneer is predominantly Australian.

Reconstituted fibre boards

Fibre boards include hardboard, softboard, particleboard, oriented strand board (OSB) and medium density fibre board (MDF). Of these, hardboard was produced at Burnie from 1951 to 1968 but succumbed to competition. A small particleboard plant at Wesley Vale initially used a mixture of hardwood and pine. The mill now uses pine chips and supplies the needs of a furniture manufacturer. The modern MDF factory at Bell Bay commenced production in 1998 using a mixture of softwood and hardwood.

Pulp and paper

Scientific research coupled with entrepreneurial determination gave rise to the development of the Tasmanian eucalypt based pulp and paper industry.

Associated Pulp and Paper Mills (APPM) (now Australian Paper) commenced production of fine writing papers at Burnie in 1938.

The mill progressively increased its productive capacity from an initial 22,800 tonnes to 110,000 tonnes per year and employed the soda-anthroquinone chemical pulping process using eucalypt. By 1998 the pulp mill had become uneconomic and was closed in favour of imported pulp.

APPM—Wesley Vale

In 1970 APPM built a small semi-chemical and paper mill at Wesley Vale. The pulp is produced from hardwood chips which are impregnated with a solution of caustic soda. The mill produces magazine and directory type papers from a mixture of eucalypt and imported kraft pulp.

Australian Newsprint Mills (ANM) (now owned by Fletcher Challenge Paper)

ANM commenced production at Boyer in 1941 and was the first mill in the world to make newsprint predominantly from hardwood.

With the addition of later and progressively larger paper machines in 1955 and 1966 and finally the upgrading of the two later machines and the closure of No.1 machine, the output of the mill has been increased to an annual production of 270,000 tonnes of newsprint and related mechanical grades.

However, the use of hardwood pulp has declined from being 70% of the paper furnish to as little as 15%. Locally grown pine and recycled paper now constitute the bulk of the furnish.

Tasmanian Board Mills (TBM)

In 1949 Tasmanian Board Mills built a small neutral sulphite pulp and paper mill at its Killafaddy site near Launceston. However, competition from Australian Paper Mills soon caused the demise of the mill.

Australian Paper Manufacturers (APM)

In 1962 APM commenced production of unbleached neutral sulphite pulp at Kermadie near Geeveston. The mill finally closed in 1991 when the customer for the pulp switched to the use of recycled paper and no other market could be found.

The woodchip export industry

Exports of hardwood chips to Japan commenced in 1972. The average level of hardwood chip exports from Tasmania over the past five years has been approximately 3 million tonnes.

Japanese customers are demanding a progressive improvement in chip quality. This is being met by giving closer attention to the quality of oldgrowth logs going to the mills and a progressive increase in the proportion of regrowth and plantation grown eucalypt.

Hardwood forestry's future

Tasmania's main eucalypt species together with the introduced plantation species, *Eucalyptus nitens*, have attributes which are acclaimed for many uses.

Engineered products

The timber (particularly oldgrowth) is eminently suitable for the manufacture of laminated beams and columns. These are safer than steel in a fire situation, because they do not suddenly collapse.

Furniture and fit outs

There is a growing market for Tasmanian select hardwood, in the manufacture of furniture and the fit outs of office and commercial buildings. This often involves the local manufacture of components or cut-to-length blanks, laminated bench tops and parquetry floor squares.

Sliced Veneer

The market for Tasmanian hardwood veneers has been relatively stable in recent years. There is a gradual acceptance of back cut veneer from regrowth as opposed to the traditional quarter cut veneer from oldgrowth eucalypt.

Rotary Veneer

An increasing regrowth and plantation resource creates an opportunity for the manufacture of rotary veneer which is used in the manufacture of plywood and Laminated Veneer Lumber (LVL). Rotary veneer, which is cut from 0.9 mm to 3.0 mm, is used in the construction industry and for long beams, stair ways etc.

Pulp and Paper

Eucalyptus globulus is valued for high pulp recovery, low chemical use and consistent

quality which makes the pulp ideal for the manufacture of a wide range of paper products including writing and copy papers, high quality magazine and soft sanitary uses.

In common with most commodities, the markets for forest products continually

change. Tasmanian native hardwoods are highly regarded for their inherent strength and beauty and in particular for the unique quality of their fibre in the manufacture of fine papers.

FURTHER READING

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Acknowledgments

Don Frankcombe, Frankcombe Forestry Services Pty Ltd

Cooperative Research Centre for Sustainable Production Forestry

Forestry Tasmania

Private Forests Tasmania

CHAPTER 19

Manufacturing and energy



Photo: Ash Bester & Co.

Tungatinah power station and bridge

The Hydro-Electric Corporation today is responsible for 27 hydro, one thermal and 2 diesel power stations as well as the King Island wind farm.

Turnover of manufacturing establishments in Tasmania decreased, in current price terms, by \$75m to \$4,745m in 1996–97. This represented a 1.5% decrease, in current price terms, from the \$4,819m in turnover recorded for 1995–96. This is the first annual decrease in current price terms since 1991–92.

Six of the nine manufacturing industry subdivisions recorded a decrease in turnover between 1995–96 and 1996–97. The largest decreases, in both percentage and dollar terms, over this time were in Petroleum, coal, chemical and associated product manufacturing (down 21.1%, \$215m to \$169m) and Textile, clothing, footwear and leather manufacturing (down 11.0%, \$223m to \$198m).

The largest percentage increase was recorded in Printing, publishing and recorded media (up 8.1%). Food, beverage and tobacco manufacturing and Wood and paper products

manufacturing remain the largest contributors to total Tasmanian manufacturing turnover.

Manufacturing activity in Tasmania in 1996–97 was primarily shared between the three largest statistical divisions. Greater Hobart accounted for 36.2% of Tasmania's manufacturing turnover, while the Northern Statistical Division and Mersey Lyell Statistical Division each accounted for 30.1% of the State manufacturing turnover.

The percentage contribution by Tasmania to total Australian manufacturing turnover in 1996–97 was 2.3%. Tasmania's contribution to Australian manufacturing turnover has remained constant at this level throughout the 1990s.

Of the establishments operating at the 30 June 1997, large establishments employing 100 or more people contributed 65.3% of total turnover, paid 67.5% of wages and salaries and provided 57.2% of the total employment.

WAGES AND TURNOVER PER EMPLOYEE FOR MANUFACTURING

Year	Wages and salaries \$'000	Turnover (a)(b) \$'000
1991-92	30.4	165.1
1992-93	30.1	176.7
1993-94	29.6	188.4
1994-95	30.2	196.4
1995-96	(c) 31.0	213.9
1996-97	34.5	219.8

(a) Value data are current prices and therefore do not discount the impact of price changes. (b) Turnover divided by the number of persons employed at the end of June. Include working proprietors. (c) For 1995-96, excludes provision expenses for employee entitlement.

Source: ABS catalogue no. 8221.6

EMPLOYMENT IN MANUFACTURING

Year	Persons employed at 30 June '000 (a)
1991-92	23.8
1992-93	22.6
1993-94	21.8
1994-95	22.4
1995-96	22.5
1996-97	21.6

(a) Includes working proprietor.

Source: ABS catalogue no. 8221.6

Employment

Manufacturing employment continued to decline from the 1970s into the 1990s. In the early 1970s manufacturing employed over 31,000 people, but by 1991 that figure had dropped to around 25,100, a decrease of around 19%. This decline continued until 1994-95 when a slight increase was recorded. Employment in the manufacturing industry stood at 21,600 at 30 June 1997.

The main industry subdivisions in employment terms in Tasmania in 1996-97 were Food,

beverages and tobacco and Wood and paper products, which employed 5,700 and 3,900 people respectively. These 2 industries accounted for over 44% of Tasmania's manufacturing workforce. Employment in the Wood and paper products subdivision has declined steadily over recent years, from 5,100 in 1991-92 to its present level.

Manufacturing activity

Three industry subdivisions dominate manufacturing in Tasmania; all are based mainly on the processing of Tasmanian natural resources. The first is the Food, beverages and tobacco subdivision, which had a turnover of \$1,359m in 1996-97, when it accounted for 28.6% of the total turnover by the Tasmanian manufacturing industry, and employed 5,700 persons.

The second subdivision is the Wood and paper product subdivision, which had a turnover of \$1,140m or 24.0% of the State total. Manufacturing activity based on Tasmania's forestry resources is of great importance to the manufacturing sector and the State economy. At 30 June 1997, Wood and paper products employed 3,900 people or 18.1% of all manufacturing employment in Tasmania.

The third most important subdivision in terms of manufacturing in Tasmania is the Metal product subdivision. This subdivision had a turnover of \$1,011m in 1996-97 and accounted for 21.3% of the State's total. There were 3,400 persons employed in this subdivision.

These 3 industries combined accounted for \$472.4m in wages and salaries, or 63.5% of total salaries paid, and 60.2% of total people employed in manufacturing industries. They also

MANUFACTURING ACTIVITY BY INDUSTRY SUBDIVISION, TASMANIA, 1996-97 (a)

ANZSIC subdivision	Employment '000	Turnover \$m
Food, beverages and tobacco	5.7	1 358.6
Textiles, clothing, footwear and leather	1.5	198.4
Wood and paper products	3.9	1 140.3
Printing, publishing and recorded media	1.6	180.7
Petroleum, coal, chemical and associated products	0.8	169.5
Non-metallic mineral products	0.8	246.0
Metal products	3.4	1 010.9
Machinery and equipment	3.1	378.0
Other manufacturing	0.8	62.5
Total Manufacturing	21.6	4 744.8

(a) Excludes establishments employing fewer than four persons.

Source: ABS catalogue no. 8221.6

accounted for around 74.0% of Tasmanian manufacturing industry turnover.

By comparison the same industry subdivisions at the Australian level accounted for 39.7% of employment, 40.4% of wages and salaries, and 45.3% of turnover.

Major manufacturers

The companies that follow have been selected as representative of the various sectors within manufacturing in Tasmania during 1998–99, and are not necessarily the largest or those with the most employees.

Food and beverages

Cadbury Schweppes Australia Ltd (Claremont)

The Claremont site was established in 1921 by 3 well-known confectioners, Cadbury, Fry and Pascall. The site was chosen for its clean air, moderate temperatures and for its access to a rich supply of high-quality fresh milk. From these early days the Claremont site produced Pascall lines, and later on the world-famous Dairy Milk Chocolate.

The plant is the largest cocoa and confectionery factory in Australia, employing over 800 people. During 1998–99 Cadbury will use about 65 million litres of fresh Tasmanian milk, which is processed at Cadbury's Burnie factory.

Tours of the factory, which began in 1930, were established to offer the general public the opportunity to view the manufacturing process of Dairy Milk Chocolate. The popularity of the tours grows annually with over 84,500 visitors during 1998. Cadbury Tours won the 1997 Tasmanian Tourism Award in the category of Major Tourist Attraction.

Cascade Brewery Company Pty Ltd (Hobart)

Established in 1824, Tasmania's Cascade Brewery is the oldest continuously operating brewery in Australia, producing fine beers, ales and stouts. In the adjacent Cascade Beverages plant, soft drinks, fruit juices and ciders are produced. CUB's partnership with Cascade began in 1992 as a joint venture arrangement, with CUB acquiring the joint venture in 1994. Cascade employs more than 130 people and production capacity in the brewery stands at 45 million litres per year.

J. Boag & Son Brewing Ltd (Launceston)

Established by James Boag and his son in 1881, J. Boag & Son is considered to be one of

FOOD, BEVERAGE AND TOBACCO MANUFACTURING (a)

	Employment at 30 June (b) '000	Wages and salaries (c)(d) \$m	Turnover (d) \$m
1991–92	6.1	154.0	1 179.2
1992–93	6.0	148.0	1 226.8
1993–94	6.1	166.4	1 348.4
1994–95	5.7	162.1	1 303.6
1995–96	5.7	(e) 159.9	1 361.1
1996–97	5.7	176.2	1 358.6

(a) Comprises ANZSIC subdivision 21. (b) Includes working proprietors. (c) Excludes the drawings of working proprietors. (d) Value data are at current prices and, therefore, do not discount the impact of price changes. (e) Excludes provision expenses for employee entitlements.

Source: ABS catalogue no. 8221.6

Australia's premium breweries. The company takes care to source premium Tasmanian hops and malt, which are batch brewed to produce traditional-style lagers and bitters. James Boag's Premium Lager has won national and international awards and has been voted Australia's best premium beer. The brewery has a flexible and versatile packaging line, which produces kegs, a range of bottle sizes including products in premium-style packaging, and a full range of aluminium can sizes. J. Boag & Son also owns and manages the TGI Friday's and Wolfgang Puck restaurant franchises throughout Australia.

Bonlac Foods Limited (Wynyard, Spreyton and Legerwood)

Bonlac merged with United Milk Tasmania (UMT) in January 1999 to create one of Australia's largest supplier-owned and controlled dairy enterprises. In Tasmania, Bonlac Foods process over 360 million litres of milk annually supplied by more than 400 farmers across the north of the State.

Bonlac's three manufacturing plants (Wynyard, Spreyton and Legerwood) produce approximately 20,000 tonnes of cheddar cheeses and 10,000 tonnes of butter annually, as well as 20,000 tonnes of milk powder, including whey protein and lactose powder. Every year Bonlac in Tasmania exports dairy products valued at approximately \$120 million to 30 countries. Bonlac's Food's group-wide sales revenue for 1998–99 was \$1.157 billion. Total export sales exceeded \$600 million.

Bonlac Foods is an official supporting sponsor and exclusive supplier of dairy foods to the Sydney 2000 Olympic Games. Bonlac's leading Tasmanian brands are Duck River and Table Cape. Table Cape has won numerous national

and international awards for its cheddar cheeses and is recognised as the leading cheese processor in Australia.

Lactos Tasmania

After commencing operations in Tasmania in 1955, Lactos was acquired by the French company, Bongrain, in 1981. Bongrain opened a soft-ripened cheese factory in Burnie in 1985. In 1992, extensions to these operations were completed, bringing soft-ripened cheese production to 1,000 tonnes per annum. A further upgrade was completed in 1997.

A renewed focus on marketing and product development by management has led Lactos away from hard cheese markets to high-quality, speciality soft products. Lactos now has 50% of the Australian soft cheese market. Export markets have been developed in Japan, Malaysia, Indonesia, the United States, New Zealand, Noumea, French Tahiti, South Korea, Taiwan, and South Africa. The company has expanded its line of 12 speciality cheeses with the introduction of a new washed rind cheese and Blue cheese, marketed under the Cradle Mountain brand name. Other brands are Tasmanian Heritage, Mersey Valley and Aussie Gold.

Simplot Australia Pty Ltd

Simplot Australia is Tasmania's largest processor of frozen vegetables. The company, employs over 800 people and spends over \$70 million on 275,000 tonnes of locally produced vegetables.

The Ulverstone factory, the largest potato processing factory in Australia, was re-built in 1992–93. Using the latest technology, this facility supplies most of the french fries used by McDonalds and KFC in Australia. The Ulverstone factory also produces hash browns and dehydrated potato granules. Export sales, made to a number of Asian countries, are expected to increase significantly in the short term.

The company's plant at Scottsdale processes potatoes, producing chips and gems mainly for the retail market. About one-third the size of the Ulverstone plant, this plant also exports to Japan.

The Devonport factory produces a range of frozen vegetables for local and export markets. In recent years the factory converted from part cannery, part frozen products to producing only frozen products. Its major products include peas, beans, carrots, and cauliflower.

Tassal Limited

Tassal Limited, a public company listed on the Australian Stock Exchange, is the largest fully integrated Atlantic Salmon producer in the southern hemisphere. The company is one of Tasmania's largest private employers. The annual turnover for 1998–99 was \$66.7m.

Tassal processes over 5,000 tonnes annually, much of which is distributed to meet the growing demand for salmon in the Australian domestic market. The major export market is Japan.

Blue Ribbon Meat Products

Blue Ribbon's business origins date from 1957, a year after Josef Chromy opened a small butcher shop at Burnie on Tasmania's North West Coast. The business expanded significantly and in 1993 the company was converted to a public company and listed on the Australian Stock Exchange. It has a workforce of nearly 500 people.

The company currently operates as one of the most diversified meat processing businesses in Australia, with domestic and export meat processing, by-products and smallgoods production facility. Blue Ribbon's export facility at Smithton ships high-quality meat to North America, Japan, Malaysia, the Philippines, Taiwan, and Korea where Tasmania's products attract a premium price.

Aquatas Pty Ltd

Since Aquatas first started operating in 1987, it has grown considerably to become the second largest Atlantic Salmon farming operation in Tasmania. Sales for the financial year ended June 1999 totalled \$17.6 million.

About 40% of sales are exported to more than a dozen overseas markets, mainly in Asia. Over the 1999–2000 financial year, in excess of 2,025 tonnes of Atlantic Salmon will be harvested.

Seven farm sites, which comprise the main farming operations, are situated in the northern end of the D'Entrecasteaux Channel, south of Hobart.

Over the next 5 years, Aquatas is planning to more than double its production with cumulative sales over the period of \$112 million. To support this growth, capital expenditure will be in the vicinity of \$15 million.

Aquatas currently employs 111 people and about 15 contractors. In addition, during the peak

MANUFACTURING, 1996–97

ANZSIC subdivision	Tasmania		Australia	
	Employment at 30 June '000	Wages and salaries \$m	Employment at 30 June '000	Wages and salaries \$m
Food, beverages and tobacco	5.7	176.2	164.0	5 610.2
Textiles, clothing, footwear and leather	1.5	44.0	77.0	2 012.6
Wood and paper products	3.9	152.5	61.5	2 019.9
Printing, publishing and recorded media	1.6	54.8	96.7	3 335.3
Petroleum, coal, chemical and associated products	0.8	26.8	93.4	3 805.7
Non-metallic mineral products	0.8	31.3	37.1	1 373.2
Metal products	3.4	143.7	150.2	5 567.8
Machinery and equipment	3.1	99.0	207.5	7 497.0
Other manufacturing	0.8	15.9	57.9	1 412.1
Total manufacturing	21.6	744.3	945.3	32 634.0

Source: ABS catalogue nos. 8221.0 and 8221.6

season, from August to April, employment numbers increase to about 140 (plus contractors).

Australian Hop Marketers

Tasmania's hop industry dates back to the 1800s. Over five generations of the Shoobridge family have contributed greatly to the hop industry in Tasmania, starting out in Providence Valley near Hobart in 1822. In 1976, Australian Hop Marketers (AHM) was formed by Henry Jones IXL and the majority of Australian hop growers, to market the hops grown in Tasmania and Victoria. In 1999, AHM is the major grower, processor and marketer of hops in Australia.

AHM manufactures and sells a variety of hop products including hop pellets and hop extracts to the brewing industry world-wide.

Textiles, clothing and footwear

Sheridan Australia (Glenorchy)

The Hobart site was first established as Silk & Textile Printers in 1947 by Mr Claudio Alcorso. From 1947 through to 1970 a spinning, weaving, dyeing, printing and finishing textile operation was developed and eventually sold to Dunlop Australia Limited and re-named Universal Textiles Australia Limited.

Until 1978 the plant operated in the area of fashion textiles. Between 1976 and 1978, Pacific Dunlop established the business as Sheridan Textiles Limited, concentrating on the marketing and sales of the Sheridan brand bed-sheeting products.

In 1986 Sheridan Textiles was purchased by the Brenmoss Corporation and was subsequently renamed Textile Industries Australia Limited. In 1996 the bed linen business was purchased by C.S. Brooks Canada Inc. and the name changed

to Sheridan Australia. The company employs 105 people in Hobart and Sheridan bed linen is sold locally and overseas.

Blundstone Pty Ltd (Moonah)

Founded in 1870 in Hobart, Blundstone moved to its present location in Moonah in 1980. The company manufactures industrial, safety, rural and urban workboots and bushwalking boots, many of which are waterproof. Boots are sold mainly interstate and overseas, including North America, Europe and the Pacific Rim. Two associated companies manufacture gumboots and leather respectively. The company has won a design award for safety footwear and an export award for excellence in expansion of export sales. It is the largest manufacturer of work/leisure boots in Australia.

Australian Weaving Mills

Australian Weaving Mills (AWM) is the largest weaving mill producing towels in Australia. While the operation is geared to the plain-dyed towel market, the mill also has a jacquard business for beach towels and special designs.

AWM has been appointed as the only approved supplier of the Olympic towel products for the Sydney 2000 Olympic Games. To enable the Olympic contract to reach full potential, the facility at Devonport has been upgraded with new automated machinery.

A new distribution centre has been established on site, with the installation of the most modern warehouse technology, enabling world-standard, efficient and cost-effective service to customers.

Tascot Templeton Carpets

Tascot Templeton Carpets, the only carpet manufacturer in Tasmania, operates in the top end of the Australian carpet market. Established

in 1961, the company has built up a reputation as a leading manufacturer of high quality Axminster, Wilton and Fusion-Bonded carpets and carpet tiles.

The major portion of Tascot's business stems from the commercial sector, including hotels, clubs, restaurants, offices, theatres, and entertainment centres. In addition to servicing the Australian market, Tascot also exports carpets to New Zealand, South East Asia, the United States of America and Canada. The company recently manufactured and supervised the laying of carpet for several overseas cinema projects in South America, South East Asia and China as well as Changi Airport in Singapore.

The company's major Australian carpet projects have been Parliament House in Canberra, the Sofitel Hotel in Melbourne, the Burswood Casino Hotel and Convention Centre in Perth and the Darling Harbour Convention Centre in Sydney.

Tascot employs over 220 people at its East Devonport plant, with a further 25 sales and design personnel employed in other States. Over the past 2–3 years, the company has installed two new state-of-the-art electronic jacquard Axminster looms from the UK and is supplementing these with a new spool gripper loom in the near future. This will provide Tascot with an Axminster capability as good as any other company in the world.

Wood, wood products and paper products

Australian Paper Tasmania

These 2 mills at Burnie and Wesley Vale are part of the Fine Papers Group of Australian Paper, which is wholly owned by Amcor Ltd. They produce a major share of Australia's fine printing

and writing papers, magazine papers and coated papers. The Burnie paper plant commenced paper production in 1938 and has an annual capacity of 120,000 tonnes. It produces office and printing papers including Reflex and Glopaque. The Wesley Vale site is an integrated pulp and paper complex, which opened in 1970. Annually this plant produces around 70,000 tonnes of uncoated paper, film coated offset catalogue paper and printing papers, as well coating approximately 45,000 tonnes of paper for the Burnie Mill to produce high-quality book, magazine and label papers.

Fletcher Challenge Paper

Fletcher Challenge Paper's Boyer mill commenced operations in 1941 and now produces around 280,000 tonnes of newsprint and related grades annually. The Boyer mill is wholly owned by Fletcher Challenge Paper, who also own and operate a newsprint mill at Albury in New South Wales with an annual capacity of around 210,000 tonnes. Fletcher Challenge Paper is the only manufacturer of newsprint in Australia and the 2 mills supply 60% of Australia's requirement. Over \$300m has been spent at Boyer during recent years to upgrade equipment and improve environmental controls.

Non-metallic mineral products

Australian Cement Holdings Pty Ltd

Australian Cement Holdings Pty Ltd is a joint venture company owned by CSR Ltd and Pioneer International Ltd. Goliath Portland Cement Company Ltd, acquired by Australian Cement Holdings in 1989, has been manufacturing cement in Tasmania since 1928, and with a name change in 1999 to Australian Cement Holdings, Railton, the name Goliath still applies to the cement produced.

Subsidiaries of Australian Cement Holdings Pty Ltd are The Cornwall Coal Company N L and Besser Tasmania Pty Ltd.

The Railton plant has a cement production capacity of 1,250,000 tonnes per annum with cement being sold in Tasmania, Victoria, and New South Wales. The 15,000-tonne, bulk-cement carrier, *MV Goliath*, ships bulk cement from Devonport to Melbourne, Sydney, and Newcastle.

A new mine site has been completed and commissioned to the north of the plant, with about \$20m having been spent on development, including the installation of a 1,000-tonne-per-

WOOD AND PAPER PRODUCT MANUFACTURING (a)

	Employment at 30 June (b) '000	Wages and salaries (c)(d) \$m	Turnover (d) \$m
1991–92	5.1	208.9	978.3
1992–93	4.5	174.2	961.8
1993–94	3.6	113.1	892.2
1994–95	4.1	143.4	1 114.0
1995–96	4.0	146.3	1 126.1
1996–97	3.9	152.5	1 140.3

(a) Comprises ANZSIC subdivision 23. (b) Includes working proprietors. (c) Excludes the drawings of working proprietors. (d) Value data are at current prices and, therefore, do not discount the impact of price changes.

Source: ABS catalogue no. 8221.6

hour limestone crusher and trunk-conveying system to the cement plant, making the cement plant at Railton one of the most efficient of its size in the world.

Basic metal products

Comalco Aluminium (Bell Bay) Limited (George Town)

Australia's first aluminium smelter commenced production in 1955 as a joint venture between the Commonwealth Government and the Tasmanian Government. The smelter was acquired by Comalco in 1960, after which production capacity grew from 12,000 tonnes per annum to more than 138,000 tonnes in 1998. The forecast for 1999 is 150,000 tonnes.

Comalco's Bell Bay aluminium smelter produces primary aluminium in a range of alloys, tailored to suit customer requirements. Approximately two-thirds of the metal produced at Bell Bay is exported, particularly to markets throughout South East Asia. Of the metal supplied to domestic markets, about 20% has value added before it too is exported.

The plant is the largest industrial user of electricity in Tasmania. It has recently secured a new power agreement with the State Government which makes available 256 megawatts of electricity; about the same amount of electricity required to meet the needs of the entire City of Hobart.

In 1996 the smelter was presented with a number of awards including the Australian Minerals and Energy Environmental Foundation Award for Excellence, in recognition of its wetlands system, designed primarily as a filter system for run-off water from the smelter site before entering the nearby Tamar River environs.

Pasminco Hobart Smelter

Established in 1916, the Risdon plant is the largest zinc smelter in Australia and one of the world's six largest electrolytic zinc producers. It is part of the global Pasminco lead-zinc mining and smelting group. An extensive range of zinc and zinc alloys is exported throughout the Asian region, in addition to supplying a large proportion of Australia's requirements.

In 1999, a record production of 214,000 tonnes of zinc and zinc alloys was achieved, following successful implementation of the Paragoethite process, which replaced the sea disposal of jarosite. By-products produced included 388,000

tonnes of sulphuric acid, 300 tonnes of cadmium and 3,500 tonnes of copper sulphate. Zinc concentrate treated totalled 435,000 tonnes, of which 254,000 tonnes were from Tasmanian sources. The permanent work force was 625, with substantial additional contract employment, and extensive indirect flow-on employment in the local community.

Significant environmental improvements in recent years were underlined by the winning of a Tasmanian Government Award for Environmental Excellence.

Fabricated metal products

ACL Bearing Company (Launceston)

A division of Automotive Components Limited, ACL Bearing company was established in Launceston in 1949. It was then known as Repco Bearing Company and in 1986 the name was changed to ACL Bearing Company after a management buy out from Repco. The company has four plants located in Launceston and another plant, trading as Shorlube Industries is located in Melbourne.

ACL Bearing Company employs 470 people in its five factories manufacturing automotive engine bearings, bushes and thrust washers, powder metallurgy components for automotive and industrial applications, non-ferrous metal powders and bearing strip material.

ACL Bearing Company is a major component supplier to the Australian automotive industry supplying Ford, Holden, Toyota and Mitsubishi. In addition, the company manufactures a comprehensive range of automotive replacement engine bearings for Australian, US, Japanese, European and UK motor vehicles. In addition to being sold through national distributors in Australia, they are also exported to over 25 countries.

Transport equipment

Incat Tasmania Pty Ltd

Incat is a private company that is the culmination of 27 years of direct business activity in the ferry and tour boat industry. The Incat group conducts most of its extensive shipbuilding activity from a modern facility (over 32,000 square metres is under cover) at Prince of Wales Bay in Hobart.

The 1998–99 turnover of the company was approximately \$280m. Incat has a workforce of

approximately 950 employees and 300 subcontractors.

In 1990 *Hoverspeed Great Britain* was successful in challenging for the Hales Trophy, the Blue Riband of the Atlantic for the fastest passenger ship. Incat has maintained with pride that tradition of excellence, with Incat vessels *Catalonia* and *Cat-Link V* each claiming the Hales Trophy in June and July of 1998 respectively.

All Incat-built ships since 1990 have been exported, with the exception of *HMAS Jervis Bay* (Incat 045), chartered to the Royal Australian Navy in June 1999.

On a global scale, Incat has built around 40% of the high-speed vehicle passenger ferry fleet over 70 metres in length, which are currently in operation. These ferries revolutionised transport links around the United Kingdom. Incat-built ships now operate in North and South America, Asia, New Zealand, Australia, the Mediterranean, Northern Europe and the United Kingdom.

In 1998 Incat produced the first 96-metre fast ferry capable of carrying a full highway mix of vehicles. In 1999 Incat produced three more 96-metre fast ferries with this cargo capacity and by the end of the year a total of five will have been built.

Development work is continuing on 120-metre passenger and vehicle or freight vessels that will have a deadweight capacity of over 1,200 tonnes. Fitted with turbines, the vessel will be capable of operating at 50 knots when fully loaded, and up to 58 knots when loaded only with passengers and cars. Lightship speeds will be around 65 knots.

The Hobart shipyard has been expanded and is now capable of producing up to five ships per year. Incat is currently building a new dry dock, scheduled to be completed in approximately 2001, which will enable them to also build two 120-metre vessels a year.

Machinery and equipment

ERICO Lightning Technologies Pty Ltd

ERICO Lightning Technologies has developed a number of patented technologies to protect people, buildings, and sensitive electronic equipment from direct lightning strikes and the dangerous transient overvoltages that follow a strike.

There is no single technology that can prevent lightning but from over 60 years of research, product development and field application of technologies, ERICO has developed a comprehensive facility electrical protection six point plan and product range.

The plan includes risk-benefit advice through to computer assisted design for lightning protection, and provision of products and services to international standards compliance. ERICO is the world's largest supplier of UL standard compliant grounding equipment. ERICO has also won Australian and international product awards for innovative surge protection technologies.

This plan has been applied to a wide range of industries including telecommunications, hospitals, oil and gas, industrial process control facilities, mining sites, recreational stadiums, schools and universities, power generation facilities, government and defence facilities and commercial properties.

ERICO has its own offices in 24 countries and employs approximately 1,650 people internationally.

Caterpillar Elphinstone Pty Ltd

Caterpillar Elphinstone Pty Ltd (CEPL) is a leading Tasmanian and Australian manufacturer and world-wide supplier of underground mining equipment. After commencing in 1975, the company experienced continued growth through the establishment of reliable and long-term customer relations.

The company is a joint venture with Caterpillar Inc. Elphinstone products are sold and supported through Caterpillar dealers world-wide.

CEPL employs about 350 people, making it a major employer on the North West Coast of Tasmania.

Miscellaneous

Vincent Industries

In 1976 the Society of St Vincent de Paul opened a Sheltered Workshop (Supported Employment Facility) based on the rag trade.

Today a variety of vocational activities employing almost 100 people. The activities include rag sorting and preparation, recycling of metals, plastic bottles and glass, security shredding, and word processing.

