

Tasmanian Year Book



1977

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TASMANIAN YEAR BOOK

1977

The Tasmanian Floral Emblem

The Tasmanian Blue Gum, *Eucalyptus globulus* Labill., was proclaimed as the Floral Emblem of the State of Tasmania on 27 November 1962.

In favourable situations, the Tasmanian Blue Gum will grow to approximately 60 metres in height. The trunk is smooth and greyish white in the upper part but often rough and deeply furrowed at the base. The name 'Blue Gum' refers to the appearance of the juvenile leaves which are glaucous (bluish-grey and waxy), 6-15 cm long, almost oblong but bluntly pointed at the tip and rounded at the base, and borne in opposite pairs on square stems. The leaves of the mature tree are green and glossy, 15-36 cm long, usually sickle-shaped and borne alternately on rounded stems. The flowers are larger than those of other Tasmanian eucalypts.

The tree is widespread and locally abundant in southern and eastern Tasmania and also occurs in restricted areas near the west coast and on King and Flinders Islands. It also occurs at Wilson's Promontory and Cape Otway in Victoria.

Of all the Australian eucalypts, *E. globulus* is the species which has been most widely introduced overseas. It is now widespread in California and in parts of Chile, Argentina and New Zealand. It has also been established throughout the Mediterranean region, in many parts of Africa and in India. The tree is used as a source of timber for heavy construction work, paper-pulp making, fuel and pit props; oil is extracted from the leaves.



Floral Emblem for the State of Tasmania (*Eucalyptus globulus* Labill.)

[Design by David L. Hopkins]

AUSTRALIAN BUREAU OF STATISTICS
TASMANIAN OFFICE



TASMANIAN

YEAR BOOK

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PREFACE

This is the eleventh issue of the *Tasmanian Year Book*. The Year Book is designed to present a comprehensive statistical and descriptive account of the physical environment and of the social, demographic, economic, etc., structure of the State with particular emphasis on change and development in more recent years.

This edition of the Year Book includes special articles on the following: the construction of the Hobart to Launceston railway line (opened in 1876) (contributed by Emeritus Professor W. A. Townsley); divisions and alignments in the Tasmanian community during World War I (contributed by M. L. Lake); an authoritative description of the Tasmanian butterflies (contributed by L. E. and R. Couchman); wine grape growing in the State—covering the present stage of development and future potential (sections contributed by Dr R. C. Menary and by A. J. G. and D. B. Pirie); problems experienced by the Mt Lyell Mining and Railway Co. Ltd during 1976; a summary of the 'Nimmo' Report on Transport to and from Tasmania; the artist John Glover's migration to Tasmania (contributed by P. Chapman); and a statistical summary of personal income taxation in Australia from 1954-55 to the present, including a description of the 1976-77 personal income tax scheme. For the first time, a new section on the Australian National Accounts is included (Chapter 18) and a summary of results from the 1974-75 Household Expenditure Survey is also included in the same chapter. Results from a survey of household energy sources conducted in Tasmania in 1975 are included in Chapter 9.

An index of special articles precedes the general index and covers all such articles included in this edition and in all editions back to the 1973 edition.

As far as possible, the latest available statistics and significant developments which have occurred in 1976 have been embodied in each chapter. However, where this has not been practicable, brief details have been included in Appendix A under 'Later Information'.

Metriation: Most statistics are now collected and compiled in metric units of measurement and the metric system has been used exclusively from the 1975 edition of the Year Book (with the minor exception of apple and pear production). The table on page (viii) shows the units and conversion factors used to convert data originally compiled in other than metric units.

I gratefully acknowledge the valuable assistance given by officers of the various Federal and State Government Departments and by others who have contributed information, often at considerable trouble, and by those who have provided photographs. Especially I should express my appreciation to the Government Printer and his staff for their enthusiasm and co-operation in the printing of this volume.

More detailed statistics relating to matters treated generally in the Year Book are available in the various statistical bulletins and other publications issued by the Bureau. Information about these publications is provided in the section 'Publication of Tasmanian Statistics'.

The Year Book has been compiled under the direction of Mr R. S. White, B.A., A.A.C.S.; Mr D. J. Maclaine, B.A., was responsible for the editing of this issue.

R. LAKIN
Deputy Commonwealth Statistician
and
Government Statistician of Tasmania

Australian Bureau of Statistics,
HOBART, January 1977

SYMBOLS AND USAGE

The following symbols, where used, mean:

ASIC	Australian Standard Industrial Classification.
n.a.	Not available.
n.e.c.	Not elsewhere classified.
n.e.i.	Not elsewhere included.
n.p.	Not available for separate publication; included in totals where applicable.
p	Preliminary—figure or series subject to revision.
r	Revision to figure or series published in previous issue.
..	Nil or less than half the unit shown, or not applicable.
—	Break in continuity of the series (where drawn across a column between two consecutive figures).
(H)	Located in Hobart Statistical Division;
(S)	Located in Southern Statistical Division;
(H)(S)	Parts in both Divisions.

A blank space in a table indicates that the figure is not yet available.

Any discrepancies between totals and sums of components in tables are due to rounding.

VALUES AND MEASURES

Values are shown in Australian dollars (\$) and/or cents (c). Metric units have been substituted for imperial units. The use of dollar currency and metric units has not been confined merely to tables; for the sake of uniformity, they have also been introduced into historical texts. See the table overleaf for metric units and conversion factors.

LOCAL NAMES OF CERTAIN REGIONS

Tasmanians describe certain regions in a manner confusing to strangers; nevertheless this book employs local usage in most contexts. The chief peculiarities are:

North-West Coast: The *north* coast from approximately Port Sorell, west to Cape Grim is called the *north-west coast*.

North-East Coast: The *north* coast from approximately Low Head, east to Cape Portland is called the *north-east coast*. With most of the north coast referred to as either 'north-west' or 'north-east', the term 'north' is rarely applied to this coastal region.

West Coast: The Tasmanian *west coast* may refer only to the mining settlements of Queenstown, Rosebery, etc. In other contexts, the user may be thinking of inland mountains and rainforests rather than of a coastline.

Midlands: The true *midlands* are probably the Central Plateau but the Tasmanian term means the rural area east of the Plateau and lying along the axis of the Hobart-Launceston road (the *Midland Highway*).

METRIC UNITS AND CONVERSION FACTORS

Unit		Conversion factor	
Imperial	Metric	Imperial to metric (multiply imperial by)	Metric to imperial (multiply metric by)
Length			
Inch (in)	Centimetre (cm)	2.540 00	0.393 701
Foot (ft)	Metre (m)	0.304 800	3.280 84
Mile	kilometre (km)	1.609 34	0.621 371
Nautical mile	kilometre (km)	1.852 00	0.539 957
Area			
Square foot (ft ²)	Square metre (m ²)	0.092 903	10.763 9
Square yard (yd ²)	Square metre (m ²)	0.836 127	1.195 99
Acre (ac)	Hectare (ha)	0.404 686	2.471 05
Mass			
Ounce (oz)	Gram (g)	28.349 5	0.035 274
Troy ounce (oz tr)	Gram (g)	31.103 5	0.032 150 7
Pound (lb)	kilogram (kg)	0.453 592	2.204 62
Hundredweight (cwt)	kilogram (kg)	50.802 3	0.019 684 1
Short ton (sh ton)	Tonne (t)	0.907 185	1.102 31
Ton	Tonne (t)	1.016 05	0.984 207
Volume			
Cubic foot (ft ³)	Cubic metre (m ³)	0.028 316 8	35.314 7
Cubic yard (yd ³)	Cubic metre (m ³)	0.764 555	1.307 95
Bushel (bush)	Cubic metre (m ³)	0.036 368 7	27.496 1
Super foot true	Cubic metre (m ³)	0.002 359 74	423.776
Super foot hoppus	Cubic metre (m ³)	0.003 004 51	332.833
Ton measure (40 cubic ft)	Cubic metre (m ³)	1.132 67	0.882 868
Imperial gallon (gal)	Litre (ℓ)	4.546 09	0.219 969
Proof gallon (pf gal)	Litre alcohol (ℓ al)	2.595 7	0.385 3
Energy			
British thermal unit (Btu)	Kilojoule (kJ)	1.055 06	0.947 813
Power			
Horsepower (hp)	Kilowatt (kW)	0.745 7	1.341 02

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Chapter 1

HISTORY AND CHRONOLOGY

DISCOVERY

The Period of Dutch Exploration

In the works of authors of antiquity, references are found to a land called 'Terra Australis' but it is the Dutch who are credited with the discovery of both mainland Australia and Tasmania. The Dutch, with their trading posts in Java, represented the closest extension of European sea power near the north of the unknown continent and its discovery, either by accident or design, became inevitable.

In 1606, Captain William Jansz in the *Duyfken* was sent from Java to explore the islands of New Guinea and, crossing Torres Straits unawares, coasted along the west of Cape York Peninsula; this was the first of a series of voyages by Dutch captains who, in the next 30 years, acquired some knowledge of the western shores of the unknown land. Not all voyages were undertaken with the aim of exploration—Dirk Hartog's long journey along the western shore of Australia in 1616 resulted from his sailing too far east on the route from Cape of Good Hope to Java. Some later captains on the same route even regarded the western Australian coast as a suitable landfall before turning north for Java—a commentary on the difficulty of navigation when longitude had to be established by dead reckoning.

In 1642, the Dutch East India Company despatched from Java an expedition of two vessels, the *Heemskirk* and *Zeehan*, under Captain Abel Tasman, with instructions to investigate the extent of the unknown land thought to exist between New Guinea and the western coast of Australia. One immediate aim of the Governor-General, Anthony Van Diemen, was to find a southern route from Java to Chile so that ships of the company could either trade or plunder along the Pacific coast of South America; a question to be resolved was whether any land mass extending far south blocked such a route.

The original plan was to sail west to Mauritius, to run down to 52° or 54° south latitude and then to proceed east; assuming no land was discovered, it was then intended to turn north in either the longitude of eastern New Guinea or possibly of the Solomons. If Tasman had followed this plan in every detail he might have discovered the east coast of Australia, anticipating Cook's work by more than a century. As it turned out, the extreme southern latitudes were too hostile and accordingly Tasman was sailing east in latitude 42° south when he sighted the mountainous west coast of Tasmania on 24 November 1642.

The Dutch navigator skirted the south coast and made a landing on the east coast for water in Blackman Bay (from an anchorage south of Marion Bay). He then sailed north to St Patricks Head, crossed the Tasman Sea and discovered New Zealand, returning to Java by a route to the north of New Guinea. Tasman had thus performed the feat of circumnavigating Australia in a single voyage without once sighting the Australian continent.

In honour of the Governor-General of the Indies, he named the first discovery Van Diemen's Land, imagining it to be the most southern extension of the Australian continent, an illusion that was only completely dispelled by Bass and Flinders when they circumnavigated the island in 1798. The Dutch did not follow up the discoveries of Tasman or their other explorers because they were interested in establishing trading posts only among peoples with a higher degree of civilisation than the natives of Tasmania or mainland Australia appeared to possess. (Tasman's crew saw no natives in Tasmania but inferred their existence from sounds, cuts in trees and the smoke of fires.)

The Period of British and French Exploration

One hundred and thirty years passed before Tasmania was visited again, this time by the French navigator Marion du Fresne in 1772; he virtually repeated Tasman's original landfall, skirted the south coast and came to anchor in the bay that bears his name (Marion). His visit is memorable for the first contact between Europeans and Tasmanians and for the slaying of the first native by gunfire. Du Fresne himself was killed by Maoris in New Zealand on the same voyage.

A year later, Captain Tobias Furneaux in the *Adventure* became separated from Captain Cook in the *Resolution* on the route to New Zealand and made for Tasmania to obtain water. He eventually anchored off Bruny Island in Adventure Bay but mistakenly believed himself to be in the area of Tasman's original landing which was at least 70 kilometres to the north-east. From this original error sprang a confusion in nomenclature which persists to this day (e.g. Frederick Henry Bay, first named in Tasman's record, appears on maps in an area that Tasman did not even see). Furneaux then sought to investigate the possibility of a strait separating Tasmania from the continent recently explored by Cook, but shoals in the islands bearing his name (Furneaux Group) caused him to abandon the project and make for New Zealand.

In 1777, Cook, on his third voyage, used the Adventure Bay anchorage without detecting Furneaux's navigational errors.

The settlement at Port Jackson in N.S.W. in 1788 put Tasmania on a major sailing route, the First Fleet passing south of the island on its way. To have sailed north of the island would have invited shipwreck on the Australian 'mainland' of which Tasmania was then believed to be part. In the same year, Captain William Bligh put into Adventure Bay with the *Bounty* on his way to Tahiti and to the famous mutiny; he had been on Bruny Island before, as Cook's sailing master.

Captain Cox of the *Mercury* anchored in the Bay known as Cox Bight in 1789, charted some of the south coast and explored the strait between Maria Island and the east coast.

The next visitor (1792) was Admiral Bruny D'Entrecasteaux commanding *Recherche* and *Esperance* and searching for La Perouse who had not been heard of since 1788 when he sailed from Botany Bay. The Admiral sailed north hoping to anchor in Adventure Bay, but a navigational error put his ships too far west with the happy result that he discovered the magnificent channel separating Bruny Island from the Tasmanian mainland and was the first to sail up the Derwent River. Leaving Tasmania, the expedition sailed as far west as Cape Leeuwin in Western Australia when it became imperative to take on water. It is an indication of the lack of knowledge then available that D'Entrecasteaux had to return to Adventure Bay to fill his casks. In the same year, Bligh put into Adventure Bay on his way to obtain breadfruit trees in the Pacific for transplanting in the West Indies.

The year 1794 was notable for the visit of Commodore John Hayes who had sailed from India with the *Duke of Clarence* and the *Duchess*; he explored the Derwent as far as Mt Direction and named Risdon Cove, later to be the site of the first settlement.

Tasmania an Island

Two voyages now followed which established that Tasmania was an island. Surgeon George Bass in a whaleboat left Port Jackson in 1797, rounded Wilsons Promontory and discovered Western Port. The nature of tides and swells encountered told Bass that here was no bay but rather a strait of considerable magnitude. In 1798, Bass and Flinders were given the sloop *Norfolk* to decide the question for all time and they circumnavigated the island, commencing on a westerly course along the north coast where they discovered the Tamar Estuary.

Fear of the French

In the original annexation of Australian territory by Cook in 1770, Tasmania was excluded since the southern limit was proclaimed as 38° south latitude. Formal possession of Tasmania was taken by Governor Phillip on 26 January 1788, when he read his commission to the people of the First Fleet at Sydney Cove. Now that it was established that Tasmania was an island, the authorities both in London and Sydney felt that some steps should be taken to block the French from making any claims to possession. The urgency of doing this was underlined by the arrival in D'Entrecasteaux Channel of Admiral Baudin with the *Geographe* and *Naturaliste* in 1802. The expedition's navigator, Freycinet, charted Tasman and Forestier Peninsulas and correctly identified the Frederick Henry Bay of the Dutch era. The expedition then called at Port Jackson before sailing south into Bass Strait where it was intercepted at King Island by Lieutenant Robbins in the *Cumberland*. Announcing his intention boldly to the French Admiral, the Lieutenant disembarked his small company and formally annexed the island in the name of King George III. Governor King at Port Jackson who gave Robbins his instructions was not satisfied that merely formal acts of annexation would block the French indefinitely and decided that permanent settlements were required if British Sovereignty were to be retained. To this decision can be attributed the settlement at Risdon (1803) and the Hobart and Port Dalrymple settlements of 1804.

Geography of the Original Landing

The State map published by the Tasmanian Lands and Surveys Department (1:250 000) makes easy the recognition of Tasman's landings on the east coast. His anchorage was near Visscher Island while the first landing was made by longboats which passed through the narrows into Blackman Bay. The second landing occurred in the south-east of North Bay where a lagoon proved too brackish for filling water casks.

The last landing was made near Tasman Bay where the navigator had hoped to take formal possession of the new land. The surf being too rough to get the longboat ashore, the carpenter swam through the waves, planted the Dutch flag and then fought his way back to the longboat.

SETTLEMENT

The First Settlement at Risdon (1803)

It will be observed that the original explorers of the Island (including the French) had very largely concentrated their attention on the south-east and, in particular, on the sea approaches to the Derwent. Faced with the necessity for establishing a settlement to assert British sovereignty, Governor King had a

number of possible sites to consider, including King Island, Port Phillip and Port Dalrymple (the Tamar Estuary). His eventual choice was the area of the Derwent and he reported his intention to the Admiralty as follows:

‘My reasons for making this settlement are the necessity there appears of preventing the French gaining a footing on the east side of these islands; to divide the convicts; to secure another place for obtaining timber with any other natural productions that may be discovered and found useful; the advantages that may be expected by raising grain; and to promote the seal fishery.’

Commissioned to make the Derwent settlement, Lieutenant John Bowen sailed from Sydney with the *Albion* and *Lady Nelson*; the two vessels separated in a gale but were anchored at Risdon by 11 September 1803, when Bowen went ashore. The slenderness of Governor King’s resources is apparent from the fact that the settlers—free, convict and military—numbered only 49 and that the *Albion* was a British whaler under temporary charter (she caught three sperm whales on the voyage while becalmed).

The responsibility for the choice of the Risdon site attaches ultimately to Bass who had made detailed investigations of the Derwent in 1798 from the *Norfolk*. He had reported as follows: ‘The land at the head of Risdon Creek, on the east side, seems preferable to any other on the banks of the Derwent.’ It was not surprising, therefore, that Bowen’s commission from Governor King directed him to locate the new settlement in the Risdon area. In actual fact, the site ultimately proved unsuitable due to the inadequate stream and the poor landing place; these handicaps were aggravated by the wretchedness of the human material at Bowen’s disposal, a characteristic not altered when the camp was increased to nearly 100 persons.

If the settlement has any claim to fame, it derives from an encounter with natives who descended on the camp on a hunting expedition and who were fired on by the soldiers in a state of panic. Whether the future barbarities of inter-racial war could have been avoided is an open question but this encounter was the first phase of a struggle that ended in the extinction of a race.

The final act of the Risdon settlement was played on 9 August 1804, when the *Ocean* sailed for Port Jackson with Lieutenant Bowen and most of his people; Lieutenant-Governor Collins at the new settlement at Hobart had decided to close down the Risdon camp and held such a low opinion of these early colonists that he retained only 13 convicts and one free settler.

The Settlement at Hobart (1804)

If Lieutenant-Governor Collins had carried out his original instructions, then Hobart today might have been the name of the capital of Victoria situated on Port Phillip Bay. The British Cabinet, impressed by Governor King’s warnings on possible French penetration, decided to carry out the occupation of Port Phillip direct from Britain and, to this end, commissioned Lieutenant-Colonel Collins (Royal Marines) to command an expedition in the *Calcutta* with the *Ocean* as tender to secure the strategic Bass Strait. Control of the Strait meant that the dangerous 1 100 kilometre journey around Van Diemen’s Land was avoided and also prevented a hostile foreign power from threatening British sea lanes in the South Pacific.

The settlers eventually arrived, via Rio De Janeiro and the Cape of Good Hope, and formed a temporary camp near the site of the modern Sorrento township. For a variety of reasons, Collins was unhappy about the locality; he considered navigation hazardous, the soil poor and water inadequate. He was unwilling to

develop promising land at the head of the bay due to the show of strength by large bands of natives and because of its distance from the open sea. Collins had seen the problems of isolation at Sydney and considered a settlement at the head of Port Phillip Bay unduly hazardous. With the wind in the wrong quarter a ship could be locked in the bay for several days thereby defeating the purpose of the settlement—a port to protect and control Bass Strait. Accordingly he wrote for advice to Governor King in Sydney and was left free to decide between the River Derwent and Port Dalrymple as possible sites for transfer of his command. He was probably swayed in his eventual choice of the River Derwent by its reputation as a safe harbour and the fact that Risdon had already been settled.

On 15 February 1804, Collins, with the first detachment from Port Phillip in the *Lady Nelson* and *Ocean*, anchored off the new settlement at Risdon. A quick inspection satisfied Collins that the site was quite unsuitable and he made his own reconnaissance, eventually selecting the area on the western bank known as Sullivans Cove and ordering that the expedition should be disembarked with all its stores in the vicinity of Hunters Island. In the same month, Collins reported to King that his two ships were 'lying within half a cable-length of the shore in nine fathoms of water'; the Lieutenant-Governor had selected gentle slopes for his settlement, located a fine stream running from Mt Wellington and found near the mouth of the stream depths of water which would accept the draught of any vessel of his day (or of the modern era).

The following table shows the early composition of the settlement at Sullivans Cove (but excludes details of the Risdon camp):

Number Victualled at Sullivans Cove, 26 February 1804

Quality	Men	Women	Children
Military establishment	26	1	..
Civil establishment	6	..	..
Settlers	13	5	13
Convicts	178	9	8
Supernumeraries	(a) 3	..	..
Total	226	15	21

(a) Includes one Aboriginal from Port Jackson.

The strength of the Colony was increased to 433 persons in June 1804 when the *Ocean* returned from Port Phillip, where it had taken aboard the balance of the original expedition. From the camp on Sullivans Cove has sprung the present city and port of Hobart.

David Collins was no amateur in the field of colonisation—he had sailed with Governor Phillip as Judge Advocate in the First Fleet in 1788 and had acted as Secretary to the Governor till 1796 when he returned to Britain with excellent recommendations.

The Settlement on the Tamar (1804)

While the Lieutenant-Governor was still in Port Phillip Bay, wondering where best to settle, he sent his namesake, William Collins, on a voyage of exploration to the Tamar Estuary. William Collins followed the river up as far as the Cataract Gorge and returned to Port Phillip with a good account of the possibilities of the Tamar for settlement; in his absence, however, the Lieutenant-Governor had made up his mind and was already preparing for the expedition to the Derwent.

Later Governor King received a despatch from Lord Hobart (Secretary of State for the Colonies) who, by a grotesque error, recommended the establishment of a settlement at Port Dalrymple 'upon the southern coast of Van Diemen's Land and near the eastern entrance of Bass' Straits'. If Lord Hobart really meant 'south' then Collins' move to the Derwent had anticipated his wishes. However, since Collins had in fact left Port Phillip, was it not necessary to re-occupy Port Phillip or possibly to watch the Strait from Port Dalrymple? King knew that Hobart's despatch was written in ignorance of Collins' move and accordingly decided to use his own initiative without raising questions of geography with the Secretary for Colonies.

In Hobart's despatch, Lieutenant-Colonel William Paterson (New South Wales Corps) was nominated as Lieutenant-Governor of the new colony. Paterson set sail with 57 soldiers and convicts in the *Integrity* and the *Contest* but after a month of adverse winds both ships were forced back to Port Jackson. A second attempt was made using *Buffalo*, *Lady Nelson*, *Francis* and *Integrity* and increasing the party to 181. This time the Tamar was successfully entered but H.M.S. *Buffalo* went aground and was, with some difficulty, brought to anchor in Outer Cove (George Town) on 4 November 1804. Lieutenant-Colonel Paterson decided that *Buffalo* must be immediately unloaded and accepted the Outer Cove site as a suitable camp while he undertook a more detailed reconnaissance of the Tamar.

Although he penetrated as far as the fertile site of Launceston, Paterson made the extraordinary decision to set up his headquarters at the head of West Arm and founded York Town, while still maintaining small establishments at Outer Cove, Low Head and Green Island. In deciding on York Town, one can only imagine that Paterson was guided purely by the strategic necessity, as was Collins at Sorrento, of being near to Bass Strait and that he gave little thought to the problem of soil fertility and cultivation.

In March 1806, Paterson was willing to admit that York Town was a most unsuitable site and he accordingly moved his headquarters to the present site of Launceston. Today York Town and Risdon have one thing in common—the almost complete absence of any indication that settlements had ever existed.

Paterson, before setting out on his expedition, had been involved in an argument as to his status but Governor King had resolved the matter by dividing Tasmania at the 42° parallel and making Collins and Paterson sovereign in their respective halves, but subordinate to him as Governor.

THE TASMANIAN MAIN LINE RAILWAY COMPANY

The following article was contributed by Emeritus Professor W. A. Townsley. (The article was previously presented at a meeting of the Tasmanian Historical Research Association in 1956.)

The Royal Commission

The idea of a Tasmanian main line railway linking Hobart with Launceston went back at least as far as 1856 when James Sprent, the Surveyor-General, was asked to make a preliminary survey. During the following years, however, the railway question never gave rise to as much interest and enthusiasm in the South as it did in the North. By 1865, when the economic depression was at its deepest, the *Mercury* reported that the railway movement had died down in the South.¹ Three years later, however, once the Launceston and Western Railway Company had been formed and a loan had been successfully raised on the London market, interest revived in Hobart and the southern midlands. Determined not to be

outdone by the energy of the northern promoters, the Railway and Progressive Association in Hobart moved successfully for the setting up of a Royal Commission to enquire into the cost of constructing a railway from the capital to Launceston.

The Commission, which sat 28 times between 13 November 1867 and 14 August 1868, had to limit its enquiries to the southern section between Hobart and Oatlands as Parliament had voted it very little money. So keenly did it investigate the question that it was able at so early a stage to raise matters of a controversial nature and it went out of its way to get evidence from a number of sources, including the Institute of Civil Engineers in London.

Now it so happened that a controversy was raging among railway engineers about the merits of light railways. The first great spasm of the forties and fifties that constitutes the railway age in Britain, Western Europe, and the eastern fringe of the United States was definitely over. Railway speculators and engineers were moving across new frontiers. They were operating in Ireland, Wales, Scandinavia, India and Ceylon and over the less settled areas of the United States. They were coming up against new problems of terrain in far flung countries that were sorely in need of capital. The high cost of construction that had marked the railways of Britain and France could not be met in these countries. Nor was it so necessary, where the chief problem was cheap transit over long distances or difficult terrain and not the maintenance of competitive speed and efficiency. Echoes of this controversy reached Melbourne, where the Victorian Government was in 1868 considering pushing through a northern line from Melbourne to the Murray at Albury. The protagonists for the light railways argued that the early Victorian lines, which had cost \$43 500 per kilometre (£35 000 per mile) for a double track, had been modelled slavishly on the best British lines. What was needed to penetrate to the interior of the Colony was a light railway of 1 067 mm (three feet six inches) gauge, built for cheap transit only and not for speed. In the end they were defeated largely because the Victorian Railways Department, through its Chief Manager, Thomas Higginbottom, managed to convince the Government that sooner or later the Victorian line would have to compete for the Murray traffic with the New South Wales line that was already being pushed southwards from Goulburn.

The full implication of this controversy was brought home to Tasmanian 'railway interests' by Samuel Kemp, a Government Commissioner on the Board of the Launceston and Western Company. He arrived in Launceston from Melbourne in October 1867. When, therefore, the question of gauge was considered by the Commission the arguments in favour of light railways were well known. The narrow gauge had been successfully introduced into Norway and Sweden. W. T. Doyne had seen it operating in Queensland. While the Commissioners pondered the question the controversy about the 'northern line' in Victoria was being vigorously fought out and Doyne himself was busy laying down a 1 600 mm (five feet three inches) gauge between Launceston and Deloraine. In the end the Commission decided that 'the requisite conditions of comfort, speed, construction and cost have been found to combine most perfectly in the 4-8½ gauge' (1 435 mm gauge).

This decision made by the Commission in respect of the gauge determined somewhat its attitude to the question of the route, which was to be the most contentious issue in the following years. As the Commission confined its enquiry to the route between Hobart and Oatlands it is not surprising that the interests of the townships in the southern section were kept well to the fore. Following his survey of 1856 James Sprent had recommended a route completely away from the main road. He had proposed a line starting at Kangaroo Point and proceeding up the Coal River via Richmond and Campania. Further, he had pointed out

the advantages of proceeding along the east side of Lake Tiberias. It was thought, however, that such a line in some of its reaches would need a gradient of one in 12. The alternative westerly route via Pontville, Sprent had dismissed as too difficult and expensive. The Commission decided to explore the alternative route following the Jordan River, via Elderslie and Picton, but finally decided against this long detour which involved an extra distance of 19.3 kilometres and long gradients from one in 36 to one in 50. It also explored a route from Austins Ferry to join Sprent's line, but this also was found to involve a stretch of eight kilometres at a gradient of one in 30. It reported at last that it favoured the shortest route that passed through the main towns. This meant crossing the river at Bridgewater and following the main road as nearly as possible. The engineering problems were thought to be not insuperable. As for the entrance to Hobart two alternatives were postulated, the first running along Park Street, and the other skirting the edge of the river by Cornelian Bay and through the Domain. The Commission estimated the cost as follows:—

Southern Section: Hobart Town to Oatlands, 84 km (52 miles):
\$700 000 (£350 000);

Midland Section: Oatlands to Longford, 90 km (56 miles): \$540 000
(£270 000);

Northern Section: Longford to Launceston, 29 km (18 miles): \$360 000
(£180 000).

A note of optimism ran through the whole report. It was thought possible to lay down a permanent way of 203 kilometres (126 miles), which together with rolling stock and stations was to cost no more than \$1.6m. This worked out at a little more than \$7 456 per kilometre (£6 000 per mile). Considering that the average cost of 1 435 mm gauge in New South Wales and of 1 067 mm gauge in Queensland was put at at least twice that figure, while the Victorian lines had cost much more, the southern promoters were certainly sanguine when they hoped to raise enough capital to build a railway at such low cost over such a distance, a fair fraction of which was through country necessitating sharp curves and steep gradients. In no way deterred, however, these promoters set about to interest the press in the project and through it the public. It then remained only to pass the necessary legislation and to raise the capital.²

The Contract with the Tasmanian Main Line Railway Company

Once the report of the Royal Commission was printed in the *Mercury* no time was lost before money was voted by Parliament for a proper survey to be made. The contract to do the job was given to the firm of Doyne, Major and Willett, which was employed at the time on the Launceston and Western line. Like Sprent before him Doyne preferred the route by the Coal River valley rather than any more westerly route, but unlike Sprent's line, his started from Hobart, crossed the Derwent at Bridgewater and then swung eastward to Campania. To minimise the gradients numerous curves were foreseen as was a tunnel at a high point through rock less difficult than the bluestone about Spring Hill. The great advantage of this route was that it obviated the difficult gradients to get up Constitution Hill and Spring Hill.³

Through the winter of 1869 the Railway and Progressive Association called public meetings and lobbied politicians. During August the *Mercury* almost daily and with obvious impatience called for Government action. Just at this time Sir Richard Dry, the Premier, died, there was a slight re-shuffle and a new Ministry was formed under James Milne Wilson. Hobart interests were strongly

represented, for T. D. Chapman became Treasurer, and W. L. Dobson Attorney-General, while Henry Butler entered the Executive Council and was shortly to be given the new portfolio of Minister of Lands and Works.

When on 11 September the Attorney-General revealed to the House of Assembly the Government's intentions he said it was proposed to ignore certain of the recommendations of the Royal Commission and also parts of the engineer's report. The Government was ready to subsidise any company to the extent of \$600 000 or, alternatively, of \$50 000 per annum for 25 years. The bill that he introduced to give effect to this proposition passed the Second Reading in the House by 19 votes against five. Then just as the *Mercury* was congratulating the Colony the first clause was amended in the Legislative Council at the instance of Dr Crowther. The *Mercury* immediately stigmatised him for 'betraying the Association' and 'killing the bill'. A public meeting was called in the Town Hall. Crowther preferred to stay away, while W. R. Giblin skilfully and without any show of personal bitterness turned the storm of remonstrance to the political account of the Railway Association. Within a few days Crowther retracted, the unfortunate vote was rescinded, and the bill passed all stages.⁴

It was now a question of negotiating with some company or firm of railway promoters. The necessary capital and professional skill was to be found only in England. Provisionally there happened to be in Hobart at the time a man named Audley Coote, who acted as agent of certain London financial houses that were interested in railway construction. The Premier and Audley Coote were quickly in correspondence. The agent was asked to negotiate with reputable London houses known to him with the object of raising the capital and getting a firm to take on the job of construction. The conditions laid down by the Act of 1869 were explained to him. It was emphasised that the gauge was to be 1 600 mm and that the railway was to be completed by the last day of 1874. With this commission Coote left for England.

Coote did not return to Australia until May 1870. He then reported that it was impossible to raise the capital in London for an enterprise that would be subject to the conditions of the Act of 1869. At the same time he had not returned empty-handed. He had brought back an offer from a firm of the highest repute which could operate with a capital of \$2m. It was ready to form a 'Tasmanian Main Line Railway Company'. What was needed was a stronger guarantee from the Government, say, 6 per cent on \$1.7m for 30 years.

The Government was at first disappointed. It had little experience of negotiations of this kind. It had to consider whether, if it agreed to accept the offer, it could carry Parliament with it. Certainly a new bill would have to be introduced empowering the Government to enter into a contract with any such English company that was formed. Both the bill and the contract would need to be carefully drafted. Fortunately the Government had been strengthened in its views on the railway question. W. L. Dobson had been raised to the bench, and since February 1869 W. R. Giblin was Attorney-General. The combination in one cabinet minister of enthusiasm for the railway project, legal knowledge, and skill in both negotiation and draftsmanship was from this time to be of untold benefit to the Government in its handling of the railway question.

After discussing the offer made through Coote, the Government declined to accept it. Coote then made a second proposition. Would the Government guarantee 5½ per cent interest on \$1.3m for 30 years with the added provision that the 1 067 mm gauge be used? This too was unacceptable. Coote came again and modified his last offer, substituting five per cent for a period of 35 years with an equal division of all profits above seven per cent between the company and the Colony. This seemed to a majority of the cabinet too good an offer to decline

easily, but before accepting, Wilson insisted on a division of all profits above six per cent. As if he felt the need to succeed and not to return to London with nothing achieved, Coote conceded point after point. The Government showed itself capable of some hard bargaining. Finally Coote closed on the deal and was prepared to return to London to discuss the terms of a contract. To enable him to do this the Government piloted through Parliament a new Bill to amend the *Main Line Railway Act*. It passed all stages and empowered the Governor-in-Council to make a contract with a company 'for the construction, maintenance and working of a main line of railway between Hobart Town and Launceston, or between Hobart Town and any point on the Launceston and Western Railway', guaranteeing five per cent on \$1.3m for 30 years 'provided that the Company shall continue to work and maintain the said line in an efficient manner during the said period'. Interest was guaranteed on money expended on construction for a period not exceeding four years. It laid down that in the contract provision was to be made 'for compelling the construction of the said railway by a route which shall keep as near as may be practicable to existing centres of population'. All works were to be constructed 'of the best materials' and in a thoroughly substantial manner'. Should profits from traffic in any year amount to less than five per cent the Government was to guarantee the difference between such profit and five per cent, but when profits rose above six per cent the Government was to receive half the profits above that figure. The gauge was to be 1 067 mm, the weight of the rails not less than 19.84 kilograms per metre (40 pounds per yard), four trains were to run each day through its entire length, and the minimum average speed for one train daily each way was to be 37 kilometres per hour (23 miles per hour). Further, the Government retained the option to purchase the railway after giving 12 months notice and at a price fixed by a majority of five valuers. Finally, the Company was obliged to keep the line in a proper state of repair, and failure to do so made it liable to be charged for such repairs, while in the event of any breach of contract by the Company the Government was empowered to move the Supreme Court of the Colony to rescind the contract.⁵

In this way the piece of legislation was studded with provisions and conditions. The Government and Parliament were taking no chances in their dealings with English railway speculators. From the beginning they made a good bargain. They were determined therefore that there should be no loophole left through which they might lose it. For some months negotiations between Hobart and London proceeded. There was a delay because the railway promoters in London, who set up the Tasmanian Main Line Railway Company, placed little trust in Doyne's surveying and sent out their own man, a Mr Wylie, to do the job. Wylie surveyed a new line keeping close to the main road all the way to Oatlands, but illness interrupted his work, and before the end of 1871 he left the Colony and later died. Before leaving, however, he deposited in the Department of Lands and Works a map on which was marked 'Wylie's line'. As was shown later some mystery surrounded the nature of this line, for it could not be established whether it was preliminary survey or the result of detailed investigation which meant that it was the company's final choice of the route to be followed.

Meantime Audley Coote was hard at work with J. M. Wilson and W. R. Giblin drawing up the contract between the Government and the Company. It was finally signed by Charles Du Cane, Governor of Tasmania on 15 August 1871. It was drafted in accordance with the statutory powers granted and the limitations imposed by the Act of 1870. It gave the Company running powers over the Launceston and Western Railway and power to lay down an additional rail and 'to do all such works as may be necessary to connect' the two railways. Clause six laid down that no guaranteed interest would be paid for any period during

which the Company failed to maintain and work the line 'in an efficient manner'.

Again there were months of delay and the Government grew impatient. It got the reply that the money market was unsettled following the cessation of the Franco-Prussian war. Eventually on 15 March 1872 the contract was signed by the Company. The execution of the work was given over to Messrs Edwin Clark, Punchard and Co. of London. Audley Coote was authorised to represent the Company in Tasmania and Charles H. Grant came out as its engineer.⁶

The Controversy Over Alternative Routes

There was an inauspicious start. The excessive rains during August and September 1872 held up the surveying. Then to the disappointment of the engineer the route via Constitution Hill and Spring Hill proved to be 'impracticable', and he decided to follow Doyne's line, though this involved greater expenditure than had been expected. The way into Hobart chosen was by way of the Domain through part of the Governor's reserve and the Botanical Gardens. A lower part of the Domain was granted as the site for the station and workshops. The Government remitted custom dues on railway material and tolls at the Bridgewater bridge when the line was under construction, but despite reiterated complaints from Grant, wharf dues were levied.⁷

Work on the line began only at the beginning of 1873. By June 45 kilometres of earthworks were completed. The contractors had 1 500 men on the job, many of whom they had brought out from England. There was some local criticism once it was realised that this labour was contracted for less than the ruling rates. It consisted, in the opinion of some, of 'the worst type of Irish cockney . . . the scum of the East End'. The Company was not, however, indifferent to the welfare of its workmen, and quite early suggested to the Government a sickness and medical benefits scheme and itself contributed 0.8 cents (one penny) per man per week.⁸

It was not long before 'local interests' began to cause difficulties. The residents of the townships on the main road between Green Ponds and Oatlands protested with increasing vigour against Grant's resolution to follow Doyne's route. Their first efforts were rebuffed by the Government presided over by F. M. Innes. This Government had no assurance of steady support from Parliament, while in the north of the Colony it was already having to face the resentment of those landholders of the Launceston and Deloraine Railway District, who objected in principle to the Government levy of a railway rate. When Parliament met the opposition was emboldened to move for a Select Committee to enquire into the construction of the Main Line Railway. Among those who gave evidence were T. D. Chapman and W. R. Giblin. Before the Committee had completed its labours these leaders of the opposition had precipitated a crisis. Early in August 1873 the Government fell and a new ministry, led by Alfred Kennerley took over. In his cabinet were T. D. Chapman, P. O. Fysh, W. R. Giblin and W. Moore. It was a ministry more conservatively inclined and made up of men who were as determined to enforce the contract on the Main Line Company as they were to exact the full railway rate legally due from the northern landholders. It continued the committee of enquiry into October, and though the line was by then well advanced, it did not hesitate to raise once again the controversy over the route.⁹

It arose out of rival interpretations of the statute and the contract. For the Act had laid down that the line 'shall keep as near as may be practicable to existing centres of population'. On the other hand the contract armed the Company with powers to alter or vary the route 'as their engineer may advise to be necessary or advantageous, having reference to the exigencies of construction or difficulties of route or prospects of traffic'. There was uncertainty as to how far the Company was committed to Wylie's route when it signed the contract,

though it had issued a prospectus showing the line running through the main centres. Before the Committee Grant said he felt bound more by the contract than by the statute. The legislature had not specified particular towns. Any interpretation of the words 'as near as practicable' had to be left to the engineer. In his opinion the Government 'had no power to compel any alteration in any route or to interfere authoritatively with the works during construction'.

Grant therefore resumed the direction of his line. Quite unsatisfied, the Chairman of the Railway Association at Green Ponds, Thomas Gorringe, asked without success for Government assistance to investigate the practicability of Wylie's route. An engineer from Melbourne, Daniel Climie, was nevertheless engaged to survey the route. In his report dated 9 December 1873 he estimated that a railway could be built over that route without tunnelling for less than \$6 214 per kilometre (£5 000 per mile). To confirm this the Association sought the opinion of another private engineer from Melbourne, W. A. Zeal. On 10 March 1874 he also reported that the route was practicable, though his estimate was \$6 835 per kilometre (£5 500 per mile). Meantime Edmond Hodgson reiterated what he had said before the committee, that the stock, area, crops and population of the Bothwell, Green Ponds and Oatlands districts exceeded those of the area between Richmond and Jerusalem, and he estimated that the loss of traffic due to the change of route amounted to \$30 000 a year.¹⁰ A professional war followed between the rival engineers. Zeal argued that the Company had rejected Wylie's line, because on investigation the Company's engineers had followed 'an ill-designed and badly selected line, necessitating the use of heavy works, a very long tunnel, steep inclines and sharp curves'. Daniel Climie, he held, had found a way to avoid such drawbacks. He had made a detour and by using the slopes had kept clear of the gully and so crossed Constitution Hill. By similar methods a route had been found from Green Ponds via Picton over Spring Hill to Jericho. Zeal acknowledged that there would be long and severe gradients of one in 42 to one in 48 but few sharp curves. He claimed that a railway could be constructed capable of maintaining a speed of 48 kilometres per hour (30 miles per hour). Grant dismissed the practicability of the route. From Brighton to Bagdad he estimated there would be 7.2 kilometres at the maximum gradient, followed by a descent of one in 40 from the top of the hill to Green Ponds, and then two tunnels through bluestone rock each 1.6 kilometres in length and a maximum gradient for 8 kilometres to get over Spring Hill. *En revanche* Zeal strongly criticised Grant's constructed route. 'The route is a complete sinuosity of five chain [101 metre] curves and one in 40 grades'. It passed through a country 'so sparsely settled, so prolific in inferior land'. The tunnel at Flat-top hill was long and costly, while its gradient was so steep as to make it dangerous. All of which was strongly denied by Grant.¹¹

Confused by these conflicting opinions and moved by petitions from the disaffected districts, the Government resolved to consult yet another professional engineer. W. H. Greene, who was loaned by the Victorian Railways Department, reported on 9 April 1874. On the question of Wylie's route he remarked that no plans or documents existed whereby the precise route could be identified. But, he added, 'no railway which would fulfil the conditions of the contract can be constructed via Green Ponds for the sum mentioned as the capital of the company—viz., one million pounds sterling' (\$2m). Though Climie's survey was an improvement on Wylie's route, it did not fairly indicate the difficulties to be met with. It could not be constructed for the sum he mentioned and it could not maintain the speed he claimed. Grant's line was 6.4 kilometres shorter and the gradients were less difficult and it was certainly the less costly of the two. Yet 'as regards sharp curves, no line could be more objectionable. They have entirely sacrificed speed and efficiency in working the line to cheapness of construction. In a length

of 48½ miles [78.1 km] there are 18½ miles [29.8 km] of curved line upwards of four miles [6.4 km] of which consists of curves of five chains [101 m] radii'. In short, concluded Greene, the best line was that surveyed by Doyne. Insofar as Grant followed it he did well, but where he deviated to avoid tunnels and cuttings, by use of sharp curves, he succeeded in making 'a very inferior class of railway to that which was evidently contemplated by the government'. At the same time, he added, there were no grounds upon which the Government could interfere. The matter of route was, according to the contract, at the full discretion of the company's engineer. Before the line was opened for traffic the Government would do well to send round an engineer to see whether the contracts had in detail been fulfilled.¹²

No-one was really happy with Greene's report. The supporters of Wylie's route retired in chagrin. Though they were still to fire a few stray shots, for them the battle was lost. Grant proceeded with his construction, while losing no opportunity to challenge in detail Greene's criticism. Certain members of the Government bided their time, while occasionally giving public vent to their exasperation. The controversy over the route was settled in Grant's favour. But animosities born in this year of controversy were destined to embitter relations between the Company and the Government in the years immediately following.

The Dispute Over Contractual Obligations

The construction proceeded until the link was made with the Launceston and Western line at Evandale in March 1876. During the intervening months sharp differences between the Company and the Government threatened more than once to end in open breach. So outspokenly critical of the Company was the *Mercury* that Grant described it as the inspired organ of the Government. Exasperated by what appeared to be deliberate attempts to put obstacles in his way, he complained bitterly against an invidious campaign to malign the Company before the public and to undermine its stability on the London Stock Exchange.

One bone of contention concerned wharfage dues. Grant claimed that the Government had broken contract in not remitting such dues. A promise had been made when the contract had been signed in August 1871. Chapman, as Colonial Secretary, replied that the Government had submitted a bill for this purpose, but it had been defeated in Parliament in December. Grant then quoted from the *Mercury* of 8 December 1871 that the defeat constituted a breach of faith, or, in the words of the Attorney-General, 'an act of shameless repudiation', calculated 'to ruin the good faith of the colony and bring Tasmania into contempt'. With some asperity Chapman rebutted the charge, reminded Grant that the Government was pledged only to submit a bill, and declared that, as the Company did not sign the contract till 15 March 1872, it should have known then through its agents that the bill had been defeated.¹³

Trouble began anew when the Colonial Treasurer, P. O. Fysh, in his place in the House of Assembly, stated that the Company would not be able to fulfil the contract, and would not therefore be able to call for the annual subsidy from the Government. Grant addressed to him a letter and asked that it be published in the press. In it he deplored such remarks which 'are the more calculated to injure the Company at this time, since they affect the property already enormously and wholly unnecessarily depreciated in value by the attacks made upon it in this country'.¹⁴

A new matter in dispute was the main subject of the Grant-Chapman correspondence in 1875. The argument turned on the question whether the Company had the option or the obligation to continue the line from Hobart to Launceston.

Grant contended that the Company was under contract to make the line only to a junction with the Launceston and Western Railway. It was willing to continue the line into Launceston only if terms with respect to compensation were satisfactory to his Company. On 28 June 1875 Chapman wrote to Grant telling him that unless the line was continued to Launceston, the Government would regard it as a breach of contract, which might relieve it of the responsibility for payment of interest. To this Grant replied that such a threat would have a prejudicial effect on the Company's property before London investors and deplored in bitter terms the unhelpful and suspicious attitude of the Government which he put down largely to 'the openly avowed, unreasoning and unceasing hostility of a member of the cabinet'. In April, he said, the Government had appeared ready to proceed with the Company to arbitration, but now in July the offer of arbitration had been withdrawn by the Government which continued to malign the Company in the columns of the *Mercury*.¹⁵

In March 1876 the line was completed to Evandale. The Government held more strongly than ever to the view that the contract implied that the trains would run into Launceston. Without acceding to this interpretation the Company was prepared to discuss what tolls and rates would be levied by the Government for the use of the facilities of the Launceston and Western Railway. An extension would put the Company to the expense of laying down a third rail from Evandale, and of building extra railway sheds at the terminus. This last item was made necessary because the railway sheds of the Government-owned railway were closed to the Company's rolling stock. This decision together with others, which seemed almost designed to obstruct an early completion of the works, was particularly aggravating when the Government used the Company's failure to extend the line to Launceston by the last day of March to release itself from the contractual obligation to pay the quarterly interest. When Grant first raised the question of tolls, he was willing to refer it to arbitration. The Government refused arbitration until the line was completed. To get out of the impasse Grant, while still protesting that this was going beyond the contract, decided to lay down a third rail and constructed sheds at the terminus. This work took time. The first train ran through from Hobart to Launceston only on 1 November 1876.¹⁶

These were troublesome months for the Company. Before the extension was complete—it was the Government's contention that the line was unfinished—the Government hired three engineers, Messrs Mais, Mason and Stanley, from the railways of New South Wales, Queensland and South Australia to inspect the line and report whether it had been completed in accordance with the contract. This illogical procedure exasperated Grant and the Company. The engineers reported unanimously on 14 June 1876 that as constructed the line did not meet the requirements of the contract. The Government took steps immediately to publish the report and then refused to pay the guaranteed interest when it fell due on 30 June. The annoyance of the Company's representatives now gave vent to bitter complaint. As its solicitor Henry Dobson protested vigorously to the Premier, Alfred Kennerley, for not disclosing the report to Grant before sending it to the Press. A promise had been made to withhold publication for three days to allow the Company to consult the Supreme Court. The promise had not been kept. Kennerley denied in somewhat vague terms there had been a promise. At the same time Innes, now the Colonial Treasurer, in courteous but unambiguous terms informed Grant that the Government meantime refused to pay the interest. In reply Grant warned him that the railway would be forced to close and its workmen would be disbanded.¹⁷

Grant did not mince his words and the thought that the line might be closed roused public opinion. For whatever adverse reports might be made trains were running regularly to and from Evandale, and the railroad already appeared to many

people as one of the Colony's assets. A public meeting was held in Hobart on 19 July 1876 with the Mayor, John Perkins, in the chair. A petition was drawn up, signed and forwarded to Governor Weld, beseeching him to take action to save the railway. Petitions came in also from Jerusalem and Campbell Town. The Company's representatives were not idle. By August steps had been taken to sue the Government to get the interest. However, before proceedings began in the Supreme Court, Grant, who was ever ready for a reasonable compromise, made a further offer to arbitrate.¹⁸

The occasion was not unpropitious. For in July one of those crises that were a feature of Tasmanian politics had brought down the Government. The new Premier was Thomas Reibey and in his cabinet sat C. Meredith, C. H. Bromby, C. O'Reilly and W. L. Crowther, men who were considered less conservative in outlook and less prejudiced in their personal relations with the Company. It was reported that Reibey, in his election speech at Longford, had promised to get Parliament to vote supplies to assist the Government to settle its differences with the Company. But when Parliament met a fresh storm blew up. First, T. D. Chapman accused Grant of having spread the falsehood that the Government would require a toll of \$20 000 a year for allowing the use of the facilities of the Launceston and Western Railway. There followed mutual recrimination in Parliament and in the Press, official correspondence was raked together, added to and tabled. Whether \$20 000 had been mentioned or not—James Scott said he had it from the lips of William Moore, late Minister of Lands and Works, who denied it—the whole unseemly affair aggravated an already tawdry situation and soured the personal relations between Grant and certain prominent politicians. This was made all the clearer when such leaders of the opposition as W. R. Giblin threatened the Company if it persisted with its action in the Supreme Court. Under this dire political threat and in a state of chronic uncertainty concerning the Company's future, Grant and Dobson decided against litigation for the time being.

Grant may have thought that the Reibey Government would be more willing than its predecessor to pay the guaranteed interest. If so, he was disappointed. Even after the line was extended to Launceston the Government maintained an intransigent attitude. However, in order to keep the trains running the Government continued to grant the Company a small loan at interest sufficient to cover expenses. The Company accepted the offer, but it had to be repeated in the succeeding quarters. For, paradoxical though it seemed to Grant, the railway was used regularly by the Governor, the Judges and the parliamentarians themselves and yet interest was refused on the ground that the railway had not been completed satisfactorily and was a danger to the travelling public.

Nevertheless relations were slowly improving, though the Company was taking steps to obtain legal counsel in support of what it conceived to be its contractual rights. Shortly after it assumed office the Government used the services of W. R. Giblin to draw up a draft agreement designed to settle its differences with the Company. But this was not followed up and eight months passed during which the Company in London was being threatened with litigation calculated to result in its liquidation. The Directors pressed Grant to reach an amicable settlement without surrendering the contractual rights of the Company. When therefore Reibey suggested an appeal to Mr Clark, a distinguished English engineer, as 'ultimate referee' a settlement seemed likely. Negotiations broke down because Reibey construed 'outstanding differences' to refer to the condition of the railway, whereas Grant extended the interpretation to include the Government's obligation to pay interest. Grant therefore refused the Government offer and to strengthen his position he sent to Reibey copies of the opinions of several

counsel on the case submitted to it by the Company. W. Cracroft Fooks, Q.C., of London thought that 'the defects in any or all the particulars form no lawful excuse to the colony for not complying with and not fulfilling the guarantee; though if any such defects existed or exist, the colony may be entitled to require the Company to make them good'. Similar opinions were given by Alfred Dobson of Hobart, R. B. Miller of Launceston and E. D. Holroyd of Melbourne.

A month later, in May 1877, another political storm shook the Colony. Continuously attacked in Parliament and in the *Mercury*, without a stable majority in the House of Assembly and balked at every turn in the Legislative Council, the Reibey Government decided to appeal to the people. Reibey sought a dissolution from Governor Weld, who granted it, thereby bringing upon his own head some criticism and giving rise to a constitutional issue. In the elections that took place in June there were few changes of personnel, though F. M. Innes and W. R. Giblin lost their seats. The Government failed to strengthen its majority overall. Shortly after the new Parliament met a vote of no confidence in the Government was moved and carried. Reibey and his colleagues resigned and Governor Weld sent for P. O. Fysh.¹⁹

Events Leading to the Sale of the Railway to the Government

The relations between the Government and the Company entered now on their most critical phase. Both sides recognised that a decision had to be reached, and that the existing situation wherein the railway was kept open only by monthly loans of \$3 000 from the Government was intolerable. After T. D. Chapman, the most hostile critic of the Company was Philip Oakley Fysh, the new Premier, who informed Grant that he would not deal with him but only with his Directors in London.

Meanwhile the Company had survived the threat to its existence. An Act of the Imperial Parliament empowered it to raise a further \$200 000 on condition that its constitution was reformed to permit half the directorate to be elected by the bondholders. Early in the new year the new Board, acting through the Crown Agent, was confident enough to open negotiations for a final settlement with the Tasmanian Government. To this end they were ready to send out a deputation.²⁰

News of all this disturbed the calculations of the Government. The difficulties of the Company and the failure to reach a settlement turned the minds of some Cabinet Ministers to the possibility of purchasing the railway, especially as the returns for 1877 were well up on those for the previous year. The situation was complicated by the decision of the Government to float, if possible, a loan of \$600 000 on the London Stock Market. Somewhat uncertain of its legal position in view of the opinions of Cracroft Fooks and others, the Cabinet decided at last to seek the counsel of the Attorney-General of the British Government and of Cyril Dodds, a leading London barrister.

To further the cause of the Government loan the Premier himself left for England, leaving W. R. Giblin, Colonial Treasurer, in charge of the Government. The Company in the meantime was preparing to send out a deputation. At first the Government let it be known that it saw little use in such a deputation. Its confusion deepened in April when it learned by telegram the substance of the opinion of the Attorney-General, Sir John Holker. It was briefly but decidedly that the Government's refusal to pay the guaranteed interest from 1 November 1876 could not be upheld in any court of law.²¹ When Grant asked to be informed of its contents, it was refused him. Members of the Cabinet were moved to anger once it became known that London representatives of the Company had exercised their rights on the London Stock Exchange to hold back any quotation of the

Tasmanian Government loan until a satisfactory agreement had been reached between the Colony and the Company on the railway question. To counter this influence Fysh strongly attacked the Company in the columns of the *Times*. But when asked to produce the legal opinion of the Attorney-General before the Committee of the Stock Exchange, he refused to do so.

On 27 April 1878 Giblin, now Premier, telegraphed to the Board in London, 'Government await deputation with full powers to amicably adjust all differences'. The deputation, which was led by one of the Directors, Lieutenant-Colonel Francis Grey, did not leave England till June and arrived in the Colony in August. Negotiations were conducted between Grey and Giblin. The latter admitted at the outset that following Holker's opinion the Government had to pay, but soon he was giving as an explanation of this obligation that the Government, by allowing trains to run and granting loans to keep the line open, had made itself technically liable. Giblin made two alternative offers. The first was that the Government would pay the guaranteed interest from 1 November 1876 and all other claims would be dropped by both parties. The second was that the parties would arbitrate on all questions. Grey rejected both. He held that the payment of guaranteed interest from 1 November 1876 could not, in the face of Counsel's opinion, be now refused. At the same time the Company reserved its right to claim seven and a half months guaranteed interest from March 1876 when the line was completed to Evandale, and on this point as on others the Company was willing to arbitrate. When Giblin raised the question of sale and asked the Company to waive its right to demand twelve months notice, Grey refused to consider it short of the Government accepting the Company's full claim. Thus there ensued a deadlock. Any friendly spirit that had marked the early stages of the negotiations disappeared when Giblin charged the Company in the House of Assembly on 19 September with 'deceit and chicanery from first to last', and then accused its representatives of making use of the political opponents of the Government in the Colony, and of using the Committee of the Stock Exchange 'to coerce the Government into a surrender of their contractual rights'. In reply Grey rebutted the charges and accused the Government of wilfully withholding the contents of the Holker opinion to induce the deputation to come, at great cost, all the way to Tasmania to negotiate. Moreover he put no faith in the word of Mr Fysh, who had promised to pay if the Holker opinion went against the Government, or in the members of a Government who knew so little of constitutional propriety, that they were not prepared to uphold a decision made by a Premier. He packed his bags and left for England, vesting full powers of attorney in C. H. Grant. In the first days of October there followed a wordy battle in the columns of the *Mercury* and the *Tribune* between Giblin and Grant. In this the Premier deplored the actions of the Company and solemnly declared the desire of the Government to arbitrate on all points, which had been refused. To this Grant replied that all this would have read better if arbitration had been accepted when he proposed it in 1876 and 1877 and before Holker had given his opinion against the Government, which 'have been mistaken in their law, unreasonable in their requirements, and utterly illegal in their action throughout the controversy'.²²

The Government sought and obtained parliamentary approval for the payment of the guaranteed interest, amounting to \$108 000, from 1 November 1876. It then proceeded to appoint, under the fifth section of the *Main Line Railway Amendments Act*, an officer to report upon 'repairs and works necessary to put the line into good and efficient repair and working condition'. In spite of the expostulation of Grant the Government appointed once again W. H. Greene of Victoria. He reported on 19 December that, while there were a number of deficiencies which he detailed, 'there is a marked improvement in the whole

undertaking since my former examinations'. While expressing himself as generally satisfied with this report, Grant denied the existence of the deficiencies, which could be corrected for a mere two thousand dollars. Greene was obviously nettled by Grant's reply and a new controversy might well have been started had there not in the meantime been a change of Government.²³ For on 17 December a vote of no confidence in the fiscal policy of the Giblin Ministry was carried by 16 votes to 14. A new Government was formed by William Lodewyk Crowther, including T. Reibey as Colonial Secretary, David Lewis as Colonial Treasurer, John Stokell Dodds as Attorney-General, and C. O'Reilly as Minister for Lands and Works.

There was an improvement in relations during the following year. Thomas Higginbottom gave his decision on the question of tolls for the use of the Launceston and Western line. He put the figure at \$5 976 for the first year, \$7 374 for the second and \$7 980 for the third. In June 1879 a new inspection was made of the line, and once again O'Reilly for the Government called upon Grant to rectify a number of deficiencies, but this time after amicable discussion an agreement was reached. Meantime railway receipts increased from \$77 486 in 1877 to \$91 904 in 1878, \$99 454 in 1879, \$100 358 in 1880 and \$109 586 in 1881. At the same time expenditure had risen, so there was little or no profit, and each quarter the Government paid over the guaranteed interest, though this gave rise to criticism in the press and in Parliament. Fresh differences arose when the Treasury argued that, as the profit or loss of each quarter was reckoned by itself without reference to a yearly period, the Government could claim the profit of a particular quarter as an abatement of the guarantee. The Company's lawyers advised that literally the Government contention was doubtful, while equitably it had no case. Even the Auditor-General claimed that much public criticism was unjustified as the working expenses during 1880 fell to 21 cents per train kilometre (40.6 pence per train mile) which, with the solitary exception of the Launceston and Western Railway, was lower than the cost of any other Australian line of any gauge.²⁴

The Company meanwhile still persevered with its claims for interest for the period of months when the line was open only to Evandale. A supplication was made before the Supreme Court in 1879 and a special London Commission was appointed to call on witnesses. However, this Commission was suspended in July 1880 to allow for an amicable settlement. Once again the second Giblin Government showed itself guilty of tardiness, but there was not the same tergiversation that had marked governmental behaviour in the past. George Sheward, the Company's Chairman in London, approached Giblin by letter in March 1881. Receiving no answer he wrote again in September, but no reply had been sent in March of the following year. Somewhat nettled by this incredible indifference to a question of which the Government had professed to seek an amicable settlement, Grant himself approached Giblin and suggested that they should resolve their differences by reference to three arbitrators. After three months delay Giblin agreed to such arbitration to reach a final settlement. There followed unexpected opposition in the press and in Parliament. To avoid further obstruction Grant made a new offer which amounted to an acceptance by the Company of \$29 308 and by the Government of the principle of yearly balances. On 11 October 1882 Giblin replied, accepting the offer as a basis of settlement.²⁵

The economic prosperity of the early eighties in the Colony was reflected in the railway receipts which rose to \$138 000 in 1883 and again in 1884. Still the Company failed to show a profit that meant a substantial abatement of the guaranteed interest. Having no unexpended capital, the Company had to draw on its revenue to meet the increasing costs of maintenance and to cover depreciation. Eventually the Treasury raised objections and in September 1884 the

Premier, Abye Douglas, told Grant that the Company was charging for items against maintenance that ought to be charged against construction. Henceforth the Government refused to pay interest on such capital items, which were incidentally increasing the value of the railway and therefore its purchase price. Both parties referred the new dispute to the arbitration of R. Speight, the Chairman of the Victorian Railways, who in March 1885 advised the Government to allow the Company certain capital expenditure. As a safeguard any further outlay should be approved by the Government and earmarked so that it could be identified when a valuation took place. Further, he recommended that the Government should acquire the railway to avoid endless controversy and litigation. The Government, however, did not take to these suggestions. When Grant approached the Premier in June and raised the question of purchase—he placed the nominal capital at \$2 466 946—he found him not interested.²⁶

A year later Abye Douglas was in London as the new Agent-General and another Premier sat in his stead in Hobart, J. W. Agnew. The Agent-General's first duty was to negotiate the floating of a Tasmanian Government loan of \$2m on the Stock Exchange. He began by reporting favourably that as money was cheap the loan could be floated at four per cent. It was then that the Directors of the Tasmanian Main Line Railway Company intimated that they would obstruct the quotation unless the Government agreed to settle. Their conditions were, firstly, that the Government deposit at once \$29 000 against the Company's account, and then agree to a guarantee on sums up to \$100 000 on future capital expenditure. During July and August 1886 Douglas was singularly negligent in communicating clearly to the Government the extent and nature of his proposed settlement, despite frequent telegrams from Hobart warning him that any agreement must be confirmed by the Government and sanctioned by Parliament. When it became known that while recommending purchase, he had accepted the Company's terms and had deposited the \$29 000 as required, his action was repudiated by the Government. Further it raised such a storm in Parliament in November that a vote of censure was defeated by only one vote. Meanwhile he remained under threat of recall.²⁷

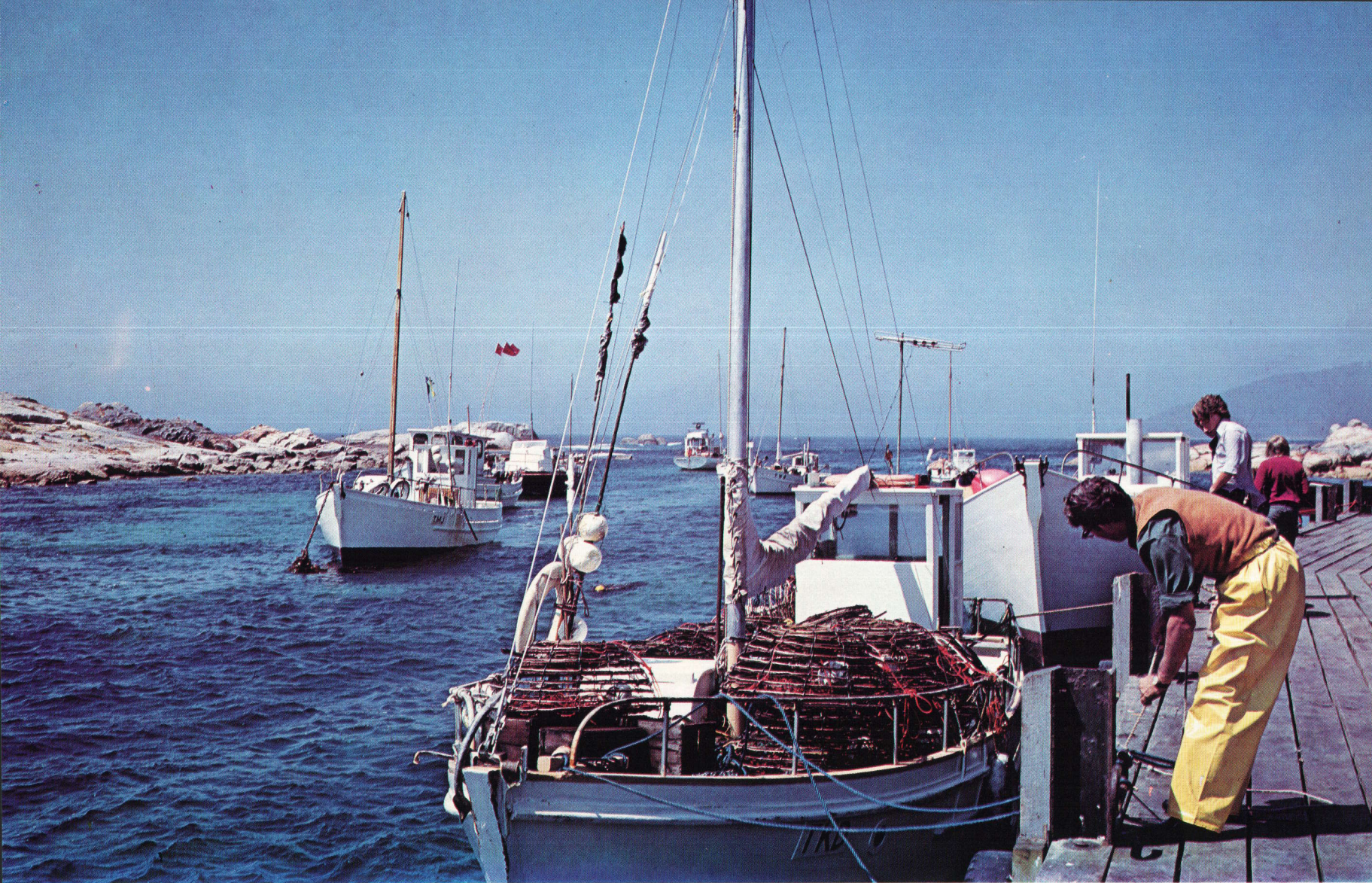
These events of 1886 once more served to aggravate existing differences, a solution of which appeared further away than ever. The Company now felt the more aggrieved party. It had withdrawn its opposition to a quotation of the Tasmanian loan on the London Stock Exchange in favour of the 'suggested agreement' that Douglas had signed. The Government's failure to confirm it was quite unjustifiably denounced by the Company as a dishonest act. At the same time the Company's endeavour to frustrate the success of the loan was neither forgotten nor forgiven. The Treasury continued to refuse to pay interest on \$29 254, alleged to have been wrongfully spent. When Henry Dobson suggested to P. O. Fysh a reference to three arbitrators in England, the Premier replied that the Government preferred litigation and he expostulated vigorously when Dobson pointed out that two of the three judges of the Supreme Court had spent much of their professional lives fighting the claims of the Company.

During the next two years a settlement was no nearer. The Company did suggest that the Government should take up \$29 000 of pre-preference debentures at 4 per cent, but it refused. Moves were then made to have a new \$2m Tasmanian Government loan floated on the London Stock Exchange. Such a loan was designed in part for the construction of a line between Strahan and Zeehan. When it was learned in July 1888 that the Company would obstruct the issue, the Government decided 'to drop its conciliatory policy'. Refusing all offers of arbitration, it decided on litigation in the Supreme Court of the Colony. The case came up before the Chief Justice, Sir Lambert Dobson, in May 1889. The Company brought out

from London W. Cracroft Fooks, Q.C., who, supported by R. Byron Miller, argued that the Government's refusal to pay the Company's claim of \$29 000, on the plea that the items involved capital expenditure, constituted a breach of the contract. The Government case was in the hands of Dr Madden and the Attorney-General, A. Inglis Clark. After lengthy proceedings running into several days and involving a variety of witnesses, the jury gave a verdict for the Company to the extent of \$26 448. In July the Attorney-General called for a new trial. He gave as his reasons that in the trial in May there had been misdirection of the jury, and the verdict was against the weight of evidence and contained inconsistent findings. Having listened to these arguments, the Chief Justice refused the application, whereupon the Attorney-General sought to appeal to the Privy Council. Already costs of litigation amounted to \$40 000.²⁸

As litigation dragged on there was a renewed effort to reach a compromise. Receipts from the railway reached \$152 000 in 1888 and \$162 000 in 1889. The ministry and the people alike were growing weary of the continuous bickering. The Company made the first move. Following a meeting of shareholders it offered to sell for \$2.25m cash. The offer was cabled, but Parliament refused in November 1889 to sanction it. Instead it passed a bill authorising the purchase of the railway for \$2m inscribed stock carrying 3½ per cent interest. In the following February Mr Price Williams, as agent for the Company, set out for Australia to negotiate *inter alia* a sale with Mr Speight, acting for the Tasmanian Government. He made a firm offer of \$2 213 000, the sum to cover the award and costs of litigation. While the Government considered this offer, it proceeded to send Inglis Clark to London in May 1890 to conduct the case before the Privy Council. Meantime the Tasmanian Agent-General, Edward Braddon, was empowered to negotiate in London for the purchase. Throughout July it was uncertain whether the case for appeal would be heard before a settlement had been reached. By August Fysh had managed to get through Parliament a bill authorising the purchase of the line and he cabled Braddon that the Government accepted Price Williams' offer of the previous March. On 26 August the shareholders met in London and accepted the terms of sale, and in the following month the Agent-General, with full powers of attorney, signed for the Governor of the Colony. With that act the Tasmanian Railway Company after some twenty years existence ceased to operate, and its railway and other assets came from 1 October 1890 into the possession of the Government of the Colony.²⁹

Thus was brought to an end a long story of misunderstanding and mistrust. Neither side was free from blame. Throughout relations were made difficult by the suspicious attitude of successive Governments. Undoubtedly much of the bitterness that from time to time envenomed the conduct of negotiations arose from the political instability of the seventies. It was indeed unfortunate that the whole railway question became entwined with the domestic strife of the Colony. Personal animosities, especially those involving T. D. Chapman, were often drawn into discussions on the railway, and, as representative of the Company, C. H. Grant was more than once accused of dealings with the political opponents of the Government. Nothing, however, could excuse the way in which the Government shifted its ground or its temporising and outright obstructionist tactics during the protracted controversy over the payment of guaranteed interest. Even the strong coalition ministry under W. R. Giblin, which gave some stability to the Colony at the end of the decade, and brought to an end this controversy, created new sources of conflict by its dilatoriness. No one knew more of the intricacies of the question than Giblin himself, and yet there were occasions, as during his negotiations with Colonel Grey, when he showed singular obtuseness and even prevarication. To the end the Government showed itself excessively



Fishing boats at Bicheno on the East Coast

[Dept of Film Production]

(By permission of the Premier's Dept)



Green Rosella Parrot



Tasmanian Devil

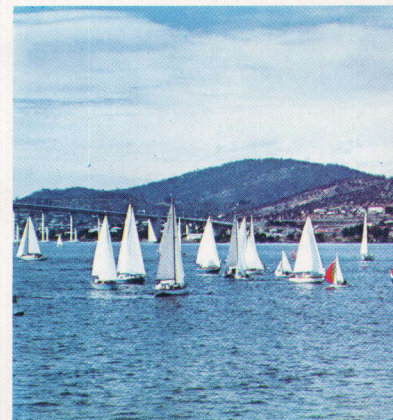


Blue Tongue Lizard



Forester Kangaroo

(By permission of the Premier's Dept)



Yachts on the Derwent, Hobart

[Dept of Film Production]

legalistic and incapable of suppleness, though to be fair it must always be realised that every Government was uncertain how far it could carry Parliament, and especially the Legislative Council, with it. The Company on its side gave some cause for friction. The abrupt and unexpected change of route in the southern section made by Grant, and the Company's readiness at the outset to assert its contractual rights in the matter, persuaded many that the Company was interested only in making money for English capitalists, and had little solicitude for the material interests of the Colony. Suspicions concerning the nature of the Company grew and were heightened by the news that proceedings were being threatened against it by creditors in London. Faith in its Directors was restored only when through an Imperial Act the directorate was reformed. Throughout the 20 years controversy the man who stood the brunt of it was C. H. Grant, the Company's engineer and later its manager. The long correspondence between him and successive Premiers, Colonial Secretaries and Treasurers, not to mention his controversies with rival engineers, throws much light upon his character. Energetic and hard-working, zealous in the interests of the Company, he possessed an agile and resourceful intelligence, which made him able in debate. He had also a quickness of temper and a sensitivity to criticism that led him occasionally to assume a tone which gave rise to resentment among Cabinet Ministers. However, almost at the end of the period P. O. Fysh, who once had been his inveterate opponent, corrected a memorandum prepared by Edward Braddon on the history of the controversy by saying that no public man could charge Grant with a breach of good manners in his long dealings with Governments of the Colony. There could not have been a more eloquent testimonial to the man, who, above all, was responsible for building and running the trunk line joining the North and South of the Colony.

The year 1890 marks the end of a chapter of railway construction. Already there were new branch lines along the Derwent Valley, to Fingal and to Scottsdale, while others, to Apsley and Sorell, were being built or under consideration. In the meantime the Western line had been extended to Latrobe and Devonport and the North-West Coast. The acquiring of the assets of the Main Line Railway Company placed the railway system of the Colony almost entirely under governmental control. The actual purchase of the railway received surprisingly little comment in the daily press. Public attention was focussed more on the great maritime strike on the Mainland and the overseas cables told of labour struggles and of British middle class fears of labour-socialism. A new world was emerging, but this was hardly to be understood by the leaders in Tasmanian politics. As they turned to begin a new chapter in Tasmanian railway history and surveyed the newly acquired assets, they did not realise that the Colony stood on the brink of a long and deep depression.

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DIVISIONS AND ALIGNMENTS IN THE TASMANIAN COMMUNITY DURING THE GREAT WAR

The following article was contributed by Mrs M. L. Lake, M.A.

The years 1914 to 1919, the years of World War I, are of unequalled interest when looking at Tasmania's history in the twentieth century. From those years date such disparate phenomena as the celebration of Australia's real national day, the primacy of the Hydro-Electric Commission in Tasmanian development, the special privileges accorded to men who fight for this country, the virulent strain of anti-communist and anti-Russian feeling in our politics and the creation of the first National Park at Mt Field.

But 57 years have passed since the signing of the Peace Treaty at Versailles and many of the rifts created in the community by the advent of the war have since been healed and the passions subdued. Many of the important alignments have now been superseded by more recent developments; they are now history. This paper will look at some aspects of Tasmanian history largely forgotten.

One of the most important aspects of the impact of World War I was that it threw into focus the wide diversity of interests which formed the community. The war acted as a sort of detonator which blew the community into fragments. The differences which separated Tasmanians were highlighted even while all faced what was considered to be a dangerous common enemy. For much of the time between 1914 and 1919 the threat in common seemed less important than the barriers of nationality, sex, religion and class which held people apart. By 1918 the home front had become in the official war historian's words 'an enraged volcanic terrain'.¹ One of the issues which caused eruptions was nationality.

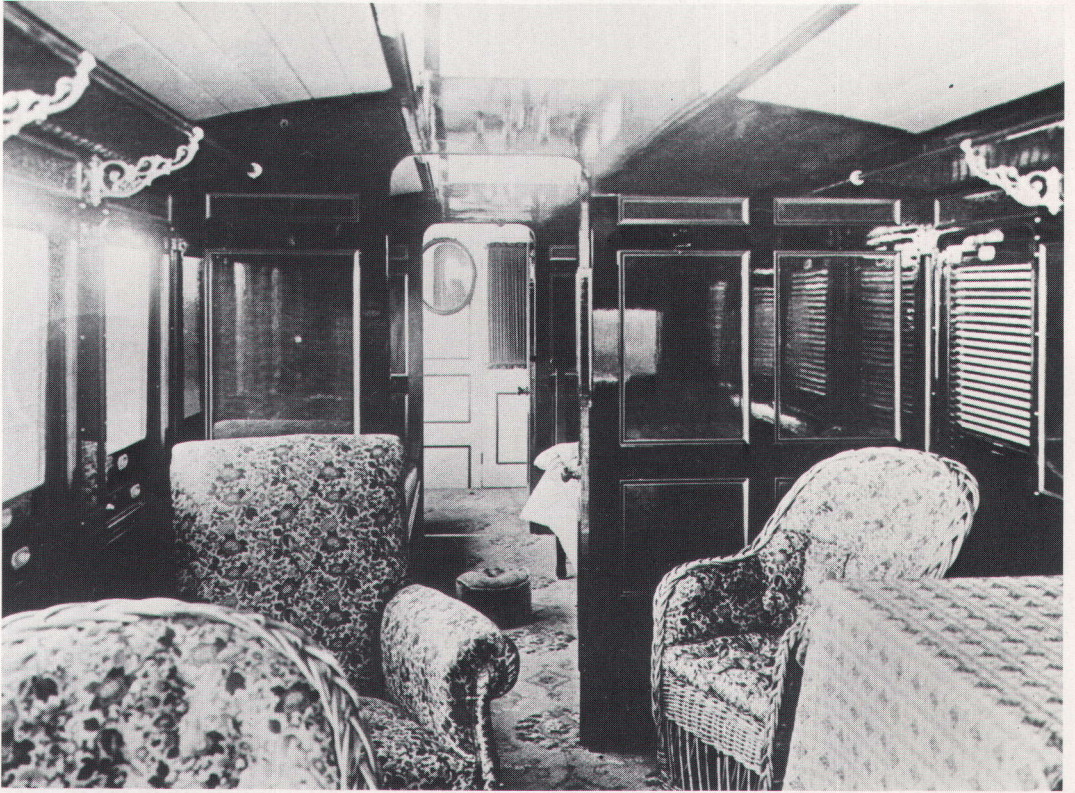
Before Britain declared war on Germany most people who thought about the matter at all probably considered themselves as Anglo-Saxons and to be quite close in character to people of German or Austrian nationality. The *Mercury* thought of the Germans as kindred spirits. After all the British royal family, the King himself, was joined by ties of kinship to the German royal family. In a dramatically short time after the declaration of war however, Tasmanians were to forget this kinship. Germans had changed into *Prussian barbarians* or *Huns*.

There was a significant number of families of German descent living in Tasmania in 1914. The census of 1911 shows that Germans constituted the largest national group in Tasmania after the English, Irish and Scottish. After the Germans came the Chinese. Many of those born in Germany lived at Bismarck, a small town some 45 kilometres from Hobart, surrounded by dark peaks and precipitous ravines, a setting probably reminiscent for many of their homeland.



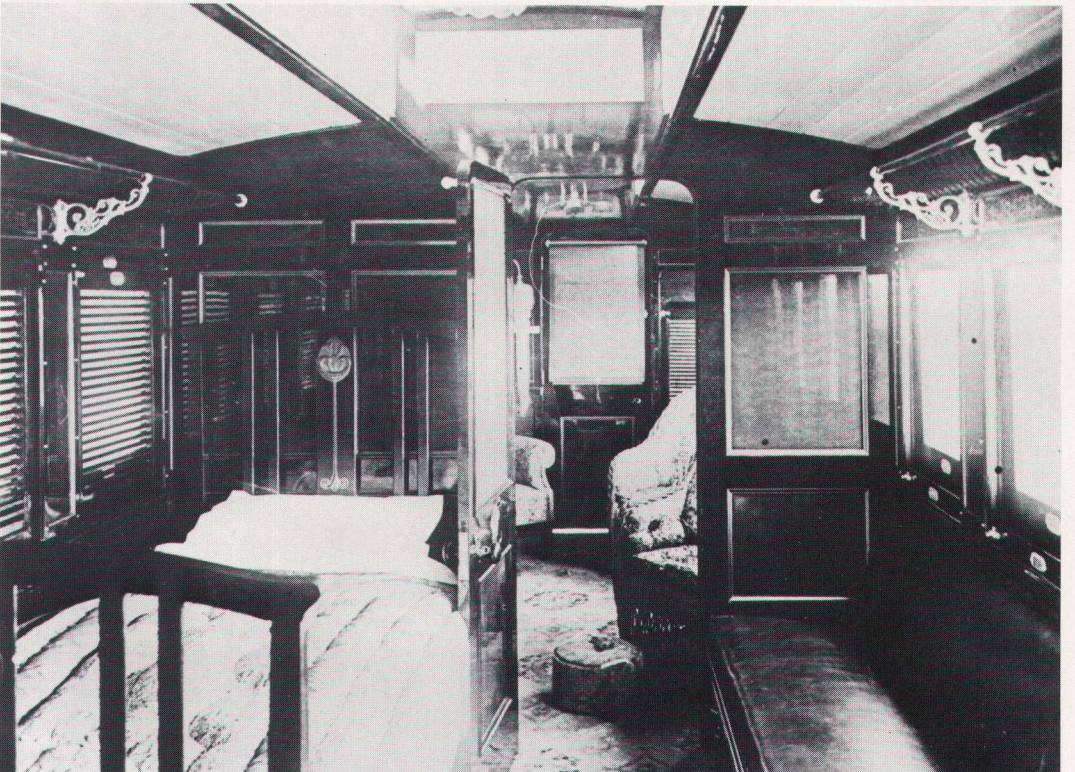
Royal Train' prepared for Prince of Wales visit to Hobart in 1920

[Courtesy Tasmanian Railways]



Interior of 'Royal Train' prepared for Prince of Wales visit in 1920

[Courtesy Tasmanian Railways]



Offended Tasmanian patriots were effective in having the name of the town quickly changed to Collinsvale. (They also succeeded in having the name of their sausage rectified: to this day what is German sausage in the north of the state is called Belgium in the south.)

A few days after the outbreak of the war all Austrian and German subjects were called upon to report themselves to police stations. Enemy subjects deemed to be eligible for military service were interned in a *concentration camp* at Claremont, later to be stationed at Bruny Island. Naturalised citizens might have taken comfort from the fact that they were exempted from official incarceration, but they were soon to be victims of more hurtful public attack. Throughout the war, correspondents of the press remained active, penning imaginative and slanderous reports of the activities and thoughts of the German born in their midst and they offered brutal remedies to their presence: 'Cut off their telephones, close their businesses and cease social intercourse with them'.² Innocent Tasmanians of alien descent were boycotted by employers, shunned by colleagues and reported to the police. A typical case of persecution was that of naturalist Gustav Weindorfer who, with his friend Professor T. T. Flynn of the University of Tasmania's Biology Department, frequently made excursions to the distant and imposing country around Cradle Mountain. They were watched by local residents as they built the chalet which is now famous. A kitchen stove they carried was reported to the police as *heavy machinery*, a clothes line became *wireless aerials*.³ Back in Ulverstone, Weindorfer's dog was poisoned with strychnine; he himself was expelled from his local club. Weindorfer would finally forsake human society altogether to live a hermit's existence on Cradle Mountain.

The publicity given by the press to German atrocities, real or imagined, provoked fresh outbursts of outrage against the Germans in Tasmania and those considered to be *pro-German*. *Pro-German* was one of the epithets applied to Herbert Heaton, lecturer in History and Economics at the University of Tasmania. Heaton was an enthusiastic participant in the University Extension Board's work in country districts of the State and in the Board's service he delivered 47 lectures in 1914 and 1915 on topics such as 'Some Aspects of the Great War' and 'The War—Its Causes and the Issues at Stake'. But Heaton's opinions and the forthright manner in which he defended them, brought down on him the full force of Tasmanian prejudice. In a debate in the House of Assembly following one of Heaton's lectures at Scottsdale, where he was reported to have said that the best end to the war might be a *draw* (to prevent one side emerging arrogant and one humiliated) and that atrocities were probably committed by both sides in the war, Liberal R. J. Sadler suggested that the lecturer should be hounded out of the State. A. W. Loone, member of the Legislative Council who had earlier expressed his opinion that Germany should be wiped off the face of the earth, called for the appointment of a select committee to investigate Heaton's loyalty. The committee was not appointed, but Heaton decided, nevertheless, to leave Tasmania to take up a position at the University of Adelaide.

Hatred of things German and insular suspicion of all things foreign were evident in the defeat of a proposal for a scheme of co-operative land settlement in Tasmania. In 1915, the *Tasmanian Colonising Association Ltd Bill* was introduced into the House of Assembly. The Bill provided for a co-operative scheme of community settlement whereby residents of Great Britain, Canada and Europe would take up 5 260 hectares (13 000 acres) of land in the north-east of Tasmania under a lease in perpetuity on an annual payment of \$20 in 81 hectare (£10 in 200 acre) areas. In the parliament and in country meeting halls speakers thundered against the Colonising Association members denouncing them as non-British and by implication disloyal: 'Webber a native of Germany! Ostenberg a

supposed Swede! Jaguers another foreigner!'.⁴ The *Mercury* went so far as to suggest that instead of applying for land such strangers 'ought rather to be interned as prisoners'.⁵ The Bill was finally defeated in the House of Assembly and J. J. Martin, the disappointed organiser of the colonising scheme, departed for California.

The Labor party's defence of first Herbert Heaton and then the Colonising Association, led to an association in people's minds between what the *Mercury* condemned as 'advanced political thought' and pro-German sympathies. The *Mercury* promoted the idea that the Labor cause identified with and was identical to, the enemy: 'Labor rule or German rule, it is all a matter of degree'. This alignment, unsought by and embarrassing to Labor, was underlined by disclosures about Labor M.H.A. G. G. Becker's German parentage and later by Labor's angry defence of Catholic, sometime Labor member, Charles Metz against the anti-German violence perpetrated against him in 1918.

Attacks on people thought to have German connections continued throughout the war. There was a campaign to smear Labor member of the House of Assembly, G. G. Becker, during the 1916 State election. For having German born parents Becker was labelled a *half bred German*. Later in 1918 *Herr Becker* was challenged to a fist-fight in the lobby of the House of Assembly. Victory on the war front stimulated cries for vengeance on the home front. A few days after the proclamation of the Armistice, Charles Metz, Australian born butcher of Elizabeth Street was subjected to abuse and physical violence over a period of two days by a crowd of 1 500 gathered outside his shop.

Some Tasmanians were content to express their animosities symbolically and women were largely forced to. Armistice was followed by a spate of bonfires, where with cheering and abandon, effigies of the Kaiser were committed, mostly by women, to the flames. But it was a poor substitute for the real thing. Women were denied the *heroic* struggle on the battlefield and hence the consequent glory.

Women in Tasmania had been granted the vote in 1903 after years of determined effort: 'our long struggle for political freedom extending over twenty years' as Ida McAuley described it.⁶ By 1901 five separate bills aimed at enfranchising the women of the State had been defeated by parliament. Predominantly middle-class women in organisations such as the Women's Christian Temperance Union (WCTU), the National Council of Women and the Itinerant Society had agitated for the vote since the early 1890's. Public meetings had been held in Hobart, in the towns of the Midlands and along the north-west coast. Once the right to vote had been won, WCTU women in Hobart organised, in 1903, the Tasmanian Women's Suffrage Association (later the Women's Political Association) to educate female voters on matters of political interest and in the art of successful lobbying.

One of the most important aspects of the war was that it emphasised the sexual division of society and reinforced the Victorian idea of separate spheres (men went to war, women guarded the home). The war accentuated and encouraged the subsidiary, dependent status of women, but also provided the circumstances in which women's influence on public affairs reached a new height. The effect of the war on women was not to liberate them for new fields of action (although a few hundred extra women were employed in woollen mills and jam factories) it was to confine them even more rigidly to the role of maternal *ministering angels*. But as *ministering angels* and guardians of the home and family they achieved more influence during World War I than they had been allowed prior to that and were to be allowed after. Women's war work consisted mainly of voluntary charity work in aid of the multitude of relief funds (39 in Tasmania which raised \$621 414)

which were unleashed on the community. A massive pool of unpaid labour was called into being to serve as an auxiliary force to the men engaged in action. The more assertive female patriots were also encouraged to harass men into enlisting, to remind men of their *manly* duty. A *sbrieking sisterhood* was created. After the war returning warriors were adulated for their manly heroic deeds (particularly at Gallipoli) and they were lauded as the creators of history and the makers of nationhood. The official war historian C. E. W. Bean decided that the achievement of the Anzac was the result of 'his loyalty to his Australian manhood'.⁷ The masculinity of the achievement was always stressed. Returning service women and nurses were not to receive similar tributes.

The main aim of the WCTU was to halt the flow of liquor in the State. The advent of the war with the new emphasis on economy and efficiency provided temperance reformers with a splendid opportunity to push on to victory. The temperance movement had received fresh impetus in the 1890's from the developing militancy of women's groups. By 1893 there were 16 branches of the WCTU in Tasmania and through their various departments they aimed to inculcate the whole of society with their ideas. There were departments to cover factories, prisons and police stations, railway workers, sailors and soldiers, miners, tram and cabmen and foreigners. The other new strength of the temperance movement lay in the active support offered by the Church of England which had previously opposed temperance movements.⁸ (The Catholic Church on the other hand had ceased to support total abstinence. In fact the *Monitor* newspaper regularly carried advertisements for hotels, Cascade ale, different brands of tobacco and race-meetings.)

With the outbreak of war, temperance reformers saw their chance. The King, with his pledge to abstain from alcohol for the duration of the war, was held up as the example. Members of the WCTU and the Tasmanian Temperance Alliance set up stalls in city streets and army camps to extract pledges from prospective soldiers and began campaigning for dry army canteens, the outlawing of *shouting* and the early closing of bars. The government agreed to hold a referendum to determine the closing hour of hotels on 25 March 1916, the same day as the State election.

The case for early (6 o'clock) closing was characterised by moral and patriotic fervour. 'Temperance is not merely a moral virtue', affirmed the *Daily Post* 'but about the most effective form of patriotism those not serving at the front can show'.⁹ In January a meeting of 700, mostly women, marched on Parliament House and demanded that politicians take a stand. The case for 10 o'clock closing was put in the main by the Licensed Victuallers Association who were handicapped by having to pit self-interest against the high moral purpose of the temperance advocates. The hoteliers had been greatly alarmed by the introduction of women's suffrage and they might have feared for their future when the results of the referendum came in; 42 713 voted for 6 o'clock as against 26 153 for 10 o'clock. Only the west coast mining centres showed substantial majorities for 10 o'clock. (The west coast had been the only district to see a growth in the number of licensed houses in the 1890's, Zeehan alone boasting 29 by 1898.) In the electorate of Denison, the only electorate where female voters outnumbered their male counterparts, early closing achieved its biggest majority. Clearly women had played an important part in determining the outcome of the referendum, both as voters and as propagandists. By the time of the referendum nearly 8 000 men had enlisted from Tasmania for the front. Some unhappy Tasmanians saw the absence of these men allowing wowserism to triumph. 'Now that our brave men are fighting at the front', lamented one, 'these same temperance people could carry a successful referendum for total prohibition, the doing away of smoking,

the evil of young girls hanging around the streets at night, Sunday pictures, steamer excursions, picnics in the bush, eating too much, Tattersalls and last but not least regulating the time we shall go to bed and the time we shall get up'.

One of the new concerns of the WCTU adopted in 1917, was to promote the cause of Protestantism. In 1914 about 75 per cent of Tasmanians belonged to the Church of England or the Presbyterian, Methodist and Congregationalist churches. Less than 20 per cent of the population was Catholic. The main conflict between Protestants and Catholics before the war arose over the question of whether State aid should be granted to denominational schools. The Catholic Federation was established in 1914 to push Catholic demands for grants more effectively. The various denominations showed no clear-cut political loyalties although there was a strong tendency for prominent Liberals to be Protestant and leading Labor men to be Catholic. Issues relating to the war caused tension and then hostility to develop between Protestants and Catholics. Quite soon after the outbreak of the war suggestions were made by the conservative press that Irish Catholics were less than loyal to Britain and could not be trusted. The Pope was reported to be intriguing with the Kaiser. Much space was devoted to reports of Irish rebellions aided by German gold and led by Catholic priests. The *Mercury* stressed that 'notoriously Protestants (were) not associated' with these activities.¹⁰ The 1916 Easter Uprising in Ireland was cited by the *Mercury* as further evidence of the treachery of the Irish. The vicious repression of the Uprising on the other hand was seen by Irish Catholics as another example of the injustice on the part of the British authorities. Catholics in Tasmania were driven by Protestant attacks into a closer alliance with the Labor party; Protestants looked to the newly formed Loyalty League and Protestant defence associations to deliver the State from this *traitorous* combination. The Loyalty League was a vigilante group organised initially in Launceston and attracting some of the same membership as the Tasmanian Orange Order. Its original purpose was to combat the influence of Catholicism, but increasingly it turned its attention to radical political ideas. As anti-Catholic prejudice became more outspoken Catholic church dignitaries felt called upon to publicly deplore the spread of sectarianism in the community. 'Have sectarian attacks on ourselves been ever before so persistent?' asked Archbishop Dr Patrick Delany ruefully. 'To insult and wound a whole people is not the way to set about getting them to join in against a common foe'. But by 1918 there was considerable disagreement about the identity of the common foe. For Baptist minister Rev. E. H. Hobday, addressing a crowd at the Town Hall on 'Patriotism and the Papacy', the common foe was the Pope who was the real power behind the Kaiser, just as in Hobday's view Catholic priests were behind the seditious troubles in Ireland. The activities of the League of Loyalty epitomised the Protestant crusade against outsiders and expressed the confident ascendancy of the Anglo-Saxon Protestant, conservative forces in the community. One of the vice-presidents was Nationalist (ex-Liberal) Premier W. H. Lee, who was also a Methodist lay preacher.¹² Other Nationalist members of the House of Assembly were on the executive of the League. Along the north-west coast Protestant organisations were particularly vigilant to possible *disloyal utterances* and local Catholic priest Fr M. J. Dowling was brought before the Ulverstone Court charged with saying things calculated to encourage hostility to the British Empire. In the event, intervention by Senator Pearce, Minister for Defence and guarantees given by Church authorities secured Dowling's release.

An analysis of the activities and membership of the WCTU during the war shows a close congruence between membership of Protestant moral reform movements and membership of jingoistic *win-the-war* political groups. The WCTU activities included the distribution of literature on *infectious diseases* to embarking soldiers, the extraction of temperance and no-smoking pledges, lobbying to have

race-meetings stopped (or to have women barred from attending them) and protests against the scanty garments worn by bathers at Long Beach but members also became passionate *win-the-war* workers committed to a total war effort. They supported returned soldiers on pro-conscription platforms during the two referenda with such zeal as to cause pacifist Mrs Rowntree, the Hobart Superintendent of their Peace and Arbitration Department, to resign from that position. In the 1919 State election temperance endorsement of Nationalist candidates caused the *Daily Post* to dub the Temperance Alliance, 'Tory first and Temperance after'. There were exceptions to this alliance of interests of course; notably, conservative politicians associated with the Licensed Victuallers' Association, and some Catholic Labor politicians who were also strong temperance men. But these do not detract from the importance of the alliance of moral righteousness with political conservatism which achieved a predominant position in Tasmanian politics from 1916 until 1919.

Just as the impact of the war highlighted the diversity of interests in the community as a whole, so the issues raised by the war highlighted what V. Gordon Childe, in 1923, called 'the heterogeneity of elements' which comprised the Australian Labor Party.¹³ Labor members were called on to define their attitudes to British imperialism, nationalism, internationalism, White Australia, recruiting, conscription and to the efficacy of parliamentary action as against industrial action. Most significantly they were called upon to decide whether their class identity was more important than their national loyalty and to think about whether they were reforming liberals (heirs of the Enlightenment) or socialists (heirs of Marx). There were almost as many divisions in the Labor movement as there were answers.

Events during the war caused many workers to experience for the first time a sharp consciousness of their class. This was brought about in part because the economic distress, exacerbated by the advent of war, particularly affected the working class. Unemployment increased dramatically after the outbreak of the war especially among miners and timber workers. It was estimated that in January 1915, 13.1 per cent of the work force was unemployed. The cost of food and rents rose rapidly. Some people were said to be starving, some could not afford butter or meat, there were suggestions that local families needed cash as much as the Belgians for whom special funds were being raised. In the year beginning July 1914 the food and grocery prices index for Tasmania rose by 30 per cent.¹⁴

The practice of *economic conscription* that is, the practice of employers forcing workers to enlist by refusing to employ them, reinforced the workers' view of themselves as an exploited and oppressed class. 'Why should the man who earns his living with the pick and shovel be forced to go', asked *Daily Post* correspondent G. C. Llewellyn, 'while those that have the means can ride in first class carriages, in motor cars and sit on comfortable seats in offices with no thought of going to the trenches'.¹⁵ Clifford Hall, marxist president of the United Labourers' Union, called on his fellow *wage-slaves* to recognise that all wars were in the interest of one class only, the class which remained at home in mansions gathering up the profits accruing from the *wholesale murder* which was war.¹⁶ To Labor man, W. H. Cripps, the ruling class had placed the burden of war on the worker and was 'squeezing the life blood out of him'.¹⁷ Given these reactions to the burden of the war it is easy to understand the profound anger of many workers when the Labor Premier John Earle identified with the ruling class by telling the unemployed they should enlist.

The Labor Party finally parted over the conscription issue (Earle and C. R. Howroyd leaving the State parliamentary party) but this split had been preceded by continual differences over priorities of action and indeed over the very purpose

and duty of the Labor Party. West coast unionists had been outraged when a Mines and Works Regulation Bill had been severely amended in both Houses in 1915.

In the House of Assembly amendments were passed defeating the sections of the Bill intended to prevent a company holding a mining lease if they did not actively work it themselves, but profited from rents extracted from tributes. This defeat was due to the absence of some Labor members when the vital divisions were taken. The Zeehan branch of the Federated Mining Employees Association passed a resolution calling for the resignation of the Labor members absent when the divisions were taken.¹⁸ In refusing to grant unionists the facilities to build a trades hall, in hedging over preference to unionists, Earle and his parliamentary colleagues were increasingly seen as traitors who had deserted the working class to collaborate with the enemy.

Earle on the other hand and ministers like Joseph Lyons and J. E. Ogden (both ultimately to leave the party) were reforming liberals who perceived their duty to be to the whole community. Earle, in response to union deputations, spoke of 'justice for all'. He wished to treat all sections of the community even-handedly and in war time thought that national interests should be paramount. Earle's lack of response to the demands of the unionists reveals the discrepancy between the industrial and political wings of labour with respect to their views of the Labor government's function. The unionists held that the Labor Party was the servant of the working class. Earle's government however, contemplated proposals which were not in any way oriented to working class interest. For example, Earle proposed to amend the Act controlling the Agricultural Bank to allow it to assist retired British officers and officials from India to settle on orchards in Tasmania. For the 1914-15 financial year, the Government spent a record amount on the purchase of estates for sub-division under the *Closer Settlement Act*. It seemed the Government was motivated as much by agrarian ideals as socialist theories. But then Earle's compilations in 1913 had revealed that over a quarter of Labor conference delegates were farmers and orchardists.¹⁹

As hardships went unabated and war weariness grew, disillusioned unionists proved increasingly receptive to syndicalist ideology and in particular to the scheme for One Big Union. After the first conscription referendum, Labor pro-conscriptionists had left the Labor Party to form with the Liberals a Nationalist *win-the-war* party. This split was accompanied by much vilification and enormous bitterness. Earle had emotionally denounced his former colleagues as 'a greater menace to Australia than the Hun'.²⁰ The 1917 general strike had left the union movement broken and humiliated but defiant. Unionists and radical Labor men turned increasingly to embrace industrial unionism, One Big Union, as a panacea. E. Jameson was typical: 'The OBU is the last word in industrial organisation making one economic boycott of industrial advocates impossible, unemployment a thing of the past, exploitation by the profiteers per medium of rent, food and clothing a crime'.²¹ Concomitant to this naive trust in the efficacy of industrial union, was a profound distrust of parliaments and Labor politicians. Labor politicians in turn grew more hostile to the *carping revolutionaries*.

The stresses and strains of the war years and the new issues raised accentuated the divisions in the Labor movement, revealing fully the diversity in outlook of its components. The crisis over conscription was part of a continuing process of division. The departure of the imperialists from the party combined with worsening economic conditions, the influence of OBU ideology and the example of the successful Bolshevik revolution, produced a marked movement leftwards within the Labor Party. The Labor Party grew increasingly pacifist and internationalist in outlook just as conservative forces in the community began to insist on a crushing military victory over Germany.

The Tasmanian community polarised over issues of war and peace. The combined forces of Protestant *win-the-war* conservatism triumphed and scored victory after victory in elections from 1917 until 1919. Labor's percentage of the primary vote had fallen from 48.47 per cent in 1916 to 41.45 per cent in 1919. But the cost of the conservative hegemony was enormous: widespread racial and religious rancour, political hatreds, inflamed class conflict. The effect on recruiting was clear. During the first half of the war 11 135 Tasmanians enlisted; during the second half, 4 350. Well might the Director-General of Recruiting lament: 'these things are inimical to voluntary recruiting which only gives its best results in times of domestic harmony . . . the general welfare became subservient to class and individual animosity and the trouble grew as effects of war-weariness began to make themselves felt'. Australia experienced the highest rate of casualties in fighting of all British empire countries. Nearly all Australians were front line troops engaged in heavy fighting and 64.98 per cent of them were killed or injured. From any point of view it was a costly war.

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CHRONOLOGY

Preface

The following chronology was originally compiled in two sections, the period 1642 to 1929 from a document specially prepared by officers of the State Archives, and the period beginning 1930 from a search of contemporary newspapers by Bureau officers. Greater detail is included in the 1976 and earlier editions of the *Year Book*.

In the record of more recent years, it was found impossible to describe purely Tasmanian events in isolation since certain national events necessarily form part of the history of a state within a federal system; particularly is this true with regard to some Federal Government decisions, the state of the economy and industrial arbitration. On the other hand, there is the difficulty of deciding which events of a purely local character are sufficiently important to

warrant inclusion. Some items have been introduced not because they are important but because they have a strong local flavour. This difficulty of selection is partly avoided by giving the record of the most recent years in more detail but inevitably such a policy results in matters of major and minor importance being mingled without distinction. It follows also that the second part of the chronology is limited largely to what the newspapers of the day considered important and that some events of greater significance may have escaped notice.

To round off the picture of any given year, there is a constant temptation to introduce events of world importance; as far as possible, this has been avoided except where such events had considerable local impact. In no way should the record which follows be interpreted as an 'official' chronology of the State; in actual fact, the record derives from two levels of subjective evaluation, firstly, the selection of items of importance by contemporary journalists, and secondly, the further selection of items from this narrowed field by the compilers of the chronology.

Chronology of Events from First Discovery of Tasmania

- 1642 Abel Janszoon Tasman, commanding *Heemskirk* and *Zeehan*, sighted west coast and named his discovery 'Anthony Van Diemenslandt'. Landings on Forestier Peninsula and near Blackman Bay on east coast.
- 1772 Landing of a party from Du Fresne's expedition at Marion Bay and affray with the Aborigines.
- 1773 Tobias Furneaux, in the *Adventure*, became separated from James Cook in *Resolution* and landed a party at Adventure Bay.
- 1777 James Cook anchored *Resolution* in Adventure Bay on third expedition.
- 1788 William Bligh anchored *Bounty* in Adventure Bay on first breadfruit expedition.
- 1789 John Henry Cox sailed *Mercury* from Cox Bight to Maria Island.
- 1792 William Bligh, on second breadfruit voyage, anchored *Providence* in Adventure Bay. Bruny D'Entrecasteaux, commanding *La Recherche* and *L'Esperance*, discovered D'Entrecasteaux Channel and charted south-east coast.
- 1793 D'Entrecasteaux returned for further exploration of south-east coast. John Hayes, commanding *Duke of Clarence* expedition, explored Derwent River.
- 1798 Matthew Flinders and George Bass circumnavigated Tasmania.
- 1802 Nicholas Baudin, commanding *Geographe* and *Naturaliste*, explored south-east coast.
- 1803 John Bowen's party of 49 made first settlement at Risdon Cove.
- 1804 David Collins' settlement party landed at Sullivans Cove (Hobart). Aborigines killed in an affray at Risdon. Risdon settlement closed down. William Paterson's settlement party landed at Port Dalrymple (Tamar Estuary).
- 1805 Collins forced by famine to cut rations by one-third.
- 1806 Settlers moved from York Town to Launceston area.
- 1807 Thomas Laycock's party crossed island overland from Port Dalrymple to Hobart. First Norfolk Island settlers shipped to Hobart in *Lady Nelson*.
- 1809 Governor William Bligh aboard *Porpoise* anchored in Derwent after N.S.W. mutiny and embarrassed Collins with problem of jurisdiction.
- 1810 Lieutenant-Governor Collins' death. Issue of newspaper *Derwent Star*.
- 1811 Governor Lachlan Macquarie's first visit to Tasmania.

- 1812 Lieutenant-Governor Thomas Davey arrived. Northern settlement at Port Dalrymple made subordinate to Hobart. *Indefatigable* brought first ship-load of convicts direct from England.
- 1815 Hobart and Port Dalrymple declared free ports for import of goods. Davey proclaimed martial law against bushrangers. James Kelly circumnavigated island in a whaleboat.
- 1816 First issue of *Hobart Town Gazette*.
- 1817 Succession of William Sorell as Lieutenant-Governor.
- 1818 Death of Michael Howe, notorious bushranger.
- 1820 Visit by John Thomas Bigge to conduct inquiry into colonial administration.
- 1821 Second tour by Governor Macquarie.
- 1822 Penal settlement established at Macquarie Harbour.
- 1823 Passage of British Act 'for the better administration of justice in N.S.W. and Van Diemen's Land'.
- 1824 Inauguration of Supreme Court. Arrival of Lieutenant-Governor George Arthur.
- 1825 First Launceston newspaper, the *Tasmanian and Port Dalrymple Advertiser*, established. Tasmania constituted a colony independent of N.S.W. Establishment of appointed Executive and Legislative Councils. Departure of Governor Darling from Tasmania left Arthur with the authority of Governor (but not the title).
- 1826 Van Diemen's Land Co. sent first party to select land and establish farming operations. Appointment of Commissioners of Survey and Valuation.
- 1827 Lieutenant-Governor received a petition for trial by jury and some representation in Legislative Council.
- 1828 Passage of British Act 9 Geo. IV, cap. 83 which increased membership of Legislative Council. Martial law proclaimed against Aborigines.
- 1829 First settlement at Emu Bay (Burnie).
- 1830 George Augustus Robinson began his mission to conciliate the Aborigines. First use of juries in civil cases. Beginning of the 'Black Line', the military campaign to round up the Aborigines. First volume of *Quintus Servinton*, first novel to be published in Australia. Port Arthur established as a penal settlement.
- 1831 Approval of British Government's new land regulations discontinuing free grants of land, and replacing them with land sales.
- 1832 First shipment of Aborigines to Straits Islands. Establishment of the Caveat Board to settle land disputes and to confirm titles. Maria Island closed down as a penal settlement.
- 1833 Macquarie Harbour penal settlement closed down.
- 1834 Henty brothers from Launceston became first settlers in Victoria occupying land in Portland Bay area.
- 1835 John Batman sailed from Launceston to Port Phillip as agent for the Port Phillip Association. Tasmania divided into counties and parishes. Opening of Ross Bridge. Population estimated as 40 172 persons.
- 1837 Arrival of Sir John Franklin and assumption of office as Lieutenant-Governor.
- 1838 Sessions of Legislative Council opened to the public.
- 1840 Cessation of transportation to N.S.W. and consequent increase in numbers transported to Tasmania. Population estimated as 45 999 persons.
- 1841 Assignment System of convict discipline replaced by the Probation System. Rossbank Observatory for magnetic and meteorological observations established.

- 1842 Tasmania created a separate Anglican diocese. Hobart made a city. Peak year for convict arrivals (5 329).
- 1843 Recall of Sir John Franklin and succession of Sir John Eardley-Wilmot.
- 1844 Transfer of Norfolk Island penal settlement from N.S.W. to Tasmanian control.
- 1845 Resignation of the 'Patriotic Six' members of the Legislative Council, over the drain on colonial revenue for support of Imperial police.
- 1846 Recall of Eardley-Wilmot. Foundation of the Launceston Church Grammar and The Hutchins Schools.
- 1847 Succession of Sir William Denison. The Lieutenant-Governor re-appointed the 'Patriotic Six'.
- 1848 Tasmania now the only place of transportation in the British Empire.
- 1850 Foundation of the Anti-Transportation League. Population estimated as 68 870 persons.
- 1851 British Act provided for limited representative government. First elections for 16 non-appointed members of the Legislative Council.
- 1852 First payable gold found near Fingal. Elections held for first municipal councils in Hobart and Launceston.
- 1853 Arrival of last convicts to be transported.
- 1854 Bad floods throughout Colony. Passage of bill establishing responsible government.
- 1855 Succession of Sir Henry Fox Young; title now Governor. British Government approved Constitution Bill.
- 1856 Name of Van Diemen's Land changed to Tasmania. Opening of new bi-cameral Parliament with W. T. N. Champ leading first government in the House of Assembly. Re-organisation of Police Department.
- 1858 Council of Education set up. *Rural Municipalities Act* passed.
- 1859 Charles Gould appointed to make geological survey of western Tasmania. Telegraph link established with Victoria.
- 1860 Population estimated as 89 821 persons.
- 1861 Succession of Colonel Thomas Gore Browne. Telegraph cable to Victoria failed.
- 1862 Promotion of scheme for a railway between Launceston and Deloraine.
- 1864 Arrival of first successfully transported salmon and trout ova.
- 1868 Visit by Alfred, Duke of Edinburgh. Primary education made compulsory.
- 1869 Succession of Charles Du Cane. Death of William Lanny, thought to be the last male full-blood Aboriginal. Death of Sir Richard Dry. New cable laid to Victoria.
- 1870 Withdrawal of remaining Imperial troops.
- 1871 Opening of Launceston-Deloraine railway. Tin discovered at Mt Bischoff.
- 1872 Contract concluded for building Main Line Railway.
- 1873 Main Line Railway construction began. Start of economic recovery.
- 1874 Riots in Launceston in protest at rates levied for Launceston-Deloraine railway.
- 1875 Succession of Sir Frederick Weld.
- 1876 Race meetings established at Elwick. Gold nugget worth \$12 200 found at Nine Mile Spring. Death of Trugannini, thought to be last female full-blood Aboriginal. Main Line Railway opened for traffic.
- 1877 Port Arthur closed down as a penal settlement.

- 1878 Increased activity in exploration of West Coast.
- 1879 Settlement of constitutional issue known as the ' Hunt Case '. Rich lode of tin discovered at Mt Heemskirk.
- 1880 First telephone in Tasmania with line from Hobart to Mount Nelson Signal Station.
- 1881 Succession of Sir George Strahan.
- 1882 Increased prospecting on the West Coast.
- 1883 Discovery of the ' Iron Blow ' at Mt Lyell.
- 1885 Russian war scare followed by activity in improvement of defences. Formation of Mt Lyell Prospecting Association.
- 1887 Succession of Sir Robert Hamilton.
- 1890 Establishment of University of Tasmania.
- 1891 Collapse of Van Diemen's Land Bank; deep economic depression.
- 1892 Mt Lyell Mining Co. established.
- 1893 Succession of Viscount Gormanston.
- 1896 Establishment of Tattersalls Lottery by George Adams.
- 1898 Serious bush fires. Tasmanians four to one in favour of Federation at poll.
- 1899 Departure from Hobart of *Southern Cross* (Borchgrevinck) expedition to Antarctic.
- 1900 Departure of Tasmanian contingents to fight in the Boer War.
- 1901 Proclamation of the Commonwealth read. Polling for first elections to Federal Senate and House of Representatives. Succession of Sir Arthur Havelock.
- 1903 Celebration of 100 years' settlement cancelled because of smallpox epidemic in Launceston. Suffrage extended to women.
- 1904 Succession of Sir Gerald Strickland at reduced salary.
- 1905 Experiments in wireless telegraphy between Tasmania and the mainland.
- 1907 New Public Library opened; built with gift from Andrew Carnegie.
- 1909 Succession of Sir Harry Barron. Potato crop wiped out by Irish blight. State's first Labor Government under John Earle.
- 1912 Disastrous fire at North Lyell Mine, Queenstown.
- 1913 Succession of Sir William Ellison Macartney.
- 1914 First aeroplane flight in Tasmania. Departure of first Tasmanian contingent to fight in Great War. Formation of Hydro-Electric Department.
- 1915 Serious bushfires.
- 1917 Establishment of electrolytic zinc works at Risdon and of Snug Carbide works.
- 1918 End of Great War.
- 1919 First export of frozen meat.
- 1920 Visit by Edward, Prince of Wales. Purchase of site for Cadbury's chocolate factory at Claremont.
- 1921 Population 213 780 persons (Census).
- 1922 Completion of Waddamana power station.
- 1924 First superphosphate manufactured by Electrolytic Zinc Co. at Risdon.

- 1925 Discovery of osmiridium fields at Adamsfield.
- 1927 Enquiry into proposed bridge over Derwent. Visit by Duke and Duchess of York.
- 1929 Serious floods throughout island. Establishment of automatic telephone system in Hobart. Beginning of economic depression.
- 1930 Export prices fell to half 1928 level. Australian pound devalued so that £1 sterling equalled \$A2.50 (£A1.25).
- 1931 Depression continued—10 per cent cut in federal basic wage. Initiation of austere Premier's Plan. Conversion loan to reduce rate of interest on internal federal debt by 22½ per cent. Census of population deferred.
- 1933 Commonwealth Grants Commission appointed to enquire into affairs of claimant states.
- 1934 Beginning of 35 years of continuous Labor Government with the election of the A. G. Ogilvie Ministry. Second phase of hydro-electric development commenced at Tarraleah and Butlers Gorge.
- 1936 Tasmania linked with Victoria by submarine telephone cable.
- 1937 Epidemic of poliomyelitis. Economic recovery evidenced by \$0.50 'prosperity' loading added to federal basic wage.
- 1938 Paper mill using native hardwoods established at Burnie. First turbines began operating at Tarraleah power station.
- 1939 Outbreak of World War II.
- 1940 Tasmanians sailed for Middle East with Australian 6th, 7th and 9th Divisions.
- 1941 Newsprint production began at Boyer on the Derwent. Tasmanians sailed for Malaya with Australian 8th Division.
- 1942 Uniform federal income tax commenced.
- 1943 The floating-arch Hobart Bridge opened for traffic.
- 1944 Pay-as-you-earn (PAYE) income taxation introduced from 1 July.
- 1945 End of World War II.
- 1946 Cessation of man-power controls. Rejection by Legislative Council of bill to grant Federal Government price control powers for three years.
- 1947 Court action to stop bank nationalisation by Federal Government. Demobilisation of forces completed. 'Displaced persons' commenced arriving from Europe.
- 1948 Forty-hour week awarded to most workers from 1 January. Tasmanians voted 'No' almost two to one in referendum denying Federal Government power over prices and rents. Legislative Council's denial of supply forced dissolution of House of Assembly—Cosgrove ministry returned to power.
- 1949 Compulsory X-ray introduced in fight against tuberculosis. Clark Dam at Butlers Gorge completed. Theatre Royal purchased by the Government. Sterling devalued by 30.5 per cent and Australian pound similarly devalued.
- 1950 End of federal petrol rationing. Dissolution of House of Assembly granted by Governor and Cosgrove ministry returned to power. Communist Party Dissolution Bill passed by Federal Parliament.
- 1951 *Communist Party Dissolution Act* declared invalid by High Court. Double Dissolution of Federal Parliament. Referendum to give Federal Government powers in regard to communism—'No' vote prevailed although Tasmanians expressed slight preference for 'Yes'.
- 1952 Single licensing authority established for hotels, clubs, etc. State free hospital scheme ceased.

- 1953** In September, Court abandoned system of quarterly adjustment of federal basic wage. State wages boards suspended quarterly basic wage adjustments.
- 1954** Royal visit by Queen. Bill passed to resolve deadlocks in House of Assembly. Foundation of the Metropolitan Transport Trust.
- 1955** Uranium ore discovered at Mt Balfour and Royal George. Bell Bay aluminium plant officially opened. Trevallyn and Tungatinah power schemes officially opened. Anti-Communist Labor Party (later D.L.P.) formed in State.
- 1956** State wages boards' restoration of 'cost-of-living' adjustments effective from 1 February but later they again suspended cost-of-living adjustments. Sir Ronald Cross granted dissolution of House of Assembly. Labor Party returned to power in State. Official opening of E.Z. Co's sulphate of ammonia plant. Centenary of self-government celebrated.
- 1957** Legislative Council rejected bill giving aid to private schools. First satellites—Sputniks I and II—seen over State. Centenary of Hobart's incorporation celebrated.
- 1958** Establishment of Rivers and Water Supply Commission. Public Service Tribunal established as an industrial authority.
- 1959** First election to fill 35 seats in House of Assembly; Labor re-elected. New Federal Government system of grants reduced claimant states to two—Tasmania and Western Australia. *Princess of Tasmania* commenced roll-on roll-off ferry service Melbourne to Devonport.
- 1960** Liapootah power station commissioned. Zeehan-Strahan railway closed. Inland Fisheries Commission created. First Tasmanian telecast. Australian 'give way to the right' rule introduced on roads.
- 1961** *William Holyman*, cargo container vessel, entered Bass Strait trade. Legislative Council rejected equal pay legislation.
- 1962** Catagunya turbines began producing electricity. State wages boards granted three weeks annual leave. State subsidies announced for municipal fluoridation schemes. Closure of Mt Lyell Railway, Queenstown to Strahan.
- 1963** Abolition of State entertainments tax. Federal Court increased margins 10 per cent and granted three weeks annual leave. Universities Commission recommended medical school for Tasmanian University.
- 1964** T.A.A. commenced intrastate air services. Tasman Bridge opened for traffic. Hobart's water supply fluoridated. Glenorchy raised to city status.
- 1965** *Empress of Australia* sailed from Sydney on first voyage to Hobart. Provisional driving licences introduced. Dental nurse scheme for schools announced. D'Entrecasteaux scallop beds closed for 1965 season.
- 1966** Decimal currency introduced 14 February. Burnie-Launceston co-axial cable completed. Equal pay for certain State Public Service females. Breathalyser tests approved for use by police. S.T.D. extended to Tasmania.
- 1967** Bush fire disaster of 7 February resulted in 62 deaths and over 1 000 houses destroyed. Federal Arbitration Commission abolished basic wage and substituted total wage concept but basic wage retained in State awards. Mt Cleveland tin mining town of Luina completed. H.E.C. water reserves only 16 per cent of normal; introduction of daylight saving and power rationing to conserve power.
- 1968** H.E.C. Repulse Dam on lower Derwent completed. Batman Bridge across lower Tamar opened. Federal Government subsidy for apples and pears exported to U.K. and other countries. Full adult suffrage for Legislative Council elections from 1 July 1969. Capital punishment abolished.

- 1969 Parangana Dam (Mersey-Forth scheme) completed. North-West General Hospital opened at Burnie. State election resulted in 17 A.L.P., 17 Liberals, one Centre Party (Mr Lyons). Mr Lyons combined with Liberals to form coalition government; ended 35-year Labor rule in Tasmania. Full Bench of Federal Arbitration Commission granted equal pay to females performing equal work; female salaries to be raised to male salaries in stages. Copper smelter at Mt Lyell closed; concentrate sent to Japan and Port Pirie (S.A.) for treatment.
- 1970 First pyrites railed from Rosebery to Burnie sulphuric acid plant. E.Z. Co. to establish \$6.3m residue treatment plant. Royal visit. Parliament legislated to introduce permanent daylight saving. State premiers accepted Tasmanian formula for reimbursement in lieu of receipts duty.
- 1971 \$25m A.P.P.M. Ltd Wesley Vale paper plant opened. \$9m expansion program at Comalco (Bell Bay) completed making it the largest aluminium smelting plant in Australia. Shipping strike; A.C.T.U. to give Tasmania special consideration in event of future shipping strikes. Population 390 413 persons (census).
- 1972 K. O. Lyons resigned cabinet portfolios and ended Liberal-Centre Party Coalition. A.P.P.M. Long Reach woodchip plant commenced production. Waterside workers awarded 35-hour week. A.N.L. vessel *Princess of Tasmania* made her final trip to Tasmania. Mt Lyell Mining and Railway Company Ltd fired last charge at its West Lyell Open-cut Mine. State Government announced cigarette and tobacco tax. King Island's Naracoopa rutile mine re-opened by Buka Minerals (N.L.). Federal elections—A.L.P. returned to power (after 23 years in Opposition). 300 million years old fossil of dragon fly discovered in Hellyer Gorge (west coast area).
- 1973 First train travelled the Bell Bay rail link. The first legal casino in Australia—Wrest Point—officially opened. Vote extended to 18-year olds. The \$121m Mersey-Forth H.E.C. scheme officially opened. Storeys Creek tin mine closed down. Heavy concentrations of zinc, copper and cadmium found in oysters collected from Derwent and Tamar estuary areas. The *Blythe Star* lost at sea while on charter to the Transport Commission. Preliminary work began on H.E.C. Pieman Scheme. Federal Government made \$95 000 grant for restoration of Port Arthur convict settlement site. Tasmania voted in line with other Australian states on prices and incomes referendums—'No' to both. Alginates (Australia) Ltd closed down its east coast seaweed harvesting and processing operation.
- 1974 B.H.P. announced \$28.5m expansion project for the Temco ferro-alloy plant at Bell Bay. Workers under State Wages Boards' awards granted four weeks annual leave. Anti-pollution regulations under the *Environment Protection Act* gazetted. Royal Commission's report on urban transport advocated cessation of suburban rail services. Transport Commission's ship *Straitsman* sank in Yarra River. High Court ruled Tasmanian tobacco tax valid, but method of collection invalid. Double dissolution of Federal Parliament. Severe floods in eastern part of Tasmania. Federal Labor Government re-elected. Tobacco tax withdrawn but legislation not repealed. Tasmania withdrew as a claimant state for Special Grants. Textile industries (particularly in Launceston area) retrenched workers. A.N.L. announced 25 per cent increase in freight rates for Tasmanian run. Women under State Wages Boards determinations awarded equal pay. Goliath Cement Holdings disclosed a \$12m expansion program. European carp discovered in farm dams along the north-west coast. Federal Government declared the Midland and Bass Highways from Hobart to Burnie a national highway.

Federal Minister for Transport announced A.N.L. freight rates for north bound freight from Tasmania to be reduced by an average of 25 per cent. The 140 metre high Gordon Dam completed. No fault third party insurance scheme implemented. A.P.P.M. Ltd's Burnie mill retrenched 154 workers before Christmas.

1975 Tasmanian suburban rail services ceased. Bulk ore carrier *Lake Illawarra* rammed the Tasman Bridge, leaving a 128 metre gap and causing 12 deaths. Initial federal grant of \$13m for Tasman Bridge restoration announced. T.A.B. began operating. Transmission of colour television programs commenced in Tasmania. Electrolytic Zinc Co. announced the retrenchment of 391 employees following reductions in production. Carbon dating of charcoal confirmed that Tasmanian Aborigines occupied Hunter Island 18 550 years ago. Arbitration Commission adopted wage indexation in principle. Draft Management Plan for the South-West National Park officially released. Plans released for second permanent Derwent crossing and additional lane for the existing bridge. Federal Government takeover of Tasmanian railways. State Budget deficit a record \$13.6m for 1974-75. A.N.L. interstate freight rates increased by 40 per cent and passenger fares by 30 per cent. Devonport Council rejected N.W. Regional Water Scheme. Tenders called for \$11m maternity wing for the Royal Hobart Hospital. Prime Minister sacked by the Governor-General and the Leader of the Liberal Party appointed Caretaker Prime Minister pending a general election. State Government rescinded its earlier decision not to allow granite quarrying on Freycinet Peninsula. Flash flooding in the southern Midlands took two lives and cut major roads and bridges. Temporary Bailey bridge crossing on the Derwent opened to traffic. \$5m Police Academy completed at Rokeby. Hotels opened for the first day of Sunday trading under new State licensing laws. Federal Liberal-Country Party Government elected with a majority in both Houses.

Chapter 2

PHYSICAL ENVIRONMENT

GENERAL DESCRIPTION

Location and Area

The State of Tasmania is a group of islands lying south of the south-east corner of the Australian mainland; the major island is called Tasmania and the more important of the lesser islands are King, Flinders and Bruny. Roughly shield shaped with the greatest breadth in the north, Tasmania extends from $40^{\circ} 38'$ to $43^{\circ} 39'$ south latitude and from $144^{\circ} 36'$ to $148^{\circ} 23'$ east longitude. The coastline is bounded by the Southern Ocean on the south and west and the Tasman Sea on the east while Bass Strait separates the island from the Australian mainland by approximately 240 kilometres. Macquarie Island, a part of the State, is situated at $54^{\circ} 38'$ south latitude, $158^{\circ} 53'$ east longitude and is bounded by the Southern Ocean.

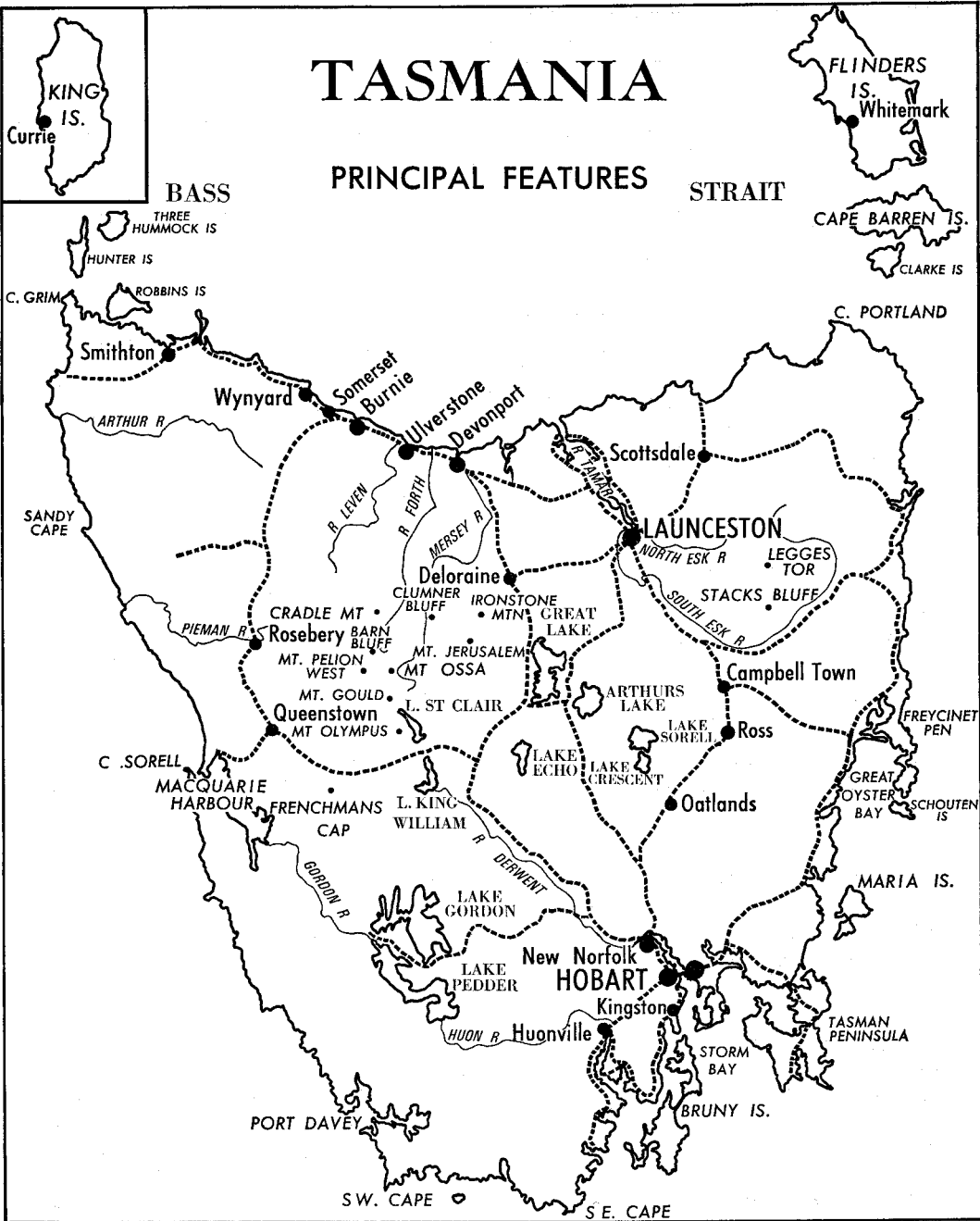
The area of the whole State, including the lesser islands, is 68 300 square kilometres or about 0.9 per cent of the total area of Australia (7 686 900 square kilometres); it is just under one-third the size of Victoria, the smallest mainland state, and is less than half the size of the United Kingdom.

Australia, extending as it does well 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 continent. Being south of latitude 40° , it is on the edge of the wind belt commonly known as the *Roaring Forties* and without the protection of a land mass to the west, the nearest being South America, Tasmania's weather is subject at times to strong winds and heavy rain about the south and west coastal areas. Because Tasmania is the most southern state, there is a tendency to think of it as being close to the Antarctic but its latitude is matched, in the northern hemisphere, by that of Madrid (Spain) and Pittsburgh (U.S.A.). In addition, as Tasmania is an island, it is sheltered from the extremes of heat and cold experienced in these two centres. The effect of its insular position is illustrated by the variation between summer and winter mean temperatures in coastal towns—this rarely exceeds 8° Celsius. Comparing Hobart (Tasmania) with Melbourne (Victoria), mean maxima are some 3°C warmer and mean minima 1.5°C warmer in the Victorian capital.

Apart from the Great Dividing Range in the east, Australia is predominantly a land of low plateaux and plains with little relief. By way of contrast, Tasmania could legitimately be called the island of mountains, since it has the largest proportion of high country to its total area, compared with the other states. The distinctive feature of the island is not so much the height of the mountains—few exceed 1 500 metres—but rather the frequency with which they occur. The British Admiralty Pilot Book describes Tasmania as 'probably the most thoroughly mountainous island on the globe'.

TASMANIA

PRINCIPAL FEATURES



Principal Physical Features

The following table lists the principal mountains, lakes and rivers of Tasmania (for their location see the previous map):

Principal Physical Features

MOUNTAINS			
Name	Height (metres)	Name	Height (metres)
Mt Ossa	1 617	Stacks Bluff	1 527
Legges Tor	1 573	Mt Gould	1 491
Barn Bluff	1 559	Mt Jerusalem	1 458
Mt Pelion West	1 554	Mt Pelion East	1 451
Cradle Mountain	1 545	Clunner Bluff	1 449

LAKES			
Name	Area (square kilometres)	Name	Area (square kilometres)
Lake Gordon (a)	272	Lake King William (a)	41
Lake Pedder (b)	241	Lake Echo (c)	41
Great Lake (c)	158	Lake St Clair	28
Arthurs Lake (c)	64	Lake Augusta (c)	12

RIVERS			
Name	Length (kilometres)	Name	Length (kilometres)
Derwent	148	Huon	121
South Esk (d)	145	Arthur	113
Gordon	129	Pieman	106

(a) Man-made.

(b) Man-made—inundated the much smaller natural Lake Pedder.

(c) Natural lake enlarged by dam(s).

(d) From source to confluence with North Esk; at this point the river becomes known as the Tamar. If the Tamar is included in the length of the South Esk a further 70 km is added to its length.

Population Distribution

With a population exceeding 400 000, Tasmania is still thinly populated although its density of less than six persons per square kilometre is exceeded only by Victoria and New South Wales among the Australian states. By comparison, the population density of the Netherlands at 30 June 1975 was 628 persons per square kilometre, that of Japan was 485 persons per square kilometre and that of the United Kingdom was 369 persons per square kilometre.

A marked characteristic of the mainland states of Australia is the very high concentration of population in their respective metropolitan areas, Brisbane providing the only example where this concentration falls below 50 per cent of the State's total population. In contrast, the Tasmanian population is concentrated in two main areas: (i) Urban Hobart, with about 34 per cent; and (ii) Urban Launceston with about 16 per cent. This deviation from an Australian pattern is partly explained by the relative proximity of Launceston to the principal mainland markets. However, terrain and climate have also had a large influence on the distribution of the State's population. A convenient way to summarise, in approximate terms, the present pattern of settlement is to imagine three circles of 40 kilometres radius centred on Hobart (representing the south-east), Launceston

(the north) and Ulverstone (the north-west): (i) with Hobart as centre, 43 per cent of the Tasmanian population was located within the 40 kilometre circle at 30 June 1974; (ii) with Launceston as centre, 21 per cent; (iii) with Ulverstone, 18 per cent. Since all circles are exclusive of each other, these three defined areas together contain more than 82 per cent of the State's population and this fact justifies the generalisation that the main settlement is in the south-east, the north and the north-west.

PHYSIOGRAPHY

Introduction

Tasmania is an island of mountains and is unique among Australian states in being predominantly influenced by polar maritime air masses. From the point of view of settlement and development, these two factors have combined to create assets against which must be weighed certain liabilities. The island, 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 (and virtually unexplored) 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; the roads and villages dotted with oaks, elms and poplars. Nature and the early settlers have provided the assets for a flourishing tourist industry which is currently being vigorously developed. Assured rainfall and mountain storages have also given birth to massive development of hydro-electric power and, indirectly, to industry. The growth of forests, too, is promoted by suitable rainfall and temperature, and this forms the basis for industries such as timber-milling, newsprint and other paper production and wood-chipping.

The mountainous nature of the island is confirmed by survey, which shows six features exceeding 1 500 metres, 28 exceeding 1 220 metres and a further 28 exceeding 915 metres. The highest mountain is Mt Ossa (1 617 metres) some 16 kilometres north-west of Lake St Clair, and north-west again from this peak lie Mt Pelion West (1 554 metres), Barn Bluff (1 559 metres) and Cradle Mountain (1 545 metres); the furthest distance, 24 kilometres, is from Mt Ossa to Cradle Mountain. In the Ben Lomond area, the principal features are Legges Tor (1 573 metres) and about 10 kilometres south, Stacks Bluff (1 527 metres). Each of these mountainous regions and a number of others have been set aside as national parks, two of which, Ben Lomond and Mt Field, are renowned for winter sport.

Water Resources and Rainfall

Fresh-water navigation has played very little part in Tasmania's development, the rivers being too fast-running, shallow or short. Of the four major ports, three are located on tidal estuaries—Hobart on the Derwent; Launceston on the Tamar and Devonport on the Mersey (Burnie has built a port, on the open sea, protected by breakwaters). Rivers, however, are significant for three reasons: (i) use of headwaters for electricity generation; (ii) domestic and industrial water supply; and (iii) irrigation. Hobart for example draws much of its water supply direct from the upper Derwent River without use of a dam and the flow is adequate to serve a population at least 10 times greater than that at present. The development of hydro-electric power has been based on full utilisation of the sources and tributaries of the Derwent with a chain of power houses stretching from Clark Dam on Lake King William to Meadowbank only 51 kilometres from Hobart. The

naturally southward draining Great Lake waters are diverted northwards through the Poatina power station and discharged into the South Esk River system. The waters of the South Esk have been further harnessed at Trevallyn. In the north-west, the Mersey-Forth scheme exploits the Fisher, Mersey, Wilmot and Forth Rivers in a development spread over approximately 2 070 square kilometres. Stage I of the Gordon River power development scheme in the south-west, expected to be completed by mid-1977, will create the largest fresh-water storage in Australia. This does not exhaust the possibility of future development as preliminary work on the Pieman River system has commenced with completion scheduled for 1985, and the Franklin and King Rivers are also considered to have substantial potential for power development.

To obtain a true perspective, it should be appreciated that large areas of the State cannot be cultivated because there is too much rainfall (in contrast with the mainland of Australia where often the reverse situation applies). Further, the mountainous terrain and accompanying highland climate have restricted farming to relatively small areas of suitable country, mainly river valleys, coastal plains and the lower plateaux. In 1975, farm statistics showed that 36.5 per cent of the State's area was occupied by rural holdings. Only 2.7 per cent of the area of rural holdings was under crop and a further 40.0 per cent under sown pasture. The remaining 60.4 per cent of rural holdings included bush runs, uncleared scrub or possibly land unsuitable for any rural purpose at all. A high proportion of the State's area not included in rural holdings is composed of forests, national parks and lakes.

Physiographic Regions

To explain the pattern of settlement, it is necessary to isolate the various physiographic regions of the State as follows:

Central Plateau: The main feature is a relatively undissected, dolerite-capped plateau sloping generally south-eastward from an average level of 1 065 metres in the north to 610 metres in the south, and drained almost wholly by the Derwent system. The northern and eastern boundaries of the Plateau are the Great Western Tiers (paradoxically named since they lie in the central north of the island). This is known as the 'lake country' of the island and is the chief source of hydro-electric power.

High Dissected Plateau: West of Lake St Clair, dolerite caps steeply-tilted sediments and the plateau is much dissected; it comprises a series of peaks and broken ridges. The coastlands in the extreme south of the region are rugged but in the D'Entrecasteaux Channel and Huon River areas, narrow coastal belts have been devoted to specialised agriculture.

Western Ranges: The high dissected plateau is bound by a mountainous series of ranges running parallel to the west coast and in this region are located the State's principal mines. The south of the region is virtually uninhabited except for construction workers on the Gordon power scheme.

Western Coastal Platforms: Throughout almost the entire length of the west coast, an uplifted and much dissected peneplain slopes westward from about 275 metres altitude, ending abruptly in cliffs more than 30 metres high. In the south of this region, superhumid button grass plains predominate, and the area is uninhabited. On the coastal plain south of the Arthur River, however, dairy cattle are wintered on agistment runs, while north of the river dairying begins to appear and swamps formed by recent emergence have been cleared for farming.

North-West Plateau: North of the Western Ranges lies a plateau averaging nearly 610 metres altitude and important mainly for forestry; the coastlands derive mainly from basalt, giving rise to intensive mixed farming based on dairying, potatoes and crops for canning and freezing, such as peas and beans.

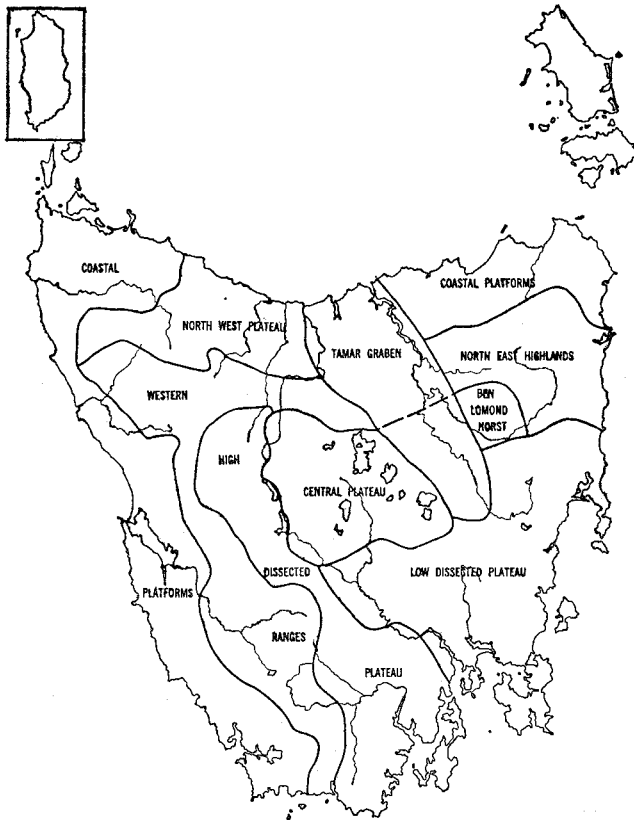
Tamar Graben: This graben (rift valley) is the largest plain and the leading agricultural and pastoral district in the State; it ends in the drowned inlets of the Tamar and Mersey estuaries and of Port Sorell, in the north.

North-East Coastal Platforms: This region consists of undulating lowland but the soils are acidic and the land is used only for grazing.

North-East Highlands and Ben Lomond Horst: This region comprises mostly uplifted remnants of old fold mountains dominated by the 1 525 metre dolerite-capped plateau horst of Ben Lomond, an outlier of the Central Plateau. Here agriculture is largely confined to small basalt-derived basins. Some minerals are worked.

Low Dissected Plateau: In the south-east lies a low dissected dolerite plateau averaging perhaps 365 metres and used mainly for grazing. The northern coastlands of this region are narrow and also devoted to sheep, but the southern coastland is important for its specialised agriculture. At the extreme south of the region is the drowned estuary of the Derwent and the Tasman and Forestier Peninsulas.

TASMANIA
PHYSIOGRAPHIC REGIONS



The above regions derive from a classification by J. L. Davies, M.A., Ph.D., University of Tasmania.

DESCRIPTION OF STATISTICAL DIVISIONS**Introduction**

Earlier in this chapter the State of Tasmania was briefly described by analysing its terrain in terms of physiographic regions. For statistical purposes, the State is also analysed in divisions but these do not necessarily coincide with physiographic regions, one reason being that the former are basically groupings of whole municipalities. The traditional Tasmanian statistical divisions, in use for over 50 years, were exposed to searching scrutiny in 1971 and the decision was taken to introduce a new structure, to be applied to statistics in respect of periods commencing on or after 1 July 1972.

History of Statistical Divisions

The grouping of administrative areas into divisions for statistical purposes can be found in annual volumes of the *Statistics of Tasmania* dating back to the nineteenth century. The administrative areas included: police districts; registration districts; electoral districts; and municipalities. The boundaries of these areas were subject to periodic changes. The *Local Government Act* 1906 provided a basis for the whole State coming under uniformly constituted local government and gradually the divisional grouping of administrative areas was confined, in official statistics, to municipalities. As a result of this Act, fixed local government area (municipality) boundaries were delineated in 1907 by a commission specially set up for the purpose. The new boundaries have remained broadly unchanged since 1907 although there have been numerous relatively minor boundary changes. One exception is that the old municipalities of 'Hobart', 'Queenborough' and 'New Town' were combined to form the new municipality of 'Hobart' in 1919. The names of several municipalities have also been changed since 1907. Small area statistics relating to 1907 and earlier years are not generally comparable with later statistics produced by the Bureau due to the boundary changes in 1907.

In 1919, groupings of local government areas used were very similar to those still used in 1971; in some series, Hobart, Launceston and Glenorchy were separately specified as components of an 'Urban Division' distinct from the region in which each was located.

The basis for these 1919 groupings can only be inferred since no specific criteria were specified in the records. The Western Division clearly combined the 'west coast' mining municipalities into one entity; the Southern seemed to be based on orcharding, small fruit and hop areas; while the South Eastern was allied more with pastoral and grazing areas. In short, the main determinant may well have been similarity of rural activity (with the Western Division a special case because of its mining activity).

After the 1966 population census, a new division was formed with the title Hobart Division, comparable with similar capital city divisions in other states; its boundaries were drawn wide enough to encompass the expected expansion of the inner urban area for a period of 20 to 30 years. Apart from this, the broad divisional structure in 1971 was very much the same as it had been in 1919.

In 1972 a new statistical division structure, using the three principal urban centres of influence as a basis, was designed. The three urban centres and their area of influence were: (i) Hobart—south and south-east; (ii) Launceston—north and north-east; and (iii) Burnie-Devonport—north-west and west. The following divisional structure was then adopted: (i) with Hobart as focus—Hobart and Southern Divisions; (ii) with Launceston as focus—Northern Division split into Tamar and North Eastern Sub-divisions; and (iii) with Burnie-Devonport as focus—Mersey-Lyell Division split into North Western and Western Sub-divisions.

Outline of the Present Structure

The divisions in the new structure are as follows:

Hobart Division

This Division comprises Hobart and Glenorchy Cities, the Municipality of Clarence, and parts of four other municipalities: Brighton; Kingborough; New Norfolk; and Sorell. The Division is Tasmania's principal industrial region and the administrative focal point. The Hobart Division boundaries were drawn wide enough to contain the expected outward growth of the inner urban area for a period of 20 to 30 years.

One important component of the Hobart Division is Urban Hobart, defined as the densely settled contiguous parts of the cities of Hobart and Glenorchy, and of the municipalities of Clarence and Kingborough. The boundaries of Urban Hobart and of the Hobart Division do not conform with borders defining local government areas. (The details of these boundaries are given in Chapter 6 'Demography' under 'Population Centred on Hobart.')

A rough approximation of the area of the Hobart Division can be obtained by drawing the quadrilateral New Norfolk-Pontville-Carlton River mouth-Snug.

Southern Division

Comprises the southern local government authority areas which have Hobart as their urban focus. Predominant activities include orcharding, sheep and cattle grazing, forestry and timber processing.

Northern Division

The Northern Division is the region with Launceston as its urban focus.

(i) *Tamar Sub-division*: This is the region dominated by the Tamar Valley. In the centre of this area is Launceston and its suburbs (known as Urban Launceston). This Sub-division includes several major manufacturing industries, port facilities of the northern region and agricultural, pastoral, dairying and forestry industries.

Launceston Statistical District: A new boundary delineating the Launceston Statistical District was drawn for the purpose of presenting results of the 1976 Population Census. The boundary was drawn to contain the area of expected urban growth over the next two decades and includes the City of Launceston and parts of seven other municipalities.

Urban Launceston is defined for statistical purposes as the City of Launceston plus the contiguous urban parts of the following municipalities: Lilydale, St Leonards, Evandale, Westbury and Beaconsfield.

(ii) *North Eastern Sub-division*: Comprises the outer seven municipalities of the Northern Division. Principal activities include agriculture, dairying, sheep and cattle grazing, forestry and some mining.

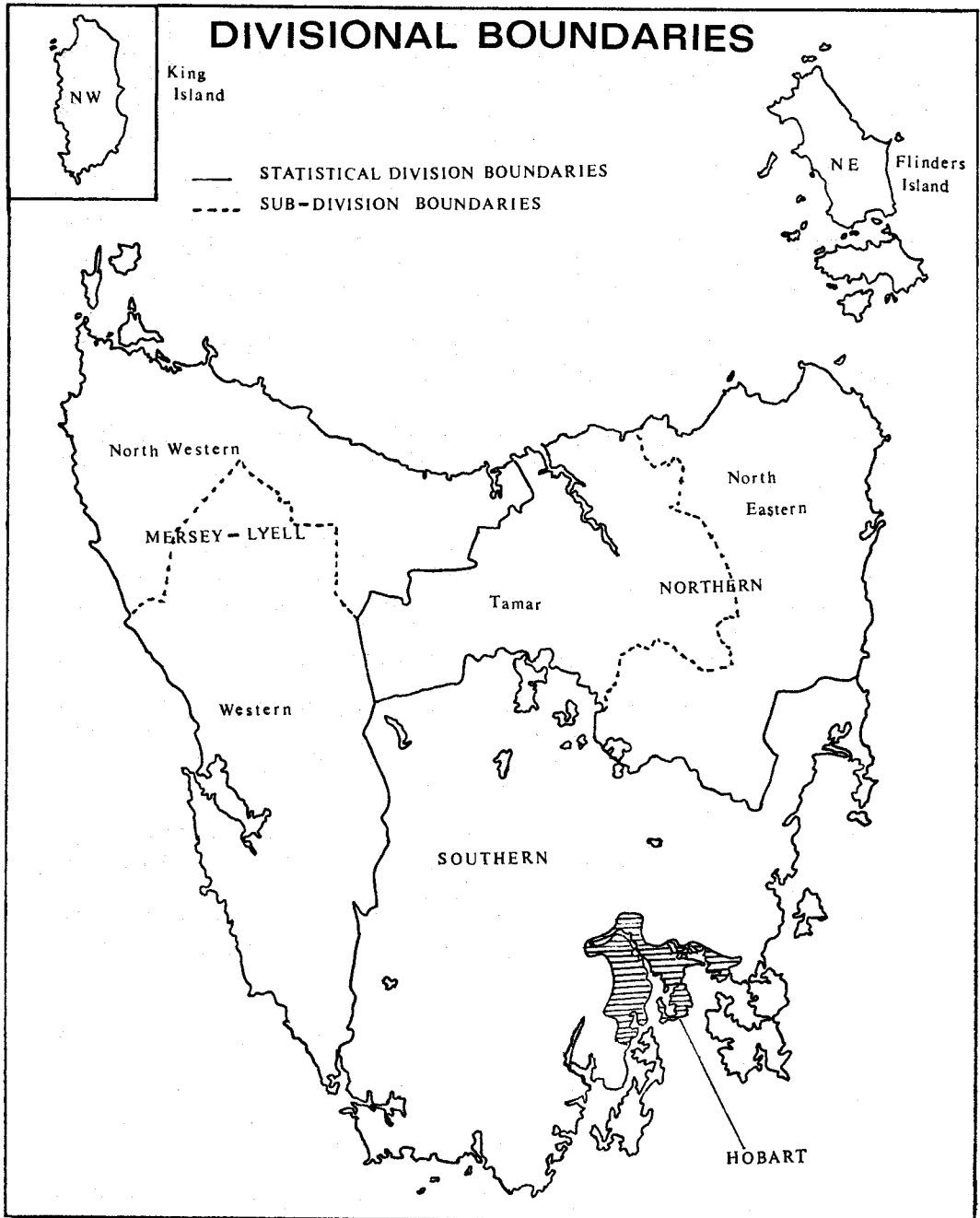
Mersey-Lyell Division

This division encompasses the north-west and western portions of the State. The region has a twin urban focus of Burnie-Devonport.

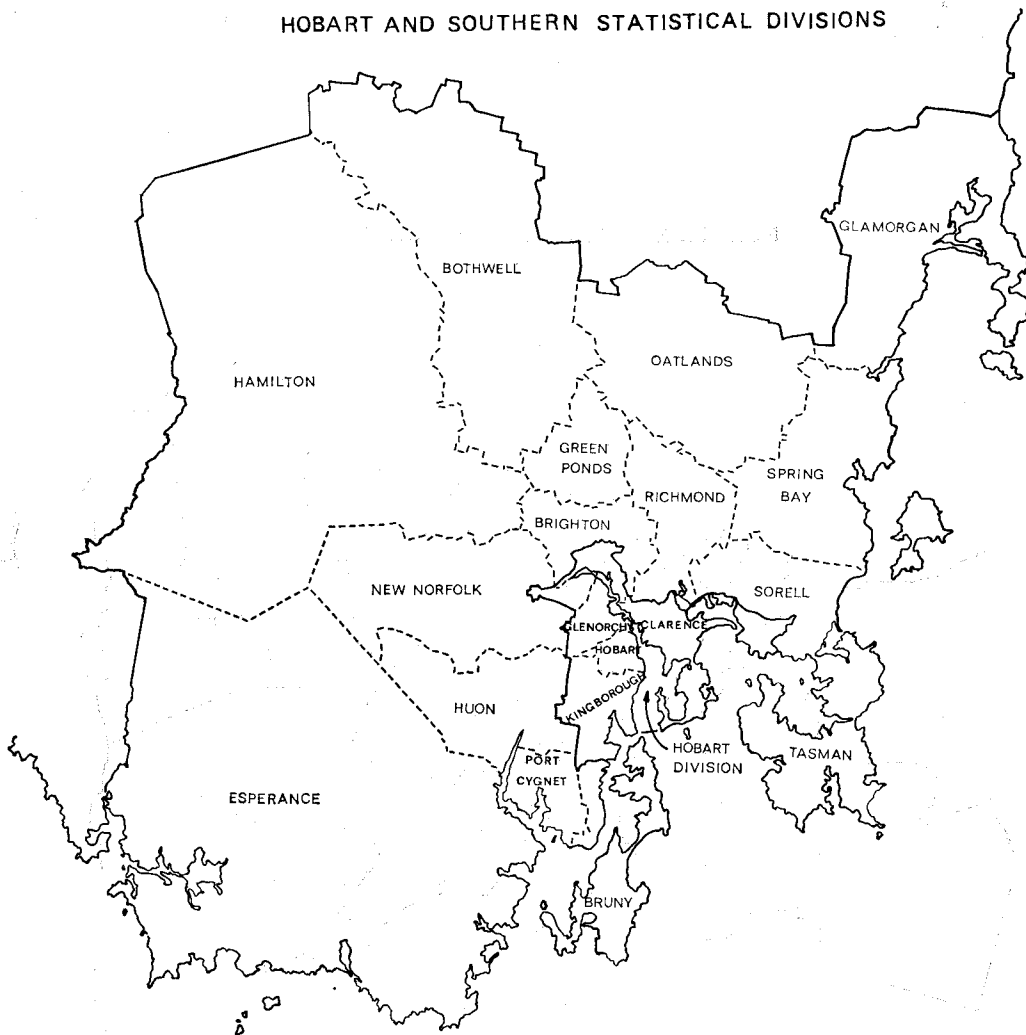
(i) *North Western Sub-division*: Comprises the municipalities stretching along Bass Strait from Latrobe to Circular Head plus Kentish and King Island. The Sub-division includes several major manufacturing industries and is a principal agricultural, pastoral, dairying and forestry area for the State.

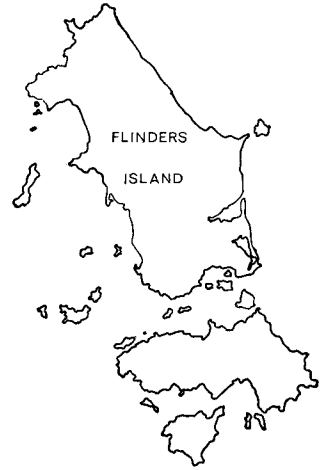
(ii) *Western Sub-division*: Contains Tasmania's western municipalities where mining activities predominate.

The following maps show: (i) statistical division and sub-division boundaries; and (ii) local government authority components of statistical divisions.



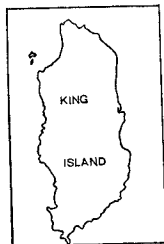
HOBART AND SOUTHERN STATISTICAL DIVISIONS





NORTHERN STATISTICAL DIVISION





MERSEY-LYELL STATISTICAL DIVISION



ADMINISTRATION AND AREA OF STATE

Sovereignty

On 17 December 1975, the High Court of Australia announced its decision on an action by the six states challenging the validity of the federal *Seas and Submerged Lands Act*. This Act gives the Federal Government sovereignty over the Australian territorial sea, air space, sea-bed and subsoil; and over the continental shelf beyond the limits of the territorial sea. In their action, the state governments claimed that the sovereign powers given the states over their land mass carried with its sovereignty over the territorial sea adjacent to their coastlines for a distance of at least 3 miles (4.8 km). The full bench of the High Court dismissed the action by the states and upheld the validity of the *Seas and Submerged Lands Act*. Prior to this decision, Tasmania had claimed sovereignty (including mining and fisheries jurisdiction) over an area bound by the approximate rectangle 39° 12' to 45° south latitude and 140° to 150° east longitude.

Since the boundary line between Tasmanian and Victorian sovereignty is defined as 39° 12' south latitude, numerous Bass Strait Islands, the chief being the Furneaux group, King Island and the Hogan, Curtis and Kent groups, are part of Tasmania. In effect some Tasmanian territory (Rodondo and West Moncoeur Islands) is located only 13 to 16 kilometres from the Victorian coast.

Macquarie Island, site of an Antarctic research station, is also part of the State of Tasmania and is situated in 54° 38' south latitude, 158° 53' east longitude; its area is included in Esperance, a State coastal municipality.

Area of Major and Minor Islands

The official area of the State of Tasmania including many smaller islands (based on a 1963 survey) is 68 331 square kilometres (6 833 100 hectares). The following table shows the area of the main islands and the municipalities to which they belong:

Area of Islands

Island	Area (square kilometres)	Municipality
Bruny	362	Bruny (a)
King	1 099	King Island (a)
Flinders	1 374	Flinders (a)
Prime Seal	10	
Badger	10	
Vansittart	6	
Cape Barren	445	
Clarke	113	
Three Hummock	70	Circular Head
Hunter	74	
Robbins	101	
Maria	101	Spring Bay
Schouten	34	Glamorgan
Macquarie	123	Esperance
Total islands	3 923	
Mainland Tasmania	64 408	
Total Tasmania	68 331	

(a) Island municipality.

Area of Municipalities and Cities

In the table that follows, the measured areas of local government areas have been rounded to the nearest 10 square kilometres and the area of Tasmania has been rounded to the nearest 100 square kilometres as the accuracy of more detailed measurement is difficult to determine. Where municipal boundaries lie in the sea or an estuary these legal limits have been disregarded so that the stated area relates to a physical boundary (i.e. the coastline). However, the areas shown include all smaller islands which form part of the State.

Area of Statistical Divisions, Sub-divisions and Local Government Areas
(Square Kilometres)

Local government area (statistical division and sub-division in bold type)	Area	Local government area (statistical division and sub-division in bold type)	Area
Hobart (a) (H) ..	(b) 80	Campbell Town.. ..	1 440
Glenorchy (a) (H) ..	(b) 120	Fingal	2 730
Clarence (H) ..	250	Flinders	1 990
Brighton (H) (S) ..	440	Portland	1 580
Kingborough (H) (S) ..	350	Ringarooma	1 630
New Norfolk (H) (S) ..	1 320	Ross	1 240
Sorell (H) (S) ..	780	Scottsdale	1 290
Bothwell (S) ..	2 610	North Eastern ..	11 900
Bruny (S) ..	360		
Esperance (S) ..	6 190	NORTHERN ..	20 610
Glamorgan (S) ..	1 540		
Green Ponds (S) ..	420	Burnie	620
Hamilton (S) ..	5 850	Circular Head	4 920
Huon (S) ..	770	Devonport	120
Oatlands (S) ..	1 540	Kentish	1 190
Port Cygnet (S) ..	240	King Island	1 100
Richmond (S) ..	570	Latrobe	550
Spring Bay (S) ..	1 120	Penguin	430
Tasman (S) ..	480	Ulverstone	510
HOBART ..	940	Wynyard	810
SOUTHERN ..	24 090	North Western ..	10 240
Launceston (a)	(b) 28	Gormanston	2 870
Beaconsfield	640	Queenstown	140
Deloraine	2 920	Strahan	3 730
Evandale	990	Waratah	2 710
George Town	650	Zeehan	3 000
Lilydale	680	Western	12 460
Longford	1 000		
St Leonards	890	MERSEY-LYELL ..	22 700
Westbury	900		
Tamar	8 700	TASMANIA ..	68 300

(a) City.

(b) To nearest square kilometre.

At the 1966 Population Census, new definitions based on high population density were employed to fix the boundaries of urban areas. The two major centres in the State at the 1971 Population Census, with boundaries conforming to the definitions, were: (i) Urban Hobart (approximately 112 square kilometres); and (ii) Urban Launceston (approximately 74 square kilometres). (See Chapter 6 for definition of these areas.)

CLIMATE OF TASMANIA

(The following section was prepared by the Bureau of Meteorology.)

Introduction

Since Tasmania lies between 40° and $43\frac{1}{2}^{\circ}$ south of the Equator and is an island with no point more than 115 kilometres from the sea, its climate is classified as temperate maritime. On the coast the daily temperature range averages about 8° Celsius, rising to about 12° Celsius further inland, indicating a slight continental effect.

The combination of mountainous terrain in the western half of the State and prevailing westerly winds produce a marked west-east variation of climate, and especially of rainfall.

Summers are mild and characterised by greatly lengthened days. The sun reaches a maximum elevation of $70-73^{\circ}$ in mid-summer, giving 15 hours of daylight in the north and $15\frac{1}{2}$ hours in the south. In mid-winter, the sun's elevation does not exceed $20-23^{\circ}$, and the shortest day consists of $9\frac{1}{4}$ hours of daylight in the north, falling to slightly under nine hours in the south.

In winter, westerly winds reach their greatest strength and persistence, causing a distinct maximum in rainfall distribution in the west and north-west. In the east and south-east, rainfall is more evenly distributed throughout the year. Coastal areas of Tasmania enjoy relatively mild winters as compared with Boston (U.S.A.), for example, which is about the same latitude north but experiences more severe winter weather conditions.

Winds

The prevailing winds over most of the island are north-west to south-west, with greatest strength and persistence during late winter. Speed and direction vary with the eastward passage of high and low pressure systems. In the summer months, when westerlies are weak, afternoon sea-breezes become the predominant wind in coastal areas. Occasional periods of north-east to south-east winds occur.

The highest average wind speeds are associated with extensive deep depressions over ocean areas south of Tasmania.

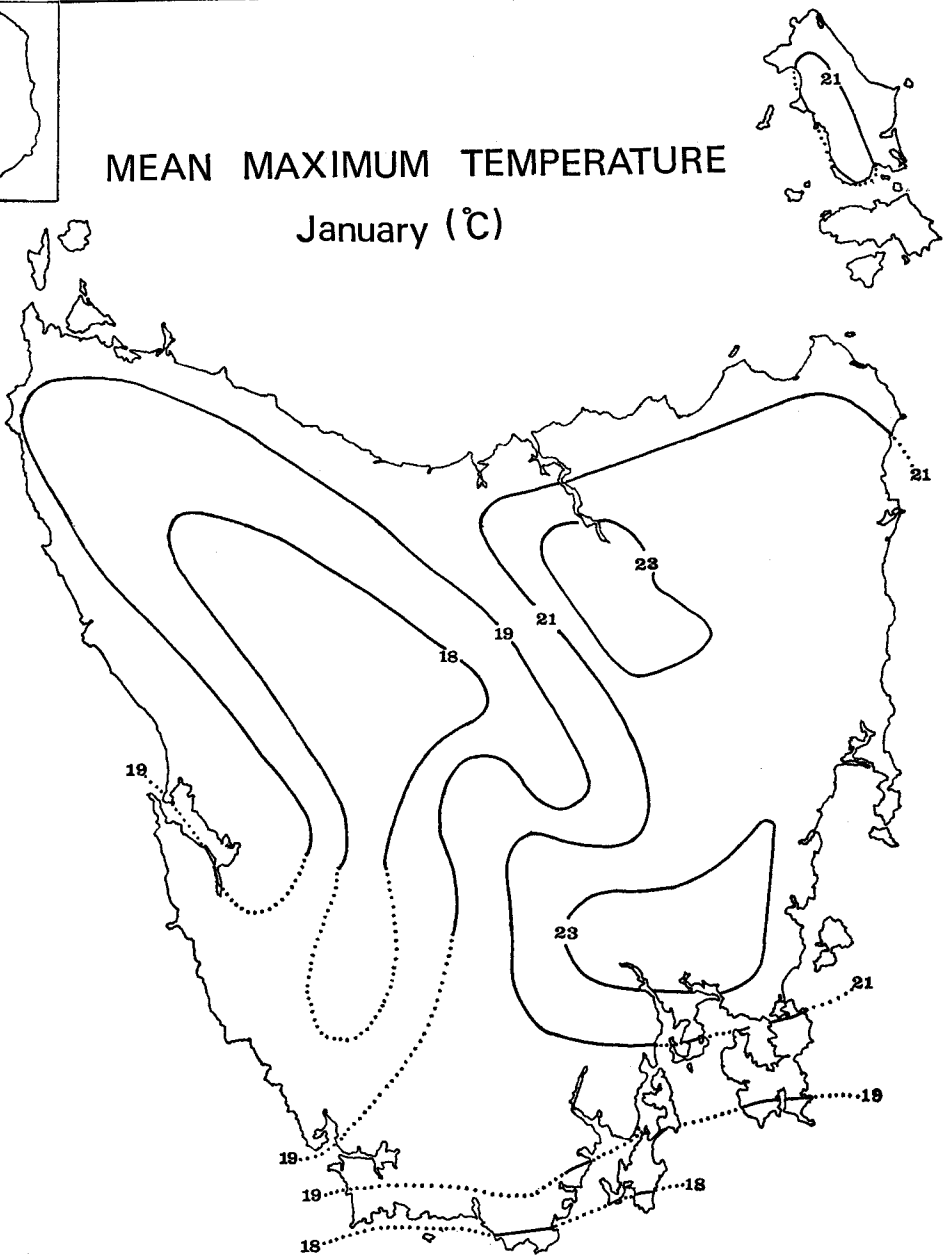
Temperature

Sea level temperatures are reduced by approximately 1°C for each 100 metres of altitude. Hence in a mountainous island like Tasmania the isotherms (lines of equal temperature drawn on a map) will be much influenced by topography. Greater cloud cover over the western half, a result of the persistent westerlies, further decreases day-time temperatures in the west, while the Föhn effect warms and dries the westerly airstreams as they descend to the Midlands, the east coast and south-east districts.

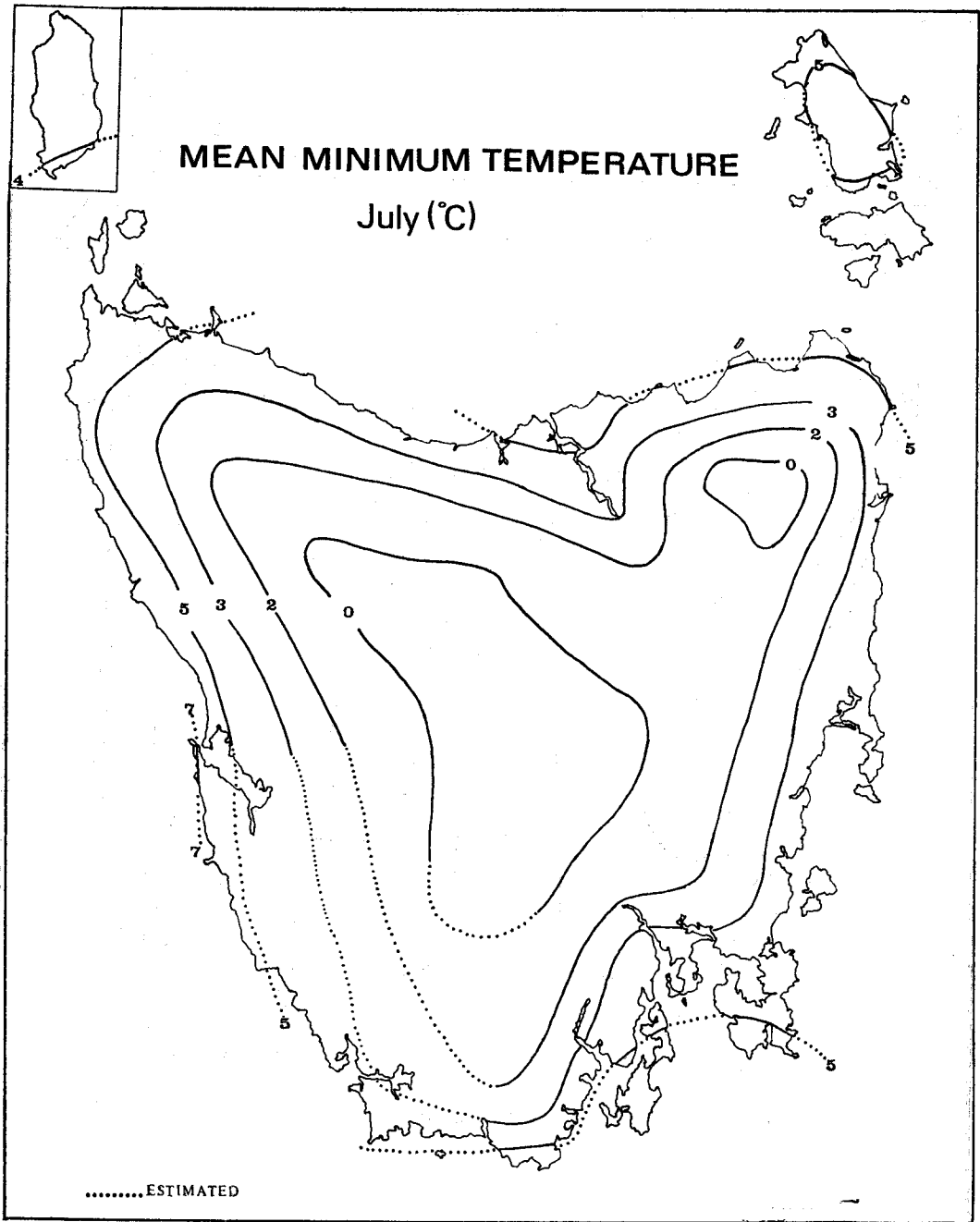
The incidence of frosts is affected markedly by topography, the valleys acting as natural channels for the drainage of cold air at night. Widespread severe frosts are experienced in winter on the Central Plateau and in upland valleys. Inland centres below 300 metres are virtually frost-free only in summer, while the north coast, the east and south-east have few frosts after early October. Above 300 metres there is no frost-free month.