Energy

Tasmania's energy needs, have in the past, been provided primarily by the Hydro-Electric Corporation (HEC), a government business enterprise (GBE), operating in a commercial energy market. However on 1 July 1998, the HEC was disaggregated into three separate entities, each with a discrete area of responsibility. The three entities operate as the Hydro-Electric Corporation (HEC), Transend Networks Pty Ltd and Aurora Energy Pty Ltd. This disaggregation was brought about after endorsement of the National Competition Policy from the Council of Australian Governments in April 1995. This policy applies competition to sectors of the economy that have traditionally operated as monopolies. This is achieved by providing financial assistance to governments that undertake to reform monopoly industries under their control.

The HEC has a specialised focus on power generation, asset and water management and consultancy services. The HEC is responsible for 27 hydro, one thermal and two diesel power stations as well as the King Island wind farm. The HEC total generating capacity is 2,262 MW and it produces approximately 60% of energy from renewable sources in Australia.

The HEC has around \$3 billion in assets, an income exceeding \$300m per annum and around 600 employees. With over 50 large dams, the HEC is the largest dam owner in Australia.

Transend Networks Pty Ltd is responsible for the upgrade and maintenance of the State's electricity transmission system, linking the power generators to the local distribution network. The company's primary purpose is the transmission of electricity, not the distribution of electricity to end use customers. Transend, a State owned entity, owns and operates Tasmania's electricity

transmission system, comprising some 3,500 km of overhead transmission lines and 42 sub stations around the State. The company is investing millions of dollars to improve the reliability of Tasmania's transmission system and reduce the risk of interruptions to power supply. This is particularly important given the age of the State's transmission system.

Transend's capital expenditure program is estimated at \$500m over the next decade. This expenditure will be used to replace assets that have reached the end of their service lives, improve reliability by providing a more robust network and increase capacity to meet growth in demand for electricity.

Aurora Energy Pty Ltd is responsible for the distribution and retail selling of electricity to homes and businesses around Tasmania. The company has three operating divisions covering such aspects of operations as sales, marketing, contract management and ensuring the performance and reliability of the network.

Aurora employs approximately 840 people providing a range of services from meter reading and account issuing to emergency repairs and electrical advice. In the field, Aurora crews maintain some 16,000 km of high-voltage lines and 9,500 km of low-voltage lines through out the State. Aurora has nearly 207,000 domestic and 39,000 business customers.

Total electricity sales reached \$504m in 1997-98, \$10m up on the previous year. After tax profit in 1997-98 was \$35.4m, up from \$32m in 1996-97 and \$23m in 1995-96.

The increase in customer numbers and the signing of new business contracts, such as that for Comalco, have highlighted the need for the development of a new power source for Tasmania as the State approaches the long run

HEC, TASMANIA, STATISTICAL SUMMARY

	Output (a)		
	Installed generating capacity MW	Units generated GWh	Total consumption million kWh
1992-93	2 435	8 849	8 183.2
1993-94	2 494	8 865	8 233.5
1994-95	2 502	8 679	8 044.5
1995-96	2 502	9 096	8 453.6
1996-97	2 502	9 596	8 909.4
1997-98	2 502	9 675	8 984.5

(a) Excludes King and Flinders islands.

Source: Hydro-Electric Corporation

HEC, TASMANIA, CUSTOMERS AND SALES		
	1996-97	1997-98
Installation numbers		
Domestic	202 556	206 926
Public Utilities	—	—
Industrial	6 334	4 571
Commercial	20 291	18 209
Miscellaneous	166	—
Government	n.a.	1 414
Rural	12 398	12 223
Education	865	1 136
Health	890	997
Major Industrial	22	22
Total	243 522	245 498
Sales (million kWh)		
Residential Light and Power	853.4	868.8
Industrial	692.2	745.3
Hot Water and Space Heating	741.6	772.2
Off Peak	253.5	245.8
Commercial (including bulk)	790.1	874.2
Unbilled Electricity	18.8	-87.4
HEC Internal Use	8.3	9.2
Major Industrial	5 551.5	5 556.4
Total	8 909.3	8 984.5

Source: Hydro-Electric Corporation

capability of its hydro-electricity-based system. While miniature hydro-electricity schemes and the upgrading of older developments are likely for the future, it is generally accepted that major hydro-electric developments are no longer viable

for Tasmania, either economically or environmentally.

In April 1997, the Tasmanian Government released its Directions Statement for the State, including its approach to meeting Tasmania's future energy needs. The Government is pursuing the construction of a cable across Bass Strait, known as Basslink. This decision has been supported by the HEC which sees Basslink as imperative in managing supply and demand issues.

The benefits of the Basslink project include:

- securing Tasmania a new competitively priced supply of electricity;
- linking Tasmanian electricity prices to National Electricity Market (NEM) prices;
- reducing the impact of low rainfall on Tasmania's electricity supply;
- expected lower peak power prices for customers in other NEM jurisdictions; and
- export of Tasmania's clean, green energy into coal-dominated mainland markets.

The strategic direction for the HEC in the future is to continue to prepare for the increasing levels of competition in the energy market and to seek opportunities to expand the business and to further develop its renewable energy potential.

FURTHER READING

ABS publications

Manufacturing Industry, Australia (8221.0)

Manufacturing Industry, Tasmania (8221.6)

Electricity, Gas, Water and Sewerage Operations, Australia (8226.0)

Other publications

Hydro-Electric Corporation, *Annual Report 1998*

Transend Pty Ltd, *Annual Report 1998*

Aurora Pty Ltd, *Annual Report 1998*

Websites

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

Tasmania Online: <http://www.tas.gov.au>

Acknowledgments

Department of State Development

Hydro-Electric Corporation

CHAPTER 20

Housing and construction



Photo: Hobart City Council

After the Tasman Bridge, pictured under construction, was opened in 1964, the old floating bridge, opened in 1943, was towed out to sea and sunk.

The housing and construction industry impacts on the lives of all Australians. This industry provides the homes in which we live, the places in which most of us work and play, our schools and hospitals, and infrastructure such as roads, bridges, electricity supply and telecommunications.

The housing and construction industry is usually the first sector to show signs of recovery after an economic downturn. The amount of building activity undertaken is affected by economic circumstances, and the reduction in interest rates on housing and commercial loans appears to increase activity. Building activity is significant to the whole economy, most notably the manufacturing, wholesale and retail trade and finance sectors. Parts of the professional services industry, such as the architectural and engineering professions, are also closely linked to the construction industry.

The housing and construction industry (including roads, bridges, dams and wharfs) employed approximately 6% of the employed labour force in Tasmania (1996 Census), and contributed 5.7% of the State's total factor income in 1996–97, and 5.8% in 1997–98.

Housing

The great Australian Dream has been described as owning a detached house on a quarter-acre block. Tasmanians, as do other Australians, place great importance upon home ownership. Census statistics reveal that the proportion of occupied private dwellings owned and being purchased has increased greatly since 1911. At the 1911 Census, the proportion of occupied private dwellings owned or being purchased was 44.7%. By the 1947 Census this proportion had risen to 52.9% and since the 1970s the proportion has remained at about 69%.

HOME OWNERSHIP, TASMANIA

	Owned		Being purchased		Rented		Other		Total	
	no.	%	no.	%	no.	%	no.	%	no.	%
1911	15 848	40.7	1 558	4.0	19 457	50.0	2 087	5.4	38 950	100.0
1921	16 851	37.9	4 364	9.8	19 037	42.8	4 180	9.4	44 432	100.0
1933	20 266	41.8	3 975	8.2	20 165	41.6	4 073	8.4	48 479	100.0
1947	28 377	46.2	4 140	6.7	26 077	42.4	2 868	4.7	61 462	100.0
1954	38 436	49.5	9 810	12.6	26 991	34.8	2 410	3.1	77 647	100.0
1966	n.a.	n.a.	(a)68 363	(a)69.6	27 092	27.6	2 827	2.9	98 282	100.0
1976	38 852	31.9	44 432	36.5	29 638	24.3	8 910	7.3	121 832	100.0
1986	58 157	39.1	47 588	32.0	36 747	24.7	6 307	4.2	148 799	100.0
1991	67 915	41.8	44 963	27.7	40 931	25.2	8 512	5.3	162 321	100.0
1996	74 260	42.4	47 273	27.0	46 142	26.3	7 519	4.3	175 195	100.0

(a) these data combine the numbers owned and numbers being purchased.

Source: ABS Census data

The 1996 Census revealed that, at the time, 69.4% of Tasmanian occupied private dwellings were either owned or being purchased. This was a slight decline on the 1986 Census figure of 71.1%. The local government areas recording the highest proportions of home ownership (owned and being purchased) at the 1996 Census were West Tamar with 81%, Kentish with 79% and Kingborough and Sorell each with 78%. Local government areas with the lowest proportion were Brighton with 53%, Flinders with 55% and Hobart with 59%.

As a result of the increase in the proportion of occupied private dwellings being owned or purchased since 1911, the percentage of dwellings being rented has almost halved. In 1911, some 50.0% of occupied private dwellings were rented. In 1921 this proportion fell to 42.8%, where it remained stable until the 1950s when the proportion fell to 34.8%. At the 1996 Census, the proportion of occupied private dwellings being rented was 26.3%, a slight increase on the 25.2% at the 1991 Census and 24.7% at the 1986 Census.

The location of residential building

The majority of residential building in Tasmania has occurred in and around the urbanised centres of Hobart, Launceston, Devonport and Burnie. Over the past 10 years the level of residential dwelling approvals across the State has declined dramatically, by 53%. This decline in activity has been consistent across each of the urbanised centres.

Levels of house building are affected by the overall economic climate. Despite relatively low home loan interest rates in recent years, the number of residential building approvals has continued to decline.

NUMBER OF DWELLING APPROVALS, TASMANIA

	Private		Public	
	Houses	Other	Houses	Other
1992-93	2 928	1 023	28	115
1993-94	3 065	973	48	61
1994-95	2 570	545	6	51
1995-96	1 917	448	21	153
1996-97	1 575	194	18	57
1997-98	1 410	208	9	11

Source: ABS catalogue no. 8731.6

RESIDENTIAL DWELLING APPROVALS, TASMANIA

Statistical Division and Subdivisions	1994-95	1995-96	1996-97	1997-98
Greater Hobart Statistical Division	1 263	1 098	728	623
Southern Statistical Division	368	307	221	228
Greater Launceston Statistical Su division	634	430	378	339
Central North Statistical Subdivision	129	91	75	61
North-Eastern Statistical Subdivision	116	93	77	75
Northern Statistical Division	879	614	530	475
Burnie-Devonport Statistical Su division	463	381	242	222
North-Western Rural Statistical Subdivision	182	132	127	87
Lyell Statistical Subdivision	17	7	13	8
Mersey-Lyell Statistical Division	662	520	382	317
Tasmania	3 172	2 539	1 861	1 643

Source: ABS catalogue no. 8731.6

BUILDING APPROVED IN LOCAL AREAS, 1997–98

Statistical Divisions and Local Government Areas	New houses		Other new residential buildings		Alterations and additions to residential buildings \$'000	Value of non- residential building \$'000	Total building \$'000
	Total no.	Value \$'000	Total no.	Value \$'000			
Brighton	58	5 046	—	—	534	50	5 629
Central Highlands	15	375	—	—	91	68	534
Clarence	108	12 072	39	2 477	4 447	5 608	24 604
Derwent Valley	29	2 224	—	—	481	163	2 868
Glamorgan/Spring Bay	56	3 938	3	150	491	555	5 133
Glenorchy	82	7 246	21	1 100	1 914	12 348	22 608
Hobart	71	8 997	51	5 490	7 104	29 701	51 293
Huon Valley	61	3 959	4	380	866	5 859	11 063
Kingborough	140	14 118	4	240	4 156	1 486	20 000
Sorell	55	4 164	—	—	966	705	5 835
Southern Midlands	29	1 962	2	179	382	—	2 524
Tasman	23	1 218	—	—	143	1 347	2 708
Greater Hobart and Southern	727	65 320	124	10 016	21 574	57 891	154 801
Break O'Day	35	2 229	2	80	321	325	2 955
Dorset	30	2 604	—	—	414	1 040	4 057
Flinders	6	203	—	—	139	392	733
George Town	19	1 933	—	—	732	1 884	4 549
Launceston	103	10 143	25	1 836	3 770	32 198	47 947
Meander Valley	109	9 776	13	565	387	1 895	12 623
Northern Midlands	34	2 932	—	—	1 212	7 466	11 610
West Tamar	89	7 434	6	325	1 972	2 257	11 988
Northern	425	37 253	46	2 806	8 946	47 456	96 463
Burnie	32	3 092	2	190	1 502	7 846	12 629
Central Coast	54	4 809	9	563	1 255	816	7 442
Circular Head	20	1 662	8	498	523	1 336	4 018
Devonport	28	2 780	28	2 220	1 252	6 024	12 276
Kentish	26	2 069	—	—	392	757	3 218
King Island	4	343	—	—	350	540	1 233
Latrobe	53	4 293	2	115	1 030	1 132	6 570
Waratah/Wynyard	42	3 972	—	—	1 525	1 506	7 003
West Coast	8	366	—	—	83	163	612
Mersey–Lyell	267	23 385	49	3 586	7 911	20 119	55 001
Tasmania	1 419	125 958	219	16 408	38 432	125 466	306 264

Source: ABS catalogue no. 8731.6

New housing

Building activity, as measured by the number of new dwellings approved, is often used as one of the main indicators of the economic health of the State. There were 1,643 dwellings approved in Tasmania in 1997–98. This was a decline of 48.2% since 1994–95.

In 1997–98, some 37.9% of new residential building approved was in the Greater Hobart Statistical Division, where 41% of the State's population lived (1996 Census). The Greater Launceston Statistical Subdivision accounted for 20.6% of approvals, while the Burnie-Devonport Statistical Subdivision accounted for 13.5%. These two Statistical Subdivisions had 21% and

16% of the State's population respectively (1996 Census).

Of the 851 dwellings approved in the Greater Hobart and Southern Statistical Divisions in 1997–98, Clarence local government area (LGA) recorded the highest number of dwelling approvals, 147, followed by Kingborough, 144, and Hobart, 122.

In 1997–98, the Northern Statistical Division recorded 475 dwellings approved. Of these, Launceston LGA recorded the highest number of dwelling approvals, 128, followed by Meander Valley, 122, and West Tamar, 95.

Significant Tasmanian Architecture of the 20th Century

~ Article contributed by Norma Calder, Royal Australian Institute of Architects ~

Some examples of early 20th century buildings include the GPO, the National Mutual Life building and the Carnegie Library, all designed by Alan Walker. Other notable buildings were the 1911 Henry Jones IXL Building, which was among the first reinforced concrete structures in Australia; the 1911 Hobart City Hall, a competition-winning design by R. N. Butler; the 1915 Heritage House in Victoria Street Hobart; the 1911 Launceston Examiner and Express Building; and the 1914 Mowbray Grandstand designed by A. H. Masters.

In the 1920s James Earle and Bernard Walker were involved in the development of the Cadbury Estate. Other buildings designed in this period included the ABC Broadcast House (formally Bursary House) at 22 Elizabeth Street, a fine example of glazed terracotta facade construction; the Campbell Street Primary School in Hobart and St Finn Barrs School in Launceston.

Early 'Modern' architecture was pursued in the 1930s by both Colin Philp and David Hartley Wilson; the original Wrest Point Hotel and Sunray Flats in Davey Street are two examples.

This era produced a new scale of buildings including the Hydro Electric Commission building, the T&G and CML Insurance company buildings, the Royal Hobart Hospital and the State Government Offices. Holyman House and the Star Theatre in Launceston are further fine examples of inter-war art deco.

S. W. T. Blythe emerged as one of the State's most influential architects of the 20th century. In 1937 he designed Ogilvie High School and in 1944 the Goulburn Street School. In the 1950s, J. Esmond Dorney expressed an individual style in buildings such as Snow's Dry Cleaning in Glenorchy, the Pius X Church in Taroona and numerous houses in Sandy Bay.

The State Library was constructed in 1960 by the Public Works Department, and during the 1960s Hartley Wilson and Dirk Bolt completed Christ College Residential Units in Sandy Bay, Murray Street State Offices and the Cat and Fiddle Arcade in Hobart.

A commercial office boom in the early 1970s led to the construction of the MLC, TGIO and Lands Buildings. High rise spread to the suburbs with Empress Towers and, in 1973 Wrest Point Casino, designed by Roy Grounds. In the late 1970s and early 1980s notable buildings included the Hobart Animal Hospital and the Banks Paton Building designed by Heffernan Nation Rees Viney; the Rokeby Fire Station, designed by Howroyd & Forward; and the Crown Mill complex in Launceston, designed by Glenn Smith Associates.

Notable buildings in the 1990s included the Lake St Clair Park Centre designed by Eastman Heffernan Walch & Button; Pipers Brook Winery designed by Robert Morris-Nunn; and Ken Latona's ecologically sustainable tourist development at the Friendly Beaches, which won a national citation for ecologically sustainable buildings. Winning architects of a triennial award in the 1990s have included Eastman Heffernan Walch & Button for a house in Taroona, Barry McNeil for a house at Kettering, and Forward Viney and Partners for their copper-clad Furnage/Forward House at Sandy Bay. In 1996, the Torquil Canning House, a small stone house at Fern Tree, designed by Jacob Allom Wade, received a national commendation.

Award-winning examples of recycled buildings and conservation include the Penitentiary Chapel and Criminal Courts designed by the Architects Alliance, the University of Tasmania Conservatorium of Music designed by Forward Viney Woollan and the Tasmanian Aboriginal Centre in Launceston designed by Bush Parkes Shugg & Moon.

AVERAGE COSTS FOR COMPLETED BUILDINGS, TASMANIA

	1994-95 \$ per m ²	1995-96 \$ per m ²	1996-97 \$ per m ²	1997-98 \$ per m ²
New houses	503	520	525	503
Other new residential buildings	636	702	645	766
Non-residential building	513	484	636	692

Source: ABS unpublished data

Of the 317 dwellings approved in the Mersey-Lyell Statistical Division in 1997-98, Central Coast LGA recorded the highest number of dwelling approvals, 63, followed by Devonport, 56, and Latrobe, 55.

The total value of residential building approved for the State was \$180.8m, compared with \$125.5m for non-residential building, in 1997-98. Launceston LGA accounted for 25.7% of the value of non-residential building, followed by Hobart, 23.7%, and Glenorchy, 9.8%.

Cost of building

The average costs for buildings completed provide a measure of the changing costs of building. The unit cost per square metre for new houses increased slightly from \$520 in 1995-96 to \$525 in 1996-97. This figure declined to \$503 in 1997-98. The unit cost per square metre for other new residential building declined from \$702 in 1995-96 to \$645 in 1996-97. The cost per square metre rose in 1997-98 to \$766.

Unit costs for non-residential buildings are influenced by the type of buildings. Large-scale construction, such as international hotels and office accommodation, has a significant influence on the non-residential building sector in Tasmania. Non-residential building recorded a figure of \$636 per square metre in 1996-97 and rose to \$692 per square metre in 1997-98.

Public housing

Housing Tasmania, a division of the Department of Health and Human Services, aims to provide affordable, secure and appropriate housing for all Tasmanians. Their services are targeted at people on low incomes, particularly those who

have difficulty accessing housing in the private market because of discrimination or lack of housing for special needs groups. Assistance provided includes public rental housing, private rental assistance, home ownership assistance, and community sector housing including the community housing program and the Aboriginal rental housing program.

Housing that becomes available for allocation is offered first to applicants in most need. The degree of need is assessed by various categories such as the amount of rent being paid as a percentage of income, condition of current accommodation, disability factors, risk of domestic violence and time spent on the waiting list.

The number of public rental housing stock in Tasmania remained stable from 1996-97 to 1997-98 with a percentage change of -0.9%. In 1997-98, of the total public rental housing, 20.9% were 1 bedroom, 24.5% were 2 bedroom and 54.6% were 3 or more bedrooms.

In both 1996-97 and 1997-98, of the total public rental housing stock, 51.0% was in the Greater Hobart and Southern Statistical Divisions. Over the same periods, the Northern Statistical Division had 24.1% of the total public rental housing stock and the Mersey-Lyell Statistical Division 24.9%.

At 30 June 1998, some 50.1% of public rental tenants in Tasmania lived in the Greater Hobart and Southern Statistical Divisions, 24.5% in the Northern Statistical Division and 25.4% in the Mersey-Lyell Statistical Division. Of the State's 31,651 public rental tenants, 37.4% were male, 48.2% were female and 14.3% were not stated.

PUBLIC RENTAL TENANTS, 30 JUNE 1998

Persons	Greater Hobart and Southern no.	Northern no.	Mersey-Lyell no.	Tasmania no.
Males	5 819	3 098	2 929	11 846
Females	7 478	3 940	3 853	15 271
Not stated	2 564	722	1 248	4 534
Total persons	15 861	7 760	8 030	31 651

Source: Housing Tasmania, Department of Health and Human Services

A history of housing assistance in Tasmania

~ Maryanne Lewis, *Housing Tasmania, Department of Health and Human Services* ~

At the beginning of this century economic depression had highlighted and exacerbated the poor conditions in which the urban population lived. Administrative structures to support growth were under-developed. The absence of public or other forms of housing assistance was accompanied by a general disinterest by government in the plight of 'the poor'. Most had little choice but to rent expensive and poorly built housing from unregulated landlords.

The *Homes Act 1919* (Tas) provided for loans of up to £700 to allow low and moderate income families to build a home. The Act was administered by the Agricultural Bank of Tasmania. This Act was the first significant involvement by the Tasmanian Government in the provision of housing assistance. Despite this, many people remained living in homes considered to be 'unfit for human habitation'.

The first Commonwealth–State Housing Agreement

During the 1930s it became apparent that low-cost loans could not adequately meet the demand for housing assistance. In 1935 a second Homes Act was passed. The new Act provided for the establishment of the Housing Division to build homes available for rental to low income earners. The bank completed the first 22 homes in late 1936. The homes in Liverpool Street, Hobart, were available to low income earners on a rent or purchase basis. There were 666 homes built between 1934 and 1942 on this rent or buy arrangement. The Group Homes scheme commenced in 1940. This scheme gave access to a home to those who could not afford a deposit. This policy of building and developing subdivisions was to last more than 40 years.

In 1943, the Commonwealth Government set up the Commonwealth Housing Commission. The Commission's most far reaching recommendation was that

affordable public housing should be provided for those on moderate incomes. This led to the first Commonwealth–State Housing Agreement (CSHA), signed in 1945. The agreement provided low-interest loans to States for the provision of housing for people on low incomes. Despite labour and material shortages, 1,130 homes were constructed with CSHA funds between 1945 and 1950.

A prosperous time

Until the mid 1950s the emphasis of the Tasmanian Government's housing policy was on home ownership. This preference for home ownership became a source of tension between Tasmania and the Commonwealth Government and led to Tasmania exiting the CSHA in 1950.

Demand for housing grew steadily in the years after the war. The number of marriages increased sharply and the age at which people chose to marry decreased. These two factors impacted strongly on the rate of household formation. Migration to Tasmania also increased greatly as did intrastate migration from rural to urban areas.

A steady increase in the demand for housing led to the setting up of the Housing Department of Tasmania in July 1953. The new department was responsible for the construction, allocation and ongoing management of homes, while the Agriculture Bank continued to provide home loans for low and moderate income earners. The 1950s were financially difficult for the Housing Department. The State Government found it difficult to secure funding from the Commonwealth Loans Council. The State felt it was in the best interests of Tasmania to re-enter the CSHA in 1956.

The late 1950s and 1960s were a period of innovation for the Housing Department. While the construction of modest, three-bedroom houses remained their

primary activity, the department experimented with other designs as well. Units were designed for small families and for the elderly. Two large unit complexes were constructed in Hobart at Windsor and Stainforth courts.

The aim of the Housing Department in the 1960s was to 'promote happy, satisfied communities forming an integral part of our community life.' To assist in achieving this, the department employed welfare officers to assist new tenants to settle in and to help them to overcome problems with home management, finances and getting along with neighbours.

Through the 1960s and early 1970s unemployment was minimal, wages were high and interest rates were low. During this time the Housing Department sold two-thirds of the homes it constructed. The third which remained contributed to an increasing supply of public rental housing.

Work on some of the State's largest subdivisions began during the 1970s. These included Rokeby Grange, Clarendon Vale, Bridgewater and Gagebrook and new areas of Ravenswood. The nature of these subdivisions differed from previous development because there were now a much higher proportion of people who were renting their homes.

Social change

Prior to the 1970s most people who received State Government housing assistance were families where the main source of income was a wage. From 1970 the profile of clients began to change. There was an increase in single-parent families headed by females and a continued growth in the number of older clients. The proportion of people who were unemployed increased steadily.

In 1976 a special unit was formed for the management of housing for Aboriginal people. This year was the first in which housing was designed and built to meet the needs of people with disabilities. Other changes in the 70s included the redevelopment of inner city areas, an

increase in the construction of smaller housing, an increase in the construction of units for older people and the testing of new planning methods.

With the exception of Rocherlea in Launceston, there was a shift in the 1980s away from the development of subdivisions to in-fill housing and the purchase of homes in older suburbs, making use of existing infrastructure such as water, roads, sewerage and power. It also provided better access to community and commercial services.

During the 1980s the department began to administer new federally funded schemes including:

- the Local Government and Community Housing Program;
- the Mortgage and Rent Relief Scheme to assist those renting in the private market and buying their own home;
- the Home Purchase Scheme to assist low-income earners obtain finance from both the Housing Department and the Tasmanian Development Authority;
- the Crisis Accommodation Program to provide Youth and Women's shelters and other emergency accommodation; and
- better services for youth, people with disabilities and those from other special needs groups.

A change in direction

In the past 10 years the nature of housing assistance has changed: there has been a shift towards the recognition of tenants and other clients as customers. This has involved:

- informing people about products and policies;
- locating service centers in convenient places for clients;
- establishing the right to review of decisions;
- improving links with government and community services; and
- developing products to suit people with special needs.

The trend towards smaller households has continued. It is clear that there is an imbalance between the housing that people need and the available rental stock. In response to this issue, Housing Tasmania has continued to purchase well-located, high-amenity dwellings, recondition and redevelop aged stock and dispose of dwellings that no-longer meet needs.

Particular attention is directed to broadacre housing areas developed over the past 30 years. Housing Tasmania has worked with local government and community groups, and services such as schools, police, fire and health services. Initiatives such as the Bridgewater/Gagebrook Urban Renewal Project (BURP) and the Walk Tall Project in Ravenswood are examples of such partnerships in action.

Home Ownership for low-income families remains a priority. In 1994, the Home Ownership Assistance Program (HOAP) was launched. Loans are available to people who could afford to buy a home but who had difficulty getting a loan. To date over 1,600 people have accessed loans. In the past few years, an innovative Deposit Assistance Scheme has also been introduced.

The *Residential Tenancy Act, 1997* came into effect on 1 July 1998 and covered all residential rental properties from 1 July 1999. The new legislation significantly enhances the rights of renters in both the public and private sector.

A century of housing assistance

The contribution of government housing to the development of Tasmania is immense. Over the course of this century the State Government has built over 27,000 homes, or 16% of all homes in Tasmania, and has also provided loans to thousands of others to build their own homes. The Government has assisted tens of thousands of low-income earners with public housing, rent assistance, community housing and home-ownership assistance. Its contribution to other parts of Tasmanian life has also been extensive: the Housing Department trained over 600 apprentices; at various points over 500 families were housed after their homes were lost in bush fires; over 600 immigrant families started their lives in Tasmania in homes provided by the State Government; and finally, as part of developing housing all over the State, the Government has provided parks and playgrounds, shops, churches and community centres all over Tasmania.

Looking to the future

Housing is widely recognised as an important factor in the complex and inter-related conditions that contribute to good health and well being. The future direction of housing assistance is to intervene to improve the capacity of people to secure good housing, whether this be through emergency accommodation, renting or buying their own home. Housing Tasmania also recognises that it must work within the broader community to strengthen and support individuals and families. Housing assistance works to help low-income Tasmanians who are unable to achieve good housing for themselves.

PUBLIC RENTAL HOUSING STOCK

Building type	1996-97 no.	1997-98(a) no.	Change %
Greater Hobart and Southern Statistical Divisions			
1 Bedroom()	1 603	1 551	-3.2
2 Bedrooms	1 696	1 724	1.7
3+ Bedrooms	3 871	3 829	-1.1
Total	7 170	7 104	-0.9
Northern Statistical Division			
1 Bedroom()	669	658	-1.6
2 Bedrooms	827	841	1.7
3+ Bedrooms	1 897	1 864	-1.7
Total	3 393	3 363	-0.9
Mersey-Lyell Statistical Division			
1 Bedroom()	698	698	—
2 Bedrooms	855	854	-0.1
3+ Bedrooms	1 940	1 913	-1.4
Total	3 493	3 465	-0.8
asmania			
1 Bedroom()	2 970	2 907	-2.1
2 Bedrooms	3 378	3 419	1.2
3+ Bedrooms	7 708	7 606	-1.3
Total	14 056	13 932	-0.9

(a) 46 direct tenancies in Greater Hobart-Southern in 1997-98, not included in 1996-97. () One bedroom includes bedsit units.

Source: Housing Division, Department of Health and Human Services

VALUE OF BUILDING CONSTRUCTION WORK DONE, TASMANIA

Type of building	1995-96 \$m	1996-97 \$m	1997-98 \$m
New houses	185.1	161.9	137.5
Other new residential buildings	37.3	30.8	29.0
Total new residential buildings	222.4	192.7	166.5
Alterations and additions to residential buildings	42.8	41.1	41.4
Hotels, motels etc.	8.6	12.5	10.7
Shops	26.0	29.5	15.3
Factories	20.1	45.1	21.2
Offices	21.5	33.5	23.0
Other business premises	29.6	17.1	25.9
Educational	26.6	23.4	22.2
Religious	1.7	0.6	0.5
Health	35.7	24.4	19.3
Entertainment and recreational	12.0	15.1	6.9
Miscellaneous	13.5	17.1	13.9
Total non-residential building	195.2	218.1	159.0
Total all building	460.3	451.8	366.8

Source: ABS catalogue no. 8752.6

Recycling and conservation of selected Tasmanian buildings

The term conservation means 'all the processes of looking after a place so as to retain its cultural significance. It includes maintenance and may according to circumstance include preservation, restoration, reconstruction and adaptation and will be commonly a combination of more than one of these. Recycling within the building industry' means 'keeping an old building useful by converting it to a new use. Tasmania has numerous buildings that have undergone conservation and recycling. Some recent notable projects of conservation and recycling of 20th century buildings are detailed below.

Elizabeth Street Pier (Architect: Heffernan Button Voss)

Elizabeth Street Pier was first constructed in 1866 at the end of Elizabeth Street Hobart to provide steamship accommodation. Between 1931 and 1934, the original pier was demolished and the new pier was built with the addition of a rail connection. The Elizabeth Street Pier is the last remaining major finger wharf in Sullivans Cove, Hobart. The project was to maintain the presence of the existing shed form and maintain maritime usage and full public access around the perimeter, while converting the building to a new use, which included the housing of serviced apartments and restaurants.

The new Elizabeth Street Pier building has retained the front and rear walls of the original structure as well as the concrete columns and some infill panels at the sides of the building. These have been repainted but the original texture has been retained. Rail lines to the forecourt and pier aprons have also been retained. To complement the original character of the pier's exterior, new stainless steel gutters, downpipes, railing and translucent glass screens have been added, and many of the side panels of the building have been replaced with glazing. The new Elizabeth Street Pier building has maintained the original simple and industrial character of the building.