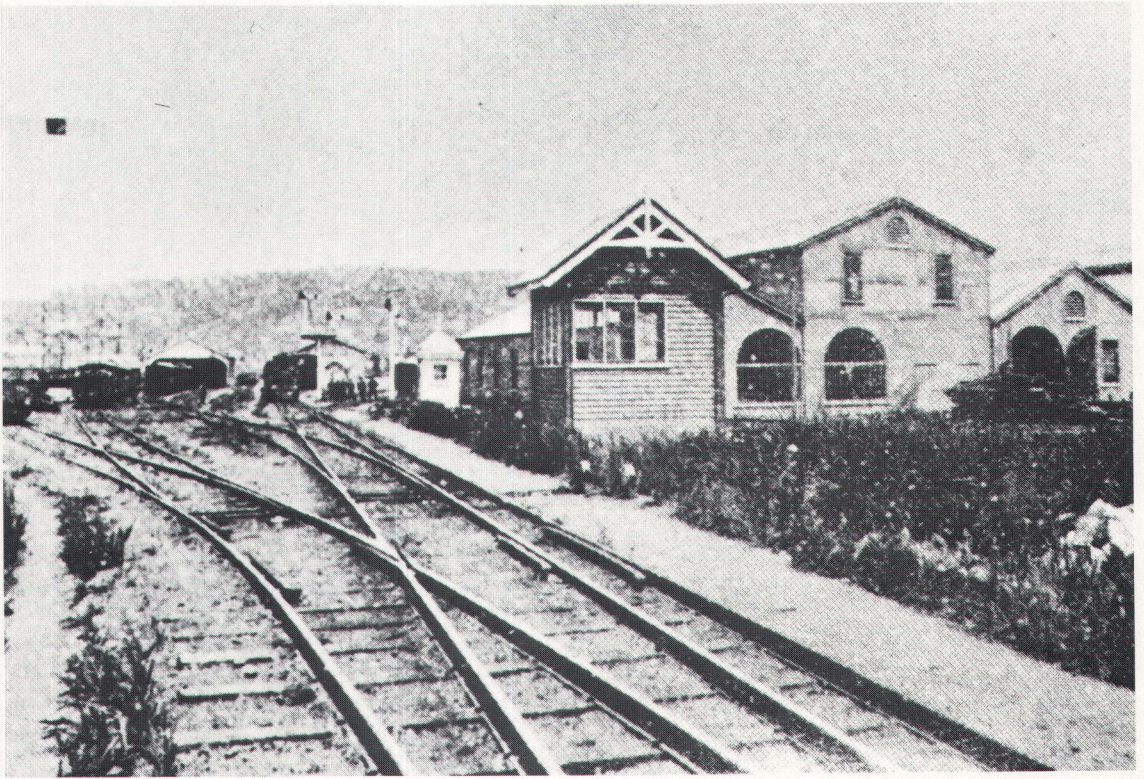
Tasmania only occasionally experiences the extremes of temperature common to the other states. High temperatures recorded in the east and south-east of Tasmania generally occur on the last day of a warm spell during which a dry air mass

MEAN MAXIMUM TEMPERATURE
January (°C)



.....ESTIMATED

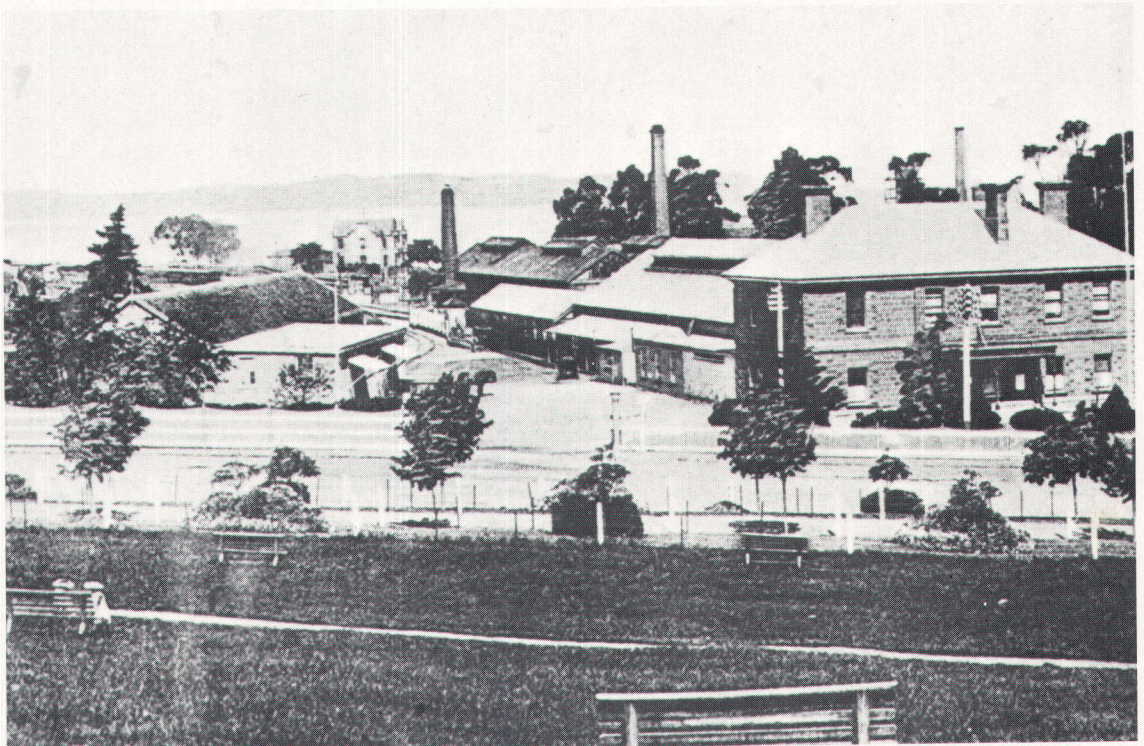


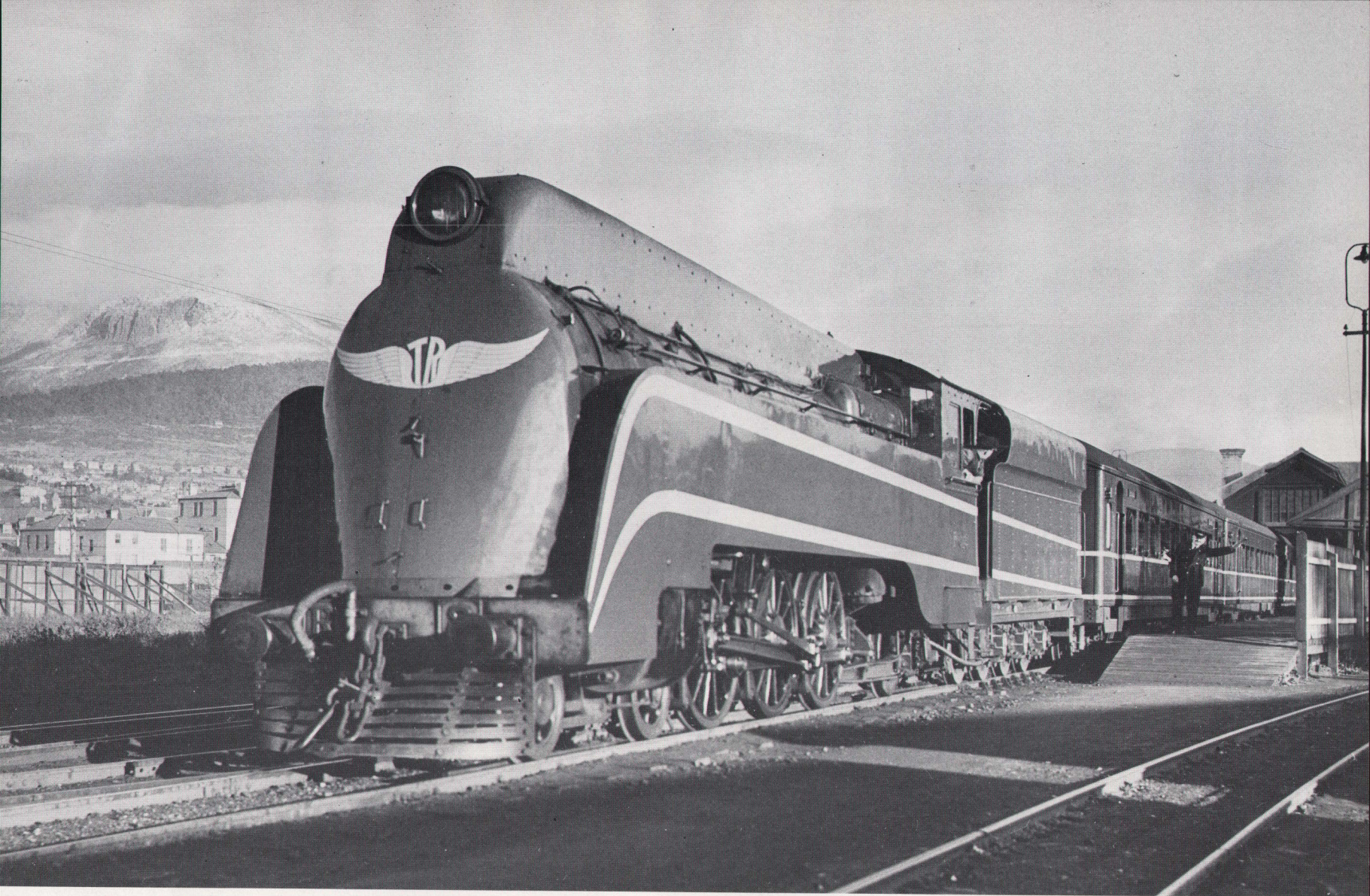


Launceston Railway Station circa 1888 (note combined 3 foot 6 inches and 5 foot 3 inches gauge tracks in foreground) [Courtesy Tasmanian Railways]

Hobart Railway Station circa 1890

[Courtesy Tasmanian Railways]





Streamlined R Class locomotive hauling the 'Launceston Express' (departing Hobart) circa 1939

[Benjamin A. Sheppard]



Q Class locomotive at Granton circa 1930

[Benjamin A. Sheppard]

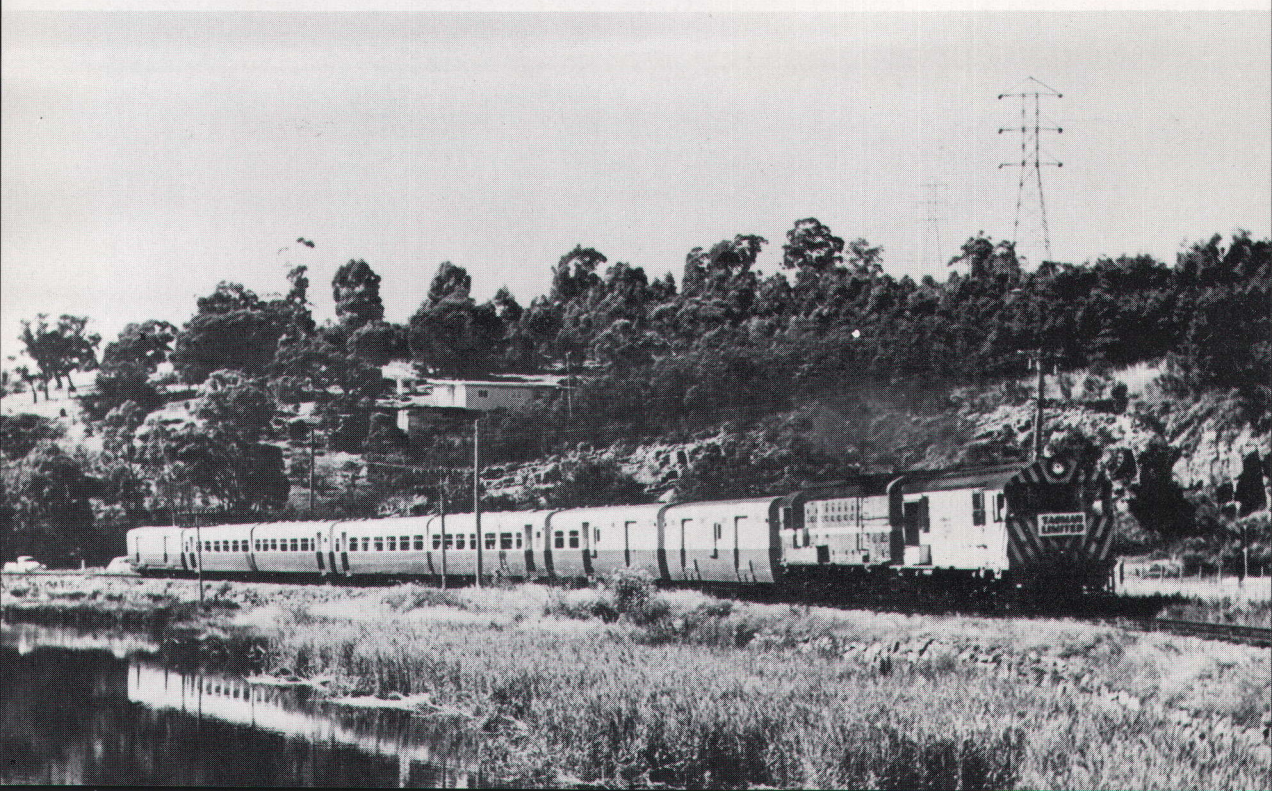


'Launceston Express' hauled by X Class diesel-electric locomotives circa 1955

[D. H. Jones]

The 'Tasman Limited' at Granton hauled by X Class diesel -electric locomotives circa 1970

[D. H. Jones]



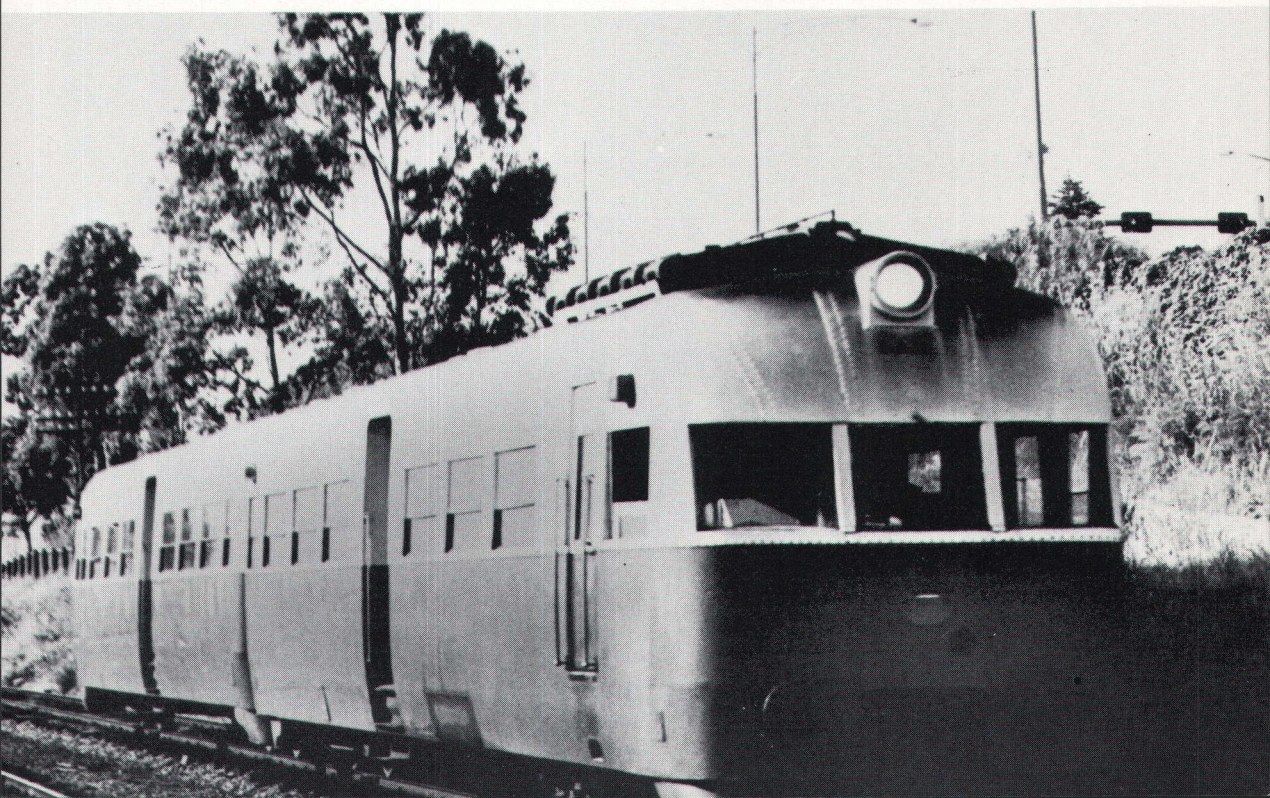


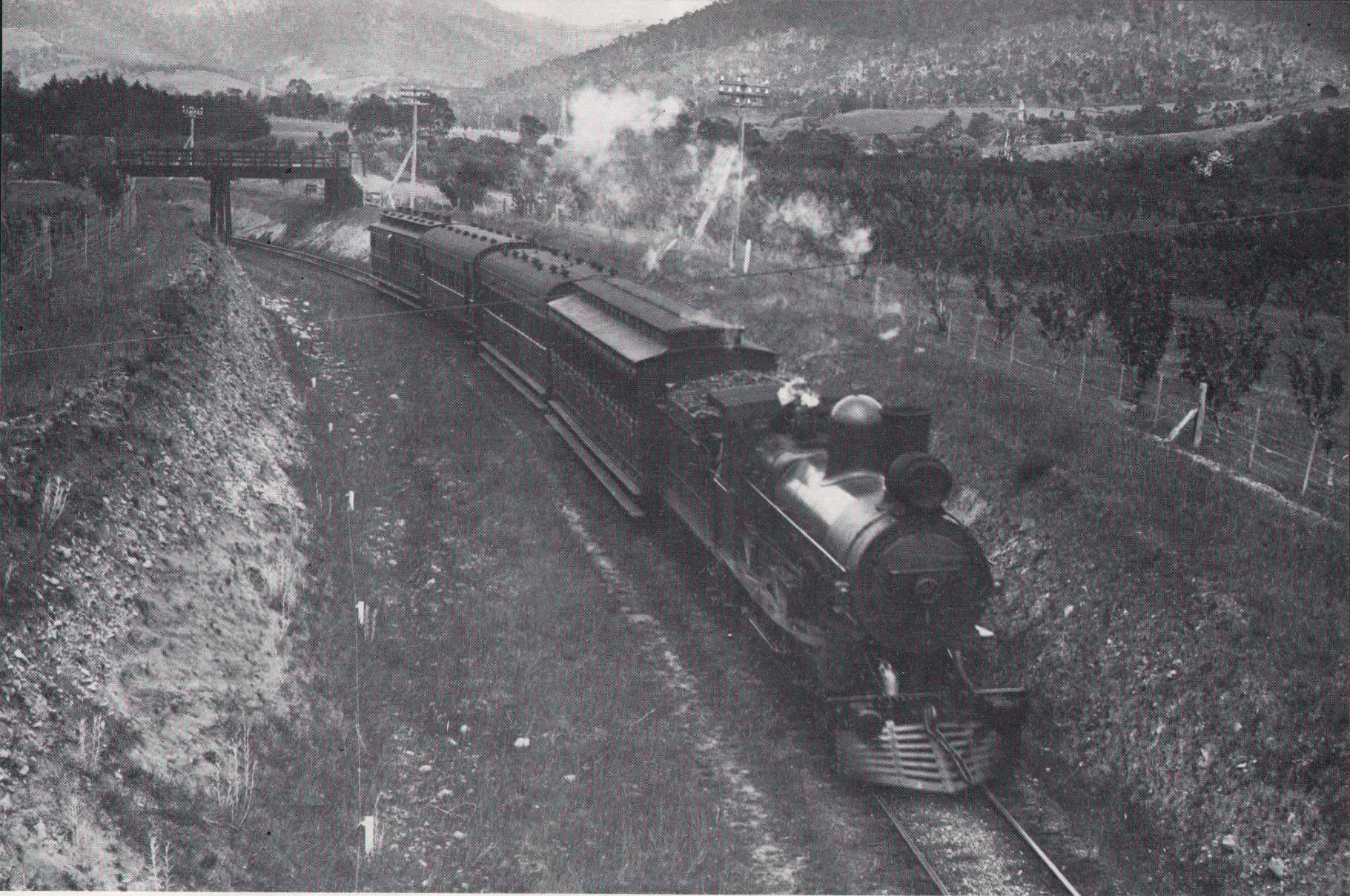
Suburban passenger train at Moonah circa 1947

[Courtesy Tasmanian Railways]

Diesel rail car on Hobart suburban run circa 1970

[D. H. Jones]

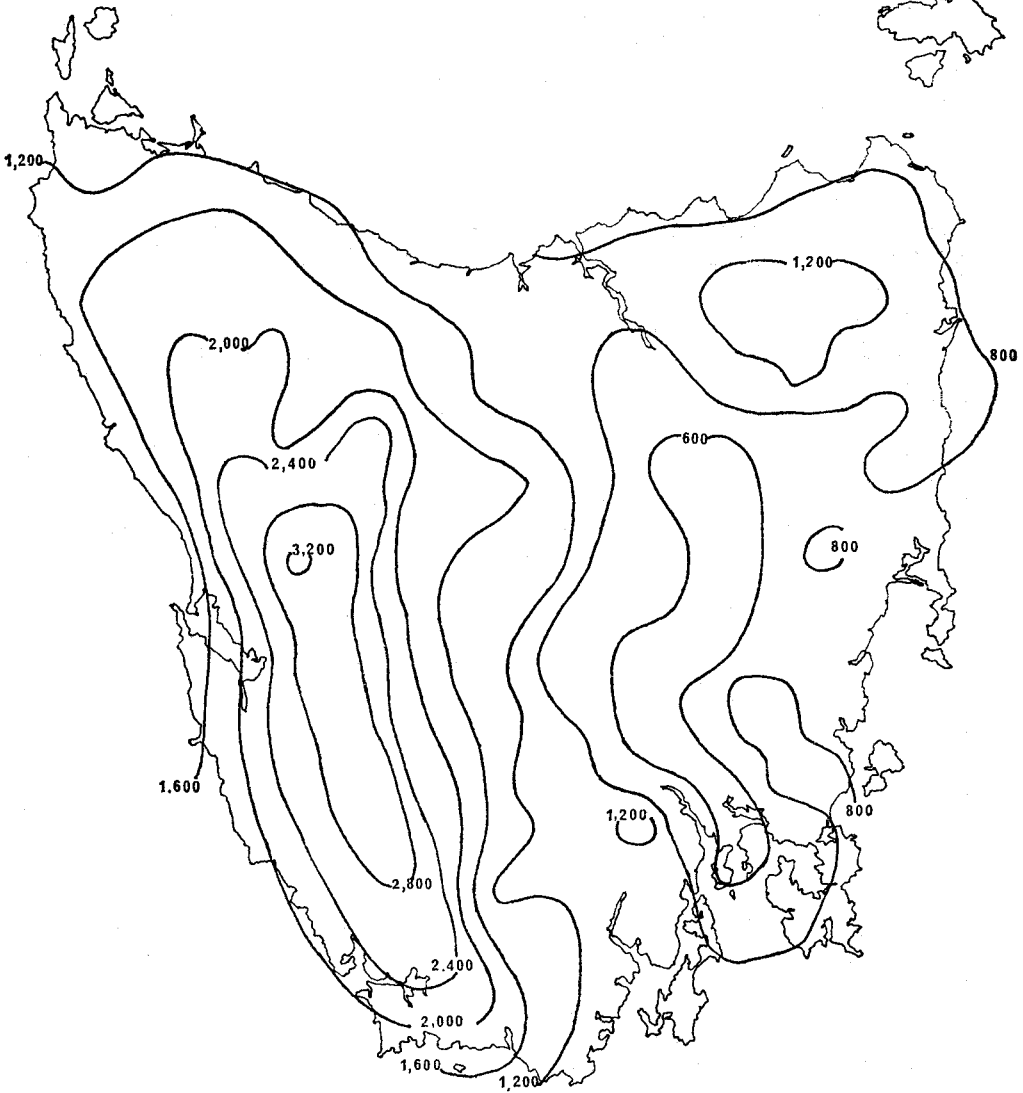
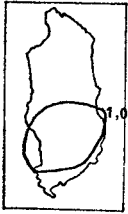




A Class locomotive hauling passenger train near Claremont in early 1930's

[Benjamin A. Sheppard]

ANNUAL TASMANIAN RAINFALL (Millimetres)



of mainland origin is advected over the State, from a direction between north and north-west. Some cooling in the lower air layers over the waters of Bass Strait prevents the northern coast from reaching the higher temperatures that are experienced in the south under these conditions. The highest temperatures recorded in Tasmania were 40.8°C at Bushy Park in December 1945 and at Hobart in January 1976. The lowest temperature recorded was -12.8°C at Oatlands in May 1902.

The recorded extremes of temperature for Hobart are 40.8°C in January 1976 and -2.8°C in June 1972. Readings above 38°C or below -1°C are rare, the mean maximum temperature in summer being 21.1°C and the mean minimum in winter, 4.9°C.

The mean maximum temperature for January and the mean minimum temperature for July over Tasmania are shown in two of the preceding maps. The mean maximum is the average of daily maxima for January; the mean minimum the average of daily minima for July.

Rainfall

Tasmania's position on the northern edge of the 'Roaring Forties' (a westerly air-stream), its exposure to this stream and the mountainous nature of the terrain are the controlling influences on the amount, distribution and reliability of the State's rainfall.

In the west, average annual rainfall ranges from 1 300 to 1 500 mm on the coast to 3 600 mm at Lake Margaret; in the north-east, from 550 mm on the coast to 1 300 mm on the highlands; while rainfall in the north-west ranges from 900 mm near the coast to 1 750 mm in the higher inland areas.

Extreme three to five-day rainfalls occur most often on the west coast in late June when the westerlies are increasing in strength and persistence and the sea temperature is well above the land temperature. In the north, short periods of extreme precipitation occur when wind flow is sustained for up to two days from the north-east, usually in mid to late autumn. The high moisture content of such streams from over the relatively warm waters of the Tasman Sea results in heavier, if less prolonged, rainfall than is produced in the westerly streams.

There is a strong gradation in rainfall from west to east, because of topography, with a distinct rain shadow east of the Central Plateau. Parts of the Midlands average less than 500 mm per year. Totals in the east and south-east are higher (up to 1 000 mm on exposed slopes).

Rainfall is least reliable in the east, south east, Midlands and Derwent Valley. These areas are driest when westerlies are relatively absent or at their strongest—in late summer and late winter, respectively. Highest rainfall in these areas tends to occur in autumn and spring, under the influence of small cyclonic depressions off the east coast.

Effective rainfall is the amount necessary to compensate for evaporation, begin germination and maintain plant growth above wilting point. Average rainfall is sufficient for this purpose from May to September. From October to January the chance of receiving effective rainfall decreases, except in the west and north-west, where the probability is usually better than 50 per cent. In the Midlands, the Derwent Valley, the south-east and east, and in the northern inland, the chance of receiving at least effective rainfall during the summer months is very small.

The average annual rainfall distribution over Tasmania is shown on the preceding map.

Snow and Hail

Snow and hail can be experienced over the highlands at any time of the year. Heaviest snowfalls occur, as a rule, in late winter and spring, and less frequently in June and July. Extensive snow below 150 metres occurs, on the average, less than once every two years, associated with an unusually vigorous outbreak of cold air from Antarctic regions. There is no permanent snowline, but patches of snow often remain on the highest peaks till December.

Hail is most likely in spring, though possible in any month. Hail storms are a big risk to fruit crops in the Huon Valley and on the Tasman Peninsula, and sometimes cause extensive damage.

Thunderstorms

These are most common in the north and north-west of the State and are associated with the lifting of warm moist air by a cold front. Thunderstorms occur mainly in the summer months. Hobart and Launceston average five to seven storms per year, and the north and north-west, 10 to 15. The Central Plateau and north-eastern highlands report, on average, about five storms per year, while the Midlands, as gauged by Oatlands, has less than three.

Floods

In Tasmania the river system most affected by flooding is the South Esk. The Esk catchment includes most of the north-eastern highlands, where annual rainfall averages about 1 300 mm, and part of the Western Tiers where run-off can be rapid. As many rivers in the South Esk system flow through flat country, flooding can be widespread and disruptive.

Flooding of the Derwent River system can be extensive but is less frequent than in the South Esk. The most severe flood on record in the Derwent occurred in April 1960 with the peak discharge flow recorded as 3 400 cumecs (cubic metres per second) at Macquarie Plains. However, it is most unlikely that flooding of this severity will again occur on the Derwent due to the completion of four dams across the River since 1960 by the Hydro-Electric Commission.

Flooding of rivers in the west and south of the State can be of greater frequency than in the Derwent and Esk systems but because of mountainous terrain and lack of population these pass mostly unnoticed. Similarly the short fast-flowing rivers of the east coast flood and fall rapidly, but can cause damage and disruption of road systems.

On two occasions in 1974 torrential rain caused severe flooding in the north-east of Tasmania. There was widespread damage to property, serious damage to road systems and high stock losses in the floods which occurred less than two months apart.

In the north and north-west of Tasmania many rivers have their catchments along the northern edge of the Central Plateau and can flood quickly.

Humidity

The mean relative humidity at both 9.00 a.m. and 3.00 p.m. exceeds 50 per cent at all stations in all months of the year. Relative humidity is generally higher in the morning than in the afternoon, and higher in coastal regions than inland. Days of high temperature combined with uncomfortably high humidity are rare. In the east and south-east, warm dry winds from a west or north-west direction may occasionally have a relative humidity as low as 10 per cent.

Droughts and Bushfires

Although Tasmania has the highest average rainfall of any state in Australia drought conditions are not unknown. Unlike the remainder of Australia droughts in this State tend to be highly localised and of reasonably short duration. The most severe effects are usually felt over a period of only a few months, but serious rainfall deficiencies can extend over a period of two or three years. Prior to 1972 the most severe long term droughts occurred during the periods 1888-1889, 1897-1898, 1918-1920, 1933-1934, 1945-1946, 1949-1952 and 1967-1969. During the 12 month period ended January 1973 record low rainfall was recorded in the Midlands, East Coast and Northern rainfall districts. All other rainfall districts experienced below normal rainfall during 1972. Some relief from the drought conditions was given by reasonable rainfalls during February 1973.

Serious bushfires occurred in 1898, 1915, 1946, 1951 and 1967. The bushfires of 7 February 1967 were the most severe in the State's history causing 62 deaths and damage to property estimated to be in excess of \$25m.

Evaporation

Evaporation depends mainly on wind strength, the moisture deficit of the airstream and on sunshine. The World Meteorological Organisation has asked for standardisation of measurement of evaporation by use of the Class 'A' pan (a galvanised pan, 1.22 metres in diameter and 25.4 centimetres deep) which gives higher figures for evaporation than those obtained from the containers previously used in Australia (class 'A' pan figures should be multiplied by a factor of about 0.80 to obtain the average potential evapo-transpiration likely for Tasmanian crops). The map on the following page gives details for mean average evaporation.

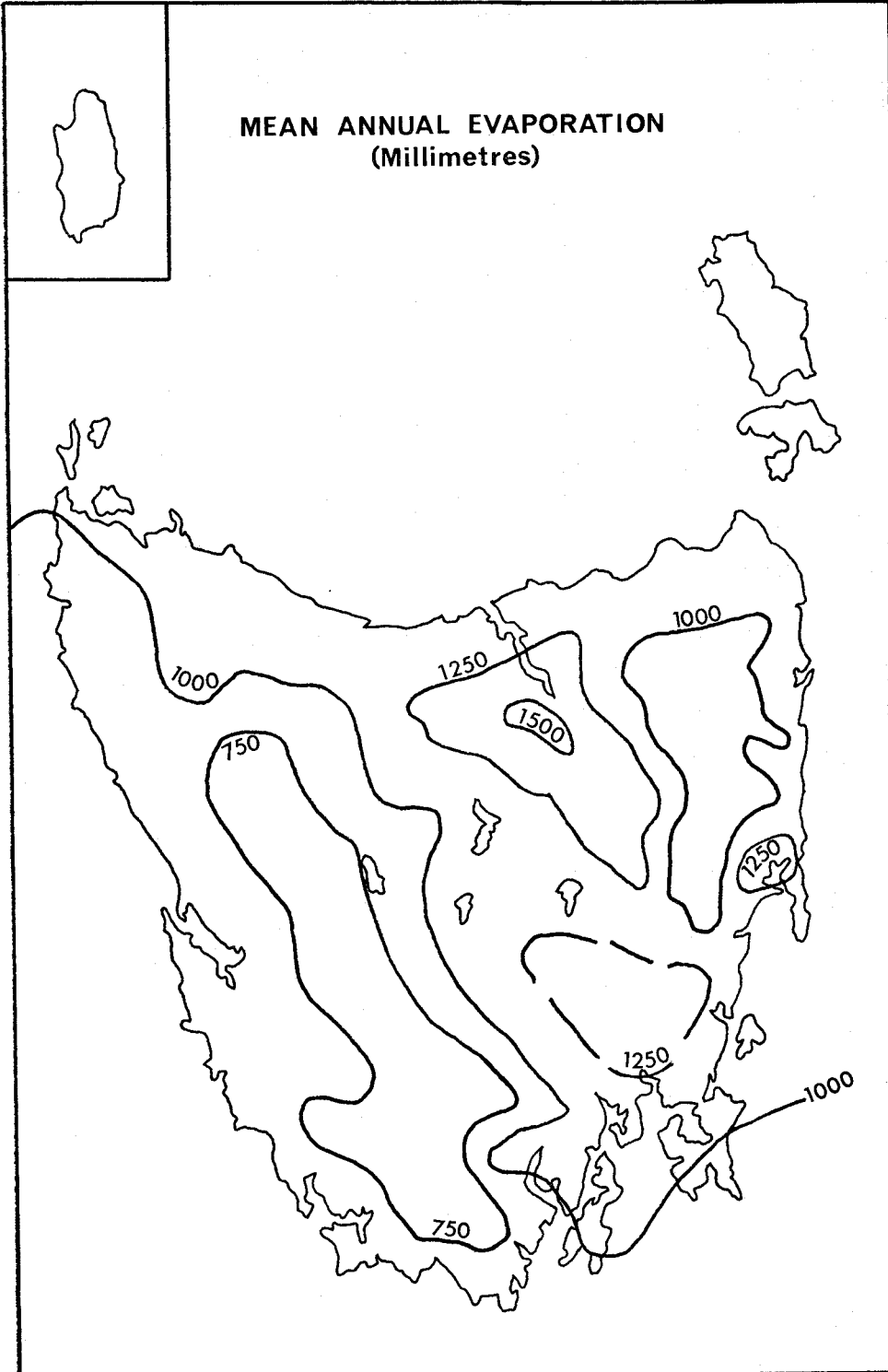
At Launceston Airport the annual evaporation is just under 1 500 mm due largely to the prevalence of winds coming from the Western Tiers, which become warmer and drier in their descent to the lower Midlands and Tamar areas, thus increasing evaporation. Monthly evaporation at Launceston Airport has ranged as high as 270 mm in summer but drops to between 25 and 40 mm in winter. This area of high evaporation extends southward to the lower Derwent and Huon areas. The lowest evaporation rate occurs in the Central Plateau, West Coast Ranges and south-west areas where evaporation may fall to less than 750 mm. This is due to the high moisture content of the prevailing westerlies and the high average cloud cover. In these areas the monthly evaporation rate may range from about 125 mm in January to only 12 mm in June and July.

Another area of lower evaporation (below 1 000 mm a year) is located in the North-East Highlands.

Sunshine

The average number of hours of sunshine a year ranges from about 2 500 hours in the northern Midlands to less than 1 750 hours on the west coast and western highlands, this area having the least amount of sunshine in Australia. Hobart averages 2 100 hours per year and Launceston around 2 400.

In January daily averages of sunshine range from nine hours per day between the Midlands and Launceston to six hours per day on the west and south coasts. In mid-winter, average daily sunshine is down to a maximum of three hours on the east coast and to considerably less on the west coast and highlands.



The Climate of Hobart

Temperatures: Mean maximum temperature exceeds 21°C in January and February. On average there are two or three days per year with maximum temperatures greater than 32°C. Only once, in February 1968, have three successive days over 32°C been recorded in Hobart. Minimum temperatures below -1°C are rare.

Rainfall: There is a strong gradient of rainfall, immediately west of Hobart suburbs, caused by the bulk of Mt Wellington. On the south-eastern slopes of the mountain the annual rainfall reaches 1 400 mm (at The Springs and The Gap) while at Fern Tree the annual average is 1 140 mm. The rainfall decreases to about 600 mm in the city area, the annual average being 620 mm at the Regional Office of the Bureau of Meteorology. Some eastern shore suburbs receive as little as 500 mm of rain per annum.

Monthly totals are fairly uniform. The wettest twelve months on record at the Bureau's Hobart Office yielded 1 100 mm (to December 1916) and the driest, 320 mm (to November 1943).

Relative Humidity: Highest humidity is at the time of lowest temperature, in the early morning during winter. As temperatures rise to 3 p.m., humidity decreases by 15-20 per cent. The seasonal variation is not great, although the average humidity during the winter months is 70 to 75 per cent and during the summer months 58 per cent. Periods of high humidity combined with high temperatures are rare.

Fog: Fogs occur in the city about four times per year, in the cooler months, but are more frequent over and near the Derwent River, down which they are often carried on a light north-west wind. Fog frequency is far less than either that of Launceston or Melbourne.

Wind: The main wind direction is north-west, induced by the orientation of the Derwent Valley. Next in importance is the sea-breeze (from south or south-east) during summer months.

The strongest wind gust experienced in Hobart was 149 km/h recorded during a storm in September 1965.

Snow and Hail: Snow below 300 metres occurs, on the average, less than once per year. Falls lying in the centre of the city, almost at sea level, have occasionally been recorded, the last being in September 1970. Snow generally lies on Mt Wellington during winter and early spring months, but it is rare between November and March. Hail occurs about four times a year, mainly between September and November.

Frost: The average annual frequency of days of frost is 29, mostly from June to August. None has been recorded in January. Cold air drainage is found in the hilly suburbs and frosts are common on the valley floors.

Sunshine and Cloud: No marked seasonal variation of cloud amount occurs but a strong dependence on time of day is evident. During April to September cloud cover is greater in the afternoon and from October to March it is greater in the morning.

A clear-cut seasonal variation in monthly average hours of sunshine also occurs with amounts varying from 231 hours in January to 111 hours in June.

Climatic Data: The next table gives the main climatic data for Hobart during the year 1975 on a monthly basis:

Hobart Weather in 1975

Month	Shade temperature				Mean daily hours of sunshine	Rainfall	
	Mean maxima	Mean minima	Extremes			Total in 1975	Long-term average
			Maximum	Minimum	mm			mm
	°C	°C	°C	°C	hours		
January	20.6	12.0	32.7	9.6	7.2	58	49
February	22.1	12.7	33.0	8.2	8.5	9	42
March	19.7	11.0	25.6	7.2	5.9	113	47
April	17.7	8.8	26.1	3.5	6.0	28	55
May	14.6	7.1	18.6	2.4	3.7	75	49
June	12.5	6.1	16.6	3.1	4.0	25	59
July	13.4	5.6	21.0	1.1	4.1	95	54
August	12.5	5.7	16.2	0.8	4.4	124	49
September	16.2	7.7	21.9	2.0	5.8	36	52
October	15.9	8.2	26.8	3.3	4.7	142	64
November	19.0	10.4	30.4	5.2	5.9	100	56
December	21.5	11.7	29.6	8.2	9.6	22	57
Total for year	..	..	..	..	..	828	633

The Climate of Launceston

Being over 50 km from the coast, Launceston exhibits a slight continental effect—greater seasonal and daily variations of temperature and lower rainfall as compared with stations on the coast.

Temperature: Average maximum temperature exceeds 24°C in January and February, 21°C in December and March, and 13°C in June and July. Average minimum is about 11°C in summer, falling below 4°C in winter. Freezing temperatures are common during winter mornings, the lowest recorded being -6°C. Up to 50 frost days are to be expected in a year, mostly from May to August. Light frosts may occur in summer.

Rainfall: The annual average is 736 mm. The wettest month is July (86 mm) while January and February, the driest months, each receive less than half this amount. The wettest month on record is August 1936 (254 mm). Annual totals range from 467 mm (1908) to 1 057 mm (1946). Some severe thunderstorms are experienced. Snow does not settle in Launceston, but falls occur on surrounding hills.

Relative Humidity: Seasonal and daily variations are similar to those for Hobart but the daily readings are 5 to 10 per cent higher.

Fog: Occasions of high humidity, associated with moist north-east airstreams, are relatively frequent. Fog occurrence averages more than 30 days a year, mostly between May and August.

Winds: The NW-SE orientation of the Tamar Valley has a marked effect on surface winds, which conform mainly to these directions. The north-west wind is often reinforced in the afternoon by a sea-breeze from much the same direction. Strong winds are most common during the colder half of the year and severe squalls can occur in association with thunderstorms.

Rainfall Statistics

Meteorological Districts

Tasmania is divided into nine meteorological districts (not to be confused with statistical divisions) with fairly well-defined land use patterns appropriate to each. The following table shows rainfall totals of each district for the past 10 years:

Rainfall of Tasmania in Districts
(Millimetres)

Period	Northern	King Island	Central Plateau	Midlands
	Agriculture, dairying and mixed farming		Grazing (mainly sheep)	
1966	803	975	875	545
1967	657	754	768	353
1968	1 120	1 069	1 254	467
1969	972	924	1 111	598
1970	1 074	957	1 373	721
1971	1 218	1 184	1 160	645
1972	636	746	877	351
1973	1 154	1 031	1 137	611
1974	1 192	969	1 041	672
1975	1 318	1 265	1 299	715
District average (a) ..	1 009	947	989	557

Rainfall of Tasmania in Districts—continued
(Millimetres)

Period	Derwent Valley	South East	East Coast	West Coast	Flinders Island
	Fruit growing, grazing, forestry		Dairy farming	Mining	Grazing
1966	645	783	734	1 988	666
1967	512	641	573	1 838	630
1968	738	725	560	3 168	673
1969	735	881	1 024	2 423	814
1970	826	989	1 228	2 533	1 023
1971	891	945	1 021	2 460	950
1972	610	568	497	2 122	583
1973	775	786	779	2 605	871
1974	734	868	1 071	2 260	906
1975	931	1 036	949	2 814	717
District average (a) ..	684	756	829	2 334	747

(a) Long-term annual average based on 63 years of record.

Rainfall at Selected Stations and Rainfall Index by Districts

The first table below shows the annual rainfall for selected stations over the last five years.

The second table gives details of a rainfall index for meteorological districts by month for 1975. The index shows the actual rainfall for a district expressed as a percentage of 'normal' rainfall (where 'normal' rainfall or the 'district average' is the mean for the 63-year period 1913-1975, i.e. the long-term average based on 63 years of record—details relating to annual rainfall and annual district average (normal) rainfall are shown in the table in the preceding section).

**Annual Rainfall at Representative Stations
(Millimetres)**

Station	1971	1972	1973	1974	1975	Long-term average (a)
Avoca	859	410	583	735	875	562
Beaconsfield	1 298	679	1 305	1 271	1 328	958
Burnie (APPM)	1 218	670	1 260	1 214	1 472	1 014
Campbell Town	608	346	613	599	725	547
Cradle Valley	3 097	2 426	3 352	2 984	3 504	2 787
Cressy	758	391	849	660	822	642
Deloraine (East)	1 225	641	1 386	1 241	1 429	975
Franklin	1 033	776	817	941	1 015	910
Hobart (Weather Bureau)	752	451	605	696	828	633
Hobart (Airport)	662	381	557	655	735	576
Kettering	1 057	606	777	921	1 033	890
Launceston (Airport)	938	409	850	873	820	724
Lilydale	1 357	641	1 228	1 202	1 138	978
Lymington	891	602	789	840	1 166	794
Maydena	1 205	1 034	1 308	1 207	1 582	1 242
New Norfolk	685	409	547	559	770	557
Oatlands	675	397	609	610	675	540
Queenstown	2 543	2 205	2 734	2 400	2 782	2 531
Ringarooma	1 562	899	1 487	1 528	1 496	1 234
Savage River	<i>n.a.</i>	1 678	2 068	1 886	2 311	1 993
Smithton	1 452	873	1 345	1 223	1 413	1 103
Springfield South	1 766	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	1 567	1 271
St Helens	985	504	787	1 016	938	783
St Marys	1 386	536	1 023	1 909	1 372	1 037
Swansea	788	364	600	830	627	621
Triabunna	1 020	422	658	918	819	667
Ulverstone	1 228	649	1 270	1 214	1 361	970

(a) Number of years of record used to calculate the long-term average varies from station to station.

Rainfall Index by Districts, 1975

(Index showing actual rainfall for each month expressed as a percentage of normal (a) rainfall)

Period	Meteorological district							
	Northern	King Island	Central Plateau	Midlands	Derwent Valley	South-east	East Coast	West Coast
January ..	117	81	159	127	155	159	115	153
February ..	16	20	39	5	22	20	8	30
March ..	339	286	222	181	227	207	113	177
April ..	70	49	60	59	64	81	32	99
May ..	167	152	209	107	192	172	100	208
June ..	89	79	125	85	120	87	94	112
July ..	195	166	207	229	232	163	198	144
August ..	92	140	127	179	163	269	145	105
September ..	134	141	85	116	78	90	121	93
October ..	99	203	101	118	113	188	153	83
November ..	183	172	182	306	234	164	248	151
December ..	86	62	45	36	61	35	36	57
1975 ..	131	134	131	128	136	137	114	121

(a) Normal rainfall is the mean for the 63-year period 1913-1975.

Seasonal Temperatures

The mean temperature for any locality can give a false impression, e.g. a mean temperature of 25°C based on a maximum of 50°C and a minimum of 0°C, all in the one day. A better way of examining a locality's climate is to take the maximum temperature each day and average these readings for each season; similarly, to take the minimum temperature each day and average these readings for each season. These mean maxima and mean minima then give an indication

of the daily variation that may be expected. The following table shows the mean maximum and mean minimum temperatures for nine selected stations in summer, autumn, winter and spring.

Temperatures at Selected Stations, 1975
(°C)

Station	Maximum temperatures		Minimum temperatures		Mean temperatures	
	Mean for season (a)	Departure from normal	Mean for season (b)	Departure from normal	Mean for season	Departure from normal
SUMMER (December to February)						
Hobart	21.2	..	12.0	+0.8	16.6	+0.4
Launceston	22.3	-1.6	9.9	-1.0	16.1	-1.3
Cape Bruny	17.8	+0.3	10.9	+0.1	14.4	+0.2
Devonport	20.4	-0.7	10.7	-0.8	15.6	-0.8
Maydena	19.9	-1.0	7.7	-0.3	13.8	-0.7
Oatlands	19.7	-1.3	7.6	-0.2	13.7	-0.8
St Helens	21.3	-0.5	10.8	..	16.1	-0.3
Savage River	17.5	-1.3	8.2	-1.2	12.9	-1.3
Zeehan	18.9	-0.5	8.8	..	13.9	-0.3
AUTUMN (March to May)						
Hobart	17.3	+0.2	8.9	+0.3	13.1	+0.3
Launceston	18.1	-1.0	6.7	-0.9	12.4	-1.0
Cape Bruny	15.3	+0.1	9.8	+0.4	12.6	+0.3
Devonport	17.6	..	8.6	-0.3	13.1	-0.2
Maydena	15.0	-0.7	5.3	+0.2	10.2	-0.3
Oatlands	15.0	-0.8	5.3	+0.3	10.2	-0.3
St Helens	18.5	+0.2	7.6	..	13.1	+0.1
Savage River	13.9	-0.8	7.7	+0.5	10.8	-0.2
Zeehan	15.7	-0.1	8.0	+0.5	11.9	+0.2
WINTER (June to August)						
Hobart	12.8	+0.9	5.9	+1.2	9.4	+1.1
Launceston	12.6	-0.3	2.9	+0.8	7.8	+0.3
Cape Bruny	11.7	+0.4	7.0	+0.9	9.4	+0.7
Devonport	13.1	+0.3	4.3	-0.2	8.7	+0.1
Maydena	10.3	+0.7	3.1	+1.7	6.7	+1.2
Oatlands	9.7	-0.6	2.0	+0.4	5.9	-0.1
St Helens	13.9	+0.3	3.8	+0.6	8.9	+0.5
Savage River	9.3	-0.4	4.3	+0.6	6.8	+0.1
Zeehan	11.4	+0.2	3.9	+0.3	7.7	+0.3
SPRING (September to November)						
Hobart	17.0	+0.2	8.8	+1.3	12.9	+0.8
Launceston	17.6	-0.2	7.8	+1.0	12.7	+0.4
Cape Bruny	14.9	+0.1	8.9	+1.3	11.9	+0.7
Devonport	16.1	-0.5	8.0	+0.9	12.1	+0.2
Maydena	15.8	+0.9	5.4	+1.5	10.6	+1.2
Oatlands	14.8	-0.7	5.5	+1.2	10.2	+0.3
St Helens	17.1	-0.4	8.4	+1.9	12.8	+0.8
Savage River	14.0	+1.1	6.7	+1.6	10.4	+1.4
Zeehan	15.7	+0.8	6.5	+0.3	11.1	+0.6

(a) Average of maximum daily temperatures for season.

(b) Average of minimum daily temperatures for season.

ENVIRONMENTAL CONTROL**Department of the Environment**

Established in October 1972, the Department of the Environment is headed by a Director of Environmental Control who is responsible to the Minister for the Environment. At the beginning of 1976 the Department had a staff of 28 persons to carry out the task of environment protection. The staff included a number of scientific experts who were responsible for particular aspects of pollution control and assessment—chemists, noise control, research air and water pollution officers and a waste management officer.

The *Environment Protection Act 1973* gave the Director the general duties of: (i) protecting the State's environment; (ii) ensuring the control or prevention of any act or emission which causes or may lead to pollution; and (iii) co-ordinating all necessary activities (government or private) to protect, restore or improve Tasmania's environment. In addition to the general duties the Act also conferred the following more specific functions on the Director: (i) consider means and initiate steps for the protection of the environment and for the prevention, control, abatement or mitigation of pollution; (ii) carry out investigations into environmental protection problems; (iii) obtain advice from experts in the field of environmental protection; (iv) review progress made in attaining objectives of the Act and publicise steps taken to protect the environment; (v) advise on pollution standards and methods of sampling and testing for pollutants; and (vi) promote and co-ordinate planning projects for environmental protection.

Coverage of the Act: In the case of inconsistencies the *Environment Protection Act 1973* prevails over the provisions of all other Acts with two exceptions: (i) *Oil Pollution Act 1961* and (ii) *Public Health Act 1962*. However, certain existing Acts related to specific industries are not affected until 1977. The specific industry Acts so excluded for four years are: (i) *Associated Pulp and Paper Mills Act 1936*; (ii) *Australian Titans Products Act 1945*; (iii) *Florentine Valley Paper Industry Act 1935*; (iv) *Huon Valley Pulp and Paper Industry Act 1959*; (v) *Kermantie Wood-pulp and Paper Industry Act 1933*; (vi) *Tasmanian Paper and Timber Mills Act 1946*; (vii) *Thomas Owen and Co. (Australia) Limited Act 1948*; (viii) *Wesley Vale Pulp and Paper Industry Act 1961*; and (ix) *Wood-pulp and Paper Industry Encouragement Act 1926*. Since provisions of the *Environment Protection Act* would intrude into various sectors of existing legislation, the *Statute Law Revision (Environment Protection) Act 1973* was introduced concurrently. The effect of this statute was to amend the Criminal Code, the *Local Government Act 1962*, the *Mining Act 1929*, the *River Pollution Act 1881*, the *Hydro-Electric Commission Act 1944* and the *Water Act 1957* to conform with the *Environment Protection Act 1973*.

Staff of the Department of the Environment have visited most areas of Tasmania either monitoring or investigating complaints and pollution problems. Departmental officers have attended interstate seminars and conferences and visited other environment protection authorities for instruction and familiarisation courses. The Department participates in the work of the Australian Environment Council and has staff on a number of the Council's committees. In addition the Department is also represented on committees of The National Health and Medical Council, The Australian Transport Advisory Council, Australian Water Resources Council and The Keep Australia Beautiful Council. The Department is also represented on State government inter-departmental committees which deal with environmental matters. Environmental seminars and lectures have been organised by the Department and special papers dealing with the environment written.

Environment Protection Advisory Council

The 1973 legislation also provided for the creation of the Environment Protection Advisory Council. Under the chairmanship of the Director of Environmental Control the Council has members drawn from government and private sectors and representing a number of diverse interests e.g. the mining, secondary, rural and forestry industries, conservation groups, Hydro-Electric Commission, trade unions, public health, etc. The Council's task is to advise the minister and make recommendations to the Government on environmental matters. The Council is empowered to appoint committees to investigate specific subjects. Sub-committees appointed are—Noise Sub-committee, Waste Sub-committee, Air Sub-committee, the Water Sub-committee and Methods of Analysis Sub-committee. A working party to deal with questions relating to analysis and testing samples for pollutants has also been established. As a result, regulations covering all the above pollution subjects have been promulgated.

Impact Studies

The State Government has adopted a policy that requires public authorities to undertake environmental impact studies before proceeding with any development which may have a significant effect upon the State's environment. Responsibility for ensuring that such studies are performed rests with the decision-making authority. Co-ordination and evaluation of environmental impact studies are performed by the Director of Environmental Control.

Scope of an environmental impact study includes:

- (i) A statement of the major objective of the proposed project.
- (ii) An analysis of the technological likelihood of achieving the objective.
- (iii) A statement of alternative practical plans for achieving the objective.
- (iv) An outline of existing characteristics of the environment prior to implementation of the development project.
- (v) Separate reports on alternative practical engineering plans for achieving the goal.
- (vi) An assessment of the probable effect of the project upon the environment.

The study is to be used by the proposing body in determining environmental safeguards. For the Director of Environmental Control the study will provide a basis for review of the safeguards and for making recommendations for further protective measures.

To assist with co-ordination and evaluation of environmental impact studies, the Government has established an Environmental Impact Study Assessment Group, comprising eight specialists in various fields related to the environment. The group gives broad direction to impact studies and provides advice and assessment services.

THE BUTTERFLIES OF TASMANIA

The following article was contributed by L. E. Couchman (Fellow of the Royal Entomological Society of London, Hon. life member British Ent. and Natural History Soc.) and R. Couchman.

Introduction

This, the first descriptive guide to the Tasmanian butterflies published, includes the latest species discovered within the State and up-to-date knowledge of life-histories, distribution and classification. With its help the beginner should be able to readily identify his captures, at the same time the authors have tried to bring together much information scattered through journals and also suggest avenues for future work for the serious student.

All the available texts deal with the Australian species in total, and all ignore or are unaware of the unique extent of variability occurring in such a comparatively small island. Four lists of the Tasmanian butterflies have been compiled within the past sixty years. G. H. Hardy in 1916, A. J. Turner in 1926 and again in 1939 gave mere lists of names. L. E. Couchman in 1956 published a complete synonymic catalogue giving the references in the literature, the general distribution of each species and the location of the type specimens where known. All four publications have appeared in the Papers and Proceedings of the Royal Society of Tasmania.

Geographical and Individual Variation

Climatic and Landform Influences

The causes of the unique geographical and individual variability of a number of Tasmanian butterflies would seem to be due chiefly to the climatic differences between the western and eastern portions of the State, the stepped landscape surfaces and the effect of the successive bridging and flooding of Bass Strait during the Pleistocene and pre-Pleistocene periods.

Argynnis hobartia tasmanica from the Strahan-Zeehan district flies in November some weeks later than the typical *hobartia hobartia* around the lower Derwent. The alpine zone in the western central plateau which harbours *hobartia montana* flying in late November-December imposes an effective barrier between the western and eastern races (of this species) in that region, though elsewhere it is possible to find these two forms occurring much more closely together. The races of at least one species, *Oreixenica ptunarra*, coincide with the differences in altitude of the stepped landscape surfaces of the central and eastern plateaux.

Land Bridge Migration

The land bridge which existed for some ten thousand years during the Late Wisconsin glacial period of the Pleistocene undoubtedly allowed the extension of such species as *Anisnyta munionga* and *Hesperilla mastersi* from Victoria across the bridge to the north-western and north-eastern extremes of the island. The subsequent isolation resulting from the rise in sea-level which separated the State (and the Bass Strait islands) from the continent some thirteen thousand years ago ensured that these two small populations were effectively separated from the mainland forms and continued to evolve in a differing environment.

The existence within Tasmania of three sub-species of *Heteronympha cordace* may be accounted for by successive migrations across land bridges during earlier Pleistocene glacial periods. The races of *Pseudalmenus chlorinda* provide the most positive evidence of successive migrations. The race *myrsilus* from the Tasman Peninsula has clear affinity with the race *chloris* from the Blue Mountains of New South Wales, not the Victorian *zephyrus*, while the remarkable differences between subspecies *myrsilus* and the typical ssp. *chlorinda* from the eastern shores of the Derwent cannot be attributed to any climatic or environmental differences between their habitats, distant only some 80 kilometres (50 miles).

On the other hand, the presence of a form differing only slightly from the Victorian ssp. *zephyrus* along the extreme northern coastline west and east of the Tamar estuary points clearly to an immigration along the latest land bridge during the last glacial phase of the Pleistocene period; the isolation of some thirteen thousand years since then has been insufficient to allow development of much deviation from the mainland form. The typical *chlorinda* and the unique upland race *conara* are evidently of very ancient origin.

Isolation

There is also the isolation imposed by differing climatic and ecological factors, which do not allow interbreeding because of differing emergence periods. *Hesperilla donnysa aurantia*, whose caterpillars feed on *Gabnia radula* on the banks of the Derwent, emerge, pair and lay eggs during late October-November; a mile away on Mt Wellington the same insect can only feed on *Gabnia psittacorum* and there the butterfly is not on the wing until January. Thus no intermingling is possible.

In summary, only about half of the total butterfly species found within Tasmania do not differ from the continental forms.

The Life Cycle of a Butterfly

Butterflies are highly specialised insects in which the life-cycle (metamorphosis) is complete—that is, each individual passes through four distinctly different stages: the egg (ovum), the caterpillar (larva), the chrysalis (pupa) and the adult (imago).

The Egg Stage

The eggs of most Tasmanian butterflies are attached to the stems or leaves of the plant which will form the food of the succeeding caterpillar phase. In *A. hobartia* the glistening green spherical eggs are laid singly on leaves of the introduced grass *Lolium perenne* (Perennial rye) which is now the preferred larval foodplant around Hobart. *Oreixenica ptunarra* is exceptional in that the female habitually scatters her eggs over grass or herbage, leaving the newly-hatched tiny caterpillar to consume the empty egg-shell and then find tufts of snow grass (*Poa caespitosa*) which is its foodplant. The flask-shaped egg of the introduced Cabbage White butterfly (*Pieris rapae*) is a common object on cabbages or on the underside of leaves of the garden nasturtium (*Tropaeolum*) and is usually the first butterfly egg to become familiar to the student. Collectors frequently find that captured females of the Common and of the Shouldered Browns, if not immediately killed, will readily lay eggs. The egg stage is usually short, from fourteen to twenty-one days, and the authors know of no local species which overwinters in this stage of its life.

Larval Stage

The caterpillar is essentially the food-consuming phase, and, to accommodate the resultant growth, the caterpillar will shed its external skin (which does not grow) four or five times. While the larvae of some species of butterfly will feed on a number of allied plants, others will resolutely refuse any but their own particular species of plant, and in its absence will starve in consequence. One such is the endemic species *Nesoxenica leprea* which can be reared successfully only on *Uncinia tenella*. The caterpillar is cylindrical, green and so closely resembles the stems and leaves of *Uncinia* that it is most difficult to detect. We have frequently examined tufts of the plant, even pulled them to pieces without finding a caterpillar, only later to discover one or more of the conspicuous pupae in the collecting cage.

The young larva of the Hobart Brown is light green in colour, densely covered with short brown hairs, having a grey-brown head, and like the majority of its family has the characteristically divided anal segment. After the third change of skin the larva varies from grey-brown to rich chocolate brown, with an indistinct black dorsal stripe and dark-brown head. When full fed the caterpillar attaches itself to a grass stem and hangs suspended head down to change into the pupal stage.

The early stages of the Tasmanian Hairstreak (*Pseudalmenus chlorinda*) are most unusual. The egg is placed at the base of a twig of the foodplant, usually the silver wattle, on which the resultant caterpillar feeds. It is always attended by swarms of ants (*Iridomyrmex foetans*) and larvae may often be found by following the columns of ants from the eucalypt (*E. viminalis*) to a nearby wattle, which may often be only a small shrub, and distant several metres from the eucalypt. When fully fed and ready to pupate the larva invariably follows the ants back to the eucalypt and changes to the chrysalis stage under the bark or even in galleries made by the ants in the tree. Among many hundred pupae which have passed through the authors' hands we have never found one on the food-tree but always on the adjacent eucalypt, sometimes almost at ground level, but occasionally as high as three metres above.

The majority of known skipper larvae attach several leaves of their foodplants together with silken threads to form shelters, eating the upper parts of the joined leaves, usually at night, and turning to pupae inside the shelter. Some species such as *Hesperilla chrysotricha plebeia*, finally spin a silken cap at the upper end of the shelter before changing to the next (pupal) stage. Even this precaution often fails to protect from predators and it is not uncommon to find the typical spiral shelter in a clump of *Gabnia filum* torn open and the caterpillar extracted.

The yellowish-green caterpillar of *Pieris rapae* will be familiar to every suburban gardener in his cabbages, but the caterpillar stage of a few Tasmanian butterflies still remain to be discovered.

Many local species pass the winter months as small larvae, completing their feeding stage during the following spring and early summer months. Mortality must be high, especially among the alpine species, where quite small caterpillars may be buried deep down in grass tufts under snow for weeks at a time.

Pupal Stage

The pupal stage is that part of the insect's life-cycle in which the larval parts gradually break down and are reformed into those of the butterfly-to-be. It is the stage in which the majority of Tasmanian butterflies over-winter.

The different families have differing and often characteristic methods of pupating. The caterpillar of Macleay's Swallowtail spins a silken pad on the underside of a leaf of sassafras and changes to a typical swallowtail chrysalis, attached to the pad at the anal end and held with a central silk girdle. *Nesoxenica leprea* hangs suspended by hooks at the anal end, head down as with most of the Browns. *Orexenica ptunarra*, however, turns to a pupa far down in a tuft of snow grass, unattached. The Admiral, *Bassaris itea*, leaves its foodplant, the common nettle, and attaches itself by anal hooks and a girdle, head upwards, frequently on a nearby fence or post, as so often does the introduced Cabbage White.

Skippers pupate inside the larval shelter, in the case of the Shoreline skipper (*H. chrysotricha*) this will be high up in a clump of sword-grass, while the White-spot skipper (*T. lutea glaucus*) pupates at the base of the common sagg (*Lomandra*) at ground level or even below.

The larva of the Tasmanian Hairstreak changes to a short, blunt, black pupa under the bark of a nearby eucalypt infested by the common 'stink-ant', it is attached by a girdle either to the trunk of the tree or to the bark.

The Adult Stage

When development is completed inside the pupal case the perfect insect emerges by splitting the shell and clinging, head upwards, until the wings fully expand and the wing-veins harden. At this time the insect will discharge a quantity of coloured fluid and be ready to fly and mate, the female then laying eggs to start another life-cycle.

Classification

The accepted classification of the day-flying members of the order *Lepidoptera*, commonly known as butterflies, separates the skippers of the superfamily *Hesperioidea* from the true butterflies of the superfamily *Papilionoidea*. To the layman all are butterflies, under which heading he frequently but erroneously includes one or two species of day-flying moths, particularly the abundant and conspicuous day-flying Vine-moth, *Phalaenoides glycinae*.

Eleven species of skippers are known to inhabit Tasmania, with twenty-one species of *Papilionoidea*; in addition six vagrant species occur more or less frequently. This total of thirty-eight species recorded is little more than one-third the number known in Victoria, but the variability of a number of the Tasmanian butterflies is far greater than is to be found anywhere else in Australia. Several of the so-called 'Browns' (*Satyridae*) occur within the State in an almost bewildering variety, both geographical and individual, whereas only two skippers show racial differences, one between east and west, one between north and south, and individual variation is quite rare.

The species of butterfly found in Tasmania are set out below:

Butterflies of Tasmania, Classification

HESPERIOIDEA	
<p>Family Hesperidae—</p> <p><i>Trapezites lutea glaucus</i> Waterhouse and Lyell 1914</p> <p><i>Anisynta dominula dominula</i> (Plötz) 1884</p> <p><i>Anisynta dominula pria</i> Waterhouse 1932</p> <p><i>Oreisplanus munionga larana</i> Couchman 1962</p> <p><i>Hesperilla idothea idothea</i> (Miskin) 1889</p> <p><i>Hesperilla domysa aurantia</i> Waterhouse 1927</p> <p><i>Hesperilla chrysostricha plebeia</i> Waterhouse 1927</p>	<p>Family Hesperidae (continued)—</p> <p><i>Hesperilla chrysostricha lunawanna</i> Couchman 1949</p> <p><i>Hesperilla mastersi marakupa</i> Couchman 1965</p> <p><i>Hesperilla chaostola leucophaea</i> Couchman 1946</p> <p><i>Pasma tasmanicus</i> (Miskin) 1889</p> <p><i>Taractrocera papyria papyria</i> (Boisduval) 1832</p> <p><i>Ocybadistes walkeri sothis</i> Waterhouse 1933</p>
PAPILIONOIDEA	
<p>Family Papilionidae—</p> <p><i>Graphium macleayanus macleayanus</i> (Leach) 1814</p> <p><i>Graphium macleayanus moggana</i> Couchman 1965</p> <p>Family Pieridae—</p> <p><i>Anapheis java teutonia</i> (Fabricius) 1775</p> <p><i>Appias paulina ega</i> (Boisduval) 1836</p> <p><i>Pieris rapae rapae</i> (Linnaeus) 1758</p> <p><i>Eurema smilax</i> (Donovan) 1805</p> <p>Family Lycaenidae—</p> <p><i>Paralucia aurifer</i> (Blanchard) 1848</p> <p><i>Pseudalmenus chlorinda chlorinda</i> (Blanchard) 1848</p> <p><i>Pseudalmenus chlorinda myrsilus</i> (Westwood) 1851</p> <p><i>Pseudalmenus chlorinda conara</i> Couchman 1965</p> <p><i>Erina acasta</i> (Cox) 1873</p> <p><i>Neolucia agricola insulana</i> Waterhouse and Lyell 1914</p> <p><i>Neolucia bobartensis bobartensis</i> (Miskin) 1890</p> <p><i>Neolucia mathewi</i> (Miskin) 1890 (Doubtful)</p> <p><i>Neolucia serpentata serpentata</i> (Herrich-Schäffer) 1869 (Flinders Island)</p> <p><i>Neolucia serpentata lavara</i> Couchman 1954</p> <p><i>Lampides boeticus</i> (Linnaeus) 1767</p> <p><i>Zizina otis labradus</i> (Godart) 1824</p> <p>Family Nymphalidae—</p> <p><i>Precis villida calybe</i> (Godart) 1819</p> <p><i>Cynthia kershani</i> McCoy 1868</p> <p><i>Bassaris itea</i> (Fabricius) 1775</p>	<p>Family Danaidae—</p> <p><i>Danaus plexippus plexippus</i> (Linnaeus) 1758</p> <p><i>Danaus chrysipus petilia</i> (Stoll) 1790</p> <p>Family Satyridae—</p> <p><i>Nesoxenica leprea leprea</i> (Hewitson) 1864</p> <p><i>Nesoxenica leprea elia</i> Waterhouse and Lyell 1914</p> <p><i>Heteronympha merope salazar</i> Frühstorfer 1911</p> <p><i>Heteronympha penelope diemeni</i> Waterhouse 1937</p> <p><i>Heteronympha penelope panope</i> Waterhouse 1937</p> <p><i>Heteronympha cordace legana</i> Couchman 1954</p> <p><i>Heteronympha cordace kurena</i> Couchman 1954</p> <p><i>Heteronympha cordace comptena</i> Couchman 1954</p> <p><i>Argynnia bobartia bobartia</i> (Westwood) 1851</p> <p><i>Argynnia bobartia tasmanica</i> (Lyell) 1900</p> <p><i>Argynnia bobartia montana</i> Couchman 1976</p> <p><i>Oreixenica orichora paludosa</i> (Lucas) 1892</p> <p><i>Oreixenica lathoniella lathoniella</i> (Westwood) 1851</p> <p><i>Oreixenica lathoniella lathoniella</i> form <i>maweena</i> Couchman 1953</p> <p><i>Oreixenica lathoniella barnardi</i> Turner 1926</p> <p><i>Oreixenica lathoniella laranda</i> Waterhouse and Lyell 1914</p> <p><i>Oreixenica ptunarra ptunarra</i> Couchman 1953</p> <p><i>Oreixenica ptunarra roonina</i> Couchman 1953</p> <p><i>Oreixenica ptunarra angeli</i> Couchman 1953</p> <p><i>Geitoneura klugii klugii</i> (Guérin-Ménéville) 1830</p>

Description of the Tasmanian Butterflies

The Skippers (Hesperiidae)

Of the eleven skippers listed from the State *Pasma tasmanicus* alone does not differ anywhere in its range and does not have subspecies occurring elsewhere in Australia.

Whereas all the species of *Hesperilla* feed in the larval stages on some kind of swordgrass (*Gabnia*), the only local species of *Trapezites*, *T. l. glaucus*, makes its larval shelter and later pupates at the base of *Lomandra longifolia*, the common sagg. The single silver spot on the greenish-yellow ground colour of the underside hindwing readily distinguishes the latter species. It was formerly quite common on both banks of the Derwent; the authors even found and reared caterpillars from the slopes of the Domain, but housing developments and the disastrous 1967 bush-fires seem to have exterminated it in most of the suburban areas.

A. dominula dominula inhabits favoured areas north of Swansea across to the lower midlands, while the smaller subspecies *A. d. pria* inhabits the central plateau and the button-grass swamps east of the King River. This is the only hesperid which shows constant differences between eastern and western specimens, the eastern expanding to 30 mm, the western to 24-25 mm. (Butterflies are often distinguished according to their expanded wing-tip to wing-tip measurement.) The underside hindwing provides the characteristic marking for separating this species: there is a broad angled dull silvery-white band crossing the wing—in the western race *pria* this is occasionally broken up into spots.

Hesperilla idothea idothea, the Flame skipper, whose larva or pupa may sometimes be found on the same clump of *Gabnia psittacorum* with *H. donnyisa aurantia* is never common, though found on the coastal plains from the north-west across to Gladstone and south to South Bruny. The males are constant 'hill-toppers', flying swiftly around and occasionally settling on shrubs or small trees on the summits of hills. Both sexes expand 36 mm and may be recognised by the uniformly reddish-brown underside of the hindwing. The female is the most brilliantly marked skipper among our local species.

H. donnyisa aurantia occurs throughout the island, its caterpillars feeding on various species of sword-grass. The butterfly may be found alike on eastern coastal heathlands, mountains, plateaux and western button-grass plains. Males rarely exceed 32 mm, but females from the western coastal districts commonly reach 44 mm and are larger and more richly coloured than those from elsewhere in Australia. This butterfly may be identified by the violet-grey underside hindwing, with a silver-centred black spot in the middle of the wing and a series of black spots at two-thirds from the base.

Another *Hesperilla* species, *H. chrysostricha*, found in two differing subspecies, was formerly thought to be confined to the coastal shorelines and tidal river beaches, but has recently been found inland on the saltpans of the Midlands. It is everywhere associated with *Gabnia filum* or *G. trifida* and the adult insects fly at some speed around clumps of these plants on which the eggs, larvae and pupae may be found. The butterfly never strays far from the foodplant, so that although known since 1902 when two males were sent from Bridport, no more were recorded until G. H. Hardy took one female at Latrobe in 1917 and this sex remained overlooked and undescribed. L. E. Couchman discovered the early stages in 1947 and described both sexes in 1949 almost fifty years after the initial discovery of the race. It has now been recorded from Stanley around the northern and eastern coasts to South Bruny. The latter island subspecies *lunawanna* is distinctly

darker and with restricted silver spotting on the underside hindwing. In the subspecies *plebeia* the colour of the hindwing underside is light brown with a central silver-centred spot and a curved series of similar spots near the outer margin. The South Bruny race is odd in resembling the subspecies from Kangaroo Island rather than the larger, lighter race from the eastern coasts of Tasmania, Victoria and South Australia.

H. chaostola also became known from Tasmania at the turn of the century, a single female was recorded from Huonville in 1902. One very worn male, too poor for description, was all that was available by 1942. After three years intensive searching the authors had found but one perfect male and a ragged female, both taken on the slopes of Knocklofty. In the same year it was found in some numbers at Kingston, but both areas are now almost covered by houses and the butterfly seems only a memory. There is a solitary early record from Bicheno which has never since been confirmed. Both sexes expand 32-34 mm, and in each the underside hindwing is brownish-grey with the merest trace of obscure markings. The caterpillar hides by day in a characteristic looped shelter formed from leaves of *Gabnia radula*, quite unlike the straight, almost vertical shelter formed on the same plant by *H. d. aurantia*. This species of sword-grass is a widespread plant in the Derwent Valley and the Channel district, but *H. c. leucophaea* seems to favour the sandy hillsides with a northern aspect on the western bank of the Derwent, and has proved extremely local in its distribution.

The remaining species of *Hesperilla*, *H. mastersi marakupa*, is the north-eastern Tasmanian representative of a species otherwise only known from the southern coastal districts of New South Wales and north-eastern Victoria. Several larvae and one pupa were found on a distinctive *Gabnia* (*G. melanocarpa*) in a swampy paddock near Bridport in 1963. This swamp has since been destroyed, but there should be other similar localities in the north-east corner that have escaped development for cattle production. The butterfly expands to 40 mm and is easily distinguished by the underside, in which the apex of the forewing and the hindwing are light reddish-brown with creamy-white irregular spots. It flies very fast and most examples taken elsewhere, like those in Tasmania, have been reared from the early stages.

A small, 22 mm black, white-spotted skipper, *Pasma tasmanicus*, occurs, usually singly, over all the countryside up to about 915 m (3 000 ft), more often in the dry sclerophyll forest of the east coast than elsewhere, but never seemingly in large numbers.

The most localised Tasmanian skipper is undoubtedly *O. m. larana* which is still found in one small area near Marrawah. Elsewhere it is only found above 1 220 m (4 000 ft) in the Australian Alps. The eggs, larvae and pupae have been found on clumps of *Carex* in swampy locations, around which the small, black, yellow-spotted males fly dizzily. There may be other colonies of this rare species in the north-western corner near Cape Grim, but the V.D.L. Co. has refused access in the search for additional localities. This butterfly has a most tenuous hold now that the coastal wet heathlands are being rapidly destroyed for cattle raising.

The two remaining skippers belong to the subfamily *Hesperiinae*, both are small, widely spread and often found even in suburban gardens. *T. p. papyria* has a distinctive diagonal white streak across the underside of the hindwing, while *O. w. sothis* is greenish-yellow beneath, and above it has bright yellow ground (wing background) colour. Both species characteristically rest with the forewings upright, pressed together over the back, with the hindwings flat, at right angles to the forewings.

Papilionidae

The only species of the swallowtail family found in the State, *Graphium macleayanus*, cannot be confused with any other butterfly. The wing colour, green at the base with black borders, and the strongly tailed hindwings set it apart from any other species. A rain-forest butterfly, the early stages are found on Sassafras (*Atherosperma*), which is a tree found in abundance associated with myrtle-beech (*Nothofagus*), but it is also commonly found in fern gullies. Here, in open glades, it is possible to watch the female settling on a leaf and curving her body around and under to deposit an egg against a rib of the leaf.

Macleay's Swallowtail ranges from sea-level to the tops of the highest mountains. The authors have seen the male circling the 1 400 m (4 600 ft) summit of Mt Rufus and at comparable altitudes on the Acropolis and on Mt Anne. Everywhere both sexes are attracted to the flowers of ti-tree and thus engaged they are not difficult to catch. Elsewhere the chase is hopeless as their flight is too strong and continuous.

The smaller race from the south-west, in which the male expands to less than 45 mm, does not have spots in the black-bordered hindwings and has been separated as subspecies *moggana*; the larger race from the north and east comes nearer to the typical ssp. *macleayanus*, first described from Sydney, New South Wales.

Pieridae: Subfamily Pierinae

One species only of this subfamily, the introduced European Cabbage White butterfly (*Pieris rapae*), occurs everywhere throughout the island, from suburban gardens to the most remote areas of the north-west, the central plateau and the south-west. The butterfly itself is white and the male has a black spot on the disc of the forewing while the female has two spots and expands to about 50 mm. In favourable seasons in the south it has been noted flying from mid-August continually through until early May, a succession of broods overlapping and continuing on the wing almost throughout the year. In some years this species seems to build up in numbers to a peak of abundance, so that examples may be seen fluttering over every garden or roadside verge, then the numbers fall away for a season, but the Cabbage White is rarely out of sight during the summer over most of the island.

It was first noted in the early summer of 1940 on the north-west coast, doubtless, like other migrant species observed since, carried by strong north-west winds from Victoria. Within two years it had spread throughout the State. In the summer of 1942 the authors saw examples south-west of the DuCane Range, more than 32 km (20 miles) from any garden plot that might contain a possible foodplant.

Lycaenidae: Subfamily Theclinae

Of this subfamily we have but two species in Tasmania, one of which is widely distributed in the coastal areas up to about 335 m (1 100 ft), while the other is much more restricted and local.

Paralucia aurifer (Bright Copper) is known from Marrawah to Gladstone to South Bruny, always at a comparatively low altitude and always associated with the Blackthorn or Prickly Box (*Bursaria*) on which the caterpillar feeds, attended by a small species of ant whose nests are found beneath the shrubs. The pupae of the butterfly may be found in the ant's nest or in rubbish round the base of the bush.

The Bright Copper, with its brilliant coppery areas on both wings, bordered by brown margins, and in the male only with the anal angle of the hindwing extended into a blunt tooth, is an attractive insect as it rests on the flowers of the blackthorn but its quick, jerky flight makes it an elusive insect to capture. This species, which also ranges over the eastern states, was first described from specimens taken in the vicinity of Hobart during the voyage of the French exploratory ships *Astrolabe* and *Zelee* while in the Derwent in 1839-1840, as was *Pseudalmenus chlorinda*. Because it is so common and widespread, *P. aurifer* has remained unquestioned from the time of publication of the plates illustrating d'Urville's 'Voyage au Pole Sud et dans l'Océanie', in contrast with the next species described.

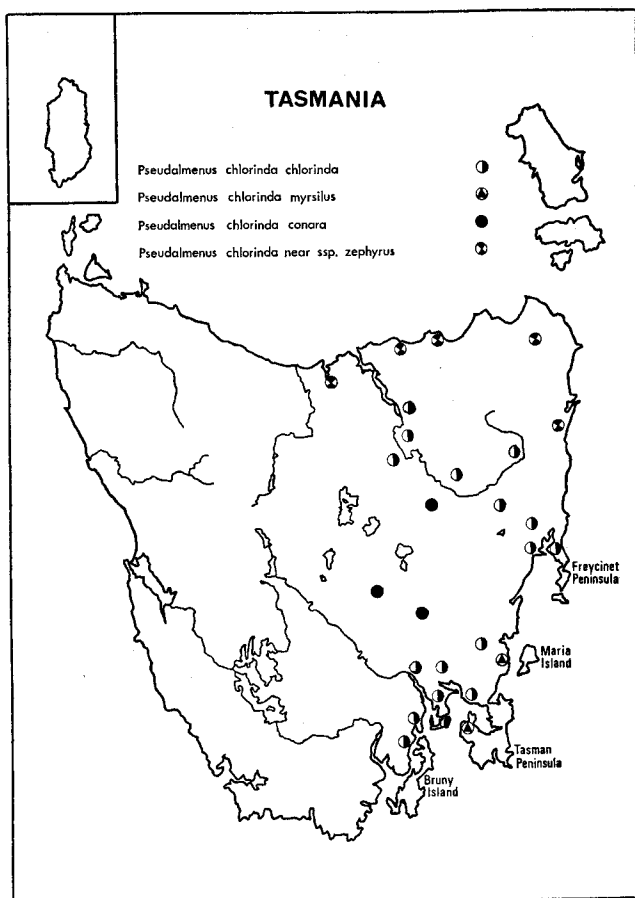
Pseudalmenus chlorinda, although described and illustrated in the same work, remained an enigma until the authors were able to find specimens matching Blanchard's plate in 1954, more than a century after publication. This rediscovery, which entailed so much field and research work that the full story was not told until 1962, is too long to repeat here. Briefly, Dumont d'Urville in command of the French ships *Astrolabe* and *Zelee*, on arrival in the Derwent from Toulon in December 1839, asked Sir John Franklin for permission to leave a number of sick men behind, under Surgeon J. B. Hombron, while the two ships were absent in the Antarctic. The invalids and their doctor were picked up when the ships returned in February 1840.

During their stay in the Colonial Hospital the local residents, believing these men from the French discovery ships had introduced typhus fever into the very centre of Hobart, forced the authorities to remove them to the vicinity of Richmond. Hombron and his fellow surgeon H. Jacquinot are known to have collected insects, and later they collaborated to publish the zoological results of the expedition. Thus there is no reason to doubt that *P. chlorinda* was taken during the French visit to Hobart, yet writers on the Australian butterflies, while reasonably certain that the typical insect must have been collected near Hobart, could not match Blanchard's plate because no one had specimens from southern Tasmania. Numbers of examples were known from near Launceston and from eastern Victoria, but none matched the original figures.

It was not until 1954, after years of fruitless searching, that a number of pupae were found near Richmond and the resultant butterflies matched the original illustration. Subsequently this same form of the butterfly was found to occur in a number of very restricted localities on the eastern shores of the Derwent. The male Tasmanian Hairstreak in its type locality expands to 26-28 mm. Above it is black with two small orange spots on the forewings and it has a narrow reddish-orange submarginal band on the hindwings. The latter have a conspicuous fine tail at vein two, quite noticeable even when the butterfly is in flight. Beneath, the insect is light-grey with a narrow black band crossing the forewing and a narrow red band on the outer margin of the hindwing. The female is rather larger, 28-30 mm, with a broad orange band crossing the forewing and a variable orange blotch in the centre of the hindwing, being otherwise the same as the male.

Within the range of *P. chlorinda chlorinda* the authors now place specimens taken along the coast to north of Swansea and thence inland through the South Esk and upper Tamar Valleys. West and east of the lower Tamar Valley, along the coast from Port Sorell through Bridport around to Scamander occurs a race at present un-named which approaches the Victorian race *zephyrus*, differing from the typical *chlorinda* in the greater extension of the orange-red markings in both sexes.

At about the same time as the French were publishing the results of their voyages, three English entomologists—Doubleday, Westwood and Hewitson—illustrated a much brighter insect which they called *Thecla myrsilus*. This name also presented a problem for more than a century. Described from 'Van Diemen's Land' (the locality for the French insect was simply 'Tasmanie') *Thecla myrsilus* could not be matched against specimens from any known locality. Some authors used the name for the collective species, even for the Victorian race, others discarded it as a synonym of *chlorinda* while still ignorant of either type or true locality. With the discovery in 1962 of specimens from the Tasman Peninsula which exactly matched Hewitson's figures we were able to restore *myrsilus* as an authentic race name. It now seems certain that the examples were collected by Lempriere at the time of the founding of Port Arthur in 1830 or shortly afterwards and transmitted to England, where in 1847 they were listed as being in the British Museum.