Forestry Tasmania Headquarters (Architect: Morris-Nunn & Associates & Blythe Yeung & Associates)

Two 1930s heritage-listed buildings in Melville Street Hobart were recycled to form part of the development of the new Forestry Tasmania Headquarters. The brick warehouse and office buildings were originally built for building merchants Crisp and Gunn, and the site was the former home of the first sawmill in Van Diemen's Land. Although the two 1930s buildings were not classified by the National Trust, the Hobart City Council required the facades to be retained as part of the redevelopment.

The key elements of the design included showcasing the clever uses of timber products and reflecting the philosophy of Forestry Tasmania in terms of the spectrum of wood products and wood use. The centrepiece of the new building is a large, timber-framed, dome-shaped conservatory. The dome encloses a natural forest of trees unique to Tasmania and the frame is constructed of new timber, representing new technologies. Large oregon and hardwood trusses were salvaged from the original buildings and were used to create pyramid roofs and a high pedestrian bridge across the forest area, representing the use of old timber technology. The new Forestry Tasmania Headquarters succeeds in bringing together new and recycled materials as well as incorporating new and old timber technology.

Tasmanian Aboriginal Centre Inc (Architect: Bush Parkes Shugg & Moon Pty Ltd)

The project for the new Tasmanian Aboriginal Centre Inc. redeveloped a 1934 warehouse in Charles Street, Launceston, which had been used as a supplier's warehouse for the electrical industry. The building is separated into two sections to accommodate the Aboriginal Health Service and the Aboriginal Legal Service and these sections are connected by a central community and meeting area.

The design of the development was tailored to the client's desire to express ownership and provide an identity without the usual constraints of a particular historical style. The building design re-interprets the idea of Aboriginal relationships to the land and sky, acknowledging the early forms of shelter and relating a sensory approach to built form with the physical requirements needed for the centre. The meeting area features a glazed roof with automated louvres to allow natural light into the building and provide temperature control. The re-development of the original warehouse has created a building with a theme of individuality, a sense of place and a feeling of community.

The Old Woolstore Redevelopment (Architect: Forward Viney Woollan)

The Old Woolstore is a group of buildings dating from the 1890s to the 1930s, which were constructed and used by Roberts Ltd as woolstores and for general agricultural

merchandising. The street facades of the original buildings in Macquarie Street and Park Street Hobart, are listed on the Register of the National Estate, the National Trust Register and are included in the City of Hobart Planning Scheme Register. The collection of brick buildings relate to the gasworks buildings opposite and are examples of industrial period pieces.

While the old buildings have been transformed in a 59-unit hotel, the original brick and stucco material on the street facades have been maintained and emphasised without rejuvenation, cleaning or painting. New building elements followed the principal structure of the original buildings of load-bearing brickwork, timber floors and timber-trussed roof construction clad with corrugate. The courtyards have been designed to maintain the industrial feel of the original buildings. The new work completed does not replicate the existing

Construction

Building construction

The total value of construction work done in Tasmania has steadily declined from \$742.9m in 1992–93 to \$582.2m in 1997–98. The State total of \$582.2m comprises \$366.8m for building construction and \$215.4m for engineering construction.

The value of building work done in 1997–98 (\$366.8m) declined by approximately 18% on the \$451.8m recorded in 1996–97. Work done on new residential building during 1997–98 was valued at \$166.5m, or approximately 45% of the total, and non-residential building work done was \$159.0m.

The value of work done on new residential buildings has decreased from \$222.4m in 1995–96 to \$166.5m in 1997–98. The value of work done on non-residential buildings was \$195.2m in 1995–96 and increased in 1996–97 to \$218.1m. The value fell in 1997–98 to \$159.0m, a decrease of approximately 18% since 1995–96.

TOTAL VALUE OF CONSTRUCTION WORK DONE, TASMANIA

	Building \$m	Engineering \$m	Total \$m
1992–93	431.8	311.1	742.9
1993–94	491.4	243.4	734.8
1994–95	476.0	192.3	668.3
1995–96	460.3	258.3	718.6
1996–97	451.8	232.9	684.7
1997–98	366.8	215.4	582.2

Source: ABS catalogue nos. 8752.6 and 8762.0

From 1996–97 to 1997–98, the only area to record an increase in the value of work done in the non-residential area was Other business premises where the value of work done increased from \$17.1m to \$25.9m. The largest declines in the value of work done from 1996–97 to 1997–98, occurred in Factories, down \$23.9m, Shops, down \$14.2m, and Offices, down \$10.5m.

Engineering construction

Engineering construction includes the building of roads, bridges, railways, dams and sewerage systems. The majority of this activity is the responsibility of the public sector. In Tasmania, the value of work done on engineering construction projects during 1997–98 was \$215.5m, a decline of \$42.8m since 1995–96

Areas where expenditure declined included work on roads, highway and subdivisions, a decline from \$121.9m in 1995–96 to \$107.3m in 1997–98; Sewerage and drainage, a decline from \$16.7m to \$5.5m; and Heavy industry, a decline from \$22.4m to \$6.6m. Despite a decline in expenditure on most types of engineering construction, Recreation increased from \$8.7m in 1995–96 to \$14.2m in 1997–98.

The value of work yet to be completed measures the ongoing nature of construction activities. At the end of June 1998 there was \$70.1m worth of engineering construction to be completed, compared with \$80.9m at June 1997, and \$96.7m at June 1996.

ENGINEERING CONSTRUCTION, VALUE OF WORK DONE, TASMANIA

Project	1995–96 \$m	1996–97 \$m	1997–98 \$m
Roads, highways and subdivisions	121.9	113.7	107.3
Bridges	2.2	2.4	2.4
Railways	—	—	—
Harbours	0.2	0.9	3.4
Water storage and supply	10.8	2.9	5.6
Sewerage and drainage	16.7	12.9	5.5
Electricity generation, transmission and distribution	17.4	16.5	13.2
Pipelines	0.7	0.8	0.1
Recreation	8.7	12.9	14.2
Heavy industry	22.4	15.1	6.6
Telecommunications	56.4	57.0	55.8
Other	1.0	—	1.2
Total	258.3	235.1	215.5

Source: ABS catalogue no. 8762.0

The Pinnacle Road, Mount Wellington

The Pinnacle Road, from the turn off at the Springs to the summit of Mount Wellington, was officially opened on the 23 January 1937 by the Governor of the day, Sir Ernest Clark. The event was witnessed by 2,000 people. The opening ceremony marked the culmination of over two years work by a large gang of sustenance workers.

During the depression years, the Government of Tasmania looked for projects to provide work for the large numbers of unemployed men. The Pinnacle Road to Mount Wellington was one such project. Over the road construction period of 30 months, thousands of men were employed for short periods of time. The project also provided Hobart and the State with a new tourist asset.

The Premier Mr A.G. Ogilvie, K.C stated at the opening ceremony: *'The cost to the government has been £26,000, but had the construction of the road not been proceeded with the State would still have had to find £20,000 in sustenance rates or payments for dole work...'*

From the turn off at the Springs the Pinnacle Road is approximately 7.3 kilometres in length; and it is 6.1 metres wide has a maximum gradient of one in fourteen.

When construction of the road first commenced, there was doubt that it could be built with the type of labour employed. Many of the men who worked on the road were not accustomed to manual labour, but due to being unemployed were forced to take this work.

A bronze tablet affixed to the cairn at the summit to honour the men who worked on the construction reads:

'This tablet, was erected to commemorate the achievement of the men who laboured under difficult conditions on the construction of the Pinnacle Road planned and supervised by the officers of the Public Works Department, and built by the Government of Tasmania in association with the Hobart City Council. 1934–1936'

The Tasman Bridge

Plans for a bridge to link the Derwent River's two shores near Hobart date back to 1832. It was not until 1943 that the first bridge was completed, the Hobart floating bridge and lift span. The bridge was of unique design and construction, the first of its type anywhere in the world. A large portion of the bridge was a floating concrete structure curved upstream in the form of an arch. Following completion of the bridge, the population on the eastern shore of the Derwent grew, and the bridge was unable to adequately manage the increased traffic flow.

In 1956, the Department of Public Works Tasmania commissioned the consulting engineers Maunsell & Partners Pty Ltd to report on a suitable replacement bridge. Their report concluded that a low-level bridge with a lifting span similar to the existing bridge would be little cheaper than a high-level bridge enabling the clear passage of passing ships. In May 1960, construction of the Tasman Bridge commenced and the bridge was completed in December 1964.

The bridge is constructed of pre-stressed concrete, with the major parts composed of precast sections. The bridge comprises a total of about 61,000 cubic metres of concrete, about 5,200 tonnes of reinforcing steel and 117 kilometres of prestressing cables. The total cost of the bridge was approximately \$7,000,000. The bridge had an estimated peak capacity of 4,000 vehicles per hour across four lanes and the navigation span had a minimum clearance of 45.7 metres above mean sea level to enable the largest ships to pass through.

On 5 January 1975, the *Lake Illawarra*, with a cargo of 10,000 tonnes of zinc

concentrate bound for the Electrolytic Zinc Company, collided with the Tasman Bridge and sank. Two piers of the bridge were demolished, and three spans of deck supported by them collapsed. Twelve people died in the accident. In March 1975, a Joint Tasman Bridge Restoration Commission was appointed to restore the Tasman Bridge. The reconstruction of the bridge included the modification of the whole bridge to accommodate an extra traffic lane to allow for a peak period tidal flow system of three lanes for the major flow and two for the minor.

After the bridge collapse, eastern-shore residents were suddenly isolated from the city. The trip to Hobart by road was now a fifty-kilometre trip. A number of ferries immediately began operating and by June 1975 it was estimated that 25,581 people were travelling across the Derwent by ferry each day. A positive aspect of the bridge collapse was the development that occurred on the eastern shore. Prior to the disaster many services, such as banking, medical, legal and insurance, were severely lacking. New developments that occurred included the Eastlands shopping complex, a new highway connecting Lindisfarne to Brighton and the opening of many business services in Bellerive.

Approximately one year after the bridge collapse, the Bailey Bridge, linking the eastern and western shores of the Derwent, was opened. The Tasman Bridge was re-opened on 8 October 1977, nearly three years after its collapse. In 1975, the Commonwealth Government agreed to fully fund a new bridge; the Bowen Bridge, linking the eastern shore with Hobart's northern suburbs, was officially opened in 1984.

FURTHER READING

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Acknowledgments

Housing Division, Department of Health and Human Services

Tasmanian Chapter of the Royal Institute of Architects

CHAPTER 21

Transport and communications

Photo: Hobart City Council



Hobart was the first Australian city to introduce metered parking, in 1955.

Early Tasmania relied on ships for sustenance, cultural links with the outside world and for local transport and explorations. A need for self-reliance, and the availability of convict labour, led to early road building. The advent of railways and of mechanised transport generally, soon spread to Tasmania.

Today, Transport and Communications are important industry sectors, and at May 1999 accounted for 6% of Tasmania's employment. As well, road construction and maintenance and transport vehicle manufacturing, distribution and maintenance contribute further to employment opportunities in Tasmania.

In recent years the Commonwealth departments of Transport and Regional Development, and Communications and the Arts as well as Transport Tasmania have promoted greater competition within the transport industry and in telecommunications carriage, both to provide an

incentive for industries to improve efficiency and to provide a framework within which the benefits of improved efficiency can be passed on to users.

Privatisation has been identified as a method of improving efficiency in the transport sector.

The telecommunications sector, which has been characterised by strong growth in demand for telecommunications services, an increasing focus on service quality and rapid technological change, has been an area of particular public interest.

In spite of the apparent competition from the electronic media, the regionally-based print media continues to serve an important complementary function, while the demand for postal communication services appears to have reached a plateau with increasing competition from electronic transmission facilities.

Transport

The major features of the Tasmanian land transport system are:

- more than 3,500 bridges and more than 24,000 km of public roadways;
- more than 12,500 heavy commercial freight vehicles travelling more than 285,000,000 kilometres each year;
- more than 2,200 registered buses; and
- more than 317,400 registered motor vehicles.

The major features of the Tasmanian air and water transport system are:

- a major port system managed by four port authorities and the Federal Airports Commission;
- minor jetties and aerodromes managed by Transport Tasmania and local government; and
- a series of equalisation subsidies on water routes where no land route exists.

Road transport

There are more than 24,000 km of roads open for general traffic in Tasmania, including 370 km of National Highway and 3,350 km of arterial State roads linking regional Tasmania. Local government authorities maintain a further 14,000 km of roads while 6,600 km of Hydro Electric Corporation and Forestry Tasmania roads are mainly open to the public. Of the roads open for general traffic at 30 June 1998, 10,100 km had bitumen or concrete surfaces. Forest roads on private land account for approximately 6,000 km more of road.

Road works

Transport Tasmania is responsible for the planning, design and maintenance of State roads, bridges and marine facilities.

In 1997–98 major contracts were awarded for the following works:

- Maintenance on the State Road and National Highway Networks in the North West of the State;
- Bass Highway Heybridge to Chasm Creek roadworks and structures;
- Bass Highway Howth to Heybridge roadworks;
- Bituminous surfacing of the State Road and National Highway in the North West Region;

- Bituminous surfacing of the State Road and National Highway in the North East Region;
- Bituminous surfacing of the State Road and National Highway in the Southern Region;
- Sorell Causeways Arthur Highway roadworks;
- Midland Highway Esk Main Road and Conara North Junction;
- Tasman Bridge roadway resurfacing; and
- Bridgewater Bridge cathodic protection and associated works.

Local government is responsible for the planning, design and maintenance of local government roads and their bridges. In 1997–98, expenditure on the construction of these roads was \$34.5m and expenditure on their maintenance was \$36.1m. The State Grants Commission made road grants totalling \$19.8m to local government for 1997–98.

Motor vehicles

Motor vehicle registrations (excluding motorcycles) grew from 312,672 in 1995 to 317,402 in 1997. At 31 May 1997, Tasmania had a

MOTOR VEHICLES, TASMANIA (a)

Year	Number of motor vehicles on register '000	Vehicles per 1,000 population no.
1910	0.4	2
1920	4.1	20
1930	19.5	89
1940	26.2	109
1950	43.2	156
1960	93.2	271
1970	154.3	398
1980	229.5	542
1990	294.3	644
1995	312.7	676
1996	318.1	686
1997	317.4	686

(a) Excluding motorcycles.

Source: ABS catalogue no. 9309.0

MOTOR VEHICLES BY STATE, 1997 (a) (b)

	Number of vehicles on register '000	Vehicles per 1,000 population (c)
NSW	3 449.6	563
Vic.	3 038.7	677
Qld	2 065.5	627
SA	963.5	671
WA	1 230.3	706
Tas.	317.4	686
Australia	11 351.3	630

(a) Excluding motorcycles. (b) At 31 May. (c) Population based on estimates at 30 June 1997.

Source: ABS catalogue no. 9309.0

rate of motor vehicle ownership of 686 vehicles per 1,000 population.

Road use

For the 12 months ending September 1995, motor vehicles registered in Tasmania travelled an estimated 4,311 million kilometres, including:

- 3,091 million km travelled by passenger vehicles;
- 1,146 million km by non-passenger carrying vehicles; and
- 44 million km by buses.

Of the 4,311 million kilometres travelled by all motor vehicles:

- 1,416 million km were for business purposes;
- 815 million km were for travelling to and from work; and
- 2,080 million km were for private purposes.

Passengers

An October 1997 survey found that an estimated 175,000 people aged 15 years or more had travelled to work or education. Of these:

- 133,200 drove a motor vehicle;
- 13,200 travelled as passengers in a motor vehicle other than a bus;
- 11,800 travelled as passengers on a bus; and
- 13,000 walked.

The survey also found that of the estimated 178,500 households who undertook major food shopping trips, 159,500 used a motor vehicle for that trip.

Bus services

Metro Tasmania Pty Ltd was formed on 2 February 1998 as a result of a decision by the Government of the day to corporatise the former Metropolitan Transport Trust. Metro Tasmania Pty Ltd continues to provide urban public passenger services in the major Tasmanian metropolitan areas. In 1997–98 the number of passengers carried by Metro was estimated to be 9,710,000.

MTT SERVICES, TASMANIA (a)

	Unit	1996–97	1997–98
Buses	no.	248	225
Distance travelled	'000 km	10 822	(b) 10 339
Passengers	'000	10 639	(b) 9 710

(a) Total: Hobart, Launceston and Burnie. (b) Figures estimated.

Source: Metropolitan Transport Trust

Intrastate road passenger services in conjunction with light freight services are provided by Tasmanian Redline Coaches, Tigerline and other smaller bus services.

An estimated 24 million passengers were carried on buses registered in Tasmania in the 12 months ending September 1995. Of these, 14 million were carried on route services and 9 million were carried on a dedicated school bus service.

Business travel and freight

In the year ending September 1995, for business purposes, motor vehicles registered in Tasmania travelled 1,416 million km. Of these:

- 682 million km were journeys by passenger vehicles;
- 456 million km were on laden journeys by light commercial vehicles and rigid and articulated trucks;
- 196 million km were on unladen journeys by light commercial vehicles and rigid and articulated trucks; and
- 39 million km were by buses.

It is not known whether a further 36 million km by light commercial vehicles and rigid and articulated trucks were laden or unladen.

An estimated 47 million tonnes of freight was carried by light commercial vehicles and rigid and articulated trucks in the year ending September 1995.

Road traffic accidents

The number of road accident fatalities in Tasmania fell by 50% from 1996 to 1997, from 64 to 32. In 1998 the number of fatalities rose to 48, a 50% increase from 1997. Of all fatalities in 1998, there were 24 driver fatalities compared to 9 passenger fatalities. The number of motor cyclist fatalities rose to 7 in 1998 from 2 in 1996.

ROAD ACCIDENTS, TASMANIA

	Num er of people	
	Killed	Injured
1989	80	1 997
1990	71	1 905
1991	77	1 788
1992	74	1 712
1993	58	1 687
1994	59	1 756
1995	56	1 816
1996	64	1 659
1997	32	1 552
1998	48	1 956

Source: Transport Division, Department of Infrastructure, Energy and Resources

Hobart's Trams

~ Reproduced from *The Mercury*, Newspapers in Education web site ~

History was made in 1893 when Hobart became the first Australian capital city to establish an electric tramway system. The first tram rattled through the streets of the city on 21 September.

Early trams were double-deckers and looked very clumsy and dangerous as they bucked their way along streets on a two-rail system, drawing their electricity from overhead power lines suspended above city streets. Drivers and passengers on the lower level had little protection from the weather. Those on the top level had no protection at all.

The three original routes were from the corner of Park and Liverpool streets to the Cascades; Sandy Bay as far as Heathorn Ave; and Moonah as far as Albert Road. At that time there was only about 12 kilometres of track.

Until the Hobart City Council took over in 1912, the tramway service was run by the Hobart Electric Tramway Company.

The first of the single-deck trams was built in 1906, and electric trolley buses were introduced in 1935.

In 1960, after 67 years of service, trams were phased out. Electric trolley buses remained

until September 1968, when the network of overhead wires disappeared and conventional diesel buses took over the public road transport functions.

On 29 April 1960, a few months before the last trams were due to be withdrawn, an accident occurred in Hobart's Elizabeth Street. A tram and a vehicle collided near Warwick Street, and the tram raced out of control back down towards the city. The driver was hurt and dazed in his wrecked cabin, and the conductor rushed to the other end of the tram in a vain attempt to work the hand brake.

Some passengers jumped off the runaway tram, while others braced themselves under seats. Meanwhile, the conductor stayed at his post, calming passengers and clanging the foot bell to warn pedestrians and vehicles. He was still there when the tram crashed into another tram near Bathurst Street. The two trams hurtled, still on their tracks, almost as far as Liverpool Street.

Several vehicles, including a bus, were hit by the trams. The conductor was killed and more than 40 people were treated for injuries in the Royal Hobart Hospital.

Water transport

Tasmania's ports give Tasmanian-based businesses and Tasmanian residents access to trading and travel opportunities. These ports also provide visitors with access to Tasmanian tourist facilities. Minor jetties provide travel and trade opportunities for those Tasmanians living on off-shore islands. They also provide access to valuable fishing grounds and recreational opportunities for Tasmanians and visitors.

Ferry services

Passenger ferry services are provided both between Tasmania and the Australian mainland and Tasmania and off-shore islands.

The TT-Line's *Spirit of Tasmania* provides a vehicular and passenger service leaving Devonport for Melbourne on Tuesday, Thursday and Saturday nights and leaving Melbourne on Monday, Wednesday and Friday evenings. TT-Line also runs a high-speed catamaran ferry service from George Town to Melbourne on a daily basis during the period November to April.

The Bass Strait Passenger Vehicle Equalisation Scheme ensures a competitive structure for passenger vehicle services across Bass Strait. The scheme commenced in September 1996 and has resulted in a major increase in the number of passengers and vehicles transported across Bass Strait. In 1997-98 the increase was 21%.

BASS STRAIT FERRY

	1995-96 no.	1996-97 no.	1997-98 no.
Voyages	(a)295	313	323
Passengers	215 986	259 169	271 492
Vehicles	63 029	80 637	92 753
Freight TEUs (b)	23 199	22 112	19 116

(a) Dry dock in 1996 (b) Twenty-foot equivalent units.

Source: TT-Line, Annual Report

MV Mirambeena provides regular daily services connecting Bruny Island with the Tasmanian mainland across D'Entrecasteaux Channel. This service was contracted to the private sector in late 1997.

A service in the Furneaux group of islands has been established by Southern Shipping. The Tasmanian-built 35-metre *Matthew Flinders* provides a roll-on roll-off service between Bridport, Flinders Island, and Port Welshpool in Victoria.

Freight-only services

Major Tasmanian ports are managed by four port authorities centred in Hobart, Launceston, Devonport and Burnie. The Port of Launceston has the greatest tonnage of cargo throughput.

Transport Tasmania continues to play a key role in the Tasmanian Freight Equalisation Scheme, which assists shippers with appropriate compensation for the freight cost disadvantage they incur by shipping across Bass Strait.

This culminated in a comprehensive review being undertaken in 1997-98. The Commonwealth Government committed itself to implementing the review recommendations that will result in an additional \$15m (38% increase) in assistance paid to industries shipping goods across Bass Strait.

King Island is serviced by the Coastal Express Line's *Searoad Mersey*, which provides King

FREIGHT MOVEMENTS, MAIN SEAPORTS, TASMANIA

Seaport	1996-97 t (a)	1997-98 t (a)
Hobart	2 429 521	2 463 804
Launceston	3 503 547	3 967 785
Devonport	2 313 887	2 432 373
Burnie	2 839 018	2 963 988

(a) Mass tonnes including empty containers.

Source: Tasmanian port authorities, annual reports

Island with a once-a-week service from Devonport and Melbourne.

Air transport

Air transport provides a vital role in the maintenance and development of passenger and air-freight flows between Tasmania and the mainland. This role of air transport is far more important than in other States, where alternative transport modes exist for interstate movement of passengers and freight.

Scheduled passenger services

Interstate air routes involving Tasmanian airports are serviced by both domestic (Ansett and Qantas) and regional airlines (Kendall, Southern and Aus-Air).

Ansett provides a jet service between Hobart and Melbourne and Launceston and Melbourne as well as regular direct flights to Sydney. Qantas operates a jet service between Hobart and Melbourne as well as a daily service to Sydney.

Regional Airlines operate services from the north of the State (Launceston, Wynyard and Devonport) and Flinders and King islands as well as to mainland Australia.

Passenger movements through Tasmanian ports have generally increased between 1991-92 and 1996-97. Air traffic through Hobart has increased significantly during this period, increasing 23.0%. At the same time, Launceston and Wynyard have recorded 26.4% and 55.7% increases in traffic

PASSENGER MOVEMENTS, MAIN AIRPORTS, TASMANIA (a)

Airport	1991-92 '000	1992-93 '000	1993-94 '000	1994-95 '000	1995-96 '000	1996-97 '000
Hobart	684	706	743	815	850	841
Launceston	458	468	517	554	588	579
Devonport	144	113	119	124	130	125
Wynyard	70	84	92	98	112	109
Flinders Island	22	21	21	19	17	18
King Island	30	33	36	35	36	33

(a) Scheduled domestic and regional airline services only, including all freight, non-trade items. Charters are not included.

Source: Transport Division, Department of Infrastructure, Energy and Resources

respectively. Devonport was the only airport to record a significant drop in traffic over the period, falling from 144,000 movements in 1991–92 to 125,000 in 1996–97, a fall of 13.2%.

Rail transport

As part of the Land Transport Strategy to encourage innovative practices in private sector rail transport, Transport Tasmania worked with the Commonwealth Government in the sale of Tasrail during 1997–98.

A freight-only rail network of more than 550 km services many of Tasmania's principal industries via links with all major ports and cities.

The main goods transported are bulk cement and fertilizer, coal for a number of major Tasmanian industries, sulphuric acid, logs for woodchip export and paper production, liquid clay, and goods by container.

Communications

The communications services industry includes telecommunication services, information technology (including the Internet), radio and television services, newspapers, postal and courier services.

Telecommunications

The telecommunications services industry consists primarily of businesses providing telecommunications services by wire, cable or radio. Activities undertaken by the industry include cable and communication channel services, network communication services, operation of radio relay stations, satellite communications services, telecommunications, telephone services, teleprinter and telex services and operation of television relay stations.

There have been substantial changes in the telecommunications industry following the commencement of the *Telecommunications Act 1997* and associated legislation on 1 July 1997. The aim of this legislation was to facilitate open market competition in the supply of telecommunications infrastructure and services.

New carriers and service providers will provide increased competition between existing suppliers and help increase consumer choice. While there is now an increased reliance on self regulation, a safety net of formal regulation has been created in the form of the Australian Communications Authority (ACA).

The ACA was formed in order to regulate telecommunications and radio communications and provide information and advice to government on telecommunications issues. The ACA has been established to promote an efficient, competitive, self-managed communications industry in Australia.

Funding from the 1997–98 Commonwealth Budget and developments from the Tasmanian premier's 1997 *Directions Statement* has focused on improving telecommunications by providing improved access to telecommunications infrastructure and services and increasing the amount and quality of educational opportunities in the industry.

These developments provide opportunity for the State, in particular new business opportunities, better delivery of government services and improved access for regional areas.

There has also been a push by the State Government to set up a call centre industry in Tasmania. Tasmania's low set-up costs and availability of suitable labour has resulted in several call centres being set up around the State in recent years.

There are three main types of businesses in the telecommunications service industry, namely licensed communications carriers, Internet service providers and other businesses that perform some other form of telecommunication service.

Licensed carriers

At the end of June 1997, there were three main licensed carriers of telecommunications services, namely, Telstra, Optus and Vodafone. While there are several small operators that exist in the market, these three dominate the telecommunications industry.

Internet Service Providers

Internet Service Providers (ISPs) use telecommunications capacity acquired from a carrier such as Telstra or Optus to supply a range of local and national communications services to consumer and commercial markets. Service providers operate by purchasing network capacity from carriers at discounted rates. This allows them to provide similar or value-added services to consumers at competitive prices.

As at 30 June 1997 there were five businesses operating in Tasmania as Internet Service Providers.

Information technology

Over recent years, Australians have become increasingly aware of the rapid advances in information and telecommunications technology and the ways in which this had impacted on our society and economy.

Digital technology has created inextricable links between telecommunications and computing technologies, transforming the ways in which information is exchanged and accessed. It has influenced the ways in which business is conducted, and how governments and their instrumentalities interact with the business community and society in general. Personal computers and the Internet are increasingly contributing to social and economic change.

The main dimensions of household use of information technology relate to the number of households with computers, the extent of computer use at home, and the number of households accessing the Internet from home.

A total of 32.8% of all Tasmanian households had a computer in 1998. A total of 38.0% of all households in Hobart had a computer, while 29.1% of other households throughout the State also had a computer. Some 41.1% of Tasmanian farms also had a computer.

A total of 49,000 households (or 26.2% of all households) frequently used a computer during the period February to May 1998. Frequent use of a computer was defined as once a week or more. This figure compares with 23.3% for the same period in 1996.

The level of Internet access in Tasmanian homes varied depending on whether the household was rural or urban. The number of households and farms with Internet access for Tasmania 1998 stood at 8.0%. The number of households in Hobart with Internet access was 12.7%, while the

figure for other households was only 4.7%. The number of farms with Internet access was 13.0%.

Approximately 20,000 Tasmanian households had access to a modem in 1998; this was nearly half of all those who owned a computer. The main reasons people gave for not accessing the Internet from home were that costs were too high, they lacked interest in the Internet, they had insufficient capacity/need for a computer upgrade and they had adequate access outside the home.

Radio and television services

Radio and television broadcasting is the responsibility of the Commonwealth Minister for Communications and the Arts. The Australian broadcasting system consists of free-to-air services, subscription narrowcasting and subscription broadcasting services (television only). A narrowcasting service is one whose reception is limited in some way, for example by being targeted to special interest groups or to cover a special event.

The four types of free-to-air service are:

- national radio and television services, provided by the ABC, SBS and Parliamentary broadcasting;
- commercial radio and television services, provided by commercial companies under licence;
- community radio and television services, provided by non-profit-making organisations under licence; and
- open narrowcasting services, including low-powered local tourist information narrowcasting.

Subscription narrowcasting services may be provided by any operator under the standing authority established by the 'class licence'. Examples of such services include radio and television sports services received in hotels and clubs. The three types of subscription television broadcasting services:

- satellite delivered;
- microwave; and
- cable.

Free-to-air services

National broadcasting services

There are 2 public broadcasters transmitting in Tasmania, the Australian Broadcasting

HOUSEHOLDS AND FARMS WITH COMPUTER/INTERNET ACCESS, TASMANIA, 1998

	Access to a computer %	Access to the Internet %
Capital city households (a)	38.0	12.7
Other households (a)	29.1	4.7
Total households	32.8	8.0
Farms (b)	41.1	13.0

(a) Estimates sourced from household surveys in February and May 1998. (b) Estimates from the Agricultural Commodity Survey: reference period March 1998.

Source: ABS catalogue no. 8146.0 and ABS unpublished data

Corporation (ABC) and the Special Broadcasting Service (SBS). Both broadcasters provide Tasmanian radio and television services using the facilities of the National Transmission Agency (NTA).

SBS radio services began in Hobart during 1996 following the completion of the NTA's Hobart Tower Project. SBS TV broadcasts were extended to areas of northern Tasmania (as far west as Wynyard) and the Huon Valley (as far south as Dover).

Following the installation of new NTA facilities, coverage in regional areas for both carriers has increased in Tasmania. The improved facilities have seen coverage of ABC's television broadcasting range reach 100% of the Tasmanian population. As at 30 June 1996, Radio National covered 98%, ABC Classic-FM and Triple-J covered 95%, and NewsRadio covered 43%. At 21 June 1998 in Tasmania, the ABC had a full-time equivalent workforce of 199, which constituted 5% of the national workforce for the ABC.

Commercial broadcasting services

A commercial radio or television licensee is required under the *Broadcasting Services Act 1992* to provide a service that, when considered together with other broadcasting services available in the licence area of the licence, contributes to the provision of an adequate and comprehensive range of broadcasting services in that licence area.

Two commercial TV stations are available throughout most of Tasmania. WIN carries Channel Nine network programs and Southern Cross carries a composite of Channel Seven and Channel Ten programs.

Tasmania had nine commercial radio broadcasting services during the 1996–97 year, the majority of which still operated on the AM band. Commercial FM radio broadcasting services are provided in particular areas of the State, because this form of transmission is not as

suitable as AM given Tasmania's mountainous topography.

Commercial radio stations employed 142 people during 1996–97 and generated \$11.5m income.

Community broadcasting services

During 1996–97, six community radio stations operated in Tasmania. Apart from 7RPH radio for the print handicapped, these stations transmit in the FM frequency band. Huon FM on 95.3 MHz is a community-radio station covering the Huon Valley and D'Entrecasteaux Channel. In Hobart, 7HFC broadcasts adult contemporary music, while THE FM broadcasts multicultural and specialist music programs. CITYPARK on 103.7 and 7WAY in Launceston broadcast to local community audiences, as does 7DBS in Wynyard.

Community radio employed 14 people and generated \$0.4m income.

Open narrowcasting services

The category of open narrowcasting radio services was established under the *Broadcasting Services Act 1992*. Open narrowcasting services are provided under the open narrowcasting radio 'class licence'. Providers of these services are limited to 10-kilometre transmission-ranges by the signal power of their transmitters. In May 1997, there were 57 licences on issue by Spectrum(SMA) in Tasmania. Of these, 54 were transmitting or could transmit on the 87.6MHz or 88.0MHz frequency while the remainder held older licences to transmit on other frequencies (for example, Launceston 'Tourist Info' on 99.3MHz).

Newspapers

Newspapers are another important medium for daily communication across the State.

The Hobart-based *Mercury* has the largest circulation around Tasmania, followed by the Launceston-based *Examiner*. Weekend editions of these two newspapers have higher circulation figures than those during the working week.

Community newspapers also carry weekly community news and advertisements for local communities such as Launceston, Devonport, the East Coast, Derwent Valley, Huon Valley, Dorset and Circular Head.

Postal services

The Australian Postal Corporation, trading as Australia Post, is a Government Business Enterprise owned by the Commonwealth of

COMMERCIAL AND COMMUNITY RADIO BROADCASTERS, TASMANIA, 1996–97

	Units	Commercial	Community
Businesses	no.	9	6
Employment	no.	142	14
Wages and salaries	\$m	4.6	0.1
Total income	\$m	11.5	0.4

(a) At 30 June.

Source: ABS catalogue no. 8680.0

Australia. It operates under the *Australian Postal Corporation Act 1989*. Australia Post is independent of government funding. It pays the full range of government taxes and charges and has apportioned 50% of its after-tax profits as a dividend to the government.

The corporation offers letter and parcel services within Australia and internationally. It also provides a range of related services including electronic bulk mail handling; advertising mail; bill payment, money order and banking services; express delivery services; and philatelic products and services.

Australia Post's legal obligations require it to:

- provide Australians with a universal letter service;
- carry standard letters within Australia at a uniform price;
- ensure that the letter service meets the social, industrial and commercial needs of the community;
- perform its functions according to sound

business practice; and

- perform its functions consistent with the Commonwealth's general policies.

At 30 June 1997, Australia Post employed 882 staff in Tasmania. There were 34 post offices, and 152 licensees around the State. Mail was distributed to a total of 209,010 delivery points, including 159,047 delivery points at private residences, 30,469 postal premises delivery points to households, and 19,494 delivery points to businesses.

Australia Post has moved towards electronic commerce services in recent years as its business expands. Many Australia Post outlets are equipped with giroPost facilities for electronic banking and Billpay for bill payment services. Many of these outlets are in rural or remote areas that would otherwise not have access to these services.

GiroPost facilities provide a service on behalf of 11 banks and financial institutions, while the Billpay facilities enable customers to pay accounts for more than 340 organisations across the country.

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Tasmania Online: <http://www.tas.gov.au>

Acknowledgments

Australian Broadcasting Authority
Australia Post
Department of Transport and Regional Development
Mercury
National Transmission Authority
Transport Tasmania

CHAPTER 22

Trade

Photo: Department of Infrastructure, Energy and Resources



Until the 1970s apples were a major overseas export from Tasmania. However, with the formation of the European Common Market and increasing competition, by 1979–80 the export of apples had declined considerably.

Tasmania's first recorded trading activity occurred in 1808 when a cargo of sugar arrived at the colony from Bengal. Exports began in 1812 when the *Cyclops* sailed for Sydney with a cargo of locally grown wheat. In June 1813 ports were opened to commerce and trading began in Van Diemen's Land. Twenty-thousand bushels of wheat was exported to Sydney in 1817. In 1819 wheat to the value of £4,000 (\$8,000) was exported and in 1820, 43,917 pounds (19,962 kg) of salted meat, which was produced at the settlement of Hobart, was exported to Sydney.

During the 1820s the economy of the colony was becoming diversified even though it still remained very basic. Imports arrived from Britain, India, Mauritius and Batavia while exports were shipped to Britain and Sydney. In 1822 goods exported consisted of wheat, oil, whalefins, seal and kangaroo skins, logs of pine and beefwood, salt, wool, horses and hides. In

1823 exports consisted of wheat, barley, potatoes, oil, whalebone, seal and kangaroo skins, cedar logs, pine logs, wool and tallow. In the *Statistical Returns of Van Diemen's Land 1835–38*, compiled from official records in the Colonial Secretary's office, it was recorded 'that the imports for the three years have increased 20 per cent, and the very pleasing fact that the exports for the same period have increased at the astonishing rate of 81 per cent, or from £320,679 [\$641,358], in 1835 to £581,475 [\$1,162,950] in 1838.'

The most prominent import into Van Diemen's Land during the early years of settlement was livestock. By 1837, however, two years after the settlement of Port Phillip, livestock had become the major export line and, with wool, it dominated export trade.

During the 1840s exports dropped due to a slump in the price of the colony's staple

commodity, wool. There was also a decline in the export of oil and whalebone, which were main export commodity items. The largest increase in trade occurred with the British colonies during this period.

In 1842 the value of imports into Van Diemen's Land was a high £21 (\$42) per head compared with only £2 10s (\$5) per head in Britain. The value of exports for the same year was £10 (\$20) per head for Van Diemen's Land compared with only £2 (\$4) per head for Great Britain and Ireland. By the mid-1800s the value of trade, especially exports, had grown dramatically.

As the colony developed and progressed through the late 1800s, the export of locally produced commodities became increasingly important to the economy of the State.

By 1880 the value of exports had exceeded the value of imports. This balance of trade (excess of exports over imports) see-sawed over the following five decades, then stabilised over the period 1937–38 to 1948–49 with exports once again exceeding the value of imports. From 1949–50 to 1954–55 the balance fluctuated once again, but from 1955–56 the value of exports has consistently exceeded the value of imports. As a result of this healthy balance of trade the State plays a vital role as an earner of export income for Australia.

International trade

Tasmania's trade performance

Tasmania is rich in mineral resources, and its volcanic soils and temperate climate are capable of producing far more primary produce than its small domestic population requires. As a result, a large proportion of Tasmanian produce needs to be sold to consumers interstate or overseas. This

abundance may seem beneficial for the economy, but it can also make Tasmania vulnerable to the uncertainty and constant change of the world market.

A large proportion (65%) of Tasmania's total export markets lie in Asian countries whose economies are likely to be adversely affected by the current economic crisis. Economists have been watching closely for the impact of the crisis to have an effect on Tasmanian markets. To date, however, the value of exports to this region has not been significantly altered. Exports to Japan, our major trading partner, actually increased by 17.4% in 1997–98, and significant increases were also recorded for Laos, Myanmar, Philippines, Singapore and Vietnam. There were decreases recorded for the more seriously affected countries of Malaysia and Indonesia, while Korea remained steady. It is possible that the most serious effects of the crisis may be yet to come, but Tasmanian exporters have been seeking new markets in less affected countries, and thus, may be able to avoid the worst of it.

In the 1997–98 financial year, the value of Tasmania's overseas exports rose by 25% to \$2,134.9m, a new record high. This rise was well above the rise of 5% in the previous year and also well above the Australian export growth in 1997–98 of 11% over the previous year. In the 1997–98 financial year the value of Tasmania's exports was 2.4% of the Australian total.

Since a large proportion of Tasmania's production is export oriented, the Tasmanian economy can be severely affected by movements in world commodity prices. Because of its small size, Tasmania's economy is reliant on a few key industries and so its foreign exports are concentrated in a handful of commodities. The biggest single export contributor in 1997–98 was zinc (15% of the total value of exports) followed

TOTAL MERCHANDISE EXPORTS AND IMPORTS

	Exports		Imports		Excess of exports over imports \$m
	Value \$m	Percentage change over previous year %	Value \$m	Percentage change over previous year %	
1992–93	1 522.2	5.8	334.2	16.6	1 188.0
1993–94	1 574.9	3.5	447.6	33.9	1 127.3
1994–95	1 611.7	2.3	341.8	–23.6	1 269.9
1995–96	1 619.7	0.5	351.4	2.8	1 268.3
1996–97	1 708.3	5.5	395.7	12.6	1 312.6
1997–98	2 134.9	25.0	385.4	–2.6	1 749.5

Source: Foreign Trade, Australia: FASTTRACCS Service (5466.0)

by woodchips, catamarans, aluminium, fish, and ores and concentrates. This group of goods together accounted for 69.4% of the total value of Tasmanian exports. The value of all of these commodities is susceptible to movements in world commodity prices, and Australian dollar exchange rates.

Overseas imports are often transhipped to Tasmania after being cleared through Customs in the larger mainland ports, and so are not included in the figures reported for imports to Tasmania. As a result imports into Tasmania are

under-stated in ABS figures because only direct imports into Tasmania are recorded.

During 1997–98, the value of direct imports to Tasmania decreased by 2.6% to \$385.4m. This was mainly due to a \$25.0m decrease in specialised machinery, \$6.6m in metallic salts, \$2.7m in internal combustion piston engines, \$2.6m in transmission shafts and bearings and \$1.3m in aluminium. These decreases were partly offset by a \$13.0m rise in imports of cocoa, a \$10.9m rise in fertilisers, a \$5.9m rise in animal feed, and a \$4.6m rise in coke and semi-coke.

TASMANIA'S MAJOR EXPORT MARKETS

Country or country group	1996–97 \$'000	1997–98 \$'000	1997–98 share %	Change from 1996–97 %
Association of South East Asian Nations (ASEAN)				
Brunei	427.8	440.5	0.0	3.0
Indonesia	120 823.2	82 872.1	3.9	-31.4
Laos	7.3	18.1	0.0	147.7
Malaysia	110 848.4	108 168.9	5.1	-2.4
Myanmar	25.3	143.9	0.0	468.1
Philippines	18 362.8	62 303.3	2.9	239.3
Singapore	30 959.5	23 307.6	1.1	-24.7
Thailand	77 746.3	110 879.3	5.2	42.6
Vietnam	5 385.6	10 073.9	0.5	87.1
ASEAN Total	364 586.2	398 207.7	18.7	9.2
European Union (EU)				
Austria	46.1	360.1	0.0	680.7
Belgium-Luxembourg	9 482.6	20 752.8	1.0	118.9
Denmark	423.6	135 710.9	6.4	31933.8
Finland	3 456.9	2 848.2	0.1	-17.6
France	11 612.9	6 479.8	0.3	-44.2
Germany	24 401.8	42 532.4	2.0	74.3
Greece	510.2	472.8	0.0	-7.3
Ireland	100.9	1 079.3	0.1	969.3
Italy	66 727.3	9 460.3	0.4	-85.8
Netherlands	7 582.0	16 458.6	0.8	117.1
Portugal	5.4	0.0	0.0	-100.0
Spain	6 184.0	73 738.9	3.5	1092.4
Sweden	3 002.8	3 834.4	0.2	27.7
United Kingdom	166 307.5	25 062.7	1.2	-84.9
EU Total	299 844.1	338 791.3	15.9	13.0
Other major trading partners				
Bangladesh	22 285.7	15 238.2	0.7	-31.6
Canada	20 030.7	92 235.3	4.3	360.5
China	23 156.5	52 260.8	2.4	125.7
Hong Kong	100 880.8	132 550.8	6.2	31.4
India	18 960.1	26 096.8	1.2	37.6
Japan	467 854.7	549 048.1	25.7	17.4
New Zealand	46 565.0	50 752.3	2.4	9.0
Republic of Korea	64 135.5	67 800.5	3.2	5.7
Taiwan	93 950.6	150 405.2	7.0	60.1
United States of America	117 245.0	176 174.5	8.3	50.3
Total	975 064.4	1 312 562.5	61.5	34.6
Other countries, re-imports	68 827.8	85 345.4	4.0	24.0
Total exports	1 708 322.5	2 134 906.8	100.0	25.0

Source: Foreign Trade, Australia: FASTTRACCS Service (5466.0)

Major export markets

In 1958–59, Tasmania's international export trade was dominated by the United Kingdom. Major commodities exported to the UK were fresh apples (over 2.8 million bushels, valued at nearly \$7m), butter and greasy wool. The next most important export markets were in India (zinc) and USA (lead ores and concentrates).

During the late 1960s Japan became Tasmania's major export market when it substantially increased its iron-ore requirements. In the twelve months to June 1968, Tasmania exported goods worth \$9m to Japan. The following year this had jumped to \$17m, most of which was for iron ore.

In 1997–98, Tasmania's international export trade was still dominated by Japan, with \$549m, or 25.7% of the total, followed by the USA, with 8.3% and Taiwan, with 7%. More detail on the commodities exported to these countries is contained in the following pages.

Japan

Japan continued to be Tasmania's largest export market by far in 1997–98, taking over a quarter (25.7%) of the value of the State's exports. Exports to Japan increased 17.4% from \$467.9m in 1996–97 to \$549.0m in 1997–98. The next most significant export destination was the USA, which took 8.3% of the total.

During 1997–98, woodchips were Tasmania's most valuable single commodity exported to Japan, worth \$283.0m or 51.5% of total exports to Japan. The second most valuable commodity was aluminium, worth \$48.1m of total exports, followed by beef, worth \$41.1m.

TASMANIAN EXPORTS TO JAPAN

Commodity (a)	1996–97 Value \$m	1997–98 Value \$m
Woodchips	217.9	283.0
Aluminium	18.6	48.1
Beef	32.1	41.1
Copper ores and concentrates	43.4	35.9
Cheese and curd	23.9	32.4
Total fish	35.7	31.0

(a) The top six export commodities to Japan by value.

Source: *Foreign Trade, Australia: FASTTRACCS Service* (5466.0)

ASEAN

The Association of South East Asian Nations (ASEAN) countries comprises Brunei, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam. In 1997–98 ASEAN took 18.7% of the value of Tasmania's exports. Exports increased by 9.2% from \$364.6m in 1996–97 to \$398.2m in 1997–98.

Exports to ASEAN have risen considerably over the past decade, with Indonesia, Malaysia and Thailand taking a steady stream of Tasmanian exports. A new export market for copper ores to the Philippines has opened up in the past year, worth \$37.1m. In 1997–98 Thailand was Tasmania's sixth largest export market taking \$110.9m of Tasmania's exports and Malaysia the seventh largest taking \$108.2m. Although in 1997–98 exports to ASEAN countries increased overall by 9.2% compared with the previous financial year, Indonesia (down 31.4%), Singapore (down 24.7%) and Malaysia (down 2.4%) all recorded decreases.

TASMANIAN EXPORTS TO ASEAN COUNTRIES

Commodity (a)	1996–97 Value \$m	1997–98 Value \$m
Zinc	101.5	115.9
Aluminium	121.6	103.2
Ores and concentrates of base metals (tin, zinc and lead)	52.8	71.8
Copper ores and concentrates	0.0	37.1
Milk, cream, whey and milk products (excl. butter and cheese)	22.6	14.8
Fruits and nuts	10.3	11.7

(a) Top six export commodities to ASEAN by value.

Source: *Foreign Trade, Australia: FASTTRACCS Service* (5466.0)

European Union (EU)

The value of Tasmanian exports to the European Union increased by 13.0% from \$299.8m in 1996–97 to \$338.8m in 1997–98. In 1997–98 the EU was the destination of 15.9% of Tasmania's exports. Of the total, goods worth \$135.7m were exported to Denmark.

While the UK was once Tasmania's premier export destination, primarily taking apples, lamb, beef and dairy products, since it has joined the EU, it has tended to look towards its partner countries for these products, consequently reducing its relative importance to Tasmania as a trading partner. In 1997–98, the UK received only 1.2% of Tasmania's total exports.

Denmark was Tasmania's most valuable export market within the EU in 1997–98, and accounted for 40.0% of exports to the EU. This represented 6.4% of the total value of Tasmania's exports. Spain was the second most valuable market within the EU and took 3.5% of Tasmania's exports, followed by Germany, with 2.0%.

The most valuable commodity exported to the EU in 1997–98 was catamarans, followed by ores and concentrates of base metals, and vegetables. Exports of wool to France, Germany and Italy all decreased during the year, making it only the fourth ranked major commodity, down from third position in 1996–97. Vegetables exports increased to both the UK and Belgium-Luxembourg.

TASMANIAN EXPORTS TO THE EU

Commodity (a)	1996–97 Value \$m	1997–98 Value \$m
Ships and boats	197.5	204.3
Ores and concentrates of base metals (tin, zinc and lead)	27.7	27.9
Vegetables	9.1	20.5
Wool	23.2	14.4
Nitrogen function compounds	0.5	11.6
Aluminium	4.0	8.0

(a) The top six export commodities to the EU by value.

Source: Foreign Trade, Australia: FASTTRACCS Service (5466.0)

USA

In 1997–98, the United States of America was Tasmania's second largest export destination country, accounting for 8.3% of the State's total exports. Tasmania's exports to the USA rose by 50.3% from \$117.2m in 1996–97 to \$176.1m in 1997–98. The main commodity exported to the USA was iron, steel and ferro alloys. This was worth \$45.7m or 25.9% of Tasmania's exports to

TASMANIAN EXPORTS TO USA

Commodity (a)	1996–97 Value \$m	1997–98 Value \$m
Iron, steel and ferro alloys	45.0	45.7
Aluminium	0.1	34.2
Fish, fresh chilled or frozen	4.8	15.0
Beef	11.2	12.9
Milk, cream and milk products	5.9	10.3
Transmission shafts, bearings, etc.	7.3	9.0

(a) The top six export commodities to the USA by value.

Source: Foreign Trade, Australia: FASTTRACCS Service (5466.0)

the USA. A new market for aluminium has been established, along with strong increases in all the other major commodities.

Taiwan

In 1997–98, Taiwan was the third largest market for Tasmania's exports, worth 7.0% of total exports. The value of these exports increased by 60.1% from \$94.0m in 1996–97 to \$150.4m in 1997–98. Zinc was the most valuable commodity exported, worth \$59.3m, an increase of 51.4% on the previous year's figure of \$39.2m. The next most valuable commodity was aluminium, worth \$27.1m, followed closely by fish, at \$26.4m.

TASMANIAN EXPORTS TO TAIWAN

Commodity (a)	1996–97 Value \$m	1997–98 Value \$m
Zinc	39.2	59.3
Aluminium	12.1	27.1
Preserved fish	20.4	26.4
Woodchips	0.0	8.9
Crustaceans, molluscs and aquatic invertebrates	5.8	5.8
Iron, steel and ferro alloys	3.8	4.5

(a) The top six export commodities to Taiwan by value.

Source: Foreign Trade, Australia: FASTTRACCS Service (5466.0)

Hong Kong

In 1997–98, Hong Kong was the fifth largest export destination from Tasmania. Total exports of \$132.6m represented an increase of 31.4% on the previous financial year's figure of \$100.9m. The most valuable commodity was zinc, worth \$89.1m, or 67.2% of total exports to Hong Kong. The second most valuable commodity group was fish, worth \$12.5m, followed closely by crustaceans and molluscs, worth \$12.3m.

TASMANIAN EXPORTS TO HONG KONG

Commodity (a)	1996–97 Value \$m	1997–98 Value \$m
Zinc	56.8	89.1
Fish	12.1	12.5
Crustaceans, molluscs and aquatic invertebrates	13.2	12.3
Milk, cream and milk products	3.2	4.3
Aluminium	5.5	2.4
Machinery and equipment	0.0	1.8
Vegetables	1.4	1.7

(a) The top six export commodities to Hong Kong by value.

Source: Foreign Trade, Australia: FASTTRACCS Service (5466.0)

Commodities exported

Tasmania's international exports have historically been mainly composed of raw materials and their products. This pattern continued in 1997–98; among the most valuable export commodity groups were zinc (14.9%), woodchips (13.8%), aluminium (11.0%) and base metal ores and concentrates (6.2%). These groups accounted for almost half of Tasmania's exports in 1997–98. However, this pattern is changing over time. With the establishment of new manufacturing industries, such as the production of aluminium catamarans, cheeses, transmission shafts and bearings, fertilisers and pharmaceutical products, Tasmania's reliance on exports that have little or no value added has begun to abate.

In 1997–98, Tasmania's top ten exports formed 79.0% of the total value of exports. With the notable exception of catamarans, all of these top ten exports were raw materials and food produce.

In 1997–98, zinc was the most valuable commodity exported: 28.0% was sent to Hong Kong, 18.7% to Taiwan, 15.8% to Indonesia, and

10.0% to Malaysia. Zinc is produced from ores and concentrates from the Pasminco mines at Rosebery, and also from concentrates imported to Tasmania from mainland States.

Woodchips was Tasmania's second most valuable export, with Japan taking 96.2% of the total, as input to paper manufacture. Other markets for woodchips have been found in Taiwan, USA and Korea, which also have large pulp and paper manufacturing industries.

Tasmania's third most valuable export was ships and boats. Boat and ship building has become recognised as Tasmania's growth industry. This commodity group was dominated by catamarans, with 97.5% of the total. Four catamarans were exported during 1997–98, two to Denmark, and one each to Spain and Canada. Other smaller vessels went to New Zealand, Taiwan and China.

The next most valuable commodity was aluminium, of which 27.0% was exported to Thailand, 20.4% to Japan, 14.5% to the USA, 11.7% to Indonesia and 11.5% to Taiwan. Aluminium is manufactured in Tasmania from ores and concentrates imported from mainland States and overseas.

TASMANIAN OVERSEAS EXPORTS

Commodity (a)	1996–97 Value \$'000	1997–98 Value \$'000	Change from 1996–97 %
Zinc	259 210.1	317 912.9	22.6
Woodchips	221 172.0	293 999.2	32.9
Ships and boats	197 591.7	272 849.2	38.1
Aluminium	169 638.4	235 489.0	38.8
Fish, crustaceans and molluscs	121 995.6	141 205.1	15.7
Base metal ores and concentrates, n.e.c.	108 036.7	132 074.2	22.2
Copper ores and concentrates	61 412.8	88 148.4	43.5
Iron, steel and ferro alloys	78 896.0	74 892.4	-5.1
Beef	52 959.7	67 965.4	28.3
Cheese and curd	52 459.2	65 184.3	24.3
Milk, cream, whey and milk products (excl. butter and cheese)	45 707.1	55 267.3	20.9
Vegetables	24 063.0	39 405.1	63.8
Medicinal and pharmaceutical products	22 793.8	34 754.9	52.5
Wool	38 519.9	29 455.7	-23.5
Iron ore and concentrates	6 554.2	24 894.3	279.8
Fruit and nuts	12 268.3	15 798.3	28.8
Oil seeds and oleaginous fruits	4 950.5	15 510.6	213.3
Wood	18 961.7	15 421.3	-18.7
Transmission shafts and bearings	12 748.0	13 633.1	6.9
Butter, fats and oils	11 941.8	13 223.6	10.7
Paper and paperboard	17 992.4	12 678.7	-29.5
Animal feedstuffs	8 312.1	11 864.1	42.7
Nitrogen compounds	526.0	11 635.0	2 112.0
Chocolate	4 048.1	10 685.1	164.0
Other commodities	184 123.0	173 820.6	-5.6
Total	1 708 322.5	2 134 906.8	25.0

(a) The top 25 overseas exports from Tasmania by value.

Source: Foreign Trade, Australia: FASTTRACCS Service (5466.0)

Fish, crustaceans and molluscs were Tasmania's fifth largest export during 1997–98. The majority of the fresh, chilled or frozen fish went to Japan and the USA. The dried or smoked fish went mostly to Japan and Indonesia; and the crustaceans (mostly crayfish) went to China, Hong Kong, Japan and Taiwan. In all, 25.9% of the total fish, crustaceans and molluscs went to Japan, 22.9% to Taiwan and 11.4% to the USA.

Tasmania's base metals, lead ores and concentrates were the sixth biggest export in 1997–98. Malaysia was the destination of 33.6% of this, with Thailand the next most important country, at 20.8%.

Copper ores and concentrates ranked seventh, with Japan and the Philippines taking nearly 83% of the total value. India was the next most important destination.

Iron, steel and ferro alloys were the eighth most valuable Tasmanian export. The USA was the most valued destination, taking 61% of Tasmania's export. Japan, with 18.3%, was the second most valued destination.

Beef was the ninth most valuable Tasmanian export. Most of Tasmania's beef was sent to Japan, which took 60.5%; the USA took 18.9%.

Cheese was Tasmania's tenth most valuable export, of which 49.6% went to Japan in 1997–98. Other major markets were in Korea, Philippines and the USA.

Commodities imported

It is difficult to get a complete picture of Tasmania's imports because only those goods imported directly into the State from overseas are currently recorded by the Australian Bureau of Statistics (ABS). It is known that significant amounts of consumer goods, and raw materials for input into manufacturing processes, are imported from interstate, and are thus not recorded by the ABS as Tasmanian imports. More detail on the commodities imported into individual Tasmanian ports can be obtained from the individual Tasmanian port authorities.

Items directly imported into Tasmania mostly include capital equipment and machinery, and intermediate goods to be used in further downstream processing. The most valuable import recorded during 1997–98 was internal combustion piston engines, which accounted for 9.0% of Tasmania's total. Nearly three-quarters of the \$34.7m total was accounted for by internal combustion engines for marine propulsion, intended for use in the manufacture of ships and boats.

TASMANIAN OVERSEAS IMPORTS (a)

Standard International Trade Classification	1996–97 Value \$'000	1997–98 Value \$'000	Change over 1996–97 %
Internal combustion piston engines & parts	37 354.7	34 707.2	-7.1
Private motor vehicles	27 386.5	29 159.9	6.5
Pulp and waste paper	27 673.0	28 792.8	4.0
Cocoa	14 999.1	28 043.4	87.0
Fertilisers	13 926.9	24 808.2	78.1
Residual petroleum products	19 809.0	20 841.7	5.2
Aluminium	15 690.9	14 399.6	-8.2
Transport and special purpose motor vehicles	12 311.4	11 180.0	-9.2
Power generating machinery & parts	4 720.6	8 886.3	88.2
Animal feed	2 630.2	8 492.7	222.9
Textile yarn	6 017.4	7 920.5	31.6
Transmission shafts, bearings, etc	10 470.7	7 885.4	-24.7
Civil engineering & contractors plant & equipment	3 967.3	7 751.4	95.4
Machinery & equipment for specialised industries	31 666.3	6 673.2	-78.9
Coke and semi-coke	1 057.5	5 704.7	439.4
Mechanical handling equipment	9 214.6	5 348.0	-42.0
Fruit and nuts	4 229.4	5 258.6	24.3
Rubber tyres, tubes, flaps, inner tubes	4 098.7	5 189.8	26.6
Metallic salts and peroxy salts of inorganic acids	11 780.4	5 164.9	-56.2
Ships, boats and floating structures	124.1	4 881.6	3 832.1
Other commodities	136 532.0	114 337.6	-16.3
Total	395 660.7	385 427.4	-2.6

(a) Top 20 overseas import commodities to Tasmania by value.

Source: Foreign Trade, Australia: FASTTRACCS Service (5466.0)

Private motor vehicles were the second most important direct import. In all 3,264 motor vehicles were shipped into Tasmania during 1997–98.

Pulp and waste paper contributed 7.5% to the value of Tasmanian imports. Of the total value of

\$28.8m, over 90% was for coniferous chemical semi-bleached or unbleached wood pulp, intended for use in paper manufactures.

Other significant imports were cocoa, used in the manufacture of chocolate; fertilisers, used by primary producers; residual petroleum products (nearly all petroleum coke); and aluminium.

A century of trade

Following the history of Tasmania's record of trade gives a powerful insight into the changing fortunes of the State, as emerging industries, changing culture and technological developments are reflected in the composition of its exports and imports.

By the late 1880s, the value of Tasmania's exports had comfortably outgrown the value of its imports, and by 1900 the value of exports had grown to £2.6m, while imports were £2.1m. In 1900 the value of the exports amounted to £15 2s 2d per head of mean population: 42% of the total was destined for mainland Australia and New Zealand, 26% for the United Kingdom, and 31% to foreign countries. Chief goods imported were textiles and dress fabrics, machinery and equipment, and food and drink (including alcoholic drinks).

Tasmania's mining industry was clearly into its heyday, as nearly 63% of total exports consisted of minerals and metals: £838,071 worth of blister copper, £270,373 of tin, £204,544 of gold, £172,166 of silver ore, £79,914 of silver bullion and £63,589 of copper ore were exported.

On the agricultural side, wool, fruit, potatoes, and live sheep were also significant exports. Interestingly, the record shows that one tiger, valued at £5, was exported to New South Wales. This would most likely have been a Tasmanian Tiger, or *Thylacine*, a species that was later to become extinct.

In 1909 the total value of Tasmania's exports were £3.4m and imports £3.1m. Imports were still dominated by textile fabrics, food, clothing and other manufactured goods;

exports by apples, potatoes, and wool, and most significantly metals: gold, silver, copper and tin. The jam and hop industries had also begun to show their worth, with £143,975 in jam exports, and £63,815 of hops.

By 1910, Australia had settled in to its new status as a Commonwealth, and the collection of statistics was regulated by the *Census and Statistics Act 1905*. The individual State statistical offices had been combined into the Commonwealth Bureau of Census and Statistics, and recording of interstate trade by the Customs Department ceased. Only direct overseas imports and exports were recorded from September 1910: this only amounted to about one-eighth of the total exports, and one-quarter of imports, and thus do not present an adequate view of the State's trade.

In 1922–23 data was again collected on interstate trade, compiled by the Bureau with the assistance of marine boards and individual traders. The value of exports had risen to almost £8m, with imports rising to £9.1m. Much of this increased value was a result of increased prices, rather than an increase in quantities. The greatest increase in exports was due to the Electrolytic Zinc Works at Risdon (established in 1917), which exported over £1m in zinc, compared to 1909, when only a small amount of zinc ore was exported. Confectionery and calcium carbide were another two newly established industries, which contributed about £90,000 each to the exports total. Apples, potatoes, wool and hops still predominated in agricultural exports, and jams had risen in value to contribute £380,540 to total exports. Major imports were still textiles and clothing,

food and drink, and metal manufactured goods. There were 537 motor cars imported during the year.

During 1930–31 the effects of world-wide depression had their effect on Tasmania's economy as everywhere else. The depreciation of Australian currency and depressed world prices affected the returns that exporters were able to earn overseas, and Tasmania's trade balance once again swung into deficit. Total imports were valued at £7.2m, and exports at £7.0m. The world price for zinc fell from £24 6s per ton to £16, so the value of zinc exports was reduced in total, in spite of increased volumes exported. The same story applied to wool and potatoes. Fruit growers received better prices, and an extension of the open season on possums allowed a substantial increase in the export of their skins.