DISTRIBUTION OF A SPECIES FROM THE FAMILY LYCAENIDAE

P. chlorinda myrsilus is the most brilliant of the Tasmanian races. Specimens resemble the Blue Mountains race, and many even approach those from the Barrington Tops region of New South Wales. The male forewing has a broad orange band crossed by black veins and, clearly surrounding a square spot near the anterior margin, an orange-red central patch and also a broad band of the

same colour near the outer margin of the hindwing. The female differs widely from subspecies *chlorinda*. The forewing is crossed by a wide orange-red band as in the male but the hindwing carries a large central patch of the same colour and in the majority of examples this patch is connected to the broad band extending around the outer margin. Beneath, both sexes are white in ground colour. This race probably extended all over the Tasman Peninsula 150 years ago but now, with the extensive clearing of the open forest land, the wide establishment of orchards, and more tragically the persistent burning in recent years, the authors have found it only in an odd tree in one or two small areas.

The seemingly complex geographical variation of the Tasmanian Hairstreak becomes clearer when it is understood that the most colourful races are confined to a narrow coastal strip, culminating in the subspecies *myrsilus* on the Tasman Peninsula. Extending in an arc inland from these races, but still on the eastern coastal plain, occurs the typical subspecies *chlorinda*, in which the orange-red markings are greatly reduced, and the underside colour, white in ssp. *myrsilus*, becomes grey in ssp. *chlorinda*.

Finally, on the sub-alpine eastern plateau in the triangle Conara-Kempton-Bothwell occurs the remarkable ssp. *conara*, quite unlike any form found elsewhere. In both sexes the normal orange-red markings on both fore and hindwings are sullied over with black scales, leaving the bands indicated only by shadowy faint grey markings. Beneath, the ground colour is dark-grey, and the red sub-marginal band of the hindwing is much reduced or may be wholly absent. This sub-alpine race must have been widespread before the clearing of the central midlands. The authors were fortunate in discovering it at a time when it was already being exterminated by the extensive 'pasture-improvement' activities of landholders.

Lycaenidae: Subfamily Polyommatainae

This is the subfamily containing the true 'blues', of which so many species are found in the northern hemisphere.

Erina acasta (the Blotched Blue) is, with the exception of the introduced Cabbage White, the earliest butterfly on the wing in the spring. The authors have capture records dating from early August on through September till mid-January in the south and east of the State, from sea-level to an altitude of about 305 m (1 000 ft).

The Blotched Blue seems to be confined to the northern and eastern heathlands south to the Cloudy Bay district of South Bruny. The foodplant of the caterpillar is the thin-stemmed *Cassytha glabella*, a wiry leafless plant parasitic on dwarf shrubs of the coastal heaths, hence the distribution of this butterfly. *E. acasta* expands to 20-22 mm and the female is distinctly bluish-purple around the bases of the wings, shading into brown-black margins while the male, by contrast, is uniformly bronze. Beneath, both sexes are dark grey with darker markings, the most conspicuous being a series of sub-marginal spots on the forewing and an irregular marginal blotch on the hindwing. This species has a rather jerky flight, never very fast or far, settling frequently on the dwarf shrubs of the heathlands.

Of the four species of *Neolucia* recorded from the State, only one has any trace of blue. The most common species, *N. hobartensis hobartensis*, like the closely related *N. agricola*, is black, fading to a dull brown-black after a few hours on the wing, so that the common name 'Mountain Blue' is a misnomer as far as colour is concerned. The black and white chequered fringes are conspicuous in fresh specimens and this together with its small size, only 18 mm in expanse, easily separates it from the other local species. *N. h. hobartensis* is a truly alpine

butterfly, occurring from a little below 305 m (1 000 ft) to above 1 370 m (4 500 ft). Described in 1890 from Hobart, it can only have come from Mt Wellington or its foothills, on which it is still common. It is equally common on Mt Giblin in the south-west and Ben Lomond in the north-east or around the lakes of the central plateau. In the latter area the examples of both sexes tend to be smaller—the authors have one specimen from Lake Augusta expanding to only 15 mm.

N. agricola insulana is always larger (20-22 mm in expanse), black and without the conspicuous chequered fringes of the previous species but the under surface of the hindwings has a dark brown double $\wedge\wedge$ marking in the submarginal area which enables it to be identified. Unlike *N. hobartensis*, this butterfly is found from sea-level to at least 1 065 m (3 500 ft) in the lake country, where it is possible to take the two species on the wing together. Again, unlike the related species, *N. agricola insulana* is in our experience never as common anywhere, though specimens can be taken more easily near sea-level, especially in the warmer parts of the State. It is to be found flying from mid-November onwards until early February. The subspecies was named from Zeehan, and specimens from the west and south-west certainly have darker markings beneath than the typical race from eastern Victoria and New South Wales. However, it is virtually impossible to draw a line between examples from eastern and western Tasmania, so that we are now inclined to place all specimens found in the State under subspecies *insulana*.

N. mathewi was recorded many years ago from Underwood with *N. hobartensis*, the latter at 855 m (2 800 ft), which would certainly point to Mt Arthur or its foothills. However, in the authors' experience *N. mathewi* is a seashore species in New South Wales and Underwood may well have been the place of despatch, not that of origin. Although the authors have searched for it in the triangle Bridport-South Mt Cameron-Musselroe Bay, they have been unsuccessful. Flinders Island, from which it was recorded at the same time, is a more likely locality than the inland east Tamar region. Mathew's Blue is of the size of *N. agricola* but is paler brown above and beneath with the underside obscurely marked and it lacks the prominent submarginal markings of the latter species.

The Chequered Blue, *N. serpentata*, is widely distributed around the Australian coast-line and some years ago specimens were sent to the authors from Flinders Island. Since the larva feeds on species of salt-bush the butterfly is confined to coastal marshes and mud-flats, and it was from such areas near Cambridge that subspecies *lavara* was described in 1954.

N. serpentata lavara, expanding to 18-19 mm, is smaller than mainland *N. s. serpentata* and is distinguishable in both sexes from other Tasmanian species by the extensive basal blue areas on fore and hindwings. An additional point of distinction is the presence of a short, blunt, toothed extension of vein two of the hindwing. In recently emerged specimens the fringes of the wings are chequered, though not as prominently as in *N. hobartensis*. This is an autumn butterfly which is on the wing in late March and early April. Many specimens have been taken when attracted to the flowers of the introduced African box-thorn.

Zizina otis labradus, described by the French entomologist J. B. Godart in 1824 from the Port Jackson district, is a butterfly which has a vast range from China to the South Pacific. In Tasmania the Grass (or Clover) Blue occurs everywhere from sea-level to almost 1 220 m (4 000 ft), from the suburban garden to the verges of the west coast rain-forests, wherever its larval foodplant, clover, occurs. The caterpillar will, however, also feed upon lucerne and beans, and when other food is absent, will become carnivorous on its own younger

relatives. This species expands to 23-25 mm across the wings and is light blue above, usually with a narrow light brown marginal line. Both sexes are variable in the width of the marginal light brown border to the wings while some females may be almost wholly of this colour with only a few scattered blue scales near the bases. It may easily be distinguished by the light-grey underside, with obscure markings often barely distinguishable from the ground colour. Its light-blue colour and weak fluttering flight, low over a garden or grassy area, will always enable it to be identified.

Nymphalidae

The three species of this group that range all over the State are among those widely distributed butterflies found throughout Australia and beyond.

Bassaris itea, The Admiral, first described from a specimen taken during the voyage of the *Endeavour*, may be found at all altitudes to about 915 m (3 000 ft), most commonly in spring and autumn after and before hibernation. Those taken in the spring are usually somewhat worn. The caterpillars feed on the common nettles and may be found in shelters among the terminal leaves throughout December. The butterfly flies through February and early March, when it seems most numerous. On both sides of the Derwent caterpillars have been found and reared on the so-called New Zealand moss (*Helxine solneri*). In 1958 larvae were first brought to the authors and the resultant butterflies differed in no way from others reared on the usual foodplant. Since then females have been observed laying eggs on this introduced plant which at least in suburban areas may well become an accepted alternate foodplant. The upper side of this butterfly is reddish-brown at the base of the wings, shading to black on the margins, with a broad cream band crossing the forewing. The underside of the hindwing in this and the following species is beautifully variegated with shades of brown and grey. A favourite attraction is the flowers of the garden *Buddleia*; *B. itea* is also attracted by a warm corner. For many years we have watched one or more examples of this species haunting the same limb of a century-old pear tree, settling and flying in the last warm rays of the afternoon sun.

Cynthia kershawi, named from Melbourne specimens in 1868, occurs commonly in every state. The Australian Painted Lady is closely related to, and for many years was regarded only as a race of, the cosmopolitan *C. cardui*, a world-ranging butterfly noted for its migratory flights from northern Africa into north-western Europe. In Tasmania it has been noticed flying in large numbers in quite restricted areas in some years. As an example, during the spring of 1975 G. Ellis noted *C. kershawi* 'flying in scores' east of Lake King William; at the same time the authors were collecting eight km (five miles) north and saw only one or two all day at the same altitude in exactly similar country. It is certain that within the State the butterfly must often hibernate as an adult and it is frequently one of the earliest butterflies on the wing in early September attracted to its larval foodplant, Everlastings (*Helichrysum*).

These early specimens are usually of an orange tint, with black apex to the forewing containing several white spots, while the hindwing bears four blue-centred black spots. The hindwing beneath is variegated with grey and brown as already noted. Specimens taken from January till March, the progeny of the earlier examples, are richly reddish-orange in colour, though occasionally similar fresh insects may be taken in spring, perhaps the result of an odd overwintering pupa. In any case the September specimens cannot be seen as migrants from Victoria as the condition of the butterflies and the prevailing winds from the west and south in that season preclude migration at that time. Like the other

two nymphalid species found in Tasmania the Painted Lady is likely to be seen from the sea coast to the central plateau, favouring open eucalypt forest from early spring to late autumn.

The Meadow Argus, *Precis villida calybe*, is decidedly more common on the northern and eastern coastal plains and savannah forest lands than in the south-west, but even there it will occur in open areas or along tracks. Its habit of flying ahead for a short distance with a rapid skimming flight, occasionally gliding with horizontal wings, then settling, only to start up again as one approaches, readily identifies this butterfly. Also, it will usually return to its favoured resting place after being disturbed. A brown butterfly, expanding to about 45 mm across the wings, it has two blue-centred black eye-spots (ocelli) surrounded by rusty-red areas on each wing, the largest at the anal angle of the forewing and at the apex of the hindwing. The sexes do not differ, but individuals vary considerably in depth of ground colour, examples from the high rainfall districts of the south and west are often dark brown and contrast strongly with those from the mainland states. The distinctive black caterpillar with prominent spines can often be found in the suburbs on the common plantain in the first days of spring. Later in the season it hides beneath the leaves. There seems to be a succession of broods, even in the south, since the butterfly may be seen on the wing from early September until early April in favourable seasons.

Satyridae

This family contains the only true endemic species of butterfly to be found in the State. Although distinctive Tasmanian subspecies are to be found among other subfamilies, *Nesoxenica leprea*, *Argynnina hobartia* and *Oreixenica ptunarra* are confined to Tasmania, without races occurring elsewhere. Interest in the group is all the greater because of the remarkable geographical variation in several species found in the island and particularly is this true of *Heteronympha cordace*, *Argynnina hobartia*, *Oreixenica lathoniella* and, to an outstanding degree, *O. ptunarra*. Identification is made easier since, with the exception of *Nesoxenica*, all the *Satyridae* found here are of some shade of brown on upper and under surfaces. The three *Oreixenica* species stand apart with their silvery-white marked hindwing undersides. *Argynnina* is only found in the spring, from early September till December, depending upon altitude while all other genera are only to be found in summer or autumn.

The three species of *Heteronympha* all possess at least one prominent eye-spot on each wing, above and beneath. In *Geitoneura* the sexes do not differ very noticeably in size or markings, *G. klugii* may be distinguished from *Heteronympha* in that the ocelli of the hindwing above are always smaller than those of the forewing, reversing the pattern found in the three *Heteronympha* species.

The remaining genus *Nesoxenica* stands apart from any found elsewhere. A rain-forest species, it differs in the distinctive pattern of the underside, the apex of the forewing and the whole hindwing being marked with black and silver-white while the hindwing has a submarginal row of six black-centred white spots. The whole pattern, when the wings are folded over the insect's back in the typical resting position, forms a remarkable resemblance to the black and white lichen found on the trunk and branches of the myrtle-beech (*Nothofagus*).

Genus *Nesoxenica*

Nesoxenica leprea is of great interest because it is the only Tasmanian butterfly in which the genus and the species are confined to the State. Unfortunately, like *A. hobartia*, it has suffered at the hands of writers who, with little or no knowledge of the insects in their natural habitats, continue to perpetuate errors,

particularly in respect of matters of occurrence of races and their distribution. It is incorrect to call it an alpine butterfly as the species is as common a few metres above sea-level in the south-east as it is on the western mountains. Described by Hewitson in 1864 with Hewitson's usual simple locality 'Australia', it can only have come from the neighbourhood of Hobart—almost certainly the lower slopes of Mt Wellington up to about 760 m (2 500 ft), where it was commonly seen before the disastrous bush-fires of 1967. In earlier years when *Nothofagus* was found down to the Cascades the butterfly must have been widespread and common almost to sea-level near Hobart. The species occurs in two differing forms within the State, an eastern and a western race, with an outlying population of the eastern race in an area west of Smithton. As already noted, this is a true rain-forest species, the foodplant of the caterpillar, *Uncinia tenella* is commonly associated with the myrtle-beech, yet oddly enough the butterfly does not seem to occur with *Nothofagus* in the north-east. The two races differ only on the upper surface.

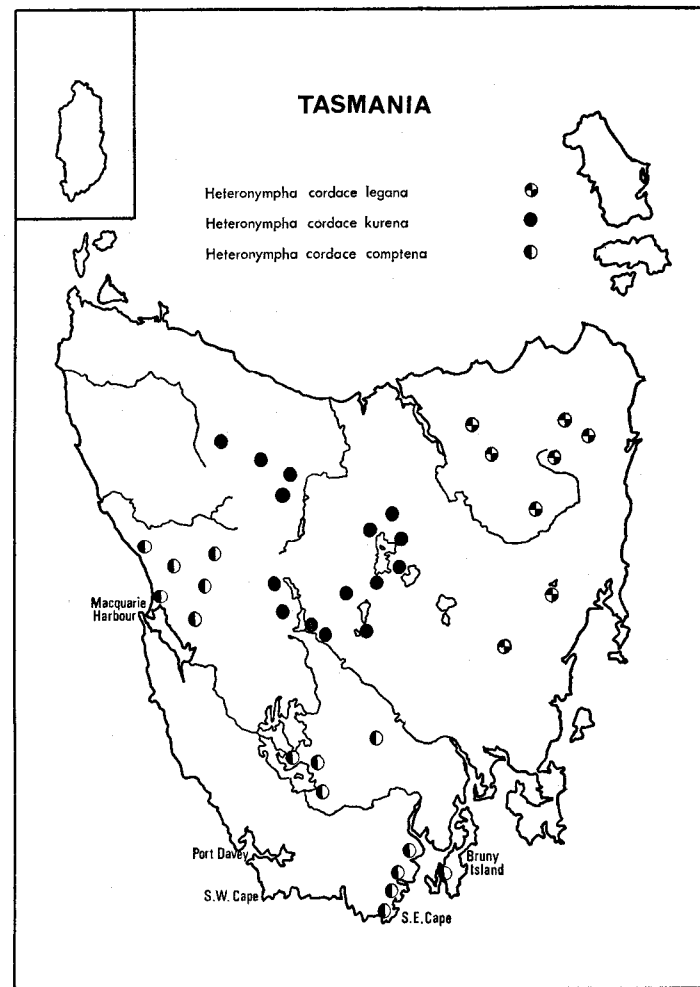
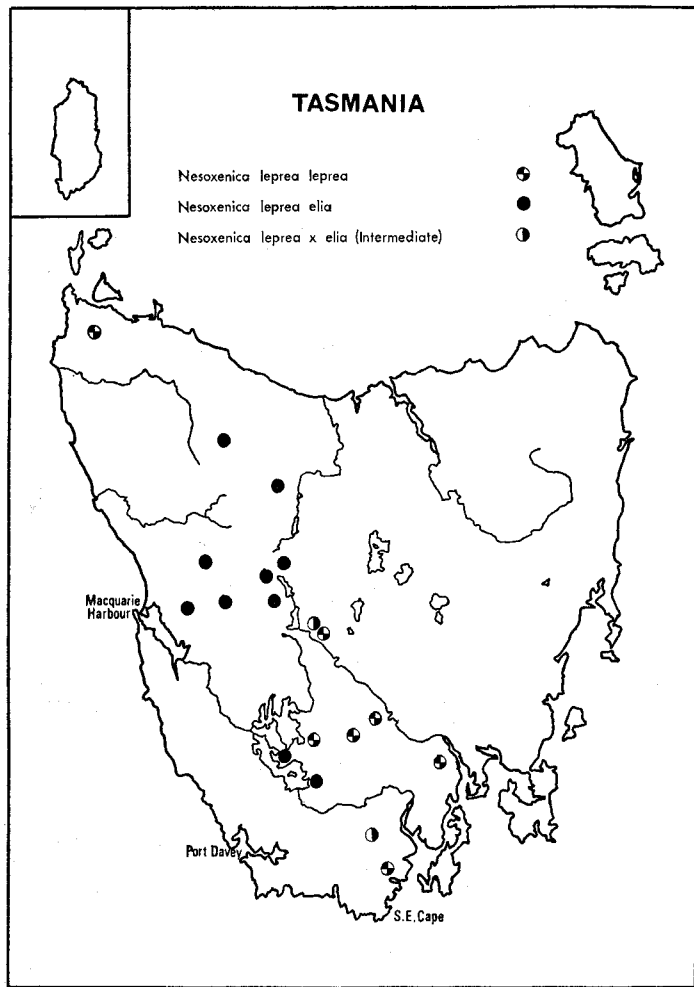
N. leprea leprea, the eastern subspecies, has the median band of fore and hindwings and a short narrow band near the apex of forewing coloured cream in newly emerged examples. After a few hours flight the colour fades to white. This race ranges from the Hastings-Esperance River districts north through the Mt Field National Park to the Tarraleah district.

The type specimen of the western race, subspecies *elia*, came from Mt Dundas, in the highest rainfall area of the State, and here the butterfly may still be found near the site of a former mining township. This race, in which the median and apical bands are deep orange, occurs around the Hellyer, Wandle and Hatfield rivers of the north-west and along the ranges to the King River and the south-west. Eastwards it is found through the Nelson-Cardigan-Franklin river valleys to the King William Range and thence north through the Mountain Reserve to Cradle Mountain. This race occurs throughout the south-west wherever patches of rain-forest are to be found and east to the southern slopes of Mts Anne and Eliza.

The two races do not approach each other geographically towards the northern limits of *N. l. elia*. For example, from Cradle Mountain south to the vicinity of the King William Range, the nearest area for ssp. *leprea* is around Tarraleah, some 32 km (20 miles) eastward. South and east the zone between the races narrows, becomes less obvious and the distribution pattern becomes much more complex. To the west of Maydena, Mt Wedge to the Marsden Range and Mt Anne seem to form a barrier; to the east around Frodsham's Pass the insect is definitely *leprea leprea*, to the west around the Wedge River the form is very close to ssp. *elia*. The distance between the two subspecies is no more than 10 km (six miles) and further south between Mt Bowes and Mt Anne it is much less. In this south-eastern part of the species' range the eastern *leprea* flies as far as the headwaters of the Huon River, within a kilometre or two of the western *elia* on the south-western slopes of Mt Eliza and the now-flooded Huon Plains. There are still some fascinating problems to be solved in this district. To the south-east in the Hartz Mountain area random collections have included rare examples approaching in colouration the western race *elia*, so that it may yet be possible to find a transition zone.

Genus Heteronympha

The largest butterfly normally seen in Tasmania is the Common Brown, *Heteronympha merope salazar*. Although separated from the Australian race by Fruhstorfer in 1911, it had actually been distinguished by A. G. Butler as far back as 1868, Tasmanian specimens in the British Museum being noted as smaller and more obscurely marked than Australian examples. The sexes differ markedly,



DISTRIBUTION OF TWO SPECIES FROM THE FAMILY SATYRIDAE

males usually expanding to about 50 mm are dull-brown above and more or less heavily marked with black. The females expand to about 64 mm and are of a lighter and brighter tint, with three large cream blotches in the black outer third of the forewings. Both sexes have a large ocellus on each wing—those of the female are prominently blue-centred. This species inhabits all the lower rainfall areas of the State (but none of the true rain-forest areas) and is especially common in the drier eastern half of the island. The males appear in mid-December, at least a fortnight before the females, the latter continuing on the wing until quite late in April in favourable seasons. The Common Brown is one of only three species of this subfamily which do not differ geographically within the State. The normal Tasmanian examples are distinctive enough, but occasionally male aberrations are found in which the black markings of the upper surface coalesce to obscure the brown areas more or less completely, so that the specimen is almost entirely black. In over thirty year's collecting the authors have taken three such aberrations, two from the Bridport district and one from suburban Hobart.

An allied species, *H. penelope*, occurs in at least two distinct races within the island. The Shouldered Brown, apart from its reddish-brown colouration which is especially noticeable in fresh specimens, may always be distinguished from the Common Brown by the absence of any ring or border surrounding the prominent white-centred black spot on the upper surface of the hindwing.

H. penelope diemeni, named from the New Norfolk district in 1937, represents the subspecies found commonly from mid-January to March from sea level to an altitude of about 760 m (2 500 ft) throughout the northern and eastern half of the island. The sexes do not differ greatly, but the males are always far more abundant than the females, flying low and swiftly especially over the open grassy areas of the east coast.

H. p. panope was also separated as a race at the same time, from several males taken near Cradle Mountain. The female remained unknown until 1964 when the authors collected a number of examples in a brief burst of sunshine during a week-end of rain and sleet near Daisy Dell at about 855 m (2 800 ft) altitude. This was almost certainly the exact area from which Waterhouse had obtained the males he described thirty years earlier. Both sexes are smaller and darker than ssp. *diemeni* with more prominent ocelli, the females almost without exception and the males usually having two ocelli at the apex of the hindwing above. Subspecies *panope* ranges widely over the central plateau from 610 m (2 000 feet) in the east up to 1 065 m (3 500 feet) around the Great Lake and then down to sea level from the Pieman River south at least as far as Strahan. Those examples the authors have taken from the western coastal districts are much brighter in colour, the males tending to be almost yellowish beneath, while the females are tinged with grey-purple beneath, both sexes having very prominent ocelli on both surfaces of the wings.

Heteronympha cordace was described in the early years of last century from the southern alpine districts of New South Wales. In Tasmania the species occurs in three areas, not greatly separated in distance, but where climatic influences are much more varied than elsewhere in Australia. Waterhouse wrote that the species shows very little variation, but this is definitely not true of the butterfly in this State. The three local races may always be separated from other Tasmanian *Satyridae* by the yellow ground colour of the hindwing beneath, yet they differ considerably in size and markings. The species is a swamp-loving insect, depending on the presence of the Tall Sedge, *Carex appressa*, on which the early stages may be found.

H. cordace comptena is the coastal race found at or near sea level in areas of 1 015-1 780 mm (40-70 inches) rainfall. It occurs from the Pieman River around the western and southern coasts to Dover and also on the extreme tip of South Bruny. The authors have never taken this race more than 40 km (25 miles) from the sea-shore. The most richly coloured of all the *cordace* subspecies, *H. c. comptena*, stands out because of the large blue pupils of the elongated ocelli on the hindwing upperside and, beneath, several white spots which together with the two ocelli form a complete curved series.

The race from the central plateau, subspecies *kurena*, is by far the smallest of all the *cordace* races, males rarely expanding to more than 30 mm and females are not much larger. It is a much darker insect than ssp. *comptena* with the yellow areas of both fore and hindwings restricted in size. Described originally from the valley of the Cuvier River, it is now known that this race ranges from St Valentine's Peak through the Cradle Mountain area, south to the King William Range, across to the Great Lake and on to Tarraleah and the Dee River, always at an altitude of 610 m (2 000 ft) upwards. This is the common butterfly of the swampy button-grass areas of the plateau country.

H. cordace legana is the race confined to the north-eastern corner of the State, separated from the plateau race *kurena* by the broad, drier valleys of the Macquarie and South Esk Rivers. It is much lighter in general appearance because of the restriction of the black markings and the lighter ground colour. The ocelli of both fore and hindwings are much smaller, in some males becoming mere black dots. Described from examples taken in swampy areas around Lake Leake, it is now known to extend from the Lilydale district east to the Mathinna Plains and south to Murderers Tier near Andover, everywhere at an altitude of about 610 m (2 000 ft). In the latter locality it is confined to one small hanging swamp near the crest of the range, the most southerly point in the range of the subspecies. Aberrations have been taken in which the submarginal yellow spots of fore and hindwings are absent, chiefly in the plateau race *kurena*. However, on the contrary, a male of the race *comptena* from Lunawanna has the forewings almost devoid of black markings. While many males of the north-eastern *legana* race are very light yellow in colour the authors have not yet succeeded in finding a white specimen as recorded from Victoria some years ago.

Genus *Argynnina*

The genus *Argynnina* has been much confused by authors who to date have insisted on regarding the eastern and western forms of *A. hobartia* as distinct 'species', while continuing to regard the quite distinct mainland species *A. cyrila* as merely a race of the Tasmanian *A. hobartia*. This, despite the fact that A. J. Turner in his list of the Tasmanian *Lepidoptera* published fifty years ago, clearly stated the grounds for regarding *A. cyrila* as distinct from *A. hobartia*.

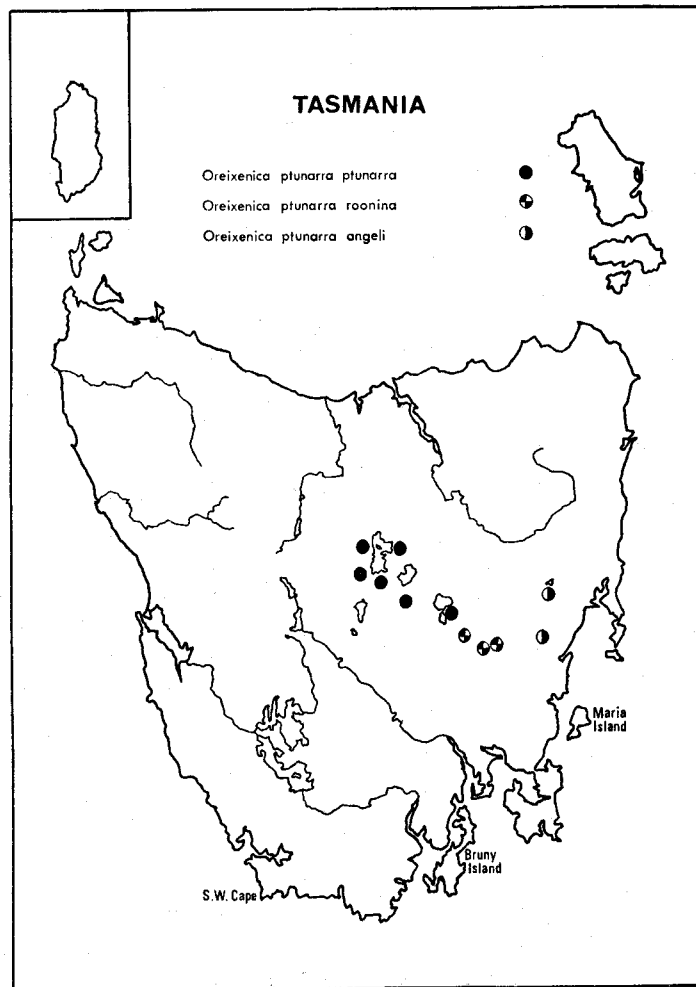
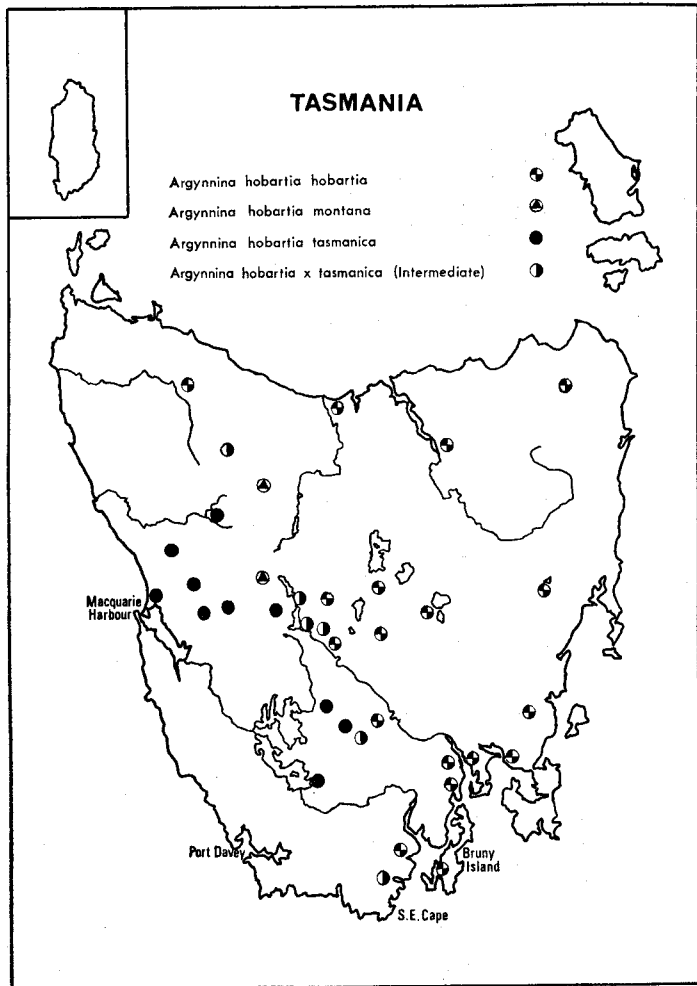
The eastern and western races of *A. hobartia* are markedly different in colour, but not more so than the western and eastern forms of other Tasmanian butterflies, and in 1948 the authors were able to record examples from the western border of the central plateau having some of the characteristics of both 'species'. At that time we had been attempting to prove our contention that *A. tasmanica* and *A. hobartia* were races of the same species, but it was not until 1950 that we succeeded in crossing the highland race and the eastern *hobartia*. The difficulty remains, as then, the need to bring the emergence dates of the races together, since *hobartia* habitually flies some weeks before *tasmanica*, and the mountain subspecies *montana* flies later still. Only when we slowed down the eastern *hobartia* and brought forward the highland *montana* were we successful in getting fertile pairings and offspring. Once we had succeeded in making the crossings, so

producing specimens with some of the characteristics of both parents, it still remained to find similar examples in nature. After more than thirty years collecting the authors now know the distribution pattern of the three races almost completely and can point to at least four districts in which intermediate specimens may be found. It has proved impossible to trust examples from older collections through lack of information on exact localities and collectors' indifference to altitude. As with other Tasmanian butterflies, altitude is of great importance as differences of 150 m (500 feet) and distances of less than eight kilometres can be critical in this island State.

A. hobartia was described in the middle of last century as from 'Van Diemen's Land', but Westwood in forming the specific name obviously knew his specimens came from the vicinity of the city. The species was not illustrated until 1914, when Waterhouse and Lyell figured a specimen from Patersonia. This insect is darker than the average male (or female) from the Hobart area, so included in the accompanying plates is an example taken at an altitude of 120 m (400 ft) within 1.6 km (one mile) of Hobart. The authors have not found that it differs at the lower altitudes on either bank of the Derwent. Here the males expand to about 30 mm and females to about 34 mm; the forewings are cream, barred and margined with black with three white-centred black spots near the apex; the hindwings are orange, lighter near the base, with three marginal white-centred black ocelli. The underside hindwings are characteristic of the ssp. *hobartia*, the colouration being a uniform reddish-brown flecking on a lighter background. Very rarely do the markings of the upperside show through unless the insect is held to the light. In perhaps 50 per cent of examples from south-eastern localities there is a more or less complete row of minute marginal ocelli. This butterfly is often flying in the first few warm days of September—over saplings in suburban gullies and hillsides, attracted to the flowers of broom. It becomes common in mid-October, but by November is usually rare and the 'flight' is over.

The Hobart Brown (*A. hobartia*) ranges from south of Dover along the coast to Cape Portland west at least to the Dip Range and probably around Cape Grim to the Arthur River. Inland it is known to extend in an almost diagonal line from Maydena in the south to Tarraleah and the Steppes, thence north of the Great Western Tiers to the headwaters of the Inglis River south of Yolla. Throughout this eastern and northern area, ssp. *A. h. hobartia* may vary slightly at altitudes up to 915 m (3 000 ft).

A. h. tasmanica was described from Strahan fifty years after the eastern race had been identified. It is found on the coastal plains, the western ranges and the inland districts from Tullah south to the valley of the King River and throughout the south-west, eastwards to the Florentine Valley and thence south to the western slopes of Mt Anne. In contrast with eastern examples the basic colours are black and white. Comparison can best be made by regarding the black bars and marginal markings of the upperside of *hobartia* as so expanded in the western *tasmanica* as to reduce the lighter areas to small spots, especially in the male. The hindwing in the western race always carries a wide black band crossing the median area and again base and margins are so expanded that the lighter areas are restricted to small spots and only the white centres of the ocelli may be seen on both wings. In the highest rainfall districts an almost wholly black male occurs as a rarity. The female is larger, with rounded forewings, also coloured black and white but the lighter areas on both wings are more extensive than in the male, with the first and fourth ocelli of the hindwings clearly visible in these white areas and sometimes these ocelli are surrounded by a small reddish-brown area. The underside hindwing of ssp. *tasmanica* carries a distinctive broad median band, normally rich reddish-brown in colour, but often this becomes purplish-brown or



DISTRIBUTION OF SPECIES FROM THE FAMILY SATYRIDAE

almost black. The marginal ocelli stand out much more prominently than in the eastern race. This is essentially an insect of the high rainfall districts of the west and south-west, flying from the last week in October through November in the mosaic areas where patches of rain-forest are mingled with the acid bogs characterised by button-grass. The early stages of the western *tasmanica* do not differ from the eastern *hobartia*.

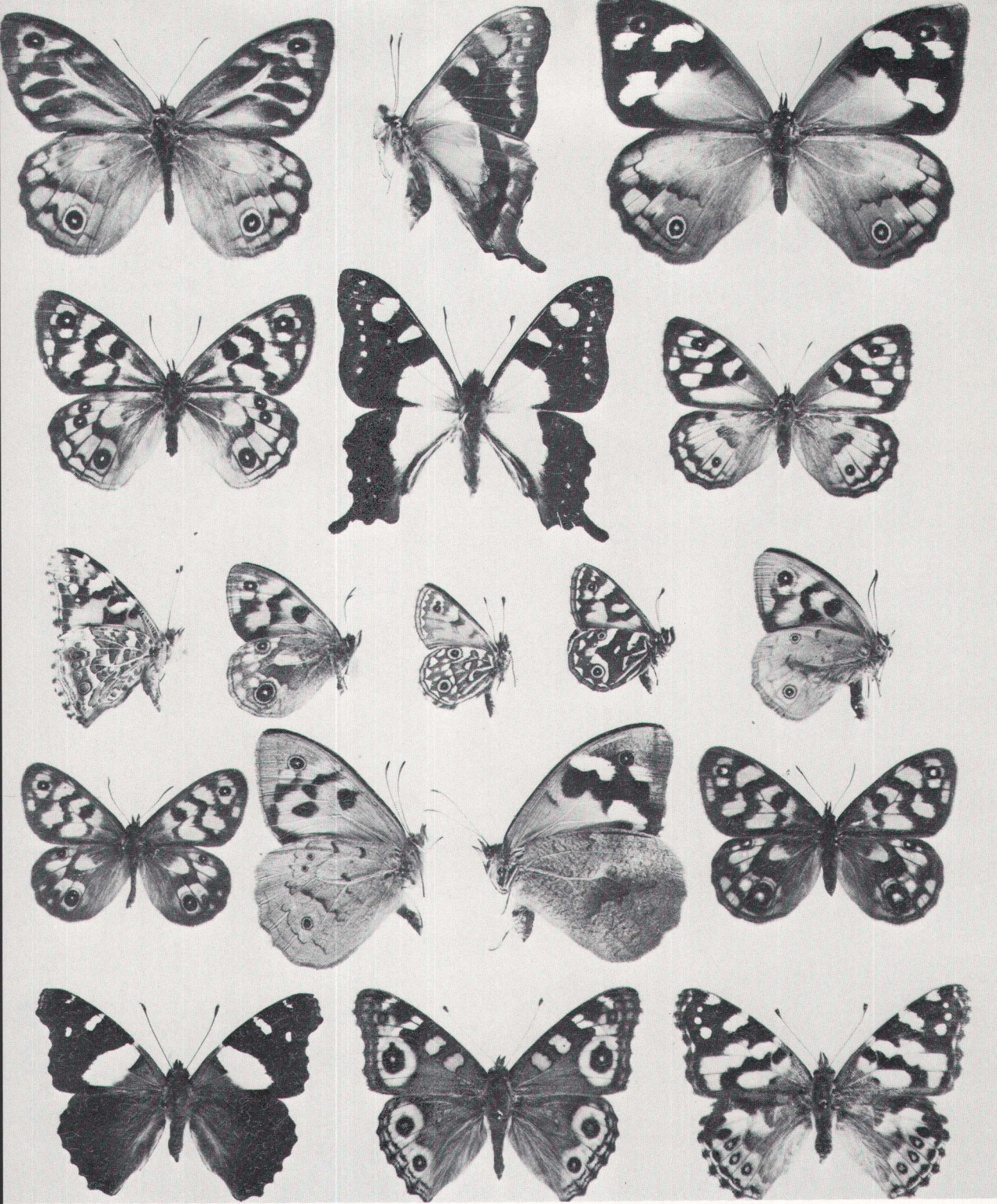
It is in the zone between these two subspecies that the intermediates occur with their complexities of pattern and colour. However, it is first necessary to define the position of a third isolated alpine race, examples of which have been known for fifty years but hitherto unrecognised until the authors discovered the southern limits of its range near Lake Petrarch in 1945. Subspecies *montana* flies from this district north to Cradle Mountain at altitudes of 915 m (3 000 ft) and upwards. Flying throughout December and early January, it is distinguished in that the ground colour is cream, the black bar markings cross both wings but are narrower than in ssp. *tasmanica*, and the lighter areas of the hindwing may be almost wholly coloured reddish-brown. Beneath, the hindwing is intermediate in markings and colour between the eastern and western races. This race has been reared from the egg over a number of years and crosses carried through to the F4 (fourth family) generation, with the eastern ssp. *hobartia*.

There is clearly a transition zone from north-west to south-east, from the middle courses of the Wandle, Fossey and Hatfield Rivers, also in the district south of Lake St Clair and continuing east of Lake King William, again in a restricted area near Maydena, where specimens may be taken showing a variety and complexity of colour and marking. It is possible at least in these four districts to take examples with the colouring of the eastern form but with the markings of the western form and vice versa, both above and beneath. The instability of the species in these districts is clearly evident in random collections taken over a number of years. Similar variations occur south of the Lune River, but here climatic conditions have so far made it impossible to gather a sufficient number of examples for certain judgment. There is future work here for the student.

Genus Oreixenica

The three species of the genus *Oreixenica* are all extremely variable, individually as well as geographically. It would often be true to say that no two examples are exactly alike, although taken in the same sweep of the collecting net. Especially is this true of the subspecies found in the high rainfall areas of the western plateau and the west and south-west coasts, where *O. lathoniella laranda*, *O. orichora paludosa* and *O. ptunarra ptunarra* are to be found in their seasons. All three species are small, not expanding to above 30 mm, with silvery-white markings on the underside hindwing in both sexes. *O. orichora paludosa* (Lucas) 1892 replaces *O. flynni* described by Hardy from Cradle Mountain in 1916. The long and involved history of the name '*Xenica paludosa*' has been told elsewhere, together with the decision to restrict it to this butterfly. Briefly, T. P. Lucas described the insect as from 'Mr Barnard, near Launceston, Tasmania'. L. E. Couchman discussed the name in a study of the genus *Oreixenica* in 1953, pointing out then that the name *paludosa* had remained unknown, because the type specimens were unknown, from the date of publication.

The name has been applied to several different species by different writers, and finally dropped out of use. It was hoped in 1953 that an insect might eventually be found in the north-east to which Lucas' description could be applied. Now that the authors have discovered this 'swamp-inhabiting' butterfly, as its name implies, in a swampy alpine area near Launceston, and moreover in an area



The Swallowtail, Browns and Nymphs

[Dept of Film Production]

H. m. salazar M.

G. m. moggana M.

H. m. salazar F.

H. p. panope F.

G. m. moggana M.

G. k. klugii F.

C. kershawii M.

H. c. comptena M.

O. o. paludosa M.

O. l. laranda M.

H. p. panope M.

H. c. kurena M.

H. m. salazar M.

H. m. salazar F.

H. c. comptena F.

B. itea M.

P. v. calybe M.

C. kershawii F.



<i>H. d. aurantia</i> F.	<i>A. d. dominula</i> F.	<i>T. l. glaucus</i> F.	<i>H. i. idothea</i> F.
<i>O. l. lathoniella</i> M.	<i>O. l. barnardi</i> F.	<i>O. o. paludosa</i> F.	<i>H. i. idothea</i> M.
<i>H. c. leucophaea</i> M.	<i>P. tasmanicus</i> F.	<i>O. w. sotbis</i> F.	<i>A. d. pria</i> M.
<i>Z. o. labradus</i> M.	<i>N. b. hobartensis</i> F.	<i>N. a. insulana</i> F.	<i>H. c. lunawanna</i> F.
<i>H. c. legana</i> M.	<i>O. l. lathoniella</i> form <i>maweena</i> M.	<i>G. k. klugii</i> M.	<i>P. aurifer</i> M.
<i>G. k. klugii</i> M.	<i>H. p. diemeni</i> M.	<i>H. c. legana</i> M.	



Skippers and Blues (undersides)

[Dept of Film Production]

H. d. aurantia M.

H. c. lunawanna M.

H. c. leucophaea M.

T. l. glaucus F.

Ps. c. myrsilus F.

T. p. papyria F.

O. w. sothis F.

M. d. dominula F.

N. b. bobartensis F.

N. s. lavara F.

E. acasta F.

O. m. larana F.

Ps. c. conara F.

O. pt. roonina M.

Z. o. labradus M.

L. boeticus M.

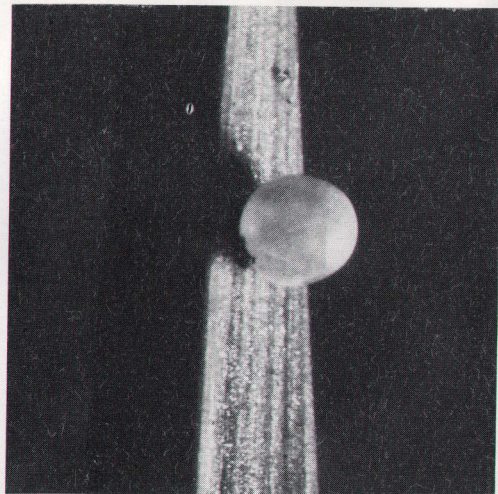
H. i. idothea M.

H. m. marakupa F.

H. c. plebeia F.

Eggs, Caterpillars, Chrysalis

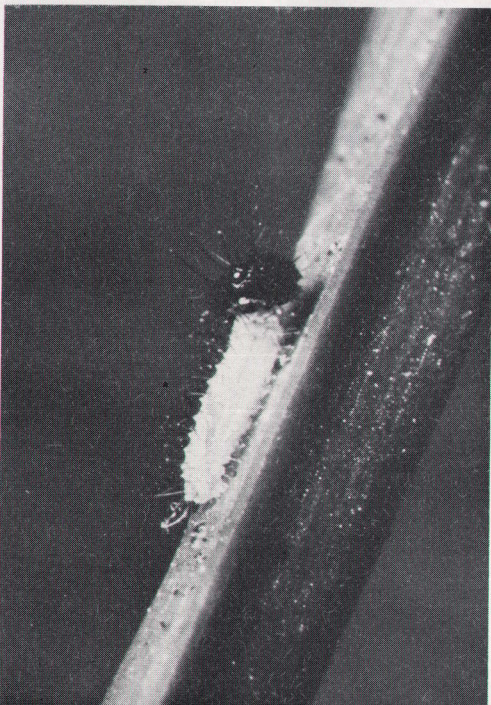
A. bobartia egg



Ps. chlorinda eggs

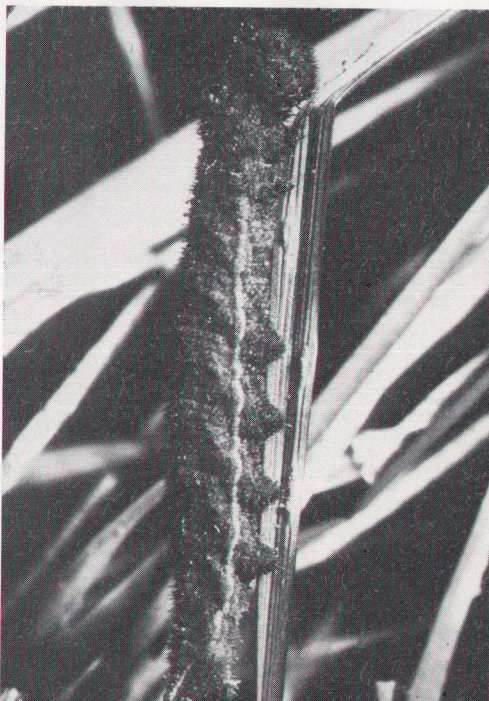


A. bobartia newly hatched



N. leprea pupa

A. bobartia fullfed larva



[Dept of Film Production]





Chlorinda larvae with ants



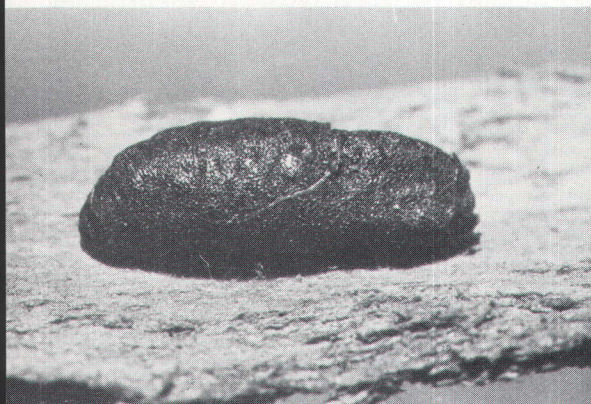
A. hobartia larva ready to pupate



A. hobartia pupa

Caterpillars, Chrysalids, Skipper Shelter

[Dept of Film Production]



Chlorinda pupa



H. chrysotricba full-fed larval shelter



Portrait of Abel Janszoon Tasman (unknown artist) circa 1650

[Dept of Film Production]

(By courtesy of the Tasmanian Museum and Art Gallery)



Endemic, rare and vagrant Tasmanian butterflies

N. l. leprea F.
N. l. leprea M.
O. pt. ptunarra M.
Ps. c. chlorinda M.

N. l. elia M.
A. h. hobartia M.
O. pt. ptunarra F.
Ps. c. chlorinda F.

A. h. hobartia M.
A. h. montana M.
O. pt. roonina M.
Ps. c. conara F.

A. h. tasmanica M.
A. h. tasmanica F.
A. h. montana F.
Ps. c. myrsilus F.

L. boeticus M.

D. p. plexippus M.

O. m. larana M.



The Royal Botanical Gardens, Hobart

now known to have been visited by the Barnard family, there is every justification for applying this prior name to an insect, as its author stated in his original description, 'allied to *X. orichora*'.

O. orichora paludosa (Marsh Brown) is the first species of the genus on the wing and it flies from the first days of January until early March, always at an altitude of about 915 m (3 000 ft) or more, in areas of high rainfall. This fact was drawn to the authors' attention when in 1944 we were able to extend its known range from Cradle Mountain south to the vicinity of the Narcissus River at the northern end of Lake St Clair. It has not been found at the southern end of the lake, but in walking up the valley of the Cuvier River into the 2 285 mm (90 inch) rainfall zone one walks into the range of *O. o. paludosa*, where it is common around Lake Petrarch, Lake Marion and north through the reserve. The Marsh Brown is easily distinguishable by the colour of the upperside, rusty brown with black markings, a double ocellus (white-centred black spots) at the apex of the forewing and a single ocellus at the anal angle of the hindwing. The underside markings of the hindwings tend to become white rather than silver and in the easterly populations the upper ocellus of the forewing is often only a black dot. The western populations tend to become very dark and, especially on the hindwing, the reddish-brown ground colour becomes almost obscured, leaving only the annular ring around the ocellus. The centre of distribution of this butterfly is undoubtedly the lake country between the Walls of Jerusalem and the western shores of the Great Lake where it seems to become more common at the higher altitudes up to almost 1 525 m (5 000 ft) on the West Wall. From here it extends, always above about 760 m (2 500 ft), at least to the eastern slopes of the Eldon Range, north to Cradle Mountain and thence south to the western and northern slopes of the King William Range. Oddly enough it seems not to occur on the eastern shores of Great Lake, but some years ago the authors found an isolated population north of Arthurs Lake, by far the most easterly point in the range of this butterfly. Here it occurs at the most easterly tip of the 1 778 mm (70 inch) isohyet. This, the authors are convinced, is the isolated swampy place from which G. Barnard took the specimens described by Lucas.

O. lathoniella occurs in three subspecies, readily distinguishable within their areas around Hobart, Zeehan and Daisy Dell, but tending to vary where their ranges meet. Above, it is always yellow in colour with black markings, never with the ruddy tint of *O. o. paludosa* nor with the clearly defined double ocelli of the forewing as in that species.

O. lathoniella laranda, the western coastal subspecies, is a most attractive insect, with its rich chocolate-brown hindwing underside, strongly marked with silver. It occurs around the ranges from north of Mt Farrell to south of Mt Darwin, west and south and probably right around the southern and western areas, since specimens taken south of the Lune River show a tendency towards the characteristic hindwing undersurface colour of true ssp. *laranda*. Among many hundreds taken in more than a dozen localities the darkest specimens we have are from the Dundas-King River district, where the rainfall is above 2 540 mm (100 inches) annually.

East of the ranges, around the Cardigan River for example, the specimens tend towards the eastern subspecies *lathoniella* while, to the north, examples from the Bulgobac Creek-Waratah district are transitional to the plateau subspecies *barnardi*. *O. l. laranda* is peculiarly a butterfly of the western wet sedgeland, i.e. the 'button-grass' swamp areas. Occurring later in the season than the eastern race, it is most common through March into early April.

O. lathoniella barnardi was described in 1926 from near Cradle Mountain—actually from the Daisy Dell area a few kilometres north. In this district it is easily separated by its smaller size (expanding to only 24.28 mm), the generally greatly extended black markings of the upperside (especially of the females) and the light greenish-brown colour of the underside hindwing. It is essentially a butterfly of the alpine steppe lands and is always found at an altitude of between 760 and 1 065 m (2 500 and 3 500 ft)—from the Middlesex Plains across the plateau to the Great Lake and along the western shores to the Shannon River. Towards the east in the Interlaken-Oatlands district it grades into typical ssp. *lathoniella* and westwards, as already noted, towards ssp. *laranda*.

The difficulties of sharply differentiating between geographical races of this species becomes evident in the south-west, where in the King William Range the western *laranda* meets the plateau *barnardi* and a few kilometres eastward, through Butler's Gorge to Tarraleah, passes into the light-yellow eastern *lathoniella*. The typical subspecies *lathoniella*, as described by Westwood in 1851 from 'Van Dieman's Land' and restricted to 'the neighbourhood of Hobart' by Waterhouse and Lyell in 1914, is the race from the coastal areas of the north and east, from the Arthur River to Gladstone south to the Port Esperance district. This is the largest form of the species in the State, males and females expanding to 30-33 mm, above, bright yellow with narrow black markings while beneath, the ground colour of the hindwings in most examples is little darker than the colour of the upperside, adorned with broad silver markings. It is often the most abundant small butterfly from mid-January till mid-March at all altitudes to about 760 m (2 500 ft) and is common both on the slopes of Mt Wellington and in the open eucalypt forestlands of the eastern and northern coastal districts.

Variation in the three subspecies usually consists of an extension of the black markings of the upper surface, until in extreme aberrations the yellow ground colour is completely obscured. In more than thirty years intensive collecting only two such specimens are known to have been taken, the authors each took an example on the same day between Fern Tree and the Springs on Mt Wellington. Both these aberrations are almost completely black with only the yellow annular rings around the ocelli standing out in contrast. Occasional female specimens are found in which the black markings extend as a bar across the forewings and this was named form *maweena*. It is rare in the eastern *lathoniella*, is not uncommon in both sexes in the western *laranda*, and is the dominant form in the alpine *barnardi*.

The smallest and perhaps most primitive species in this genus, *O. ptunarra*, is found only in Tasmania. It was described in 1953, using a Tasmanian aboriginal western tribal word for extreme cold, which seemed an eminently suitable name for a butterfly occurring in areas where snow may fall at any time, particularly between May and October. This is a truly alpine species, being found only down to 455 m (1 500 ft) around Oatlands in the centre of its range. When first made known this butterfly had only been found in three areas: the darkest males and the lightest females from Miena, a much larger race with a very light male and fairly dark female from west of Oatlands, and a somewhat intermediate race in an isolated area of the north-east near Lake Leake. Subsequent collecting has enabled the authors to add to this knowledge of its distribution and confirm the distinctiveness of the three originally described subspecies.

As a result of hydro-electric developmental work *O. p. ptunarra*, like the famed 'Shannon Rise' has gone from Miena, but the butterfly continues to hold its own along the western shores of the Great Lake. Here both sexes expand to 25-26 mm and the males have very narrow forewings. The male above is dark-

brown to black, with the cream ground colour appearing only as small spots and there is a small black ocellus surrounded by an ochreous ring at the apex of the forewing and at the anal angle of the hindwing. These ocelli appear also on the underside. The hindwing beneath is marked with silver as in other members of the genus. The female is quite unlike the male, seemingly thinly scaled, light orange-yellow in colour with faint light-brown basal areas and two short bars on the frontal margins of the forewings. Both wings carry ocelli as in the male. This race ranges from Lake Augusta round the western and southern shores of Great Lake at altitudes of about 915 m (3 000 ft) to the edge of the plateau east of Lake Crescent.

Descending from the central plateau to the lower midlands the race *roonina* is found some 24 km (15 miles) west and east of Oatlands at altitudes from 455 to 640 m (1 500 to 2 100 ft). This butterfly is much larger than the western race, expanding to 30-33 mm, and the markings of the male are narrow so that the white ground colour often becomes broadly connected to form bands across either wing. In the female the colouration is similar to ssp. *ptunarra*, but here the two median bars of the forewing are joined, yet very rarely are they extended completely across the wing.

In swampy areas around the headwaters of the Macquarie River and again around Lake Leake is to be found the subspecies *angeli*, named after its discoverer who, unknowingly, had taken two examples in 1947 among a lot of the common *O. lathoniella* and put them aside unset. Months later the finding of these obviously distinct specimens started the intensive collecting which has continued till the present, almost each year producing some new knowledge of the distribution and variation of the species. The sexes of the subspecies *angeli* are intermediate in size between *ptunarra* and *roonina*, expanding to 27-29 mm. Male specimens have the markings as in *roonina*, but the ground colour is yellow, not white as in that race. The females are reddish-orange in colour, the forewing markings prominent, joined and extending as a band across the wing to the inner margin and commonly joined along the veins to the outer margin. The females of this race are the most strongly marked and richly coloured of all the races of the species and in this sex there is a transition from the thinly scaled *ptunarra* in the west, in which the forewing markings are almost absent, through *roonina* to the completely banded *angeli* of the north-east. The males, however, reverse this transition and in *ptunarra* they are the smallest and darkest forms of the collective species while many specimens have an almost unicolourous black hindwing with only the ocellus standing out. G. Ellis has a male taken in March 1975 near the Great Lake which, except for the ocelli and a faint indication of marginal dots, is wholly black. We possess several males which approach this in obliteration of ground colour.

The geographically intermediate ssp. *roonina* is the largest and lightest form, while the isolated ssp. *angeli* of the north-east, separated from *ptunarra* by the broad valley of the Macquarie River, is intermediate in size and markings. One link which continues to elude the authors is in the district between Tooms Lake and Lake Leake, yet the examples from each area are so similar that we are sure a link existed even if it has now been destroyed by woodchipping operations, as has the type locality near Lake Leake. Random collections have shown that the specimens from the western and north-eastern districts inhabited by the collective species are very variable, the most stable populations are in the centre of the range of this butterfly around Oatlands. Although at present we place the entire Great Lake-Lake Crescent series of this butterfly under the name *ptunarra*, in the light of the material collected since this was described in 1953 we think the populations to the north-east and south-east of the Great Lake may be worthy of

separation at some future date. Further searching north and east of Avoca has failed to turn up this species and the authors now are reasonably sure it does not cross the valley of the South Esk, nor does it reach Lake St Clair at the western end of its range.

Genus *Geitoneura*

Geitoneura klugii klugii, described from specimens taken during the visit of the French corvette La Coquille to Sydney in 1824, is widely spread throughout southern Australia. In Tasmania this butterfly is found from sea-level to more than 915 m (3 000 ft) everywhere in the island. It is on the wing usually during the last few days of December and continues through until early March. Since the larva is a grass-feeder this species is more common in open forest and grassland, but examples may be taken as readily around the lakes of the plateau and the sand-dunes of the coast. The butterfly expands to about 40 mm with the female slightly larger in lower altitude areas. Above, it is marked with black on a rusty-brown ground colour, and may be distinguished by the grey-brown underside of the hindwing, in the centre of which is a dark-brown blotch. The apex of the forewing above carries a prominent white-spotted black ocellus, a slightly smaller eye-spot is present at the anal angle of the hindwing. Females, which tend to be lighter in ground colour above, are distinguishable by the absence of the diagonal streak of grey sex scales found on the forewing of the male. This widespread species does not vary greatly with aberrations rarely occurring in which the ground colour above tends to lighten through failure of pigment. Specimens are known with smaller or larger patches of cream or even white and one example is known in which the forewings and the outer two-thirds of the hindwings are white while otherwise, in size and markings, it is a normal male.

Endemic Species

Of all Tasmanian butterflies only three species are truly endemic—that is, they have no subspecies found elsewhere in Australia. All three belong to the subfamily *Satyrinae*.

Nesoxenica leprea, occurring in two races, is a peculiar insect in its appearance and distribution, as already noted. Here we draw attention to the underside resemblance to the black and white lichens associated with *Nothofagus*. Fifty years ago A. J. Turner noted the butterfly's habit of settling on the lichen-covered twigs of the tree in cold wet weather, and also noted that this association and protective resemblance must be of very ancient origin. This butterfly is surely a relict species of the Antarctic connection. During the glacial periods of the Pleistocene, when the belt of *Nothofagus* would have been continuous along the land connection from western Tasmania across the Strait through the Otway Ranges northward, the insect may have ranged into Victoria, but could not survive the postglacial climatic conditions even though the tree-species continue to flourish there. It is, in fact, a 'cool-adapted' insect. Then too the unusual foodplant of the caterpillar stage indicates a long association with wet rain-forest climatic conditions. Early writers almost invariably argued that because the butterfly was an undoubted member of the satyrid group its food plant must be some kind of grass. When the authors first discovered its life-history in 1947, they quickly proved that if given half-a-dozen species of grass the caterpillars will starve. Subsequent experience with both races of the butterfly has proved that *Uncinia tenella*, a plant of the order Cyperaceae is the only acceptable foodplant, itself a common associate of the myrtle-beech in the rain-forest areas of Tasmania.

Argynnina hobartia and its races, in contrast to *Nesoxenica*, must have evolved from an ancient species which originally crossed the Bassian land connection during an early glacial phase of the Pleistocene era since there is an allied species which

ranges widely through southern Victoria and north along the ranges to the Queensland border. The Tasmanian population separated into eastern, mountain and western races, incidentally losing the male sex-scales which are found in the mainland insect. The latter does not differ widely in its extended range, whereas the Tasmanian subspecies are widely divergent, and are still, by some authors, regarded as distinct species. Moreover, within the island these races are separated by zones of no more than 16 km (10 miles) in width, and within these zones intermediates occur. Since the early stages are dependent on grasses, the ancient species could readily spread over wide areas, and could, as happens at the present time, in a few years re-colonise areas destroyed by fire.

The third endemic species, *O. ptunarra*, of which at least three races are to be found in the island, is evidently also a species of great antiquity. The sexes, unlike the allied members of the genus, differ widely in colour and markings, though retaining the characteristic silver markings of the underside. More than any other species *O. ptunarra* has adapted to an exclusively alpine climate, and is obviously a relic of an earlier, colder age. The pupal stage, passed deep down in a tuft of snow grass, unattached, is paralleled by another alpine species, *O. latialis* found above 1 525 m (5 000 ft) on Mt Kosciusko.

Vagrant Species

Six butterfly species have been recorded occasionally in the State, usually at intervals of years. To refer to them as migrants seems confusing, since migration implies a return flight, and this is clearly impossible considering the predominant N. and N.W. winds of the summer months. We use the term vagrant for these odd records, since none of the six species are known to survive the southern winters, even when eggs are laid.

Unfortunately these recordings are often indefinite: 'an occasional visitor to Tasmania' occurs in books to the present day. In the case of almost every such record the authors have been able to test that this remark is based upon a writer's record of many years ago. For example, of the three species of Whites (Pieridae) recorded, one, *Appias paulina ega* is based upon a single example taken in Launceston in 1917 by F. M. Littler; we know of no record since. *Eurema smilax* is said to have been taken at Stanley in 1941 among a number of Cabbage Whites and no further examples have been noted. The third species, *Anapheis java teutonia*, the Caper White, is well known as moving east and south in vast flights from inland New South Wales and Queensland. Since the 1956 catalogue of Tasmanian butterflies there have been two further records: one male taken by D. Ziegeler in West Hobart (December 1969), and one male taken at Geeveston by D. Ellis (December 1973).

Lampides boeticus, the Tailed Blue, is a wide-ranging species that is well known as an infrequent capture in southern England at the north-western limits of its range, and as an occasional visitor to southern Tasmania at its south-eastern limits. It may not be seen for years, and then only single examples may be found, always in late summer. Originally known from two examples in the Waterhouse collection labelled 'Launceston D. E. Macintyre' without further information, they are believed to have been taken before 1937. By 1956 the authors were able to record six males and two females taken during March 1943, January 1946, February-April 1948, March-April 1951 and March-April 1956. All were collected on a diagonal flight-path (N.W.-S.E.) in West Hobart. We did not see a specimen again until March 1969, a thirteen year interval. G. Ellis, however, took one example during February 1960 in Sandy Bay. No more were seen until February 1972, when several were recorded, including one female egg-laying on the flowers of broom, but the resultant larvae did not survive the winter. The year 1974 was

extraordinary as M. Pickett took specimens almost daily on the eastern shores of the Derwent during March; on the western shores the authors have records from 27 January through February, on 3 March the first females were seen ovipositing on flowers of broom and continued on almost daily until 3 May, when one worn female was caught and released. One example only was seen on 15 March 1975 and one only in 1976—on 13 February. At the other end of the island P. Tyler took three males and saw several others on 14 February 1976 between Smithton and Redpa, noting, as the authors so frequently noted in the south, that the wind was strongly from the north-west. This butterfly is much larger than the common Grass Blue, it flies in a swift jerky manner and appears almost bluish-white while on the wing due to the broad white bands of the underside. The tailed hindwings are distinctive in conjunction with the blue upperside colour in both sexes.

Two species of *Danaus* have occurred at intervals, *D. plexippus* the Monarch or Wanderer, and *D. chrysippus petilia*, the Lesser Wanderer. The former is well known as a true migrant, moving south in the U.S.A. and southern Canada in the autumn with a return flight to the north in the spring. In Tasmania, with the notable exception of 1959, only odd specimens have been taken at intervals of years. H. J. King took a specimen at Launceston in 1956. Three years later he saw examples flying and took three larvae on the cotton (or swan) plant (*Asclepias*) at Invermay in February. In March 1959 one butterfly was identified as it crossed Queenborough Oval during a sporting carnival. Later that month five caterpillars were taken from a New Town garden to the Tasmanian Museum and on 30 March five more larvae and four pupae were found on a single plant of *Asclepias* in the same garden, eight perfect specimens eventually emerging. In March 1967 the authors identified one butterfly flying and settling in a Yolla garden, and in the period from December 1972 to January 1973 specimens were reported flying around and settling on a number of old swan plants at Darlington on Maria Island. Finally, and significantly, one crippled butterfly which had been taken from the windows of a hangar at Cambridge airport was brought to the authors by J. R. Penprase in mid-October 1972. This specimen could not have flown any distance and it must have been imported with air-cargo. The date and place points to the possibility of specimens being brought into the State, escaping and, if fortunate, finding a plant of *Asclepias* in some suburban garden and eventually producing the examples recorded later in the season. The caterpillar is a most conspicuous object on its foodplant, grey-white with bands of black and yellow, while the butterfly cannot be confused with any normally taken. Expanding to some 90 mm it is rich tawny in colour with a white-spotted border to all wings.

The Allport Collection in the State Library contains the Mary Martin Allport sketchbook in which is a water colour dated 17 February 1878 titled 'Caterpillar of Cotton Plant'. This is without doubt the larva of *D. plexippus* and is the earliest record of the species in Tasmania. The time of painting was only a few years after the earliest records known of the introduction of the butterfly to Queensland and New South Wales.

The history of the Lesser Wanderer, *D. chrysippus petilia*, in this State has greatly changed since in 1956 the authors were able to record a single specimen in the Australian Museum taken at Zeehan in February-March 1907. Nine miles north of Bronte on the Marlborough Highway the authors followed a specimen for some distance until it veered away into the scrub in a north-west direction. The white bars of the forewings were clearly visible as it glided along in front of the car (on 23 February 1968). Three years later G. Seymour in March took one example and saw four others near Trial Harbour but they had disappeared when we camped there a week later. Then, for one collector, a remarkable experience. G. Ellis in the Cuvier River valley on 30 January 1974 took one specimen, another eleven

days later between Bronte and Tarraleah, and on 15 February the same year a third specimen at South Arm. The latest capture by the same collector was a male in perfect condition taken on the N.E. shoulder of Mt Anne at about 610 m (2 000 ft) on 15 December 1975. Again the authors were collecting all day at about 305 m (1 000 ft) below our friend on the same mountain, but saw nothing. Seasonally, the latter record was much earlier than all previous records of *D. c. petilia* made in Tasmania. This butterfly is yellowish-brown in colour and the white band across the apex of the forewing marks it out distinctively.

Distribution

Listing the butterflies of Tasmania according to the differing habitats in which they may be found is an aid to identification; it will also enable the would-be student to know where to look for a desired species. Such a listing is given below in table form:

Habitats of Tasmanian Butterflies

GENERALLY DISTRIBUTED SPECIES AT ALTITUDES FROM SEA-LEVEL TO UPWARDS OF 305 METRES (1 000 ft)

Hesperilla domysa aurantia
Pasma tasmanicus
Pieris rapae
Erina acasta
Zizina otis labradus

Precis villida calybe
Cynthia keershawii
Bassaris itea
Heteronympha merope salazar
Geitoneura klugii

COASTAL AND SHORELINE SPECIES UP TO CIRCA 610 METRES (2 000 ft)

Trapezites lutea glaucus
Anisynta dominula dominula
Oreisplanus munionga larana
Hesperilla idothea
Hesperilla chrysotricha plebeia
Hesperilla chrysotricha lunawanna
Hesperilla mastersi marakupa
Hesperilla chaostola leucophaea
Taractrocera papyria
Ocybadistes walkeri sothis
Neolucia agricola insulana
Neolucia serpentata lavana

Neolucia serpentata serpentata (Flinders Island)
Paralucia aurifer
Pseudalmenus chlorinda chlorinda
Pseudalmenus chlorinda myrsilus
Pseudalmenus chlorinda conara
Heteronympha penelope diemini
Heteronympha cordace comptena
Argynnia hobartia hobartia
Argynnia hobartia tasmanica
Oreixenica lathoniella lathoniella
Oreixenica lathoniella larana

ALPINE SPECIES, ALTITUDES OF 610 metres (2 000 ft) UPWARDS

Anisynta dominula pria
Hesperilla domysa aurantia
Pasma tasmanicus
Neolucia agricola insulana
Neolucia hobartensis
Nesoixenica leprea leprea
Nesoixenica leprea elia
Heteronympha penelope panope
Heteronympha cordace legana

Heteronympha cordace kurena
Argynnia hobartia hobartia
Argynnia hobartia tasmanica
Argynnia hobartia montana
Oreixenica orichora paludosa
Oreixenica lathoniella barnardi
Oreixenica ptunarra ptunarra
Oreixenica ptunarra roonina
Oreixenica ptunarra angeli

RAIN FOREST SPECIES

Graphium macleayanus macleayanus
Graphium macleayanus moggana

Nesoixenica leprea leprea
Nesoixenica leprea elia

Endangered Species

Skippers

Among the half-dozen species of all Tasmanian butterflies in danger of extermination, it is possible to separate two skippers because of the extremely small areas to which they are, or were, confined. *O. munionga larana* has never been taken away from one small swamp in the extreme north-west and, although searched for outside the triangle occupied by the Van Diemen's Land Co., no other suitable habitat has been found. With the extension of farming on the coastlands and the consequent destruction of the swampy (and only) areas in which the foodplant, *Carex*, can exist, this butterfly is doomed. This is all the more tragic because elsewhere this species does not occur below 1 220 m (4 000 ft) (in the Victorian Alps) and once the Tasmanian colony is exterminated it can never recur.

Similarly, in the extreme north-east *H. mastersi marakupa* has been found only near Bridport on the edge of the heathlands, where the original locality has been cleared for cattle raising. The nearest mainland locality for this species is in north-east Victoria.

H. chaostola leucophaea is in a different category, since it seems to be an inhabitant chiefly of the sandy hillsides of the Derwent estuary. Housing estates have destroyed its habitat on Knocklofty and around Kingston where the authors took it in numbers 30 years ago, and no new locality has been found. It may linger on some similar hillside in the Channel district, or on the east coast north of Bicheno, but there is no record of a specimen having been taken in recent years.

The Tasmanian Hairstreak

Pseudalmenus chlorinda has suffered more than any local species of butterfly because of its highly vulnerable life-history. Needing, as it does in Tasmania, the close association of a eucalypt (almost exclusively *E. viminalis*), an *Acacia* (with rare exceptions *A. dealbata*) and an attendant ant (*Iridomyrmex*) on the eucalypt, the Tasmanian Hairstreak has been exterminated over wide areas where one or other of its required associates has been destroyed. It had obviously survived the occasional fires lit by the Aborigines over many thousands of years, but the widespread clearing and annual burning which has been carried out during the past three decades has wiped out this sedentary species from the majority of its restricted localities. The authors located the butterfly (not uncommonly) in more than 50 localities following the discovery of its life-history in 1945, but during the past few years we have seen the destruction of the majority of these habitats, with the consequent extermination of the butterfly. As a result it is now difficult to think of 10 areas within the island where the Hairstreak may survive.

So-called 'pasture improvement' involving the destruction of every single mature eucalypt and wattle in paddocks and hillsides spelt the end for *P. c. conara*, while 'clear-felling' and the woodchip industry have devastated habitats on the east coast areas from Rheban to Upper Scamander and inland along the South Esk Valley where *P. c. chlorinda* was formerly found. Along the north coast from the Rubicon River through the lower Tamar Valley to Bridport and in the north-east, landholders have not left a mature or aged eucalypt in a score of cleared areas where the butterfly once occurred. Without the shelter of such trees with their colonies of 'stink-ants' the species has no chance of survival. A small colony of the Tasmanian Hairstreak once lived in a very restricted area near the Jordan River in which the foodplant consisted solely of Black Wattle (*A. mearnsii*). In this colony the females were of a form in which the forewing band was light cream in colour instead of the normal red-orange—every female taken over a period of several years was of this colouring, while the male was the normal form

of *c. chlorinda*. The whole area was subsequently cleared and not a tree now remains to harbour the insect, a unique form which is now extinct. Another extinct form is one which the authors once recorded from the western shores of the Derwent. Housing developments have destroyed the insect near Kingston and clearing and burning has eliminated the insect near Snug. Despite years of searching the authors know of no locality for the butterfly on the western shores of the Derwent. Unless immediate steps are taken to prevent clearing and burning in selective reserves in the north and east of the State this unique butterfly will be completely lost to Tasmania.

The Bright-Eyed Brown

The final species to be included in this section (although there are others) must be *H. cordace comptena*. This western lowland race (as the other races) is dependent on its larval foodplant, *Carex*, itself a species of the swamplands. The policy of systematically firing thousands of hectares of button-grass plains, coupled with the flooding of other large areas by hydro-electric developments, has wiped out this race in much of the west and south-west.

It is highly probable that several threatened species of Tasmanian butterflies will become extinct over the next few years unless certain changes currently being made to the environment are halted. Prevention of such changes would obviously require consultation by authorities in the State with experts in each of the natural sciences.

REFERENCES

Every work which contains the original description of a Tasmanian butterfly is listed, together with every work touching on the subject published within the State (excepting only the vast literature dealing with the Cabbage White butterfly as a pest species):

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Chapter 3

GOVERNMENT AND ADMINISTRATION

Introduction

Government in Tasmania is exercised at three levels:

- (i) The Federal Government, with authority based on a written constitution, and centred in Canberra.
- (ii) The State, with residual powers, and centred in Hobart.
- (iii) The cities and municipalities, with authority derived from State acts, and operating in 49 sub-divisions of the State.

This chapter deals primarily with the State Government and with Tasmanian representation in the Federal Parliament. The administration of the cities and municipalities is described in Chapter 4, 'Local Government'. A more detailed outline of the Tasmanian system of government is included in the 1976 and earlier editions of the *Year Book*.

TASMANIAN REPRESENTATION IN FEDERAL PARLIAMENT

The Federal Parliament consists of the Queen, a Senate and a House of Representatives. The Queen is represented in Australia by the Governor-General.

The House of Representatives

Representation in the House of Representatives is based upon the general principle of having, as nearly as practicable, electorates with equal numbers of electors. This is only possible if regular electoral redistributions are implemented. The following table indicates the state of the House of Representatives at the elections immediately following electoral redistributions and/or passage of legislation creating additional electorates:

Membership: House of Representatives

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T. (a)	A.C.T. (b)	Total
1948	28	20	10	6	5	5	1	..	75
1949 (c) ..	47	33	18	10	8	5	1	1	123
1955 (c) ..	46	33	18	11	9	5	1	1	124
1969 (c) ..	45	34	18	12	9	5	1	1	125
1974	45	34	18	12	10	5	1	2	127

(a) Representative in House since 1922; full voting rights granted 1969.

(b) Representative in House since 1949; full voting rights granted 1966.

(c) Election following an electoral redistribution.

Elections for the House of Representatives

Australia is currently divided into 127 single-member electorates and electors are required to cast a vote for every candidate standing within the electorate in order of their preference. Election of members is carried out in accordance with the principles of the absolute majority through use of the alternative vote (see 'Elections for Legislative Council' for a description of similar electoral principles). If a vacancy occurs in the House of Representatives, it is filled by holding a by-election in the electorate concerned. Elections for the House of Representatives must be held at least every three years.

The following table lists the Tasmanian members of the House of Representatives elected on 13 December 1975, together with the party affiliation and electorate of each member:

House of Representatives: Tasmanian Members

Member	Party affiliation	Electoral division
Burr, M. A.	Liberal	Wilmot
Goodluck, B. J.	Liberal	Franklin
Groom, R. J.	Liberal	Braddon
Hodgman, M.	Liberal	Denison
Newman, K. E. (a)	Liberal	Bass

(a) Federal Minister for the Environment, Housing and Community Development.

The Senate

In the Senate, each state is represented by ten senators and, in addition, the Australian Capital Territory and the Northern Territory have been represented by two 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 five 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, and election of members is carried out in accordance with the principles of proportional representation by the single transferable vote (see 'Elections for House of Assembly' in the 1971 *Year Book* for a description of similar electoral principles).

The following table lists the senators for Tasmania elected on 13 December 1975 together with party affiliation and year of retirement:

Senate: Tasmanian Members

Senator	Party affiliation	Retires in year
Archer, B. R.	Liberal	1978
Devitt, D. M.	A.L.P.	1978
Grimes, Dr D. J.	A.L.P.	1978
Harradine, R. W. B.	Independent	1981
O'Byrne, J. H.	A.L.P.	1981
Rae, P. E.	Liberal	1981
Townley, M.	Liberal	1981
Walters, M. S. (Mrs)	Liberal	1978
Wriedt, K. S.	A.L.P.	1981
Wright, R. C.	Liberal	1978

If a vacancy occurs in the Senate, the appropriate state government nominates a replacement who sits until the next general election (either for the House of Representatives or for the Senate), when an election is held to fill the vacancy. If a senator fills such a vacancy through an election held at the same time as an election for the House of Representatives, his term will be the same as if the vacating member's term were to run its full course. If the vacant seat is contested at an ordinary Senate election, then six, instead of the normal five candidates, will be elected in the state affected and the senator last elected will fill the vacancy for a term shorter than the full six years.

THE TASMANIAN GOVERNMENT

Division of Power

Under the *Commonwealth of Australia Act* 1900, the State of Tasmania surrendered part of its sovereignty and it was possible, at that point in time, to classify the totality of powers to be vested in the Federal Government and the State as follows:

- (i) Exclusive powers to be exercised by the Federal Government alone.
- (ii) Concurrent powers to be exercised both by the Federal Government and the State (subject to the supremacy of Federal Government law in cases of inconsistency).
- (iii) Residual powers to be exercised by the State.

Since federation there have been considerable changes in functions actually performed by the two governments due to constitutional amendments and to inter-governmental agreements affecting function. It will suffice, therefore, to list the main fields of activity of the Federal Government today:

Foreign affairs and diplomatic representation; maintenance of the armed forces; customs and excise; posts and telegraphs; control of broadcasting and television; control of civil aviation; repatriation of ex-servicemen; immigration; industrial arbitration for national industries; control of coinage and currency; overseas trade promotion; employment service; age, invalid and widows' pensions; national health benefits; federal territories and overseas dependencies; census and statistics; meteorological service; federal courts and police; control of banking; collection of sales and income taxes; housing assistance and defence service homes; scientific and industrial research; management of state and national debt; lighthouses and navigation; Australian territorial sea and sea-bed. (For a more detailed treatment of this subject, the *Constitution* in Chapter 1 of the *Year Book of Australia* is recommended.)

The departments, authorities, etc. of the Tasmanian Government are listed in a later section of this chapter headed 'The Present System of Government'.

The State Governor

Tasmania follows British tradition and accepts as its Queen, Elizabeth the Second. Her Majesty appoints the Governor who acts as head of state, generally for a five-year term. The relationship existing between the Queen and the British Parliament is broadly the same as that existing between the Governor and the Tasmanian Parliament. For details relating to the Governor's powers and functions, see the 1976 and earlier *Year Books*.

Until the succession of Sir Stanley Burbury, KBE on 5 December 1973, Tasmanian governors since the first settlement came from the United Kingdom, although in some other states and the Commonwealth, Australians had been appointed to vice-regal offices. Sir Stanley was sworn in on 5 December 1973, succeeding Lt-General Sir Edric Bastyan, a former Governor of South Australia.

The next table shows the succession of governors from 1930. Administrators and lieutenant-governors (who act in place of the Governor in the event of his death, incapacity, removal or absence from the State) are only included where necessary, to maintain a continuous time series (i.e. short periods of relief during a governorship are excluded). A complete list from 1803 is included in the 1976 *Year Book*.

Succession of Governors, Acting Governors, Administrators, etc. from 1930

Name	Designation	Period
Sir James O'Grady, KCMG	Governor	23.12.24 - 23.12.30
Sir Herbert Nicholls, KCMG	Lieutenant-Governor	23.12.30 - 4. 8.33
Sir Ernest Clark, GCMG, KCB, CBE	Governor	4. 8.33 - 4. 8.45
Sir John Morris	Administrator	4. 8.45 - 24.12.45
Admiral Sir Hugh Binney, KCB, KCMG, DSO	Governor	24.12.45 - 8. 5.51
Sir John Morris, KCMG	Administrator	8. 5.51 - 22. 8.51
Rt Hon. Sir Ronald Cross, Bart, KCMG, KCVO	Governor	22. 8.51 - 4. 6.58
Hon. Sir Stanley Burbury, KBE	Administrator	4. 6.58 - 21.10.59
Rt Hon. the Lord Rowallan, KT, KBE, MC	Governor	21.10.59 - 25. 3.63
Hon. Sir Stanley Burbury, KBE	Administrator	25. 3.63 - 24. 9.63
Lt-General Sir Charles Gairdner, KCMG, KCVO, KBE, CB	Governor	24. 9.63 - 11. 7.68
Hon. Sir Stanley Burbury, KBE	Administrator	11. 7.68 - 2.12.68
Lt-General Sir Edric Bastyan, KCMG, KCVO, KBE, CB	Governor	2.12.68 - 30.11.73
Hon. Mr Justice Green	Administrator	30.11.73 - 5.12.73
Hon. Sir Stanley Burbury, KBE	Governor	5.12.73 -

The Cabinet and Executive Government

General

In Tasmania, as in the other states and the Federal Government, executive government is based on the system which was evolved in Britain in the 18th century, and which is generally known as 'Cabinet', or 'responsible' government. Its essence is that the head of the state (in Tasmania, the Governor representing Her Majesty the Queen) should perform governmental acts on the advice of his ministers; that he should choose his principal ministers of state from members of parliament belonging to the party, or coalition of parties, commanding a majority in the popular house; that the ministry so chosen should be collectively responsible to that house for the government of the country; and that the ministry should resign 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 the government at all. In law, still, the executive power of the State is exercised by the Governor who is advised by the Executive Council which he himself has appointed and which meets for certain formal purposes. The whole policy of a ministry is, in practice, determined by the ministers of the Crown, meeting without the Governor under the chairmanship of the Premier, and this body is known as the Cabinet.

The Appointment of Ministers

Legally, ministers hold office during the pleasure of the Governor. In practice, however, the discretion of the head of state in the choice of ministers is limited by the conventions on which the Cabinet system rests. When a ministry resigns, the Governor's custom is to send for the leader of the party which commands a majority in the lower house, and to commission him as premier, to 'form a ministry'—that is, to nominate other persons to be appointed as ministers of the Crown and to serve as his colleagues in the Cabinet.

The *Constitution Act 1854* defined the Parliament of Tasmania as 'the Governor and the Legislative Council and House of Assembly together'. Although no legal requirements enforce it, the selection of all ministers of the Crown from Parliament stems from the British tradition and sharply contrasts with the American system which requires its ministers not to be members of Congress.

At 12 August 1976, the ministry led by the Hon. W. A. Neilson, was:

Ministry at 30 March 1976

Name	House	Responsibility (a)
The Hon. W. A. Neilson	Assembly	Premier, Treasurer, Planning and Development
The Hon. D. A. Lowe	Assembly	Deputy Premier, Health, Industrial Relations
The Hon. B. K. Miller	Legislative Council	Attorney-General, Police, Road Safety, Consumer Affairs
The Hon. N. L. C. Batt	Assembly	Education, Recreation, Federal Affairs
The Hon. M. T. C. Barnard	Assembly	Tourism, the Environment
The Hon. E. W. Barnard	Assembly	Agriculture and Fisheries, Lands
The Hon. H. D. Farquhar	Assembly	Public Works and Water Supplies
The Hon. G. D. Chisholm	Assembly	Transport, Racing and Gaming, Local Government
The Hon. S. C. H. Frost	Assembly	Industrial Development, Forests, Mines
The Hon. D. J. Baldock	Assembly	Housing, Social Welfare

(a) See section 'The Present System of Government' later in chapter for more detailed statement of responsibility.