It was recognised that tourism was beginning to be an important economic activity, despite its contribution being difficult to measure in terms of the exchange of goods.

In 1939–40 the value of imports rose to £12.1m, and exports to £12.9m, a record trade performance. Interstate imports accounted for 89.5% of the total imports, interstate exports for 81% of the total exports. The balance of trade was in surplus again, and the exchange rate remained steady throughout the year. Substantial increases were reported for a number of major export items, foremost among them was woollen manufactures, contributing £1.3m to the export total. The APPM pulp mill at Burnie had started operations in 1939, and the ANM Boyer newsprint mill followed in 1941, producing the first newsprint from Tasmanian hardwood, and establishing the State's paper industry. The outbreak of world war had effectively removed overseas competitors from the market, thus enabling these new industries to start up.

By 1949–50, Tasmania was riding on a wave of post-war prosperity, with manufacturing industries driving imports as inputs as well as finished products as exports. The value of exports had risen to £A38.3m, and imports to

£A40.3m. The value of trade by air was recorded for the first time, amounting to £A7.3m. Most of the air trade imports were in textiles and clothing; with textiles dominating the air exports. The proportion by value of interstate trade had fallen during the decade from 92% of imports and 88.5% of exports in 1940–41, to 73.3% of imports and 58.8% of exports in 1949–50, indicating the State had developed more direct trading links with overseas markets. Over £A5.8m of wool was exported, along with nearly £A5m worth of zinc and over £A2m of fresh apples.

In 1959–60 the State's total value of exports had risen to £A103m, while imports were valued at £A88.4m. In 1959 the vehicular ferry service by the *Princess of Tasmania* enabled a sharp increase in the transport across Bass Strait of tourist passenger vehicles. It was estimated that this service helped increase the value of both imports and exports by £A4m during the year. Apples, wool, butter and zinc, aluminium and copper continued to be major exports, and sawn and dressed timber (mostly eucalypt) exports were valued at over £A4m.

In 1966, Australia adopted its own decimal currency, based on the Australian dollar, which was equivalent at the time to about 10 shillings, or \$2 to the earlier pound (£A).

The value of Tasmania's exports for 1969–70 was \$455.8m, and imports were valued at \$325.0m. Trade by air was still a small proportion of the total, contributing only 6% by value. Manufactured goods and machinery from the Australian mainland dominated imports and zinc, tin, apples, wool, frozen vegetables and timber were the major exports. Over \$25m worth of iron ore was also shipped from Port Latta. Japan had taken over as Tasmania's major export trading partner, taking over \$43m of goods, which included the iron ore from Port Latta.

The United Kingdom only took \$24.4m of the State's exports, which still included mostly food and live animals (butter, apples and sheep), some wool and manufactured goods. The declining status of the United Kingdom as a trading partner not only reflected the

relative increase in Japan's position, but the impact of the formation of the European Common Market. Whereas previously Tasmanian goods such as apples, pears and butter had received preferential treatment in the UK market, they now faced direct competition from European countries.

By 1979–80 the value of Tasmania's exports had reached \$1,446.9m, and imports \$1,168.8m. Principal overseas exports were still the metals: zinc (\$100.3m), tin (\$57.6m), lead (\$53.0m), iron (\$46.5m) and tungsten, mainly from the King Island scheelite mine (\$29.8m). Agricultural produce such as beef, wool, live sheep and skins were important, as was abalone, valued at \$10.4m for the year. The export of apples played only a minor role. Woodchips were being exported, but the quantity and value were not published, due to confidentiality. Japan was far and away Tasmania's most important trading partner, taking \$217.9m of our total overseas exports. Much of this consisted of iron ore pellets, but copper, woodchips and abalone were also significant exports. Japanese tuna fishing boats were also operating frequently in Tasmanian waters, and the value of these vessels is recorded in both imports and exports.

Late in the 1970s it was recognised that data being collected for interstate trade movements was unreliable, and towards 1980 the data was increasingly being estimated. By 1984–85 the collection ceased completely, so from then on the ABS has only collected information on overseas trade movements. This does not give a complete picture of Tasmania's economic situation, but is however still a valuable indicator of changes from year to year.

In 1997–98, international trade was still dominated by Japan, taking \$549m of Tasmania's exports, which was 25.7% of total overseas exports: \$283m of this was made up by woodchips, a significant input into Japan's paper industry. Iron ore, used in Japanese car manufacture, no longer played a significant role, following the closure of the Savage River mine in late 1996. Zinc and aluminium are still important exports, and a major contribution to the State's exports is now being made by ship and boat builders, principally aluminium catamarans. Ship and boat building has historically been an important industry throughout Tasmania's history, but particularly in the early years of the colony, when craftsmen were quick to appreciate the qualities of Tasmanian timbers.

It seems likely that Tasmania's trade records will always be dominated by overseas transactions, as the abundance of mineral resources, rich forests and fertile soils make it possible to produce a wealth far beyond what even the small Australian population can consume. Local manufacturers import a great deal of the raw materials required as input to their processes, but the value of what is exported must significantly exceed what is imported for this purpose. As new industries emerge and others decline, their exports will continue to be reflected in the statistics of the State.

This article has only covered the trade of goods between countries and States. To gain a complete picture of Tasmania's trade requires further information on the interstate sea and air freight movements, as well as on the exchange of financial and other services, such as education and tourism.

Tasmanian sea ports

Tasmania has a number of ports that receive coastal and overseas vessels. They are situated on the Derwent and Huon rivers in the south (Hobart and Port Huon); in Spring Bay on the East Coast; on the Tamar River in the north (Inspection Head, Long Reach and Bell Bay); on the Mersey River (Devonport), in Emu Bay (Burnie) and at Port Latta, all in the North-West.

All of these ports provide berths of a depth of nine metres or greater. Port Latta provides a depth of 16 metres nearly one and a half kilometres off-shore, which is serviced by a long jetty, along which iron ore pellets are conveyed via a pipeline to waiting ships.

The four main port authorities servicing these areas were corporatised on 30 July 1997. The new corporate bodies of the Hobart Ports Corporation, Port of Launceston, Port of Devonport Corporation, and Burnie Port Corporation are now responsible for all of the Tasmanian sea ports. The Hobart Ports Corporation is now responsible for Hobart, Port Huon, Port Arthur, Spring Bay (at Triabunna), Strahan, Port Latta, Stanley, Currie and Grassy.

Between 1995–96 and 1997–98, mass cargo handled by Tasmanian ports increased by 9.2%, from 10,832,518 tonnes to 11,827,950 tonnes. Total revenue cargo reached 18,667,253 tonnes in 1997–98, an increase of 7.8% on 1995–96 figures. Container traffic reached 264,598 twenty-foot equivalents (TEUs) in 1997–98, a 7.9% increase on traffic in 1995–96.

The total number of ships to visit Tasmanian ports decreased by 4.4% from 1,910 in 1995–96 to 1,826 in 1997–98.

The Hobart Ports Corporation and the Port of Devonport Corporation were the only Tasmanian port corporations to receive visits from cruise ships between 1995–96 and 1997–98. The Port of Hobart received the majority of visits, with 18 cruise ship visits between 1997 and 1998. This was twice the number of 1995–96 cruise

ship visits. An association known as *Cruising Tasmania* has been formed between several of the ports corporations, with the object of increasing the number of cruise ship visits to ports in the north of the State. As a result, the first international cruise ships are expected to visit the Tamar River in the coming summer.

Hobart

The Hobart Ports Corporation controls about two-thirds of Tasmania's coastline, from Cape Portland on the north coast to Temma Harbour in the west. It is responsible for operations in the major ports of Hobart, Spring Bay (at Triabunna), Port Latta, and Port Huon as well as minor (mainly fishing) ports at Bicheno, Strahan, Stanley, St Helens, Scamander and Dover, among others.

Hobart provides three roll-on/roll-off berths, five general cargo berths, two berths suitable for container operations or general cargo, a bulk wheat berth and a bulk petroleum berth. In addition there are two docks (Constitution and Victoria) for handling fishing vessels and recreational craft, and three slips capable of handling vessels of up to 1,200 tonnes. The first stage of the Kings Pier Marina project, involving the construction of a T-head jetty and sea wall, was completed in late 1997, with a further stage to follow over the next two years.

During the year, Hobart Ports assisted Pasmenco EZ to introduce its new Project Asia Service (PAS), which is largely intended to export refined zinc, but also provides an international shipping service for other products. Along with the fortnightly Australia Asia Express (AAX) service, this gives local producers greatly enhanced and reliable access to Asian markets. However, access to a regular coastal shipping service from Hobart to Melbourne was withdrawn during the year, and local exporters to the mainland States are now obliged to use the alternatives of air, or road and rail transport to connect with coastal shipping services in the north of the State.

TASMANIAN SEAPORT TRADE, 1997–98

Major port	Inwards revenue tonnes	Outwards revenue tonnes	Total revenue tonnes	Container traffic TEUs	Ship visits no.	Cruise ship visits no.
Hobart	1 119 555	1 579 816	2 699 371	30 050	386	18
Launceston	1 546 611	2 981 549	4 528 160	17 558	365	0
Devonport	2 805 843	3 435 006	6 240 849	101 181	568	1
Burnie	2 111 588	3 087 285	5 198 873	115 809	507	0
Total	7 583 597	11 083 656	18 667 253	264 598	1 826	19

Source: Annual reports of port authorities

Port Huon provides two general cargo and fruit handling berths, and Triabunna (Spring Bay) has a woodchip handling berth, at which over 689,000 tonnes of bulk woodchips were loaded for export to Japan during 1997–98.

Hobart has continued its traditional role of maintenance and supply for pelagic fishing and Antarctic supply ships. The *Aurora Australis*, Australia's Antarctic supply vessel, is registered here, and carries expeditioners and provisions to the Antarctic bases of Casey, Mawson, Davis and Macquarie Island each year.

The main goods that were shipped through the port in 1997–98 were pulp and waste paper, metals and ores, petroleum products, chemicals, paper, general cargo, fruit and vegetables, timber products, cereals, beverages and other food stuffs.

In recent years, the trade of boat building has been revived within the Hobart area. Of particular importance is the new generation of wave-piercing catamarans, which could radically change ferry services around the world. The large aluminium catamarans, which are produced locally by Incat International, are generally sailed direct to their interstate and overseas destinations from Hobart, and are regarded as a major Tasmanian export. Other boat builders produce smaller aluminium and fibreglass catamarans and both modern and traditional sailing craft.

In all there were 386 ship visits to the Port of Hobart in 1997–98, the same as for the previous year, involving a total tonnage of 6,211,499 gross registered tonnes. Cargo throughput for 1997–98 was 2,463,804 mass tonnes, which was an increase of 1.4% from the previous year.

Cruise passenger ships also played an important role in the life of the port, with 18 cruise ship visits during 1997–98, and a further 26 expected during 1998–99.

Launceston

The Port of Launceston is situated on the Tamar River. At its mouth, deep water and broad expanses of river provide a valuable natural harbour. In this area, encompassing the anchorages of Bell Bay, Inspection Head and Long Reach, are located the major activities of the port. Its operational area now extends north of the Batman Bridge to an area to sea of a 5-nautical-mile radius from the Low Head lighthouse. A tidal range of up to 3.6 metres

creates strong tidal currents which, by natural scouring, eliminate the need for any maintenance dredging in the lower reaches of the river.

The Australian Maritime College has facilities at Beauty Point for training crew for fishing vessels, and international and domestic shipping operators. Private firms in the area are engaged in the maintenance and construction of boats for domestic and overseas markets.

Tourism plays a small but growing role in the port's activities. From December 1997 to April 1998 the TT-Line operated its *Devil Cat* catamaran service between George Town and Melbourne, carrying 39,385 passengers and 13,797 tourist vehicles. The service was continued during the summer months of 1998–99. At Easter each year, the port at Inspection Head hosts the start of the Three Peaks Race, which has become the premier yachting and running event in Australia. The *Cruising Tasmania* initiative has led to confirmation that the first of two international cruise ships will visit in the coming summer months.

The port of Bell Bay is the major industrial port in Tasmania with eight modern cargo berths. Generally Bell Bay can cater for vessels up to 260 metres long and up to 11.5 metres draft. In 1995 construction on the new Bell Bay berth no. 5 commenced and was opened in October 1997. It is 210 metres long with a draft of 12 metres. Designed to act as a multi-purpose facility, it will allow the efficient movement of the projected increase in exports to Japan of medium density fibreboard (MDF) from the new Starwood Australia plant situated nearby. When the Starwood plant reaches its full capacity it is expected that MDF exports will amount to over 200,000 cubic metres a year.

International shipping services regularly import stock feed ingredients from Papua New Guinea and the Solomon Islands, and container ships connect twice weekly with South East Asia, and three weekly with New Zealand ports.

In 1997–98, Comalco imported over 271,000 tonnes of alumina, converting it into 95,584 tonnes of aluminium for export. Comalco cargoes also included imports of liquid pitch, fuel oil, and soda ash, and exports of aluminium powder and alloy wheels. BHP Temco was another important user of the port, importing approximately 447,451 tonnes of manganese ore and significant amounts of coal and coke and

exporting nearly 197,000 tonnes of manganese alloys. Woodchips from North Forest Products and Boral Timber Forest Resources were the largest weight of export from the port, totalling 2.1 million tonnes, an increase of 32.3% over 1996–97. Other significant goods handled through the port were newsprint, petroleum products, pine logs and other timber, scrap metal, vegetables, wheat and general cargo.

In 1997–98, a total of 3,967,785 mass tonnes of cargo was handled, a 13% increase over the previous year (3,503,547 mass tonnes).

Devonport

The Port of Devonport is situated on the Mersey River within two kilometres of the coast. The entrance to Bass Strait is sheltered by Mersey Bluff on the west and by a retaining wall extending over half a kilometre northward from the eastern shore of the river. The river was always a natural harbour for small craft, and its development by extensive dredging and engineering works has resulted in a secure harbour for larger ships. Planned capital works to blast and remove a large rocky outcrop from the river bed should serve to extend the swinging basin in the river, and enable larger vessels to use the port in the future.

The Port of Devonport carries a wide range of cargo due to the wide industry base it serves. Although originally a general port, in recent years there has been a concentration on servicing a few major users, such as the *Spirit of Tasmania*, which provides a passenger and tourist vehicle connection to Melbourne several times a week.

Holyman Coastal Express operates an overnight roll-on roll-off service for containerised and general cargo between Devonport and Melbourne, five days per week.

The growth in the export of bulk cement by Goliath Portland Cement Company has continued since the expansion of its Railton plant in 1993, with the total export increasing to just over 1 million tonnes in 1997–98.

Devonport is the only Tasmanian port to handle live sheep and cattle exports, and during the year handled two shipments of 58,483 sheep to the Middle East, as well as 8,318 head of cattle. Fresh and frozen fruit and vegetables, particularly onions, also formed the mainstay of the port's exports. In 1997–98 the major imports were bulk fuels, fertiliser and china clay.

During 1997–98, 568 ships visited the Port of Devonport compared to 552 in 1996–97. The Port hosted a visit by one international cruise ship, the *Astor*, during 1997–98, and continues to promote itself as an international cruise ship destination. Six cruise ship visits are expected for the forthcoming season.

The total mass tonnage of cargo passing through the port increased by 5.1% from 2,313,887 tonnes in 1996–97 to 2,432,373 tonnes in 1997–98. This was an all-time record in terms of cargo throughput. Container throughput also reached a record level of 101,181 TEUs, which was a 17.1% increase on the previous year.

Burnie

The Port of Burnie, on Emu Bay, was built out into the open sea in the lee of Blackman Point. This is unlike the ports of Hobart, Launceston and Devonport, which all lie within the shelter of rivers. Protection from the potentially rough waters of Bass Strait is afforded by two large breakwaters. Burnie is a deep-water port with no tidal restrictions except occasionally for the larger vessels, and it is virtually fog-free.

A seven days a week shipping service operates between Burnie and Port Melbourne, and once every two weeks an international service calls at the port, taking containerised and refrigerated cargo for Singapore and other overseas destinations. Burnie is Tasmania's busiest container port, handling 115,809 containers during 1997–98.

The re-signing this year of the Regional Forest Agreement between the Tasmanian Government and the Australian Government guaranteed the supply of wood resources to industry, and resulted in improved exports of woodchips through the port. A total of 506,216 tonnes of woodchips was loaded for export during 1997–98, an increase of 58% on the 320,826 tonnes in the previous year.

Minerals remained one of the main cargoes shipped through the port, with copper, lead and zinc concentrates exported from Mt Lyell, Hellyer and Rosebery mines as well as magnetite from the Kara mine. Burnie is also Tasmania's foremost export port for vegetables, particularly onions and potatoes, and fruit in season. Other major exports were paper and paper products, timber products, petroleum products, motor vehicles and general cargo. A new cargo imported in 1997–98 was limestone chips, used in paper manufacturing. A new processing plant

in Burnie resulted in the import of 41,190 tonnes of this commodity.

In 1997–98, 507 ships called at the Burnie port, down slightly from the 516 of the previous year. Cargo throughput for 1997–98 was 2,963,988 mass tonnes, which was up 4.4% from the previous year.

Interstate trade

Tasmania trades with the other States of Australia by sea or air. The majority of the freight is moved by sea, with only a very small proportion being moved by air.

Much of Tasmania's high value industries such as pharmaceuticals, salmon, trout, rock lobsters, cheese and other specialist foodstuff is sent by air. With the increased use of just-in-time stock control, more basic manufactured goods that have a high value for their weight such as textiles, yarns, clothing and footwear are also being sent by air to the mainland.

Unfortunately detailed information on Tasmania's interstate air trade is not currently available, making it difficult to analyse the State's

total interstate trade performance. Data on the volume of sea freight movements are collected from the State's port authorities, however, and collated on a calendar year basis.

Total sea freight movements increased from 3.9 million tonnes in 1995 to 4.3 million tonnes in 1996.

Other data can be obtained from the port authorities of Tasmania, and through the Tasmanian Freight Equalisation Scheme.

TASMANIAN SEA FREIGHT, EXPORTS TO AUSTRALIAN MAINLAND

Commodity	1995	1996
Food and live animals	383	383
Beverages (alcoholic and non-alcoholic)	4	18
Crude materials, inedible, except fuels	1 472	1 760
Mineral fuels, lubricants and related materials	0	0
Chemicals and related products, n.e.s.	137	315
Manufactured goods	1 494	1 452
Machinery and transport equipment	43	36
Miscellaneous manufactured articles	3	4
Commodities and transactions, n.e.s.	288	270
Other freight	73	64
Total	3 897	4 304

Source: ABS unpublished data, Freight Movements Survey

FURTHER READING

ABS publications

Australian National Accounts: State Accounts (5220.0)

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Tasmania Online: <http://www.tas.gov.au>

CHAPTER 23

Commerce



Photo: Ron Scott

Fish sales at
Constitution Dock,
Hobart

In 1997–98 wholesale
and retail trade
contributed 3.9% and
7.1% respectively to
Tasmania's Gross
State Product at
Factor Cost.

Commerce makes an important contribution to the Tasmanian economy. In terms of Gross State Product, the combined value of wholesale trade and retail trade (\$1,115m in 1997–98) was surpassed only by the value of manufacturing (\$1,429m).

The term 'commerce' is usually taken to cover wholesale trade, retail trade and financial services such as banking and insurance.

In terms of the broad divisions of the Australian and New Zealand Standard Industrial Classification (ANZSIC), the industries covered by 'commerce' are usually taken to be: Wholesale trade, Retail trade, Finance and insurance, and Property and business services.

Commerce in the late-90s

In 1997–98, commerce, as defined, contributed 21.5% to Tasmania's Gross State Product at Factor Cost (GSPFC). Wholesale and Retail trade contributed 3.9% and 7.1%, respectively, while Finance and insurance, and Property and business services contributed 5.0% and 5.4%, respectively.

In terms of contribution by components to GSPFC, Manufacturing was the State's most important industry, contributing 14.2% in 1997–98. Other major contributors were the Health and community services sector and Ownership of dwellings which recorded 8.5% and 9.1%, respectively. Conversely, Mining contributed only 2.4% to GSPFC, while Communication services, and Cultural and recreational services contributed only 2.5% and 1.5%, respectively.

Comparison with Australia

Wholesale and Retail trade play much the same role in the Tasmanian economy as they do in the Australian economy. In 1997–98, Wholesale and Retail trade, combined, contributed 11.3% to Australia's Gross Domestic Product at Factor Cost (GDPFC), compared with 11.0% to Tasmania's GSPFC.

In 1997–98, Finance and insurance contributed 6.4% to Australia's GDPFC, but was significantly more important to Tasmania's economy, at 9.3%.

For Property and business services, the imbalance was in the opposite direction. In 1997–98, this industry contributed 10.7% to Australia's GDPFC, compared with its contribution of 5.4% to Tasmania's GSPFC. Property and business services was the second-most important Australian industry, yet ranked only seventh in Tasmania. Only Manufacturing made a higher nation-wide contribution (13.2%).

Growth of commerce

The average annual increase in the dollar-value of Wholesale and Retail trade at constant prices for Australia, over the period 1989–90 to 1997–98, was 3.4%. The corresponding figure for Finance and insurance was 6.4%, while Property and business services recorded 4.9% per annum. For commerce as a whole, the figure was 4.5% per annum.

The average annual increase in the dollar-value of Wholesale and Retail trade at constant prices

for Tasmania, over the same period, was 2.9%. The Finance and insurance sector increased 9.3% on average, while property and business services grew 1.6% on average. Commerce as a whole grew 3.5% on average for the same period.

Private finance

Private finance is influenced by a number of factors ranging from the availability of various types of finance to whether it is appropriate to undertake financing given the economic environment. Over the past five years, there has been a steady increase in private finance. Interest rates have been stable and relatively low in the 1990s; therefore, more people and companies have been inclined to borrow and invest.

Personal finance

Personal finance is predominantly used for the purchase of new and used motor vehicles, boats, residential blocks of land, dwelling alterations and holidays. In 1998, lenders provided \$860.5m in lending commitments in Tasmania, a 17.1% increase on the 1997 figure of \$734.9m.

In Tasmania, banks provide the majority of personal finance with \$589.9m in commitments for 1998, representing 68.6% of the market. This was an increase of \$103.5m on the 1997 figure of \$486.4m. The remaining \$270.6m, or 31.4% market share, consisted of commitments from credit co-operatives, finance companies and other lenders.

PERSONAL FINANCE, TASMANIA

Month	Type of lender				Total \$m
	Banks \$m	Credit co-operatives \$m	Finance companies \$m	Others \$m	
1998					
May	51.6	8.3	12.5	1.5	73.8
June	52.1	8.5	15.2	1.2	77.0
July	52.2	n.p.	13.5	n.p.	75.5
August	47.9	n.p.	12.3	n.p.	67.8
September	47.8	n.p.	11.6	n.p.	65.8
October	45.2	n.p.	11.5	n.p.	64.3
November	50.5	n.p.	24.9	n.p.	83.5
December	55.1	n.p.	13.4	n.p.	77.9
1999					
January	33.4	n.p.	11.8	n.p.	52.1
February	38.0	n.p.	11.3	n.p.	57.4
March	47.2	n.p.	15.1	n.p.	71.4
April	43.2	n.p.	11.7	n.p.	61.4
May	47.3	n.p.	12.5	n.p.	69.1

Source: ABS catalogue no. 5642.0

Housing finance

Secured new housing finance commitments for owner occupation in Tasmania during 1998 averaged \$63.8m per month, with an average of 794 dwellings financed per month. This was a slight increase on the 1997 level of \$59.2m per month; however, the average number of dwellings financed per month fell from 814. Whilst the average value of commitments for owner occupation has remained relatively constant in recent years (\$64.7m in 1996 and \$63.0m in 1995), there has been a considerable fall in the number of dwellings financed per month (from 954 in 1996 and 941 in 1995).

The majority of housing finance commitments are for the purchase of established dwellings. Of the 1,021 dwellings financed in March 1999, 905 (88.6%) were for the purchase of established dwellings. The remaining dwellings financed were either for purchase of a newly erected dwelling (24) or to construct a dwelling (92).

The total value of housing finance commitments for March 1999 in Tasmania was \$92.0m. The average borrowing size for the same period was \$89,800.

Home loan interest rates remained steady at around 6.7% from August 1997 through to November 1998. In December 1998, interest rates fell to around 6.5%, the lowest value for over two years. Housing is now more affordable in Tasmania than it has been for some years.

DWELLING UNITS FINANCED, TASMANIA

Month	Dwelling units no.	Value (a) \$m	Current interest rate %
1998			
March	838	65	6.70
April	850	59	6.70
May	790	59	6.70
June	892	74	6.70
July	771	65	6.70
August	769	65	6.70
September	686	58	6.70
October	719	57	6.70
November	824	71	6.70
December	873	74	6.50
1999			
January	751	63	6.50
February	870	74	6.50
March	1 021	92	6.50

(a) Includes value of alterations and additions.

Sources: ABS catalogue no. 5609.0 and Reserve Bank of Australia Bulletin

Commercial finance

Commercial finance includes commitments made by significant lenders to government, private and public enterprises, and non-profit organisations, as well as commitments to individuals for investment and business purposes. In 1998, total lending commitments were valued at \$1,020.6m.

The highest monthly values in 1998 were February (\$127.4m) and July (\$105.9m). Banks provided the majority of commercial finance during the year, lending \$915.7m, or 89.7% of the total.

COMMERCIAL FINANCE, TASMANIA

Month	Type of lender		
	Banks \$m	Other lenders \$m	Total \$m
1998			
May	75.6	10.2	85.9
June	82.1	6.3	88.4
July	97.4	8.5	105.9
August	71.9	9.1	80.9
September	57.1	9.3	66.4
October	70.2	4.4	74.5
November	56.2	8.4	64.6
December	78.5	10.6	89.0
1999			
January	50.1	5.3	55.4
February	72.5	8.0	80.6
March	69.9	26.4	96.3
April	49.8	4.4	54.3
May	62.8	5.9	68.7

Source: ABS catalogue no. 5643.0

Lease finance

Lease finance is mainly used for the purchase of motor vehicles; however, leases can also be entered into for office furniture, machinery and agricultural equipment. Leases can be entered into with banks, money market corporations, finance companies, public authorities, trading and financial enterprises, and non-profit organisations.

The average monthly value of lease finance commitments for 1998 was \$3.6m. The highest level of lease commitments in 1998 was in January when a highpoint of \$6.2m was achieved. The 1998 low occurred in October when only \$1.8m worth of lease commitments were written.

LEASE FINANCE, TASMANIA

Month	Banks \$m	Finance companies \$m	Other lessors (a) \$m	Total \$m
1998				
March	0.2	2.7	1.0	3.9
April	0.8	1.1	1.0	2.9
May	1.1	1.6	1.3	4.0
June	0.8	2.4	0.8	4.0
July	n.a.	2.1	2.5	4.6
August	n.a.	1.6	1.5	3.1
September	n.a.	1.6	2.7	4.3
October	n.a.	0.7	1.1	1.8
November	n.a.	1.3	2.5	3.8
December	n.a.	1.0	1.1	2.1
1999				
January	n.a.	0.6	1.5	2.1
February	n.a.	0.7	0.9	1.6
March	n.a.	1.2	2.0	3.3

(a) Includes money market corporations and general financiers.

Source: ABS unpublished data

Prices and price indexes

Prices are an important factor in the operation of an economy; price indexes are mainly used to measure price movements of various goods and services. The ABS collects prices information for a range of economic activities including consumption, construction, manufacturing, imports and international trade. Price indexes are used extensively to analyse and monitor price behaviour in the economy and, in particular, to adjust government policies and payment of benefits such as pensions.

A price index is an effective means of measuring changes in the prices of goods and services over time for a given locality and group of consumers. Indexes are constructed in a number of steps. First, representative goods and services are

determined. Second, their respective financial importance or weight is determined. Next, the prices of these representative goods and services are regularly measured.

Consumer price index

One of the most commonly used indexes produced by the ABS is the Consumer Price Index (CPI). The CPI is the householder's guide to price changes that normally affect them; it measures changes over time in prices of a constant basket of goods and services acquired by metropolitan households in Australia. The CPI has been designed as a general measure of price inflation for the private household sector in Australia; it measures price changes relating to the spending pattern of metropolitan private households where metropolitan is defined as the State capital cities as well as Darwin and Canberra (for more information see the special article at the end of this chapter).

The CPI is made up of eight main groups: food, clothing, housing, household equipment and operation, transportation, alcohol and tobacco, health and personal care, and recreation and education. In turn, each of these groups is indexed separately and is formed from the combination of sub-groups (e.g. dairy products). These sub-groups themselves are formed from the combination of expenditure classes (e.g. milk and cream, cheese and butter). In total, the eight main groups are divided into 33 sub-groups which in turn are divided into 101 expenditure classes.

Between the 1990–91 and the 1996–97 financial years, changes from the previous year in the CPI: All Groups, Hobart, varied between a minimum of 1.3% in 1992–93 to a maximum of 4.9% in 1990–91. The 1997–98 annual change in the CPI has seen a fall for the first time this decade, with a figure of –0.1% recorded.

CONSUMER PRICE INDEX, HOBART

Group	March 1998	March 1999	% change
Food	121.7	125.5	3.1
Clothing	105.5	104.7	–0.8
Housing	95.3	95.8	0.5
Household equipment and operation	119.4	119.5	0.1
Transportation	121.7	118.4	–2.7
Alcohol and tobacco	158.0	161.5	2.2
Health and personal care	162.7	154.4	–5.1
Recreation and education	121.7	125.2	2.9
All groups	121.5	122.1	0.5

Source: ABS catalogue no. 6401.0

Of the eight groups that make up the CPI, three recorded a fall in their March 1999 price index over March 1998. The largest falls in price indexes for this period were recorded in the health and personal care group (down 5.1%) and transportation (down 2.7%). The overall price index increased by 0.5%, the major contributor to this being food (up 3.1%)

PERCENTAGE CHANGE OF ALL GROUPS, HOBART, CPI

Financial year	Change from previous year %
1992–93	1.3
1993–94	2.9
1994–95	3.1
1995–96	3.8
1996–97	1.5
1997–98	–0.1

Source: ABS catalogue no. 6401.0

AVERAGE RETAIL PRICES OF SELECTED FOOD ITEMS, HOBART

Item	Unit (a)	Prices (b) (c) (d)		Change %
		1996 cents	1998 cents	
Dairy products				
Milk, fresh, cartons	1 litre	120	125	4.2
Butter	500 g	212	211	–0.5
Cereal products				
Bread, ordinary white sliced	680 g	160	196	22.5
Breakfast cereal, corn-based	550 g	357	360	0.8
Flour, self-raising	2 kg	282	257	–8.9
Meat				
Beef–rump steak	1 kg	1 121	981	–12.5
Beef–silverside, corned	1 kg	629	582	–7.5
Lamb–leg	1 kg	605	553	–8.6
Lamb–loin chops	1 kg	757	723	–4.5
Pork–leg	1 kg	670	643	–4.0
Bacon, rashers pre-pack	250 g	331	374	13.0
Fresh vegetables				
Potatoes	1 kg	83	79	–4.8
Onions	1 kg	116	126	8.6
Other food				
Peaches, canned	825 g	218	218	—
Eggs (55g min.)	1 doz.	280	287	2.5
Sugar	2 kg	237	263	11.0
Tea	250 g	210	264	25.7
Coffee	150 g	630	666	5.7
Margarine, table, polyunsaturated	500 g	168	184	9.5

(a) The table units are not necessarily those for which the original price data were obtained; in such cases, prices have been calculated for the table unit. (b) Prices are the averages of the recorded prices of the four quarters of each calendar year. (c) This is a price list of selected retail goods. The prices in the list are the averages for items of specified grades, qualities and brands charged by a number of selected retailers in a city. They are included in the calculation of the CPI. (d) The list should be regarded as no more than an approximate indicator of price levels and price changes and the average prices for some items may not be comparable from city to city nor from quarter to quarter as the specifications of the products, brands etc. may change.