Premiers

The following lists Premiers of Tasmania from 1930 (a complete list from 1856 is included in the 1976 *Year Book*):

Premiers from 1930

Name of Premier	Term of office		Duration of office (months)
	From	To	
J. C. McPhee	15. 6.28	15. 3.34	69
Sir Walter Lee	15. 3.34	22. 6.34	3
A. G. Ogilvie (a)	22. 6.34	10. 6.39	60
E. Dwyer Gray	11. 6.39	18.12.39	6
R. Cosgrove	18.12.39	18.12.47	96
E. Brooker	18.12.47	25. 2.48	2
R. Cosgrove	25. 2.48	26. 8.58	126
E. E. Reece	26. 8.58	26. 5.69	129
W. A. Bethune	26. 5.69	3. 5.72	35
E. E. Reece	3. 5.72	31. 3.75	35
W. A. Neilson	31. 3.75		

(a) Tasmania had an unbroken succession of Labor premiers, starting with the Ogilvie Ministry (1934) until the resignation of the Reece government (following electoral defeat) on 26 May 1969.

The House of Assembly

The Tasmanian Lower House comprises 35 members elected from five seven-member electorates. The *Constitution Act* 1972 provided that the Assembly chosen at the elections held on 22 April 1972 would continue in office for a maximum term of five years, and that thereafter the term for the House of Assembly would be four years. (See the 1976 *Year Book* for terms applying prior to 1972.)

Elections for the House of Assembly

Elections for the House of Assembly are conducted under a system which can be classified as proportional representation by the single transferable vote (commonly known as the Hare-Clark system).

The essential features of the system are as follows:

- (i) For an elector to cast a valid vote, he must express at least seven preferences.
- (ii) Names on the voting papers are arranged in distinct groups to facilitate recognition of allegiance to parties.
- (iii) To secure election, candidates must secure a quota in accordance with the Droop formula (i.e. the total first-preference votes in the constituency divided by eight, plus one vote).
- (iv) Should a candidate secure an exact quota on first preferences, his voting papers are set aside as finally dealt with.
- (v) If the first successful candidate secures a surplus above the quota, then all his voting papers are re-examined to determine which candidates should secure the second preferences.
- (vi) The second preferences are first adjusted by multiplying them by a fraction called the transfer value. The transfer value is calculated by dividing the successful candidate's surplus first-preference votes by his total first preferences. The second-preference votes, adjusted in this way, are now transferred to other candidates.
- (vii) When repetition of the above process results in a position where no further candidates can reach a quota, the candidate who is lowest on the poll is excluded and the preferences shown on his voting papers transferred to the remaining candidates.

The above processes are repeated until seven candidates have been elected. As might be expected, the counting of votes, calculation of transfer values and the transferring of votes are time-consuming operations and a week may elapse before the declaration of a poll.

Advantages of the Hare-Clark System: The major advantage claimed for the system is that the composition of the House of Assembly tends to faithfully reflect the wishes of the electors viewed on a state basis, and that a party with a minority of first preferences is most unlikely to obtain a majority of seats, as sometimes occurs in systems with single-member constituencies. By way of example, South Australia, using single-member electorates has sometimes been governed by parties receiving a minority of votes but a majority of seats, other Australian states have had similar experiences.

Leaving aside the matter of independents and minority parties, and assuming that only candidates from the two major parties are elected, then the present normal pattern is for each constituency to elect four candidates from one of the major parties and three from the other. It follows, therefore, that the Opposition is normally always adequately represented in the House of Assembly and supporters of the opposition party always have representatives for their constituency.

The next table shows the results of House of Assembly elections by parties from 1937:

Representation of Parties for the Whole State, 1937-1972
House of Assembly

Election Year	Labor		Liberal		Other (a)	
	Proportionate share (b)	Seats won	Proportionate share (b)	Seats won	Proportionate share (b)	Seats won
1937	17.61	18	11.64	12	0.75	..
1941	18.78	20	10.98	10	0.24	..
1946	15.29	16	10.27	12	4.44	2
1948	14.82	15	11.35	12	3.83	3
1950	14.59	15	14.27	14	1.14	1
1955	15.79	15	13.60	15	0.61	..
1956	15.08	15	13.08	15	1.84	..
1959 (c) ..	15.58	17	14.37	16	5.05	2
1964	17.97	19	13.47	16	3.56	..
1969	15.91	17	14.68	17	4.41	1
1972	19.22	21	13.43	14	2.35	..

(a) Independents and minority parties.

(b) State treated as single electorate and proportionate share of seats calculated on basis of first preference votes cast for parties.

(c) 35 members elected as from 1959.

The election on 22 April 1972 resulted in a clear-cut victory for the Labor Party which was returned to power with a seven-seat majority, the largest obtained by a Tasmanian Government since 1941 when Labor held 20 seats in the 30-member House of Assembly. The filling of vacant seats by re-counts (following resignations) had not changed the Labor majority by 12 August 1976. See Appendix A for details relating to the elections held on 11 December 1976.

Votes Recorded at Assembly Elections

Voting in general elections since 1950 is shown in the following table:

House of Assembly Elections Since 1950

Year of election	Electors on roll	Votes recorded		Informal votes	
		Number	As percentage of enrolled electors	Number	Percentage of total votes recorded
1950	161 650	152 785	94.5	6 841	4.5
1955	173 165	162 637	93.9	6 158	3.8
1956	174 632	166 293	95.2	6 968	4.2
1959	180 344	170 559	94.6	9 816	5.8
1964	193 418	184 571	95.5	7 980	4.3
1969	210 268	198 571	94.4	9 248	4.7
1972	216 846	205 803	94.9	7 533	3.7

The percentage of informal votes in the previous table is not particularly high, even though the voting papers for six or seven-member electorates are necessarily more complicated than those for single-member electorates. In Senate elections held in Tasmania, informal votes tend to be rather a large proportion of votes cast and in the 1934 election exceeded 16 per cent. In Assembly elections only three preferences were compulsory up to 1972 whereas in Senate elections the voter must indicate as many preferences as there are candidates.

Constituencies of House of Assembly

The five constituencies for the House of Assembly are identical with the five electoral divisions electing members to the federal House of Representatives. The next table and map show composition and extent of each electorate.

Enrolments by Electorate (a)

Electorate	Enrolments					
	Old boundaries	New boundaries				
	31 May 1968	31 May 1968 (b)	30 June			
			1972	1973 (c)	1974 (c)	1975
Bass	40 139	40 139	41 486	42 949	46 843	46 727
Braddon ..	41 803	41 803	46 541	48 407	51 685	52 652
Denison ..	35 353	42 917	45 374	47 505	52 192	50 516
Franklin ..	49 026	37 203	42 119	44 782	49 202	49 470
Wilmot ..	37 103	41 362	43 360	45 040	48 732	49 697
Total ..	203 424	203 424	218 880	228 683	248 654	249 062

(a) Electoral boundaries changed for the divisions of Denison, Wilmot and Franklin.

(b) Although boundary changes did not become effective until 25 November 1968 the enrolment figures at 31 May 1968 show the immediate effect of the changes.

(c) Not strictly comparable with previous years; greater than normal increase for 1973 and 1974 reflects the lowering of the voting age to 18 years in mid-1973.

By-Elections

In the case of a vacancy occurring in the House of Assembly, there is provision for the Chief Electoral Officer to publicly invite nominations from candidates who were unsuccessful at the last general election in the constituency which elected the vacating member. If one nomination only is received the consenting candidate is declared elected and the Governor notified to this effect.

If more than one such nomination is received, the Chief Electoral Officer is required to examine the voting papers counted for the vacating member at the last general election. In the simple case—where the vacating member obtained a surplus of first preference votes above the quota—this can be confined to voting papers expressing that first preference. In the more difficult case—where the vacating member did not obtain a quota on first choices—it is necessary to take into account not only original first-choice papers but also all voting papers representing votes transferred to the vacating member.

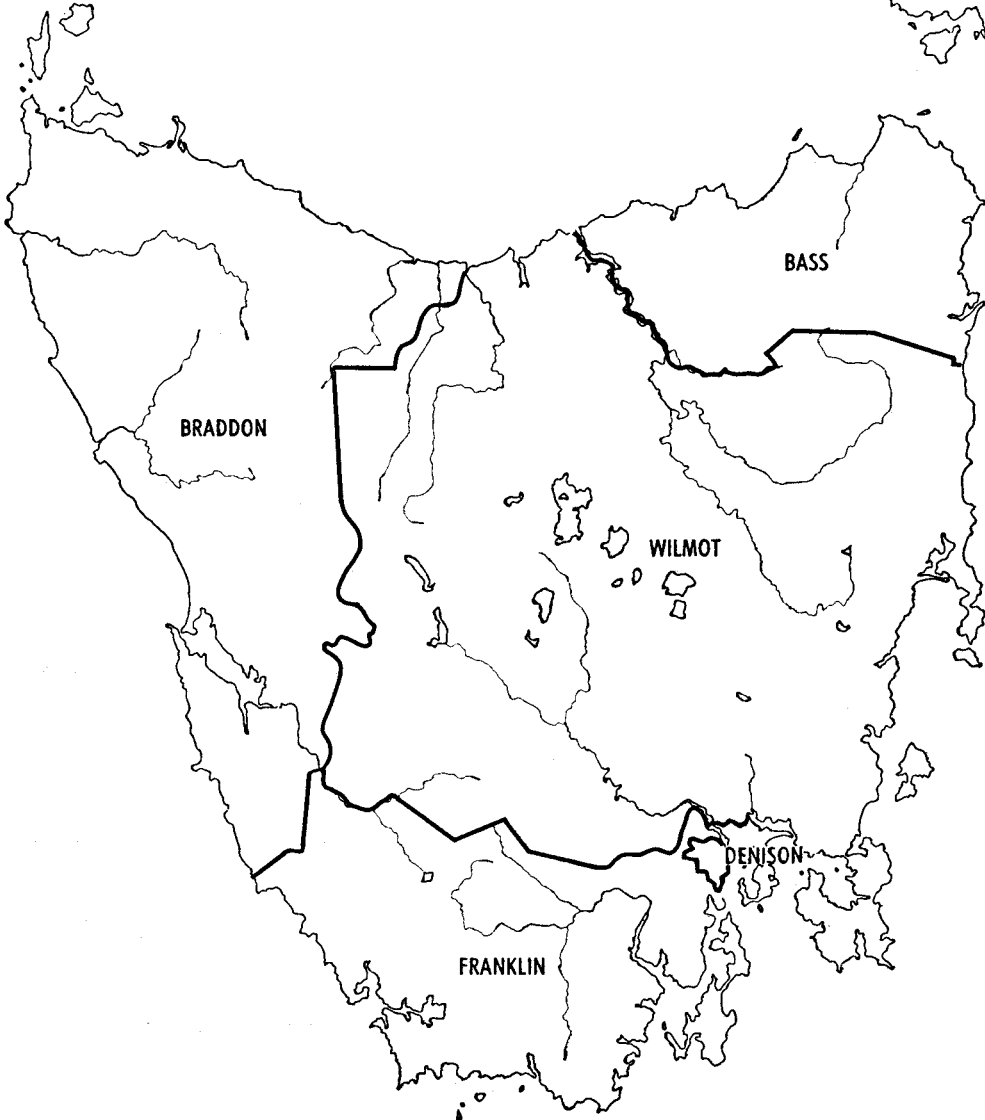
The vacating member's voting papers, as defined above, are examined and all his votes are transferred to the consenting candidates according to the preferences expressed thereon. Second preferences derived from first-choice votes of the vacating member have a transfer value of one, but from votes he obtained by transfer, only the value at which he obtained them. For the purpose of the count, first-choice votes received by the consenting candidates at the general election are not relevant—the selection is based on preferences as revealed by the voting papers of the vacating member.

When the number of votes in favour of each consenting candidate has been ascertained, the final selection is by the method of the absolute majority through the alternative vote. If no nominations are received from candidates unsuccessful at the last general election, then an election is held to fill the vacancy.

ELECTORAL DIVISIONS

STATE.....House of Assembly

FEDERAL...House of Representatives



Since the 1972 general election, the following members have resigned from the House of Assembly: Mr Everett, former Deputy-Premier and Attorney-General, in April 1974; Dr Foster, former Minister for Health, in July 1974; Mr Fagan, former Minister for Industrial Development, in July 1974; Mr Corby in August 1974; Mr Reece, former Premier and Treasurer, in March 1975; Mr Costello, former Minister for Agriculture and Fisheries, in May 1975; and Mr Bethune in June 1975. In each case, nominations were called from unsuccessful candidates at the 1972 election. The successful nominees who filled the vacancies resulting from the resignations above were Mr I. K. Cole, Mr H. N. Holgate, Mr C. L. Batt, Mr J. E. Green, Mr J. J. Britton, Mr J. Coughlan and Mr I. Braid, respectively.

House of Assembly, Members

The following table shows members of the House of Assembly and their party allegiance (see Appendix A for members elected on 11 December 1976):

Members of the House of Assembly at 12 August 1976

Electoral division	Member's name	Party affiliation
Bass	Barnard, The Hon. Michael Thomas Claude Beattie, Eric William Bushby, Maxwell Holmes Farquhar, The Hon. Hedley David Holgate, The Hon. Harold Norman (a) Le Fevre, Vernon Mackenzie Pitt, Neil Henry	A.L.P. Liberal Liberal A.L.P. A.L.P. Independent Liberal
Braddon	Barker, Wilfrid George Bonney, Raymond Claude Britton, Joseph James Chisholm, The Hon. Geoffrey Donald Coughlan, John Davies, Ronald Glen Ward, Sydney Victor	Liberal Liberal A.L.P. A.L.P. A.L.P. A.L.P. A.L.P.
Denison	Austin, Kenneth Ernest (b) Baker, Robert Wilfred Batt, The Hon. Neil Leonard Charles Bingham, The Hon. Eardley Max (c) Cole, Ian Kenneth Green, John Edward Mather, Robert	A.L.P. Liberal A.L.P. Liberal A.L.P. A.L.P. Liberal
Franklin	Barnard, The Hon. Eric Walter Beattie, John Maxwell Clark, Douglas Frank Frost, The Hon. Stewart Charles Hilton Lowe, The Hon. Douglas Ackley (d) Neilson, The Hon. William Arthur (e) Pearsall, Geoffrey Allan	A.L.P. Liberal Liberal A.L.P. A.L.P. A.L.P. Liberal
Wilmot	Baldock, The Hon. Darrel John Batt, Charles Leo Bessell, Leonard Hubert Braid, Ian Ingamells, Christopher Robert Lohrey, Andrew Barnard Polley, Michael Robert	A.L.P. A.L.P. Liberal Liberal Liberal A.L.P. A.L.P.

(a) Speaker.

(b) Chairman of Committees.

(c) Leader of the Opposition.

(d) Deputy Premier.

(e) Premier.

Dissolution of House of Assembly

The Governor may dissolve the House of Assembly whenever he considers it desirable but he has no power to dissolve the Legislative Council. In effect then, the Legislative Council is a perpetual body except that approximately one-sixth of its seats fall vacant annually. As there is no provision for a double dissolution the Legislative Council, by rejection of a supply bill, can force the House of Assembly to seek a dissolution without itself needing to face the electorate. This last occurred in 1948.

In practice, the Governor considers dissolving the House of Assembly only when requested to do so by his ministers. In recent years the House of Assembly has been dissolved three times; in 1950, 1956 and again in 1972.

Sessions of Parliament

Parliament is required to sit every year and, having risen, must sit again before 12 months have elapsed. When the House of Assembly is dissolved and a general election held, the Governor is required to call parliament together within 90 days of the dissolution, subject to a discretionary extension of a further 30 days.

The Legislative Council

Elections for the Legislative Council

For the purpose of electing members of the Legislative Council, the State is divided into 19 single-member constituencies. Each member, when elected, holds office for six years and Council elections are held every year to elect three members; every sixth year four members are elected. There are no general elections for the Legislative Council.

Candidates appear on the voting paper in alphabetical order and are not grouped to show party allegiance as in voting papers for the House of Assembly. If there are two candidates, the voter need only vote for one. If there are three or more candidates, the voter must indicate at least three preferences to record a valid vote.

If any candidate secures first-preference votes exceeding half the total first preferences, he is declared elected. If no candidate satisfies this condition, then the candidate with the fewest votes is excluded and the second preferences shown on his voting papers are transferred to other candidates, the transfer value of each such second preference being equal to one. If no candidate then has the required majority, the process of exclusion is repeated until such time as one candidate secures the majority.

The method of counting is identical with that used in elections for the federal House of Representatives and is termed preferential. The full description is election by absolute majority through use of the alternative vote.

By-Elections

In the case of a vacancy occurring in the Legislative Council, a writ is issued directing that an election be held to fill the vacancy. There is no provision for a re-count of voting papers of the vacating member as in by-elections for the House of Assembly.

Status of Legislative Council

The Legislative Council has the tradition of being a non-party house; in 1976 the composition of the house was 17 independents and two Labor Party representatives. The leader for the Government in the Legislative Council cannot rely upon a vote taken on party lines to ensure the passage of any government bill. It is the

ability to command a majority in the House of Assembly which gives a party the right to form the government of the day and which ensures the passage of government legislation through the lower house; no such certainty exists in the passage of bills through the upper 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 following current principles are found in the Act: (i) the Legislative Council retains the right to reject any bill, including a money bill; (ii) 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; (iii) 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; and (iv) the operation of such bills is restricted to a period of one year. Apart from the above specific exceptions, the Council retains the right to amend money bills, e.g. those dealing with loan funds or probate. 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.

Boundaries, Legislative Council Divisions

Late in 1967, the *Constitution Act* 1934 was amended to change the boundaries of the Legislative Council divisions, the new boundaries being used for the first time in 1969. The following table shows the number of electors in each division before and after redistribution:

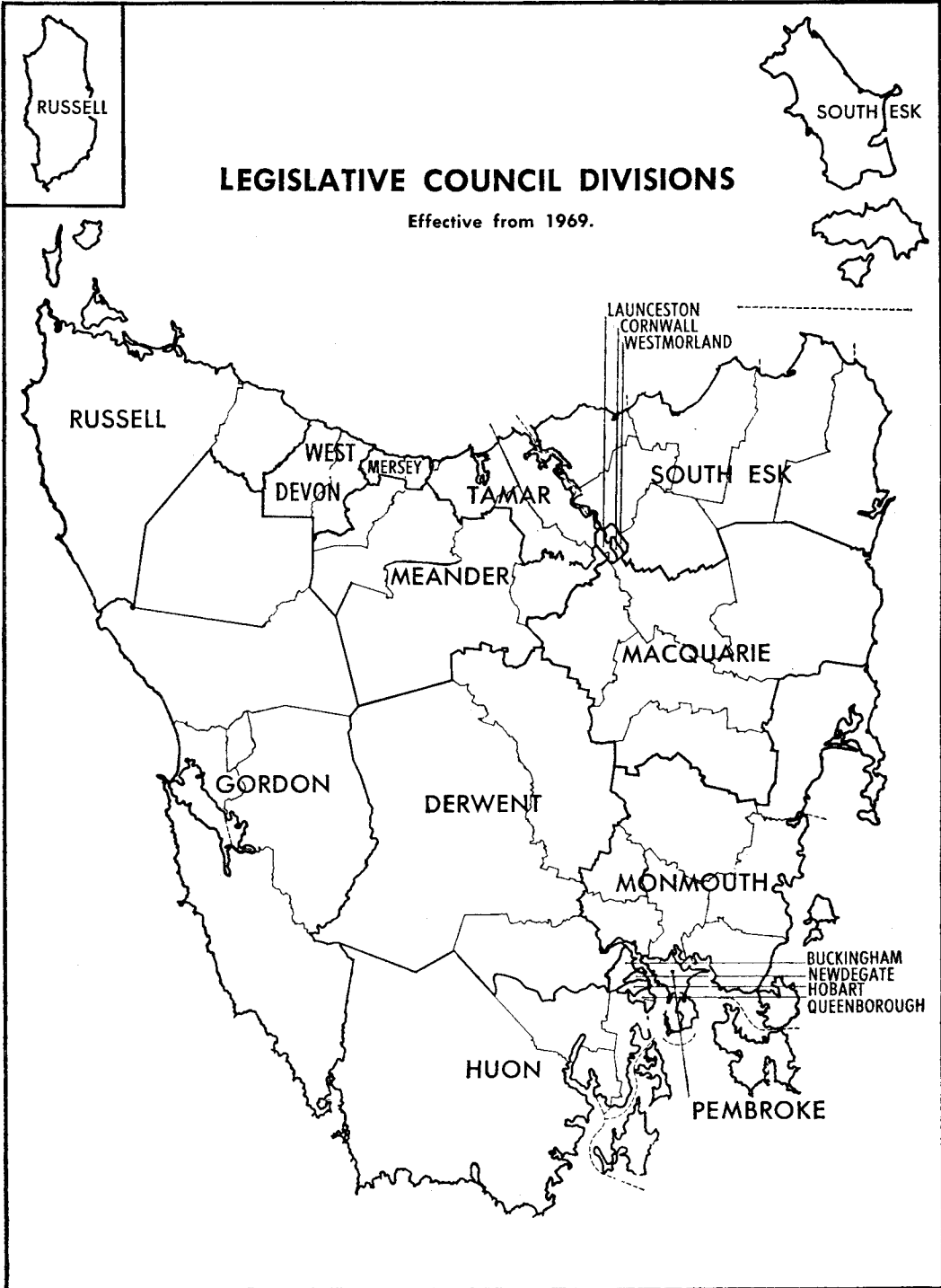
Legislative Council: Effect of Changed Boundaries on Number of Electors in each Division

Division (a)	Before redistribution	After redistribution				
		31 May 1968	30 Sept. 1968	30 June		
				1973 (b) (c)	1974 (c)	1975
Buckingham (H)	11 450	10 227	11 548	15 446	14 791	
Cornwall (L)	6 556	9 499	12 049	12 186	12 534	
Derwent (R)	13 370	6 078	7 388	7 319	7 081	
Gordon (S)	4 039	3 731	5 305	5 391	5 586	
Hobart (H)	4 565	10 091	13 116	13 860	13 932	
Huon (R)	9 141	7 776	9 820	10 590	11 035	
Launceston (L)	2 826	8 998	10 960	11 537	11 416	
Macquarie (R)	7 107	5 819	6 399	7 655	7 380	
Meander (R)	5 639	7 151	7 615	7 639	7 996	
Mersey (DU)	11 023	11 037	14 889	15 467	15 495	
Monmouth (R)	3 491	6 313	7 342	7 952	10 019	
Newdegate (H)	7 867	11 822	12 699	14 999	16 761	
Pembroke (H)	17 214	13 347	18 604	19 283	19 363	
Queenborough (H)	7 824	9 495	10 879	12 933	12 712	
Russell (R)	8 189	8 268	9 503	9 973	12 137	
South Esk (R)	9 517	7 263	9 121	10 463	10 162	
Tamar (R)	8 183	6 182	8 551	8 890	8 935	
West Devon (BP)	9 249	9 438	12 757	13 044	12 990	
Westmorland (L)	13 270	8 290	11 153	10 935	11 045	
Total	160 520	160 825	199 698	215 562	221 370	

(a) (H) = Hobart and suburban; (L) = Launceston and suburban; (BP) = Burnie and Penguin municipalities; (DU) = Parts of Devonport and Ulverstone municipalities; (R) = rural; (S) = special.

(b) Franchise widened 1 July 1969; not directly comparable with figures for 1968.

(c) Voting age lowered to 18 in mid-1973.



Legislative Council Members

The following table shows members of the Legislative Council as at 12 August 1976, the electoral division which they represent and the year in which each will retire from the Council:

Members of the Legislative Council

Electoral Division	Member's name	Year of retirement
Buckingham	Lowrie, The Hon. Kenneth Francis	1980
Cornwall	King, The Hon. Frank Barnard	1978
Derwent	Dixon, The Hon. Joseph Henry (a)	1979
Gordon	Broadby, The Hon. Albert James	1982
Hobart	Venn, The Hon. Kathleen J. (b)	1982
Huon	Hodgman, The Hon. Peter	1978
Launceston	Shipp, The Hon. Raymond William	1982
Macquarie	Shaw, The Hon. George Arthur	1980
Meander	Coates, The Hon. Jeffrey Allan	1977
Mersey	Braid, The Hon. Henry William	1978
Monmouth	Bisdee, The Hon. Louis Fenn	1981
Newdegate	Miller, The Hon. Brian Kirkwall (b) (c)	1981
Pembroke	McKay, The Hon. Eric Charles	1977
Queenborough	Hodgman, The Hon. William Clark	1977
Russell	Fenton, The Hon. Charles Balfour Marcus (d)	1981
South Esk	Carins, The Hon. Lloyd Horton, O.B.E.	1980
Tamar	Hitchcock, The Hon. Daniel	1979
West Devon	Young, The Hon. William Thompson	1977
Westmorland	Gregory, The Hon. Oliver Harold	1979

(a) Chairman of Committees.

(b) Endorsed by the Australian Labor Party; other members are independents.

(c) Leader for the Government in the Legislative Council; Attorney-General and Minister for Police, Road Safety and Consumer Affairs.

(d) President.

Qualifications of Electors and Members*Qualifications of Electors, State Elections*

An elector for both the House of Assembly and the Legislative Council is any person, aged at least 18 years, male or female, who has lived in the State six months continuously, who is a natural-born or naturalised subject of the Queen and whose name is on the electoral roll for an electoral division. (Legislation reducing the voting age to 18 years passed both houses of parliament in mid-1973.) Voting has been compulsory since the *Electoral Act* 1928. The special qualifications for electors of the Legislative Council were abolished on 1 July 1969 following amendments to the *Constitution Act* 1934 and the *Electoral Act* 1907.

Qualifications of Members, State Parliament

House of Assembly: To be eligible for election as a member of the House of Assembly, a candidate must comply with the following conditions: he must either be an elector or be qualified to be an elector for the House of Assembly and resident in Tasmania for five years at any one time or resident for two years immediately preceding the election.

Legislative Council: A candidate for the Legislative Council must be an elector or have the qualifications of an elector for the Council; in addition he must meet the residential restrictions imposed on candidates for the House of Assembly.

Persons of unsound mind or in prison under any conviction are barred from voting at elections for either house or from being elected to either house. No person shall be a member of both houses at the one time.

Salaries of Members of Parliament

Parliamentary Salaries Tribunal

From 1962, until abolished by legislation in 1973, parliamentary salaries and allowances were determined by an independent parliamentary salaries tribunal. Salary and allowance reviews were made on a triennial basis.

Parliamentary Salaries and Allowances Act 1973

This Act abolished the Parliamentary Salaries Tribunal and established the principle of annual review to establish a basic rate of pay to members. The basic rate was set at \$7 200 or the 'interstate average' of the rates payable to ordinary 'back-bench' members of the Legislative Assemblies of New South Wales, Victoria, Queensland and Western Australia and the House of Assembly of South Australia. Of the two rates (i.e. \$7 200 or the interstate average) the greater rate is chosen as the basic salary. Calculation of the interstate average is the responsibility of the 'salaries committee' comprising the Government Statistician, Clerk of the Legislative Council and Clerk of the House of Assembly. The committee is required to meet as soon as practical after 15 June each year (except for 1973) and make the necessary calculation. A report on the method adopted to make the calculation and the interstate-average is then forwarded to the Auditor-General who may accept the calculation or himself make a calculation replacing that of the salaries committee. Having either accepted the salaries committee's calculation or substituted one of his own, the Auditor-General is required to publish in the Government *Gazette* the appropriate interstate average which then becomes the basic salary for payment of parliamentary salaries and allowances. The basic rate applicable from 1 July 1976 was \$18 975.

Additional amounts, as shown in the next table, are payable to the Premier, Deputy Premier, Ministers of the Crown, Leader of the Opposition and other officers of parliament. The extra salaries payable are all related to the basic salary.

Special Rates Payable in Addition to the Basic Salary (a)
(Per Cent)

Particulars	Additional salary payable as proportion of basic salary (b)	Particulars	Additional salary payable as proportion of basic salary (b)
Cabinet—		House of Assembly—	
Premier	125	Speaker	33½
Deputy Premier	85	Chairman of Committees	20
Ministerial office	70	Leader of the Opposition	70
Legislative Council—		Deputy Leader of the Opposition	17
President	33½	Government Whip	6
Leader for the Government	70	Opposition Whip	6
Chairman of Committees	20		
Deputy Leader for the Government	11		

(a) The basic salary was set at \$16 582 in 1975 and raised to \$18 975 from July 1976.

(b) Salary in excess of basic rate (e.g. the Premier receives basic rate + 1.25 × basic rate).

Allowances Payable to Members: Electoral allowances, and entertainment allowances are calculated as a proportion of the base rate. Travel allowances are related to rates payable to permanent heads of State Government Departments. The next table shows the electoral allowances payable as a proportion of the basic salary:

**Electoral Allowances Payable as a Proportion of the Basic Salary (a)
(Per Cent)**

Electoral division	Proportion of basic salary payable	Electoral division	Proportion of basic salary payable
Legislative Council—		Legislative Council— <i>continued</i>	
Buckingham	13	Queenborough	11
Cornwall	12	Russell	26
Derwent	18½	South Esk	26
Gordon	26	Tamar	18½
Hobart	11	West Devon	17
Huon	18½	Westmorland	14
Launceston	12	House of Assembly—	
Macquarie	20	Bass	26
Meander	22	Braddon	30
Mersey	17	Denison	15
Monmouth	24	Franklin	21
Newdegate	11	Wilmot	35
Pembroke	13		

(a) The basic salary was set at \$16 582 in July 1975 and raised to \$18 975 in July 1976.

The Present System of Government

The system of responsible government in Tasmania requires that the executive power of the State shall be exercised by the Cabinet; in exercising this power, the ministers of the Cabinet are held responsible for the actions and administration of government departments and other governmental authorities which have been created for three basic purposes: (i) to put into practice the laws made by parliament; (ii) to give effect to the decisions of the ministry; and (iii) to advise the ministry on matters of policy.

The next section lists the Departments and authorities at 12 August 1976 under the various ministers but the allocation of responsibility is subject to change and Cabinet has the power to vary it at any time. A detailed account of the work of the various departments and authorities appeared in the first two issues of the *Year Book* series.

Premier, Treasurer, Planning and Development

Premier's Dept Treasury Dept Town and Country Planning Dept of Film Production Government House	Agent-General's Office Supply and Tender Dept Tasmanian Government Insurance Office Government Printing Office Immigration
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Deputy-Premier; Minister for Health and Industrial Relations

Audit Dept Public Service Board Dept Electoral Dept Dept of Labour and Industry	Public Service Arbitrator Apprenticeship Commission Miners Pension Board
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Attorney-General, Minister for Police, Road Safety and Consumer Affairs

Attorney-General's Dept Solicitor-General's Dept Supreme Court and Sheriff's Dept Magisterial and Court of Requests Dept Parliamentary Counsel's Dept Public Trust Office Law Reform Commission Consumer Protection Council	Registrar-General's Dept Police Dept Prisons Dept Road Safety Fire Brigades Commission Rural Fires Board State Emergency Service
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Minister for Education, Recreation, Federal Affairs

Adult Education Board
Education Dept
National Parks and Wildlife Service

State Library
Museum
Federal Affairs

Minister for Tourism and the Environment

Dept of Tourism
Dept of the Environment

Licensing Court
National Estate

Minister for Agriculture and Fisheries, Lands

Dept of Agriculture
Inland Fisheries Commission
Lands Dept

Sea Fisheries Division
Agricultural Bank of Tasmania
Tasmanian Grain Elevators Board

Minister for Transport, Local Government, Racing and Gaming

Transport Commission
Metropolitan Transport Trust
Local Government Office

Racing and Gaming Commission
Totalisator Agency Board

Minister for Resources and Development

Directorate of Industrial Development and Trade
Forestry Commission

Hydro-Electric Commission
Dept of Mines

Minister for Housing, Social Welfare

Housing Dept

Social Welfare Dept

Minister for Public Works and Water Supplies

Department of Public Works
Rivers and Water Supply Commission

Metropolitan Water Board

ACTS OF STATE PARLIAMENT

Summary of State Acts, 1975

The examples below illustrate the interpretation of the notations used in the following list of Acts:

(A 1952)—An Act to amend an Act of the same title passed in 1952.

(A Audit Act 1952)—An Act to amend an Act of this title passed in 1952.

(R 1952)—An Act to repeal an Act of the same title passed in 1952.

(R Audit Act 1952)—An Act to repeal an Act of this title passed in 1952.

(P 1952)—An Act to be incorporated and to be read as one with the Principal Act passed in 1952.

(P Audit Act 1952)—An Act to be incorporated and to be read as one with the Principal Act of this title passed in 1952.

(RS 1952)—An Act to repeal an Act of the same title passed in 1952 and to substitute new legislation.

(RS Audit Act 1952)—An Act to repeal an Act of this title passed in 1952 and to substitute new legislation.

State Acts, 1975

Number	Short title and summary
1	Tasman Bridge Restoration—approved and gave effect to an agreement made between the Federal and Tasmanian Governments which was intended to ensure the earliest possible restoration of the Tasman Bridge. Constituted the Joint Tasman Bridge Restoration Commission.
2	Police Regulation (A1898)—constitution of the Police Promotions Appeal Board.
3	State Sinking Fund (A1929)—provisions relating to powers and duties of the Board of Commissioners of the State Sinking Fund.
4	Adoption of Children (A1968)—consent of parents and guardians to adoptions.
5	Miners' Pensions (A1956)—provisions relating to pensioners gaining earnings from employment.
6	Wages Boards (A1920)—validation of past transactions.
7	Tasmanian Museum (A1950)—annual accounts to be furnished to the Minister for audit.
8	Loan Fund Supply 1975-1976—issue and application of Loan Funds.
9	Beef Industry Committee—establishment of the Beef Industry Committee to regulate the quantity of beef cattle offered for sale and to set minimum prices.
10	Parliamentary Salaries and Allowances (A1973)—miscellaneous amendments.
11	Fruitgrowers' Defence Fund (A1945)—purposes for which securities and moneys held by the Fruit Board may be applied.
12	Dairy Produce Act (A1932)—gave the Governor the authority to hand over the powers of the Dairy Factories Registration Board to some other body if the former ceases to exist.
13	Botanical Gardens (A1950)—annual accounts to be submitted to the Minister for audit.
14	Solicitors' Trust (Special Provisions) (A Legal Practitioners Act 1959)—provision for meeting the claims of a legal practitioner suspended from practice and struck off the rolls.
15	Statutory Salaries (A1974, A Supreme Court Act 1959)—rate of salary payable to the Master of the Supreme Court.
16	Road Safety (Alcohol and Drugs) (A1974)—extension of provisions of 1974 Act to 31 December 1975.
17	Ministers of the Crown (A1923, R Ministers of the Crown (Designation) Act 1882)—miscellaneous amendments.
18	Tasmanian Arts Advisory Board (R Tasmanian Theatre and Performing Arts Council Act 1973)—establishment of the Tasmanian Arts Advisory Board for the purpose of providing encouragement and promotion of the arts.
19	Defacement of Property (A1898)—miscellaneous amendments.
20	Consolidated Revenue Fund Supply 1975-1976—issue and application of funds out of Consolidated Revenue.
21	Tasman Bridge Disaster Trust Account—establishment of a trust account for defraying the costs of works and arrangements consequential to the Tasman Bridge disaster.
22	King Island Dairy Products Co-operative Society Limited Loan Guarantee—authorisation for the Treasurer to guarantee the repayment of a loan proposed to be made to the Society by the Agricultural Bank of Tasmania.
23	Hairdressers' Registration (R Ladies' Hairdressers and Beauty Culturists Act 1939, A Podiatrists Registration Act 1974)—regulation of the business of hairdressers.
24	Hobart Marine Board Loan (A1947)—maximum amount the Board allowed to borrow raised from \$10m to \$25m.
25	Lending of Money (A1974)—extended provisions of previous Act to 1 July 1976.
26	Education (A1932)—authorisation of subsidies to be paid in respect of funds applied from the Schools Provident Fund to meet capital expenditure at certain schools.
27	Public Account (A1957)—increased Treasurer's reserve to \$5m.
28	Crown Lands (Miscellaneous Provisions) (P Crown Lands Act 1935)—provisions relating to closure of roads and to grants, exchange and sale of Crown land.
29	Employment Protection (Tasman Bridge Disaster)—protection of persons affected in relation to their employment by the Tasman Bridge disaster.
30	Racing and Gaming (A1952)—powers of the Tasmanian Racing Commission.
31	Beef Industry Assistance—provided for making loans available to beef producers who had suffered loss due to falls in beef prices.
32	Motor Accidents (Liabilities and Compensation) (A1973)—amendments relating to exemption of payment of compulsory third party motor vehicle insurance premiums.
33	Commonwealth and State Hospital Services Agreement—approval of an agreement between the Federal and Tasmanian Governments to provide free accommodation and treatment in the standard wards of public hospitals.
34	Dairy Adjustment Program—miscellaneous provisions authorising the State Government to enter into agreements under the federal Dairy Adjustment Act 1974.
35	Railways (Transfer to Commonwealth)—approval of an agreement for the transfer of the State railways to the Federal Government and for the construction and extension of railways in the State by the Commonwealth.

State Acts, 1975—continued

Number	Short title and summary
36	Audit (A1918)—miscellaneous amendments.
37	Forestry (A1920)—evidentiary provision.
38	Hobart Stock Exchange (A1891)—provisions relating to power to make rules.
39	Cruelty to Animals Prevention (A1925)—raised penalty for offences under the Act to \$400.
40	Apple Industry (Assistance) (A1974)—provided for the making of grants in respect of apples produced in the 1975 season and exported overseas.
41	Law Reform Commission (A1974)—miscellaneous amendments.
42	Fruit Board (A1934)—miscellaneous amendments.
43	Co-operative Housing Societies (A1963)—a society not to be registered unless it has at least five eligible members.
44	Cressy-Longford Irrigation (A1969)—payments to the Cressy-Longford Irrigation Reserve Fund.
45	National Trust of Australia (Tasmania)—dissolution of the National Trust of Australia (Tasmania) and establishment of a new corporate body of that name.
46	Pensioners' Rate Remissions Assistance (A1974, A Local Government Act 1962)—financial assistance to municipalities in respect of rates and charges remitted.
47	Education (No. 2) (A1932, 1967; R Adult Education Act 1948, 1971)—constitution and functions of the Adult Education Board, duties of the Head of the Division of Adult Education. The Head of the Division of Adult Education to replace the former Director of Adult Education.
48	Advanced Education (A1968)—provisions relating to powers of the Council of Advanced Education to borrow money for provision and maintenance of hostels and other student accommodation.
49	Beef Industry Committee (No. 2) (A Beef Industry Committee Act 1975)—Act to expire on 30 June 1976.
50	Consolidated Revenue Fund Appropriation 1975-1976—issue and application of funds from Consolidated Revenue.
51	Loan Fund Appropriation 1975-1976—issue and application of funds from the Loan Fund.
52	Motor Vehicles Tax (A1917)—insertion of revised motor vehicle registration tax rates.
53	Land Tax (P Land and Income Taxation Act 1910)—rates of land tax applying for 1975-76.
54	Tasman Bridge Restoration (No. 2)—approved and gave effect to a Federal-Tasmanian Government agreement with respect to modification of the Tasman Bridge (concurrently with its restoration) so as to accommodate five lanes of traffic.
55	Wrest Point Casino (Tax Remission) (A Wrest Point Casino Licence and Development Act 1968)—reduction of tax payable on gross profits by one sixth for the period 1 June 1975 to 31 May 1976.
56	Stamp Duties (A1931)—alteration of rates of duty.
57	Powers of Attorney (A1934)—miscellaneous amendments.
58	Traffic (A1925)—amendments to scale of motor vehicle registration fees and driving instructors' licence fees.
59	Industrial Relations—regulation of industrial relations; provisions relating to Industrial Boards, industrial awards, Industrial Appeals Tribunal, enforcement of awards, compulsory conferences, etc.
60	Crown Lands (Miscellaneous Provisions) (No. 2) (P Crown Lands Act 1935)—closure of roads; sales, exchanges and grant of Crown land.
61	Service Stations (Trading Hours) (A Factories, Shops and Offices Act 1965)—regulation of service station trading hours.
62	Industrial Development (A1954)—provisions for appointment of Trade Promotion Officers, Trade Officers and Development Officers and enabled loans to be made to assist industry.
63	Local Government (Planning Appeals) (A Local Government Act 1962)—provisions relating to planning approvals and appeals.
64	Libraries (A1943)—constitution of the Tasmanian Library Board.
65	Pay-roll Tax (A1971)—miscellaneous amendments.
66	Justices (A1959)—miscellaneous amendments.
67	Business Names (A1962)—provisions relating to registration of business names.
68	Environment Protection (A1973)—ministerial approval not necessary where an official substitute replaces a member of the Environment Protection Appeal Board at a meeting of the Board.
69	Water (A1957)—provisions relating to water rights and construction of water storages.
70	Hire-purchase (A1959)—hire-purchase agreements to state the amount included to cover stamp duty in the total amount payable.
71	Racing and Gaming (No. 2) (A Racing and Gaming Act 1972)—miscellaneous provisions.
72	Consolidated Revenue Fund Supplementary Appropriation 1974-1975—appropriation of a further sum from Consolidated Revenue for the service of the year 1974-75.

Number	Short title and summary
73	Parole (R Indeterminate Sentences Act 1921)—provision for establishment of the Parole Board, the granting of parole to prisoners by the Board and related matters.
74	Criminal Code (A1910, A Evidence Act 1910)—miscellaneous amendments.
75	Forestry (No. 2) (A Forestry Act 1920)—miscellaneous amendments.
76	Pensioners (Heating Allowances) (A1971)—extension of eligibility for benefits to include female pensioners in receipt of a widows' pension and certain other female pensioners who have custody of children.
77	Tasmanian Orchestra (Continuation) (A1951)—extension of financial support to the Orchestra until 30 June 1978.
78	Crown Lands (Miscellaneous Provisions) (No. 3) (P Crown Lands Act 1935)—closure of roads; sales and grant of Crown land.
79	Hydro-Electric Commission (A1944)—amendments relating to allowances payable to Hydro-Electric Commissioners and to powers of the Commission.
80	Rural Fires (A1967)—membership of the Rural Fires Board increased to 17.
81	Aboriginal Relics—provided for the establishment of the Aboriginal Relics Advisory Council and for the preservation of Aboriginal relics.
82	Substandard Housing Control (A1973)—miscellaneous amendments including declaration of houses as substandard and maximum rental in respect of a controlled house.
83	Tasmanian University (A1951)—provisions relating to the Council of the University borrowing money.
84	Licensing (Trading Hours) (A Licensing Act 1932)—provisions with respect to the fixing of trading hours for licensed premises and registered clubs; provided for Sunday trading.
85	Stock (A1932)—miscellaneous amendments.
86	Midway Point Improvement—authorised a loan to be made to the Municipality of Sorell for street and stormwater drainage works.
87	Ambulance (A1959)—amendments relating to ambulance boards.
88	Supreme Court (A1887)—appointment of puisne judges and acting judges.
89	Public Works Committee (A1914)—any public works project having an estimated cost exceeding \$500 000 to be referred to the Committee for approval.
90	Stanley Cool Stores (A1945)—borrowings of the Stanley Cool Stores Board not to exceed \$450 000.
91	Trustee Companies (A1953)—miscellaneous amendments.
92	Metropolitan Water (A1961)—variation of contributions to be made by Hobart metropolitan municipalities towards the Metropolitan Water Board's revenue.
93	Artificial Breeding (A1964)—total borrowings of the Artificial Breeding Board not to exceed \$350 000.
94	Road Safety (Alcohol and Drugs) (No. 2) (A Road Safety (Alcohol and Drugs) Act 1970, 1974; R Road Safety (Alcohol and Drugs) Act 1975)—miscellaneous provisions.
95	Fire Brigades (A1974)—provisions of the 1974 Act extended to apply for an additional six months.
96	North Esk Regional Water (A1960, A1974)—empowered the Rivers and Water Supply Commission to carry out additional work relating to the North Esk Regional Water Supply.
97	Auctioneers and Estate Agents (A1959)—amendments relating to times for auctions.
98	Child Protection (A1974)—issue of certificates authorising children to be kept in hospital.

Chapter 4

LOCAL GOVERNMENT

GENERAL

Historical

Introduction

In Tasmania, the functions of local government are more restricted than in some other countries as the State Government takes direct responsibility for important services such as the police, education, housing, public transport, etc. This peculiarity is not confined to Tasmania and is encountered in the other Australian states, where central control is exercised over functions often delegated to local government authorities in overseas countries; the origin of this tendency probably lies in early colonial history when the continent was virtually empty but the apparatus of government existed at each of the new coastal settlements (Sydney, Hobart, Perth, Melbourne, Adelaide and Brisbane, in order of age). In the Australian situation strong central administrations came first. Local government was a much later growth, the initiative for its creation often coming from the central administration itself in the respective colonies.

The first division of Tasmania into local administrative districts occurred in 1827 when the Colony was split into nine police districts; each district was under the control of a magistrate whose functions were primarily disciplinary and connected with administering the convict system. From then, the development of local government in Tasmania followed three distinct phases as outlined below.

Hobart and Launceston

From 1835 to 1857 several acts were passed relating to the local government of Hobart and Launceston—Hobart Town was granted elected commissioners in 1846, and under an Act of 1852, both Hobart and Launceston were given elected municipal councils. In 1857 the City of Hobart was incorporated, as was the Town of Launceston one year later. Launceston was proclaimed a city in 1888. For the next 76 years these were the only two cities in the State, but in 1964 the number was increased to three when Glenorchy was granted city status.

The form of local government in Hobart and Launceston is governed by separate corporation acts for each authority; in the case of Glenorchy, however, its operation as a city is provided for in the *Local Government Act 1962*.

Rest of State before 1906

The first step towards the creation of rural municipalities came with the *Rural Municipalities Act 1858*. Between 1860 and 1863, 16 municipalities had been proclaimed but the nine police districts were also retained under magisterial control. The Act of 1858 was repealed in 1865 and a new *Rural Municipalities Act* became law. The State was then divided into thirty municipal districts with defined boundaries. However, only 19 of these actually had councils. One more district was added in 1880. The City of Hobart and the Town of Launceston were exempted from the Act.

By 1906 there were, in addition to the city councils for Hobart and Launceston and the municipal district councils, many boards and trusts in Tasmania created for specific local government purposes. These had been formed in respect of water, drainage, roads, rabbits, health, fruit, recreation grounds, schools, works and other matters. There were in existence 105 road trusts, 19 rural municipalities, 23 town boards and 2 city councils; a total of 149 local authorities.

Rest of State after 1906

The *Local Government Act 1906* abolished all rural municipalities, town boards, water trusts, main road districts, etc. and replaced them with municipalities which took over the administration of all the local government functions previously administered by the numerous local bodies. Section 10 of the Act provided that a commission should divide the State into not more than 60 districts to be later proclaimed municipalities. The commission reported in 1907 and recommended that the State be divided into fifty municipalities. These did not include the cities of Hobart and Launceston which were governed respectively by the *Hobart Corporation Act 1893* and the *Launceston Corporation Act 1894*. The above recommendations were carried into effect by proclamation of the fifty municipalities. Subsequently, three of the municipalities were amalgamated—Queenborough and New Town with Hobart, and Invermay with Launceston. Since Glenorchy became a city in 1964 no other changes have taken place. Hence, there are 46 municipalities and three cities in existence at the present time. Apart from the enlargement of Hobart and Launceston caused by the above amalgamations, the boundaries are still substantially the same as those proclaimed in 1907, although there have been numerous relatively minor boundary changes since then.

Inquiries Into Local Government

Royal Commission 1938

A Royal Commission was set up in December 1938 to inquire into and report upon certain aspects of local government in Tasmania. It issued its report on 11 August 1939. Recommendations covered administration and finance, the bases of valuation and assessment, the best form of local government, the number of municipal bodies, wards, the system of rating and co-ordination between municipal and State governments. One of the specific recommendations was that the number of municipal bodies should be reduced to two cities, three urban municipalities and thirty-four rural municipalities.

The specific amalgamations recommended by the Commission in 1939 were: (i) Gormanston with Queenstown; (ii) Strahan with Queenstown; (iii) Tasman with Sorell; (iv) Spring Bay with Glamorgan; (v) Portland, part to go to Fingal and the remainder to Ringarooma; (vi) Green Ponds, part to Bothwell and the balance to Brighton; (vii) Lilydale with George Town; (viii) Ross with Campbell Town; (ix) Richmond with Brighton; and (x) St Leonards apportioned between Launceston, Lilydale and Evandale. In addition the Royal Commission also recommended severing the rural portion of Burnie and amalgamating it with Penguin. However, these recommendations were never implemented.

Select Committee 1960

On 16 November 1960, a select committee of the House of Assembly was appointed to inquire into and report on local government. One of its terms of reference was 'whether amalgamation of certain municipalities would be of advantage to local government administration by creating greater efficiency and cutting down administrative costs'. It made its report on 1 August 1961. In relation to the above term of reference, the Committee recommended that it was essential that



Launceston

(By permission of the Premier's Dept)

[Dept of Film Production]



The town of Devonport

(By permission of the Premier's Dept)

[Dept of Film Production]



Mainline train crossing the Derwent River at Bridgewater in late 1930's (Cooks sedan on road bridge)

[Benjamin A. Sheppard]

A Class locomotive hauling a passenger train from Hobart in 1960's

[Benjamin A. Sheppard]





Q Class locomotive hauling Mainline freight near Tea Tree in 1930's

[Benjamin A. Sheppard]

there be a reduction in the number of municipalities in Tasmania and that to achieve this all boundaries should be reassessed as a matter of urgency by qualified experts, having regard to geographic, economic and population conditions. It further stated that it believed that a reduction in municipalities by approximately half would be the eventual means of creating greater efficiency within the municipalities and would cut administration costs.

Municipal Commission 1962

In 1962 the *Local Government Act* was passed; this statute repealed the 1906 *Local Government Act* and other legislation relating to local government and consolidated the legislation in one Act. The 1962 Act also included provision for establishment of a Municipal Commission to inquire into and report on local government administration in Tasmania. The Commission submitted its report in 1965 in which numerous amalgamations and boundary changes were recommended. If the changes had been put into effect there would have been two cities and 18 other municipalities, however, as a result of protracted litigation the State Government decided to amend the provisions of the 1962 Act under which the Commission was constituted. The 1965 report was not acted upon and the Commission was disbanded in March 1971.

Municipal Commission 1972

In 1971 amendments were made to the *Local Government Act 1962* in relation to appointment, functions and powers of a new Municipal Commission. The new Municipal Commission was appointed on 31 May 1972. Apart from dealing with routine matters, the Commission was required to inquire into and report on any matter or question relating to local government referred to it by the Minister for Local Government. The terms of reference given to the Commission included the following:

- (i) Whether there should be creation, abolition, amalgamation or partitioning of any municipality.
- (ii) To inquire into and report on the basis of municipal rating and whether changes are needed, and whether the present pattern of municipal boundaries contributes to their financial problems and whether re-arrangement of boundaries would improve the situation.
- (iii) Division of the State or any part of the State into counties or regional areas and, if desirable, how best to achieve the division.

The 1972 Municipal Commission presented its completed report to the Minister for Local Government on 28 March 1974. Evidence had been taken from each municipality, federal and state government authorities and other interested parties. The main recommendations made in the Commission's Report are summarised below (a more detailed account of the Report is contained in the 1975 *Year Book*).

Recommendations: The Commission did not favour the establishment of an extra tier of government in Tasmania by division of the State into counties or regions (at a higher level than municipalities). However, extensive amalgamations and boundary re-arrangements of municipalities were recommended. If implemented, the latter proposals would have reduced the number of local government authorities by 14 (from 49 to 35) and extended the boundaries of Launceston City to incorporate most of the urban development around Launceston. The Commission reached the conclusion that the pattern of municipal boundaries in Tasmania was such that there must be some wasteful expenditure and a lower level of efficiency than would be obtained by some re-arrangement of the boundaries.

The Commission also recommended the introduction of a limited progressive system of rating (similar to that operated by the State Government in respect of land tax) so long as the Federal Government allowed concessional deductions for income tax purposes.

Release of the recommendations of the Municipal Commission caused an immediate unfavourable reaction in most of the municipalities affected by the proposed boundary changes. In August 1974, the State Parliamentary Labor Party met to consider the Commission's Report and decided that it should not be acted upon. As a result, the Report was not placed before Parliament for consideration.

Local Government—Present Organisation

Authority and Functions

The authority for, and the forms of, local government are prescribed entirely by State legislation which has largely been consolidated in the *Local Government Act 1962*. Hobart and Launceston cities operate under separate corporation acts but the other authorities, including the City of Glenorchy, operate under the Act of 1962.

The functions of the municipalities are set out in broad general terms in Section 176 of the *Local Government Act* as:

'A Municipality: (a) may for the welfare and good government of its district and the inhabitants thereof: (i) make by-laws; (ii) undertake, make and maintain works, buildings and services; and (iii) order and dispose the common affairs of its members; and (b) shall cause the Queen's peace to be kept and maintained within its districts.'

Particular authority is given by Section 180 for a council clerk to be a deputy clerk of the peace, registrar of the court of general sessions and clerk of petty sessions in his municipality.

In addition, by certain acts, the municipalities are given specific responsibilities, e.g. *Health Act*, *Local Courts Act*, etc.

Administration of Justice

This responsibility of the municipality to administer the lower courts of justice is confined to Tasmania. It would appear to be a carry-over from the very early days of local government when the municipality was also required to provide the police force. In all other states the administration is in the hands of a state department. The practice here would now appear to be continued by reasons of expediency. (It should be noted that the process of removing this function from the municipalities has already commenced and the lower courts in the cities of Hobart, Launceston and Glenorchy and the municipalities of Burnie, Clarence Kingborough and St Leonards are administered by the State. It should also be noted that where municipalities administer the courts, they receive all fines into their revenue and in some instances the council clerks receive additional salary for this court work.)

Electors

Persons eligible to vote in local government elections consist of owners or occupiers of rateable land and their spouses together with ex-servicemen all of whom must be natural born or naturalised British subjects over the age of 18 years.

In Tasmania, a system of plural voting was employed in which the number of votes per elector was proportional to the assessed annual value of the particular property. However, in 1972 the *Local Government Act 1962* was amended and plural voting abolished; an elector may exercise, at the most, three votes—one vote in his own right and two votes on behalf of other persons. Each spouse elector and ex-serviceman elector has one vote.

South Australia and Western Australia still have plural voting for local government elections, while New South Wales, Victoria and Queensland employ the principle of a single vote per owner-occupier. In states with plural voting, entitlement scales are comparatively low (having been set many years ago) so that a majority of electors are actually entitled to the maximum number of votes.

In no Australian state are unnaturalised aliens, who are owner-occupiers, eligible to vote at local government elections; Tasmania is the only state with a provision for aliens to have another person vote on their behalf.

Councillors

A councillor must be an elector of, and either reside in, or carry on business in, the municipality and is subject to disqualification for certain breaches of conduct. The term of office is three years and one-third of the council retires each year. Councils may comprise six, nine, 12 or 15 councillors. The warden, deputy warden and treasurer are elected by the council members on an annual basis. (The electors of the City of Hobart elect the Lord Mayor and in Launceston and Glenorchy the electors elect the Mayor.) The office of warden is comparable with that of the mayor of a city or the president of a shire in other states.

Government Intervention

For any of a number of reasons, the Minister administering the *Local Government Act* may consider it necessary to recommend suspension of the elected councillors and the appointment of a commission, or in certain cases an administrator, to carry on municipal government in a particular municipality.

Cities, Municipalities and Towns

In Tasmania there are only two categories of local government; a municipality or a city. The Act provides for the establishment of towns and indicates requirements before such towns are proclaimed but these are not municipal administrative units. Generally an area is proclaimed as a town to bring into action certain provisions relating to rating and to building requirements. Before a municipality can petition for a town to become a city, the town must have had, for five years before the petition, a population of not less than 20 000.

Other than this population requirement for a city there are no provisions, such as exist in some of the other states, for enlarging or diminishing the status of municipalities to accord with increasing or decreasing population.

Sources of Revenue

There are four main sources of local government revenue, namely rates, government grants, business undertakings and services. The rates are levied at so much in the dollar on the assessed annual value (subject to fixed maximum rates set by the *Local Government Act 1962*). Receipts from rates have not for some time met the expense of the increasing range and cost of the services supplied. Government grants are a recognised means of increasing the revenue of municipalities.

Tasmania is the only state which uses the *assessed annual value* system of rating properties in all local government areas. (The *Local Government Act 1962* includes provision that local government authorities have the alternative of imposing

the *site value* system of rating.) In New South Wales and Queensland site value rating is used almost exclusively while approximately three quarters of all local government authorities in Australia use site value rating. Under site value rating, rates are based on the site (unimproved land) value of properties only, whereas under the assessed annual value system of rating, rates are based on site value plus the value of any improvements.

The municipalities are unable to collect any rates for land owned by the Crown but services, where provided, are paid for. Grants and subsidies are made, generally speaking, to assist the municipalities to meet the overall costs of municipal government and sometimes the grant is made to assist in a particular project. Grants are sometimes made to induce the councils to provide or develop certain services and may also be made to assist in paying the costs of particular services shared by two or more adjoining municipalities. Earnings from business undertakings include charges for the supply of water and for the use of abattoirs. Some of these businesses show a small profit but, in most cases, the fees demanded are just sufficient to cover the cost of providing the services.

In the matter of water supply, where a number of local government areas could be served from a common source, the State Government did not consider a system of individual grants adequate and created two statutory authorities to act as 'wholesalers', the affected local government authorities acting as 'retailers'. This development is described later in the chapter under 'Water Supply and Sewerage'.

PLANNING AUTHORITIES

Town and Country Planning Commission

Introduction

Before the federal Labor Government took office in 1941, governments (both state and federal) had shown little interest in town planning legislation. The war-time federal Labor Government encouraged activity in this field and in the period 1944-45 four states, including Tasmania, passed legislation with provisions largely based on existing British and New Zealand planning statutes.

Passed in 1944, the Tasmanian *Town and Country Planning Act* applied only to areas which were proclaimed as a result of municipal requests. The Act created the position of Town and Country Planning Commissioner. In 1962 the *Town and Country Planning Act* was repealed and its provisions incorporated in Part XVIII of the *Local Government Act* 1962 under which the powers of the Commissioner were broadened so that, with the approval of the Minister, he could require any municipality to prepare a planning scheme.

The Governor appoints the Commissioner for a period not exceeding five years. The Commissioner is also a member of the following bodies: the Building Regulations and Nomenclature Boards; and the Co-ordination of Mapping Committee.

The Town and Country Planning Commissioner's office exercises statutory power in its own right but for administrative convenience it is regarded as a branch of the Premier's Department. The Commission consists of the Commissioner, the Deputy Commissioner and a small staff. The Town and Country Planning Commissioner's office should not be confused with the Southern Metropolitan Master Planning Authority, described next in this chapter.

Functions

Briefly the function of the Commissioner is to approve municipal planning schemes and to certify that sub-division proposals are in accordance with the schemes and meet the other requirements as laid down in the *Local Government Act*

1962. Also the Commissioner may require: (i) any municipality to prepare a planning scheme; or (ii) two or more municipalities to co-operate in the preparation of a master planning scheme; he is empowered to specify the completion date for such schemes. If the municipality fails to comply with the Commissioner's requests, then the Commissioner may prepare a scheme, the municipality meeting all preparation costs. A municipality may voluntarily prepare a planning scheme and submit it to the Commissioner for approval. If a scheme, prepared for an area to which a master plan applies, is submitted to the Commissioner for approval then the Commissioner, before giving a decision, must consult the authority which prepared the master plan. The Commissioner is also empowered to deal with objections to any planning scheme, including master plans prepared by a master planning authority.

Legal Procedure for a Planning Scheme

After the Commissioner gives provisional approval to a planning scheme the municipality must make public the scheme and place a copy in the municipal office for public inspection. Following public notification a three month period is allowed for objections to the scheme by: (i) any owner or occupier of rateable property in the area affected; (ii) health officers as defined in the *Public Health Act* 1962; (iii) the municipality, but only if the scheme has been altered or prepared by the Commissioner. Objections are lodged with the municipality which then forwards the objections, together with a statement of its opinion on them, to the Commissioner for his consideration. The Commissioner hears all the objections except in such cases where he considers the objection sound and the municipality agrees with it. The municipality may request and be entitled to a formal hearing.

If, because of the number and magnitude of objections to a planning scheme, the Commissioner considers it should be substantially modified, he may: (i) recommend that the Minister reject it; (ii) direct that a specified part of the scheme be done again. In both of these cases another scheme or part scheme has to be prepared and submitted to the Commissioner for provisional approval.

After all objections have been dealt with and the necessary modifications made to the plan, the Commissioner, with the Minister's approval, approves and seals the scheme. The sealed scheme is then publicly notified, placed before both Houses of Parliament and recorded in the central plan register.

Scope of Plan

A town and country planning scheme may deal with the following planning matters: (i) all roads (public and private), streets, footpaths, building lines and land adjacent to foreshores; the plan should cover both alteration to existing roads, streets, etc. and proposed new roads, streets, etc.; (ii) positioning of buildings and the general nature and design of buildings; (iii) preservation of land for afforestation, recreation and open spaces; (iv) preservation of objects of historical or natural interest; (v) sewerage and drainage; (vi) lighting and water supply systems; (vii) specification of the use to which areas may be put; (viii) provision of amenities; (ix) stages of development; (x) ancillary or consequential works.

Sub-division Approvals

Except where the Commissioner authorises a council to deal with sub-division plans, all such plans submitted to the council must be forwarded to the Commissioner for approval. (At any time a council's power to authorise sub-division plans without reference to the Commissioner may be withdrawn by him.) When considering sub-division plans the Commissioner may: (i) call for an amendment that either the council requires or the Commissioner considers the principles of town

and country planning demand; or (ii) refuse consent to the council approval. The Commissioner is to ensure that areas for public use are retained along sea and lake shores and rivers and rivulets.

Proposed State Planning Commission

New legislation to provide for the establishment of a State Planning Commission with responsibility for the preparation of a State Strategic Policy Plan and with powers to effect a co-ordination of development was passed by the House of Assembly late in 1975, and early in 1976 was referred to a Select Committee by the Legislative Council.

Tasmanian State Strategy Plan

A State Strategic Development Study program was initiated in April 1974 by an exchange of letters between the Prime Minister and the Premier. Funded wholly under the *Growth Centres Act 1973*, the Strategic Development Study has four stated objectives:

- (i) To identify future growth areas in Tasmania, within the context of a State development program.
- (ii) To formulate policy guidelines for integrated development of the State on a regional basis.
- (iii) To resolve major conflicts between the competing requirements of development and conservation in the best interests of the community.
- (iv) To help the State improve its planning resources.

The work program and the disbursement of funds is supervised by a Federal/State intergovernment Steering Committee, comprising officers of the Federal Government, senior officers of the Tasmanian Government and representatives of the regional master planning authorities. The Steering Committee is chaired by the State Planning Co-ordinator and is responsible to the Minister for Planning and Reorganisation.

Early work on the program was undertaken by consultants and the regional master planning authorities who prepared information and undertook research studies needed before planning work could proceed. During 1975, a small task force of planners was assembled and work on the preparation of a Strategy Plan for the State commenced.

The State Strategy Plan Task Force was to present a progress report to the Steering Committee by 30 June 1976 and it is planned to present the Final Strategy Plan Report some twelve months later in June 1977.

Southern Metropolitan Master Planning Authority

Introduction

The Southern Metropolitan Master Planning Authority is responsible for planning the development of an area best defined broadly as a triangle based on Pontville (Brighton Municipality), Snug (Kingborough Municipality) and Seven Mile Beach (Clarence Municipality), which includes the City of Glenorchy and also those parts of Brighton, Kingborough and Clarence Municipalities which are likely, in the future, to experience urban expansion because of their proximity to Hobart.

Representation and Finance

The *Local Government Act 1962* prescribes that each city shall have the right to appoint three representatives and each municipality two representatives to the authority. The authority is empowered to make contracts, accept trusts of

properties for town planning purposes, make by-laws for domestic purposes and obtain a town planning contribution based on the annual value of all rateable property.

In March 1973 the Hobart City Council petitioned to withdraw from the authority. At a meeting of the authority in April it was decided to: (i) recommend to member councils that the authority be continued; and (ii) advise the Hobart City Council that the authority was prepared to continue to meet Hobart's mapping requirements, subject to a satisfactory financial arrangement being agreed to. Hobart withdrew from the Authority in August 1973.

Functions of the Authority

The main functions of the Authority are: (i) the technical and legal preparation of a master plan for the prescribed area (the detailed planning nevertheless remaining the responsibility of each constituent municipality or city); (ii) the conduct of surveys and studies to facilitate the preparation of the master plan; and (iii) preparation of maps of the developed and developing parts of the metropolitan area.

The Master Plan

The Master Plan 1962 was put up for statutory exhibition for a compulsory period of three months. Following objections the Authority withdrew the plan and the State Government decided to undertake a full transportation study, the results of which became available late in 1964. An interim 'Town Planning Policies Map 1964' was issued as a guide to member councils in their detailed planning and to other authorities concerned with development in the Southern Metropolitan Area.

Strategy Plan

In March 1975 the State Planning Co-ordinator issued a brief to the Authority for the preparation of a Hobart Metropolitan Area Strategy Plan. This Plan was developed in conjunction with the preparation of the State Strategy Plan and presented alternative growth form strategies and an assessment of their planning implications for the metropolitan area. For the purposes of this Plan the functional metropolitan area was considered to include urban parts of the City of Hobart and the municipalities of New Norfolk, Richmond and Sorell which are not within the area under the authority of the Southern Metropolitan Master Planning Authority. It was intended that the Strategy Plan would form the basis for a Regional Structure Plan as required by the proposed Planning and Development Act.

Tamar Regional Master Planning Authority

The Tamar Regional Master Planning Authority was established in September 1969, following a petition to the State Government by the City of Launceston and the Municipalities of Beaconsfield, George Town, Lilydale, Longford and St Leonards. Westbury and Evandale, two essentially rural municipalities, became members in April 1974 to complete the membership of the natural region.

The Authority consists of three representatives from the Launceston City Council and two from each of the member municipalities. Financial support is given by the constituent councils, in proportion to the annual value of rateable property.

Initially, a consortium of town planning consultants was engaged to produce a preliminary report which was completed in mid-1971. This report formed the basis for the Regional Plan for the area, which was prepared by the Authority's staff. The aim of the constituent councils in the preparation of the Regional Plan

was the unified promotion and development of the Tamar Valley region. In order that the Plan would reflect the aims of the community, and so justify its development, it was prepared under three principal objectives—planning, environment and promotion—which gave purpose and thrust to the complete planning exercise.

The planning objective proposed four principal divisions aligned north to south along the Tamar/South Esk Rivers:

- (i) *Northern Tamar*—centred on the port of Bell Bay with the principal theme being the development of industrial potential and port facilities.
- (ii) *Central Tamar*—extending from Moriarty Reach to Dilston; to be promoted as a recreation and tourist area with the preservation of the existing scenic landscape character.
- (iii) *Southern Tamar*—centred upon Launceston with provision for the retention and further development of the City as the commercial and service centre of the region.
- (iv) *Esk Valley*—rationalisation of transport links and industries, and the promotion of the area's intensive agricultural potential was proposed.

The environmental objective has been met by the completion of specific studies on the Tamar Valley environment and the conservation and landscape aspects of the region as a whole.

The promotion objective proposes the continued encouragement of regional growth by the promotion of its potential. Studies of tourist resources and industrial potential have been carried out.

The major regional planning policies were completed in 1974, and adopted by the constituent councils. During 1975 the final adopted policies were compiled into a strategic planning policy and submitted for Government approval.

The Regional Plan already serves as the basis for planning guidelines and policies on local issues and provides initiatives in planning action and expenditure as an input towards the development of the State Strategy Plan.

North-West Master Planning Authority

This Authority was constituted in February 1971 in accordance with provisions of the *Local Government Act 1962*. The eight member municipalities are Latrobe, Kentish, Devonport, Ulverstone, Penguin, Burnie, Wynyard and Circular Head. Constituent councils each have two members on the Authority. Finance is obtained from member municipalities in proportion to the annual value of rateable property.

Approximately 9 000 square kilometres in area and containing a population of some 87 000, the Authority's sphere of jurisdiction includes two interstate airports, three marine board port facilities (out of the five in Tasmania), substantial industrial establishments with international markets, nine principal towns with two approaching city-status, and prime soil districts supporting livestock and vegetable production. Although exhibiting only a gradual annual increase in population, it is nevertheless the fastest growing region in the State.

The fundamental objective of the Authority is to foster, co-ordinate, and promote the development of the region along sound economic and environmental lines. Under State legislation, it has the responsibility to prepare a statutory master plan for the region and has recently undertaken work towards production of the State Strategy Plan.

A firm of planning consultants undertook a comprehensive survey of the region, and an Outline Development Report was published in October 1973. Since then, feedback from the constituent councils, the public, special interest groups, and a 10-week seminar on regional planning conducted by the Burnie Adult Education Board has begun to crystalize thoughts towards strategy programs for the north-west region.

An initial policy adopted by the Authority was to inhibit further linear expansion along the coast and to focus development inwards from the existing urban nodes, with the rural landscape in between serving as punctuating relief. This has been schematically illustrated in an Outline Development Strategy Map and Report released in November 1974. The Authority has also endorsed the concept of Burnie being the cultural and arts centre for the north-west and west coast of Tasmania as a regional complement to the major facilities provided in Launceston. In addition, concerted support has been accorded the unique and ambitious 9 000-hectare Dial Regional Sports/Recreation Complex now being implemented in the central location of Penguin.

FINANCE

Introduction

For local government purposes Tasmania is divided into 49 areas, comprising 46 municipalities and the Cities of Hobart, Launceston and Glenorchy. There are no unincorporated areas.

Local government finance statistics in Tasmania are compiled by the Australian Bureau of Statistics from annual local government accounts.

Each local government area is required to submit its accounts annually to the Auditor-General in pursuance of section 329 of the *Local Government Act* 1962; copies of these accounts are also made available to the Bureau.

Accounts are compiled by all municipalities except Kingborough on a cash receipts and payments basis, and two basic types of accounts are distinguished, namely revenue and loan accounts. The Cities of Hobart, Glenorchy and Launceston and the Municipality of Kingborough submit accounts on an income and expenditure basis but they are analysed to show cash receipts and payments to assist comparison with other local government areas.

The term 'local government' is employed only in relation to the municipalities and city corporations. Details of semi-government authorities concerned with water supply appear in the last section of this chapter; such authorities provide bulk water but reticulation and sale to householders remain local government functions. Since 1961 the Metropolitan Water Board has incurred loan debts which, under earlier arrangements, would have been entered as the water loan debts of Hobart, Glenorchy, Clarence and Kingborough local government authorities.

Value of Property

Revenue for local government authorities in Tasmania is derived principally from rates. Under the *Local Government Act* 1962, rates may be based on assessed annual value (i.e. the gross annual income, at the time of valuation, that the person owning the land might obtain by letting the land and its appurtenances to a tenant), unimproved value (i.e. value of land only), the capital value (i.e. value of land plus improvements), or upon a composite value incorporating the unimproved value plus some arbitrary proportion of the value of improvements.

In Tasmania, it has been usual for rates to be based on annual values despite isolated and unsuccessful campaigns in favour of taxing on unimproved value only. In estimating annual value, the valuer is taking into account not only the land but also the improvements (e.g. buildings) so there is, in fact, a close relationship between movements in the total capital value of any property and movements in its assessed annual value. The *Land Valuation Act* 1971 consolidated and amended the law relating to land valuation.

System of Valuation

The valuation of property is carried out by a State Government authority, the Land Valuation Branch; its valuations form the basis of two distinct taxes: (i) land tax collected by the State on the basis of unimproved land values; and (ii) rates collected by local government authorities on the basis of assessed annual values. Since it is impossible to value all the properties within the State in the course of a single year, valuation is carried out on a rotational basis, e.g. Hobart, Clarence and Ulverstone were valued in 1969 and again in 1974.

The following table shows the total value of all properties in the State and gives individual details for local government authorities with a total capital value exceeding \$20m at 1 July 1975:

Value of Properties: Principal Local Government Authorities at 1 July
(\$ Million)

Local government authority	Year of revaluation (a)	Total capital value		Unimproved value		Assessed annual value	
		1974	1975	1974	1975	1974	1975
Hobart	1974	514.15	523.66	165.82	166.48	35.97	36.63
Launceston ..	1975	175.34	295.62	56.16	97.49	14.16	24.23
Clarence	1974	253.28	262.08	80.91	81.49	15.45	16.03
Glenorchy	1973	213.65	219.81	57.39	58.02	16.09	16.56
Burnie	1975	111.21	153.74	33.39	49.14	6.93	9.60
Devonport	1972	110.72	114.94	36.66	36.99	6.95	7.19
Beaconsfield ..	1974	63.92	67.35	15.67	15.93	3.97	4.19
Kingborough ..	1972	62.44	67.24	17.99	18.82	3.84	4.15
St Leonards	1971	59.09	62.27	12.24	12.47	4.11	4.33
Ulverstone	1974	59.00	61.37	14.88	14.97	3.32	3.48
New Norfolk	1971	49.99	50.36	7.49	7.51	2.71	2.73
Wynyard	1972	46.38	48.11	10.31	10.41	2.65	2.75
Circular Head ..	1973	45.43	46.28	8.12	8.19	2.33	2.37
George Town	1972	35.53	36.34	5.71	5.79	2.24	2.30
Longford	1974	31.22	32.20	6.16	6.19	1.71	1.74
Latrobe	1971	30.36	31.07	4.82	4.86	1.56	1.60
Westbury	1973	27.77	28.42	5.08	5.10	1.44	1.48
Lilydale	1971	27.45	28.20	5.71	5.76	1.81	1.86
Huon	1975	20.93	26.51	3.06	6.25	0.99	1.27
Deloraine	1971	24.84	25.32	3.68	3.68	1.22	1.24
Scottsdale	1972	22.55	23.34	4.33	4.36	1.19	1.24
Sorell	1972	21.28	22.94	5.46	5.57	1.04	1.13
Oatlands	1971	21.51	21.57	4.33	4.33	0.90	0.90
Penguin	1974	19.98	20.40	3.95	4.03	1.07	1.10
Remaining municipalities ..	..	269.00	301.01	49.86	62.43	13.76	15.37
Total Tasmania	..	2 317.03	2 570.15	619.19	696.26	147.41	165.47

(a) Latest revaluation effective from 1 July of year shown.

The table that follows shows the value of property in Tasmania over the last 10 years:

Total Property Valuation in All Local Government Areas at 1 July
(\$ Million)

Year	Total capital value	Unimproved value	Assessed annual value	Year	Total capital value	Unimproved value	Assessed annual value
1966 ..	1 271.87	328.50	74.44	1971.. ..	1 768.07	454.47	107.78
1967 ..	1 350.74	350.81	79.34	1972.. ..	1 874.17	483.44	114.86
1968 ..	1 452.38	374.49	86.35	1973.. ..	1 995.91	511.39	124.61
1969 ..	1 571.96	411.72	95.57	1974.. ..	2 317.03	619.19	147.41
1970 ..	1 691.37	441.88	102.98	1975.. ..	2 570.15	696.26	165.47

Total Receipts and Payments

The following table shows total receipts and payments of the Tasmanian municipalities and cities for recent years:

Local Government Authorities
Total Receipts and Payments: All Funds
(\$'000)

Year	Receipts			Payments			Surplus (+) or deficit (-)
	Revenue accounts (a)	Loan accounts (b)	Total	Revenue accounts	Loan accounts	Total	
1969-70	25 914	7 469	33 383	24 816	7 972	32 788	+ 595
1970-71	28 236	8 164	36 400	27 195	7 494	34 689	+1 711
1971-72 _r	31 505	8 574	40 079	30 985	8 504	39 488	+ 591
1972-73 _r	37 000	9 473	46 473	34 552	9 668	44 220	+2 253
1973-74	40 371	9 521	49 892	39 482	8 787	48 268	+1 624
1974-75	53 767	13 994	67 760	53 559	12 628	66 187	+1 574

(a) Includes grants from the Metropolitan Water Board to cover working expenses.

(b) Includes loan raisings, sales, capital grants received, etc.

Business Undertakings

The classification 'business undertakings' is used in Australian local government finance statistics to include municipal tram and bus services, municipal electricity supply (generation or distribution), municipal water and sewerage schemes, municipal abattoirs, etc.

In Tasmania local government finance statistics, electricity supply ceased to appear as from 1948-49 (the Hydro-Electric Commission is now the sole supplier). Municipal tram and bus services ceased to appear as an item in 1955-56. The Metropolitan Transport Trust has acquired the city transport services operating in Hobart, Launceston and Burnie. Consequently, the only activities under the heading of municipal 'business undertakings' in current Tasmanian statistics relate to water supply, sewerage and abattoirs.

Rate Collections

The most important source of revenue for local government authorities is from rates levied on owners of property. These rates are based upon the assessed annual values of rateable properties.

The following table shows details of the rates collected in Tasmania during a three-year period:

**Rates Received (a) by Local Government Authorities
(\$'000)**

Rate	1972-73 r	1973-74	1974-75
Ordinary services (b)—			
General	7 561	7 969	10 712
Street lighting	214	226	230
Road	4 795	5 197	6 790
Health	423	491	605
Sanitary and garbage	350	390	520
Recreation and reserves	1 018	1 205	1 649
Halls and community centres	112	113	106
Library	173	191	225
Fire brigade	205	247	374
Drainage	157	187	219
Other	114	123	184
Total	15 121	16 339	21 613
Business undertakings—			
Water	4 325	4 885	5 668
Sewerage	3 344	3 747	4 528
Total	7 669	8 632	10 197
Grand total	22 790	24 971	31 810
Percentage increase	12.4	9.6	27.4

(a) Net of refunds.

(b) Where a single consolidated rate has been charged (e.g. Hobart and Launceston), the collection has been dissected between 'ordinary' and the two 'business undertakings' components but the 'ordinary' component has been entered, without further analysis as 'general'.

Revenue of Local Government Authorities

The biggest proportion of local government revenue comes from rates (59 per cent in 1974-75) which are direct charges on owners of property.

After rates, the next most important sources of revenue are: (i) government and semi-government grants; and (ii) charges for public works and services. The next table shows the total annual revenue receipts by all municipalities and cities, for a three-year period, classified according to source.

**Local Government Authorities
Revenue Fund Receipts: Ordinary Services and Business Undertakings
Classified According to Source
(\$'000)**

Source of receipts	1972-73r	1973-74	1974-75
Ordinary services—			
Rates	15 121	16 339	21 613
Licences	581	641	717
Total rates and licences	15 702	16 980	22 331
Public works and services—			
Reserves, parks, etc.	510	650	691
Halls	101	175	112
Caravan parks	75	100	154
Cemeteries and crematoria	188	207	286
Other council properties	269	356	393
Private and other works	536	793	1 224
Parking	816	892	1 217
Other services	507	675	738
Total	3 002	3 848	4 815

Local Government Authorities
Revenue Fund Receipts: Ordinary Services and Business Undertakings
 Classified According to Source—*continued*
 (\$'000)

Source of receipts	1972-73 <i>r</i>	1973-74	1974-75
Government and Semi-government grants—			
Roads	2 061	2 300	3 126
Grants Commission			1 669
Other (a)	3 051	911	3 068
Total	5 111	3 210	7 864
Other receipts (b)	1 585	3 159	3 344
Total ordinary services ..	25 400	27 198	38 354
Business undertakings—			
Water supply—			
Rates	4 325	4 885	5 668
Government and semi-government grants	1 558	1 968	2 410
Other	708	857	774
Total	6 591	7 710	8 853
Sewerage—			
Rates	3 344	3 747	4 528
Government and semi-government grants	262	217	371
Other	292	328	312
Total	3 897	4 292	5 212
Abattoirs, other (c)	1 112	1 172	1 349
Total business undertakings	11 600	13 174	15 413
Grand total	37 000	40 371	53 767
Percentage increase	17.4	9.1	33.2

(a) Includes unemployment grants.

(b) Includes additions to sinking funds, interest earnings, net deposits, donations and tolls.

(c) Comprises fees charged, sales of products, etc.

Revenue Receipts, Summary

The preceding table does not show combined figures for all rates and government grants; totals for these items are included in the summary which follows:

Revenue Fund Receipts: Ordinary Services and Business Undertakings
 (\$'000)

Year	All rates (net)	Licences	All govt and semi-govt grants	Business undertakings (a)	Ordinary services (a)	Other receipts	Total receipts
1969-70	17 181	180	3 372	1 566	2 753	862	25 914
1970-71	18 533	175	4 003	1 541	2 963	1 021	28 236
1971-72 ^r	20 257	479	4 989	1 706	2 877	1 198	31 505
1972-73 ^r	22 790	581	6 931	2 112	3 002	1 585	37 000
1973-74	24 971	641	5 395	2 357	3 848	3 159	40 371
1974-75	31 810	717	10 645	2 435	4 815	3 344	53 767

(a) Excludes rates and grants which are shown separately.

Federal Government Financial Assistance for Local Government

Up to 1973-74, the bulk of government grants to local government were for roads and recreational facilities. Greater interest in local government by the Federal Government during 1974-75 resulted in an additional role for the Australian Grants Commission. The passing of the *Grants Commission Act 1973*, besides authorising the continuation of the Commission's functions in relation to applications by the states for grants of special financial assistance, laid down procedures which provided direct access by local government to the financial resources of the Federal Government. Applications for financial assistance under the Act were the subject of inquiry and report by the Grants Commission. In 1974-75, grants to Tasmanian local governments by the Grants Commission amounted to \$1.7 million.

At the Premiers' Conferences of February and April 1976, details were announced for a revised scheme of assistance to local government, to commence in 1976-77. Under this scheme, a fixed percentage of Federal personal income tax is set aside for distribution through the state governments to local government. This money is intended for two distinct purposes:

- (i) a per capita grant to each local government body; and
- (ii) an equalisation or 'topping-up' grant to be distributed through State Grants Commissions, to meet special needs.

With the establishment of this scheme, the function of the Australian Grants Commission of reporting on amounts of equalisation assistance for local government was abolished. The Commission's only role under the new scheme is to advise of the appropriate percentage distribution of Federal personal income tax between the states. The state governments are then required to distribute not less than 30 per cent of their allocation to all local governments on a population basis, with the balance being placed under the control of the State Grants Commissions for distribution on a needs basis.

For 1976-77, the Federal Government allocated \$140m to the states for distribution to local government. Tasmania's share was \$4m, and of this amount \$1.2m was distributed to all authorities on a population basis, while \$2.8m was allocated to the newly-created State Grants Commission for distribution. (*A more detailed coverage of the activities of the State Grants Commission is included in Appendix A.*)

Revenue Fund Payments by Local Government Authorities

The following table shows annual payments by local government authorities from revenue funds:

Local Government Authorities			
Revenue Fund Payments: Ordinary Services and Business Undertakings			
Classified According to Service			
(\$'000)			
Payments for—	1972-73 <i>r</i>	1973-74	1974-75
Ordinary services—			
General administration	3 074	4 050	5 136
Loan charges—Interest	2 452	2 706	3 206
Redemption	1 885	2 089	2 263
Sinking fund contributions ..	192	195	197
Total	4 530	4 990	5 666

Local Government Authorities
Revenue Fund Payments: Ordinary Services and Business Undertakings
Classified According to Service—continued
(\$'000)

Payments for—	1972-73 r	1973-74	1974-75
Public works and services—			
Recreational facilities and reserves	2 130	2 403	4 503
Halls and community centres	359	407	600
Roads, bridges and street construction	8 042	8 022	12 207
Garbage, sanitary, etc.	894	1 063	1 550
Health and welfare	490	590	829
Street lighting	446	523	586
Parking	453	478	706
Private and other works	392	581	912
Other	729	848	1 126
Total	13 935	14 916	23 019
Grants	875	949	1 336
Other payments	896	1 667	2 514
Total ordinary services	23 309	26 572	37 670
Business undertakings—			
Water supply—			
Loan charges—Interest	889	914	929
Redemption	727	784	911
Sinking fund contributions	23	26	27
Total	1 639	1 724	1 866
Other payments (a)	5 007	5 832	7 454
Total water supply	6 646	7 556	9 320
Sewerage—			
Loan charges—Interest	1 521	1 651	1 797
Redemption	679	759	858
Sinking fund contributions	56	66	73
Total	2 256	2 476	2 728
Other payments (b)	1 508	1 899	2 546
Total sewerage	3 764	4 375	5 275
Abattoirs—			
Loan charges—Interest	55	49	52
Redemption	31	28	28
Sinking fund contributions	10	10	10
Total	96	87	91
Other payments (b)	738	893	1 203
Total abattoirs	834	980	1 294
Total business undertakings	11 243	12 910	15 889
Grand total	34 552	39 482	53 559
Percentage increase	11.4	14.3	35.7

(a) Comprises grants paid to semi-government authorities (principally the Metropolitan Water Board), working expenses, capital expenditure out of revenue fund and sundry payments.