Source: ABS catalogue no. 6403.0

13TH SERIES CONSUMER PRICE INDEX (CPI)

To ensure the CPI continues to meet community needs, the ABS reviews the CPI at approximately five-yearly intervals. These reviews update the component items and their weightings, and provide an opportunity to reassess the scope and coverage of the index and other methodological issues.

The latest review of the CPI, conducted in 1997, has now been completed, and the changes incorporated into the published CPI from September 1998. This review was undertaken by the 13th Series Advisory Group, assisted by representatives from Commonwealth and State Government Departments, the business community, academia and community organisations.

The initial stage of the review consisted of the distribution of a paper outlining the issues to be considered during the review process. This paper, titled *Information Paper: Issues to be Considered During the 13th Series Australian Consumer Price Index Review* (Cat. no. 6451.0), was made available for comment in May 1997. For details of the major decisions arising from the review refer to *Information Paper: Outcome of the 13th Series Australian Consumer Price Index Review* (Cat. no. 6453.0). A third paper, titled *Information Paper: Introduction of the 13th Series Australian Consumer Price Index* (Cat. No. 6454.0), provides details of the new CPI structure and weighting pattern.

Issues

The issues covered in the 13th series review included:

- the purpose of the CPI;
- the frequency of its calculation and publication;
- population coverage;
- classification of commodities, including specifically the creation of a new commodity group to cover financial services;
- item coverage;
- the demand for and relevance of analytical

series such as State and local government charges and imported vs domestic goods; and

- the demand for spatial price indexes which compare price levels between regions rather than between time periods.

Outcomes

The 13th series CPI has been specifically designed to provide a general measure of price inflation for the household sector as a whole. Accordingly, the ABS has adopted the acquisitions approach for the construction of the index, and has utilised a weighting pattern representative of all private households in the eight capital cities. Compared with the 12th series CPI, the most significant differences are changes to the item coverage of the CPI and a change in the population group covered by the CPI.

The most noticeable changes to the item coverage are the exclusion of mortgage interest and consumer credit charges and the inclusion of expenditure on new dwellings (excluding land).

In due course, the ABS will also develop, and include in the CPI, indexes to measure changes in the prices paid by households for a range of financial services including those incurred in respect of borrowings, savings, maintenance of accounts with financial institutions, accessing investment advice and the purchase of shares etc. These indexes will also cover both direct fees and charges and indirect costs incorporated in the interest rate margins of financial intermediaries.

Due to the conceptual and methodological complexities involved in the construction of these indexes, it has not proved possible to introduce these measures concurrently with the other changes for September quarter 1998. It is expected that these measures will be introduced during 2000.

Population coverage, beyond wage and salary earner households, has been extended to all private households in the eight capital cities.

Commodity classification and item coverage

In common with previous reviews of the CPI, the ABS has taken the opportunity to update the commodity classification and item coverage of the CPI.

The new 13th series commodity classification has been developed with a view to:

- reflecting item coverage consistent with the new objective of the CPI;
- classifying items according to utility, whereby items which are close substitutes in terms of use are grouped together;
- adopting titles which best describe the item composition of series;
- dropping, as separately publishable expenditure classes, items where expenditure has declined to a relatively insignificant level;
- introducing, as separately publishable expenditure classes, items for which expenditure has increased to a relatively significant level; and
- accommodating recent and potential technological changes.

Several new items have been added to the CPI 'basket' in this review, primarily home computers and software, domestic services (house cleaning, gardening and the like) and tertiary education fees.

Changes that have been made to the CPI classification are of the following types:

Dropped series: where a series is no longer available with the commencement of the 13th series CPI. The items may have been removed from the CPI altogether (eg Mortgage interest charges) or combined with one or more other series to form a new series (eg Butter has been dropped in its own right, but included in the new series Fats and oils).

New series: where a new series is introduced to the CPI for the first time, or an existing series is split from, or merged with another

series. In each case, there are insufficient data available to recreate the new series. The series will commence with a reference base of June quarter 1998=100.0.

New series: where a new series is created from a combination of two or more previously published series. In these cases, there is sufficient information available to calculate a back series and the series will commence with a reference base of 1989–90=100.0.

Renamed series: where a series is renamed, and there has been a minor change to its composition (eg Pet foods, pets and supplies). The series will be linked to its 12th series CPI equivalent. Where a series is renamed only, and there have been no changes to its composition (eg Fish and other seafood), the series will also be linked to its 12th series CPI equivalent.

Moved series: where a series has changed its position in the CPI classification (eg Boys' clothing). The series will be linked to its 12th series CPI equivalent.

Other issues

Commencing with the introduction of the 13th series CPI, the ABS will also:

- Cease publishing the special index for selected State and local government charges. Following consultation with the major users of this series, it has been agreed that their data needs would now be better met by the provision of a series for 'utilities'. A Utilities sub-group, comprising Electricity, Gas, Other household fuel and Water and sewerage charges, has been separately recognised in the Housing group.
- Progressively adopt the geometric mean formula, where appropriate, for the calculation of elementary aggregate indexes in the CPI. This will eliminate what is referred to as 'elementary aggregate formula bias' from the CPI.

In implementing other changes resulting from the 13th series review, the ABS will:

- Replace the price index of imported items with an analytical series for 'tradeables' and 'non-tradeables' in September quarter 1999.
- Develop analytical indexes specifically designed to measure changes in the cost of living of sub-groups in the population. These indexes will be constructed on an outlays basis and will be published at approximately annual intervals. The first such indexes are expected to be published by 2000.
- Review the allocation of the CPI price sample across the eight capital cities with a view to optimising the national estimate. This is consistent with the decision to change the CPI to provide a better measure of price inflation for the household sector as a whole. The work will be undertaken during 1999, and will involve further consultation with key stakeholders.
- Introduce the facility to compile spatial comparisons of price levels in the eight capital cities, as resources permit.

Average retail prices

In Hobart between 1996 and 1998, basic food items such as bread and milk increased in price while some food items such as most fresh meat decreased in average retail price.

Amongst the items in the Food group that increased in price were tea (25.7%), bread (22.5%), pre-packed bacon rashers (13.0%) and sugar (11.0%). The items in the Food group that decreased in price over the same period included rump steak (–12.5%), self-raising flour (–8.9%), legs of lamb (–8.6%) and corned silverside (–7.5%). Other meat products to also experience a fall in price included loin chops (down 4.5%) and legs of pork (down 4.0%).

RETAIL PRICE INDEX NUMBERS, WEIGHTED AVERAGE OF EIGHT CAPITAL CITIES

Base year of index, 1945=100.0

	Index number
1901(a)	47
1911(a)	53
1921(b)	90
1951(c)	167
1981	926
1991	1 898
1992	1 917
1993	1 952
1994	1 989
1995	2 082
1996	2 136
1997	2 141

(a) A Series Index. (b) C Series Index. (c) Weighted average of six capital cities.

Source: Unpublished CPI data

House price indexes

House price index information is derived from the information which is used to compile the Housing group index as part of the Hobart CPI. Included in the Housing group index are data on the cost of rents, mortgage interest charges, local government rates and charges, house repairs and maintenance. Separate price indexes are calculated for established houses and for project homes.

In the case of the project home price index, a representative sample of project homes is selected, prices are obtained in each quarter, and the price movements for each project home weighted together. Price information for project homes is obtained at the end of each quarter from a sample of project home builders in Hobart.

HOBART HOUSE PRICE INDEXES

	Established house prices		Project home prices	
	index no.	Annual increase %	index no.	Annual increase %
1992–93	116.6	4.1	114.1	3.6
1993–94	122.5	5.1	117.7	3.2
1994–95	129.0	5.3	121.3	3.1
1995–96	129.8	0.6	123.4	1.7
1996–97	128.5	–1.0	123.3	–0.1
1997–98	125.4	–2.4	123.3	—

Source: ABS catalogue no. 6416.0

In the case of established homes, the raw sales price data are stratified by geographic area and physical characteristics of the dwelling. The overall movement in the index is calculated by weighting together the price movements in individual strata.

Since 1990–91, the price index of established housing in Hobart increased by more than 4.0% each year up until 1994–95. The increase in the house price index slowed in 1995–96 and for the next two years, the price index for established houses actually decreased.

The price index of project homes since 1990–91 increased by more than 3.0% each year up until 1994–95. Between 1994–95 and 1995–96, the index increased by 1.7%. Since this time, the house price index for project homes has remained virtually unchanged.

Price indexes of building materials

The price index of Building Materials Used in House Building (All Groups, Hobart) grew by 4.0% (to 117.3) in 1994–95 and 2.9% (to 120.7) in 1995–96. The index fell by 0.5% in 1996–97 (to 120.1), but increased slightly (0.7%) in 1997–98 to 121.0.

The price index of Building Materials Used in Other Than House Building (All Groups, Hobart), an index commonly used for contract adjustment for such non-residential building, rose by 0.9% over the year from 1996–97 to 1997–98. Amongst the price increases were the clay bricks group (up 3.0%) and steel decking and cladding (up 2.4%). Amongst the price decreases were sand and aggregate (down 6.2%) and builders' hardware (down 3.0%).

Retailing in Tasmania

Employment

Employment in retailing continues to be affected by changes in the economic environment and working conditions. There were 23,178 people employed in retail trade at the Population Census on 30 June 1986, making up 13.3% of the Tasmanian labour force, but by the next census on 6 August 1991, this had fallen to 22,824 (or 12.8% of the labour force). At the Population Census on 6 August 1996, persons employed in the retail trade had increased again, to 24,944 (14.3%).

These apparent movements reflect not only changes in the retailing industry, but also changes in the relative size of other industries contributing to the Tasmanian economy, and in the total number of persons employed in Tasmania. As other industries expand or decline, so the relative contribution of retailing will change.

Any analysis of the employment situation for retailing must also look at changes in working conditions and the increasing proportion of part-time workers in the labour force. More discussion of this issue is included in Chapter 8 – Labour.

Turnover

At the 1985–86 Retail Census, total retail turnover in Tasmania was \$1,624m, increasing in 1991–92 to \$2,557m, a 57.4 % increase. There has not been a complete Retail Census conducted since 1991–92. The most current measure of retail turnover now collected by the ABS is in the monthly Retail Survey.

TURNOVER OF RETAIL ESTABLISHMENTS, TASMANIA

Type of store (a)	1995–96 \$m	1997–98 \$m	Change %
Food retailing	1 251.9	1 384.8	10.6
Clothing and soft goods retailing	184.3	194.9	5.8
Households goods retailing	302.7	310.0	2.4
Recreational goods retailing	181.8	213.2	17.3
Hospitality and services	462.1	456.0	-1.3
Other retailing (b)	537.4	649.4	20.8
Total	2 920.2	3 208.3	9.9

(a) Excludes motor vehicles and spare parts dealers, service stations etc. (b) Includes department stores.

Source: ABS catalogue no. 8501.0

Total turnover in retailing from the Retail Survey was \$2,659m in 1992–93, and \$2,748m in 1993–94, an average each month of \$222m and \$229m, respectively. In 1994–95, retail turnover was \$2,789m and subsequently reached \$2,920m in 1995–96, bringing the monthly average to \$232m and \$243m, respectively. In 1997–98, retail turnover reached \$3,208.3m, with a monthly average of \$267.4m.

Growth in turnover for any industry in the retail sector can be due to increased prices as well as improved sales volumes, and does not necessarily equate to an increase in profitability.

Private new capital expenditure

Capital expenditure estimates indicate the amount of investment in buildings, plant and equipment being made by businesses conducting activities throughout Australia. The estimates are also a key component of the National Account figures; they are commonly used as indicators of business confidence.

Private new capital expenditure does not include money spent on houses built by speculative builders or money spent on renovations.

During 1989–90, private new capital expenditure in Australia was recorded at \$30,000m. By the end of 1991–92, it had declined to \$24,000m, but made a recovery in the following years, with \$29,000m recorded for 1993–94. In 1994–95, it increased to \$34,000m and subsequently reached almost \$39,000m in 1995–96. In 1997–98, private new capital expenditure had reached \$46,190m.

In comparison, Tasmania recorded \$575m worth of private new capital expenditure in 1989–90. This increased to \$596m in 1990–91, but declined in the following years to finish in 1993–94 at \$441m or 1.5% of the Australian total. In 1994–95, a figure of \$636m was recorded (1.9% of the Australian total), before falling again, to \$571m in 1995–96 (1.5%). This figure increased to \$687m in 1996–97, before falling yet again to \$646m in 1997–98 (1.4% of the Australian total).

PRIVATE NEW CAPITAL EXPENDITURE, TASMANIA AND AUSTRALIA (a)

	New buildings and structures \$m	Equipment, plant and machinery \$m	Total \$m
Tasmania			
1992–93	104	342	446
1993–94	98	343	441
1994–95	133	503	636
1995–96	178	394	571
1996–97	128	559	687
1997–98	169	477	646
Australia			
1992–93	7 761	18 086	25 847
1993–94	8 166	20 592	28 758
1994–95	8 630	25 692	34 321
1995–96	11 875	26 727	38 601
1996–97	14 330	29 507	43 837
1997–98	12 832	33 358	46 190

(a) Estimates based on a sample survey and therefore subject to sampling variability. Covers selected industries only — mining, manufacturing, finance, property and other selected industries.

Source: ABS catalogue no. 5646.0

FURTHER READING

ABS publications

- A Guide to the Consumer Price Index* (6440.0)
Australian National Accounts, State Accounts (5220.0)
Average Retail Prices of Selected Items, Eight Capital Cities (6403.0)
Consumer Price Index (6401.0)
Household Expenditure Survey, 1993–94, Summary of Results (6530.0)
House Price Indexes: Eight Capital Cities (6416.0)
Housing Finance for Owner Occupation, Australia (5609.0)
Information Paper: Issues to be Considered During the 13th Series Australian Consumer Price Index Review (6451.0)
Information Paper: Outcome of the 13th Series Australian Consumer Price Index Review (6453.0)
Information Paper: Introduction of the 13th Series Australian Consumer Price Index (6454.0)
Price Index of Materials used in Building other than House Building, Six State Capital Cities (6407.0)
Price Index of Materials used in House Building, Six State Capital Cities (6408.0)
Retail Trade, Australia (8501.0)
State Estimates of Private New Capital Expenditure (5646.0)

Other publications

- Reserve Bank of Australia Bulletin*

Websites

- ABS website: <http://www.abs.gov.au>
Tasmania Online: <http://www.tas.gov.au>

Historical series

POPULATION, TASMANIA

Estimated population (a)								
Year	Total at 30 June	Mean: year ended 30 June	Mean: year ended 31 Dec	Totals at 31 December				Annual rate of increase of popula- tion (c)
				Persons	Males	Females	Masculinity (b)	
	no.	no.	no.	no.	no.	no.		per cent
1820	n.a.	n.a.	n.a.	5 400	n.a.	n.a.	n.a.	8.00
1830	n.a.	n.a.	n.a.	24 279	18 108	6 171	293.4	11.35
1840	n.a.	n.a.	n.a.	45 999	32 040	13 959	229.5	2.75
1850	n.a.	n.a.	n.a.	68 870	44 229	24 641	179.5	1.37
1860	n.a.	n.a.	88 752	89 821	49 653	40 168	123.6	5.12
1870 (d)	n.a.	n.a.	100 038	100 886	53 517	47 369	113.0	1.44
1880	n.a.	n.a.	113 648	114 790	60 568	54 222	111.7	2.02
1890	n.a.	n.a.	143 224	144 787	76 453	68 334	111.9	2.38
1900	n.a.	n.a.	172 631	172 900	89 763	83 137	108.0	2.21
1910	189 807	190 792	191 005	193 803	98 866	94 937	104.1	0.79
1920	209 425	208 599	210 350	212 752	107 259	105 493	101.7	1.37
1925	213 991	215 997	215 552	219 364	110 172	109 192	100.9	0.70
1930	219 983	219 269	220 933	225 297	113 505	111 792	101.5	0.48
1935	228 988	229 339	229 867	233 423	118 124	115 299	102.5	0.63
1940	240 191	240 023	241 134	244 002	123 650	120 352	102.7	0.31
1945	248 633	246 971	248 596	250 280	125 854	124 426	101.1	1.37
1950	275 902	274 493	278 785	290 333	147 103	143 230	102.7	3.20
1960	343 910	344 111	346 913	355 969	180 511	175 458	102.9	1.31
1961 (d)	350 340	350 077	353 623	353 258	178 864	174 394	102.6	0.76
1962	355 668	353 175	355 682	358 087	181 085	177 002	102.3	1.37
1963	360 727	358 180	360 590	362 799	183 330	179 469	102.2	1.32
1964	364 311	362 758	364 554	366 508	185 051	181 457	102.0	1.02
1965	367 905	366 366	367 970	369 608	186 483	183 125	101.8	0.85
1966 (d)	371 436	369 600	371 483	373 309	188 180	185 129	101.6	1.00
1967	375 244	373 321	375 397	377 841	190 369	187 472	101.5	1.21
1968	379 649	377 582	379 916	383 055	192 871	190 184	101.4	1.38
1969	384 893	382 710	385 079	386 998	194 788	192 210	101.3	1.03
1970	387 720	386 665	388 180	390 253	196 363	193 890	101.3	0.84
1971 (d)	398 100	(e) n.a.	(e) n.a.	399 500	200 600	198 900	100.4	(e) n.a.
1972	400 300	399 400	400 500	401 900	201 600	200 300	100.6	0.60
1973	403 100	401 800	403 200	404 600	202 800	201 800	100.5	0.67
1974	406 200	404 600	406 300	408 800	204 600	204 200	100.2	1.04
1975	410 100	408 300	410 000	411 500	205 900	205 600	100.1	0.66
1976 (d)	412 300	411 300	412 400	413 700	206 900	206 800	100.0	0.53
1977	415 000	413 700	415 100	416 500	208 300	208 300	100.0	0.68
1978	417 600	416 500	417 800	419 100	209 600	209 600	100.0	0.62
1979	420 800	419 200	420 700	422 200	210 700	211 600	99.6	0.74
1980	423 600	422 200	423 600	425 200	211 600	213 600	99.1	0.71
1981 (d)	427 200	425 300	427 100	428 300	212 900	215 300	98.9	0.73
1982	429 800	428 600	429 800	431 000	214 200	216 800	98.8	0.63
1983	432 800	431 000	432 800	435 100	216 100	219 000	98.7	0.95
1984	437 800	435 100	437 600	440 100	218 400	221 700	98.5	1.15
1985	442 800	440 100	442 500	444 600	220 700	223 900	98.6	1.02
1986 (d)	446 500	444 600	446 400	448 200	222 500	225 700	98.6	0.70
1987	449 200	448 000	449 000	449 800	223 100	226 700	98.4	0.62
1988	451 100	450 000	451 200	452 800	224 500	228 300	98.3	0.43
1989	455 300	452 900	455 400	458 400	227 400	231 000	98.4	0.91
1990	462 200	458 500	461 800	464 500	230 400	234 200	98.4	1.52
1991 (d)	466 800	464 600	466 700	468 500	232 100	236 400	98.2	1.00
1992	469 800	468 500	469 800	471 000	233 200	237 800	98.1	0.65
1993	471 700	470 900	471 800	472 500	233 800	238 800	97.9	0.39
1994	472 900	472 400	473 000	473 400	234 000	239 400	97.7	0.27
1995	473 700	473 500	473 800	474 100	234 200	239 900	97.6	0.16
1996 (d)	474 400	474 100	474 300	474 200	234 100	240 100	97.5	0.16
1997	473 500	474 200	473 600	472 700	233 200	239 500	97.4	-0.20
1998	471 900	472 700	n.a.	n.a.	n.a.	n.a.	n.a.	-0.34

(a) Prior to 1966 excludes full-blood Aboriginals. (b) Number of males per 100 females. (c) The rate of increase during the previous 12 months to 30 June or, in the years prior to 1936, the average (compound) rate of increase during the previous five years. (d) Census year. (e) Not available due to change in series.

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BIRTHS, DEATHS, MARRIAGES AND DIVORCES, TASMANIA

Year	Number				Rate per 1,000 of mean population			Deaths under one year of age	
	Births	Deaths	Marriages	Divorces	Births	Deaths	Marriages	Number	Rate per 1,000 live births
1830	460	270	163	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1840	404	501	457	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1845	1 506	697	658	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1850	2 025	1 070	923	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1855	2 948	1 692	1 257	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1860	3 238	1 749	689	n.a.	36.48	19.71	7.76	n.a.	n.a.
1865	3 069	1 263	591	n.a.	32.96	13.56	6.35	n.a.	n.a.
1870	3 054	1 404	670	n.a.	30.53	14.03	6.70	298	97.6
1875	3 105	2 079	689	n.a.	29.86	19.99	6.83	407	131.1
1880	3 739	1 832	840	n.a.	32.90	16.12	7.39	420	112.3
1885	4 637	2 036	1 054	n.a.	36.29	15.94	8.25	522	112.6
1890	4 813	2 118	954	n.a.	33.60	14.79	6.66	508	105.6
1895	4 790	1 811	846	5	31.16	11.78	5.50	391	81.6
1900	4 864	1 903	1 332	4	28.18	11.02	7.72	389	80.0
1905	5 257	1 844	1 365	2	28.50	10.00	7.40	424	80.7
1910	5 586	2 120	1 493	6	29.25	11.10	7.82	568	101.7
1915	5 845	2 015	1 600	7	29.79	10.27	8.15	423	72.4
1920	5 740	2 036	1 999	18	27.29	9.68	9.50	376	65.5
1925	5 218	1 996	1 504	37	24.21	9.26	6.98	288	55.2
1930	4 786	1 948	1 450	42	21.66	8.82	6.56	242	50.6
1935	4 456	2 353	1 875	87	19.39	10.24	8.16	231	51.8
1940	4 994	2 387	2 476	83	20.71	9.90	10.27	176	35.2
1945	5 785	2 413	1 868	172	23.27	9.71	7.51	159	27.5
1950	7 242	2 466	2 560	152	25.96	8.85	9.18	172	23.8
1951	7 357	2 567	2 607	194	25.52	8.93	9.04	196	26.6
1952	7 916	2 579	2 553	217	26.53	8.64	8.56	172	21.7
1953	7 736	2 551	2 424	210	25.25	8.33	7.91	177	22.9
1954	7 770	2 696	2 512	238	24.98	8.67	8.08	186	23.9
1955	8 089	2 489	2 600	233	25.63	7.89	8.24	189	23.4
1956	8 104	2 513	2 601	197	25.24	7.83	8.10	170	21.0
1957	8 435	2 670	2 507	180	25.68	8.13	7.63	170	20.2
1958	8 568	2 708	2 475	176	25.55	8.07	7.38	167	19.5
1959	8 625	2 780	2 567	222	25.26	8.14	7.52	202	23.4
1960	8 853	2 670	2 713	210	25.52	7.70	7.82	169	19.1
1961	8 892	2 789	2 677	286	25.40	7.89	7.57	151	16.8
1962	8 894	2 870	2 485	249	25.01	8.07	6.99	184	20.7
1963	8 530	2 818	2 579	261	23.66	7.82	7.15	153	17.9
1964	8 252	3 174	2 869	230	22.64	8.71	7.87	166	20.1
1965	7 535	3 043	2 888	280	20.48	8.27	7.85	125	16.6
1966	7 401	3 159	2 946	319	19.92	8.50	7.93	108	14.6
1967	7 547	3 228	3 213	248	20.10	8.60	8.56	130	17.2
1968	8 317	3 284	3 426	303	21.89	8.64	9.02	143	17.2
1969	8 445	3 309	3 532	331	21.93	8.59	9.17	139	16.5
1970	8 185	3 174	3 535	426	21.09	8.16	9.11	116	14.2
1971	8 321	3 295	3 578	432	21.32	8.44	9.17	114	13.7
1972	7 824	3 227	3 426	446	19.94	8.22	8.73	127	16.2
1973	7 326	3 347	3 395	444	18.51	8.46	8.58	137	18.7
1974	7 398	3 484	3 567	536	18.52	8.72	8.93	123	16.6
1975	6 982	3 339	3 242	591	17.26	8.26	8.02	128	18.3
1976	6 702	3 389	3 477	1 761	16.44	8.32	8.53	77	11.5
1977	6 735	3 269	3 166	1 134	16.40	7.96	7.71	99	14.7
1978	6 788	3 271	3 148	1 132	16.41	8.00	7.61	97	14.3
1979	6 757	3 167	3 245	1 167	16.17	7.58	7.79	95	14.1
1980	6 735	3 392	3 433	1 285	15.90	7.80	8.20	79	11.7
1981	7 230	3 320	3 515	1 139	16.93	7.77	8.23	86	12.0
1982	7 103	3 444	3 576	1 391	16.53	8.01	8.32	55	7.9
1983	7 062	3 319	3 644	1 359	16.32	7.67	8.42	74	10.5
1984	7 132	3 596	3 704	1 185	16.30	8.22	8.46	81	11.4
1985	7 249	3 693	3 520	1 169	16.38	8.35	7.95	87	12.1
1986	6 950	3 454	3 302	1 245	15.57	7.74	7.40	74	10.7
1987	6 790	3 637	3 141	1 115	15.12	8.10	7.00	68	10.0
1988	6 779	3 547	3 035	1 220	15.02	7.86	6.73	59	8.7
1989	6 813	3 690	3 111	1 269	14.96	8.10	6.83	72	10.6
1990	7 043	3 713	3 026	1 170	15.25	8.04	6.55	59	8.4
1991	6 870	3 686	3 069	1 383	14.72	7.90	6.58	62	9.0
1992	6 987	3 739	3 081	1 365	14.92	7.98	6.58	46	6.6
1993	6 835	3 637	3 055	1 465	14.52	7.73	6.49	40	5.9
1994	6 844	3 911	2 887	1 544	14.47	8.27	6.10	51	7.5
1995	6 570	3 754	2 840	1 279	13.87	7.93	6.00	38	5.8
1996	6 457	3 872	2 654	1 582	13.61	8.16	5.59	29	4.5
1997	6 007	3 809	2 672	1 321	12.69	8.04	5.64	39	6.5

EDUCATION, PRIMARY AND SECONDARY, TASMANIA

Year	Government schools			Non-government schools		
	Number of schools	Teaching staff	Students (a)	Number of schools	Teaching staff	Students (b)
1900	309	(c) 612	24 157	224	n.a.	9 749
1910	367	677	30 805	124	420	6 278
1920	470	1 102	39 360	84	317	5 872
1930	508	1 358	40 032	66	326	5 862
1940	431	1 398	37 369	63	329	6 139
1950	332	1 687	46 394	58	375	8 330
1960	287	2 540	65 049	60	544	12 716
1970	283	(d) 3 756	79 385	68	810	14 623
1980 (e) (f) (g)	256	4 908	72 283	59	831	14 620
1981	258	4 948	70 486	61	854	14 917
1982	259	4 901	69 142	70	904	15 326
1983	257	5 025	68 387	70	976	15 940
1984	257	5 145	67 787	71	1 030	16 464
1985	256	5 011	66 863	70	1 069	17 050
1986	255	4 985	66 050	69	1 115	17 459
1987	261	4 732	65 401	66	1 130	17 602
1988	257	4 811	65 404	65	1 153	17 795
1989	254	4 732	64 977	66	1 180	18 394
1990	250	4 546	65 349	66	1 208	19 030
1991	247	4 171	65 662	65	1 258	19 952
1992	243	4 227	65 713	66	1 305	20 576
1993	237	4 260	64 727	65	1 340	21 034
1994	233	4 207	64 061	68	1 372	21 298
1995	230	4 154	63 284	70	1 373	21 375
1996	229	4 207	62 776	70	1 389	21 406
1997	222	4 337	62 921	67	1 402	21 236
1998	220	4 279	62 978	66	1 402	21 138

- (a) Aggregate enrolment for whole year prior to 1960. From 1960 as at 1 August and excluding adult correspondence students.
 (b) Aggregate enrolment for whole year to 1919. From 1920 to 1961 enrolment as at 31 December and thereafter at 1 August.
 (c) Includes teachers, pupil-teachers and paid monitors; excludes training college staff, junior monitors, subsidised teachers, etc.
 (d) Includes part-time teachers but excludes teachers at special schools from 1962.
 (e) Full-time plus full-time equivalent of part-time teachers.
 (f) From 1974 figures exclude kindergartens.
 (g) From 1977 Government schools figures are shown using National Schools Collection definitions.