(b) Comprises working expenses, capital expenditure out of revenue fund and sundry payments.

The Beaconsfield Municipality is served by the West Tamar Water Supply Scheme, which the municipality maintains and manages as agent for the Rivers and Water Supply Commission. All debt in the municipality in respect of water

supply became the responsibility of the Commission on 1 July 1960; interest and principal repayments to the Commission on loans raised for the purpose of this water supply have been included in 'Water Supply—Other Payments' in the previous table.

Launceston, Burnie, Devonport and Campbell Town operate municipal abattoirs; other abattoirs in Tasmania are operated by the private sector.

The next table gives a summary of local government revenue fund payments and shows the importance of debt charges (19.3 per cent of total payments in 1974-75) and expenditure on roads, streets and bridges (22.8 per cent).

Payments: Ordinary Services and Business Undertakings
('\$000)

Year	Adminis- tration (a)	Loan charges (b)			Other payments			Total
		Interest (c)	Redemp- tion (d)	Sinking fund contribu- tions	Ordinary services		Business under- takings	
					Roads, streets, bridges	Other		
1969-70 ..	2 217	3 858	2 789	250	4 850	5 353	5 500	24 816
1970-71 ..	2 544	4 149	3 059	256	5 551	5 648	5 989	27 195
1971-72r ..	2 798	4 548	3 106	269	7 096	6 735	6 434	30 985
1972-73r ..	3 074	4 918	3 322	281	8 042	7 664	7 253	34 552
1973-74 ..	4 050	5 320	3 660	297	8 022	9 510	8 624	39 482
1974-75 ..	5 136	5 984	4 060	307	12 207	14 662	11 203	53 559

(a) Administration charged to ordinary services only; includes interest on bank overdraft for 1969-70 and 1970-71.

(b) Ordinary services and business undertakings.

(c) From 1971-72 figures for interest include interest paid on bank overdraft and are not directly comparable with earlier years.

(d) Includes redemption from sinking fund.

Loan Receipts, Payments and Debt

At 30 June 1975 the aggregate loan debt of all local government authorities was \$97 892 000, of which only \$2 379 000 (i.e. 2.4 per cent) was in respect of debt due to the State Government. The principal Tasmanian sources of loans for local government authorities are banks, superannuation and various trust funds, insurance companies; and for cities, public issues.

The amount that any local government authority can raise is governed by:

- (i) the difficulty in finding willing lenders;
- (ii) the fact that the approval of the State Treasury is required; and
- (iii) under the *Local Government Act* 1962, total loan indebtedness is strictly controlled and cannot exceed ten times the average annual income for the preceding three financial years.

The next table shows the loan account receipts of all local government authorities:

Local Government Authorities: Loan Account Receipts
(**\$'000**)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Loan raisings for—					
Sewerage	2 134	2 418	3 070	2 590	4 871
Road, street and bridge construction	1 527	2 025	2 065	2 564	2 449
Water supply	1 020	618	574	766	831
Recreational facilities	587	823	614	830	712
Other	1 696	1 377	1 829	1 823	3 397
Total raisings	6 964	7 260	8 151	8 574	12 260
Government and semi-government grants	681	900	917	668	1 459
Other receipts (a)	519	414	405	279	274
Total receipts	8 164	8 574	9 473	9 521	13 994

(a) Includes recoveries of capital expenditure, sales of materials credited to loan funds, contributions from the private sector credited to loan funds, etc.

The next table shows details of payments from the loan accounts of all local government authorities:

Local Government Authorities: Payments from Loan Accounts
Classified According to Purpose
(**\$'000**)

Purpose	1970-71	1971-72 r	1972-73	1973-74	1974-75
Water	1 603	1 587	1 118	1 145	1 040
Sewerage	1 982	2 609	3 389	2 483	4 364
Drainage	293	336	r 432	351	447
Road, street and bridge construction	1 915	1 971	2 179	2 462	2 749
Recreational facilities	707	879	681	1 108	1 018
Halls and community centres	128	144	132	377	968
Other	867	977	1 737	861	2 041
Total	7 494	8 504	r 9 668	8 787	12 628
Percentage increase	-6.0	13.5	13.7	-9.1	43.7

The following table shows, in summary form, loan raisings, loan debt and sinking funds:

Local Government Authorities: Loan Raisings, Loan Debt and Sinking Funds
(**\$'000**)

Year	Loan raisings during financial year			Loan debt at 30 June			Total of sinking funds at 30 June (c)
	From State Government (a)	From other sources (b)	Total	To State Government	To other creditors	Total	
1969-70	44	6 751	6 794	934	70 918	71 854	1 893
1970-71	179	6 784	6 964	1 052	74 826	75 878	2 162
1971-72	50	r 7 210	r 7 260	1 063	78 844	79 907	2 451
1972-73	78	8 074	8 151	1 130	83 652	84 781	2 788
1973-74	101	8 473	8 574	1 187	88 579	89 766	3 060
1974-75	1 245	11 015	12 260	2 379	95 513	97 892	3 367

(a) These advances were from the State Treasury direct, and exclude those from authorities such as the Housing Department and the Metropolitan Transport Trust.

(b) Includes advances from the Housing Department and the Metropolitan Transport Trust.

(c) Sinking funds maintained by municipalities and cities for debt redemption purposes.

Source of Loan Funds

It can be seen from the preceding table that the local government loan debt includes only a small liability in respect of advances made by the State Treasury. The proportion of total debt owed to State authorities (but not directly to the Treasury) has increased in recent years, principally due to co-operation between individual municipalities and the State Housing Department. In planning the establishment of large housing estates, the Housing Department has been concerned with the provision of certain essential services (e.g. water and sewerage); where such services have required capital expenditure by a municipality, the Department has made some loan funds available.

Instalment Debentures

Much of the debt of the municipalities is in the form of instalment debentures which involve equal periodic payments (usually half-yearly); such payments are allocated to redemption and interest in changing proportions as the loan approaches maturity.

Employees of Local Government Authorities

The following table shows total employees of local government authorities over a five-year period. The number of employees of individual authorities ranges from over 500 persons to as low as one person.

Local Government Authorities: Persons Employed (a) at 30 June

Particulars	1971	1972	1973	1974	1975
General administration—					
Males	504	537	529	543	558
Females	220	221	222	235	290
Persons	724	758	751	778	848
All other services—					
Males	1 923	2 442	2 152	1 957	2 807
Females	37	20	37	29	165
Persons	1 960	(b) 2 462	(b) 2 189	(b) 1 986	(b) 2 972
Total—					
Males	2 427	2 979	2 681	2 500	3 365
Females	257	241	259	264	455
Persons	2 684	(b) 3 220	(b) 2 940	(b) 2 764	(b) 3 820

(a) Includes permanent and temporary employees but excludes part-time employees.

(b) Includes persons employed on local government work programs financed by special Federal Government unemployment relief grants.

WATER SUPPLY AND SEWERAGE**Introduction**

Water supply and sewerage were once exclusively the responsibility of the cities and municipalities; two semi-government authorities now operate bulk supply schemes, piping water for distribution by the local government authorities in the Hobart and Launceston areas, and directly to certain industrial consumers.

Metropolitan Water Board

This semi-government authority is responsible for the supply of water in the Hobart, Clarence, Glenorchy and Kingborough local government authority areas. A detailed description of the Board's functions and financial relationships with the individual local government authorities is given in the next section of this chapter, 'Metropolitan Water Board'.

Rivers and Water Supply Commission

The *Water Act 1957*, proclaimed as from 1 September 1958, conferred on the Rivers and Water Supply Commission all powers which had been previously exercised by the Water, Sewerage and Drainage Board. The Commission exercises a general control over the utilisation of the State's water resources and has specific functions in relation to local government authority water, sewerage and drainage schemes. It also operates the North Esk Regional Water Supply, West Tamar Water Supply, Prosser River Supply, Togari Water Supply and Cressy-Longford Irrigation Scheme. (Details of the last scheme appear in the chapter 'Land Use and Agriculture'). A more detailed description of the Commission's functions in relation to local government and of the four water supply schemes is contained in a later section, 'Rivers and Water Supply Commission'.

Metropolitan Water Board

The overall control of water supply in Hobart, Clarence, Glenorchy and Kingborough is vested in the Metropolitan Water Board, but the four local government authorities retain primary responsibility for reticulation and sale to consumers. The Board has a large pumping station and treatment plant at Bryn Estyn on the Derwent, pipeline capacity being 136 megalitres per day. Before the Board came into operation in 1962, the four metropolitan local government authorities had their own supply schemes (e.g. Hobart was supplied from Lake Fenton and Mount Wellington); these schemes still operate but the Board's pumping works based on the Derwent now give an assured supply.

The Board also controls the Southern Regional Water Supply Scheme which draws water from the Derwent at Lawitta to supply Hobart's eastern shore suburbs. (Reticulation is, however, still the responsibility of the local government authorities.) On the eastern shore, the Board has now extended its service to the towns of Cambridge, Midway Point, Sorell, Seven Mile Beach, Lauderdale and Rokeby, while western shore extensions serve Margate, Snug and Howden.

Financial Relationship

Under the *Metropolitan Water Board Act 1961*, the four metropolitan local government authorities no longer borrow money for metropolitan water works, but are provided with the necessary capital by the Board which obtains its funds from private lenders and the State Loan Fund, the local authorities in turn being required to make revenue contributions to the Board. The effect of this arrangement can be seen in State local government loan debt tables where the debt in respect of water shows only very minor annual increases; in effect, the expenditure of the four metropolitan local government authorities for water works undertaken since 1961 is reflected in the debt of the Board and not in debts of the municipalities. At 30 June 1975 the loan debt of the Board to the State Treasury was \$17.41m and to other lenders \$7.33m.

The financial relationship between the Board and the four metropolitan local government authorities is summarised in the following table:

Metropolitan Water Board: Income and Expenditure
(\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
INCOME					
Municipal contributions—					
Hobart	787	788	959	1 202	1 392
Glenorchy	521	504	595	717	806
Clarence	553	517	592	697	750
Kingborough	97	98	114	133	150
Special consumers	341	352	351	385	315
Direct earnings, Southern Regional Scheme	255	279	353	324	367
Other revenue	45	82	71	92	142
Total	2 599	2 620	3 035	3 550	3 921
EXPENDITURE					
Reimbursement of working expenses—					
Hobart	340	372	390	414	542
Glenorchy	247	267	270	299	406
Clarence	144	144	146	145	194
Kingborough	45	46	53	67	80
Bulk supply, operation costs	340	463	673	639	733
Administrative expenses	74	86	83	101	141
Interest	1 013	1 161	1 254	1 300	1 452
Depreciation	287	323	346	369	411
Total	2 490	2 862	3 216	3 334	3 960

The preceding table excludes capital contributions, these are shown in the next table:

Metropolitan Water Board: Contributions to Southern Local Government Authorities
(\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Hobart—					
Construction and improvement ..	333	317	244	183	202
Redemption and conversion ..	104	43	26	33	86
Total	436	359	270	215	288
Glenorchy—					
Construction and improvement ..	128	250	100	121	113
Redemption and conversion ..	57	153	124	155	178
Total	186	403	224	276	291
Clarence—					
Construction and improvement ..	40	261	50	44	69
Redemption and conversion ..	64	45	47	49	94
Total	104	306	97	94	163
Kingborough—					
Construction and improvement ..	92	125	81	93	278
Redemption and conversion ..	12	12	13	13	52
Total	104	137	94	106	331
Total—					
Construction and improve- ment	593	953	475	441	662
Redemption and conversion	237	252	210	250	410
Grand total	830	1 205	685	691	1 073

The Board makes capital contributions to the four local government authorities for: (i) construction and improvement of their water works; and (ii) redemption of their water debt raised prior to creation of the Board. The Board finances these capital contributions by: (i) borrowing from the State Government; (ii) borrowing from the public; and (iii) application of internal funds, e.g. depreciation funds. The cost of servicing loans, raised by the Board to meet local government requirements, is met from revenue contributions by the four local government authorities.

Capital Expenditure

The Board's total allocation of funds for capital purposes in 1974-75 was \$1 520 000 made up of \$700 000 from State Loan Funds and \$820 000 from external borrowings. Capital expenditure during the year included \$111 000 for augmentation of the Derwent Water Supply, \$663 000 for municipal reticulation systems and \$275 000 for the Sorell-Clarence extension.

The Metropolitan Water Board was constituted under the provisions of the *Metropolitan Water Act* in 1961. Since that time the Board has completed such major projects as the Derwent Water Supply (\$6.6m); Sorell-Clarence extension (\$1.9m); Kingborough extension (\$0.7m); Risdon Brook Dam (\$3.0m); and made capital advances to the metropolitan municipalities for works under their control (\$9.0m) and loan conversions (\$2.9m).

Rivers and Water Supply Commission

Relations with Local Government Authorities

The Commission examines all proposed municipal water supply and sewerage schemes before construction commences to ensure that the schemes are economically sound. (Schemes proposed by the three cities, Hobart, Launceston and Glenorchy, are exempted from examination by the Commission.) If a scheme is considered to be beyond the financial resources of the local authority, the Commission may recommend to the Minister for Lands and Works that a subsidy be paid. Such assistance is payable where investigations show that the revenue which a council might reasonably be expected to raise from rates and other charges is not sufficient to meet the annual loan charges and expenditure on maintenance, operation and administration. (Since 1 July 1973, the Commission discontinued the tenement and block method for establishing a general minimum municipal rating standard necessary to qualify for a subsidy. Instead, when the revenue standard for each water and sewerage scheme is assessed, account is taken of the relationship between the rateable annual value and the capital value of properties served, and of the financial situation in the region.) This system has led to the adoption for each scheme of an annual revenue requirement which is varied from time to time.

Regional Schemes

North Esk Regional Water Supply: The scheme, managed by the Commission, serves portions of the municipalities of Evandale, George Town, Lilydale, St Leonards and Westbury. In addition the scheme provides water for industrial purposes to Bell Bay. Total income from the scheme during 1974-75 was \$449 000 which included sale of water to: (i) municipalities, \$264 000; (ii) industrial users, \$119 000; and (iii) wayside consumers, \$8 000. Total expenditure for the year amounted to \$489 000. At 30 June 1975, capital cost of the scheme amounted to \$4.42m. Work commenced in May 1974, on a 29.2 million litres per day water treatment plant and this was expected to be in operation by mid-1976.

West Tamar Water Supply: This scheme was partially completed by the Beaconsfield Municipality but under the *West Tamar Water Act* 1960 was vested in the Rivers and Water Supply Commission. The Act provided that the scheme

should be managed and maintained by the Beaconsfield Council as agent for the Commission. The level of charges is determined by the Commission; Beaconsfield Municipality collects revenue on behalf of the Commission and is reimbursed for expenditure incurred. The scheme serves the western shore of the Tamar located in the Beaconsfield Municipality. Total income from the scheme during 1974-75 was \$210 000 while expenses of the scheme were \$346 000. Capital cost of the scheme to 30 June 1975, was \$2.47m.

Prosser River Scheme

This scheme supplements the water supply for the town of Orford in the Spring Bay Municipality and also supplies water to the Triabunna woodchip plant. Income for the year 1974-75 was \$26 000 while expenses of the scheme amounted to \$41 000. Capital cost of the Prosser River Scheme to 30 June 1975, amounted to \$436 000.

Togari Water Supply

This scheme was originally administered by the Tasmanian Closer Settlement Board, and was sold to the Tasmanian Government in January 1974. It is designed purely as a stock and dairy watering system for several dairy properties in the Circular Head Municipality. The scheme was vested in the Commission, which officially took over responsibility from 1 July 1974. Capital cost of the scheme to 30 June 1975, amounted to \$33 000.

Chapter 5

PUBLIC FINANCE

FEDERAL AND STATE GOVERNMENT

Change in Relationship Since 1901

Prior to the establishment of the Commonwealth in 1901, the individual states exercised complete autonomy with respect to their raising of revenue and the manner in which this was spent. Due to developments since Federation, the states now have only limited ability to raise the money required for revenue and capital purposes. The Federal Government has become almost the exclusive channel for loan funds for state purposes, and supplements state revenue by massive grants from its own funds. The emergence of the Federal Government as the dominating influence in the financial transactions of the state governments can be traced to three events:

- (i) under the Constitution the states surrendered the right to levy customs and excise duties, which passed exclusively to the Federal Government;
- (ii) under the *Financial Agreement Act* 1927, the Federal Government became the borrowing agent for the states; and
- (iii) during World War II, under the uniform tax scheme, the Federal Government became the sole authority levying taxes upon the income of persons and companies, a war-time measure which has continued to this day.

The result of these changed relationships can be summarised as follows:

(i) the Federal Government, as the channel for loan funds for state purposes, exercises a substantial degree of control over public investment; (ii) to carry out functions for which their revenue is entirely inadequate, the states have become heavily dependent on the Federal Government for general and specific grants. The Federal Government is therefore placed in a position to exercise a substantial degree of control over the ordinary public expenditure of the states.

Principal Activities of the States

The Federal Constitution lists the matters over which the Federal Parliament has power to legislate. Some of those powers are given exclusively to the Federal Government (e.g. defence, customs and excise) but, in many matters, the Federal and state governments have concurrent powers; federal law prevailing where there is conflict. Matters other than those listed in the Constitution remain the concern of the states. Principal government activity at state level embraces education, health and welfare services, the development of internal resources, land settlement, soil conservation, maintenance of law and order and the provision of public utility services such as roads, electricity, public transport and water supply. Such activities are undertaken either by state departments or by statutory and local government bodies created under state legislation. Apart from charges for services (where charges can be levied) the most obvious form of revenue for the discharge of these functions is state taxation but the Federal Government exercises a practical monopoly over the more lucrative tax sources (e.g. customs and excise, income tax, sales tax). A responsibility therefore rests on the Federal Government to supplement state revenues.

Federal Government Payments To or For Tasmania

Summary of Federal Government Payments

In the following sections, the main forms of Federal Government assistance are described; the following table shows the total annual payments to Tasmania from the Federal Government Consolidated Revenue Fund:

Federal Government Payments To or For Tasmania
(\$'000)

Particulars	1972-73	1973-74	1974-75
GENERAL REVENUE ASSISTANCE			
Financial assistance grants (a)	79 498	92 451	140 204
Special grants (Section 96) (b)	7 600	8 650	..
Total	87 098	101 101	140 204
SPECIFIC PURPOSE PAYMENTS			
Revenue payments—			
Payments under financial agreement—			
Interest on State debt	534	534	534
Sinking fund on State debt	1 934	2 044	2 141
Debt charges assistance	2 385	3 180	3 975
Universities	2 530	6 415	12 274
Colleges of advanced education	1 128	3 959	6 888
Schools	914	1 958	5 912
Tuberculosis control	r 334	r 252	434
School dental scheme .. .. .	..	818	1 239
Assistance for deserted wives	338	260	421
Unemployment relief	5 970	647	1 103
Housing grants	388	388	388
Agricultural extension services	380	348	419
Other	468	1 408	(c) 7 412
Total revenue payments	r 17 303	r 22 211	43 140
Capital payments—			
Universities	842	694	1 279
Colleges of advanced education	1 425	292	2 969
Technical training	380	689	471
Schools	1 708	2 527	6 091
Pre-schools and child care .. .. .	..	285	1 177
Hospitals .. .. .	..	140	1 500
School dental scheme .. .. .	..	549	69
Housing advances	300	16 000	26 220
Roads	12 150	13 950	18 585
Sewerage .. .. .	..	..	2 221
Tasman Bridge disaster .. .. .	..	..	5 544
Softwood forestry	1 101	672	769
Fruitgrowing industry	100	650	750
Rural reconstruction	2 200	700	800
Other	r 3 031	r 1 061	5 145
Total capital payments	23 237	r 38 209	73 590
Total specific purpose payments	r 40 540	r 60 420	116 730
GENERAL AND SPECIFIC PURPOSE PAYMENTS			
Total payments (d)	r 127 638	r 161 521	256 934
Percentage increase	13.5	26.5	59.1

(a) Includes special financial assistance grants: 1972-73, \$5 094 000; 1973-74, \$1 207 000; 1974-75, \$8 333 000.

(b) Actual payments plus or minus adjustment.

(c) Includes payments to local government of \$1 699 000, and payments for apple export assistance of \$1 590 000.

(d) This total cannot be identified as such in state accounts since part is taken into Consolidated Revenue Fund, part into Loan Fund, and the balance into Trust and Special Funds.

Financial Assistance Grants

The *Federal States Grants (Income Tax Reimbursement) Act* 1942 provided for grants to the states as compensation for vacating the field of income tax. Various formulae have been employed to calculate each state's grant, the principles of the present system dating from 1959. These involved annually increasing the grant by taking account of three factors: (i) increased state population; (ii) increased average wages; and (iii) a 'betterment' multiplier. This 'betterment' multiplier was a constant 1.2 per cent from 1965-66 to 1970-71; since 1971-72 it has been 1.8 per cent. When determining the 1973-74 and 1974-75 financial assistance grants, a reduction for the transfer of responsibility for tertiary education was made.

The calculation of the Tasmanian grant for 1974-75 illustrates the application of the formula: (i) formula grant (1973-74) \$94 743 153; (ii) percentage increase in Tasmanian population in year 1974, 1.471 08; (iii) percentage increase in wages per person employed (1974-75 over 1973-74), 26.775 03; (iv) betterment factor, 1.8 per cent.

Calculated grant (1974-75) =

$$\$94\,743\,153 \times 1.014\,710\,8 \times 1.267\,750\,3 \times 1.018 = \$124\,071\,370$$

The Federal Government adjusted the calculated grant by adding special financial assistance grants of \$23 333 156 and subtracting \$7 200 000 for the transfer of tertiary education, giving a total of \$140 204 526.

The following shows the amounts received as financial assistance grants from 1957-58:

Financial Assistance Grants (a): Receipts by Tasmania
(**\$**)

Year	Amount	Year	Amount	Year	Amount
1957-58 ..	13 435 384	1963-64	27 626 296	1969-70	48 514 433
1958-59 ..	14 539 428	1964-65	29 297 286	1970-71	67 087 841
1959-60 ..	21 826 000	1965-66	32 130 632	1971-72	71 673 202
1960-61 ..	23 960 360	1966-67	34 772 852	1972-73	79 497 850
1961-62 ..	25 671 238	1967-68	37 968 098	1973-74	92 450 561
1962-63 ..	26 616 104	1968-69	42 208 983	1974-75	140 204 526

(a) Referred to as tax reimbursement grants from 1942-43 to 1958-59.

Tertiary Education

At the June 1973 Premiers' Conference the Federal Government's offer to accept the full financial responsibility for tertiary education from 1 January 1974 was accepted by the states. Furthermore, it was agreed that the revenue expenditure which the states would save should be deducted from the financial assistance grants. (Estimated capital expenditure of which the states are relieved is to be deducted from state loan programs.) The agreed reductions to the financial assistance grants for Tasmania were: 1973-74, \$3.5m; 1974-75, \$7.2m. (The 1973-74 amount represents only a half-year's reduction.) It is intended that the 1974-75 amount will be subtracted from the base amount used to calculate the 1975-76 formula grant.

Special Grants (Section 96 of the Constitution)

Section 96 of the Constitution reads: 'During a period of ten years after the establishment of the Commonwealth and thereafter until the Parliament otherwise provides, the Parliament may grant financial assistance to any state on such terms and conditions as the Parliament thinks fit'.

The Commonwealth Grants Commission was established in 1933 and consists of three members on a part-time basis assisted by a full-time staff. In its third report (1936) it fixed upon the principle of financial need, which was expressed in the following terms: 'Special grants are justified when a state through financial stress from any cause is unable efficiently to discharge its functions as a member of the federation and should be determined by the amount of help found necessary to make it possible for that state by reasonable effort to function at a standard not appreciably below that of other states'. In arriving at its recommendations, the Commission each year makes a detailed comparison of the budget results of the claimant states with those of the non-claimant states.

Prior to the passage of the federal *States Grants Act 1959*, the claimant states had been Tasmania, W.A. and S.A. The new formula evolved under the *States Grants Act 1959* had been devised partly in reaction to a claim by Victoria and Queensland to be also considered as claimant states; in effect, the new scale of increased grants under this legislation resulted in the number of claimant states falling to two, W.A. and Tasmania. The Grants Commission could then have used the accounts of the four non-claimant states to reach a basis for comparison: it finally decided to adopt a two-state standard, based on the budgets of N.S.W. and Victoria. Recent developments have included: (i) the withdrawal of W.A. as a claimant state from 1968-69; (ii) the acceptance of S.A. as a claimant state from 1970-71; (iii) the acceptance of Queensland as a claimant state from 1971-72; and (iv) the withdrawal of Tasmania as a claimant state from 1974-75.

On 11 June 1974 the Premier announced Tasmania's withdrawal as a claimant state for a Special Grant under Section 96 of the Commonwealth Constitution. The announcement was of historic significance for the State for two reasons:

- (i) In 1912-13 Tasmania first obtained a Special Grant under Section 96 of the Commonwealth Constitution and from that time until 1973-74 had received a special grant each year.
- (ii) In 1933 the Grants Commission was established to examine the claims of states requesting special grants to assist their revenues. From 1933 until 1973-74 Tasmania had had a continuous association with the Grants Commission and its determinations had considerably influenced the State Government's financial policies.

Tasmania's withdrawal from the Grants Commission's Special Grants procedures became operative for the 1974-75 financial year. The withdrawal gives the State Treasurer greater freedom in planning the State's finances; however, some of the protection afforded by the special grant against any sudden unexpected deterioration of the State's financial position is lost.

The financial arrangement for the withdrawal was that \$15m would be added to the State's Financial Assistance Grant for 1974-75 and that the total receipt, including the \$15m, would become the base for calculating the 1975-76 Financial Assistance Grant. Also, as part of the withdrawal arrangement, Tasmania's 1972-73 and 1973-74 advance special grants are not subject to final adjustment.

For details of the method by which Special Financial Assistance Grants were paid to Tasmania, reference should be made to Year Books prior to the 1976 edition.

Payments Under the Financial Agreement (1927)

Under the Financial Agreement, which was entered into by the Federal Government and the states in 1927, the Federal Government contributes towards interest and sinking fund payments in respect of state debts existing at 30 June 1927, and towards sinking fund payments in respect of state debts incurred after that date for purposes other than the funding of revenue deficits.

The Federal Government contribution towards payment of interest on the Tasmanian State debt is a constant annual sum of \$533 718 and will be continued until 1985.

The sinking fund contributions made by the Federal Government under the Agreement in respect of state debts vary according to the date and nature of the borrowings. On state debts existing at 30 June 1927 the Federal Government is making sinking fund contributions at the rate of 0.125 per cent a year until 1985 and in respect of cash loans raised for the states since that date, the Federal Government makes sinking fund payments for 53 years at the annual rate of 0.25 per cent. Each state is obliged to make sinking fund payments for corresponding periods at the rate of 0.25 per cent per annum regardless of the date on which the debt was incurred. The only exception is in relation to debt incurred for the purpose of funding revenue deficits. In these instances, the Federal Government makes no sinking fund contributions and the states are obliged to make annual contributions to the sinking fund of not less than four per cent. However, in respect of Treasury Bills issued to cover states' revenue deficits accruing between July 1927 and June 1935, special arrangements were made under which the Federal Government contributes 0.25 per cent per annum on the amount outstanding until June 1983.

Recent Federal Government sinking fund contributions in respect of the Tasmanian public debt are shown in the following table:

Federal Government Contributions to National Debt Sinking Fund: Tasmanian Debt (\$'000)

Year	Amount	Year	Amount
1965-66	1 212	1970-71	1 694
1966-67	1 293	1971-72	1 825
1967-68	1 398	1972-73	1 934
1968-69	1 485	1973-74	2 044
1969-70	1 598	1974-75	2 141

The acceptance of some Federal Government liability for interest and sinking fund payments on state debts was only one part of a more extensive agreement setting up an Australian Loan Council and a National Debt Sinking Fund. The raising of loan money for the states under the Agreement is described later in this chapter.

New Assistance for Debt Charges

At the 1970 February Premiers' Conference, the Federal Government announced it was prepared to take over state debt totalling \$1 000m during the five-year period 1970-71 to 1974-75. However, this would have necessitated amendments to the *Financial Agreement Act 1927* and caused considerable delay. The Federal Government then proposed an alternative which involved grants to the states equal to interest on specific parcels of state debt. The distribution between the states was in proportion to Federal Government securities on issue on behalf of each state at 30 June 1970. Tasmania's estimated receipts under this scheme were (in \$m): 1970-71, 0.8; 1971-72, 1.6; 1972-73, 2.4; 1973-74, 3.2; and 1974-75, 3.9. It was intended to amend the *Financial Agreement Act 1927* during 1975-76 and to formally transfer the \$1 000m of state debt to the Federal Government.

Grants for Capital Purposes

To assist the states in meeting their capital works programs during the period 1970-71 to 1975-76 the Federal Government has provided annual grants for financing non-reproductive capital works. Total approved borrowing programs

from 1970-71 to 1974-75 have been (in \$m): 1970-71, 823; 1971-72, 892; 1972-73, 982; 1973-74, 867; and 1974-75, 1 027. The proportion of the total states' capital works program provided by Federal Government grants in this period has been: 1970-71, 24.3 per cent; 1971-72, 24.6; 1972-73, 25.3; 1973-74, 32.1; and 1974-75, 32.1. At the June 1975 Premiers' Conference and Loan Council meeting, the Federal Government agreed to increase the proportion for 1975-76 to 33.3 per cent. Changes in the composition of total state capital works programs have occurred during this period: (i) the 1970-71 figure excludes borrowings for state housing; (ii) 1971-72 and 1972-73 figures include borrowings for state housing; (iii) from 1973-74, figures exclude borrowings for welfare housing and from 1 January 1974 tertiary education—the latter has become a Federal Government function following an agreement at the June 1973 Premiers' Conference.

Distribution of the grants was by agreement between the states or by the Federal Government if the states fail to reach agreement. Tasmania's share of the 1974-75 grant was \$25.97m which was credited to the State's Loan Fund. Expected capital grant receipts for 1975-76 for Tasmania are \$30.37m and expected borrowings for new capital purposes are \$60.74m.

The provision of these grants reduces the amount which the State needs to borrow in order to carry out its capital works program. The result of this decrease in the amount borrowed means that the burden of debt charges (interest payments and sinking fund contributions) on the Consolidated Revenue Fund is eased.

Federal Government Aid for Roads

The Federal *Main Roads Development Act* 1923 provided for annual Federal Government contributions to the states, the basis of distribution being a formula weighted 40 per cent according to state area and 60 per cent according to state population. This basis was explicitly expressed in the *Federal Aid Roads Act* 1926 and continued to operate until 1959-60.

A new formula for distribution was embodied in the *Commonwealth Aid Roads Act* 1959 when the Federal Government undertook to provide a total sum of \$500m over a five-year period. Of this amount, \$440m represented basic grants, and the remaining sum of up to \$60m was, subject to certain annual limits, payable to the states on the basis of \$1 for each \$1 allocated by the state governments from their own resources for expenditure on roads over and above the amounts allocated by them for roads expenditure in 1958-59.

The amounts made available by the Federal Government were distributed between the states in each year in the proportion of five per cent of the total for Tasmania, and the balance shared between the other five states on the basis of one-third according to census population, one-third according to area and one-third according to vehicles registered at 31 December preceding the year concerned. It will be observed that Tasmania, with less than one per cent of the area of Australia, was specifically exempted from the operation of the formula applied to the other states.

The *Commonwealth Aid Roads Act* 1964 contained provision for a second five-year plan but the total distribution over this period was raised to an amount of \$750m. A third five-year plan, based upon a distribution of \$1 252m was embodied in the *Commonwealth Aid Roads Act* 1969. Of this amount \$1 200m was divided between the states according to a new formula which included characteristics of the old formula and a scheduling formula suggested in a Bureau of Roads report. The remaining \$52m was distributed thus: W.A., \$40.8m; S.A., \$9m; and Tasmania \$2.25m. Tasmania's total receipts under the new five-year plan were \$56.25m. The 1969 Act specified that 50.06 per cent of the

Federal Government grant to a state was to be spent on urban roads; 15.56 per cent on main trunk roads; 32.88 per cent on other rural roads and 1.5 per cent on planning and research. To qualify for a specified part of the total grant, the State was required, during the five-year period, to increase expenditure on roads from its own resources at the same rate as the number of motor vehicles on register in the State increased.

From 1974-75 new arrangements have been made for financing road expenditure and these are embodied in three separate Federal Acts—the *National Roads Act 1974*, the *Roads Grants Act 1974* and the *Transport (Planning and Research) Act 1974*. These Acts cover the period 1974-75 to 1976-77 and it is expected that future legislation will extend the period for a further three years.

Under the *National Roads Act 1974*, grants are allocated to the states to meet the total cost of approved construction and maintenance of declared national highways. Grants are also provided, on the same basis, for roads which have been classified as important for facilitating trade and commerce between states, and with other countries. At this stage, declared roads are those classified as such by the Commonwealth Bureau of Roads in its 'Report on Roads in Australia 1973'. The *Roads Grants Act 1974* provides grants for roads not covered by the *National Roads Act 1974*. Various classifications are used and amounts granted separately toward rural arterial and developmental roads, beef roads, urban local roads, rural local roads and minor traffic engineering and road safety improvements. The *Transport (Planning and Research) Act 1974* provides for grants to meet two-thirds of the cost of approved planning and research projects in relation to roads and road transport. Of the total available under this Act over the three-year period (\$26m), only \$15m was specifically allocated to the states. The balance is to be allocated to projects irrespective of which state is involved, where each proposed project will compete for available funds. Provision has been made for the transfer of amounts between the various categories and the various Acts, provided that over the three-year period, expenditure of grants on each classification does not exceed the total provided under the appropriate Act.

Where, to qualify for a grant under the *Commonwealth Aid Roads Act 1969*, each state was required to increase expenditure on roads from its own resources in accordance with the formula described above, the new Acts have set annual minimum quotas of expenditure from state resources for each state. Provision has been made for the carry forward of excesses or deficiencies in expenditure from state resources when determining if a quota has been met.

Following the February 1975 Premiers' Conference, additional road grants were made available for 1974-75 as a short-term measure to assist employment in the road building and maintenance sector. These grants, totalling \$30m for the whole of Australia, were provided under the *National Roads Act 1974* and the *Roads Grants Act 1974*.

Details of Tasmanian receipts of Federal Government contributions in respect of road expenditure are shown in the following table:

Federal Government Aid for Roads: Receipts by Tasmania
(\$'000)

Year	Amount	Year	Amount	Year	Amount
1957-58 ..	3 466	1963-64 ..	5 800	1969-70 ..	9 100
1958-59 ..	3 624	1964-65 ..	6 500	1970-71 ..	10 230
1959-60 ..	(a) 4 366	1965-66 ..	7 000	1971-72 ..	10 820
1960-61 ..	4 600	1966-67 ..	7 500	1972-73 ..	12 150
1961-62 ..	5 000	1967-68 ..	8 000	1973-74 ..	13 950
1962-63 ..	5 400	1968-69 ..	8 500	1974-75 ..	18 585

(a) Payment under the *Commonwealth Aid Roads Act 1959* was \$4.2m; the balance represents a final adjustment of Federal Government commitments under previous legislation.

State Revenue Raising Difficulties

Introduction

The financial relationships described in the opening section of this chapter have at times caused difficulties for individual states, especially when there has been an urgent need to increase revenue. In these circumstances, the complaint has been that the Federal Government exercises a practical monopoly over the best 'growth' taxes and that, because of this, the states lack budget flexibility.

The following text describes: (i) the transfer of pay-roll tax from the Federal Government to the states; and (ii) the imposition by the Tasmanian Government of a tobacco tax.

Growth Tax for the States

Increasing budgetary difficulties in recent years led to pressure from the state premiers for access to a growth tax, preferably re-entry into the field of income taxation. The initial attempts involved the levy of a receipts duty tax. At the 1971 June Premiers' Conference the Prime Minister refused to give the states access to the field of income taxation; however, he did offer to hand over pay-roll tax to the states. The proposal put forward was that the states would receive receipts from pay-roll tax but the amounts received would be deducted from the states' financial assistance grants. The premiers unanimously rejected this proposal. After discussion the state premiers agreed to take over pay-roll tax and have a matching reduction in the formula base for their financial assistance grants, subject to the following conditions:

- (i) The Federal Government would give the states a non-recurring special financial assistance grant totalling \$40m during 1971-72; Tasmania's share was \$1.9m.
- (ii) The states, by variation of the formula grants in the period 1971-72 to 1974-75, were to receive approximately an extra \$100m.
- (iii) The Federal Government agreed to bear the full cost resulting from the exemption from pay-roll tax of certain areas of local government.

The state premiers immediately raised the pay-roll tax rate from 2½ per cent to 3½ per cent. Further increases raised the rate to 4½ per cent from 1 September 1973 and to 5 per cent from 1 September 1974. Pay-roll tax in Tasmania now represents the largest single State taxation category with receipts of \$27.05m in 1974-75.

Tobacco Tax

The *Tobacco Tax Act 1972*, which became effective on 1 January 1973, provided for: (i) a tax on the consumption of tobacco; and (ii) licensing of tobacco retailers and vending machines. In April 1974, the method of collection of the tax was held to be illegal in a High Court decision and the method of collection was subsequently changed (see the 1976 *Year Book* for further details). However, the High Court upheld the validity of both the tobacco tax and the licence fee, the validity of which had been challenged by the Retail Tobacco Sellers' Association with the support of the Federal Government, and the tax remained operative.

Suspension: Discussions during May 1974 between the Federal and Tasmanian Governments resulted in major changes to State financing. These involved: (i) Tasmania's withdrawal from the Grants Commission Special Grants procedures from 1 July 1974; (ii) the Financial Assistance Grant being increased for 1974-75 by \$15m, this being added to the base for 1975-76 grant calculations; and (iii) the

tobacco tax legislation being suspended from 1 May 1974 and tobacco retailers not being required to be licensed after 30 June 1974. The tobacco tax legislation was not repealed, however, leaving the State Government free to re-impose the tax and licences at any time.

Loan Council (Financial Agreement)

The original Financial Agreement was made on 12 December 1927, but Tasmania did not become a party to it until 1 July 1928. The basic intention of the agreement was a co-ordinated approach to the loan market, the establishment of sound sinking fund arrangements and the sharing of state debt charges with the Federal Government. The main provisions are summarised as follows:

- (i) The Federal Government assumed certain liabilities in respect of state debts (see previous section on interest and sinking fund payments made by the Federal Government in respect of Tasmanian State debt—'Payments under the Financial Agreement 1927').
- (ii) The Australian Loan Council was set up to co-ordinate the public borrowings of the Federal Government and the states. It consists of the Prime Minister (or his nominee) as chairman, and the state premiers (or their nominees). Each financial year the Federal Government and the states submit programs to the Loan Council setting out the amounts they desire to raise by loan during the next year. Revenue deficits to be funded are included in the borrowing programs but borrowing by the Federal Government for defence purposes is excluded from the terms of the agreement.

If the Loan Council decides that the total amount of the loan programs for the year cannot be borrowed at reasonable rates and conditions, it then decides the amount which shall be borrowed and may, by unanimous decision, allocate that amount between the Federal Government and the states. In default of a unanimous decision, the Federal Government is entitled to one-fifth of the total amount to be borrowed and each state to a proportion of the remainder equal to the ratio of its net loan expenditure in the preceding five years to the net loan expenditure of all states during the same period.

Subject to the decisions of the Loan Council the Federal Government arranges all borrowings, including those for conversions, renewals and redemptions. However, the Federal Government or a state may borrow for 'temporary purposes' by way of overdraft or fixed deposit, subject to limits fixed by the Loan Council. In addition, the Federal Government may borrow within Australia, or a state within its own territory, from authorities, bodies, institutions, or from the public by counter sales of securities, subject to Loan Council approval. Federal Government securities are issued for money borrowed in this way and amounts so borrowed are treated as part of the borrowing program for the year.

- (iii) The Agreement involved setting up a National Debt Commission to administer one consolidated sinking fund in respect of the debt of the Federal Government and the states. Sinking fund moneys are used to redeem unconverted securities at maturity and to re-purchase securities on the stock market.

- (iv) It was realised at the inception of the Loan Council that, in the interests of co-ordinated borrowing, the Council should be advised of borrowings of large amounts by semi-government authorities (such loan raisings do not form part of state or Federal Government debt and therefore are not within the scope of the original agreement). A set of rules evolved in 1936 is regarded as the 'Gentlemen's Agreement' and makes provision for the submission to the Council of annual loan programs in respect of larger semi-government and local government authorities (in conjunction with the loan programs of the governments concerned) and for the fixing of the terms of individual loans coming within the scope of the annual program. For 1974-75 larger authorities are those semi-government and local government authorities borrowing more than \$500 000 in a year. (For 1974-75 borrowings approved by the Loan Council for larger Tasmanian semi-government and local government authorities amounted to \$19 256 000.)

It should be emphasised that the Australian Loan Council does not itself raise money for Tasmanian semi-government and local government authorities; its concern is to assess the total impact of government borrowing for the year and then to fix ceilings for semi-government and local government authorities in the interests of a co-ordinated program.

For 1971-72 and 1972-73 money made available from the Australian Loan Fund to the State of Tasmania was recorded in the State Loan Fund only. Prior to 1971-72 borrowings for housing had been credited to Trust and Special Funds. From 1973-74, loan funds for welfare housing were once again credited to Trust and Special Funds. Borrowing for tertiary education capital works became a Federal Government responsibility from 1 January 1974 and reduced Tasmania's borrowing program for 1973-74 by \$1.1m.

The following table shows Loan Council borrowings undertaken on behalf of the State of Tasmania to finance new capital works and, for 1971-72 and 1972-73, housing:

Tasmania: New Cash Borrowings Authorised by Australian Loan Council (a)
(\$'000)

Year	Amount	Year	Amount	Year	Amount
1958-59 ..	25 180	1964-65 ..	34 136	1970-71 ..	(b) 34 570
1959-60 ..	27 080	1965-66 ..	34 834	1971-72 ..	(c) 47 020
1960-61 ..	28 388	1966-67 ..	37 580	1972-73 ..	(c) 51 252
1961-62 ..	28 996	1967-68 ..	40 610	1973-74 ..	(d) 43 467
1962-63 ..	30 708	1968-69 ..	42 120	1974-75 ..	r 54 952
1963-64 ..	32 020	1969-70 ..	45 370	1975-76 ..	60 743

(a) For State works programs; amounts credited to State Loan Fund.

(b) Commencing in 1970-71 the Federal Government has provided capital grants to replace some amounts which would otherwise have been obtained as loan borrowings; hence the reduced amount in 1970-71.

(c) New cash borrowings for 1971-72 and 1972-73 include allocations for State housing.

(d) From 1973-74 excludes borrowings for State welfare housing and from 1 January 1974 for tertiary education.

For years prior to 1971-72 and from 1973-74, the previous table excludes allocations under the Federal Government and State Housing Agreements, which were also part of the Loan Council's program. The following table shows allocations to Tasmania for housing purposes:

Tasmania: Allocations For Housing
(\$'000)

Year	Amount	Year	Amount	Year	Amount
1957-58.. ..	4 000	1963-64	6 000	1969-70	7 600
1958-59.. ..	4 400	1964-65	6 400	1970-71	8 700
1959-60.. ..	3 900	1965-66	7 448	1971-72	(a)
1960-61.. ..	4 000	1966-67	7 500	1972-73	(a)
1961-62.. ..	5 856	1967-68	6 700	1973-74	16 445
1962-63.. ..	5 200	1968-69	7 500	1974-75	26 363

(a) Allocations included with other borrowings in the previous table (1971-72, \$8.3m and 1972-73, \$9.1m).

STATE FINANCIAL TRANSACTIONS

Tasmanian Public Account

The State Public Account includes the Consolidated Revenue Fund, the Trust and Special Funds, and the Loan Fund. Ordinary revenues from taxation and other sources are paid into the Consolidated Revenue Fund from which the main expenditures are for public debt charges, education, development of State resources, health and hospitals, general administration, subsidies to State business undertakings, law and order, and certain welfare activities. The Trust and Special Funds cover special transactions outside the ordinary operations of departmental expenditure, such as funds from the Federal Government for specific purposes and moneys held for expenditure by the State at some future time. The Loan Fund receives its funds from public borrowings and grants, and the main expenditure is on State public works and on advances to State business undertakings.

A summary of transactions on the Tasmanian Public Account for a three-year period is given in the following table:

Public Account: Summary of Transactions
(\$'000)

Particulars	1972-73	1973-74	1974-75
Cash and investments at beginning of year ..	7 585	7 448	8 852
Receipts—			
Consolidated Revenue Fund	181 866	206 947	268 522
Special grant adjustment	-2 400	-1 350	.. ..
Borrowings for new capital purposes	51 254	43 490	54 952
Other Loan Fund receipts	26 937	29 893	40 104
Net increase, Trust and Special Funds	2 517	2 419	-1 067
Total	260 174	281 399	362 510
Expenditure—			
Consolidated Revenue Fund	185 998	210 097	282 065
Loan Fund, public works and purposes	74 312	69 875	82 778
Discount	1	23	.. ..
Total	260 311	279 995	364 844
Percentage increase	13.8	7.6	30.3
Cash and investments at end of year ..	7 448	8 852	6 518

The State Public Account is a complete record of the Government's operation of three specific funds, i.e. Consolidated Revenue, the Trust and Special Funds, and the Loan Fund. It is by no means a complete record of government activity, since statutory authorities and semi-government authorities such as the Hydro-Electric Commission, Transport Commission and Agricultural Bank carry on financial operations which are not recorded in the State Public Account. In a later section of this chapter under the heading 'Exclusions from Consolidated Revenue', the relationship between the finances of the principal authorities and the Consolidated Revenue Fund is described; the general principle is that gross receipts and expenditure of the authorities are excluded from the Public Account.

In the following table are shown the balances credited to each fund constituting the Public Account and the form in which the balances are held:

Public Account: Summary of Balances at 30 June
(\$'000)

Year	Balance				Location			
	Accumulated Revenue Account	Loan Fund	Trust and Special Funds	Total	Cash in Treasury or bank	Advanced to departments	Govt and other securities (a)	Total
1971	-1 128	5 099	7 963	11 934	3 541	993	7 400	11 934
1972	-2 433	1 310	8 707	7 585	5 427	890	1 268	7 585
1973	-6 586	2 810	11 224	7 448	3 467	905	3 075	7 448
1974	-7 282	2 490	13 643	8 852	2 359	931	5 562	8 852
1975	-13 544	7 486	12 576	6 518	3 295	970	2 253	6 518

(a) Includes fixed deposits.

In the previous table, 'Accumulated Revenue Account' is a suspense account recording accumulated surpluses and deficits in the Consolidated Revenue Fund, and also the funding of deficits. Details of the account are as follows:

Accumulated Revenue Account: Summary of Transactions
(\$'000)

Year	Opening balance	Transactions			Closing balance
		Budget result, Consolidated Revenue	Special grant adjustment (a)	Deficits charged to Loan Fund	
1970-71	-2 830	+ 22	+1 680	..	-1 128
1971-72	-1 128	-2 455	-3 200	+4 350	-2 433
1972-73	-2 433	-4 132	-2 400	+2 378	-6 586
1973-74	-6 586	-3 150	-1 350	+3 805	-7 282
1974-75	-7 282	-13 544	..	+7 282	-13 544

(a) It is Tasmanian Treasury practice to record special grant adjustments in the Accumulated Revenue Account and to include, in published Consolidated Revenue receipts, only the advance grant as determined by the Commonwealth Grants Commission.

In the following section dealing with Consolidated Revenue, Treasury practice of eliminating special grant adjustments from Consolidated Revenue total receipts has been followed.

Consolidated Revenue Fund*General*

The financial transactions of the State of Tasmania are recorded under: (i) Consolidated Revenue; (ii) Trust Funds; and (iii) Loan Fund.

Payments from Consolidated Revenue are made only on the basis of authority found in: (i) the annual Appropriation Act of the Parliament; (ii) Acts of the Parliament made in previous years and under which certain annual payments are classified as 'reserved by law'; and (iii) the *Public Account Act 1957* (as amended in 1962) and the *Audit Act 1918*.

The third category of authority listed above is designed to give the Treasurer and the Government some flexibility in public expenditure since the Appropriation Act cannot be expected to anticipate, to the nearest dollar, the expenses that are likely to be incurred for each and every item. The relevant sections of the amended *Public Account Act* are 5A and 5B which provide that, in relation to Consolidated Revenue, the Treasurer may authorise transfers between votes within certain subdivisions of the appropriation and, on the authority of the Governor, supplement certain appropriations and provide funds to meet expenditure for which no other provision exists. Transfers, as described under 5A, are a matter for the Treasurer but additional expenditure, as described under 5B, needs ratification by Parliament before the close of the following financial year. Regulations 20 and 21 of the second schedule of the *Audit Act* provide for expenditure by the Treasurer to meet emergencies for which no vote exists; the Governor must first authorise such expenditure and the Auditor-General investigate the circumstances before payment can be made.

Exclusions from Consolidated Revenue

It should be observed that the Consolidated Revenue Fund does not include all revenue and expenditure in respect of activities undertaken or authorised by the State Government. Some moneys are paid directly into State Trust Funds; e.g. Federal Government assistance for roads is paid into the State Highways Trust Fund and the various expenditures on roads are made directly from that Fund. The gross receipts and payments of a number of State business undertakings and State authorities are excluded from the Consolidated Revenue Fund, their relation to the Fund being as follows:

- (a) In Tasmania, the railways (up to 1 July 1975) and the government shipping services are administered by the Transport Commission and, since 1939-40, only the *net* losses of this authority have been met from the Consolidated Revenue Fund. Annual payment of debt charges (interest and sinking fund contributions) on advances made by the Government is credited to the Consolidated Revenue Fund. (Tasmania's railways were taken over by the Federal Government from 1 July 1975.)
- (b) Omnibus services in Hobart, Launceston and Burnie are operated by the Metropolitan Transport Trust. The *net* annual loss of the authority is a charge against Consolidated Revenue. Annual payment of debt charges on government advances is credited to the Fund.
- (c) The gross receipts and expenditure of the Hydro-Electric Commission are excluded from the Consolidated Revenue Fund; however, the annual payment of debt charges by the Commission is credited to the Fund. Net profit or loss on the Commission's activities is carried forward in the authority's own suspense account. From 1971-72 the Commission has been required to pay an annual con-

tribution to Consolidated Revenue. The amount is five per cent of the total revenue derived from retail sales of electricity in the preceding year.

- (d) Also excluded from the Consolidated Revenue Fund are the gross receipts and payments of: regional water schemes, Government Printing Office, Government Insurance Office, Public Trustee, State housing authorities, closer settlement, rural credits and other activities of the Agricultural Bank, etc. In accordance with various Acts, it is usual for the net profits or losses of the previous year to be paid to or from the Consolidated Revenue Fund for the current year. Debt charges on government money loaned to the authorities are paid to Consolidated Revenue.

Consolidated Revenue Fund—Summary

The following table shows the transactions of the Tasmanian Consolidated Revenue Fund, the surplus or deficit, and the aggregate deficit at the end of each year. It also calls attention to the special grant adjustments which were made up to 1971-72 and shows how these Federal Government payments modified the original budget result. As a consequence of Tasmania's withdrawal from the Grants Commission Special Grants procedures during 1973-74, no adjustments were made for 1972-73 and 1973-74 advance Special Grants. (Details are given earlier in this chapter.)

Consolidated Revenue Fund: Surpluses and Deficits
(\$'000)

Year	Revenue			Expenditure	Budget result		Aggregate net deficit at end of year
	Before adjustment	Special grant adjustment	After adjustment		Before adjustment	After adjustment	
1965-66	83 564	+ 889	84 453	85 585	-2 021	-1 132	12 931
1966-67	92 676	-1 190	91 486	93 248	- 572	-1 762	14 693
1967-68	100 563	- 100	100 463	102 413	-1 851	-1 951	16 644
1968-69	107 846	+1 680	109 526	111 540	-3 695	-2 015	18 659
1969-70	123 819	-3 200	120 619	121 004	+2 815	- 385	19 044
1970-71	138 229	-2 400	135 829	138 207	+ 22	-2 377	21 421
1971-72	157 782	-1 350	156 432	160 237	-2 455	-3 805	25 226
1972-73	181 866	..	181 866	185 998	-4 132		29 358
1973-74	206 947	..	206 947	210 097	-3 150		32 508
1974-75	268 522	..	268 522	282 065	-13 544		46 052

Deficit Funding

While the aggregate of all deficits at 30 June 1975 was \$46 052 000, the sum of \$32 508 000 has been charged against the Loan Fund as 'revenue deficits funded': thus the unfunded aggregate deficit is only \$13 544 000 carried as a negative balance in the Accumulated Revenue Account. Prior to 1972-73 the original budget result was treated as provisional because the Grants Commission's adjustment was used to amend the original surplus or deficit and also the aggregate deficit.

The next table shows the adjusted budget result for recent years and how the result was treated.

Consolidated Revenue Fund: Adjusted Budget Result and Treatment
(\$'000)

Budget result			Budget result		
Year	Amount	Treatment	Year	Amount	Treatment
1965-66 ..	- 1 132	Funded	1970-71 ..	- 2 377	Funded
1966-67 ..	- 1 762	Funded	1971-72 ..	- 3 805	Funded
1967-68 ..	- 1 951	Funded	1972-73 ..	- 4 132	Funded
1968-69 ..	- 2 015	Funded	1973-74 ..	- 3 150	Funded
1969-70 ..	- 385	Funded	1974-75 ..	- 13 544	To be funded

Consolidated Revenue Fund—Receipts

The following table shows Tasmanian Consolidated Revenue Fund receipts for a three-year period:

Consolidated Revenue Fund: Receipts
(\$'000)

Item	1972-73	1973-74	1974-75
Federal Government grants—			
Financial agreement	534	534	534
Financial assistance	79 498	92 451	140 205
Special	7 600	8 650	..
Debt charges assistance	2 385	3 180	3 975
Unemployment relief grant	4 670	647	1 100
Unemployment relief capital grant	1 300	..	..
Total	95 986	105 461	145 813
Debt charge recoveries (a)—			
Interest	26 725	29 453	32 452
Sinking fund	3 157	3 471	3 717
Total	29 882	32 924	36 169
State taxation (b)	37 570	48 134	60 456
Victorian lotteries agreement	200	228	301
Territorial revenue—			
Forestry	2 517	3 259	3 865
Other property income, etc.	r 2 166	r 2 160	2 231
Total	r 4 683	r 5 419	6 097
Department revenue, fees, grants, etc.—			
Education	1 705	1 765	3 943
Health	2 468	3 194	4 733
Law and order	1 734	2 019	2 147
Other	5 238	6 453	8 863
Total	11 145	13 431	19 686
Total actual receipts	179 466	205 597	268 522
Transfer, Accumulated Revenue Account (c)	+ 2 400	+ 1 350	..
Grand total	181 866	206 947	268 522
Percentage increase	15.3	13.8	29.8

(a) Mainly on advances made to semi-government authorities.

(b) See later section, 'State Taxation'.

(c) Special grant adjustments.

The relative importance of the various components of the Consolidated Revenue Fund can be assessed by expressing them on a per capita basis using the State mean population for the relevant financial year.

**Consolidated Revenue Fund: Receipts Per Head of Population
(\$)**

Item	1972-73	1973-74	1974-75
Federal Government grants	243.0	264.3	360.6
Debt charge recoveries	75.7	82.5	89.4
State taxation	95.1	120.6	149.5
Territorial revenue	11.9	13.6	15.1
Departmental revenue, fees, grants, etc. ..	r 28.2	r 33.7	48.7
Victorian lotteries agreement	0.5	0.6	0.7
Transfer, Accumulated Revenue Account ..	6.1	3.4	..
Total	460.5	518.7	664.0

State Taxation

During 1974-75 the chief state taxes, in order of importance, were pay-roll tax; motor taxes; stamp duties (on cheques, legal documents, etc.); probate and succession duties; and land tax. Pay-roll tax, which was handed over to the State by the Federal Government from the 1971-72 financial year, has now become the largest single source of State tax revenue.

In the following tables, the figures shown for total taxes paid to Consolidated Revenue do not agree with those published by the State Treasurer. Excluded from the tables are amounts received from the Victorian Government under the Victorian Lotteries Agreement while 'motor taxes' includes amounts not treated as taxes by the State Treasurer. The following table gives a summary, for a three-year period, of State taxation taken into the Consolidated Revenue Fund:

**State Taxation Collections Paid into Consolidated Revenue
(\$'000)**

Tax or licence	1972-73	1973-74	1974-75
Pay-roll tax	11 857	17 681	27 048
Deceased persons' estate duties	3 235	3 398	4 123
Stamp duties (a)	5 800	7 167	7 515
Land tax	2 961	3 055	3 673
Liquor tax and licences	1 426	1 590	1 907
Racing taxes (a)	1 242	1 322	1 477
Motor taxes (b)	8 637	9 537	11 093
Hydro-Electric Commission statutory levy ..	1 251	1 362	1 430
Entertainment tax	126	153	241
Casino tax and licence fees	464	1 605	1 820
Tobacco tax and licence fees	559	1 247	66
Other licences	13	17	64
Total (c)	37 570	48 134	60 456

(a) Excludes: (i) stamp duties on bookmakers' tickets (included in 'Racing taxes'); (ii) stamp duty on third party insurance (included in 'Motor taxes'); and (iii) stamp duty on motor vehicle registrations (included in 'Motor taxes').

(b) See following section 'Motor Taxes'.

(c) Excluded are the following amounts received from the Victorian Government under the Victorian Lotteries Agreement: 1972-73, \$200 000; 1973-74, \$228 000; 1974-75, \$301 000.

Motor Taxes: In the preceding table motor taxes are shown as \$11 093 000 for the year 1974-75. The next table shows how this figure can be reconciled with motor tax figures published by the State Treasurer:

Motor Taxes (a) Paid to Consolidated Revenue Fund, 1974-75
(\$'000)

Item	Amount
Motor taxes (a)	11 093
Less Stamp duty on—	
Vehicle registration (b)	1 718
Third party insurance (b)	391
Traffic fees (c) paid to—	
Police Department	953
Consolidated Revenue Fund	1 370
	4 433
'Motor tax' as published by State Treasurer	6 660

(a) See preceding table 'State Taxation Collections Paid into Consolidated Revenue Fund'.

(b) Treated as 'stamp duty tax' items by the State Treasurer.

(c) Includes motor vehicle registration fees, drivers' licences, charges for number plates, transfer of ownership fees and learners' permits.

Not all State taxation is paid into the Consolidated Revenue Fund, as shown in the following table:

State Taxation Collections Paid to Special Funds
(\$'000)

Particulars	1972-73	1973-74	1974-75
Motor taxation—			
Retained by Transport Commission	82	88	95
Racing taxation—			
Paid to racing clubs and Racing Commission	522	551	707
Insurance companies—			
Contributions to fire authorities	1 135	1 263	2 123
Total	1 739	1 902	2 926

The following summarises total State taxation collections:

Total State Taxation Collections (a)
(\$'000)

Particulars	1972-73	1973-74	1974-75
Paid into—			
Consolidated Revenue	37 570	48 134	60 456
Special Funds	1 739	1 902	2 926
Adjustment (b)	+20	+17	+61
Total	39 328	50 054	63 443

(a) Taxation is described more fully in a subsequent section, 'Taxation in Tasmania'.

(b) An adjustment item is necessary to reconcile items referring to different accounting periods.

Debt Charge Recoveries

After Federal Government grants and State taxation, debt charge recoveries is the next largest receipt item in Consolidated Revenue. The next table shows details of the interest and sinking fund payments made by various authorities on advances which have been made to them by the State Government; since the advances have been made primarily from State loan borrowings, the Government has accepted an annual liability for debt charges (in respect of these authorities) approximately equal to the recoveries shown.

Debt Charge Recoveries: Consolidated Revenue Fund r
(\$'000)

Source of recovery	Interest			Sinking fund contributions		
	1972-73	1973-74	1974-75	1972-73	1973-74	1974-75
Agricultural Bank—						
Housing	213	296	302	..	..	..
State Advances Act	265	267	299	..	..	..
Closer settlement	95	97	106	..	..	..
Returned soldier settlement	16	15	14	..	..	..
Other	10	14	10	..	..	..
Artificial Breeding Board	19	20	22	2	2	2
Forestry Department	500	550	654	..	..	..
Government Printing Office	6	3	10	4	3	3
Housing Department	1 128	1 468	1 448	179	197	200
Hydro-Electric Commission	19 613	21 084	23 348	2 587	2 800	2 998
King Island Abattoirs Board	21	21	26	3	3	4
Loans to industry—						
Aluminium industry agree-						
ment	131	131	158	..	..	..
Iron ore (Savage River						
agreement)	200	192	184	..	..	..
Other	401	492	446	..	..	..
Metropolitan Transport Trust	145	144	160	21	21	21
Metropolitan Water Board	859	868	932	117	121	126
Rivers and Water Supply						
Commission	264	265	286	32	34	35
Tasmanian Grain Elevators						
Board	34	45	66	10	10	10
Tourism development	135	143	167	..	..	..
Transport Commission	1 986	2 542	3 227	203	280	319
Other	683	796	585	..	..	..
Total	26 725	29 453	32 452	3 157	3 471	3 717

Consolidated Revenue Fund—Expenditure

In the following table a summary is given of the principal items of Consolidated Revenue Fund expenditure classified according to purpose:

Consolidated Revenue Fund: Expenditure by Purpose (a)
(\$'000)

Purpose	1972-73	1973-74	1974-75
General administration <i>n.e.c.</i>	r 19 052	r 22 500	28 396
Law, order and public safety—			
Law courts and legal services	2 442	2 939	3 996
Correctional and custodial services	1 490	1 873	2 609
Police services	7 846	9 397	13 858
Fire protection	646	886	1 207
Road safety	108	153	194
Other	14	15	20
Total	12 546	15 263	21 884
Civil defence	72	74	121
Education—			
General administration, regulation and research	1 672	2 091	3 479
Student transport	2 459	2 818	3 347
Primary and secondary	r 30 259	r 38 028	53 238
Technical	2 272	3 060	4 841
University	3 312	2 067	13
Other higher education	6 384	4 871	3 460
Special schools	530	696	1 828
Other	r 471	r 616	1 371
Total	47 358	54 246	71 576

Consolidated Revenue Fund: Expenditure by Purpose (a)—continued
(\$'000)

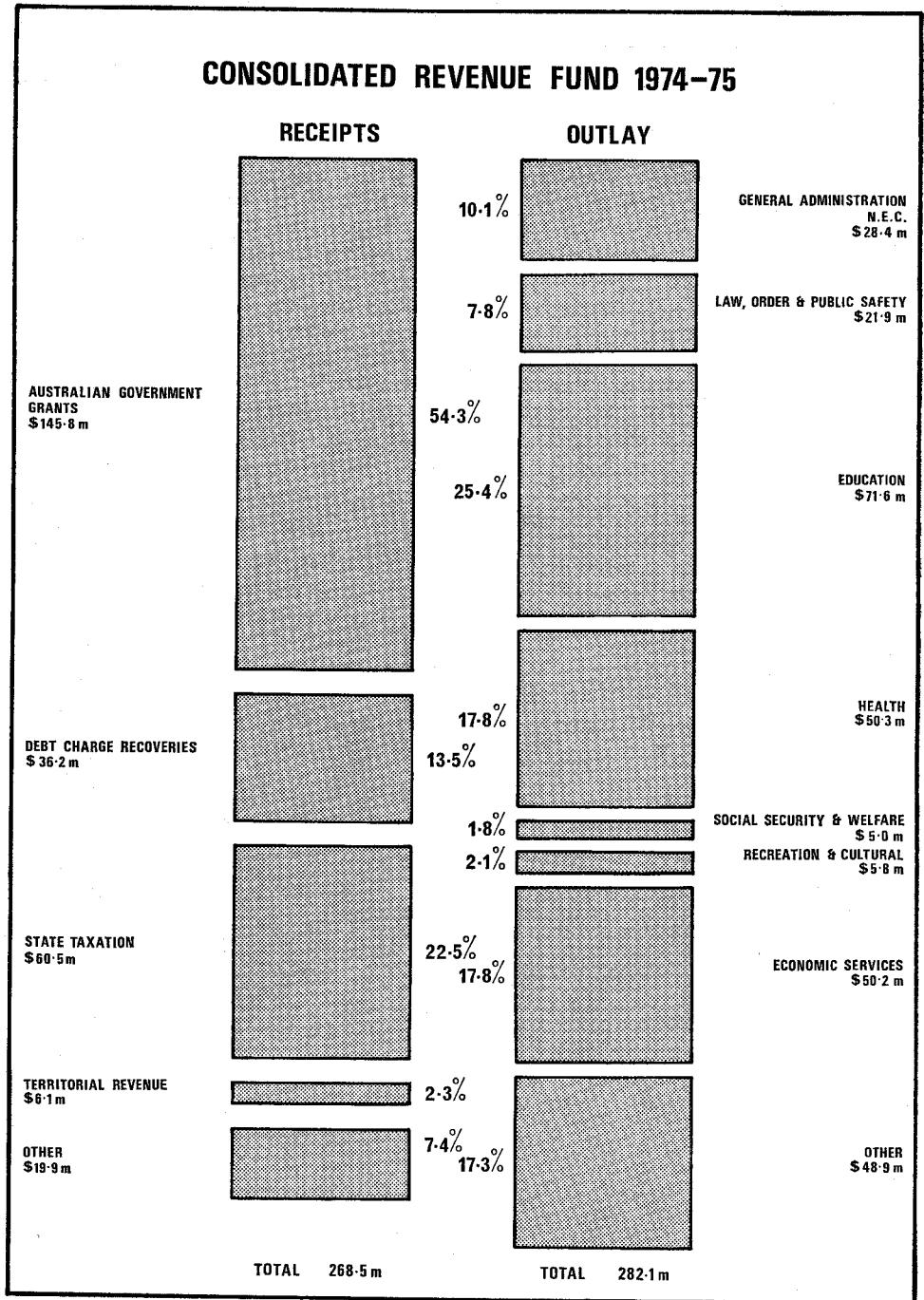
Purpose	1972-73	1973-74	1974-75
Health—			
General administration, regulation and research..	804	912	1 237
Mental health	4 094	4 753	7 172
Other hospital and clinical services	r 17 037	r 22 119	37 757
Preventive services	333	371	504
Maternal and infant health	435	497	738
Other health services	r 1 417	r 1 483	2 286
Ambulance services	263	265	594
Total	24 384	r 30 400	50 289
Social security and welfare—			
General administration, regulation and research..	285	370	646
Aged persons	131	76	285
Unemployed and sick persons and unemployment relief	5 832	703	1 155
Family and child care and assistance	941	1 118	1 724
Other	r 1 218	r 1 029	1 173
Total	r 8 406	r 3 297	4 983
Housing	r 565	r 1 024	1 061
Protection of the environment	109	r 279	413
Recreation and related cultural services—			
Cultural facilities	1 731	2 239	3 809
Support for creative and performing arts	55	55	25
Recreational facilities	r 644	r 804	1 114
Other	r 467	r 632	867
Total	r 2 897	r 3 729	5 814
Economic services—			
General administration, regulation and research..	793	r 1 030	1 492
Soil and water resources management	3 069	3 824	4 923
Forest resources management	2 127	2 517	3 259
Other services to agricultural and pastoral industries	4 788	5 903	9 370
Mining and services to mining	1 104	1 279	1 671
Manufacturing and services to manufacturing	242	279	378
Electricity supply services	31	43	47
Water supply services	1 182	r 1 314	1 583
Transport and communication—			
Roads and ancillary services	r 6 533	r 6 995	7 493
Sea transport	184	223	233
Urban bus services	1 692	2 520	3 957
Other (including railways)	6 362	r 7 856	12 183
Other	r 2 150	r 2 588	3 609
Total	r 30 258	r 36 371	50 199
Other	r 40 351	r 42 912	47 328
Total	185 998	210 097	282 065
Percentage increase	16.1	13.0	34.3

(a) Based on Australian purpose classification developed for analysis of government sector accounts; not strictly comparable with functional classifications published in Year Books prior to the 1975 edition.

Public Debt Charges

This is the largest item of expenditure but a high proportion is recovered from semi-government authorities. The next table shows the net burden on Consolidated Revenue Fund of debt charges:

CONSOLIDATED REVENUE FUND 1974-75



Public Debt Charges: Net Burden on Consolidated Revenue
(\$'000)

Particulars	Interest			Sinking fund contribution		
	1972-73	1973-74	1974-75	1972-73	1973-74	1974-75
Expenditure from Consolidated Revenue	(a) 40 169	(a) 43 013	(a) 47 245	(b) 6 027	(b) 6 354	(b) 6 818
Recovered from semi-government bodies, etc.	26 725	29 453	32 452	3 157	3 471	3 717
Net burden on Consolidated Revenue (c)	13 444	13 560	14 793	2 870	2 883	3 100

(a) Includes loan management charges.

(b) Contribution payable under the Financial Agreement to the National Debt Sinking Fund.

(c) In respect of non-revenue producing assets such as schools, roads, etc.

Government Transport Services

Unlike the Consolidated Revenue Funds of some Australian states, the Tasmanian Fund excludes the *gross* receipts and expenditure of State business undertakings such as railways, bus services, etc. The principal charge in 1974-75 under this item was in respect of the *net* loss incurred by the Transport Commission during 1973-74 (\$12 129 390). Another major item was a contribution of \$3 957 000 to the Metropolitan Transport Trust which experienced a net trading loss of \$3 981 578 in 1974-75.

Roads and Bridges

The chief expenditure under this item in 1974-75 was a transfer of \$6 659 979 to the State Highways Trust Fund, representing revenue received from motor tax and public vehicle fees. Grants totalling \$1 765 000 were paid from Consolidated Revenue Fund to the Transport Commission to cover the cost of vehicle registration and traffic control.

State Trust and Special Funds

State revenues are payable to Consolidated Revenue with the exception of certain revenues which have been set aside by acts of Parliament for specific purposes and which are payable into special funds or accounts at the State Treasury. The volume of these transactions is high, \$286 059 185 being received in 1974-75, \$287 126 542 being expended and the balance in the funds changing from \$13 643 159 (1 July 1974) to \$12 575 801 (30 June 1975).

It should be noted that many accounts in the Trust and Special Funds indicate Treasury transactions which merely reiterate those recorded under Consolidated Revenue and Loan Funds; the following examples are given:

State Trust and Special Funds: Selected Accounts, 1974-75
(\$'000)

Account	Receipts	Expenditure
Income Tax Deductions Suspense Account (a)	28 682	28 682
Hydro-Electric Commission London Suspense Account (b) ..	2 899	2 957

(a) Wages and salaries included under Consolidated Revenue and Loan Fund expenditure are shown at gross value; however, the deductions applicable to wage and salary earners on Tasmanian Government pay-rolls are passed, via this account, to the Federal Government.

(b) The Treasury acts as agent for meeting overseas liabilities incurred by the Hydro-Electric Commission; these liabilities, mainly incurred in the acquisition of plant and equipment, are largely accounted for in Loan Fund expenditure.

Some accounts are concerned with government activities financed by the Federal Government, the State acting as trustee or agent in the transactions; examples follow:

State Trust and Special Funds: Selected Federal Accounts, 1974-75
(\$'000)

Account	Receipts	Expenditure
Tasmanian University (Commonwealth Grants) Account (a) ..	13 445	13 502
Recurrent Grants to Non-Government Schools Account (b) ..	2 780	2 794
Home Builders No. 3 Account (c)	8 447	8 235

(a) Treasury passes Federal Government grants to University of Tasmania

(b) Treasury passes Federal Government grants to non-government schools.

(c) Agricultural Bank administered loans to home builders, the source of funds being the Federal Government.

In the case of some accounts, there is provision for crediting the Trust and Special Funds with contributions from Consolidated Revenue, an important example being the State Highways Trust Fund:

State Trust and Special Funds: State Highways Trust Fund, 1974-75
(\$'000)

Item	Receipts	Expenditure
Federal Government contribution	18 585	..
Grants from Consolidated Revenue	6 660	..
Roads, bridges, jetties, ferries and planning	426	25 748
Self-balancing entries	4 063	4 063
Fund entries	29 734	29 811

The Forestry Fund Account records transactions under legislation requiring revenue from forestry to be paid to Consolidated Revenue, and for Consolidated Revenue to expend an equal amount on forestry in the following year:

State Trust and Special Funds: Forestry Fund Account, 1974-75
(\$'000)

Item	Receipts	Expenditure
Grants from Consolidated Revenue (a)	3 259	..
Expenditure on forestry .. .. .	..	3 311
Reimbursement, Softwood Forestry Agreement	52	..
Self-balancing entries	1 518	1 518
Fund entries	4 829	4 829

(a) Consolidated Revenue recorded forestry receipts of \$3 259 000 in 1973-74; this sum therefore became the 1974-75 contribution from Consolidated Revenue.

Some of the funds held in trust are not owned by the State Government, e.g. St John's Park Inmates Trust Account. Other funds are held on behalf of semi-government authorities, e.g the Agricultural Bank.

State Loan Fund

Expenditure from the Loan Fund is devoted to two main purposes: (i) the making of advances to State semi-government authorities; and (ii) the carrying out of the State's own works program. Such funds, whether lent to other authorities for their works programs or spent directly by the State, result in

the creation of new capital assets, a large proportion of which are revenue earning and therefore capable of reimbursing the State for the debt charges which it has incurred. (An earlier section on Consolidated Revenue expenditure shows the gross and net expenditure on annual debt charges.) In addition, conversion of existing loans is effected from the Loan Fund, but the amounts involved have been excluded from the next two tables as these transactions only alter the rates, sources or terms of existing public debt. Details of these debt servicing transactions are contained in a later table, 'Net Loan Fund Expenditure—Reconciliation'.

In addition to money from loan raisings, the Loan Fund may record other receipts such as the repayment of advances which had been made from the Fund to some Government authorities and community organisations, and contributions to capital works by the Federal Government.

Receipts into the Loan Fund during 1974-75 (\$160 160 000) comprised: (i) loans raised for new capital purposes, \$54 952 000; (ii) loans raised for the redemption and conversion of existing loans, \$65 105 000; (iii) non-specific grants from the Federal Government, \$25 977 000; (iv) specific grants from the Federal Government, \$10 815 000; and (v) repayments by State authorities, \$3 311 000. Principal specific federal grants credited to the Loan Fund in 1974-75 were for: (i) the Education Department, \$6 828 000; (ii) the Hospitals Development Program, \$1 549 000; and (iii) the Transport Commission, \$1 309 000 for purchase of m.v. *Straitsman*. Principal payments to the Loan Fund from State sources were: (i) repayments under the *Industrial Development Act 1954*, \$623 000; (ii) *State Advances Act 1935*, \$686 000; (iii) repayments under the *Homes Act 1935*, \$451 000; (iv) repayments by the Transport Commission under the *Transport Act 1938*, \$312 000; and (v) repayment of tourist and accommodation loans, \$216 000.

The following table shows annual gross and net loan expenditure. The net loan expenditure for 1974-75 (\$76.1m) was 17.7 per cent greater than for 1973-74.

Loan Fund: Gross and Net Loan Expenditure
(\$'000)

Year	Loan expenditure		Year	Loan expenditure	
	Gross	Net		Gross	Net
1965-66	39 411	36 573	1970-71	52 079	47 393
1966-67	40 161	36 636	1971-72	73 037	66 268
1967-68	46 054	42 128	1972-73	76 813	67 243
1968-69	44 458	40 164	1973-74	73 947	64 603
1969-70	49 411	45 069	1974-75	90 182	76 056

Traditionally, loan expenditure has been recorded on both gross and net bases. The annual net loan expenditure is equal to the disbursement of borrowings during the year for new capital purposes as distinct from borrowings for the conversion of existing debt, plus disbursements from funds made available by the repayment of advances, and capital contributions by the Federal Government as above, augmented or diminished by the net movement in the Loan Fund balance. The following table shows the calculation of net loan expenditure from two viewpoints: (i) as a residue from gross loan expenditure; and (ii) as the algebraic sum of new loan raisings for new capital purposes, the net movement in the Loan Fund balance and discount and capital appreciation expenses.

State Loan Fund: Calculation of Net Loan Expenditure
(\$'000)

Particulars	1972-73	1973-74	1974-75
(i) Gross loan expenditure	76 813	73 947	90 182
Less Repayments	4 324	4 684	3 311
Less Federal Government grants	5 246	4 660	10 815
Net loan expenditure	67 243	64 603	76 056
(ii) Gross borrowings for new capital purposes (a)	51 254	43 502	54 952
Federal Government grant	17 367	20 549	25 977
Movement in Loan Fund balance (b)	-1 500	+320	-4 995
Other (c)	122	232	122
Net Loan Expenditure	67 243	64 603	76 056

(a) Includes discount on borrowings for new capital purposes. Amounts were: 1972-73, \$2 000; 1973-74, \$35 000; 1974-75, nil.

(b) Negative sign (-) indicates an increase from opening to closing balance, plus sign (+) indicates a decrease.

(c) Discount on borrowings for conversion and re-financing purposes and capital appreciation items.

The next table shows Loan Fund payments classified according to purpose:

Loan Fund Payments Classified by Purpose (a)
(\$'000)

Purpose	1972-73 r	1973-74 r	1974-75
General administration, <i>n.e.c.</i>	2 237	2 774	3 882
Law, order and public safety—			
Law courts and legal services	161	919	1 319
Correctional and custodial services	113	265	222
Police services	1 907	3 075	2 621
Fire protection services	60	100	153
Other	80	79	80
Total	2 321	4 437	4 396
Education—			
General administration, regulation and research ..	2 772	3 482	3 922
Primary and secondary	6 668	7 857	13 213
Technical	992	1 108	188
University	1 962	1 373	..
Other higher education	3 183	2 078	..
Adult education	47	57	40
Special schools	28	245	16
Pre-schools .. .. .	..	154	1 157
Total	15 652	16 354	18 536
Health—			
Mental health	237	318	700
Other hospital and clinical services	2 842	3 250	4 371
Ambulance services	93	91	67
Total	3 172	3 659	5 137
Social security and welfare—			
Aged persons	435	872	466
Family and child care and assistance	75	23	57
Total	510	895	523

Loan Fund Payments Classified by Purpose (a) —continued
(\$'000)

Purpose	1972-73 r	1973-74 r	1974-75
Housing and home finance services	(b) 9 090	..	..
Recreation and related cultural services—			
Cultural facilities	419	604	571
Recreational facilities	292	734	507
Total	710	1 338	1 078
Economic services—			
Soil and water resource management	216	118	642
Forest resources management	2 567	3 110	4 000
Services to agricultural, pastoral and fishing industries	1 116	1 031	1 216
Mining and services to mining	72	64	100
Manufacturing and services to manufacturing	993	983	864
Electricity supply (H.E.C.)	22 360	23 000	23 225
Water supply services	525	650	1 195
Transport and communication—			
Road and ancillary systems	535	849	883
Rail transport	11 744	9 174	14 345
Sea transport	33	6	..
Urban transport .. .. .	..	..	1 059
Other	432	1 410	1 699
Total	40 593	40 394	49 228
Natural disaster relief	25	23	..
Deficit on Consolidated Revenue Fund	2 378	3 805	7 282
Sinking fund and redemption (incl. conversions)	47 992	79 339	65 105
Total payments from Loan Fund	124 682	153 019	155 165

(a) Based on Australian purpose classification developed for analysis of government sector accounts; not strictly comparable with functional classification published in Year Books prior to the 1975 edition.

(b) For 1972-73 allocations for State housing programs formed part of State borrowings and were credited to Loan Fund.

The following table shows how a reconciliation may be obtained between total Loan Fund payments in the previous table and net Loan Fund expenditure.

Net Loan Fund Expenditure: Reconciliation
(\$'000)

Particulars	1972-73	1973-74	1974-75
Total payments from Loan Fund	124 682	153 019	155 165
Less Debt service transactions—			
Conversion (Australia)	41 688	38 534	39 732
Conversion (State Savings Bank Agreement)	960	960	960
Redemption from new cash borrowing	5 344	39 845	24 412
Loan Fund expenditure for new capital purposes	76 689	73 680	90 060
Plus Capital appreciation on special bonds	122	232	122
Plus Discount allowed on borrowings	2	35	..
Gross Loan Fund expenditure	76 813	73 947	90 182
Less Total repayments to Loan Fund	9 570	9 344	14 127
Net Loan Fund expenditure (a)	67 243	64 603	76 056

(a) As specified in the Treasurer's Statement.

The relationship between aggregate net loan expenditure, total loans raised and the State Public Debt is established in the following table:

Aggregate Net Loan Expenditure and State Public Debt at 30 June
(\$'000)

Particulars	1973	1974	1975
Aggregate net loan expenditure	900 554	965 157	1 041 213
Unexpended balance, Loan Fund	2 810	2 490	7 486
Grand total loans raised	903 364	967 647	1 048 698
Less Aggregate redemptions from sinking funds ..	98 432	105 479	115 286
Less Liability for exchange on overseas redemption	8 692	8 692	8 692
Less Federal Government grants (a)	46 657	67 206	93 183
State Public Debt	749 583	786 270	(b) 831 537

(a) Capital grants provided to replace amounts which would otherwise have been obtained as loan borrowings.

(b) Overseas component is \$6 600 000, quoted at rates of exchange prevailing on 1 July 1927.

The *Public Account Act 1962* has, amongst other things, the following provisions relating to the Loan Fund: (i) the Governor, on Treasury advice, may make transfers between block votes as long as the total authorised amount is not exceeded; (ii) a sum of up to \$400 000 may be spent for purposes not previously authorised; (iii) for purposes previously authorised, an additional sum of up to \$1m may be spent; (iv) in instances of expenditure outside the provisions of a specific Loan Fund Appropriation Act, the ratification of such action is to be sought from Parliament before the close of the following financial year. The Act also provides for the unexpended balances of votes at the close of the financial year to lapse.

State Public Debt

The State Public Debt is calculated on two bases: (i) with overseas debt calculated at 'mint par of exchange', i.e. at the exchange rates prevailing on 1 July 1927; and (ii) with overseas debt calculated at current rates of exchange. 'Mint par debt' is the official debt for the purpose of determining sinking fund contributions payable under the Financial Agreement, 1927.

The following table shows the State Public Debt calculated on both bases:

State Public Debt at 30 June 1975: At Mint Par of Exchange and at Current Rates of Exchange

Place in which debt repayable	\$ Aust. at mint par of exchange		\$ Aust. at current rates of exchange	
	Conversion rate of \$A (a)	Debt (\$'000)	Conversion rate of \$A (b)	Debt (\$'000)
Australia .. .. .	.. .. .	824 936	.. .. .	824 936
London	£0.5 sterling	3 772	£0.5966 sterling	3 161
New York	U.S. \$2.433 25	2 069	U.S. \$1.3253	3 799
Canada	C. \$2.433 25	279	C. \$1.3652	498
Switzerland	S. Francs 12.619 65	293	S. Francs 3.316	1 117
Netherlands	Guilders 6.053 925	186	Guilders 3.221	350
Total .. .. .	.. .. .	831 537	.. .. .	833 862

(a) Exchange rates at 1 July 1927 (rate for £A0.5).