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AREA AND PRODUCTION OF PRINCIPAL CROPS, TASMANIA

Year	Barley for grain			Oats for grain			Wheat for grain			Blue peas		
	Area	Total produc- tion	Yield per hectare	Area	Total produc- tion	Yield per hectare	Area	Total produc- tion	Yield per hectare	Area	Total produc- tion	Yield per hectare
		ha	t		ha	t		ha	t		ha	t
1860-61	2 524	2 877	1.14	12 263	16 844	1.37	26 891	38 267	1.42	}	n.a.	n.a.
1870-71	3 082	3 676	1.19	12 523	12 568	1.00	23 222	24 240	1.04			
1880-81	3 358	3 844	1.14	8 034	7 990	0.99	20 243	20 271	1.00			
1890-91	1 771	2 269	1.28	8 393	9 444	1.13	13 133	17 378	1.32			
1900-01	1 822	2 657	1.46	18 240	25 580	1.40	20 973	30 011	1.43			
1910-11	2 119	3 234	1.53	25 854	37 515	1.45	21 142	30 290	1.43			
1920-21	2 489	3 667	1.47	20 426	27 530	1.35	11 446	15 294	1.34	3 476	4 945	1.42
1930-31	2 506	3 832	1.53	14 536	19 141	1.32	7 732	10 581	1.37	2 859	4 060	1.42
1940-41	2 286	3 349	1.47	7 099	7 569	1.07	3 253	3 794	1.17	3 830	5 237	1.37
1941-42	2 153	2 672	1.24	11 043	15 248	1.38	2 596	3 924	1.51	7 485	8 452	1.13
1942-43	1 104	1 428	1.29	5 325	5 310	1.00	1 671	1 982	1.19	10 989	10 961	1.00
1943-44	1 391	2 150	1.55	3 943	5 438	1.38	1 958	3 301	1.69	15 176	15 785	1.04
1944-45	2 189	3 616	1.65	5 977	7 630	1.28	1 551	2 504	1.61	8 828	13 014	1.47
1945-46	2 730	2 803	1.03	5 656	5 120	0.91	2 016	1 801	0.89	9 420	7 922	0.84
1946-47	2 532	3 538	1.40	9 181	10 825	1.18	3 051	3 763	1.23	4 773	6 364	1.33
1947-78	3 298	4 961	1.50	6 910	6 548	0.95	3 147	3 195	1.02	2 783	3 938	1.42
1948-49	2 966	4 728	1.59	4 734	4 756	1.00	2 779	4 211	1.52	2 625	3 999	1.52
1949-50	1 759	2 975	1.69	9 232	10 499	1.14	2 215	3 440	1.55	3 101	3 955	1.28
1950-51	1 320	2 061	1.56	9 486	7 802	0.82	2 152	2 564	1.19	3 395	4 630	1.36
1951-52	1 716	3 400	1.98	10 740	10 803	1.01	1 458	2 541	1.74	3 078	5 338	1.73
1952-53	3 253	4 930	1.52	8 114	5 197	0.64	2 707	4 227	1.56	1 411	1 903	1.35
1953-54	3 819	6 738	1.76	8 141	8 381	1.03	3 921	7 116	1.81	2 159	3 096	1.43
1954-55	2 936	4 541	1.55	9 154	8 212	0.90	2 955	4 286	1.45	2 292	3 093	1.35
1955-56	2 558	4 339	1.70	11 604	9 964	0.86	2 519	3 478	1.38	2 334	3 690	1.58
1956-57	2 865	5 341	1.86	6 701	4 594	0.69	1 578	2 393	1.52	3 349	5 088	1.52
1957-58	3 393	6 140	1.81	8 381	8 762	1.05	2 381	4 148	1.74	2 923	3 854	1.32
1958-59	3 777	6 696	1.77	8 984	8 921	0.99	2 605	4 423	1.70	1 002	1 302	1.30
1959-60	5 016	9 511	1.90	8 910	9 305	1.04	3 344	4 912	1.47	1 285	2 148	1.67
1960-61	6 204	7 821	1.26	9 449	7 114	0.75	2 797	4 003	1.43	1 332	1 198	0.90
1961-62	7 579	13 794	1.82	10 908	10 676	0.98	6 300	9 327	1.48	1 566	2 814	1.80
1962-63	7 993	14 340	1.79	12 587	15 046	1.20	6 208	11 322	1.82	2 299	3 409	1.48
1963-64	5 581	9 414	1.69	12 280	15 339	1.25	7 107	13 047	1.84	2 087	2 693	1.29
1964-65	6 264	12 031	1.92	11 366	9 463	0.83	6 801	9 842	1.45	1 603	2 752	1.72
1965-66	8 056	15 541	1.93	11 449	12 304	1.07	5 709	9 955	1.74	2 223	2 779	1.25
1966-67	8 521	17 540	2.06	14 532	17 236	1.19	5 159	10 412	2.02	1 769	3 039	1.72
1967-68	9 733	20 096	2.06	14 314	18 430	1.29	4 864	8 548	1.76	1 725	2 540	1.47
1968-69	10 608	20 092	1.89	12 721	10 598	0.83	7 039	11 088	1.58	1 358	2 160	1.59
1969-70	12 016	24 896	2.07	8 971	8 272	0.92	5 962	9 531	1.60	1 577	3 224	2.04
1970-71	12 884	29 825	2.31	9 444	8 839	0.94	4 479	7 638	1.71	2 023	4 608	2.28
1971-72	12 576	27 753	2.21	6 432	7 065	1.10	4 570	8 299	1.82	1 025	1 650	1.61
1972-73	12 802	18 711	1.46	6 477	7 144	1.10	4 251	7 701	1.81	504	387	0.77
1973-74	11 121	23 790	2.13	9 173	8 247	0.89	2 521	3 510	1.39	587	1 027	1.74
1974-75	12 020	27 266	2.27	6 069	5 496	0.90	1 535	2 282	1.48	969	2 171	2.24
1975-76	11 475	18 389	1.60	3 924	3 497	0.89	1 644	1 728	1.05	209	261	1.25
1976-77	11 644	24 571	2.11	6 387	8 801	1.38	1 980	3 929	1.98	81	139	1.72
1977-78	11 444	19 403	1.70	4 616	4 279	0.93	1 257	1 545	1.23	326	417	1.28
1978-79	11 938	26 971	2.26	8 564	11 826	1.38	1 366	2 867	2.10	466	928	1.99
1979-80	10 558	17 304	1.60	7 489	7 937	1.10	1 972	3 727	1.90	548	684	1.20
1980-81	10 056	18 307	1.82	8 781	11 146	1.26	1 614	2 545	1.57	413	587	1.42
1981-82	12 108	23 267	1.92	9 923	13 381	1.35	1 293	2 342	1.81	459	740	1.61
1982-83	12 358	21 925	1.80	7 965	8 912	1.10	928	1 489	1.60	330	520	1.60
1983-84	15 059	34 119	2.30	13 978	24 729	1.80	1 142	2 841	2.50	388	981	2.50
1984-85	12 352	29 700	2.40	9 851	15 855	1.60	2 456	4 389	1.80	799	2 079	2.60
1985-86	12 209	27 722	2.27	10 264	16 530	1.61	1 837	4 014	2.18	1 042	2 133	2.05
1986-87	8 487	20 681	2.44	7 765	11 215	1.44	1 729	4 739	2.74	983	1 222	1.24
1987-88	8 024	21 549	2.69	9 560	15 552	1.63	1 179	3 815	3.24	297	593	2.00
1988-89	7 820	22 022	2.82	10 233	17 925	1.75	771	2 199	2.85	264	539	2.04
1989-90	7 983	19 320	2.42	7 568	12 824	1.69	792	2 687	3.39	105	130	1.24
1990-91	9 766	25 979	2.66	9 257	18 825	2.03	599	2 448	4.09	152	293	1.93
1991-92	11 344	31 793	2.80	9 146	18 576	2.03	1 167	3 249	2.78	185	404	2.18
1992-93	12 300	35 285	2.87	9 223	18 975	2.06	1 454	5 468	3.76	225	564	2.51
1993-94	15 204	40 755	2.68	6 651	12 744	1.92	1 602	5 321	3.32	237	575	2.43
1994-95	13 969	27 073	1.94	8 316	11 287	1.36	1 262	2 769	2.19
1995-96	14 020	38 463	2.74	10 069	18 445	1.83	1 055	4 068	3.86
1996-97	14 502	35 237	2.43	8 111	13 983	1.72	1 900	7 549	3.97
1997-98	13 154	30 916	2.35	7 974	14 898	1.87	2 806	11 651	4.15

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AREA AND PRODUCTION OF PRINCIPAL CROPS, TASMANIA — continued

Year	Potatoes			Hops			Pasture hay			Apples		
	Area	Total produc- tion	Yield per ha	Bearing area	Total produc- tion	Yield per ha	Area	Total produc- tion	Yield per ha	Area	Total produc- tion	Yield
		ha	t		ha	t		ha	t		ha	t
1860-61	3 084	34 128	11.07	n.a.	n.a.	n.a.	12 880	63 318	4.92	n.a.	2 267	n.a.
1870-71	3 975	36 606	9.21	260	339	1.30	13 602	41 417	3.04		2 819	
1880-81	4 217	33 070	7.84	230	292	1.27	12 794	36 459	2.85		2 953	
1890-91	8 147	74 332	9.12	151	196	1.30	18 365	52 856	2.88		7 030	
1900-01	9 335	95 368	10.22	253	316	1.25	24 868	95 710	3.85		10 497	
1910-11	10 615	71 215	6.71	420	805	1.92	29 539	117 039	3.96		25 681	
1920-21	12 950	90 102	6.96	516	845	1.64	45 980	179 636	3.91	10 364	44 941	4.34
1930-31	15 066	96 818	6.43	393	760	1.93	33 697	131 027	3.89	9 672	72 394	7.48
1940-41	15 121	115 871	7.66	369	1 351	3.66	30 789	96 708	3.14	8 808	113 277	12.86
1941-42	12 400	111 613	9.00	427	1 280	3.00	37 488	149 997	4.00	8 970	121 107	13.50
1942-43	16 359	138 112	8.44	448	1 183	2.64	33 209	111 721	3.36	8 889	109 410	12.31
1943-44	24 484	221 296	9.04	435	1 267	2.91	40 178	156 303	3.89	8 896	152 846	17.18
1944-45	32 817	350 773	4.55	441	1 102	2.50	38 855	148 253	3.82	8 723	125 165	14.35
1945-46	22 762	239 930	10.54	445	904	2.03	40 371	118 958	2.95	8 702	162 353	18.66
1946-47	17 493	173 359	9.91	490	1 005	2.05	42 093	172 103	4.09	8 544	80 548	9.43
1947-48	16 342	145 037	8.88	506	1 113	2.20	34 137	139 857	4.10	8 239	150 389	18.25
1948-49	13 079	133 915	10.24	508	694	1.37	36 656	153 118	4.18	7 826	48 828	6.24
1949-50	13 804	123 958	8.98	518	977	1.89	36 962	158 151	4.28	7 661	91 330	11.92
1950-51	12 780	125 990	9.86	518	1 125	2.17	39 007	163 301	4.19	7 378	92 359	12.52
1951-52	12 753	153 424	12.03	531	778	1.47	39 563	175 051	4.42	7 273	93 921	12.91
1952-53	14 304	116 338	8.13	524	1 367	2.61	44 534	195 289	4.39	7 200	71 575	9.94
1953-54	13 971	146 616	10.49	518	973	1.88	49 877	245 459	4.92	7 184	101 047	14.07
1954-55	10 606	102 621	9.68	539	1 353	2.51	39 051	160 495	4.11	6 890	95 426	13.85
1955-56	8 434	79 181	9.39	531	1 437	2.71	55 505	265 619	4.79	6 950	112 896	16.24
1956-57	7 740	91 140	11.78	569	974	1.71	49 837	242 209	4.86	6 754	64 792	9.59
1957-58	8 780	103 129	11.75	571	1 302	2.28	44 581	208 062	4.67	6 804	126 403	18.58
1958-59	6 550	87 279	13.32	579	1 535	2.65	62 250	306 923	4.93	6 651	94 931	14.27
1959-60	6 283	99 573	15.85	581	1 270	2.19	51 211	224 778	4.39	6 509	104 226	16.02
1960-61	4 401	39 677	9.02	569	1 279	2.25	69 206	331 206	4.79	6 404	106 571	16.64
1961-62	4 504	72 709	16.14	571	1 287	2.25	63 632	289 971	4.56	6 239	149 436	23.95
1962-63	5 600	83 870	14.98	588	1 298	2.21	66 952	318 028	4.75	6 268	119 297	19.03
1963-64	4 373	66 470	15.20	592	717	1.21	60 557	253 175	4.18	6 291	162 791	25.88
1964-65	3 801	57 978	15.25	597	947	1.59	72 947	370 204	5.07	6 286	118 250	18.81
1965-66	4 853	77 626	16.00	603	1 392	2.31	59 824	261 366	4.37	6 254	159 343	25.48
1966-67	4 159	74 476	17.91	594	948	1.60	82 225	443 919	5.40	6 165	120 040	19.47
1967-68	4 435	80 327	18.11	608	1 363	2.24	72 373	314 060	4.34	6 048	151 322	25.02
1968-69	4 638	73 278	15.80	616	1 582	2.57	85 212	502 159	5.89	5 863	135 986	23.19
1969-70	3 790	67 995	17.94	565	1 268	2.24	69 526	367 340	5.28	5 804	140 977	24.29
1970-71	3 640	72 591	19.94	452	1 077	2.38	85 565	447 766	5.23	5 715	140 463	24.58
1971-72	3 593	70 370	19.59	539	1 159	2.15	81 176	449 936	5.54	5 218	111 887	21.44
1972-73	3 330	78 286	23.51	616	1 450	2.35	53 937	215 580	4.00	4 980	133 449	26.80
1973-74	3 127	62 866	20.10	703	1 949	2.77	88 884	448 355	5.04	4 148	113 012	27.24
1974-75	4 143	95 610	23.07	662	1 439	2.17	78 557	375 969	4.79	3 335	95 247	28.56
1975-76	3 354	95 614	28.51	513	1 129	2.20	70 262	322 235	4.59	2 947	72 529	24.61
1976-77	3 705	112 269	30.30	587	1 330	2.27	69 730	334 961	4.80	2 741	71 781	26.19
1977-78	3 592	107 240	29.86	567	1 201	2.12	46 480	166 495	3.58	2 601	63 444	24.39
1978-79	3 646	124 385	34.12	578	1 457	2.52	65 835	295 464	4.49	2 693	85 230	31.65
1979-80	4 115	136 197	33.10	620	1 183	1.90	57 689	243 527	4.20	(a) 2 661	74 434	28.00
1980-81	4 335	155 965	35.97	672	1 558	2.32	61 555	241 817	3.93	2 758	76 033	27.57
1981-82	4 438	160 797	36.20	811	1 608	1.98	60 939	233 471	3.83	2 668	67 376	25.25
1982-83	4 749	173 147	36.50	889	1 589	1.80	48 588	157 117	3.20	2 545	69 421	27.30
1983-84	5 203	213 090	41.00	896	1 902	2.10	63 208	270 436	4.30	2 553	56 800	22.20
1984-85	5 209	203 472	39.10	869	1 341	1.54	51 667	212 544	4.10	2 588	61 624	23.81
1985-86	4 832	193 485	40.04	835	1 178	1.41	56 664	252 944	4.46	2 661	56 983	21.41
1986-87	5 744	223 245	38.87	651	1 165	1.79	45 116	195 081	4.32	2 612	48 088	18.41
1987-88	6 380	248 303	38.92	670	1 563	2.33	41 162	163 434	3.97	2 579	52 857	20.50
1988-89	6 001	256 846	42.80	709	1 752	2.47	56 752	272 893	4.81	2 654	52 637	19.83
1989-90	6 852	297 488	43.42	690	1 489	2.16	50 741	241 013	4.75	2 672	57 279	21.44
1990-91	5 727	235 465	41.11	713	2 001	2.80	53 228	246 620	4.63	897 817	45 287	50.44
1991-92	5 967	249 769	41.86	799	2 118	2.65	51 440	220 944	4.30	916 998	50 439	55.01
1992-93	6 116	269 902	44.13	816	2 314	2.83	60 782	299 984	4.94	933 287	56 213	60.23
1993-94	6 863	291 423	42.46	800	2 105	2.63	50 401	229 272	4.55	963 264	54 954	57.05
1994-95	6 068	255 738	42.15	720	1 832	2.54	48 850	183 479	3.76	1 040 371	57 050	54.84
1995-96	7 565	302 035	39.93	718	1 930	2.69	60 999	267 428	4.38	1 092 809	52 398	47.95
1996-97	7 436	317 448	42.69	701	1 756	2.50	51 756	216 277	4.18	1 102 536	55 649	50.47
1997-98	8 344	373 578	44.77	407	1 100	2.70	51 640	207 432	4.02	1 050 860	46 693	44.43

(a) Before 1980-81 bearing area (hectares), from 1980-81 to 1989-90 total area. (b) From 1990-91 number of bearing trees 6 years and over. Yield is in tonnes per 1,000 bearing trees.

LIVESTOCK NUMBERS, PRODUCTION OF WOOL AND LAMBING, TASMANIA

Year	Livestock (a)				Production of wool (a)			Lambing	
	Horses	Cattle	Sheep	Pigs	Number of sheep and lambs shorn	Average yield per sheep and lamb shorn (including crutchings)	Production of wool (including dead, fell-mongered & exported on skins)	Ewes mated	Lambs marked
						kg	'000 kg		
	'000	'000	'000	'000	'000			'000	'000
1860	21	83	1 701	31	n.a.	n.a.	2 058	n.a.	n.a.
1870	23	101	1 350	49	n.a.	n.a.	1 881	n.a.	n.a.
1880	25	127	1 794	48	n.a.	n.a.	4 094	n.a.	n.a.
1890	31	162	1 619	82	n.a.	n.a.	4 075	n.a.	n.a.
1900	32	166	1 684	68	n.a.	n.a.	3 064	n.a.	n.a.
1910	41	202	1 788	64	n.a.	n.a.	6 050	n.a.	n.a.
1920-21	39	208	1 571	38	1 551	2.94	5 218	416	299
1930-31	33	230	2 120	55	1 961	3.11	6 713	695	547
1940-41	29	259	2 682	47	2 517	2.78	7 746	988	764
1950-51	20	272	2 182	45	2 245	2.99	7 824	774	637
1951-52	19	226	2 338	47	2 379	3.42	9 305	839	726
1952-53	18	275	2 422	39	2 502	3.19	8 984	894	768
1953-54	17	295	2 465	46	2 553	3.16	9 124	916	788
1954-55	16	319	2 595	58	2 715	3.53	10 794	968	884
1955-56	15	332	2 673	49	2 733	3.45	10 624	979	877
1956-57	14	354	2 943	52	3 082	3.78	13 009	1 150	1 056
1957-58	13	371	3 298	63	3 388	3.50	13 234	1 266	1 199
1958-59	12	374	3 536	69	3 673	3.57	14 803	1 381	1 269
1959-60	11	375	3 494	67	3 834	3.44	15 241	1 461	1 354
1960-61	9	394	3 439	71	3 678	3.44	14 456	1 378	1 267
1961-62	9	425	3 532	76	3 830	3.56	15 635	1 440	1 368
1962-63	8	444	3 570	70	3 783	3.64	15 677	1 419	1 310
1963-64	8	450	3 600	83	3 868	3.47	15 425	1 458	1 353
1964-65	7	451	3 792	92	3 978	4.06	17 994	1 478	1 374
1965-66	n.a.	492	4 127	96	4 318	3.88	18 986	1 651	1 594
1966-67	7	522	4 321	86	4 517	3.88	19 574	1 688	1 574
1967-68	n.a.	564	4 428	87	4 572	3.34	17 376	1 779	1 522
1968-69	n.a.	586	4 395	95	4 632	4.09	21 299	1 736	1 561
1969-70	n.a.	646	4 560	111	4 792	4.05	21 861	1 831	1 715
1970-71	n.a.	733	4 517	113	4 806	3.99	21 671	1 889	1 705
1971-72	n.a.	829	4 237	104	4 607	4.03	21 063	1 805	1 617
1972-73	n.a.	900	3 824	85	4 251	3.76	18 154	1 604	1 369
1973-74	n.a.	884	3 964	68	4 101	3.90	17 549	1 535	1 361
1974-75	n.a.	921	4 136	64	4 153	4.12	18 888	1 644	1 466
1975-76	n.a.	909	4 249	70	4 352	4.13	19 951	1 677	1 515
1976-77	n.a.	819	4 015	65	4 229	3.82	18 109	1 640	1 378
1977-78	n.a.	733	3 969	64	4 242	4.00	18 294	1 672	1 529
1978-79	n.a.	657	4 157	61	4 319	4.04	19 079	1 712	1 582
1979-80	n.a.	649	4 245	63	4 550	4.00	20 003	1 861	1 706
1980-81	n.a.	659	4 381	54	4 627	3.91	20 049	1 892	1 674
1981-82	n.a.	628	4 513	47	4 841	3.69	21 783	2 010	1 843
1982-83	7	559	4 451	51	4 901	3.65	21 680	2 035	1 853
1983-84	6	542	4 583	48	4 845	3.74	21 887	2 014	1 794
1984-85	6	554	4 780	47	5 000	3.74	21 935	2 100	1 908
1985-86	6	570	5 083	45	5 270	3.88	24 994	2 018	1 859
1986-87 (b)	4	535	4 954	46	(c) 5 234	(c) 3.91	26 341	1 982	1 710
1987-88	5	542	4 746	48	5 260	3.67	23 519	1 871	1 569
1988-89	5	560	4 933	45	5 139	3.65	22 315	2 016	1 826
1989-90	4	569	5 337	42	5 540	3.86	27 065	1 882	1 600
1990-91	4	584	4 804	38	5 401	3.78	23 270	1 660	1 240
1991-92	4	593	4 295	40	4 695	3.74	17 579	1 634	1 240
1992-93	4	605	4 264	44	4 511	3.89	(d) 17 590	1 634	1 362
1993-94	5	679	4 324	46	4 534	3.88	17 613	1 636	1 402
1994-95	n.a.	693	3 853	38	n.a.	n.a.	n.a.	1 535	1 234
1995-96	n.a.	718	3 862	26	n.a.	n.a.	n.a.	1 463	1 258
1996-97	4	725	3 977	24	3 812	4.38	16 706	1 481	1 316
1997-98	3	728	3 869	24	4 039	3.98	16 085	1 557	1 305

(a) Up to 1925-26, numbers recorded were at varying dates in the years shown; from 1926 to 1940 at 31 December; from 1941-42 at 31 March.

(b) The scope of the census for 1986-87 differs from previous years.

(c) Prior to 1986-87, this series was based on information from Brokers and Dealers. From 1986-87 the series is based on Agricultural Census data only.

(d) Prior to 1992-93, this series was based on information from Brokers and Dealers. From 1992-93 the series is based on Agricultural Census data only.

LIVESTOCK SLAUGHTERED (a) FOR HUMAN CONSUMPTION, TASMANIA ('000)

Year	Cattle and calves				Sheep and lambs			Pigs
	Bulls, bullocks & steers	Cows and heifers	Calves	Total	Sheep	Lambs	Total	
1929-30	20.4	13.0	1.8	35.3	228.1	113.4	341.5	64.3
1939-40	32.7	12.1	3.6	48.4	248.4	212.6	461.0	73.4
1949-50	29.3	23.7	4.6	57.6	245.7	262.4	508.1	50.9
1959-60	47.1	56.9	40.5	144.6	505.0	661.5	1 166.4	114.5
1969-70	78.6	66.5	32.8	177.9	608.3	688.7	1 297.0	160.1
1970-71	78.9	61.1	22.0	162.1	713.2	680.7	1 393.9	170.6
1971-72	96.3	69.2	19.3	184.8	813.0	662.2	1 475.2	165.0
1972-73	124.7	110.2	25.9	260.8	636.5	641.7	1 278.2	152.0
1973-74	126.3	103.6	29.6	259.4	335.6	489.7	825.3	115.6
1974-75	149.3	75.4	37.5	262.1	402.8	577.1	979.9	101.4
1975-76	164.1	119.4	64.5	348.0	454.9	613.6	1 068.5	94.1
1976-77	144.9	139.9	72.9	357.7	469.1	523.5	992.6	99.6
1977-78	161.0	132.8	68.7	362.5	386.8	650.1	1 036.8	92.5
1978-79	123.6	103.2	54.5	281.2	345.4	502.9	848.3	90.5
1979-80	95.6	83.0	39.5	218.1	316.9	613.2	930.1	88.7
1980-81	95.9	86.1	42.2	224.1	403.3	646.9	1 050.2	88.6
1981-82	106.6	91.5	53.8	251.9	452.0	690.7	1 142.7	77.2
1982-83	109.4	106.5	59.6	275.5	563.3	764.4	1 327.7	77.3
1983-84	80.4	73.2	46.4	200.0	418.9	756.9	1 175.9	80.2
1984-85	83.4	63.7	38.2	185.3	427.3	683.9	1 111.3	83.1
1985-86	85.5	57.7	32.2	175.4	466.6	665.7	1 132.3	84.4
1986-87	103.9	68.9	32.2	204.9	509.7	670.6	1 180.3	89.6
1987-88	104.0	75.7	35.6	215.2	630.0	656.0	1 286.1	97.5
1988-89	97.2	63.9	40.5	201.6	412.4	595.0	1 007.5	95.5
1989-90	117.0	74.7	34.9	226.6	532.3	588.8	1 121.1	86.7
1990-91	111.9	79.4	30.6	221.9	448.3	555.9	1 004.2	79.9
1991-92	104.7	93.6	32.3	230.6	446.7	489.8	936.5	84.8
1992-93	99.0	90.4	32.7	222.1	473.4	456.5	929.9	92.5
1993-94	101.8	85.2	23.2	210.2	526.1	437.8	963.9	95.8
1994-95	111.2	96.7	28.8	236.7	569.3	477.2	1 046.5	92.9
1995-96	95.4	88.9	41.4	225.7	349.7	393.3	743.0	86.5
1996-97	110.2	93.4	43.6	247.2	384.4	364.0	748.4	74.9
1997-98	93.4	123.6	53.9	270.9	461.0	423.3	884.3	78.1
1998-99	92.4	117.1	61.1	270.6	409.3	474.3	883.6	81.0

(a) Including livestock slaughtered on farms.

VALUE OF AGRICULTURAL COMMODITIES PRODUCED, TASMANIA (\$ million)

Year	Crops (a)		Livestock slaughterings and other disposals		Livestock products		Total agriculture	
	Gross	Local	Gross	Local	Gross	Local	Gross	Local
1970-71	40.1	29.2	28.1	25.9	41.9	40.2	110.2	95.3
1971-72	33.7	24.0	31.5	29.0	47.0	45.1	112.2	98.1
1972-73	40.0	28.3	43.6	40.4	64.8	61.7	148.4	130.3
1973-74	46.6	37.0	58.0	54.0	60.0	57.3	164.7	148.2
1974-75	49.4	39.7	31.7	29.1	56.5	53.1	137.6	121.9
1975-76	43.0	35.2	34.1	31.0	60.7	57.0	137.7	123.3
1976-77	55.7	48.7	46.1	42.2	72.1	68.2	173.9	159.1
1977-78	54.0	47.8	54.8	47.9	76.1	72.2	184.8	167.9
1978-79	76.9	68.8	91.7	80.2	86.7	82.7	255.4	231.6
1979-80	70.4	61.7	100.3	87.4	93.7	89.0	264.4	238.0
1980-81	80.3	71.1	94.1	82.4	100.2	95.1	274.6	248.6
1981-82	92.3	81.4	90.2	78.8	117.7	112.7	300.2	272.9
1982-83	108.2	95.2	100.7	87.9	131.5	126.3	340.4	309.4
1983-84	134.4	121.7	95.6	83.2	126.9	121.0	356.8	326.0
1984-85	132.3	116.6	115.3	106.6	135.1	130.2	382.8	353.4
1985-86	148.1	129.9	95.1	88.6	147.3	140.5	390.5	359.0
1986-87	145.6	129.5	111.5	104.5	180.4	170.5	437.5	404.5
1987-88	189.4	169.2	120.0	112.6	239.1	230.0	548.4	511.9
1988-89	233.4	213.0	122.1	114.0	247.6	235.5	603.1	562.8
1989-90	221.9	200.1	140.8	135.1	261.0	248.1	623.7	579.9
1990-91	204.1	192.8	125.2	116.7	214.9	202.9	549.3	512.4
1991-92	227.4	204.0	125.7	117.0	180.4	170.2	533.5	491.2
1992-93	245.4	220.0	136.0	125.9	187.3	177.6	568.7	523.5
1993-94	252.9	229.4	157.9	126.4	209.6	199.0	620.3	554.9
1994-95	255.4	226.7	139.5	126.7	224.0	213.4	618.9	566.9
1995-96	301.4	271.9	105.3	93.7	218.8	213.3	625.5	579.0
1996-97	297.9	249.0	117.1	106.0	225.8	219.5	640.8	574.6
1997-98	317.9	296.3	120.9	107.1	239.5	233.7	678.2	637.1

(a) Excludes crops and pasture harvested for green feed or silage.

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PRODUCTION OF MEAT, TASMANIA (Tonnes: Carcass weight)

Year	Beef and veal			Mutton and lamb			Pigmeat (a)	Total
	Beef	Veal	Total	Mutton	Lamb	Total		
1929-30	n.a.	n.a.	8 153	4 448	1 595	6 043	2 848	17 044
1939-40	10 626	165	10 791	4 845	2 989	7 834	3 560	22 185
1949-50	12 299	169	12 468	4 896	4 173	9 069	2 597	24 134
1959-60	22 610	906	23 516	10 267	10 846	21 113	5 438	50 067
1969-70	30 909	599	31 509	12 767	11 282	24 049	8 007	63 564
1970-71	29 481	398	29 879	14 755	11 318	26 073	8 530	64 482
1971-72	34 422	374	34 796	16 314	10 875	27 189	8 266	70 251
1972-73	46 946	525	47 471	12 201	10 327	22 528	7 389	77 388
1973-74	45 669	613	46 282	6 672	8 096	14 768	5 477	66 527
1974-75	47 592	721	48 313	7 984	9 508	17 492	4 872	70 677
1975-76	57 924	1 242	59 166	8 997	9 849	18 846	4 516	82 529
1976-77	55 790	1 613	57 403	8 494	8 189	16 683	4 946	79 032
1977-78	59 779	1 556	61 335	7 035	9 849	16 884	4 785	83 004
1978-79	46 269	1 152	47 421	6 833	7 883	14 716	4 834	66 971
1979-80	36 561	835	37 396	5 656	9 017	14 673	4 862	56 931
1980-81	36 812	924	37 736	7 420	9 976	17 396	4 767	59 899
1981-82	40 561	1 266	41 827	8 492	10 647	19 139	4 262	65 228
1982-83	43 518	1 376	44 894	10 364	11 840	22 204	4 196	71 294
1983-84	31 374	960	32 334	8 177	11 745	19 922	4 315	56 572
1984-85	30 821	880	31 701	8 297	10 701	18 998	4 752	55 451
1985-86	30 843	914	31 757	9 382	10 298	42 055	4 665	78 477
1986-87	37 780	1 379	39 159	9 957	10 423	20 380	5 491	65 030
1987-88	39 479	1 791	41 270	11 645	10 213	21 858	5 974	69 102
1988-89	36 178	2 083	38 261	8 069	9 522	17 590	5 810	61 661
1989-90	45 467	2 093	47 560	10 254	9 576	19 830	5 320	72 710
1990-91	43 506	776	44 282	8 455	9 117	17 573	4 795	66 650
1991-92	45 266	665	45 931	8 355	8 070	16 425	5 168	67 524
1992-93	44 925	692	45 617	8 949	7 456	16 405	5 749	67 771
1993-94	47 458	515	47 973	9 992	7 047	17 039	6 019	71 031
1994-95	49 907	977	50 884	11 230	8 412	19 642	5 982	76 509
1995-96	45 377	875	46 252	7 414	7 407	14 821	5 634	66 707
1996-97	51 723	907	52 630	8 170	6 876	15 046	4 934	72 610
1997-98	53 064	1 149	54 213	9 841	8 072	17 913	4 916	77 041
1998-99	52 524	1 243	53 767	8 146	9 123	17 269	5 230	76 267

(a) Includes pork for manufacture into bacon and ham.