(b) Exchange rates at 30 June 1975 for \$A1.

The most significant changes between the 1927 rates of exchange and those current today occurred in eight stages: (i) 1930, when the Australian pound was devalued by 20 per cent in relation to sterling; (ii) 1949, when the Australian pound was devalued 30.5 per cent parallel to a similar devaluation in sterling; (iii) 1967, when the pound sterling was devalued 14.3 per cent (but the decision was taken not to devalue the \$A); (iv) 1971, when the Australian dollar, although remaining within the fluctuation limits of the International Monetary Fund, was devalued 2.25 per cent following a 7.89 per cent devaluation of the United States dollar; (v) December 1972, when the Australian dollar was revalued against the United States dollar to give an effective appreciation of the Australian dollar of 7.05 per cent; (vi) February 1973, by the retention of the value against gold of the Australian dollar despite a 10 per cent devaluation of the United States dollar (this had the effect of further appreciating the Australian dollar); (vii) September 1973, when the Australian dollar was revalued against the United States dollar by 5 per cent; and (viii) September 1974, when the Australian dollar was devalued by 12 per cent and the direct link with the United States dollar was discontinued.

The growth of the public debt, expressed at mint par of exchange, is shown in the following table:

State Public Debt: Place of Flotation and Interest Payable
(\$'000)

At 30 June	Debt redeemable in—						Total debt	Interest payable (a)
	London	New York	Canada	Switzerland	Netherlands	Australia		
1966	13 733	5 743	444	293	399	471 045	491 658	23 987
1967	13 643	5 284	419	293	399	504 880	524 918	25 940
1968	8 382	4 913	393	293	372	546 539	560 893	27 778
1969	8 082	4 549	387	293	346	586 078	599 736	30 040
1970	6 674	4 178	368	293	319	625 575	637 407	32 939
1971	6 154	3 778	350	293	293	654 530	665 397	36 203
1972	5 914	3 301	330	293	266	695 167	705 271	39 202
1973	5 412	2 657	309	293	240	740 672	749 583	41 620
1974	5 152	2 352	301	293	213	777 958	786 270	45 922
1975	3 772	2 069	279	293	186	824 936	831 537	49 005

(a) Interest payable at rate of exchange which was current in the year of payment.

A notable feature of the State Public Debt is that approximately 99 per cent of indebtedness (at current rates of exchange) is now domiciled in Australia. There has been a gradual change from the situation which existed a century ago when nearly all loans were financed in London. In 1870, the State's public debt (\$2 537 400) was wholly redeemable in London and even in 1900, less than 10 per cent of the State debt was redeemable in Australia.

Public Debt Transactions

The following table shows particulars of loans raised and redeemed annually during the most recent three-year period (expressed at mint par of exchange) and also the transactions for the current year expressed at current rates of exchange. It will be observed that redemption of loans falling due in any particular year is achieved, in the main, by conversion (i.e. by renewal of the original loans on new terms and conditions).

State Public Debt: Conversion and Redemption
(\\$'000)

Particulars	At mint par of exchange			At current rates
	1972-73	1973-74	1974-75	1974-75
Loans raised for—				
New capital purposes	51 254	43 490	54 952	54 952
Conversion purposes	42 648	39 494	40 692	40 692
Redemption, maturing loans	5 344	39 857	24 412	24 412
Total raisings	99 245	122 841	120 057	120 057
Less Loans redeemed—				
By conversion	42 648	39 494	40 692	40 692
From new cash raisings	5 222	39 613	24 290	24 290
From National Debt Sinking Fund	7 064	7 048	9 807	(a) 8 831
Net increase in public debt	44 312	36 686	45 267	46 244
Debt at end of year	749 583	786 270	831 537	833 862

(a) Includes a balancing item due to fluctuation in exchange rates during the year, the actual redemption being \$9 674 000.

The next table summarises the transactions of the National Debt Commission in relation to the Tasmanian Public Debt:

National Debt Commission: Transactions in Respect of Tasmanian Public Debt
(\\$'000)

Particulars	1971-72	1972-73	1973-74	1974-75
Balance at beginning of period	555	209	671	1 974
Contributions—				
From—Federal Government	1 825	1 934	2 044	2 141
State Government	5 579	6 008	6 339	6 805
Interest received (net)	13	11	26	21
Funds available	7 972	8 162	9 080	10 941
Deduct—				
Redemption and re-purchase (a)—				
At mint par of exchange	7 295	7 063	7 048	9 807
Exchange adjustment	468	428	58	-133
Balance at end of period	209	671	1 974	1 268

(a) At rates of exchange which were current at the date of redemption or re-purchase.

The National Debt Commission was established as part of the 1927 Financial Agreement and its function is to administer a single consolidated sinking fund in respect of the debt of the Federal and state governments. (The obligations of the states and the Federal Government in contributing to the consolidated sinking fund are set out earlier in this chapter in a section headed 'Payments Under the Financial Agreement (1927)').

TAXATION

Taxation in Tasmania

As Australian citizens, Tasmanians are subject to taxes levied both by the State and the Federal Government. The next table shows taxes (total amounts and per capita figures) collected by the State Government and semi-government authorities in Tasmania and Federal Government collections for Australia:

Taxation: State of Tasmania and Federal Government, 1974-75 (a)

Tax	Amount (\$'000)		Per head of population (\$)	
	Tasmania (b)	Federal Government (c)	Tasmania	Federal Government
Income (personal and company) .. ..	..	10 155 478	..	753.92
Customs and excise .. .. .	..	2 569 136	..	190.73
Sales .. .. .	..	1 154 290	..	85.69
Pay-roll	27 048	15 713	66.88	1.17
Probate and succession duties	4 123	63 794	10.20	4.74
Motor	11 188	..	27.67	..
Stamp duties	7 515	..	18.58	..
Land	3 673	..	9.08	..
Racing	2 245	..	5.55	..
Liquor	1 907	..	4.72	..
H.E.C. statutory levy	1 430	..	3.54	..
Levy on insurance companies for fire author- ities	2 123	..	5.25	..
Entertainment	241	..	0.60	..
Broadcast listeners' and television viewers' licences .. .. .	..	18 816	..	1.40
Casino tax and licence fees	1 820	..	4.50	..
Tobacco tax and licence fees	66	..	0.16	..
Primary production taxes .. .. .	..	143 433	..	10.65
All other	64	106 464	0.16	7.90
Total	63 443	14 227 124	156.88	1 056.19

(a) Collections from all sources, including amounts paid to special funds.

(b) State taxes collected by Tasmanian Government and other state authorities.

(c) Federal Government taxes collected for Australia as a whole.

In addition to the taxes shown in the above table Tasmanian property owners also pay rates and licence fees to local government authorities. Total rates and licence fees collected during 1974-75 amounted to \$32.5m or \$80.43 per head of mean population.

Assuming that Tasmanians contributed to Federal Government taxation in strict proportion to the relative mean populations of the State and Australia, it would be theoretically correct to add the two per capita figures (\$156.88 and \$1 056.19) and arrive at a figure of \$1 213.07 as the *total per capita taxation* of the Tasmanian and Federal Governments within the State. An alternative way of examining the problem is to refer to total Federal Government taxes collected in Tasmania but this measure is unsatisfactory for a number of reasons, the chief defects being:

- (i) Central office collections of Federal Government taxation ceased at 30 June 1970 and for the income years after 1969-70 all assessments are being handled in state offices of the Taxation Department. The effects of this change are deceptive because income tax collected in Tasmania does not necessarily directly relate to income earned in Tasmania (e.g. a company with branches in Tasmania but with its head-office in Melbourne would normally submit its tax return to the Victorian Taxation Office). (The 1976 *Year Book* includes a special article on the location of control of Tasmanian business establishments—pp. 404-406.)
- (ii) Goods shipped to Tasmania will, in some cases, already have been taxed in another state in respect of customs or sales taxes. Even though other states are credited with the collection of these taxes,

the fact remains that Tasmanians bear their incidence in the form of increased commodity prices. The amount of tax collected in other Australian states on goods shipped to Tasmania is not known.

Estimated Incidence

In assessing the collection in other Australian states of the main taxes affecting Tasmanians, account is taken of selected sales figures derived from the latest Retail Census (for 1973-74) which showed Tasmanian *per head* sales to be 93.2 per cent of the corresponding Australian figure. Accordingly the *per head* incidence of customs and sales taxes in Tasmania is taken to be 93.2 per cent of the Australian *per head* collection figure for each tax. Estimates are compiled using these *per head* figures and the State's mean population.

The following table shows actual collections of the Federal Government taxes in the State and also the estimated incidence of taxes (other than income tax and estate duty) collected elsewhere in Australia:

**Taxation Collected by the Federal Government in Tasmania and Elsewhere,
and Estimated Incidence in Tasmania**
(\$'000)

Tax	1972-73	1973-74	1974-75
Collected in Tasmania—			
Income tax (a)	110 888	148 078	218 390
Estate duty (a)	1 156	1 281	1 300
Pay-roll tax	49	14	6
Gift duty	169	173	192
Stevedoring industry charge	1 183	1 108	1 306
Broadcast listeners' and television viewers' licences	1 870	1 879	556
Primary production taxes	836	1 246	2 217
Sales tax	12 861	15 679	19 176
Customs	4 239	3 744	6 400
Excise.. .. .	33 147	42 824	47 852
Other	144	271	240
Total collected in Tasmania	166 542	216 297	297 635
Collected elsewhere in Australia (b)—			
Sales tax	8 494	r 11 471	13 121
Customs	10 095	r 13 196	17 118
Estimated incidence (c)	185 131	r 240 964	327 874

(a) Tax collected in Tasmania may not directly relate to *income earned* and *assets* in Tasmania since a multi-state return can be lodged in any one state office.

(b) Estimated; goods on which these taxes were paid are assumed to have been sold in Tasmania.

(c) Excludes company income tax collected in other states in respect of establishments operating in Tasmania.

Federal Government Income Tax

Income tax, the most important revenue raising levy in Australia, was introduced in 1884 by the colony of South Australia. In the course of time this form of taxation was adopted by all the state governments and the Federal Government between 1884 and 1915. From 1915 to 1942 the state and Federal Governments imposed income taxation concurrently, the rate of state income tax varying from state to state. Uniform taxation on incomes throughout Australia was adopted in 1942, as a war measure, when the Federal Government became the sole authority levying this tax.

Expenses incurred in producing assessable income and certain losses incurred in previous years may be allowable deductions in calculating taxable income.

Income Tax Rates

Details of personal income tax rates are included in the section 'Personal Income Taxation in Australia' in Chapter 18. The next table sets out the rates of income tax payable by companies for the income years 1973-74 and 1974-75.

The tax payable by companies during the financial year 1974-75 is based on income derived during the year ended 30 June 1974 or substituted accounting period. (In the case of tax on individuals, financial year and income year are usually synonymous.)

Rates of Income Tax Contribution for Companies: Income Years 1973-74 and 1974-75
(Cents in the Dollar)

Type of company	1973-74 taxable income		1974-75 income year
	First \$10 000	Balance	
Private	45.0	45.0	42.5
Public—			
Co-operative	42.5	47.5	42.5
Non-profit—			
Friendly society dispensary	37.5	37.5	37.5
Other	42.5	47.5	42.5
Other (including life insurance companies) ..	47.5	47.5	42.5

Personal Income Tax Assessed in Tasmania

The next tables show the number of taxpayers, taxable income and income tax assessed during the year 1974-75 (income year 1973-74) and earlier years. The following definitions apply:

Net Income: Assessable income less deductions for expenditure incurred in earning that income (but before deductions for concessional allowances).

Individuals (Excluding Companies): Includes residents and non-residents assessed in Tasmania.

Taxable Income: Net income less concessional deductions.

Tasmania, Income Tax: Individuals (a)

Income year	Number of taxpayers			Net income	Taxable income	Net income tax assessed	
	Males	Females	Persons			Total	Per taxpayer
				\$'000	\$'000	\$'000	\$
1968-69	106 131	48 305	154 436	<i>n.a.</i>	368 142	59 135	383
1969-70	107 393	50 449	157 842	504 007	402 083	67 114	425
1970-71	107 078	52 174	159 252	550 670	446 520	72 323	454
1971-72	108 171	54 860	163 031	615 567	500 856	88 239	541
1972-73	99 830	44 984	144 814	660 913	539 410	92 335	638
1973-74	103 903	50 815	154 718	817 976	688 577	134 109	867

(a) For definitions, see text above.

The following table dissects the number of taxpayers, income tax assessed, etc. by grade of net income for the income year 1973-74:

Tasmania, Income Tax: Income Year 1973-74—Individuals (a)

Grade of net income	Number of taxpayers			Net income	Taxable income	Net income tax assessed
	Males	Females	Persons			
\$				\$'000	\$'000	\$'000
1- 1 199	580	1 256	1 836	2 005	1 955	66
1 200- 1 599	1 798	4 480	6 278	8 848	8 290	462
1 600- 2 199	3 622	7 348	10 970	20 945	19 182	1 376
2 200- 2 799	5 029	7 624	12 653	31 570	28 510	2 486
2 800- 3 399	5 936	7 400	13 336	41 414	37 010	3 999
3 400- 3 999	7 530	7 163	14 693	54 437	47 961	6 098
4 000- 4 499	8 383	4 057	12 440	52 860	45 267	6 382
4 500- 4 999	9 713	2 575	12 288	58 335	48 725	7 390
5 000- 5 499	10 014	2 021	12 035	63 177	52 030	8 476
5 500- 5 999	9 176	1 607	10 783	61 924	50 593	8 785
6 000- 6 499	8 155	1 171	9 326	58 208	47 256	8 683
6 500- 6 999	6 554	773	7 327	49 379	39 853	7 707
7 000- 7 499	5 250	623	5 873	42 533	34 393	6 998
7 500- 7 999	4 097	555	4 652	36 014	29 120	6 180
8 000- 8 999	5 799	616	6 415	54 284	43 883	9 869
9 000- 9 999	3 835	416	4 251	40 225	32 725	7 864
10 000-14 999	5 928	752	6 680	78 487	65 340	18 011
15 000-19 999	1 448	208	1 656	28 226	24 459	8 352
20 000-29 999	781	113	894	21 282	19 109	8 119
30 000 and over	275	57	332	13 825	12 916	6 805
Total	103 903	50 815	154 718	817 976	688 577	134 109

(a) For definitions, see text above.

State Taxation

In the section on the Consolidated Revenue Fund, taxes collected by the Tasmanian Government are shown in summarised form.

The next table gives full details of State taxation. It should be noted that certain taxes are reserved for special purposes. Examples are: (i) motor taxation—the 'motor tax' and 'public vehicle fees' components of this item (\$6 660 000 in 1974-75) are passed from Consolidated Revenue to the State Highways Trust Fund; and (ii) racing and gaming taxes—prior to 1970-71, part of the 'paid to special funds' item was passed to the racing clubs and the remainder spent on administration of racing. From 1970-71, all racing and gaming taxes paid to special funds have been passed to the racing clubs.

State Taxation Collections (a)
(\$'000)

Tax	1972-73	1973-74	1974-75
Deceased persons' estate duties	3 235	3 398	4 123
Entertainment tax	126	153	241
Stamp duties (excluding bookmakers' tickets)—			
Cheques	831	878	976
Bills of exchange and lading			1
Hire purchase and related agreements	711	890	1 044
Legal documents, etc.	2 237	3 286	3 170
Adhesive revenue stamps	408	376	376
Insurances	1 443	1 605	1 828
Marketable securities	169	133	120
Land tax	2 961	3 055	3 673
Motor taxation—			
Paid to—Consolidated Revenue	8 637	9 537	11 093
Special funds	82	88	95
Tax paid to fire authorities (b)	1 135	1 263	2 123

State Taxation Collections (a)—continued
(\$'000)

Tax	1972-73	1973-74	1974-75
Liquor tax and related licences—			
Tax	1 227	1 356	1 637
Publicans' licences, etc.	28	43	41
Wholesale licences	163	184	221
Registration of clubs	7	7	8
Racing and gaming taxes—			
Paid to—Consolidated Revenue	1 242	1 322	1 477
Adjustment (c)	+20	+17	+61
Special funds	522	551	707
Pay-roll tax	11 857	17 681	27 048
Hydro-Electric Commission statutory levy ..	1 251	1 362	1 430
Casino tax and licence fees	464	1 605	1 820
Tobacco tax and licence fees	559	1 247	66
Sundry licences—			
Auctioneers and estate agents	6	6	6
Environment Protection Act .. .. .	..	3	51
Other (including Firearms Act)	7	r 7	7
Total	39 328	50 054	63 443
Percentage increase	23.0	27.3	26.7

(a) Collections from all sources of taxation, including amounts paid to special funds.

(b) Paid by insurance companies direct to the Fire Brigades Commission and the Rural Fires Board.

(c) For different accounting periods.

State Land Tax

The rates of land tax on urban land assessed on urban unimproved land values for the year 1974-75 are shown in the following table:

Selected Rates of State Land Tax (a): Urban Land 1974-75
(\$)

Taxable value (b)	Tax payable	Taxable value	Tax payable
1 000	2	15 000	105
2 000	5	25 000	225
4 000	13	50 000	575
6 000	23	100 000	1 575
10 000	55	150 000	2 825

(a) Tax on unspecified values may be calculated by simple proportion, e.g. tax on \$5 750 equals \$13 plus $1\,750/2\,000 \times (\$23 \text{ less } \$13)$ i.e. \$21.75. Land values exceeding \$150 000 were further taxed at 3 cents in the \$ on the excess.

(b) Properties having an unimproved value of less than \$1 000 are not subject to land tax.

The rates of land tax assessed on rural land values for the year 1974-75 are shown in the following table:

Rates of State Land Tax: Rural Land 1974-75 (a)

Unimproved value (\$)	Taxable value	Tax rate
1-20 000 ..	Nil	Nil
20 001-25 000 ..	Unimproved value — (\$20 000 — \$4 × each dollar of excess over \$20 000)	} As for urban land with a 25 per cent rebate allowed
25 001 and over	Unimproved value	

(a) Since 1 July 1971 a 25 per cent rebate on land tax payable has been allowed to rural land owners.

**State Land Tax: Value of Taxable Properties and Tax Assessed
(\$'000)**

Year	Gross unimproved value				Tax assessed			
	Urban	Rural	Compo- site (a)	Total	Urban	Rural	Compo- site (a)	Total
1969-70	243 488	32 979	24 344	300 811	2 097	269	306	2 672
1970-71	267 319	33 410	24 234	324 964	2 313	277	312	2 903
1971-72	274 210	30 349	26 698	331 257	2 319	(b) 224	(b) 309	2 852
1972-73	296 176	(c) 21 011	(c) 26 392	343 579	2 494	(c) 178	(c) 283	2 954
1973-74	310 740	20 860	29 724	361 324	2 522	177	335	3 035
1974-75	359 069	25 113	32 123	416 304	3 167	221	416	3 803

(a) Properties made up of both urban and rural land.

(b) Decrease due to 25 per cent rebate applicable to rural land.

(c) Decrease due to an increase in the exemption level on rural land from \$10 000 to \$20 000.

State Deceased Persons' Estate Duties

The legislation dealing with State deceased persons' estate duties is contained in the *Deceased Persons' Estates Duties Act 1931* (as amended). The following table gives details of assessments for 1974-75:

**State Deceased Persons' Estate Duties
Number of Estates, Net Value and Tax Assessed, 1974-75**

Grade of dutiable value	Estates		Net value as assessed	Total duty assessed (a)	Average duty per taxable estate
	Examined	Taxable			
	no.	no.	\$'000	\$'000	\$
1- 500	86	6	12	..	24.8
501- 1 000	51	13	38	1	101.1
1 001- 1 500	56	18	69	1	71.3
1 501- 2 000	48	17	83	2	139.1
2 001- 3 000	104	36	257	6	170.4
3 001- 4 000	81	27	279	7	284.1
4 001- 5 000	108	67	475	11	163.5
5 001- 6 000	99	62	540	15	239.3
6 001- 8 000	145	108	1 001	38	350.4
8 001- 10 000	153	115	1 321	62	536.8
10 001- 15 000	302	229	3 614	189	823.6
15 001- 20 000	192	192	3 157	208	1 085.8
20 001- 30 000	205	205	4 626	384	1 874.7
30 001- 40 000	100	99	3 184	307	3 098.1
40 001- 50 000	64	64	2 494	261	4 085.8
50 001-100 000	134	134	7 927	1 102	8 223.8
100 001-150 000	43	43	3 958	801	18 626.8
150 001- and over	39	39	4 222	1 051	26 960.5
Adjustments .. ..	..	..	..	-4	..
Total	2 010	1 474	37 257	4 445	..

(a) Rates of duty and levels of exemption vary according to the class of beneficiary and the type of asset contained in the estate (details may be obtained from the Public Trustee).

Motor Taxation

The chief components of motor taxation are: (i) motor tax assessed on a power-weight formula; (ii) vehicle registration fees; (iii) drivers' and riders' licences; and (iv) other registration fees mainly related to public vehicles.

Details of motor taxation collections are shown in the following table:

State Motor Taxation
('\$000)

Particulars	1972-73	1973-74	1974-75
Motor tax	5 548	5 965	6 312
Public vehicle fees (a) r	446	462	443
Stamp duty on—Third party insurance ..	342	358	391
Vehicle registration ..	507	609	1 718
Other traffic fees (b) r	1 875	2 232	2 324
Total	8 719	9 625	11 188
Paid into Consolidated Revenue Fund ..	8 637	9 537	11 093
Retained by Transport Commission	82	88	95

(a) Includes public vehicle fees retained by Transport Commission.

(b) Includes registration fees, licences, number plate charges, transfer fees and learners' permits.

'Motor tax' plus most of the item 'public vehicle fees' shown in the above table are paid to the State Highways Trust Fund. (The amount paid over in 1974-75 was \$6 660 000.)

Racing Taxation

Under the *Racing and Gaming Act* 1952 and amending legislation to 1973, licensed bookmakers were required to pay a turnover commission of 2½ per cent on all bets made. Also, racing clubs were required to pay a tax on turnover at the rate of 5 per cent in respect of race meetings conducted on racecourses in a city area, and 2½ per cent in the case of other meetings. Amendments to the Act in 1971 provided that bookmakers pay two cents stamp duty on each telephone bet instead of issuing betting tickets and that this duty and betting turnover tax be paid into Consolidated Revenue.

As a result of amendments to the *Racing and Gaming Act* in 1974, the field of taxation on racing was altered significantly. The principal features of the change were: (i) the establishment of a Totalisator Agency Board (T.A.B.), which commenced operations during January 1975, to operate both on and off course totalisator betting (see article 'Off-Course Totalisator Betting' in the 1975 *Year Book*); (ii) the cessation of the off-course licensed bookmaker system with bookmakers confined to operating only at a racecourse while a race meeting is being conducted; and (iii) the discontinuance of telephone betting with bookmakers.

The new scale of racing taxation charges is: (i) licensed bookmakers turnover commission unchanged at 2½ per cent on all bets made; and (ii) from May 1974, racing clubs to pay a tax on turnover at the rate of 5 per cent irrespective of whether the course is situated inside or outside city areas; these amounts are paid through the Tasmanian Racing and Gaming Commission to Consolidated Revenue. In addition, commission deducted by the Totalisator Agency Board from the total amount wagered is 16 per cent with respect to doubles totalisator betting and 15 per cent with respect to other classes of totalisator betting. Distribution of this commission is as follows: (i) in each case 10 per cent of the total amount wagered is paid to the Board's revenue account and 5 per cent to Consolidated Revenue through the Tasmanian Racing and Gaming Commission; and (ii) in the case of commission on doubles betting, one per cent of the total amount wagered is paid to the Racing Trust. The Board is also required periodically to transfer its net profit to the Racing Trust.

Details of racing taxation collections and distribution are shown in the next table:

State Racing Taxation: Collection and Distribution
(**\$'000**)

Particulars	1972-73	1973-74	1974-75
RACING TAXATION RECEIPTS			
Totalisator tax (a)	70	77	461
Bookmakers' commission and licences	1 476	1 574	1 608
Stamp duty on bookmakers' tickets	238	240	176
Total	1 784	1 891	2 245
DISTRIBUTION OF RACING TAXATION RECEIPTS			
Paid into Consolidated Revenue Fund	1 242	1 322	1 477
Adjustment (b)	+20	+17	+61
Commission payable to racing clubs	522	551	707
Total	1 784	1 891	2 245

(a) Includes amounts received by the Racing and Gaming Commission for payment to Consolidated Revenue. Excludes amounts retained by the Totalisator Agency Board and amounts passed to the Racing Trust.

(b) An adjustment item is necessary to reconcile items referring to different accounting periods.

The turnovers on which taxes were levied are as follows:

Betting: Bookmakers' and Totalisator Turnover
(**\$'000**)

Turnover	1972-73	1973-74	1974-75
Licensed bookmakers	58 220	62 008	63 032
Totalisator	1 493	1 651	(a) 11 378
Total betting turnover	59 713	63 659	74 410

(a) Year ended 31 July.

State Taxation on Lotteries

From 1942 (when the Federal Government became the sole collector of income tax), lotteries conducted from Hobart by Tattersalls (George Adams Estate) were Tasmania's chief source of revenue through State taxation. On 14 July 1954, the promoters transferred their operations to Victoria. A new organisation—Tasmanian Lotteries—was granted a licence and operated until 30 September 1961, when the proprietor surrendered the licence. No operator is now licensed.

In September 1960, the *Racing and Gaming Act 1952* was amended to permit agreements with other states for the sale of their lottery tickets in Tasmania. Under an agreement with the Victorian Government, Tattersalls was allowed to sell tickets through accredited Tasmanian representatives; the Victorian Government was to pay quarterly to the Tasmanian Government 15½ per cent of the value of subscriptions made as a result of this concession.

For the purpose of public finance statistics, these amounts are classified not as 'taxation' but as 'payments from other states'.

The following table shows the payments made under the interstate agreement since 1967-68:

Payments to Tasmanian Government Based on Sale of Tattersalls Lottery Tickets
(\$)

Year	Amount	Year	Amount
1967-68	138 372	1971-72	179 343
1968-69	141 624	1972-73	200 059
1969-70	116 196	1973-74	227 770
1970-71	(a) 196 038	1974-75	300 810

(a) Includes \$33 858 due for the year 1969-70 but not received until early 1970-71.

Fees and Licences under the Licensing Act

The State raises revenue from hotels, clubs, restaurants and liquor wholesalers by: (i) licensing; and (ii) imposing a levy related to turnover. Originally a liquor tax was charged on liquor purchases by hotels, etc. and on wholesalers' direct sales to the public, the year for calculating taxable values and the year of collection being the same. During 1965-66, the *Licensing Act* 1932 was amended to substitute 'percentage fees' based on similar values except that they were those calculated for the year *preceding* collection.

Fees and Related Licences Collected Under the Licensing Act
(\$'000)

Tax or licence	1972-73	1973-74	1974-75
Percentage fees (a)	1 227	1 356	1 637
Publicans' and other licences under the Licensing Act	28	43	41
Wholesale licences	163	184	221
Registration of clubs	7	7	8
Total	1 426	1 590	1 907

(a) Based on liquor purchases by hotels and direct sales by wholesalers to the public.

Casino Tax and Licence Fees

The rate of casino tax and the licence fee were established by an agreement made in September 1968 between the State Treasurer, Federal Hotels Ltd and Australian National Hotels Ltd. The agreement was ratified by the *Wrest Point Casino Licence and Development Act* 1968. The casino tax is calculated according to a graduated scale based upon monthly gross profit and is payable monthly. Initially rates ranged from five per cent of gross profit where that profit was less than \$25 000 for the month to 30 per cent where the gross profit exceeded \$125 000. The licence fee was fixed at \$2 500 per month.

Early in 1975 the State Government received a submission from Australian National Hotels Ltd for changes in the tax scale. As a result, from 1 June 1975 the State Government reduced, for a period of one year, the maximum rate of tax to 25 per cent and provided for the rate of casino tax to be set in future by Parliament. A bill to extend the period for which the reduced rate was payable by one year was introduced into Parliament in May 1976.

Details of casino taxation collections are shown in the following table:

**Casino Tax and Licence Fees
(\$'000)**

Particulars	1972-73	1973-74	1974-75
Casino tax.. .. .	451	1 575	1 790
Licence fees	13	30	30
Total	(a) 464	1 605	1 820

(a) The Wrest Point Casino commenced business in February 1973.

Tobacco Tax and Licence Fees

Tobacco licence fees were suspended from 1 July 1974 by force of the Tobacco (Suspension) Regulations 1974. Tobacco tax was not required to be collected from 1 April 1974. Receipts amounting to \$65 636 were collected in 1974-75, and these represented licence fees not paid for the previous year and consumption tax which was collected in the previous year but not remitted to the Taxation Branch of the Treasury.

Chapter 6

DEMOGRAPHY

POPULATION

Introduction

Census of 30 June 1971

Detailed analysis of the population according to its principal characteristics as at the Census of 30 June 1971 is included in the 1976 *Year Book* but not in this edition. Preliminary results from the Census of 30 June 1976 appear in Appendix A in this edition.

Inclusion of Aboriginals in Population Statistics

Section 127 of the Federal Constitution required the exclusion of Aboriginals from Federal Government conducted population censuses from 1911 to 1966. As this section was repealed after the 1967 referendum, total population figures have been adjusted after 1961 to include full-blood Aboriginals. The effect in this State is very slight.

Historical

In 1803 Lieutenant John Bowen's expedition of 49 persons made the first white settlement at Risdon Cove; at 30 June 1976, Tasmania's population was 402 844 persons (preliminary Census result).

The Statistical Tables, Tasmania 1804 to 1823 show the first population record in 1816 when the white inhabitants numbered 1 461, analysed as 1 032 free settlers, 409 convicts and 20 children of convicts. From the year 1816, there exists a continuous annual record of Tasmania's population.

Source of Population Figures

There are two principal methods by which population figures are obtained: (i) by census enumeration; and (ii) intercensal estimates based on the application of vital and migration statistics to census data. The second method involves taking account of *natural increase* (excess of births over deaths); and *net migration* (excess of arrivals over departures) and applying these net figures to information obtained from an earlier census, the result being termed an intercensal estimate. (*Net migration* may be ascertained by two methods: taking account of *all* arrivals and departures; or only of arrivals and departures related to permanent change of place of residence. The former method was used for all estimates up to 30 June 1961, the latter method for later series. In relation to this change, see later section headed 'Changed Method of Estimating Population'.)

Censuses were conducted by the State in 1841, 1847, 1851, 1857, 1861, 1870, 1881, 1891 and 1901; the Australian Statistician became responsible for censuses with the establishment of the Commonwealth Bureau of Census and Statistics (now the Australian Bureau of Statistics) and conducted them in 1911, 1921, 1933, 1947, 1954, 1961, 1966, 1971 and 1976.

Population from 1820

The table that follows is based on the traditional historical series and has been compiled to show the population at the end of each decade from 1820, the natural increase and the average annual growth in total population for each decade.

Historical Summary of Tasmanian Population in Decades

Year	Estimated population (a)			Average annual increase for decade (b)	
	Males	Females	Persons	In total population	From natural increase (c)
1820 (d)	4 057	1 343	5 400	..	..
1830 (d)	18 108	6 171	24 279	1 888	..
1840 (d)	32 040	13 959	45 999	2 172	106
1850	44 229	24 641	68 870	2 287	656
1860	49 653	40 168	89 821	2 095	1 214
1870	53 517	47 369	100 886	1 107	1 622
1880	60 568	54 222	114 790	1 390	1 542
1890	76 453	68 334	144 787	3 000	2 496
1900	89 763	83 137	172 900	2 811	2 776
1910	97 026	92 781	189 807	1 691	3 322
1920	106 236	103 189	209 425	1 962	3 649
1930	111 148	108 835	219 983	1 056	3 127
1940	121 911	118 280	240 191	2 021	2 438
1950	140 339	135 563	275 902	3 571	3 768
1960	174 379	169 531	343 910	6 801	5 523
1970	195 280	192 440	387 720	4 381	5 116
1975 (e)	202 987	203 136	406 123	(f) 3 681	(f) 4 231

(a) Up to 1900, at 31 December; from 1910, at 30 June.

(b) Decade ending in year shown.

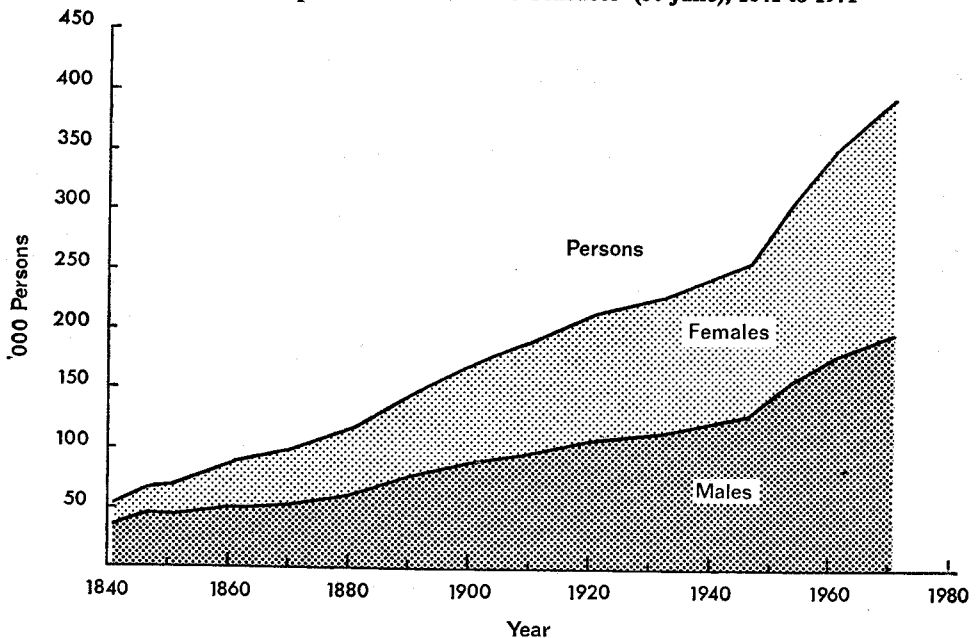
(c) Excess of births over deaths in calendar years.

(d) Imperial military establishment of about 1 000 troops included; excluded after 1842.

(e) Subject to revision based on 1976 Census results.

(f) Average calculated for five years of present decade.

Tasmanian Population at Successive Censuses (30 June), 1841 to 1971



Pattern of Net Migration

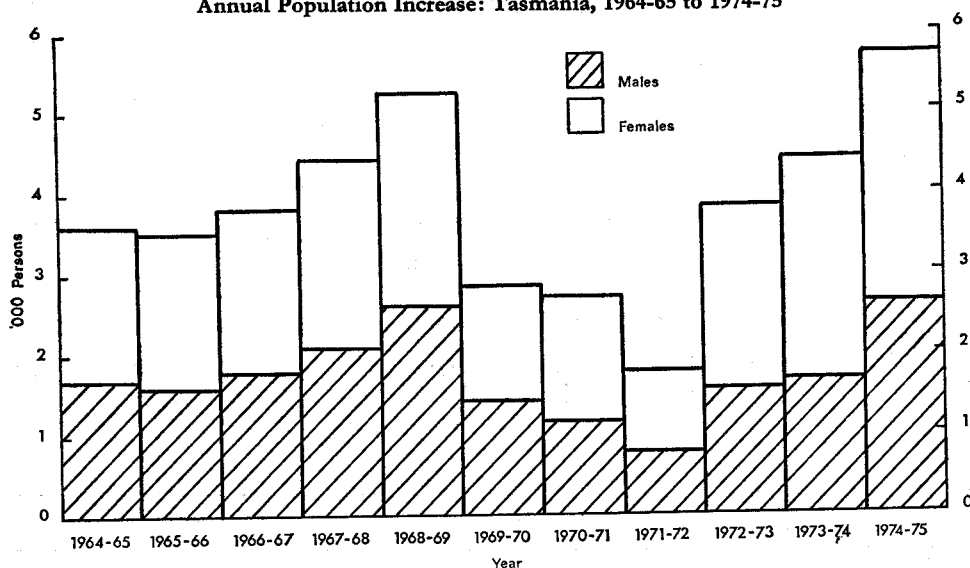
From the first settlement until 1850, the rapid growth in population was partly due to the British Government's convict transportation policy. After the cessation of transportation in 1853, the immigration rate slowed and natural increase became the more important component of population growth.

By comparing the last two columns in the last table, it is possible to make an assumption as to whether net migration (excess of arrivals over departures) tended to be positive or negative in any decade.

In the two decades ended 1870 and 1880, for example, natural increase was becoming a more significant factor but the growth of population was checked by negative net migration. Important mining discoveries (e.g. Mt Bischoff, Zeehan and Mt Lyell) brought prosperity to the State, and the two decades ended 1890 and 1900 were characterised by positive net migration.

The main characteristic of the five decades up to 1950 was a persistent loss of population due to negative net migration, the decade most affected ending in 1930. This trend of net migration loss persisted till the end of World War II (1945). The Federal Government's post-war immigration policy and the increasing industrialisation of the State combined to reverse the adverse trend of the previous half-century and the decade ending 1960 was characterised by positive net migration. However, in the decade ending 1970, and in the present (incomplete) decade, some loss of population by negative net migration must be inferred.

Annual Population Increase: Tasmania, 1964-65 to 1974-75



The next table shows the annual increases in population for the most recent 10-year period:

Annual Increase in Population from 1965

Year ended 30 June	Persons	Year ended 30 June	Persons
1966	3 531	1971	2 693
1967	3 808	1972	1 762
1968	4 405	1973	3 824
1969	5 244	1974	4 400
1970	2 827	1975	5 700

Census Populations From 1841

Population growth varied widely during the nineteenth century. From 1841 to 1847 the annual population increase averaged 4.70 per cent, largely due to the transportation system. Following self-government, the Colony entered a period of depression and the growth rate fell until the development of mining at the end of the century. The lowest growth rates in this century were associated with the period 1921-1947; and the highest rate with the period 1947-1954 when the State benefited from an influx of European migrants.

Population and Masculinity at Each Census from 1841

Census date (a)	Population			Average annual percentage rate of increase (b)	Masculinity (c)
	Males	Females	Persons		
31 Dec. 1841	34 469	16 981	51 450	..	220.99
31 Dec. 1847	45 000	22 313	67 313	4.70	201.68
1 Mar. 1851	44 648	25 482	70 130	1.07	175.21
31 Mar. 1857	46 606	34 886	81 492	2.53	133.60
7 Apr. 1861	49 593	40 384	89 977	2.51	122.80
7 Feb. 1870	52 853	46 475	99 328	1.11	113.72
3 Apr. 1881	61 162	54 543	115 705	1.40	112.14
5 Apr. 1891	77 560	69 107	146 667	2.40	112.23
31 Mar. 1901	89 624	82 851	172 475	1.64	108.17
3 Apr. 1911	97 591	93 620	191 211	1.04	104.24
4 Apr. 1921	107 743	106 037	213 780	1.12	101.61
30 June 1933	115 097	112 502	227 599	0.52	102.31
30 June 1947	129 244	127 834	257 078	0.87	101.10
30 June 1954	157 129	151 623	308 752	2.65	103.63
30 June 1961	177 628	172 712	350 340	1.82	102.85
30 June 1966	187 391	184 045	371 436	1.18	101.82
30 June 1971	196 442	193 971	390 413	1.00	101.27

(a) Imperial military establishments included until 1870, when British troops were withdrawn.

(b) Intercensal increase in total population as compound rate of growth per cent.

(c) Number of males per 100 females.

Comparison With Other States

The following table compares the Tasmanian population at censuses from 1901 with that of other states and territories (full-blood Aboriginals are included from 1966):

Australia: Census Populations of States and Territories (a)
(*000 Persons)

State or territory	1901	1933	1947	1954	1961	1966 (b)	1971 (b)
N.S.W.	1 355	2 601	2 985	3 424	3 917	4 238	4 601
Victoria	1 201	1 820	2 055	2 452	2 930	3 220	3 502
Queensland	498	947	1 106	1 318	1 519	1 674	1 827
S.A.	359	581	646	797	969	1 095	1 174
W.A.	184	439	502	640	737	848	1 030
Tasmania	172	228	257	309	350	371	390
N.T.	5	5	11	17	27	57	86
A.C.T. (c) .. ..	..	9	17	30	59	96	144
Australia	3 774	6 630	7 579	8 987	10 508	11 599	12 756

(a) Censuses of 1911 and 1921 are not shown.

(b) Includes full-blood Aboriginals.

(c) Part of N.S.W. prior to 1911.

The next table shows the average annual rates of population increase:

Australia: Average Annual Rate of Increase of Population During Intercensal Periods (a)
(Per Cent)

State or territory	1921-33	1933-47	1947-54	1954-61	1961-66	1966-71
N.S.W.	1.76	0.99	1.98	1.94	1.51	1.66
Victoria	1.42	0.87	2.56	2.58	1.80	1.69
Queensland	1.86	1.11	2.53	2.04	1.86	1.77
S.A.	1.31	0.76	3.05	2.83	2.29	1.40
W.A.	2.29	0.97	3.51	2.03	2.63	3.97
Tasmania	0.52	0.87	2.65	1.82	1.18	1.00
N.T.	1.87	5.93	6.12	7.37	10.41	8.86
A.C.T... .. .	10.71	4.65	8.70	9.93	7.75	8.45
Australia	1.63	0.96	2.46	2.26	1.88	1.92

(a) Full-blood Aboriginals excluded for 1961-66 and earlier periods but included for 1966-71.

Intercensal Adjustment

Earlier, mention was made of the method of calculating intercensal estimates of population by taking account of recorded natural increase and recorded net migration. The following two tables show these factors in successive intercensal periods from 1921; 'arrivals' and 'departures' in the first table refer to both short-term and long-term movements.

Analysis of Intercensal Increase in Tasmanian Population
(i) Recorded Natural Increase and Recorded Net Migration

Intercensal period	Births	Deaths	Natural increase	Arrivals	Departures	Net migration
4.4.1921 to 30.6.1933 (a) ..	61 955	25 174	36 781	507 209	535 780	- 28 571
30.6.1933 to 30.6.1947 ..	73 130	34 767	38 363	482 577	493 305	- 10 728
30.6.1947 to 30.6.1954 ..	51 615	17 557	34 058	870 768	845 009	+ 25 759
30.6.1954 to 30.6.1961 ..	59 282	18 631	40 651	1 070 297	1 065 254	+ 5 043
30.6.1961 to 30.6.1966 ..	41 276	14 786	26 490	1 071 892	1 077 942	- 6 050
30.6.1966 to 30.6.1971 ..	40 474	16 297	24 177	1 467 075	1 471 663	- 4 588

(a) Numbers recorded from the March quarter of 1921.

(ii) Census Population, Intercensal Records and Intercensal Adjustment

Census date	Population	Numbers recorded since previous census		Intercensal adjustment (a)
		Natural increase	Net migration	
4.4.1921 ..	213 780	36 448	- 10 265	- 3 614
30.6.1933 ..	227 599	36 781	- 28 571	+ 5 609
30.6.1947 ..	257 078	38 363	- 10 728	+ 1 844
30.6.1954 ..	308 752	34 058	+ 25 759	- 8 143
30.6.1961 ..	350 340	40 651	+ 5 043	- 4 106
30.6.1966 ..	371 436	26 490	- 6 050	+ 656
30.6.1971 ..	390 413	24 177	- 4 588	- 612

(a) For definition, see following section; adjustment is to reconcile increase as disclosed by census counts with net increase recorded in second and third columns.

In general, two population estimates are made for any specific date: (i) *original* estimates for dates subsequent to a census and made before another census is taken; and (ii) *revised* estimates for each newly-completed intercensal period to adjust for the difference between the new census result and the comparable estimate. Thus, all original estimates of population for the intercensal periods from 1911 to 1971 have been revised to reconcile with the results of successive censuses from 1921 to 1971 and can be regarded as final. However, population estimates for 1972 to 1975 shown in this chapter are subject to revision (to be based on final 1976 Census figures).

Population Estimates, Intercensal Years

The following are estimates of Tasmanian population at 30 June and 31 December:

Estimated Population, 30 June and 31 December

Year	At 30 June			At 31 December		
	Males	Females	Persons	Males	Females	Persons
1958	169 123	163 943	333 066	174 465	169 433	343 898
1959	172 097	167 279	339 376	178 109	173 240	351 349
1960 (a) ..	174 379	169 531	343 910	180 511	175 458	355 969
1961 (a) (b) ..	177 628	172 712	350 340	178 864	174 394	353 258
1962	179 966	175 702	355 668	181 085	177 002	358 087
1963	182 439	178 288	360 727	183 330	179 469	362 799
1964	184 074	180 237	364 311	185 051	181 457	366 508
1965	185 789	182 116	367 905	186 483	183 125	369 608
1966 (b) ..	187 391	184 045	371 436	188 180	185 129	373 309
1967	189 195	186 049	375 244	190 369	187 472	377 841
1968	191 288	188 361	379 649	192 871	190 184	383 055
1969	193 888	191 005	384 893	194 788	192 210	386 998
1970	195 280	192 440	387 720	196 363	193 890	390 253
1971 (b) ..	196 442	193 971	390 413	197 444	195 380	392 824
1972 (c) ..	197 201	194 974	392 175	198 461	197 091	395 552
1973 (c) ..	198 756	197 243	395 999	199 849	199 244	399 093
1974 (c) ..	200 429	200 002	400 431	202 509	202 472	r 404 981
1975 (c) ..	202 987	203 136	406 123	204 482	204 451	408 933

(a) Break in series; see following paragraphs.

(b) Figures at 30 June as recorded at census.

(c) Subject to revision; see preliminary 30 June 1976 Census results in Appendix A.

'De Facto' and 'De Jure'

Australian censuses allot persons to the state where they happen to be at the census date (*de facto* basis) and not to the state where they normally reside (*de jure* basis); net migration, as defined and measured prior to 1961, was also on a *de facto* basis. Thus the Tasmanian December estimates in the previous table for dates prior to 1961 are consistently higher than those for the preceding June by anything from 10 000 to 15 000 persons, due to the seasonal tourist influx.

Changed Method of Estimating Population

Until the Census of 1966, the quarterly intercensal population of each state had been estimated using three components: (i) the previous census population; (ii) accumulated natural increase; and (iii) accumulated net migration. In this calculation, net migration was the total of all arrivals *less* all departures, recorded

for shipping and aircraft (Tasmania) and for shipping, aircraft, rail and omnibus movements (other states); it therefore included overseas and interstate travel irrespective of purpose.

The changed method of estimation, introduced after the 1966 Census, still relies on the same three components but defines and measures net migration in a different way, so that holiday, business or other similar short-term movements between states are eliminated. *Intercensal estimates for the period 1961 to 1971 have been revised in accordance with the new method, and incorporate the changed concept of net migration.*

In the changed method, population of each state is estimated by adding to the previous census population the natural increase and the allocation of the net gain by overseas migration for that state; gains or losses that result from movements between states are also taken into account, in so far as they are recorded as transfers of residence under child endowment procedures or Federal Government electoral procedures, supplemented by the results of any sample surveys. Revised estimates subsequent to the 1961 Census omit the effect of holiday, business or other similar short-term movements between the states.

Mean Population

Mean populations are calculated for twelve-month periods to provide a satisfactory average basis for calculations requiring allowance for the continuous change in population figures during such periods. From 1901 onwards, the mean population for any year has been calculated by the formula:

$$\text{Mean population} = \frac{a + 4b + 2c + 4d + e}{12}$$

where *a* is the population at the end of the quarter immediately preceding the year and *b*, *c*, *d* and *e* are the populations at the end of the quarters making up the year under consideration (e.g. in the case of a mean population for the calendar year 1974, the populations in the formula represented by *a*, *b*, *c*, *d* and *e* are those at the following dates: 31.12.1973, 31.3.1974, 30.6.1974, 30.9.1974 and 31.12.1974).

The following table shows Tasmania's mean population on two bases: (i) for financial years; and (ii) for calendar years.

Estimated Mean Population, Financial and Calendar Years

Year	Year ended—		Year	Year ended—	
	30 June	31 December		30 June	31 December
1966	369 600	371 483	1971	389 739	391 242
1967	373 321	375 397	1972 (a)	392 399	393 183
1968	377 582	379 916	1973 (a)	394 928	396 889
1969	382 710	385 079	1974 (a)	398 953	401 580
1970	386 665	388 180	1975 (a)	404 188	406 698

(a) Subject to revision based on 1976 Census results.

Arrivals and Departures

Earlier in this chapter, reference was made to net migration as one factor determining the growth of the State population. Net migration, on a *de facto* basis for any period, is the difference between arrivals and departures, such movements being reported by the shipping companies and airlines. 'Arrivals' in the following table applies to all persons arriving in Tasmania from overseas or from other Australian states; it includes Tasmanians returning home. Similarly, 'departures' applies to all persons leaving Tasmania for overseas or for other Australian states; it includes visitors returning home from Tasmania. The table below shows annual arrivals and departures and also quarterly arrivals and departures for recent years, but the intercensal adjustments referred to in an earlier section have not been applied to the figures.

Recorded Arrivals and Departures: Tasmania (a)

Year	Arrivals	Departures	Quarter ending	Arrivals	Departures
1967	270 934	271 812	1974—March ..	140 129	151 788
1968	276 798	276 856	June ..	121 932	128 202
1969	296 186	297 069	September ..	107 755	105 861
1970	320 867	323 449	December ..	132 997	116 798
1971	340 163	340 642	1975—March ..	150 818	162 623
1972	356 689	355 512	June ..	116 751	125 827
1973	450 794	448 765	September ..	110 019	109 503
1974	502 813	502 649	December ..	131 697	116 462
1975	509 285	514 415			

(a) Arrivals and departures on a *de facto* basis.

It should be noted that the data shown in the preceding table are compiled only on the basis of individual journeys. There is no classification of the arrival or departure figures into 'Tasmanians' and 'others' nor is any information obtained about the type of movement involved—i.e. whether the arrival or departure is of a permanent, long-term or short-term nature. It therefore follows that while increased tourist movements have made a principal contribution to the growth in the arrival and departure figures, as shown in the table, it is not possible to isolate tourist movements from other movements to and from Tasmania.

If annual arrivals and departures are added, the result may conveniently be termed 'annual movements', and a comparison of 'annual movements' over the years gives some indication of the degree to which tourism and other travel have affected the State. Thus in 1901, the year of Federation, annual arrivals and departures together totalled 51 000; in 1913, 91 800; in 1931, 58 500; in 1939, 120 200; and in 1975 over 1 000 000. The increase in 'annual movements' since World War II is largely attributable to the growing use of air travel and roll-on roll-off ferries. Another factor has been industrial legislation providing for paid holidays and for longer holidays; this has not only increased the tourist inflow but also has resulted in more Tasmanians taking holidays in other states.

The quarterly figures show a marked seasonal pattern with arrivals at their maximum in the spring and summer quarters (those ending December and March). Net migration figures on a *de facto* basis also show a seasonal pattern with substantial deviations from the quarterly average, approximating *plus* 11 000 to 13 000 persons in the December quarter; they also reflect the tourist outflow in the March quarter.

Population in Local Government Areas

The next table shows the population in cities, municipalities and statistical divisions at successive censuses and also gives post-censal estimates:

Population in Local Government Areas and Statistical Divisions at 30 June

Local government area (statistical division and sub-division in bold type)	Census			Estimated	
	1961	1966	1971	1974 (a)	1975 (a)
Hobart (H)	54 021	53 257	52 426	52 550	52 550
Glenorchy (H)	35 682	39 053	42 651	43 960	44 380
Clarence .. (H)	23 140	30 236	37 104	40 820	41 920
Brighton (H) (S)	2 115	2 207	2 333	3 020	3 600
Kingborough (H) (S)	10 025	10 322	10 815	12 380	12 980
New Norfolk (H) (S)	10 217	10 315	10 613	10 650	10 650
Sorell (H) (S)	2 878	3 309	3 636	3 910	4 010
Bothwell (S)	1 288	1 008	813	730	730
Bruny (S)	504	400	311	280	280
Esperance (S)	3 436	3 740	3 508	3 160	3 150
Glamorgan (S)	1 128	1 125	1 120	1 180	1 180
Green Ponds (S)	969	880	881	830	830
Hamilton (S)	4 178	4 329	4 060	4 020	3 820
Huon (S)	5 460	5 264	4 756	4 300	4 290
Oatlands (S)	2 691	2 501	2 132	1 960	1 960
Port Cygnet (S)	2 754	2 550	2 070	1 810	1 820
Richmond (S)	1 673	1 658	1 579	1 560	1 560
Spring Bay (S)	1 155	1 205	1 413	1 720	1 750
Tasman (S)	1 108	1 126	1 035	1 000	980
HOBART	164 422	141 311	153 216	161 320	164 010
SOUTHERN		33 174	30 040	28 520	28 430
Launceston	38 118	37 217	35 107	34 130	34 130
Beaconsfield	8 550	9 983	10 970	11 730	12 100
Deloraine	5 574	5 205	4 807	4 720	4 740
Evandale	1 608	1 554	1 462	1 430	1 450
George Town	3 677	5 101	6 029	6 330	6 500
Lilydale	6 744	7 841	8 308	8 650	8 830
Longford	6 762	5 354	5 145	4 900	4 950
St Leonards	11 032	13 660	16 093	17 140	17 940
Westbury	4 581	4 964	4 863	4 900	4 940
Tamar	86 646	90 879	92 784	93 930	95 580
Campbell Town	1 893	1 753	1 641	1 570	1 560
Fingal	4 475	3 791	3 441	3 210	3 190
Flinders	1 407	1 234	968	960	960
Portland	1 274	1 391	1 497	1 510	1 500
Ringarooma	3 056	2 866	2 474	2 360	2 350
Ross	672	617	541	500	500
Scottsdale	3 417	3 628	3 615	3 580	3 650
North Eastern	16 194	15 280	14 177	13 690	13 710
NORTHERN	102 840	106 159	106 961	107 620	109 290
Burnie	16 745	18 611	19 954	20 480	20 730
Circular Head	7 733	7 884	7 981	8 040	8 060
Devonport	14 276	16 758	19 802	21 480	21 980
Kentish	4 167	5 614	5 325	4 320	4 300
King Island	2 784	2 462	2 793	2 910	2 910
Latrobe	4 367	4 807	5 115	5 200	5 250
Penguin	4 673	4 677	4 791	4 910	4 940
Ulverstone	9 365	10 150	11 052	11 560	11 760
Wynyard	8 835	9 564	10 600	11 020	11 220
North Western	72 945	80 527	87 413	89 920	91 150

Population in Local Government Areas and Statistical Divisions at 30 June—*continued*

Local government area (statistical division and sub-division in bold type)	Census			Estimated	
	1961	1966	1971	1974 (a)	1975 (a)
Gormanston	507	540	489	380	380
Queenstown	4 624	4 393	5 123	5 130	5 130
Strahan	565	470	447	420	420
Waratah	367	698	1 940	2 020	2 170
Zeehan	3 191	3 489	4 369	4 650	4 720
Western	9 254	9 590	12 368	12 600	12 820
MERSEY-LYELL ..	82 199	90 117	99 781	102 520	103 970
Migratory	879	675	415	420	400
TASMANIA ..	350 340	371 436	390 413	400 400	406 100

(a) Subject to revision based on 1976 Census results.

Distinction Between Urban and Rural

After the Censuses of 1954 and 1961, the Commonwealth Statistician published a population classification using the terms 'metropolitan', 'urban' and 'rural'. Delineation of the urban boundaries was subjective and the methods used were not completely comparable between states.

In order to develop an objective definition of 'urban' and 'rural' areas, Dr G. J. R. Linge of the Australian National University was commissioned by the Commonwealth Statistician to make a report.

At the 27th Conference of Statisticians in 1965, the following resolutions relating to the delimitation of urban areas based substantially on Dr Linge's report were passed:

- (i) (a) That the concept of an *inner* and *outer* boundary around each of the state capitals and other cities with an urban population of at least 75 000 and a regional population of at least 100 000 be adopted; and
- (b) that the inner boundary be drawn to delimit the extent of urban development at each Census and it should, therefore, be a moving boundary to be adjusted after each Census, except that any state may extend the inner boundary during intercensal years to encompass significant and well-defined peripheral population growth; and
- (c) that the outer boundary be designed to contain the anticipated urban development of a city for a period of at least 20 to 30 years.
- (ii) (a) That an urban boundary be defined as soon as possible for all other settlements with a population of 1 000 or more; and
- (b) that state, statistical division, local government area, and other boundaries be ignored in delimiting these urban areas.
- (iii) That urban boundaries be defined so as to include all contiguous census collector's districts which have a population density of 200 or more per square kilometre (subject to certain special rules).

Effect of Change in Tasmania

The resolution previously quoted as (i) affected only one centre in Tasmania since only the Hobart area has 'an urban population of at least 75 000 persons and a regional population of at least 100 000'. Resolutions (ii) and (iii) affected all other cities and towns, including Launceston. The concept of ringing the capital city with two statistical boundaries, an inner and an outer, was discussed in depth in the 1968 and 1969 *Year Books*.

Revised Criteria, 1976

For the 1976 Population Census, the statisticians agreed that the concept of an *inner* and *outer* boundary be adopted for all towns and cities with populations of 25 000 or more persons. (Previously this concept was only applied to cities with an urban population of at least 75 000 and a regional population of 100 000.) This decision affected Tasmania since the Launceston area met these criteria. Accordingly it became necessary to delineate a Launceston Statistical District (see below).

The Launceston Statistical District

For the purposes of presenting the results of the 1976 Census, *two* boundaries around Launceston have been drawn:

- (i) a fixed *Outer Boundary* (Launceston Statistical District) enclosing the area of expected urban growth during the next two decades (broadly this comprises the City of Launceston and parts of seven other municipalities); and
- (ii) a flexible *Inner Boundary* (Urban Launceston) which moves towards the Outer Boundary as urbanisation develops. This area in 1976 comprised the continuous area of urban development centred on Launceston City and included parts of the municipalities of Beaconsfield, Westbury, Evandale, St Leonards and Lilydale.

The delineation of the Launceston Statistical District was based on the assumption that northern development of the urban aggregate would tend to thrust along the axis of the Tamar River. Accordingly it was decided that the district should extend to Bass Strait to take account of the region's unique geography (Launceston City is the southern terminus of 70 kilometres of navigable river with major ports and industries situated close to the northern river mouth).

The logic of forming a district from Launceston City and *parts* of seven other municipalities was as follows: (i) parts of Beaconsfield, Westbury, Evandale, St Leonards and Lilydale were already included in the aggregate known as Urban Launceston; (ii) in the south, the border of Longford Municipality was only a kilometre or so from the boundary of Urban Launceston; and (iii) in the north, George Town municipality was the site of Launceston's major port (Bell Bay), of the State's aluminium refinery and of two major plants exporting woodchips; the George Town-Launceston link has been reinforced in recent years by the construction of a railway. The unity of the region is emphasised by the downstream Batman Bridge linking George Town and Beaconsfield municipalities.

Users of statistics wanting valid north-south comparisons should note that the Launceston Statistical District was delineated on the basis of the same principles as the Hobart Statistical Division. To the extent that drawing both areas involved forecasts of where future growth will occur, there is of course an element of subjectivity which cannot be avoided. Nevertheless these two areas are recommended as a sound basis for making north-south comparisons. Statistics relating to the new Launceston Statistical District became available progressively from July 1976.

With the formation of a Launceston Statistical District, the opportunity existed to simplify the geography of the Northern Statistical Division which could have been presented as: (i) the Launceston District; and (ii) the balance of the Division. This alternative was rejected because data for the District would only begin from 1976 whereas data for the Tamar Sub-division could be taken back to 1919 for many series.

Urban and Rural Population of Tasmania

The 1976 edition of the *Year Book* includes a table showing populations of local government areas classified as urban and rural at the census of 30 June 1971. The next table shows the estimated populations of 'principal urban centres' (centres with populations of 10 000 or more at 30 June 1971) for recent years:

Population in Principal Urban Centres (a) at 30 June

Urban centre	1971 (b)	1972 (c)	1973 (c)	1974 (c)
Burnie-Somerset	20 087	20 380	20 460	20 660
Devonport	18 183	18 630	19 230	19 770
Hobart (d)	129 928	130 980	133 080	135 300
Launceston	62 241	62 250	62 730	63 400

(a) With population of 10 000 or more at 30 June 1971.

(b) Population at census date.

(c) Post-censal estimates, subject to revision.

(d) Included in Hobart Statistical Division.

Details of Urban Localities

The next table shows localities classified as urban (but excludes Urban Hobart and Urban Launceston):

Populations in Localities Classified as Urban (Excluding Urban Hobart and Urban Launceston) at Census, 30 June 1971

Locality classified as urban (a)	Local government area (b)	Persons in urban locality	Locality classified as urban (a)	Local government area (b)	Persons in urban locality
Beauty Point (c) ..	Beaconsfield ..	869	Penguin ..	Penguin ..	2 294
Burnie-Somerset ..	Burnie ..	17 319	Perth ..	Longford ..	1 112
Burnie-Somerset ..	Wynyard ..	2 768	Queenstown ..	Queenstown ..	5 025
Deloraine ..	Deloraine ..	1 812	Rosebery ..	Zeehan ..	2 380
Devonport ..	Devonport ..	18 183	Savage River ..	Waratah ..	1 166
George Town ..	George Town ..	4 838	Scottsdale ..	Scottsdale ..	1 815
Gowrie Park ..	Kentish ..	1 176	Smithton ..	Circular Head ..	3 208
Kingston ..	Kingborough ..	3 688	Sorell-Midway Pt	Sorell ..	2 029
Latrobe ..	Latrobe ..	2 464	Strathgordon ..	Hamilton ..	1 270
Lauderdale ..	Clarence ..	1 329	Ulverstone ..	Ulverstone ..	8 009
Longford ..	Longford ..	1 713	Wynyard ..	Wynyard ..	4 006
New Norfolk ..	New Norfolk ..	6 839	Zeehan ..	Zeehan ..	1 471
Orford (c) ..	Spring Bay ..	312			

(a) Population exceeding 1 000 persons and with a population density of 200 or more per square kilometre.

(b) See earlier table for *total* population of local government areas.

(c) Defined as *urban* under special rules relating to *holiday resort areas*.

An analysis of the Hobart Statistical Division according to its urban and rural areas follows:

Population of the Hobart Statistical Division at Census, 30 June 1971

Local government area	Total	Rural	Urban Hobart	Other urban	Locality classified as other urban
Hobart	52 426	685	51 741	..	..
Glenorchy	42 651	985	41 666	..	..
Clarence	37 104	2 112	33 663	1 329	Lauderdale
Brighton (part)	1 336	1 336	..	..	..
Sorell (part)	2 575	546	..	2 029	Sorell-Midway Point
Kingborough (part)	9 781	3 235	2 858	3 688	Kingston
New Norfolk (part)	7 343	504	..	6 839	New Norfolk
Total Hobart Division ..	153 216	9 403	129 928	13 885	..

A similar analysis of Launceston and the local government areas enclosing it appears below:

Population of Launceston and Surrounding Local Government Areas at Census, 30 June 1971

Local government area	Total	Rural	Urban Launceston	Other urban	Locality classified as other urban
Launceston	35 107	..	35 107	..	..
Beaconsfield	10 970	5 312	4 789	869	Beauty Point (a)
Evandale	1 462	1 403	59	..	..
Lilydale	8 308	2 229	6 079	..	..
St Leonards	16 093	911	15 182	..	..
Westbury	4 863	3 838	1 025	..	..
Total	(b)	(b)	(b)62 241	(b)	..

(a) Defined as *urban* under the special rules relating to *holiday resort areas*.

(b) Included as part of Tamar Statistical Sub-division.

Australian Comparison

The next table compares the proportions of urban and rural population of the Australian states at the Census of 30 June 1971. (In the table, Urban Launceston is included with 'Other urban'.)

Proportion of Urban and Rural Population, Australian States and Territories at Census, 30 June 1971 (Per Cent)

Classification	Proportion of total population of state or territory								
	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Urban—									
Capital city	59.20	68.33	44.80	69.02	62.26	33.29	41.26	98.00	60.32
Other ..	29.35	19.39	34.56	15.59	19.11	40.89	23.16	..	25.23
Rural ..	11.32	12.22	20.43	15.24	18.37	25.71	35.21	2.00	14.32
Migratory ..	0.13	0.06	0.21	0.15	0.26	0.11	0.37	..	0.13
Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Tasmania's proportion of population in the 'capital city' urban area is less than for any other state. This is explained by the fact that Tasmania has a second major urban centre, Launceston, in the north.

Population Centred on Hobart

The Basic Criterion (1966 and 1971 Censuses)

The basic criterion adopted for the delimitation of urban boundaries was *population density* as applied to small areas. As urbanisation increases, the change from rural to urban uses is accompanied by increasing population density. Extensive field investigations have shown that areas at the fringe, which have largely lost their rural characteristics and are developing towards urbanisation, have densities varying over only a small range. The adoption of a specific density from within that range provided a criterion which adequately delimits urban boundaries, and which can be applied objectively, uniformly, easily and without undue delay. *The criterion adopted was a density of 200 or more persons per square kilometre.* The geographic units classified according to the density criterion are census collectors' districts, the smallest units available. These areas vary in size and shape, but as far as possible they have been designed to ensure that significant urban development in large rural collectors' districts is split off as a separate collector's district.

Rigid application of the 200-person density criterion in every case would have created non-urban enclaves in obviously urban areas, e.g. sports grounds, industrial sites, etc., so special rules had to be formulated. The special rules are set out in the *1968 Year Book*.

The Hobart Statistical Division

The next table shows the population of the components of the Hobart Statistical Division at the Census of 1971, and also gives comparative figures from the Census of 1966.

Population of Hobart Statistical Division

Components	Census, 30 June 1966	Census, 30 June 1971			Intercensal increase	
	Persons	Males	Females	Persons	Persons	Per cent
Urban Hobart	119 469	64 011	65 917	129 928	10 459	8.75
Other urban centres—						
Urban New Norfolk	5 770	3 451	3 388	6 839	1 069	18.53
Urban Kingston	3 263	1 838	1 850	3 688	425	13.02
Urban Sorell-Midway Pt	1 652	1 013	1 016	2 029	377	22.82
Urban Lauderdale	916	666	663	1 329	413	45.09
Total other urban	11 601	6 968	6 917	13 885	2 284	19.69
Total urban	131 070	70 979	72 834	143 813	12 743	9.72
Rural	10 241	4 826	4 577	9 403	- 838	- 8.18
Total Hobart Statistical Division	141 311	75 805	77 411	153 216	11 905	8.42

In the above table *Urban Hobart's* population at 30 June 1971 was 129 928 persons; later estimates were 130 980 (1972); 133 080 (1973); 135 300 (1974); and 136 550 (1975).

The Two-Boundary Concept

For the purposes of presenting the results of the 1966 and 1971 Censuses, *two* boundaries around Hobart were drawn:

(i) a fixed *Outer Boundary* (*Hobart Statistical Division*) enclosing the area of expected urban growth during the next 20 to 30 years (broadly this comprises the cities of Hobart and Glenorchy, Clarence municipality and parts of Kingborough, New Norfolk, Brighton and Sorell municipalities); and

(ii) a flexible *Inner Boundary (Urban Hobart)* which moves outwards towards the Outer Boundary as urbanisation develops. This area in 1966 comprised the continuous area of urban development from Taroona in the south to Granton in the north and the eastern shore suburbs from Risdon Vale southward to Tranmere (the area includes only contiguous *urban* portions of the cities of Hobart and Glenorchy and of the municipalities of Clarence and Kingborough). In 1971 Rokeby was added to the area.

A detailed account of the *Two-Boundary Concept* was included in the 1968 and 1969 *Year Books*.

Population Centred on Launceston

Population of Launceston and Suburbs

In 1891 the Tasmanian Government Statistician first published figures for an area called *Launceston and Suburbs* which comprised Launceston City plus the urban areas of surrounding municipalities, a practice continued until 1966. In 1966, to coincide with the population census, the new terminology *Urban Launceston* was adopted in lieu of *Launceston and Suburbs*; however, at the time of this change, the *Urban Launceston* boundary differed very little from that of the former *Launceston and Suburbs*. An additional boundary defining the 'Launceston Statistical District' has been drawn for purposes of the 1976 population census (see details earlier in this Chapter).

Urban Launceston's population at the census of 30 June 1966 was 60 456; at the 1971 census, 62 241; later estimates are 62 250 (1972); 62 730 (1973); 63 400 (1974); and 64 850 (1975).

VITAL STATISTICS

Historical

In 1839, John Montagu, Colonial Secretary of Van Diemen's Land, submitted to the Governor, Sir John Franklin, a series of statistical returns; below is shown part of Return No. 17 relating to births, deaths and marriages:

Vital Statistics of Van Diemen's Land

Year	Births	Deaths	Marriages
1824	177	132	75
1828	309	250	120
1829	301	260	166
1830	460	270	163
1831	422	282	114
1833	455	379	257
1834	714	557	370
1835	730	525	356
1836	684	443	496
1837	754	597	381
1838	717	403	331

The complete table covers the period 1824-1838 but entries for 1825, 1826, 1827 and 1832 read 'No Returns'. In a commentary for the Governor's guidance, Montagu wrote: 'I would also observe that the number of births and deaths are those only returned by ministers of the Church of England, and the former column refers to those only who have been christened, and although the number of deaths must be near the truth, yet the actual number of births has been very much understated'. Thus even though the Tasmanian record of births, deaths and marriages covers a period of 140 years, these early figures cannot be accepted as complete.

Registration Provisions

Franklin's Legislative Council had passed in 1838 *An Act for Registering Births, Deaths and Marriages in the Island of Van Diemen's Land and its Dependencies*. This provided for a Registrar in Hobart with subordinate Deputy Registrars in registration districts throughout the Colony; they were to record births and deaths and report them to the Registrar. Ministers celebrating marriage were required to report direct to the Registrar; Deputy Registrars could also officiate and had certain licensing functions. As late as 1867, the Government Statistician complained that accurate death rates could not be compiled because Section 22 of the 1838 Act excluded the registration of the death of any prisoner of the Crown serving an unexpired sentence of transportation. In 1868, he reported that the death rate could be accepted as correct since 'only one transported offender died during the year'. This would certainly suggest that *total* deaths for the island were not recorded for the years 1839 to 1866.

From 1857 to 1882, the Registrar of the Supreme Court was also Registrar of Births, Deaths and Marriages; from 1882 to 1919, the Government Statistician was the Registrar; from 1919, the Registrar-General's Department operated as a separate entity.

The Registrar-General

The principal Act under which the Registrar-General operates is the *Registration of Births and Deaths Act 1895*, as amended, which provides for District Registrars and the appointment of a Registrar-General to be responsible for the maintenance of central registers; in essence, the regional approach of the 1838 Act is retained. The functions of the Registrar-General in relation to the registration of marriages were last defined in the *Marriage Act 1942*. However, in 1961, the Federal Parliament passed the *Marriage Act 1961*. A few minor provisions came into operation on the date the Act received the Royal Assent (6 May 1961) and the remainder of the Act came into operation on 1 September 1963. On this date, the Act superseded the marriage laws of all the states but did not affect the essential function of the Registrar-General in the central registration of marriages.

Summary of Principal Statistics

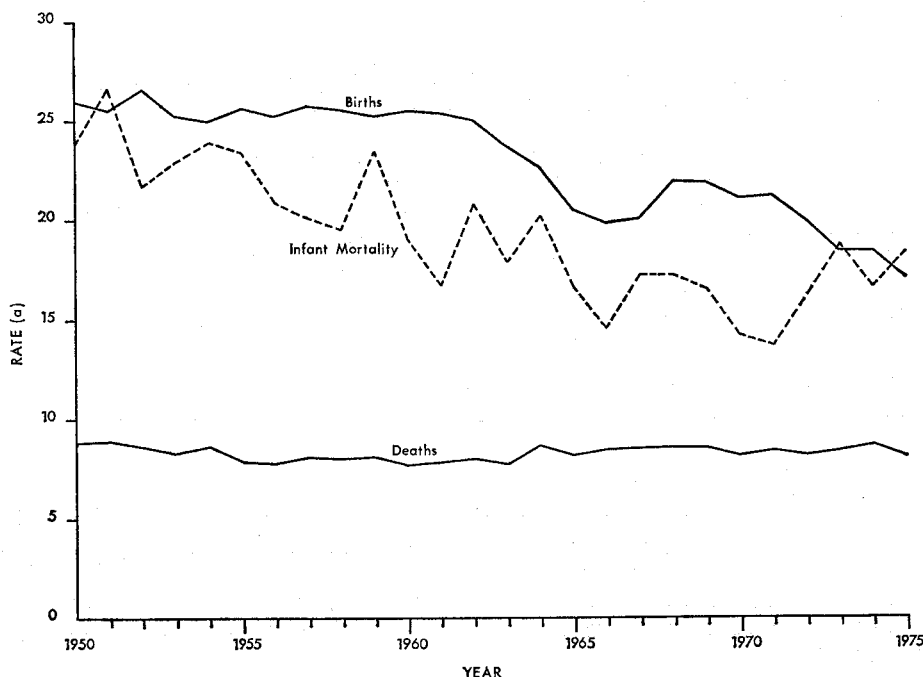
The principal number and rates relating to vital statistics in Tasmania for recent years are given in the following table:

Summary of Vital Statistics

Year	Number of—				Rate per 1 000 of mean population			Infant mortality (deaths under one year per 1 000 live births)
	Marriages	Live births	Deaths	Infant deaths (a)	Marriages	Live births	Deaths	
1970	3 535	8 185	3 174	116	9.11	21.09	8.18	14.2
1971	3 578	8 321	3 295	114	9.15	21.27	8.42	13.7
1972	3 426	7 824	3 227	127	8.71	19.90	8.21	16.2
1973	3 395	7 326	3 347	137	8.55	18.46	8.43	18.7
1974	3 567	7 398	3 484	123	8.88	18.42	8.68	16.6
1975	3 207	6 982	3 339	128	7.88	17.17	8.21	18.3

(a) Deaths under one year; included also in total deaths.

**Births, Deaths and Infant Mortality:
Crude Rates (a)**



(a) Birth and death rates per 1 000 of mean population; infant mortality rate per 1 000 lives births.

Crude Rate Comparisons

The rates per 1 000 of mean population for births, deaths and marriages are referred to as *crude rates*. It will be seen, in regard to marriages, that not *all* the population is 'at risk', children and those already married being obvious excluded examples. Similarly, births are clearly events related to certain fertile age groups of women and not to the total population; births also are related to the number of married persons and to the age structure of the married proportion of the community. Finally, deaths have a definite relationship with the numbers of each sex and the age structure of the community. Crude rates are valid measures of comparison in the short term only.

Subject to this limitation, the following Tasmanian historical comparisons exist as from 1880:

1. Crude marriage rate: highest 10.51 (1946); lowest 5.50 (1859 and 1896).
2. Crude birth rate: highest 36.63 (1884); lowest 17.17 (1975).
3. Crude death rate: highest 17.41 (1883); lowest 7.70 (1960).

It is probably significant that 1946 was the year of rapid demobilisation after World War II and that a similar marriage trend was recorded for 1919 and 1920 after World War I. The crude birth rate for 1975 (17.17 per 1 000 of mean population) is the lowest recorded. The popularly accepted theory attributes the current low figure to deliberate family planning. This is supported by the fact that, although girls born in the post-war period have now entered the

ranks of those likely to marry and have therefore increased the number of potentially fertile women, the fertility rate is declining (as described in a later section under 'Births').

The effect of the post-war increase in births on the number of potentially fertile women may be inferred from the following table:

Pre-War, War-Time and Post-War Female Births

Year	Number	Year	Number	Year	Number
Pre-war—		War-time—		Post-war—	
1934	2 127	1940	2 425	1949	3 532
1935	2 211	1941	2 574	1950	3 490
1936	2 226	1942	2 612	1951	3 553
1937	2 359	1943	2 677	1952	3 790
1938	2 366	1944	2 503	1953	3 843
1939	2 409	1945	2 882	1954	3 851

Review of Infant Mortality

Infant mortality relates to the number of deaths *under one year* and the rate is expressed as the number of such deaths per 1 000 live births. It follows that comparisons over long periods of time are valid and not affected by the limitations attached to crude rates. In the following record of infant mortality, the drop in rates has been dramatic with the 1971 rate (13.7) being the lowest yet experienced.

Infant Mortality Rates (Deaths under One Year Per 1 000 Live Births) Selected Years from 1880

Year	Rate	Year	Rate	Year	Rate
1880	112.3	1930	50.6	1971	13.7
1890	105.6	1940	35.2	1972	16.2
1900	80.0	1950	23.8	1973	18.7
1910	101.7	1960	19.1	1974	16.6
1920	65.5	1970	14.2	1975	18.3

The peak year since 1880 was 1883 with a rate of 124.0. In the period 1880-1910, the annual infant mortality rate exceeded 100 on 14 occasions. There has been a steady improvement in infant mortality rates over the past 50 years. The rate for the period 1916-1920 was 64, for the year 1961, 16.8, and in 1971 a record minimum of 13.7 was achieved.

At the turn of the century, 20 to 25 per cent of all deaths were those of infants under one year. The rapid fall in infant mortality rates had a marked effect on the crude death rates as infant deaths are a component of total deaths. Infant mortality has fallen largely due to advances in medical science enabling the control of disease and the development of techniques to reduce perinatal deaths; improvements in child care and nutrition also have made a significant contribution.

Marriages

The following table summarises the number of marriages and the crude marriage rate since 1880:

Marriages and Crude Marriage Rates, Selected Years from 1880

Year	Marriages		Year	Marriages	
	Number	Crude rates(a)		Number	Crude rates(a)
1880	840	7.39	1940	2 476	10.27
1890	954	6.66	1950	2 560	9.18
1900	1 332	7.72	1960	2 713	7.82
1910	1 493	7.82	1970	3 535	9.11
1920	1 999	9.50	1974	3 567	8.88
1930	1 450	6.56	1975	3 207	7.88

(a) Number of marriages per 1 000 of mean population.

The following table gives the average age of brides and bridegrooms in recent years:

Average Age of Bridegrooms and Brides
(Years)

Particulars	1969	1970	1971	1972	1973	1974
Average age of bridegrooms—						
Bachelors	24.10	23.85	24.01	23.98	23.96	23.91
Widowers	54.85	56.87	55.46	56.15	57.87	58.91
Divorcees	40.47	39.75	38.73	39.53	38.39	38.53
All bridegrooms	25.79	25.81	26.02	26.08	26.11	25.97
Average age of brides —						
Spinsters	21.36	21.38	21.24	21.16	21.21	21.20
Widows	48.23	49.03	48.59	50.18	49.90	49.22
Divorcees	37.27	35.47	35.66	35.95	35.46	34.54
All brides	23.03	22.96	23.14	23.23	23.26	23.24

The next table analyses the ages of all bridegrooms and brides contracting marriages:

Age of Bridegrooms and Brides, 1974

Age (years)	Bridegrooms		Brides	
	Number	Per cent of total	Number	Per cent of total
Under 20	371	10.40	1 391	39.00
20-24	2 009	56.32	1 500	42.05
25-29	642	17.99	310	8.69
30-34	195	5.47	119	3.34
35-39	101	2.83	59	1.65
40-44	68	1.91	52	1.46
45-49	46	1.29	34	0.95
50-54	33	0.93	32	0.90
55-59	33	0.93	20	0.56
60-64	28	0.78	30	0.84
65 and over	41	1.15	20	0.56
Total	3 567	100.00	3 567	100.00

The number of persons marrying under 21 years of age in recent years is shown in the next table:

Marriages: Persons Under 21 Years of Age									
Year	Age in years						Persons under 21 years		
	15	16	17	18	19	20	Number	Percentage of all marriages	
BRIDEGROOMS									
1970	6	160	235	348	749	21.19	
1971	..	1	8	111	244	362	726	20.29	
1972	..	1	8	127	235	336	707	20.64	
1973	4	111	218	375	708	20.85	
1974	7	144	220	393	764	21.42	
BRIDES									
1970	..	2	111	269	425	541	505	1 853	52.42
1971	..	2	120	247	437	557	534	1 897	53.02
1972	..	8	131	247	432	490	503	1 811	52.86
1973	..	4	93	225	445	532	515	1 814	53.43
1974	..	1	88	231	483	588	507	1 898	53.21

In the next table, the conjugal condition of persons marrying is shown for a six-year period.

Conjugal Condition of Persons Marrying							
Year	Bridegrooms			Brides			Total marriages
	Bachelors	Widowers	Divorcees	Spinsters	Widows	Divorcees	
1969	3 252	96	184	3 234	103	195	3 532
1970	3 202	95	238	3 236	101	198	3 535
1971	3 214	109	255	3 224	129	225	3 578
1972	3 072	102	252	3 063	120	243	3 426
1973	3 028	102	265	3 025	118	252	3 395
1974	3 184	86	297	3 169	133	265	3 567

Marriages, Religious and Civil						
Particulars of celebration	1969	1970	1971	1972	1973	1974
Religious rites—						
Church of England	1 483	1 431	1 359	1 332	1 265	1 350
Catholic	759	738	757	721	696	693
Presbyterian	148	160	150	161	148	155
Methodist	444	477	498	412	466	440
Congregational	52	45	43	47	53	51
Baptist	90	97	86	101	89	89
Churches of Christ	25	23	19	21	19	22
Salvation Army	25	23	17	26	35	38
Seventh-day Adventist	12	7	12	12	5	5
Other	80	90	112	92	112	123
Civil ceremonies (a)	414	444	525	501	507	601
Total	3 532	3 535	3 578	3 426	3 395	3 567

(a) Marriages contracted before registrars.

The number of marriages performed according to the rites of the principal religious denominations and of civil marriages contracted before registrars are shown for recent years in the previous table. Almost 12 per cent of all marriages in 1969 were civil marriages contracted before registrars. In 1974 the figure reached 16.8 per cent of all marriages.

Divorce

The *Matrimonial Causes Act* 1860, as amended, provided for divorce in Tasmania until 1 February 1961, when Australia came under a uniform divorce law, the *Matrimonial Causes Act* 1959, passed by the Federal Parliament. The *Family Law Act* 1975 came into effect on 5 January 1976, replacing the *Matrimonial Causes Act* 1959. The main changes were the creation of the Family Court of Australia and the alteration of the grounds for divorce to the sole ground of irretrievable breakdown of marriage after 12 months separation.

In 1974 dissolutions of marriage represented 15.03 per cent of the number of marriages contracted for that year (536 dissolutions compared with 3 567 marriages). The increase in the number of dissolutions is illustrated in the historical table which follows:

Dissolutions of Marriage Granted (a): Summary from 1881

Decade ending—	Maximum in decade		Minimum in decade	
	Year	Number	Year	Number
1890	1886	6	1884	..
1900	1894	6	1896	3
1910	1909	13	1904	2
1920	1920	18	1916	2
1930	1928	55	1924	20
1940	1938	109	1937	30
1950	1949	266	1942	83
1960	1954	233	1958	176
1970	1970	426	1964	230

(a) Includes nullities of marriage and judicial separations.

The following table gives the number of petitions filed by husbands and wives respectively, and the number of dissolutions of marriage during recent years. Every decree of dissolution of marriage is, in the first instance, a decree *nisi* and is normally made absolute after a period of three months.

Petitions Filed and Dissolutions Granted

Particulars	1969	1970	1971	1972	1973	1974
Petitions for dissolution (a) filed by—						
Husband	202	224	221	237	281	309
Wife	227	279	267	288	354	444
Total petitions	429	503	488	525	635	753
Dissolutions (a) granted on petition of—						
Husband	159	187	198	200	186	240
Wife	172	239	234	246	258	296
Total dissolutions	331	426	432	446	444	536

(a) Includes nullities of marriage and judicial separations.