MANUFACTURING, 1910 TO 1967-68, TASMANIA

Year	Factories at end of year	Employment (a)			Salaries and wages paid (b)	Value of materials used	Value of output (c)	Value of production (d)	Land and buildings	Plant and machinery
		Males	Females	Persons						
	no.	no.	no.	no.	\$m	\$m	\$m	\$m	\$m	\$m
1910	635	8 277	1 703	9 980	n.a.	n.a.	n.a.	n.a.	2.0	2.1
1920	616	8 746	1 479	10 225	3.0	8.5	14.3	5.5	2.0	3.9
1929-30	845	8 547	2 273	10 820	4.1	8.0	17.1	7.1	6.0	13.9
1939-40	980	11 754	2 916	14 670	5.4	10.8	26.0	12.5	7.6	13.6
1949-50	1 456	19 302	4 204	23 506	19.3	43.5	90.2	38.7	17.3	27.5
1950-51	1 486	19 454	4 373	23 827	23.5	58.3	117.2	49.2	20.7	34.3
1951-52	1 512	19 934	4 093	24 027	29.4	71.8	143.9	59.6	25.0	41.2
1952-53	1 504	19 621	3 874	23 495	32.0	67.3	142.0	61.0	29.9	45.2
1953-54	1 545	20 249	4 340	24 589	34.8	74.9	155.8	66.1	54.0	55.0
1954-55	1 597	21 045	4 407	25 452	37.7	84.9	177.2	76.2	59.2	59.8
1955-56	1 594	22 128	4 934	27 062	43.2	95.9	207.6	91.9	93.2	80.8
1956-57	1 595	22 482	5 188	27 670	47.3	101.3	220.8	97.4	112.9	89.7
1957-58	1 655	23 081	5 003	28 084	50.6	100.6	227.7	103.7	118.9	93.7
1958-59	1 666	23 504	4 920	28 424	51.7	103.1	236.6	108.6	123.7	96.5
1959-60	1 683	24 408	5 254	29 662	57.6	119.8	268.1	120.4	144.0	107.3
1960-61	1 766	24 811	5 347	30 158	60.7	122.5	275.9	124.9	147.1	112.6
1961-62	1 760	24 742	5 328	30 070	61.4	126.1	283.5	127.9	159.1	121.6
1962-63	1 764	25 453	5 302	30 755	64.8	131.1	303.9	142.0	163.9	138.2
1963-64	1 746	26 221	5 612	31 833	70.6	154.6	341.1	152.6	168.4	141.7
1964-65	1 805	26 768	5 812	32 580	76.5	175.9	381.5	167.3	209.0	155.3
1965-66	1 792	28 041	6 274	34 315	83.0	188.7	404.6	175.6	211.9	158.7
1966-67	1 771	28 364	6 515	34 879	90.8	201.0	438.0	194.6	234.0	169.2
1967-68	1 797	28 550	6 628	35 178	96.2	203.1	445.1	198.0	263.4	184.7

(a) Commencing with 1927-28, the number of persons employed is the average over the whole year; prior to the date the number represents the average over the period of operation. (b) Excludes amounts drawn by working proprietors. (c) Value of goods manufactured and work done. (d) Value of output less recorded costs of manufacture other than labour.

MANUFACTURING, TASMANIA (a)

Year (b)	Establish- ments operating at 30 June (c)	Employment at 30 June (d)			Wages and salaries (e)	Turnover (f)	Purchases, transfer in and selected expenses (g)	Value added (h)	Fixed capital expenditure (i)
		Males	Females	Persons					
	no.	no.	no.	no.	\$m	\$m	\$m	\$m	\$m
1968-69	951	25 346	6 743	32 089	95.1	487.1	301.7	197.5	35.1
1969-70	945	25 523	6 891	32 414	102.1	541.6	317.5	226.1	49.4
1971-72	933	24 891	6 253	31 144	119.4	595.6	359.3	245.1	25.9
1972-73	912	25 077	6 427	31 504	130.7	678.8	394.6	283.4	24.9
1973-74	935	25 708	6 651	32 359	161.4	818.0	494.8	340.3	24.8
1974-75	628	23 430	5 278	28 708	194.9	905.7	558.6	402.3	53.1
1975-76	667	23 243	5 135	28 378	211.3	1 029.6	577.4	456.0	43.9
1976-77	617	23 335	4 973	28 308	246.0	1 199.3	694.4	533.3	34.5
1977-78	599	21 907	5 130	27 037	258.3	1 246.0	742.2	498.0	47.2
1978-79	552	21 397	4 932	26 329	266.1	1 401.5	861.7	549.4	77.1
1979-80	543	21 572	4 857	26 429	298.2	1 656.1	1 045.9	653.8	55.9
1980-81	558	21 783	4 665	26 448	346.6	1 867.1	1 175.5	713.4	60.2
1981-82	555	20 626	4 630	25 256	370.2	1 898.0	1 237.5	713.1	84.4
1982-83	528	19 302	4 551	23 853	387.7	1 968.5	1 260.4	695.1	45.0
1983-84	558	19 695	4 556	24 251	414.3	2 220.5	1 388.7	837.7	61.2
1984-85	575	19 934	4 639	24 573	443.0	2 422.9	1 548.9	937.9	52.3
1986-87	633	19 496	4 875	24 371	526.4	3 050.2	1 838.9	1 236.5	n.a.
1987-88	686	19 832	4 996	24 828	562.6	3 242.6	n.a.	n.a.	n.a.
1988-89	676	21 319	5 614	26 933	648.2	3 834.7	n.a.	n.a.	n.a.
1989-90	662	n.a.	n.a.	25 600	683.5	4 055.4	2 457.3	1 738.7	n.a.
1990-91 (j)	851	n.a.	n.a.	24 500	716.9	4 124.2	n.a.	n.a.	n.a.
1991-92	857	n.a.	n.a.	23 800	720.2	3 935.4	n.a.	n.a.	n.a.
1992-93	772	n.a.	n.a.	22 600	677.4	3 996.5	n.a.	n.a.	n.a.
1993-94	948	n.a.	n.a.	21 800	645.1	4 116.8	n.a.	n.a.	n.a.
1994-95	1 051	n.a.	n.a.	22 400	675.6	4 405.3	n.a.	n.a.	n.a.
1995-96	1 149	n.a.	n.a.	22 500	697.0	4 819.4	n.a.	n.a.	n.a.
1996-97	1 084	n.a.	n.a.	21 600	744.3	4 744.8	n.a.	n.a.	n.a.

(a) Details are not comparable with those contained in the table: 'Manufacturing, 1910 to 1967-68, Tasmania'. (b) No census was conducted in 1970-71 and 1985-86. From 1974-75 figures exclude details for single establishment enterprises with less than four persons employed. (c) From 1992-93 figures are for number of locations. (d) Includes working proprietors and employees at separately located administrative and ancillary units. (e) Excludes drawings by working proprietors and partners. (f) Turnover plus increase (or less decrease) in the value of stocks less purchases, transfers in and selected expenses. (g) Includes transfers in of goods from other establishments of the enterprise, charges for commission and sub-contract work, repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses and sales commission payments. (h) Comprises sales of goods, transfers out of goods to establishments of the same enterprise, bounties and subsidies on production, all other operating revenue from outside the enterprise and capital work done for own use, rental or lease. (i) Outlay on fixed tangible assets less disposals. (j) Includes details for single establishment enterprises with less than four employed persons.

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VALUE OF BUILDING, TASMANIA (\$'000)

Year	All building approvals	Building construction								
		Commenced			Completed			Under construction at 30 June		
		New dwellings	Other building	Total all building	New dwellings	Other build-ing	Total all building	New dwellings	Other building	Total all building
1946-47	6 726	3 728	1 708	5 436	2 308	526	2 834	3 614	1 904	5 518
1947-48	8 358	5 256	1 958	7 214	3 492	1 066	4 558	5 532	2 760	8 292
1948-49	11 742	7 960	2 782	10 742	6 042	1 578	7 620	7 670	4 074	11 744
1949-50	16 740	11 702	5 056	16 758	8 426	2 258	10 684	11 368	6 612	17 980
1950-51	21 694	15 000	5 672	20 672	13 508	3 298	16 806	14 250	10 106	24 356
1951-52	20 042	15 360	6 766	22 126	16 414	4 608	21 022	14 504	13 036	27 540
1952-53	15 984	10 664	2 558	13 222	15 252	6 078	21 330	10 608	10 380	20 988
1953-54	21 646	13 552	4 896	18 448	13 520	5 864	19 384	11 532	12 032	23 564
1954-55	25 612	15 244	6 428	21 672	13 092	8 206	21 298	13 992	10 806	24 798
1955-56	25 074	13 842	5 936	19 778	15 138	10 458	25 596	13 230	6 498	19 728
1956-57	30 964	15 138	13 138	28 276	16 434	8 784	25 218	12 420	11 750	24 170
1957-58	27 232	14 980	10 486	25 466	15 844	9 836	25 680	11 866	12 026	23 892
1958-59	27 592	16 662	12 156	28 818	15 986	10 914	26 900	12 742	13 364	26 106
1959-60	39 159	15 834	20 652	36 486	16 570	15 036	31 606	12 026	19 156	31 182
1960-61	30 539	15 936	12 344	28 280	17 206	16 822	34 028	10 912	15 016	25 928
1961-62	37 804	17 026	18 360	35 386	16 630	16 824	33 454	11 136	16 640	27 776
1962-63	37 416	16 668	17 944	34 612	16 892	17 240	34 128	10 912	17 500	28 412
1963-64	34 521	18 944	15 720	34 664	18 070	15 906	33 976	11 764	17 330	29 094
1964-65	44 872	20 922	21 118	42 040	20 060	17 684	37 744	12 628	20 738	33 366
1965-66	48 870	19 200	24 589	43 789	19 010	20 670	39 680	12 761	24 651	37 412
1966-67	56 012	25 869	36 208	62 070	23 230	24 986	48 218	15 394	35 875	51 269
1967-68	74 412	29 791	33 359	63 153	30 078	31 805	61 881	15 095	37 411	52 504
1968-69	54 721	28 011	28 191	56 202	28 142	28 807	56 947	14 634	37 262	51 896
1969-70	62 272	32 326	29 805	62 131	32 170	34 282	66 452	14 675	36 347	51 022
1970-71	71 046	32 233	37 956	70 189	29 275	30 409	59 684	17 906	45 559	63 465
1971-72	73 827	32 219	32 100	64 319	31 699	38 018	69 717	19 262	42 374	61 636
1972-73	94 293	43 328	47 279	90 607	36 190	41 915	78 105	27 418	49 104	76 522
1973-74 (a)	105 417	57 579	49 546	107 125	48 259	40 687	88 946	38 416	58 947	97 363
1974-75	112 736	59 641	53 539	113 180	58 182	41 311	99 493	42 436	73 883	116 319
1975-76	160 390	94 481	62 360	156 840	77 130	67 979	145 109	65 067	75 427	140 494
1976-77	200 562	100 636	77 938	178 574	102 888	71 674	174 563	67 915	85 758	153 674
1977-78	187 729	95 941	96 314	192 255	105 701	87 319	193 019	61 583	99 732	161 316
1978-79	183 416	105 265	106 141	211 406	99 460	74 968	174 427	73 161	133 694	206 854
1979-80	195 912	95 771	82 821	178 591	106 452	111 180	217 633	62 278	117 250	179 529
1980-81	181 845	109 700	99 727	209 400	111 600	122 800	234 400	56 800	109 900	166 700
1981-82	188 493	88 800	92 800	181 600	93 500	98 000	191 500	48 500	106 100	154 600
1982-83	163 444	80 900	78 500	159 500	79 000	111 100	190 100	49 500	71 300	120 800
1983-84	229 678	122 000	80 000	202 000	107 300	105 500	212 800	63 600	46 400	110 000
1984-85	341 260	171 700	130 200	301 900	150 300	85 000	235 300	85 600	96 600	182 200
1985-86	360 500	182 600	196 900	379 600	166 000	118 200	284 200	103 000	178 400	281 400
1986-87	381 750	170 600	198 800	369 400	166 300	174 100	340 400	111 700	205 600	317 300
1987-88	388 699	180 500	193 700	374 200	174 200	225 300	399 500	118 500	181 300	299 800
1988-89 (b)(c)	461 657	222 500	257 400	479 900	182 100	217 600	399 700	164 300	232 300	396 600
1989-90	398 028	224 400	176 700	401 100	229 600	232 000	461 600	164 000	198 400	362 400
1990-91 (d)	406 678	232 000	180 100	412 000	219 400	249 200	468 600	180 800	132 700	313 500
1991-92	398 873	253 700	144 900	398 600	246 600	182 700	429 300	186 300	101 500	287 800
1992-93	411 419	281 700	139 600	421 300	289 100	172 000	461 000	183 200	77 400	260 600
1993-94	487 407	309 500	199 700	509 300	284 400	170 100	454 000	212 500	102 200	314 700
1994-95	446 152	253 500	194 900	448 300	282 800	189 400	472 300	188 700	109 700	298 300
1995-96	471 086	218 700	280 900	499 600	235 700	228 300	464 000	177 400	172 000	349 300
1996-97	351 720	165 400	202 200	367 600	202 100	219 700	421 800	144 000	156 900	300 800
1997-98	306 264	149 600	181 800	331 400	182 000	240 400	422 500	116 100	101 000	217 200

(a) Alterations and additions to dwellings valued at \$10,000 and over are included with the value of dwellings up to 1972-73 but excluded thereafter: from 1973-74 the value of alterations and additions to dwellings valued at \$10,000 and over is included with 'other building'.

(b) All approved new residential building jobs are included up to 1987-88; from 1988-89 only approved new residential building jobs valued at \$5,000 or more are included. For building construction, new residential building jobs have a minimum value of \$10,000.

(c) All approved non-residential building jobs valued at \$10,000 or more are included up to 1987-88; from 1988-89 only approved non-residential building jobs valued at \$30,000 or more are included.

(d) From July 1990 only residential building valued at \$10,000 or more and other building valued at \$50,000 or more are included.

Source: ABS catalogue nos. 8731.6 and 8752.6

MOTOR VEHICLE REGISTRATIONS, TASMANIA (a)

Year	Motor vehicles on the register at end of period					New motor vehicles registered during period			
	Motor cars and station wagons		Commercial vehicles	Motor cycles	Total	Motor cars and station wagons	Commercial vehicles	Motor cycles	Total
	Number	Persons per vehicle registered							
	'000	no.	'000	'000	'000	no.	no.	no.	no.
1924-25	5.8	36.9	(b) 0.8	2.7	9.3	n.a.	n.a.	n.a.	n.a.
1925-26	7.1	30.4	1.0	3.0	11.1				
1926-27	8.4	25.1	1.2	3.5	13.1				
1927-28	9.7	22.0	1.6	3.9	15.2				
1928-29	11.4	19.0	1.9	4.4	17.6				
1929-30	12.5	17.6	(c) 2.2	4.8	19.5	1 627	(c) 552	939	3 118
1930-31	12.0	18.3	2.2	4.3	18.5	n.a.	n.a.	n.a.	n.a.
1931-32	11.3	20.0	2.2	3.7	17.2				
1932-33	11.6	19.6	2.5	3.7	17.8				
1933-34	12.0	19.0	2.7	3.8	18.5				
1934-35	12.9	17.8	3.0	3.9	19.8	982	422	171	1 575
1935-36	14.0	16.4	3.6	3.9	21.6	n.a.	n.a.	n.a.	n.a.
1936-37	15.1	15.4	4.0	3.6	22.7	1 572	620	281	2 473
1937-38	16.6	14.1	4.5	3.6	24.8	1 802	707	287	2 796
1938-39	17.7	13.4	5.0	3.7	26.4	2 010	700	350	3 060
1939-40	17.6	13.6	5.2	3.4	26.2	1 400	540	176	2 116
1940-41	17.3	13.9	5.5	3.2	26.1	553	359	90	1 002
1941-42	14.2	17.0	5.4	2.2	21.9	127	156	13	296
1942-43	15.8	15.4	5.6	2.5	23.9	69	91	3	163
1943-44	16.7	14.7	6.3	2.6	25.6	29	523	..	552
1944-45	17.1	14.5	7.0	2.8	26.8	26	331	1	358
1945-46	17.4	14.5	7.8	3.2	28.4	43	351	73	467
1946-47	18.5	13.9	9.0	3.6	31.2	741	667	472	1 880
1947-48	19.9	13.1	10.2	4.1	34.2	1 541	1 084	621	3 246
1948-49	22.5	11.9	11.7	4.7	38.9	2 611	1 202	812	4 625
1949-50	25.3	10.9	12.9	4.9	43.2	3 311	1 565	886	5 762
1950-51	28.8	9.9	15.1	5.3	49.2	4 187	2 319	960	7 466
1951-52	32.5	9.1	16.8	5.7	55.1	4 267	2 073	938	7 278
1952-53	35.4	8.6	19.4	5.7	60.5	3 368	1 724	474	5 566
1953-54	40.0	7.7	19.7	5.6	65.4	4 718	1 896	450	7 064
1954-55	44.9	7.0	21.5	5.3	71.7	5 738	2 285	417	8 440
1955-56	48.0	6.6	21.9	4.8	74.7	5 457	2 179	332	7 968
1956-57	51.7	6.3	22.6	4.4	78.6	5 309	1 988	340	7 637
1957-58	55.9	6.0	23.9	4.0	83.8	5 337	1 944	225	7 506
1958-59	59.1	5.7	25.0	3.6	87.7	5 362	2 113	176	7 651
1959-60	63.7	5.4	26.4	3.1	93.2	6 527	2 115	96	8 738
1960-61	68.1	5.1	26.7	2.6	97.4	6 723	2 058	61	8 842
1961-62	72.8	4.9	27.4	2.4	102.6	6 931	1 778	59	8 768
1962-63	77.9	4.6	27.5	1.9	107.3	9 003	1 986	52	11 041
1963-64	84.4	4.3	28.0	1.7	114.1	10 268	2 343	53	12 664
1964-65	91.3	4.0	28.9	1.5	121.7	10 522	2 389	69	12 980
1965-66	96.8	3.8	29.7	1.5	128.0	10 133	2 878	207	13 218
1966-67	101.7	3.7	30.2	1.6	133.5	10 390	2 611	380	13 381
1967-68	107.7	3.5	31.1	2.2	141.0	11 738	2 412	751	14 901
1968-69	113.7	3.4	32.2	2.8	148.7	10 845	2 529	781	14 155
1969-70	118.6	3.3	32.6	3.1	154.3	11 399	2 456	799	14 654
1970-71	124.9	3.1	32.9	3.5	161.3	11 792	2 550	794	15 136
1971-72	130.2	3.0	33.8	3.8	167.8	11 961	2 492	978	15 431
1972-73	135.4	2.9	34.6	4.5	174.5	12 970	2 813	1 343	17 126
1973-74	141.2	2.8	35.3	6.1	182.6	13 674	2 846	2 600	19 120
1974-75	150.3	2.7	36.6	7.4	194.3	16 097	3 980	2 749	22 826
1975-76	156.9	2.6	39.1	6.8	202.8	14 410	3 971	1 831	20 212
1976-77	162.7	2.5	40.5	6.2	209.4	14 520	4 260	1 428	20 208
1977-78	171.9	2.4	41.2	5.0	218.1	13 884	4 170	972	19 026
1978-79	178.8	2.4	42.9	4.8	226.6	13 928	3 401	892	18 221
1979-80	177.2	2.4	47.5	4.7	229.5	13 333	3 454	1 089	17 876
1980-81	183.5	2.3	49.0	4.9	237.4	13 563	3 444	1 278	18 285
1981-82	186.5	2.3	50.5	5.1	242.1	12 210	3 302	1 110	16 622
1982-83	191.0	2.3	52.5	5.8	249.3	11 279	3 209	990	15 478
1983-84	195.0	2.2	54.8	6.1	255.9	13 214	3 791	1 027	18 032
1984-85	201.7	2.2	58.3	6.4	266.4	13 840	4 731	991	19 562
1985-86	206.2	2.2	60.5	6.5	273.2	12 811	3 969	752	17 532
1986-87	207.0	2.2	61.6	6.3	274.9	9 206	2 667	526	12 399
1987-88	209.4	2.2	62.7	6.0	278.1	8 597	2 106	279	10 982
1988-89	213.5	2.1	64.7	6.2	284.4	10 009	2 906	369	13 284
1989-90	220.4	2.1	67.6	6.4	294.3	10 718	3 225	473	14 416
1990-91	221.9	2.1	70.1	6.2	298.2	9 968	2 749	446	13 163
1991-92	227.9	2.1	70.5	6.3	304.7	9 986	2 471	356	12 613
1992-93	231.8	2.0	72.4	6.6	310.8	10 039	2 569	385	12 993
1993-94	235.1	2.0	74.0	7.0	316.1	10 032	2 609	420	13 061
1994-95	237.1	2.0	75.5	7.2	319.9	11 012	3 003	404	14 419
1995-96	241.0	2.0	77.1	7.4	325.5	10 701	2 560	412	13 673
1996-97	240.5	2.0	76.9	7.6	325.0	11 772	2 741	481	14 994
1997-98	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	13 232	2 740	542	16 514

(a) Includes State Government and Commonwealth Government-owned vehicles but excludes those belonging to the Defence Services.

(b) Trucks only.

(c) From 1929-30 includes trucks, utilities, panel vans and omnibuses.

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VALUE OF TRADE BY SEA AND AIR AND VESSELS ENTERED AND CLEARED, TASMANIAN PORTS

Year	Imports				Exports				Vessels entered Tasmanian ports	
	Overseas		Interstate		Overseas (b)		Interstate (b)		Overseas and interstate (c)	
	By sea and air	By sea (a)	By air	Total (a)	By sea and air	By sea	By air	Total		
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000		
									no.	'000 net tons (i)
1830	n.a.	n.a.	n.a.	510	n.a.	n.a.	n.a.	292	101	27
1840	n.a.	n.a.	n.a.	1 976	n.a.	n.a.	n.a.	1 734	492	85
1850	n.a.	n.a.	n.a.	1 318	n.a.	n.a.	n.a.	1 288	674	104
1860	1 686	450	n.a.	2 136	1 544	380	n.a.	1 924	806	116
1870	698	888	n.a.	1 586	562	736	n.a.	1 298	613	106
1880	738	2 000	n.a.	2 738	1 568	1 456	n.a.	3 024	654	205
1890	1 594	2 202	n.a.	3 796	792	2 182	n.a.	2 974	746	476
1900	1 402	2 746	n.a.	4 148	3 078	2 144	n.a.	5 222	741	619
1910	1 662	(d)	n.a.	n.a.	1 040	(d)	n.a.	n.a.	979	1 211
1919-20	1 626	(d)	n.a.	n.a.	4 022	(d)	n.a.	n.a.	841	632
1929-30	3 668	16 028	n.a.	19 696	4 978	13 198	n.a.	18 176	1 076	1 390
1939-40	3 188	21 780	n.a.	24 968	4 852	20 954	n.a.	25 806	1 243	1 512
1949-50	18 704	51 218	(e) 10 670	80 592	29 936	42 672	(e) 3 996	76 604	862	1 183
1959-60	27 606	130 014	19 210	176 830	47 730	137 530	20 818	206 078	1 308	2 287
1960-61	37 208	141 086	19 356	197 650	42 588	143 036	21 944	207 568	1 354	2 546
1961-62	26 788	141 776	18 000	186 564	57 196	140 794	23 298	221 288	1 533	3 042
1962-63	35 746	150 620	18 158	204 524	66 792	146 454	21 602	234 848	1 614	3 474
1963-64	35 032	167 964	19 840	222 836	73 318	173 590	23 424	275 332	1 508	3 346
1964-65	35 717	170 963	20 819	227 449	87 315	193 371	25 770	306 456	1 472	3 412
1965-66	43 585	192 732	21 123	257 441	92 007	212 785	25 575	330 367	(f) 1 645	(f) 3 887
1966-67	51 376	209 456	20 311	281 143	88 834	224 975	25 680	339 490	1 684	4 085
1967-68	45 024	220 065	20 590	285 679	76 888	233 694	26 941	337 524	1 676	4 102
1968-69	37 509	241 398	21 051	299 958	102 061	265 476	25 825	393 362	1 795	4 645
1969-70	46 998	257 441	20 551	324 989	143 470	286 083	26 287	455 840	1 759	5 574
1970-71	45 719	269 022	19 777	334 519	143 198	277 669	27 103	447 970	1 639	5 338
1971-72	39 749	281 576	20 622	341 947	178 950	302 608	29 374	510 932	1 754	5 937
1972-73	45 045	289 862	21 238	356 145	218 712	320 910	30 626	570 247	1 788	7 239
1973-74	69 277	357 805	24 760	451 843	259 745	404 382	34 566	698 692	1 631	7 225
1974-75	100 616	402 081	26 850	529 547	226 154	379 933	31 699	637 786	1 611	6 820
1975-76	76 262	503 497	27 882	607 641	250 580	441 391	36 280	728 251	1 536	6 733
1976-77	94 622	564 231	30 909	689 762	338 657	485 850	35 160	859 667	1 592	7 258
1977-78	115 778	594 793	39 388	749 960	381 942	594 441	38 206	1 014 589	1 528	6 992
1978-79	140 652	621 548	74 578	836 829	513 286	627 186	39 727	1 180 199	n.a.	n.a.
1979-80	179 780	935 584	53 481	1 168 845	646 827	772 531	32 141	1 451 499	n.a.	n.a.
1980-81	172 456	973 685	60 922	1 207 063	658 013	837 042	45 171	1 540 226	n.a.	n.a.
1981-82	166 032	1 031 330	61 187	1 258 548	647 617	879 421	47 525	1 574 562	n.a.	n.a.
1982-83	179 819	1 084 743	74 552	1 339 113	773 133	904 983	50 833	1 728 949	n.a.	n.a.
1983-84	202 786	1 189 170	69 735	1 461 691	774 308	1 075 077	57 768	1 907 153	n.a.	n.a.
1984-85	389 613	1 414 304	91 352	1 895 269	841 312	1 184 681	67 084	2 093 077	(h) 1 739	(i) 13 734
1985-86	299 398	(g) n.a.	(g) n.a.	(g) n.a.	900 011	1 182 102	74 755	2 156 868	2 087	15 403
1986-87	289 374	n.a.	n.a.	n.a.	1 094 664	1 322 047	84 175	2 500 886	1 980	18 810
1987-88	282 415	n.a.	n.a.	n.a.	1 221 955	1 312 699	93 523	2 628 177	1 858	18 317
1988-89	348 551	n.a.	n.a.	n.a.	1 438 727	n.a.	149 225	n.a.	1 939	18 706
1989-90	352 126	n.a.	n.a.	n.a.	1 422 558	n.a.	112 212	n.a.	n.a.	n.a.
1990-91	298 761	n.a.	n.a.	n.a.	1 341 242	n.a.	95 641	n.a.	n.a.	n.a.
1991-92	286 615	n.a.	n.a.	n.a.	1 439 177	n.a.	98 304	n.a.	n.a.	n.a.
1992-93	334 247	n.a.	n.a.	n.a.	1 522 218	n.a.	n.a.	n.a.	n.a.	n.a.
1993-94	447 561	n.a.	n.a.	n.a.	1 575 001	n.a.	n.a.	n.a.	n.a.	n.a.
1994-95	341 841	n.a.	n.a.	n.a.	1 611 732	n.a.	n.a.	n.a.	n.a.	n.a.
1995-96	351 387	n.a.	n.a.	n.a.	1 619 711	n.a.	n.a.	n.a.	n.a.	n.a.
1996-97	395 615	n.a.	n.a.	n.a.	1 708 322	n.a.	n.a.	n.a.	n.a.	n.a.
1997-98	385 405	n.a.	n.a.	n.a.	2 136 171	n.a.	n.a.	n.a.	n.a.	n.a.

(a) Data for 1979-80 onwards are not directly comparable with data for previous years because of revisions to estimating procedures to take account of inadequate documentation available for interstate imports by sea.

(b) Data for 1978-79 onwards are not directly comparable with data for previous years. From 1 July 1978 overseas export figures relate to all goods leaving Tasmania for overseas countries. Prior to that date export figures relate to only goods leaving Tasmania for overseas countries for which documents had been lodged with customs in Tasmania.

(c) In this section each vessel is recorded as an entry at the first Tasmanian port of call only; intrastate movements are excluded.

(d) Collection discontinued until 1922-23.

(e) Not collected before 1949-50.

(f) From 1966-67 not comparable with previous years; details are now confined to vessels of over 200 registered net tons engaged solely in trade.

(g) Figures no longer available, due to discontinuation of the Interstate Imports Collection.

(h) Overseas only.

(i) Deadweight tonnes used from 1984-85.

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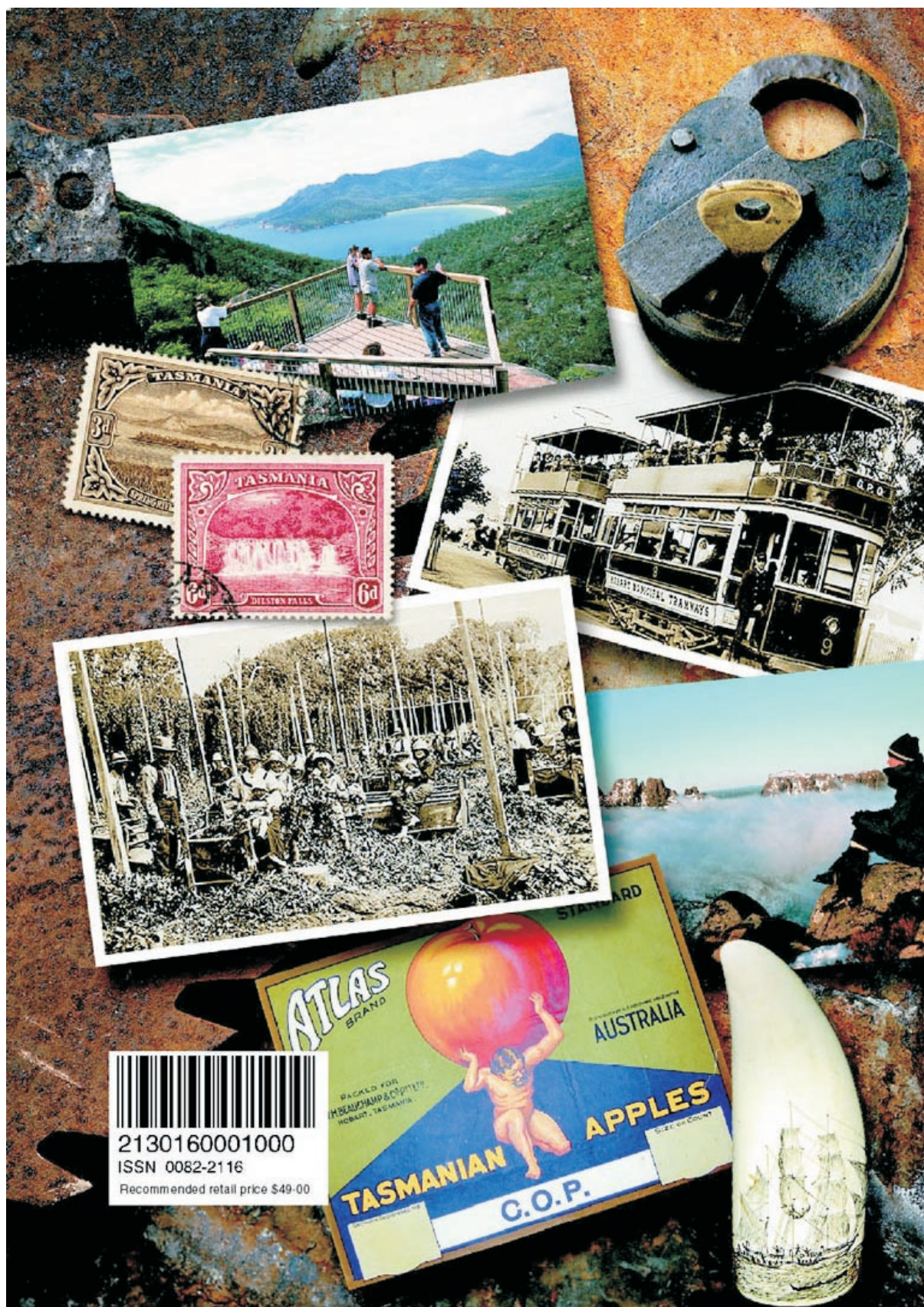
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