The next table contains separate details of petitions filed for dissolutions and nullities:

Petitions Filed, 1974

Petition for	Petitioner		Total
	Husband	Wife	
Dissolution	307	442	749
Nullity	2	2	4
Total	309	444	753

The table that follows analyses the grounds on which dissolutions were granted:

Dissolutions (a) Granted According to Grounds, 1974

Grounds	Petitioner		Total
	Husband	Wife	
Single ground—			
Desertion	81	97	178
Adultery	114	107	221
Separation	40	58	98
Cruelty .. .. .	..	3	3
Drunkenness .. .. .	..	7	7
Other	1	2	3
Dual grounds—			
Desertion and adultery	1	7	8
Desertion and separation	3	6	9
Cruelty and drunkenness .. .. .	..	5	5
Other .. .. .	..	4	4
Total	240	296	536

(a) Includes nullities of marriage and judicial separations.

The more frequent grounds for the granting of dissolutions in recent years are shown in the next table:

Dissolutions (a) Granted According to Principal Grounds: Summary

Grounds	1969	1970	1971	1972	1973	1974
On petition of husband—						
Adultery	61	74	80	84	69	114
Desertion	74	72	76	76	80	81
Separation	17	34	39	30	34	40
Other	7	7	3	10	3	5
On petition of wife—						
Adultery	43	73	71	80	83	107
Desertion	70	74	74	88	92	97
Separation	38	59	59	45	60	58
Other	21	33	30	33	23	34
Total	331	426	432	446	444	536

(a) Includes nullities of marriage and judicial separations.

Dissolutions of Marriage 1974 (a): Ages of Parties at Time of Dissolution

Age of husband (years)	Age of wife (years)							Total husbands
	Under 20	20-29	30-39	40-49	50-59	60 and over	Not stated	
Under 20 .. ..	..	..	..	..	..	..	..	..
20-29	1	132	6	..	..	..	..	139
30-39 .. .. .	..	75	104	2	..	..	..	181
40-49 .. .. .	..	1	39	78	3	..	..	121
50-59 .. .. .	..	1	5	22	29	4	..	61
60 and over ..	..	..	..	6	9	9	..	24
Not stated ..	..	..	..	..	..	..	10	10
Total wives ..	1	209	154	108	41	13	10	536

(a) Includes nullities of marriage and judicial separations.

Dissolutions of Marriage, 1974 (a): Duration of Marriage and Issue

Duration of marriage (years)	Dissolutions of marriages with—						Total marri- ages dissolved	Total number of children (b)
	No children	1 child	2 children	3 children	4 children	5 or more children		
0- 4	26	22	5	..	..	..	53	32
5- 9	28	58	63	13	5	1	168	249
10-14	12	26	36	26	9	3	112	227
15-19	3	8	15	12	12	11	61	184
20-24	12	8	9	11	4	13	57	146
25-29	18	21	6	5	..	3	53	64
30-34	10	5	1	..	..	..	16	7
35-39	9	2	1	..	..	..	12	4
40-44	2	..	..	..	..	..	2	..
45 and over ..	2	..	..	..	..	..	2	..
Total	122	150	136	67	30	31	536	913

(a) Includes nullities of marriage and judicial separations.

(b) Under 21 years of age.

Births

The following table summarises births and crude birth rates from 1880:

Number of Births and Crude Birth Rates, Selected Years from 1880

Year	Births		Year	Births	
	Number	Per 1 000 of mean population		Number	Per 1 000 of mean population
1880	3 739	32.90	1940	4 994	20.71
1885	4 637	36.29	1945	5 785	23.27
1890	4 813	33.60	1950	7 242	25.96
1895	4 790	31.16	1955	8 089	25.63
1900	4 864	28.18	1960	8 853	25.52
1905	5 257	28.50	1965	7 535	20.48
1910	5 586	29.25	1970	8 185	21.09
1915	5 845	29.78	1971	8 321	21.27
1920	5 740	27.29	1972	7 824	19.90
1925	5 218	24.21	1973	7 326	18.46
1930	4 785	21.66	1974	7 398	18.42
1935	4 456	19.39	1975	6 982	17.17

The next table shows the number of births classified according to the age of mother for recent years:

Number of Births Classified According to Age of Mother

Age group (years)	1971	1972	1973	1974	1975
10-14	9	4	7	7	7
15-19	1 153	1 176	1 101	1 056	992
20-24	3 277	2 871	2 677	2 699	2 605
25-29	2 364	2 382	2 322	2 433	2 278
30-34	1 013	939	836	852	777
35-39	374	359	291	278	261
40-44	120	86	87	69	59
45 and over	11	7	5	4	3
Total births	8 321	7 824	7 326	7 398	6 982

One observation of interest is that births of males, in total, usually exceed those of females. The next table shows births by sex and indicates masculinity:

Births by Sex and Masculinity

Particulars	1971	1972	1973	1974	1975
Births of—					
Males	4 205	3 935	3 744	3 760	3 605
Females	4 116	3 889	3 582	3 638	3 377
Total	8 321	7 824	7 326	7 398	6 982
Masculinity (a)	102.16	101.18	104.52	103.35	106.78

(a) Number of male births per 100 female births.

In the following table, births are analysed by sex and by the age of the mother and classified as nuptial or ex-nuptial:

Births by Sex, Age of Mother and Nuptial State, 1975

Age group (years)	Nuptial births		Ex-nuptial births		All births		
	Male	Female	Male	Female	Male	Female	Total
10-14 .. .. .	..	..	7	..	7	..	7
15-19	327	296	202	167	529	463	992
20-24	1 235	1 165	109	96	1 344	1 261	2 605
25-29	1 108	1 050	64	56	1 172	1 106	2 278
30-34	368	368	22	19	390	387	777
35-39	133	117	2	9	135	126	261
40-44	27	28	1	3	28	31	59
45 and over .. .. .	..	2	..	1	..	3	3
Total	3 198	3 026	407	351	3 605	3 377	6 982

The table that follows summarises, for a five-year period, births according to whether the child was first-born or the issue of a subsequent birth:

Births of First Born and Subsequent Births: Nuptial State of Mothers

Classification of births	1971	1972	1973	1974	1975
Nuptial—					
First born (a)	2 691	2 544	2 358	2 456	2 349
Subsequent birth	4 908	4 585	4 225	4 154	3 875
Ex-nuptial	722	695	743	788	758
Total births ..	8 321	7 824	7 326	7 398	6 982
Ex-nuptial births as per cent- age of total births	8.7	8.9	10.1	10.7	12.2

(a) In case of multiple births with no previous issue, first child born alive is recorded as 'First born' and subsequent child or children as 'Subsequent birth'.

It should be noted that 'First born' in the previous tables refers specifically to the union from which the child originates; thus a mother married for the second time could be credited with a 'First born' child despite having issue from the previous union.

Birth Rates

The *crude birth rate* is expressed as the number of births per 1 000 of mean population; this is obviously an unsatisfactory measure since births are events strictly related to the number of women in the fertile age groups. A more satisfactory index is the *fertility rate*, expressed as the number of births per 1 000 women aged 15-44 years. However, there are profound differences between the relative fertility of various age groups and a further refinement is the calculation of *age-specific birth rates*. The following table shows age-specific birth rates for each five-year age group of females from 10-49 years, the fertility rate applicable to all women in the age group 15-44 years and the crude birth rate.

Birth and Fertility Rates

Particulars	1971	1972	1973	1974	1975
AGE SPECIFIC BIRTH RATES (a)					
Age group (years)—					
10-14	0.4	0.2	0.3	0.3	0.3
15-19	65.2	64.0	58.6	54.6	50.0
20-24	208.6	186.2	166.9	165.6	153.4
25-29	181.0	176.3	162.8	163.1	147.1
30-34	89.1	81.3	71.4	70.7	61.8
35-39	35.7	34.4	27.6	26.3	23.9
40-44	11.0	8.0	8.2	6.5	5.8
45-49	1.0	0.6	0.5	0.3	0.3
FERTILITY RATE (b)					
Fertility rate	105	98	90	88	81
CRUDE BIRTH RATE (c)					
Crude birth rate	21.3	19.9	18.5	18.4	17.2

(a) Number of births per 1 000 women in age groups shown.

(b) Number of births per 1 000 women aged 15-44 years.

(c) Number of births per 1 000 of mean population.

Infant Mortality

Infant mortality relates to children dying within one year of birth. The table that follows analyses such deaths in further detail and shows that the greatest mortality rate is associated with infants in their first day of life. To obtain a correct picture of relative risk, it should be noted that deaths in the 'one day and under one week' class are spread over six days; in the 'one week and under four weeks' class spread over 21 days; and in the final class, spread over 338 days.

Infant Mortality: Number of Deaths and Mortality Rates at Specific Ages

Year	Infant deaths		Mortality rate (a) at age specified			
	Number	Per 1 000 live births	Under 1 day	1 day and under 1 week	1 week and under 4 weeks	4 weeks and under 12 months
1970	116	14.2	4.0	4.2	1.0	5.0
1971	114	13.7	2.5	3.8	1.1	6.2
1972	127	16.2	4.7	2.3	2.2	7.0
1973	137	18.7	6.4	3.8	1.1	7.4
1974	123	16.6	5.3	3.9	0.9	6.5
1975	128	18.3	4.6	5.2	1.4	7.2

(a) Infant deaths per 1 000 live births.

Causes of Infant Deaths

The following table has been compiled on the basis of the Eighth Revision (1965) of the International Classification of Diseases (World Health Organisation).

Infant Mortality: Causes of Death Under One Year

Cause	1972	1973	1974	1975
009 Diarrhoeal diseases	2	1	1	2
036 Meningococcal infection	1	1	..	1
000-008 } Other general diseases (a) .. .. .	..	4	3	6
010-035 } .. .. .	..	..	..	..
037-315 } .. .. .	..	..	..	..
320 Meningitis	1	..	..	..
321-389 Other diseases of the nervous system and sense organs	1	..	..	1
390-458 Diseases of the circulatory system	1	1	2	1
460-466 Acute respiratory infection (except influenza)	13	9	2	..
470-474 Influenza .. .. .	..	..	..	..
480-486 Pneumonia	36	20	5	12
490-493 Bronchitis, emphysema and asthma .. .. .	..	..	..	..
500-519 Other diseases of respiratory system .. .. .	..	..	1	..
520-577 Diseases of the digestive system	3	2	1	1
580-629 Diseases of genito-urinary system .. .. .	..	..	..	1
680-709 Diseases of skin and subcutaneous tissue .. .. .	..	..	..	..
710-738 Diseases of musculoskeletal system and connective tissue .. .. .	..	..	..	..
740-759 Congenital anomalies	24	19	18	22
760-763 Certain maternal conditions	2	3	5	8
764-768 } Birth injury, difficult labour and other anoxic and	..	..	..	..
772, 776 } hypoxic conditions	18	28	21	16
769-771 } .. .. .	..	..	..	..
773-775 } Other causes of perinatal mortality	22	32	30	30
777-779 } .. .. .	..	..	..	..
780-796 Symptoms and ill-defined conditions .. .. .	..	(b) 13	(b) 33	(b) 26
800-999 Accidents, poisonings and violence	3	4	1	1
Total	127	137	123	128

(a) Principally infective and parasitic diseases.

(b) Includes sudden death in infancy syndrome (previously included in causes 480-486); 13 in 1973, 33 in 1974, 26 in 1975.

Deaths

The following table summarises the number of deaths and crude death rates from 1880 to 1975:

Number of Deaths and Crude Death Rates, Selected Years from 1880

Year	Deaths		Year	Deaths	
	Number	Rate (a)		Number	Rate (a)
1880	1 832	16.12	1930.. ..	1 948	8.82
1885	2 036	15.94	1935.. ..	2 353	10.24
1890	2 118	14.79	1940.. ..	2 387	9.90
1895	1 811	11.78	1945.. ..	2 413	9.71
1900	1 903	11.02	1950.. ..	2 466	8.85
1905	1 844	10.00	1955.. ..	2 489	7.89
1910	2 120	11.10	1960.. ..	2 670	(b) 7.70
1915	2 015	10.27	1965.. ..	3 043	8.27
1920	2 036	9.68	1970.. ..	3 174	8.18
1925	1 996	9.26	1975.. ..	3 339	8.21

(a) Per 1 000 of mean population.

(b) Lowest on record.

A marked difference exists between male and female crude death rates:

Male and Female Deaths and Crude Rates

Year	Number of deaths			Deaths per 1 000 of mean population			Ratio of male to female crude death rates
	Males	Females	Persons	Males	Females	Persons	
1965	1 716	1 327	3 043	9.24	7.29	8.27	1.267
1970	1 785	1 389	3 174	9.13	7.21	8.18	1.266
1971	1 805	1 490	3 295	9.17	7.66	8.42	1.197
1972	1 793	1 434	3 227	9.08	7.33	8.21	1.239
1973	1 894	1 453	3 347	9.51	7.35	8.43	1.304
1974	1 954	1 530	3 484	9.72	7.63	8.68	1.277
1975	1 849	1 490	3 339	9.09	7.33	8.21	1.240

Australian States: Number of Deaths (a)

Year	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Australia (b)
1970	43 601	30 335	17 055	10 138	7 543	3 174	113 048
1971	41 691	30 598	16 339	9 686	7 806	3 295	110 650
1972	41 652	29 856	16 598	9 764	7 441	3 227	109 760
1973	r 41 122	30 696	r 16 732	9 835	7 845	3 347	r 110 822
1974	r 43 999	30 875	r 18 128	10 236	7 778	3 484	r 115 833
1975 p	40 512	29 499	16 421	9 947	7 972	3 339	109 031

(a) Includes deaths of Aborigines.

(b) Includes A.C.T. and N.T.

Australian States: Crude Death Rates, (a) Census Years

State	1921	1933	1947	1954	1961	1966	1971
New South Wales	9.50	8.58	9.53	9.46	8.95	9.57	9.04
Victoria	10.52	9.59	10.44	9.20	8.37	8.90	8.72
Queensland	9.37	8.83	9.15	8.64	8.42	8.90	8.93
South Australia	10.02	8.44	9.62	9.02	8.06	8.54	8.23
Western Australia	10.42	8.64	9.39	8.38	7.77	8.13	7.57
Tasmania	10.30	9.60	9.17	8.67	7.89	8.50	8.42
Australia (b)	9.91	8.92	9.69	9.10	8.47	9.01	8.66

(a) Deaths per 1 000 of mean population.

(b) Includes A.C.T. and N.T.

Death Rates for Specific Age Groups

Previously in this chapter, crude death rates were described as unsuitable for comparisons over long periods of time due to changes in the age structure of the community. In the following table, this difficulty is overcome by calculating death rates for specific age groups. The method employed is to obtain the average annual deaths for specific age groups over those three-year periods which are broken into equal parts by a census of population (e.g. 30 June 1947 is the census date for a calculation of rates in the three years, 1946-1948 inclusive). Rates can then be calculated by comparing the average number of deaths for each group with the number of persons in each group as revealed by the census. In theory, the calculation of such rates need not be restricted to periods for which a census date forms the midpoint but the advantage of accepting such restriction lies in the accuracy of the age distribution obtained from the census. In the table, three-year periods have been selected appropriate to the censuses of 1947 and 1971 (the data relate to the Tasmanian population):

Death Rates for Specific Age Groups (a)

Age group (years)	Males		Females		Persons	
	1946-48	1970-72	1946-48	1970-72	1946-48	1970-72
0-4	9.13	4.46	7.24	2.93	8.21	3.71
5-9	1.15	0.47	0.69	0.36	0.92	0.42
10-14	0.67	0.56	0.39	0.30	0.53	0.43
15-19	1.62	2.42	1.46	0.60	1.54	1.53
20-24	2.10	2.10	1.79	0.53	1.94	1.96
25-29	2.12	1.87	1.74	0.83	1.93	1.37
30-34	2.27	1.84	1.90	0.79	2.09	1.33
35-39	3.10	2.10	2.59	1.34	2.85	1.73
40-44	3.93	3.43	3.51	1.89	3.73	2.69
45-49	5.88	5.36	4.66	3.10	5.28	4.25
50-54	9.52	9.65	7.84	5.79	8.65	7.74
55-59	16.98	15.77	10.03	8.26	13.44	12.06
60-64	23.87	25.71	17.30	12.82	20.53	19.19
65-69	41.82	41.10	27.35	22.40	34.56	31.51
70-74	58.43	64.05	49.47	37.51	53.80	48.92
75-79	103.22	94.96	77.00	62.46	89.78	74.91
80-84	156.64	140.11	123.49	99.45	138.41	114.30
85 and over	292.36	220.56	220.32	204.67	250.16	210.54

(a) Rate per 1 000 of the population in the specified age group at census date.

Causes of Death

The Eighth (1965) Revision of the International Classification of Diseases was adopted for use in 1968 but has not materially affected comparability with details based on the Seventh Revision (1955). The next table shows causes of deaths, the rates per 100 000 of mean population and the proportion of deaths from each cause.

In 1975, diseases of the heart (items (25) to (29)) accounted for 35.9 per cent of all deaths (1 199 deaths out of the total of 3 339). The comparable figures for 1974 were 1 164 deaths (33.4 per cent) out of the total of 3 484 deaths. Other major causes of death in 1975 (with 1974 figures in brackets) were: cancer, all forms (item (19)), 593 (615); cerebrovascular disease, 445 (415); motor vehicle accidents, 127 (125); and all other accidents, 87 (126).

Causes of Death: Numbers and Rates, 1975

Cause of death	Inter-national classification	Number of deaths	Rate per 100 000 of mean population	Percentage of total deaths
0-4. (a)	(a)	6	2	0.2
5. Tuberculosis of respiratory system	010-012	5	1	0.2
6. Other tuberculosis including late effects	013-019	1	..	..
7-16. (b)	(b)	2	..	0.1
17. Syphilis and its sequelae	090-097	..	..	..
18. All other infective and parasitic diseases	(c)	12	3	0.4
19. Malignant neoplasms—				
Digestive organs and peritoneum	150-159	200	49	6.0
Trachea, bronchus and lung	162	115	28	3.4
Breast	174	49	12	1.5
Genito-urinary organs	180-189	112	28	3.4
Leukaemia	204-207	22	5	0.7
Other malignant and lymphatic neoplasms	(d)	95	23	2.8
20. Benign and unspecified neoplasms	210-239	1	..	..
21. Diabetes mellitus	250	43	11	1.3
22. Nutritional deficiencies	260-269	3	1	0.1
23. Anaemias	280-285	7	2	0.2
24. Meningitis	320	..	..	..
25. Active rheumatic fever	390-392	1	..	..
26. Chronic rheumatic heart disease	393-398	29	7	0.9
27. Hypertensive disease	400-404	38	9	1.1
28. Ischaemic heart disease	410-414	973	239	29.1
29. Other forms of heart disease	420-429	158	39	4.7
30. Cerebrovascular disease	430-438	445	109	13.3
31. Influenza	470-474	2	..	0.1
32. Pneumonia	480-486	78	19	2.3
33. Bronchitis, emphysema and asthma	490-493	145	36	4.3
34. Peptic ulcer	531-533	22	5	0.7
35. Appendicitis	540-543	..	..	..
36. Intestinal obstruction and hernia	550-553	10	3	0.3
	560	6	2	0.2
37. Cirrhosis of liver	571	25	6	0.7
38. Nephritis and nephrosis	580-584	21	5	0.6
39. Hyperplasia of prostate	600	4	1	0.1
40. Abortion	640-645	..	..	..
41. { Other complications of pregnancy, childbirth and the puerperium. Delivery without mention of complication	630-639	..	..	..
	650-678	..	..	..
42. Congenital anomalies	740-759	42	10	1.3
43. { Birth injury, difficult labour and other anoxic and hypoxic conditions	764-768	..	..	..
	772-776	16	4	0.5

Causes of Death: Numbers and Rates, 1975—*continued*

Cause of death	Inter-national classification	Number of deaths	Rate per 100 000 of mean population	Percentage of total deaths
44. Other causes of perinatal mortality	760-763	8	2	0.2
	769-771	16	4	0.5
	773-775	..	..	..
	777-779	14	3	0.4
45. Symptoms and other ill-defined conditions ..	780-796	41	10	1.2
	Remainder of 240-738	310	77	9.3
46. All other diseases	810-823	127	31	3.8
47. Motor vehicle accidents	800-807	..	..	..
	825-949	87	21	2.6
48. All other accidents	950-959	40	10	1.2
49. Suicide and self-inflicted injuries	960-999	8	2	0.2
50. All other external causes .. .. .	..	3 339	821	100.0

(a) 000-009. (See following text for specification of diseases.)

(b) 020, 032, 033, 034, 036, 040-043, 050, 055, 080-084. (See following text for specification of diseases.)

(c) 021-027, 030, 031, 035, 037, 038, 039, 044-046, 051-054, 056, 057, 060-068, 070-079, 085-089, 098-117, 120-136.

(d) 140-149, 160, 161, 163, 170-173, 190-203, 208, 209.

It will be noted that items 0-4 and 7-16 in the table were not listed individually, few associated deaths having been recorded. The specification of causes reads: (1) cholera; (2) typhoid fever; (3) dysentery, all forms; (4) enteritis and other diarrhoeal diseases; (7) plague; (8) diphtheria; (9) whooping cough; (10) streptococcal sore throat and scarlet fever; (11) meningococcal infection; (12) acute poliomyelitis; (13) small pox; (14) measles; (15) typhus and other rickettsial diseases; (16) malaria. Uncertainty as to diagnosis in earlier periods makes comparison difficult but, at the turn of the century, whooping cough, diphtheria, typhoid fever and scarlet fever were diseases associated with numerous deaths.

Causes of Death in Age Groups

The previous tables showing causes of death make no reference to age, a complete dissection by age and cause being beyond the scope of a *Year Book*. Nevertheless, there is an extremely significant relationship between age and cause of death and the next table indicates, in summary form, their close inter-connection. For each of the specified causes in the next table, two percentages are shown: (i) deaths in a particular age group as a proportion of total deaths from all causes in that age group; (ii) deaths in a particular age group as a proportion of total deaths from the same cause at all ages. The causes chosen and specified are such that they account, in total, for approximately 75 per cent or more of deaths in most of the given age groups.

Attention is called to 'Accidental and violent deaths' (800-999) which account for over 65 per cent of deaths in the ages from 1 to 34 years inclusive. Also noteworthy is the present relative unimportance of 'Infective and parasitic diseases' (001-136). The most important group, in a total sense, is 'Diseases of the heart' (390-398, 400-404, 410-429) followed by 'Cancer (all forms)' (140-209); then 'Cerebrovascular diseases' (430-438); and 'Diseases of the respiratory system' (460-519). Nevertheless, the inter-connection between age and cause of death is so close that none of these causes needs to be specified for some age groups in the table.

Principal Causes of Death in Age Groups, 1975

Age group in years	International classification	Cause of death	Deaths from specified causes in age groups		
			Number	Proportion of deaths	
				In age group (per cent)	At all ages (per cent)
Under 1 ..	795	Sudden death in infancy	25	19.5	96.2
	740-759	Congenital anomalies	22	17.2	52.4
	776	Anoxic and hypoxic conditions	15	11.7	100.0
	777	Immaturity unqualified	13	10.2	100.0
	460-519	Diseases of respiratory system	12	9.4	4.8
	..	Other causes	41	32.0	..
		All causes	128	100.0	3.8
1-4	800-999	Accidental and violent deaths	7	33.3	2.7
	740-759	Congenital anomalies	6	28.6	14.3
	140-209	Cancer (all forms) (a)	2	9.5	0.3
	..	Other causes	6	28.6	..
		All causes	21	100.0	0.6
5-14	800-999	Accidental and violent deaths	17	50.0	6.5
	140-209	Cancer (all forms) (a)	4	11.8	0.7
	740-759	Congenital anomalies	3	8.8	7.1
	..	Other causes	10	29.4	..
		All causes	34	100.0	1.0
15-19 ..	800-999	Accidental and violent deaths	40	85.1	15.3
	140-209	Cancer (all forms) (a)	2	4.3	0.3
	..	Other causes	5	10.6	..
		All causes	47	100.0	1.4
20-24 ..	800-999	Accidental and violent deaths	31	75.6	11.8
	..	Other causes	10	24.4	..
		All causes	41	100.0	1.2
25-34 ..	800-999	Accidental and violent deaths	32	60.4	12.2
	140-209	Cancer (all forms) (a)	6	11.3	1.0
	390-398	} Diseases of heart	3	5.7	0.3
	400-404				
	410-429				
	..	Other causes	12	22.6	..
	All causes	53	100.0	1.6	
35-44 ..	800-999	Accidental and violent deaths	25	26.3	9.5
	390-398	} Diseases of heart	24	25.3	2.0
	400-404				
	410-429				
	140-209	Cancer (all forms) (a)	19	20.0	3.2
	430-438	Cerebrovascular diseases	4	4.2	0.9
	460-519	Diseases of respiratory system	3	3.2	1.2
	..	Other causes	20	21.0	..
	All causes	95	100.0	2.9	

Principal Causes of Death in Age Groups, 1975—*continued*

Age group in years	Inter- national classifi- cation	Cause of death	Deaths from specified causes in age groups		
			Number	Proportion of deaths	
				In age group (per cent)	At all ages (per cent)
45-54 ..	390-398	} Diseases of heart Cancer (all forms) (a) Accidental and violent deaths Diseases of respiratory system Cerebrovascular diseases Other causes All causes	90	33.5	7.5
	400-404				
	410-429				
	140-209				
	800-999				
	460-519				
	430-438				
	..				
55-64 ..	390-398	} Diseases of heart Cancer (all forms) (a) Cerebrovascular diseases Diseases of respiratory system Accidental and violent deaths Cirrhosis of liver Other causes All causes	212	38.8	17.7
	400-404				
	410-429				
	140-209				
	430-438				
	460-519				
	800-999				
	571				
..					
65-74 ..	390-398	} Diseases of heart Cancer (all forms) (a) Cerebrovascular diseases Diseases of respiratory system Diseases of arteries Diabetes Other causes All causes	366	44.5	30.5
	400-404				
	410-429				
	140-209				
	430-438				
	460-519				
	440-448				
	250				
..					
75 and over..	390-398	} Diseases of heart Cerebrovascular diseases Cancer (all forms) (a) Diseases of respiratory system Diseases of arteries Diabetes Other causes All causes	502	39.2	41.9
	400-404				
	410-429				
	430-438				
	140-209				
	460-519				
	440-448				
	250				
..					
			1 282	100.0	38.4

(a) Includes Hodgkin's disease and the leukaemias.

Heart Diseases

As the previous two tables indicate, heart diseases (list items 390-398, 400-404, 410-429) are the greatest single cause of death. In the following record of deaths due to heart diseases, 1950 has been chosen as a starting point since earlier figures are not strictly comparable. It can be seen from the table that heart diseases account for one third of the 'Deaths from all causes'.

Deaths from Heart Diseases (All Causes) (a)

Year	Number of deaths			Death rate per 100 000 of mean population	Deaths as a percentage of deaths from all causes
	Males	Females	Persons		
1950	413	304	717	257	29.1
1970	681	454	1 135	292	35.8
1971	647	491	1 138	291	34.5
1972	619	474	1 093	278	33.9
1973	700	458	1 158	292	34.6
1974	661	503	1 164	290	33.4
1975	673	526	1 199	294	35.9

(a) List items 400-416, 420-443 in 1950; 390-398, 400-404, 410-429 from 1968.

Malignant Neoplasms

In the next table, deaths from 'Malignant neoplasms including Hodgkin's disease and the leukaemias' (cancer, all forms) are summarised:

Deaths from all Types of Malignant Neoplasms (a)

Year	Number of deaths			Death rate per 100 000 of mean population	Deaths as a percentage of deaths from all causes
	Males	Females	Persons		
1950	159	164	323	115	13.1
1970	253	229	482	124	15.2
1971	284	268	552	141	16.8
1972	278	270	548	139	17.0
1973	312	259	571	144	17.1
1974	339	276	615	153	17.7
1975	330	263	593	146	17.8

(a) List items 140-207 in 1950; 140-209 from 1968.

Lung Cancer

Considerable interest has been shown in lung cancer recently because of its suspected connection with smoking habits. The following table shows deaths attributed to 'Malignant neoplasm of respiratory system' for recent years:

Deaths from Malignant Neoplasm of Respiratory System (a)

Year	Males	Females	Persons	Year	Males	Females	Persons
1950	20	4	24	1972	78	13	91
1960	40	3	43	1973	75	8	83
1970	72	19	91	1974	103	13	116
1971	76	18	94	1975	103	20	123

(a) List items 160-165 to 1967; 160-163 from 1968.

EXPECTATION OF LIFE AND LIFE TABLES

Previously, reference was made to the limitations of crude death rates as a measure of mortality. However, a correct measurement of the mortality of the population can be obtained from life tables.

A life table is, in effect, a mathematical model, its starting point being a hypothetical population (say 100 000) of newly-born males or females. Using data for a given period (e.g. single year age distribution of an actual population, deaths at single ages, etc.), the compiler calculates the theoretical number of survivors at each age in the hypothetical population until there are no survivors remaining.

Calculation of Life Expectancy

In the table that follows, l_x is the number of persons surviving at exact age x . From this survivors' table, other measures can then be computed, namely:

- L_x : the average number living between any year x and $x + 1$
 e^o_x : the complete expectation of life (i.e. the average number of years lived after age x by each of a group of persons aged exactly x).

Not only does the l_x column give numbers of survivors at each age but, if accumulated, it gives an approximate measure of the total number of years lived by the life-table population. To obtain a more refined measure of the total number of years lived, it is necessary to accumulate L_x values. These can be obtained by averaging each consecutive pair of l_x values.

Taking the male life table for 1970-72 as an example and using rounded figures:

Total of all l_x values (for $x = 0, 1, \dots, 110$)	= 6 831 000 years
Total of all l_x values (for $x = 1, 2, \dots, 111$)	= 6 731 000 years
Therefore, total L_x values (for $x = 1, 2, \dots, 110$)	= 6 781 000 years

According to the table, 100 000 males live a total of 6 781 000 years. It follows then, that the complete expectation of life (e^o_x) can be taken as 67.81 years as from birth.

The above calculation shows the derivation of e^o_x where x is 0. The same logic applies to other ages (apart from the highest ages):

Again taking the male life table as an example:

Total of l_x values ($x = 10, 11, \dots, 110$)	= 5 862 000 years
Total of all l_x values ($x = 11, 12, \dots, 111$)	= 5 765 000 years
Therefore, total L_x values ($x = 10, 11, \dots, 110$)	= 5 813 500 years

According to the table, 97 437 males live a total of a further 5 813 500 years. It follows then, that each male aged 10 has an average life expectancy of a further 59.66 years.

$$\left(\text{i.e. } \frac{5\,813\,500}{97\,437} \right)$$

From these examples, it will be seen that e^o_x is simply an average or per capita figure, the two elements involved being the total number of years lived by a given population, and the given population itself.

For the sake of brevity, the following usual values have not been given in the table:

- d_x : the number of deaths in the year of age x to $x + 1$ among the l_x persons who enter on that year.
 p_x : the probability of a person aged x living a year.
 q_x : the probability of a person aged x dying within a year.

If required, these values can be computed from the tables as follows:

$$d_x = l_x - l_{x+1}$$

$$p_x = \frac{l_{x+1}}{l_x}$$

and $q_x = 1 - p_x$

The next table gives the number of survivors (l_x values) and complete expectation of life (e°_x values) for Australian males:

Australia: Life Tables, 1970-1972

Survivors (l_x) and Complete Expectation of Life (e°_x)

Males

Age x	l_x	e°_x	Age x	l_x	e°_x	Age x	l_x	e°_x
0	100 000	67.81	40.. ..	93 150	31.61	80.. ..	23 399	5.52
1	98 051	68.25	41.. ..	92 887	30.69	81.. ..	20 575	5.21
2	97 904	67.35	42.. ..	92 598	29.79	82.. ..	17 913	4.92
3	97 807	66.42	43.. ..	92 274	28.89	83.. ..	15 393	4.64
4	97 726	65.47	44.. ..	91 915	28.00	84.. ..	13 055	4.38
5	97 661	64.52	45.. ..	91 520	27.12	85.. ..	10 950	4.13
6	97 607	63.55	46.. ..	91 079	26.25	86.. ..	9 057	3.89
7	97 558	62.58	47.. ..	90 589	25.39	87.. ..	7 363	3.67
8	97 514	61.61	48.. ..	90 049	24.54	88.. ..	5 877	3.48
9	97 474	60.64	49.. ..	89 455	23.70	89.. ..	4 605	3.30
10	97 437	59.66	50.. ..	88 798	22.87	90.. ..	3 539	3.15
11	97 402	58.68	51.. ..	88 075	22.05	91.. ..	2 672	3.02
12	97 365	57.70	52.. ..	87 283	21.25	92.. ..	1 984	2.90
13	97 326	56.73	53.. ..	86 409	20.46	93.. ..	1 450	2.79
14	97 282	55.75	54.. ..	85 441	19.68	94.. ..	1 044	2.69
15	97 228	54.78	55.. ..	84 392	18.92	95.. ..	740	2.60
16	97 154	53.82	56.. ..	83 245	18.18	96.. ..	517	2.52
17	97 044	52.88	57.. ..	82 001	17.45	97.. ..	356	2.44
18	96 887	51.97	58.. ..	80 640	16.73	98.. ..	242	2.38
19	96 685	51.08	59.. ..	79 171	16.03	99.. ..	162	2.31
20	96 473	50.19	60.. ..	77 574	15.35	100	107	2.25
21	96 265	49.29	61.. ..	75 861	14.69	101	70	2.20
22	96 065	48.40	62.. ..	74 014	14.04	102	45	2.15
23	95 884	47.49	63.. ..	72 026	13.41	103	29	2.10
24	95 723	46.57	64.. ..	69 901	12.81	104	18	2.06
25	95 574	45.64	65.. ..	67 659	12.21	105	11	2.02
26	95 437	44.70	66.. ..	65 282	11.64	106	7	1.98
27	95 307	43.76	67.. ..	62 786	11.08	107	4	1.94
28	95 179	42.82	68.. ..	60 183	10.54	108	3	1.91
29	95 049	41.88	69.. ..	57 444	10.02	109	2	1.88
30	94 916	40.94	70.. ..	54 616	9.51	110	1	1.85
31	94 779	39.99	71.. ..	51 671	9.03			
32	94 639	39.05	72.. ..	48 626	8.56			
33	94 495	38.11	73.. ..	45 490	8.12			
34	94 346	37.17	74.. ..	42 285	7.69			
35	94 186	36.23	75.. ..	39 056	7.29			
36	94 010	35.30	76.. ..	35 801	6.90			
37	93 821	34.37	77.. ..	32 577	6.54			
38	93 618	33.44	78.. ..	29 414	6.19			
39	93 395	32.52	79.. ..	26 349	5.85			

The following table shows the l_x and e°_x values for Australian females:

Australia: Life Tables, 1970-1972
Survivors (l_x) and Complete Expectation of Life (e°_x)
Females

Age x	l_x	e°_x	Age x	l_x	e°_x	Age x	l_x	e°_x
0	100 000	74.49	40.. ..	95 848	37.16	80.. ..	44 242	6.68
1	98 499	74.74	41.. ..	95 671	36.22	81.. ..	40 588	6.45
2	98 369	73.83	42.. ..	95 477	35.30	82.. ..	36 855	6.06
3	98 294	72.89	43.. ..	95 263	34.37	83.. ..	33 106	5.69
4	98 240	71.93	44.. ..	95 026	33.46	84.. ..	29 358	5.35
5	98 193	70.97	45.. ..	94 771	32.55	85.. ..	25 746	5.03
6	98 153	69.99	46.. ..	94 488	31.64	86.. ..	22 270	4.74
7	98 116	69.02	47.. ..	94 176	30.75	87.. ..	19 024	4.46
8	98 084	68.04	48.. ..	93 835	29.86	88.. ..	16 030	4.20
9	98 056	67.06	49.. ..	93 462	28.97	89.. ..	13 315	3.96
10	98 030	66.08	50.. ..	93 057	28.10	90.. ..	10 888	3.73
11	98 007	65.10	51.. ..	92 615	27.23	91.. ..	8 753	3.52
12	97 984	64.11	52.. ..	92 138	26.37	92.. ..	6 921	3.33
13	97 960	63.13	53.. ..	91 625	25.51	93.. ..	5 378	3.14
14	97 931	62.14	54.. ..	91 073	24.66	94.. ..	4 103	2.97
15	97 897	61.17	55.. ..	90 484	23.82	95.. ..	3 070	2.81
16	97 857	60.19	56.. ..	89 843	22.99	96.. ..	2 250	2.65
17	97 802	59.22	57.. ..	89 150	22.16	97.. ..	1 615	2.51
18	97 734	58.27	58.. ..	88 401	21.35	98.. ..	1 133	2.37
19	97 664	57.31	59.. ..	87 595	20.54	99.. ..	776	2.25
20	97 596	56.35	60.. ..	86 719	19.74	100 ..	519	2.13
21	97 532	55.38	61.. ..	85 774	18.95	101 ..	338	2.02
22	97 472	54.42	62.. ..	84 753	18.17	102 ..	214	1.91
23	97 414	53.45	63.. ..	83 652	17.41	103 ..	132	1.82
24	97 356	52.48	64.. ..	82 462	16.65	104 ..	79	1.72
25	97 296	51.51	65.. ..	81 187	15.90	105 ..	46	1.64
26	97 236	50.54	66.. ..	79 813	15.17	106 ..	26	1.56
27	97 175	49.58	67.. ..	78 310	14.45	107 ..	14	1.48
28	97 112	48.61	68.. ..	76 688	13.75	108 ..	7	1.41
29	97 046	47.64	69.. ..	74 909	13.06	109 ..	4	1.35
30	96 975	46.67	70.. ..	72 983	12.39	110 ..	2	1.28
31	96 899	45.71	71.. ..	70 885	11.74	111 ..	1	1.23
32	96 819	44.75	72.. ..	68 607	11.12			
33	96 732	43.79	73.. ..	66 156	10.51			
34	96 637	42.83	74.. ..	63 510	9.93			
35	96 534	41.88	75.. ..	60 697	9.36			
36	96 422	40.92	76.. ..	57 700	8.82			
37	96 299	39.98	77.. ..	54 551	8.30			
38	96 162	39.03	78.. ..	51 258	7.80			
39	96 012	38.09	79.. ..	47 832	7.33			

The statistics in the above tables have been extracted from tables produced by the Commonwealth Actuary, the source data being supplied by the Australian Statistician and comprising: (i) the number of males and females living at each age last birthday, as shown by the 1971 Census; and (ii) the number of male and female deaths at each age (last birthday) in the years 1970, 1971 and 1972.

True Death Rates

From a life table, the total number of years lived by the original population of 100 000 can readily be calculated. In the case of the 1970-72 male life table, the total number of years lived was 6 781 000. It follows that the death rate of this population may be expressed as:

$$\frac{100\ 000}{6\ 781\ 000} \times \frac{1\ 000}{1} \text{ per } 1\ 000 \text{ years lived;}$$

i.e. 14.747 deaths per 1 000 years lived.

Life table experience can be regarded as the experience of a cross section of the population in a *single year* and the above calculation derives what is known as a 'true death rate' (the true death rate for the 1970-72 male population was 14.75 deaths per 1 000). The true death rate is thus the reciprocal of the complete expectation of life of a person at birth multiplied by 1 000.

The true death rate for a given period is unaffected by the particular age distribution of that period, and is determined solely by the mortality experience of the period as manifested in the rate of survival from each year of age to the next. The table below sets out complete expectation of life at birth and true death rates for the periods covered by the Australian life tables:

Australia: Complete Expectation of Life at Birth and True Death Rates

Period	Complete expectation of life at birth (years)		True death rate (a)	
	Males	Females	Males	Females
1881-1890	47.20	50.84	21.19	19.67
1891-1900	51.06	54.76	19.58	18.26
1901-1910	55.20	58.84	18.12	17.00
1920-1922	59.15	63.31	16.91	15.80
1932-1934	63.48	67.14	15.75	14.89
1946-1948	66.07	70.63	15.14	14.16
1953-1955	67.14	72.75	14.89	13.75
1960-1962	67.92	74.18	14.72	13.48
1965-1967	67.63	74.15	14.79	13.49
1970-1972	67.81	74.49	14.75	13.42

(a) Number of deaths per 1 000 in stationary (or life-table) population in one year.

Chapter 7

LAND USE AND AGRICULTURE

LAND TENURE AND SETTLEMENT

Introduction

The area of Tasmania is 68 300 square kilometres, all of which had been proclaimed as Crown property when the first settlers arrived in 1803. In the period since their landing 40.3 per cent of the State's total area has been alienated by grant or sale; the Crown still owns 57.3 per cent and the residual 2.4 per cent is in the process of alienation (i.e. being purchased from the Crown by instalment payments).

Historical

The first concern of the settlers on the Derwent and the Tamar in 1804 was the growing of grain, for which small holdings were adequate; thus by 1820, land obtained as grants from the Crown was confined to areas within easy reach of Hobart and Launceston and less than 28 500 hectares had been alienated.

In the 1820's the successful export of wool to Britain created a demand for land in very much larger holdings and annual alienation of Crown land by free grant increased rapidly as shown in the following table:

Area of Land Alienated by Grants in Van Diemen's Land, 1820 to 1843
(*000 Hectares)

Year	Area granted	Year	Area granted	Year	Area granted	Year	Area granted
1820 ..	} 28	1826 ..	24	1832 ..	13	1838 ..	18
1821 ..		1827 ..	31	1833 ..	10	1839 ..	6
1822 ..	<i>n.a.</i>	1828 ..	67	1834 ..	4	1840 ..	4
1823 ..	176	1829 ..	84	1835 ..	4	1841 ..	3
1824 ..	17	1830 ..	44	1836 ..	3	1842 ..	..
1825 ..	(a)187	1831 ..	83	1837 ..	9	1843 ..	..

(a) Includes 142 000 hectares granted to Van Diemen's Land Company.

From the previous table, it can be calculated that the alienation of Crown land by grant exceeded, in total, half a million hectares by 1828 and 800 000 hectares by 1840 (when this early system of free grants had virtually ceased). By 1850 the total area of land alienated was 1.09 million hectares. The next table summarises land alienations from 1860:

Land Alienations from 1860
(*000 Hectares)

Year (a)	Land		Year (a)	Land	
	Aggregate alienated	In process of alienation		Aggregate alienated	In process of alienation
1860		1 242	1965	2 679	83
1880		1 713	1969	2 693	96
1900		1 957	1970	2 697	100
1910	1 996	447	1971 (b)	2 697	100
1920	2 121	390	1972 (b)	2 697	100
1930	2 315	219	1973 (b)	2 729	133
1940	2 393	171	1974 (b)	2 731	135
1950	2 486	148	1975 (b)	2 755	159
1960	2 584	77			

(a) At 31 December until 1948; at 30 June from 1950.

(b) Estimates only.

Present Use of Crown Lands

The next table classifies the area of the State by ownership (i.e. alienated or Crown). Crown forestry reservations, apart from one component, is land used or to be used exclusively for forestry purposes; the exception is the forested area of recreation and conservation reservations. The forestry reservations account for 30 per cent of the State's area.

Alienation and Occupation of Crown Lands at 30 June
(*000 Hectares)

Classification of land	Area					
	1973	1974	1975			
Alienated (aggregate) (a)	2 729	2 731	2 755			
In process of alienation (a)	133	135	159			
Crown lands—						
Leased or licensed—						
Through Lands Department (a)—						
Pastoral	200	188	173			
Closer settlement	}	}	}			
Soldier settlement				12	12	12
Short-term						
Through Mines Department (b)	36	36	38			
Total	248	236	223			
Forestry reservations (c)—						
State forests	1 199	1 345	1 372			
Other land reserved for forestry purposes (d)	795	686	668			
Total	1 994	2 030	2 040			
Other Crown land (a)	1 726	1 698	1 653			
Total area of State	6 830	6 830	6 830			

(a) Estimates only.

(b) Includes a small area of private land leased through the Mines Department.

(c) Includes areas under pulpwood concessions and exclusive forest permits, 1 786 000 ha at 30 June 1975; see Chapter 8 for further details.

(d) Includes estimated forested component of State reserves.

Although the possibility of rapidly alienating more Crown land for farming purposes on any large scale may seem remote, it should be noted that much of this land is nevertheless of importance to the State's economy, specifically for forestry and tourism purposes.

National Parks and Wildlife Service

The *National Parks and Wildlife Act* 1970 repealed the *Animals and Birds Protection Act* 1928 and the *Scenery Preservation Act* 1915 and placed the management and control of parks, reserves, fauna and flora in the hands of a single authority, the National Parks and Wildlife Service. This authority has wide-ranging powers covering the management of parks, protection of fauna and flora, regulation of hunting and enforcement of regulations under the Act. It is responsible for the administration of State reserves and conservation areas. Areas designated as State reserves have maximum protection and include areas classified as national parks, State reserves, nature reserves, Aboriginal sites and historic sites. Conservation areas are usually set aside for the protection of flora and fauna.

State Reserves

The following gives a brief description of principal State reserves:

Ben Lomond National Park: Is located 45 kilometres south-east of Launceston. This high plateau area includes Legges Tor and is Tasmania's principal skiing area.

Cradle Mountain-Lake St Clair National Park: This is an area of rugged mountain scenery; it contains some of Tasmania's highest peaks (Mt Ossa, Barn Bluff, Mt Pelion West and Cradle Mountain), numerous lakes, deep gorges and several waterfalls. Flora and fauna in the park are representative of Tasmania's montane species and are in a largely untouched condition. The weather of the area is unpredictable and at times extremely severe—blizzards are common and may occur in mid-summer. The principal walking track extends from Cradle Valley (in the north) to Lake St Clair, a distance of 85 kilometres.

Frenchmans Cap National Park: The park boundary is three kilometres from the Lyell Highway and about midway between Queenstown and Derwent Bridge. Access to the park is by foot. It is an area of rugged glaciated landscape and is an ideal wilderness area for experienced bushwalkers. Frenchmans Cap, an enormous white quartz peak with a 300 metre face on the eastern side, is the principal feature of the park.

Freycinet National Park: Occupies the whole of Freycinet Peninsula on the east coast. A principal feature of the park is the 300 metres high red granite Hazards. The park provides pleasant walking throughout the year, although during summer water may be scarce. To the south of Freycinet Peninsula is Schouten Island, also a State reserve.

Hartz Mountains National Park: Is located south-west of Geeveston. The main features of the park are Hartz Mountain, 1 253 metres high, several small picturesque lakes, and the superb eastward view from Waratah Lookout. The park is renowned for its display of wildflowers during summer.

Maria Island National Park: Is situated off the east coast from Orford and may be reached by chartered boat or aeroplane. Principal attractions include convict ruins from two penal settlements, the main one being at Darlington on the north-west corner of the island. Forester kangaroo, Bennetts wallaby and other Tasmanian fauna have been established on the island and emu have been introduced. At the north-east corner of the island high fossil cliffs rise abruptly from the sea.

Mount Field National Park: This park, near Maydena and only 75 kilometres from Hobart, is the only southern ski resort in Tasmania and includes spectacular mountain scenery. Principal peaks are Mt Field East and West; other features include Russell Falls, Lake Dobson and several tarns.

Port Arthur and Tasman Peninsula: This historic and scenic area is possibly the best known and most visited tourist attraction in Tasmania. The area, in addition to the historic convict ruins of the Port Arthur penal settlement, contains many small reserves of either historic or scenic significance. Port Arthur, site of a convict settlement from 1830 to 1877, has a number of historic ruins. Unfortunately, many of the buildings are in an extreme state of disrepair; however, some restoration work has been undertaken and a draft management plan for the site is under preparation. Other historic sites include the old convict coal mines at Plunkett Point and Eagle Hawk Neck where guards were stationed and a line of dogs tethered to prevent escape from the Peninsula. Eagle Hawk Neck is also renowned for its spectacular coastal landforms e.g. the Blowhole, Devils Kitchen, Tasman's Arch and the Tessellated Pavement.

South-West National Park: Is Tasmania's largest State reserve and covers 191 582 hectares of Tasmania's rugged south-west. It is a true wilderness area and encompasses the Western and Eastern Arthur Ranges, Federation Peak, Frankland Range, Mt Anne, Lake Pedder and part of the rugged south-coast. Dense scrub, which covers much of the area, frequent harsh weather and a scarcity of cleared tracks make this area the domain of the experienced self-contained bush-walker.

State Reserves and Conservation Areas

The following table lists the Tasmanian national parks, their areas and locations. The 1976 *Year Book* also includes details of all other reserves (State reserves, historic sites, Aboriginal sites and nature reserves) and conservation areas under National Parks and Wildlife Service management. At 26 April 1976, the total area of reserves was 449 954 hectares, while that of conservation areas was 515 366 hectares.

National Parks at 26 April 1976

Name	Area (hectares)	Date first gazetted	Location	Remarks
Ben Lomond	16 457	23.7.47	North-east	Mountainous sclerophyll forest, skiing
Cradle Mt/Lake St Clair ..	126 062	16.5.22	West central	Mountainous, lakes, wet sclerophyll forest
Frenchmans Cap	10 214	4.6.44	West central	Mountainous, scenic
Freycinet	7 541	26.8.16	East	Coastal, red granite outcrops
Hartz Mountains	8 620	24.5.39	South	Mountainous, scenic
Maria Island	9 672	14.6.72	East	Wildlife park, convict and old industrial settlement
Mount Field	16 212	28.8.16	South central	Mountainous, scenic, skiing, temperate forest
Mount William	9 797	3.10.73	North-east	Forester kangaroo, coastal
Rocky Cape	3 000	21.6.67	North-west	Coastal heath, giant banksia, Aboriginal sites
South-west	191 582	16.10.68	South-west	Rugged wilderness area, scenic beauty
Strzelecki	3 946	15.3.67	Flinders Island	Mountainous, coastal
Total	403 103	..	..	..

War Service Land Settlement

After both World War I and World War II, government schemes were operated with the aim of assisting ex-servicemen to settle on the land. The following section deals only with the scheme initiated to settle on the land eligible ex-servicemen from the 1939-45 War and the Korean and Malayan operations.

Finance for capital expenditure under the scheme has been provided under the authority of the Federal Loan (War Service Land Settlement) Acts but the State Government is the administrative authority for actual operations, control being exercised through the Closer Settlement Board. The basic work of the Board initially involved land acquisition and the development of rural holdings on which eligible ex-servicemen were then settled. Work has now been completed and all holdings have been made over to settlers. Administration of the settlement scheme now involves property dealings and financial obligations of occupiers.

The following table summarises progress in physical terms (farms allotted, etc.) and in financial terms (loans to settlers, payments for acquisition, etc.):

War Service Land Settlement
1939-1945 War and Korea-Malaya Operations
Summary to 30 June 1975

Operations		Federal Government expenditure (aggregate)	
Particulars	Total to 30 June 1975	Advances in respect of Tasmania	Total to 30 June 1975 (\$'000)
Land acquired (net) hectares	183 215	For acquisition of land	5 069
Farms allotted—		For development and improvement of land ..	36 091
Number	481	Contribution to excess cost over valuation ..	31 768
Area hectares	183 215	Settlers' credit facilities	17 819
		Concessions, remissions, moneys written off—	
		Interest	846
		Principal	641
		Living allowances for settlers	500
		Irrigation projects	6
		Cost of administration of credit facilities ..	1 179
		Total	93 919

Of the 481 farms allotted, the largest concentrations were on King Island, Flinders Island, the Lawrenny Estate and the Montagu Project.

Advances to Primary Producers

Although the principal efforts in land settlement since World War II have been made under the War Service Land Settlement Scheme, the State Government has also operated its own loan schemes to assist primary producers. However, present economic problems facing rural industries have directed government attention towards rural reconstruction. The State Government is involved in the administration of three rural reconstruction schemes under the *Dairy Adjustment Program Act 1975*, *Rural Reconstruction Act 1971* and the *Fruitgrowing Industry Reconstruction Act 1972* and 1974. Funds are provided by the Federal Government for implementation of these three schemes. The following table shows particulars of advances under various Acts:

Advances to Primary Producers by the Agricultural Bank

Act	Payments to borrowers during 1974-75	Balances outstanding at 30 June 1975	
		Number	Amount
	\$'000		\$'000
State Advances Act (including rural credits) 1935	2 376	1 200	9 893
Federal Government Re-establishment and Employment Act 1945 .. .. .	..	30	12
Primary Producers' Relief Act—			
1947 .. .. .	..	2	2
1968	1	85	276
1970 .. .. .	..	30	89
1971 .. .. .	..	13	67
Dairy Adjustment Program Act	300	65	427
Rural Reconstruction Act	898	200	3 413
Closer Settlement (Soldiers') Act .. .. .	..	40	32
Closer Settlement Act	14	152	1 023
Fire Damage Relief Act 1967 .. .. .	..	280	1 402
Total	3 589	2 097	16 636

The main forms of assistance now available are: (i) Under Part III of the *State Advances Act 1935*, loans may be made to persons in rural industries for the purchase of farm properties, discharge of mortgage or for making improvements. Loans may be made for periods up to 30 years at an interest rate determined by the Treasurer. The present rate of interest is 8.25 per cent. The present limit on any single advance is \$50 000. (ii) Under Part IV of the Act (*Short Term Rural Credits*), loans may be made to persons engaged in prescribed rural industries for the purchase of stock, plant, seeds and manures and for other purposes considered necessary for carrying on their industry. There is no statutory limit to the amount which may be advanced to each applicant. Usual periods of loans are: plant, 10 years; stock, five years; land development, 10 to 15 years; structural improvements, 20 years; working expenses, one to three years. (iii) Under the various rural reconstruction Acts, loans are made for rural reconstruction, debt reconstruction, etc.; see the next section for further details.

The *Fire Damage Relief Act 1967* was part of the State Government's reaction to the disastrous bushfires of February 1967 when 260 000 hectares of farm land, bush and forest were devastated in 14 southern municipalities.

RURAL RECONSTRUCTION

Rural Reconstruction Act

On 4 June 1971 an agreement was signed between the Federal Government and the State of Tasmania, the object being the implementation of a national scheme of rural reconstruction; in essence, the Federal Government provides the financial assistance but the detailed administration is vested in the State. Similar federal-state agreements were entered into by the other Australian states on the same date. In October the Tasmanian Parliament passed the *Rural Reconstruction Act 1971* which established the mechanism for administering the scheme in Tasmania.

Operation of the Scheme

The two principal functions of the scheme relate to debt reconstruction and farm build-up:

Debt Reconstruction: This applies to the farmer who has sound prospects of successful operation but who has used all his cash resources and cannot meet his financial commitments. The assistance can encompass a rearrangement and/or a composition of debts, the negotiation of a concessional rate of interest in substitution for existing rates, advances of additional funds for carry-on expenses, the purchase of livestock and further property development.

Farm Build-up: The basic intention is to assist in the build-up of properties to a size commensurate with economic operation; the concern is with the amalgamation of adjoining holdings. When an adjoining property is sold to a farmer, the reconstruction authority may make a grant to cover the value of acquired assets which are not useful to the enlarged property (e.g. the farm dwelling). Advances may also be made by the authority for carry-on expenses, plant, livestock and property development if these demands are associated with the additional land.

The original objective was that 50 per cent of available funds be devoted to farm build-up, but in the first two years of operation this objective was not achieved. In fact, loans for this purpose represented only 28 per cent of the total approved. For the past two years the objective was increased to 70 per cent. This objective was attained in 1973-74 with a percentage of 83 per cent. However, during the year 1974-75 the percentage fell to 53 per cent and with subsequent withdrawals only 49 per cent was eventually allocated to farm build-up. At the 1975 annual review, however, it was decided that, due to a down-turn in the situation in some rural industries, a higher percentage of funds could be allocated to debt reconstruction should circumstances so require. It was agreed that up to 70 per cent of approvals could be devoted to debt reconstruction but that this percentage should not be exceeded without prior consultation with the Federal Government.

For the first two years of the scheme's operation, Tasmania was allocated a sum of \$3.3m. In subsequent years, allocations were made each year following annual meetings between the Federal and State Ministers for Agriculture. The allocation for 1974-75 was \$1.1m and for 1975-76, \$0.7m.

Tasmanian Authority

In Tasmania, the administering authority is the Rural Reconstruction Board, composed as follows: chairman (the manager of the Agricultural Bank); one representative each from the Agricultural Department and the State Treasury; a public accountant with farmers as clients; and two farmers. The machinery of the Agricultural Bank is available to help in the administration of the scheme.

Rural Reconstruction

Particulars	1974-75	Total to 30.6.1975
Farm build-up—		
Applications—Received no.	41	251
Approved no.	21	96
Assistance approved \$'000	324	1 884
Debt reconstruction—		
Applications—Received no.	51	447
Approved no.	18	146
Assistance approved \$'000	327	2 826
Rehabilitation loans—		
Applications—Received no.	4	25
Approved no.	5	20
Assistance approved \$'000	12	53

Marginal Dairy Farm Reconstruction Scheme

To achieve some stability in the dairying industry the Federal Government introduced, in 1970, the Marginal Dairy Farm Reconstruction Scheme. It agreed to make available \$25m to the states over a four-year period commencing in July 1970 for implementation of the scheme. The states were required to administer the scheme; in Tasmania management of the scheme was vested in the Board of Management of the Agricultural Bank of Tasmania.

The Tasmanian *Marginal Dairy Farms Reconstruction Act* 1971 ratified the scheme for Tasmania and in December the State-Federal Government agreement was signed. The scheme provided for dairy farmers, who produced milk and cream for manufacturing purposes and whose farms had insufficient potential to become economic units, to voluntarily dispose of their properties at market value to the State Government. The land and any useful improvements were then to be sold on the basis of the most practicable and economic land use for farm build-up purposes. In 1973 the scheme was extended and broadened beyond the initial period of operation which ended on 30 June 1973.

Dairy Adjustment Program Act 1975

In June 1975 the *Dairy Adjustment Program Act* repealed the *Marginal Dairy Farms Reconstruction Act*. In addition it provided for a further agreement between the Federal and state governments. This agreement amended the previous agreements to enable a more realistic description to be placed on the definition of a 'marginal dairy farm'. The word 'marginal' was replaced by the word 'uneconomic' and an uneconomic dairy farm was defined as:

'A rural property not less than one-half of the gross income from which is obtained from the production of milk or cream that is derived from the production of not less than twenty lactating dairy cows, and which rural property, if used only for dairying and purposes incidental to dairying, is not in the opinion of the Authority an economic unit.'

Another significant provision in the *Dairy Adjustment Program Act* enabled the administering authority to make loans on terms and conditions as it deemed appropriate to the owners of dairy factories in the State for the purpose of meeting, in the case of a particular factory, the whole or part of the costs incurred by the owner of the factory after 1 July 1974 in connection with any alterations (including structural alterations) made, vehicles purchased and plant and equipment purchased and installed after that date, being alterations, vehicles, plant and equipment that were required to provide adequate facilities:

- (i) For the supply of wholemilk as refrigerated bulk milk to the factory;
- or
- (ii) For the receipt, storage or processing of the wholemilk at the factory.

Details of advances to Tasmanian dairy farmers made under provisions of the Act to 30 June 1975, are set out below:

Dairy Adjustment Program: Advances to 30 June 1975

Purpose	Number	Amount
		\$'000
Purchase of refrigerated milk vats and associated expenditure	118	573
Amalgamation of properties	25	389
Development expenditure	24	145

Assistance to Beef Producers

Under arrangements made between the Federal and state governments, funds are to be provided for limited carry-on finance for producers of beef cattle. For Tasmania, the Federal Government is to provide \$300 000 which will be matched by a similar amount from the State Government. The scheme is to be administered by the Rural Reconstruction Board under provisions of the *Beef Industry Assistance Act 1975*. Loans are to be made for a period of not more than seven years with no repayment being required in the first year. Interest at the rate of four per cent will be charged in the first year of a loan and this will be capitalised. In the second and subsequent years, possible changes in the interest rate, and repayment arrangements, will be determined having regard to the viability of the industry at the time. The scheme commenced operation in 1974-75.

Fruitgrowing Reconstruction Scheme (Tree Removal)

Serious economic problems confronting the Australian fruit industry led to the establishment in 1972, by the Federal Government, of a scheme to assist reconstruction of the fruit industry. In Tasmania the scheme applied only to apple or pear growers in serious financial difficulties. The Tasmanian *Fruitgrowing Industry Reconstruction Act 1972* authorised implementation of the Federal-State fruitgrowing reconstruction agreement and made the State Rural Reconstruction Board responsible for administering the scheme. In November 1973 a further agreement was entered into between the Federal Government and the states which extended operation of the scheme for a further 12 months.

Total financial assistance provided under the scheme to all states by the Federal Government was limited to \$4.6m. Administrative expenses incurred are borne by the states.

Eligible Fruitgrowers

Growers involved in the apple or pear industry in Tasmania could apply for assistance if the Board was satisfied that the number of trees which the grower had, constituted a commercial operation and either the grower: (i) was predominantly a horticulturist in severe financial difficulties and intended to remove all of his trees and leave the apple or pear industry; or (ii) did not have adequate resources to withstand the short-term economic effects of removal of surplus trees, but in the opinion of the Board his farm enterprise had sound long-term prospects after tree removal and putting the released land to an alternative use. The scheme (which commenced operation in 1972) was originally due to expire on 30 June 1973. There were subsequent extensions and the expiry date for applications was extended to 31 December 1975 with all trees to be removed by 30 June 1976, in order to qualify for compensation.

Type of Assistance

Assistance was based on tree removal and compensation up to a maximum \$864.87 per hectare (\$350 per acre) for growers of fresh apples and pears with an overall average of not more than \$617.76 per hectare (\$250 per acre) was payable for approved tree removals. The average rate of assistance in respect of approvals made to 30 June 1975 was \$608 per hectare (\$246 per acre).

Growers who received compensation and remained on their holdings had to undertake not to re-plant apple or pear trees on their properties within a period of five years. To ensure compliance, compensation was provided in the form of an interest bearing loan—if the grower observed the undertaking not to replant, the interest was rebateable annually and loans were to be converted to non-repayable grants at the end of the required five-year period.

Activities of the Board

At the end of June 1975 the following progress had been made: (i) applications received for (a) partial removal, 336, (b) complete removal, 369; (ii) assistance approved for (a) partial removal, \$848 993, (b) complete removal, \$916 838, (c) total approvals, \$1 765 831; (iii) total area of trees approved for removal, 2 912 hectares. The area known to have been removed under the scheme as at 30 June 1975 was 2 542 hectares of orchard.

AGRICULTURAL INDUSTRY

General

The Tasmanian rural economy is marked by great diversity and even allowing for the special regional adaptations made necessary by soil, climate, terrain and altitude, there are many agricultural holdings which individually exhibit an extremely varied range of activities.

Because of the importance of exports, agriculture in Tasmania has suffered generally as a result of adverse international currency movements and weak or protected overseas markets. Although livestock, wool and dairy products have been affected by these factors the pattern of farming in Tasmania has maintained the emphasis on rearing livestock for meat production with dairy products and wool also important. Apple growing, while still significant, has suffered from the inability of returns to cover costs and hop growing has encountered marketing problems. The growing of vegetables for processing remains a significant activity. Oil poppies have become an important crop in the last few years.

Historical

The 1976 and earlier editions of the *Year Book* include a summary of agricultural statistics available from as early as 1818.

Agricultural Industry Statistics

Sources of Information

The statistics are, in the main, compiled from census returns of crop, pastoral and dairying production collected from agricultural holdings in Tasmania at 31 March each year. In conjunction with the general census, supplementary collections from farms are conducted where the harvesting of certain crops has not been completed by 31 March (e.g. apples, potatoes).

Additional information is also obtained from various marketing and other authorities and from a number of entirely separate collections covering such data as slaughterings and meat and dairy production.

Period Covered

Data relating to area sown, production and number of holdings growing crops are, in general, for the season ended 31 March. In cases where harvesting has not been completed by 31 March (e.g. potatoes), total production is nevertheless collected and included in published figures. Livestock numbers are also reported as at 31 March.

The census is conducted at 31 March (rather than 30 June) as it is considered to be the most appropriate date for all states to draw a line between the activities of two seasons.

Agricultural Holdings

An 'agricultural holding' is defined as a piece of land of one hectare or more in extent (one acre or more prior to 1973-74) used for the production of crops or for the raising of livestock and the production of livestock products, or a piece of land of less than one hectare with commercial agricultural activity (e.g. nurseries, poultry farms, etc.). Care should be exercised in drawing conclusions from changes in the number of agricultural holdings over a series of years. There are many small sub-commercial holdings, a proportion being no more than large residential blocks with perhaps a small plot of potatoes or other crops, or carrying a house-cow or poultry. It is very difficult, in some cases, to determine whether or not they should be regarded as agricultural holdings within the definition and over a period of time some variation in treatment has occurred.

Area of Crops

Total area of land sown or planted to crops is shown irrespective of whether the whole area was subsequently harvested or whether a portion or the whole of the crops failed and was not harvested. Where two *successive* crops are grown on the same land during the one season the land is included twice in the area of crops.

Value of Production

The statistics in the following sections refer mainly to areas sown to crops and quantities produced. The value of the various crops is shown under 'Value of Production' in Chapter 8.

Classification of Agricultural Holdings By Type of Activity

Because many Tasmanian holdings are devoted to more than one specific type of farming activity it is difficult to present, in summary form, the essential characteristics or structure of agricultural industry in the State today. Before considering in detail crop areas, production statistics and livestock numbers, it is logical to examine the main 'line' of each farm and to determine the principal activities; from this study can be derived a classification of holdings by type of activity. In 1959-60 the first attempt was made at classifying agricultural holdings in all states on a uniform basis. Similar classifications were produced for 1965-66, 1968-69, 1970-71 and 1973-74.

Basically the method used to classify to farm types is as follows: if a single activity accounted for 50 per cent or more of the total estimated gross cash receipts of the farm, that activity determined the holding type; where no single activity accounted for 50 per cent of the total gross receipts, the holdings were classified as 'multipurpose'. Principal exceptions to this general rule were holdings reporting sheep and cereal grains, and cattle (milk production) and pigs. In the former case, certain holdings were treated as composite sheep-cereal grain types. Holdings not first classified as pig type were then classified as cattle (milk production) type holdings if the combined gross receipts from pigs and cattle (milk production) accounted for 50 per cent or more of total gross receipts. Different criteria were used for classification of pig and cattle (milk production) type holdings prior to 1970-71 resulting in an increase in the number of pig type holdings and a decrease in the number of cattle (milk production) type holdings in the 1970-71 classification compared with previous classifications.

The next table is a summary of the main farm types for selected years:

Holdings (a) Classified According to Type of Activity, Selected Years

Year	Type of holding						Total classified
	Sheep	Cattle		Fruit	Multi-purpose	Other (b)	
		Meat	Milk				
1959-60	1 984	153	3 038	1 527	743	684	8 129
1965-66	1 547	276	3 026	1 234	924	857	7 864
1968-69	1 423	468	2 678	906	652	820	6 947
1970-71	1 714	444	(c) 2 448	869	211	777	6 463
1973-74	971	1 145	1 978	641	341	777	5 853

(a) Excludes 'sub-commercial' and unused holdings.

(b) Comprises sheep-cereal grain, cereal grain, potatoes, other and mixed vegetables, poultry, pigs, and other (one main purpose) types.

(c) Not strictly comparable with previous years due to a change in classification criteria.

A geographical distribution of holdings classified according to type of activity in 1968-69 will be found in the 1973 *Year Book*; in the same text appears a description of the principles applied in making the classification.

Size of Agricultural Holdings

A classification of agricultural holdings by size is carried out at irregular intervals. In the next table the size classifications have been converted directly from acres to hectares; hence the unusual class limits.

Classification of Rural Holdings by Size

Size of holdings (hectares)	Number of holdings			Area of holdings ('000 hectares)		
	1928	1969	1975	1928	1969	1975
Under 20	3 164	2 241	1 739	23	19	16
20 and under 40 ..	2 108	1 457	1 210	59	42	34
40 " " 202 ..	4 779	4 624	4 100	443	427	388
202 " " 405 ..	726	950	938	240	267	263
405 " " 2 023 ..	775	888	850	647	754	711
2 023 " " 4 047 ..	146	124	121	412	339	326
4 047 " " 8 094 ..	67	68	63	374	372	337
8 094 " " 20 234 ..	29	27	27	329	300	290
20 234 and over ..	5	5	4	155	146	128
Total	11 799	10 384	9 052	2 684	2 667	2 492

Number of Holdings with Crops or Livestock

At 31 March 1975, there were 9 052 agricultural holdings (compared with 10 979 in 1965). The following table shows the number of holdings growing selected principal crops or carrying livestock; this gives some indication of farming activities on a broad basis only, since the same holding may be included more than once in the figures (in an extreme case, one holding could be included 11 times):

Number of Holdings Growing Principal Crops or Carrying Livestock

Particulars	1964-65	1971-72	1972-73	1973-74	1974-75
Number of agricultural holdings (at 31 March)	10 979	9 807	9 733	9 375	9 052
Holdings—					
Growing—					
Grain (a)—					
Barley	255	475	472	441	387
Oats	387	238	236	312	174
Wheat	255	160	147	91	39
Hops	109	74	73	76	50
Vegetables (b)—					
Potatoes	1 605	840	651	624	805
Onions	17	61	54	65	101
Fruit—					
Orchard tree (b) ..	1 317	874	768	612	486
Small fruit (b) ..	474	335	268	244	249
Carrying—					
Cattle	8 384	8 363	8 314	8 098	7 986
Sheep	5 114	4 257	3 973	3 784	3 844
Pigs	3 315	1 888	1 533	1 185	1 010

(a) Eight hectares and over up to 1973-74; 10 hectares and over for 1974-75. Corresponding figures for 1973-74 using the 10 hectare limit are: barley, 358; oats, 243; wheat, 70.

(b) 0.4 hectares and over up to 1971-72; 0.5 hectares and over from 1972-73.

It should be noted that a fall in the number of holdings engaged in a particular activity does not necessarily involve decreased total activity. Holdings carrying cattle have decreased over the last 10 years while cattle numbers have doubled in the same period. However, the decline in the number of holdings growing fruit has been matched by an actual fall in crop area and in total production.

Land Utilisation on Agricultural Holdings

Agricultural holdings at present occupy 36.5 per cent of Tasmania's area of 6 830 000 hectares; details of land utilisation follow:

Land Utilisation on Agricultural Holdings

(Hectares)

Particulars of usage	1964-65	1972-73	1973-74	1974-75
Crops (excluding sown pastures harvested) (a)	90 846	79 859	73 908	66 665
Fallow (b)	32 103	11 309	<i>n.a.</i>	<i>n.a.</i>
Sown pastures (c)	652 316	855 649	919 784	921 229
Balance (used mainly for grazing)	1 822 950	1 644 732	1 567 025	1 504 385
Total area of all holdings	2 598 216	2 591 549	2 560 717	2 492 279

(a) Excludes area of sown pasture harvested; includes orchards and small fruits.

(b) Excludes short period or summer fallow. Not collected from 1973-74; included in 'Balance'.

(c) Includes area harvested. Lucerne is classified to sown pastures.

Definition of 'Crops'

'Crops' as specified in the previous table, refers only to cultivated fields and orcharding land. However, it is reasonable to regard as a crop the yield obtained from harvesting sown pastures. The next table shows the total area of crops, using this wider definition and taking account of double-cropping:

Total Area of Crops
(Hectares)

Area	1964-65	1972-73	1973-74	1974-75
Area used for crops (a)	90 846	79 859	73 908	66 665
Area double cropped	1 486	3 052	2 575	1 883
Sown pastures harvested (b)	76 080	54 777	97 164	84 171
Total area of crops	168 413	137 688	173 647	152 719

(a) As shown in previous table.

(b) See text below.

In 1972-73, no details of the area of pasture cut for silage and green feed were collected. In this and the previous table, lucerne is classified as a sown pasture.

Definition of 'Sown Pasture'

The next table shows the total area of sown pasture and distinguishes between areas cut for various purposes and areas simply grazed:

Sown Pasture: Classification of Total Area
(Hectares)

Particulars	1964-65	1972-73	1973-74	1974-75
Pasture harvested—				
Hay	67 250	53 937	88 884	78 557
Seed	3 647	840	3 982	2 219
Green feed or silage	5 183	<i>n.a.</i>	4 298	3 395
Total pastures harvested	76 080	54 777	97 164	84 171
Pastures not harvested	576 236	800 872	822 620	837 058
Total sown pasture	652 316	855 649	919 784	921 229

Trend in Land Utilisation

The total area of agricultural holdings is still approximately the same as it was at the end of World War I. The most striking change has been the rapid development of sown pasture, the previous table showing a 41 per cent increase in the decade ending 1974-75. In 1944-45 the area of sown pasture was under 180 000 hectares; it passed 500 000 hectares in 1958-59 and exceeded 800 000 hectares in 1969-70. A substantial increase has also occurred in the area of sown pasture harvested.

Grain crops are no longer the dominant item and many primary producers, through their development of sown pasture, have become grassland farmers with the mower and pick-up baler as their main 'harvesting' machines (as opposed to headers and strippers on ploughed fields). The trend to grassland farming has meant greatly increased capacity to carry stock, the numbers of sheep having doubled and cattle trebled since World War II. In the decade ending 1974-75, sheep increased 9 per cent from 3.8 to 4.1 million, cattle by 104 per cent from 451 000 to 921 000. (Sheep numbers reached their highest level, 4.6 million, in 1969-70.)

Temporary and Permanent Pasture

It should be noted that some of the areas included as sown pasture are 'temporary' in the sense that they may be put under crop after some years of use for grazing. In the same sense, specific areas used for crops in any year are also 'temporary' since they may later be converted to sown pasture. This rotational pattern, characteristic of much of Tasmania's mixed farming, obviously is designed to maintain soil fertility at a high level and to guard against the soil exhaustion associated with the earlier era of intense cultivation of cash crops. 'Ley' farming is the technical term for this rotational method. Farm statistics for 1974-75 show the area of sown pasture as 921 229 hectares.

CROPS

The summary table below shows the area devoted to principal crop types. The table shows that the total area of pasture crops (harvested for hay, seed, green feed and silage) varies significantly from season to season.

Area of Principal Crops: Summary
(Hectares)

Crop	1964-65	1972-73	1973-74	1974-75
Section 1 (a)—				
Cereals for grain	24 465	23 558	22 826	19 629
Legumes mainly for grain	3 270	1 334	1 317	1 607
Crops for hay (b)	5 697	4 450	3 040	1 926
Crops for green feed or silage (c)	37 414	33 849	30 731	26 872
Fruit—Orchard tree	8 270	6 608	5 414	4 169
Berry and small	785	615	582	579
Vegetables for sale for human consumption	10 926	10 237	10 288	11 521
Hops	637	616	703	662
Oil poppies	(d)	1 220	854	1 146
Other crops	869	430	727	437
Total section 1 (e)	92 332	82 917	76 483	68 548
Section 2—				
Pasture harvested for hay, seed, green feed or silage (f)—				
Pasture hay	67 250	53 937	88 884	78 557
Pasture seed	3 647	840	3 982	2 219
Pasture harvested for green feed or silage	5 183	n.a.	4 298	3 395
Total section 2	76 080	(g)54 777	97 164	84 171
Total area of crops	168 413	(g)137 688	173 647	152 719

(a) Section 1 excludes pastures harvested for hay, seed, green feed or silage; details for these are given in section 2.

(b) Excludes pasture hay; see section 2.

(c) Includes vegetables for stock feed but excludes pastures harvested for green feed or silage; see section 2.

(d) Prior to 1970-71 oil poppies were included in 'Other crops'.

(e) Includes land double cropped; in 1974-75 area involved was 1 883 hectares.

(f) Includes lucerne harvested.

(g) Excludes pasture harvested for green feed or silage.

Details of individual crops, their area, production and yield per hectare, are shown in the next table:

Crops: Area, Production and Yield Per Hectare, 1974-75

Crop	Area (hectares)	Production		
		Unit of quantity	Total	Yield per hectare
Cereals for grain—				
Barley	12 020	tonnes	27 266	2.27
Oats	6 069	"	5 496	0.90
Rye	5	"	1	0.20
Wheat	1 535	"	2 282	1.48
Legumes mainly for grain—				
Beans—Navy (haricot)	101	tonnes	63	0.62
Horse	67	"	94	1.39
Field peas—Blue	969	"	2 171	2.24
Grey and other	470	"	788	1.67
Hay—				
Pasture (incl. lucerne)	78 557	tonnes	375 969	4.79
Oaten	1 381	"	5 722	4.14
Other	545	"	2 566	4.71
Orchard tree fruit—				
Bearing—				
Apples	3 335	'000 bush	5 013	1.50
Apricots	73	"	13	0.18
Pears	194	"	158	0.81
Other	29	"	..	..
Non-bearing	538	..	..	..
Berry and small fruit—				
Bearing—				
Currants (black and red)	228	tonnes	951	4.17
Gooseberries	9	"	65	6.94
Loganberries	31	"	248	7.92
Raspberries	169	"	1 216	7.18
Strawberries	13	"	94	7.26
Non-bearing	127	..	..	..
Vegetables for human consumption—				
Beans, French and runner	1 078	tonnes	7 982	7.41
Peas, green (a)—				
For processing	4 635	"	21 070	4.55
Sold in pod	16	"	11	0.66
Potatoes	4 143	"	95 610	23.07
Turnips, swede and white	224	"	3 338	14.87
Other	1 425	..	..	..
Pasture seed (incl. lucerne)	2 219	kg	557 911	251.42
Other crops—				
Hops (b)	662	tonnes	1 439	2.17
Oil poppies	1 146	..	n.p.	n.p.

(a) Ex-shell weight.

(b) Production is expressed as dry weight.

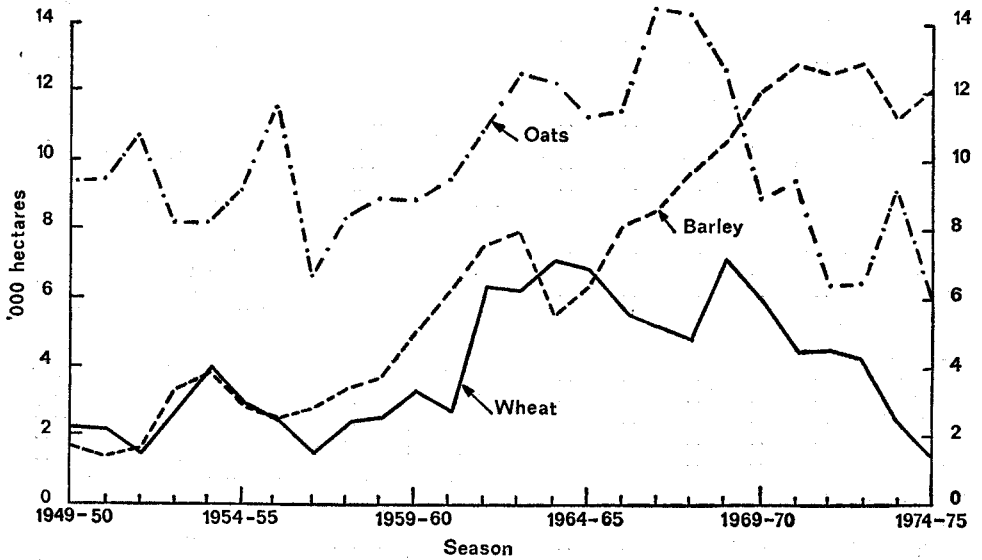
Principal Crops

The data on area and production of crops are compiled, in general, to give totals for each municipality. In subsequent parts of this chapter dealing with geographical distribution, the information is presented only in statistical divisions; however, the Hobart and Southern Division totals have been combined since the

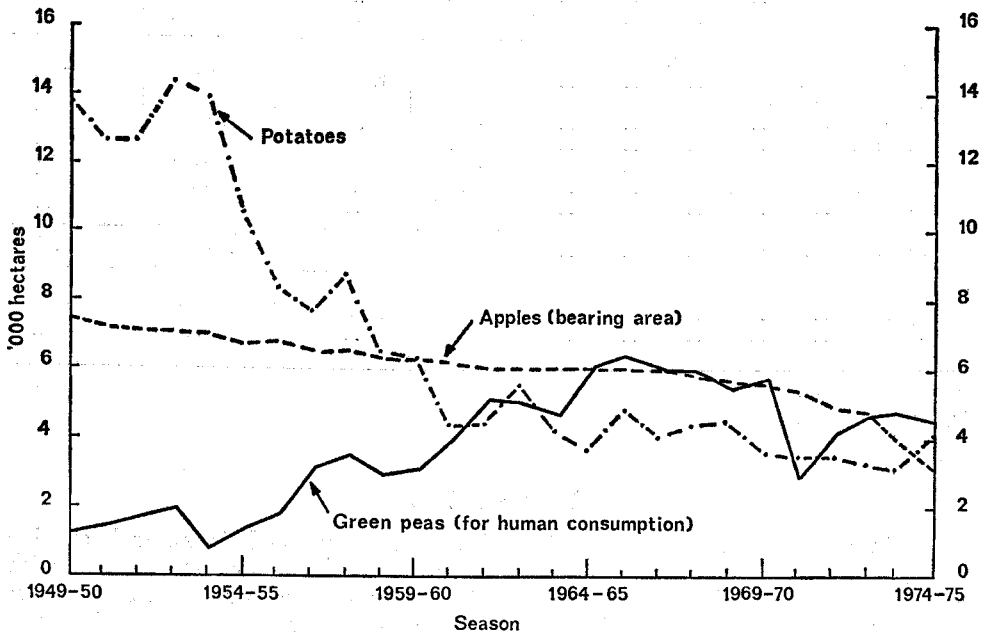
Hobart Division is basically a concept related to a population which is predominantly urban in character. A description of the Tasmanian statistical divisions and sub-divisions appears in Chapter 2.

Trends in areas of six of the more important crops over the last 25 years are shown in the following graphs:

Area of Selected Cereals for Grain, Tasmania, 1949-50 to 1974-75



Area of Selected Crops, Tasmania, 1949-50 to 1974-75



Summary of Principal Crops

The following tables, which summarise the area of selected principal crops and give details of production for recent years, illustrate: (i) the increasing importance of barley for grain, and French and runner beans for processing; and (ii) the declining importance of orchards and small fruit.

Selected Principal Crops: Area and Production

Crop	1964-65	1970-71	1971-72	1972-73	1973-74	1974-75
AREA (HECTARES)						
Barley for grain	6 264	12 884	12 576	12 802	11 121	12 020
Oats for grain	11 366	9 444	6 432	6 477	9 173	6 069
Wheat for grain	6 801	4 479	4 570	4 251	2 521	1 535
Total hay	72 947	85 653	81 176	58 387	91 924	80 483
Field peas	3 054	2 497	1 445	1 146	1 038	1 439
Pasture seed	3 647	2 060	2 061	840	3 982	2 219
Hops (a)	637	530	539	616	703	662
Beans, French and runner	190	569	723	738	1 089	1 078
Peas, green—						
For processing	6 068	3 013	4 290	4 779	4 750	4 635
Sold in pod	87	23	12	21	11	16
Potatoes	3 801	3 640	3 593	3 330	3 127	4 143
Orchard (tree) bearing—						
Apples	6 286	5 715	5 218	4 980	4 148	3 335
Pears	594	448	385	345	278	194
Berry and small fruit, bearing—						
Currants (black and red)	354	238	238	232	216	228
Loganberries	50	38	42	38	39	31
Raspberries	204	227	206	198	179	169
Strawberries	28	19	21	24	15	13
PRODUCTION						
Barley for grain .. .. .tonnes	12 006	29 763	27 696	18 711	23 790	27 266
Oats for grain .. .. .tonnes	9 443	8 820	7 050	7 144	8 247	5 496
Wheat for grain .. .. .tonnes	9 911	7 691	8 357	7 701	3 510	2 282
Total hay .. .. .tonnes	370 204	447 746	449 937	233 037	461 459	384 257
Field peas .. .. .tonnes	5 181	5 519	2 320	1 047	1 750	2 959
Pasture seed .. .. .tonnes	1 013	539	432	166	1 130	558
Hops (b) .. .. .tonnes	947	1 077	1 159	1 450	1 949	1 439
Beans, French and runner .. .. .tonnes	1 757	5 294	5 988	6 237	8 840	7 982
Peas, green (c)—						
For processing .. .. .tonnes	23 307	14 875	17 617	18 976	17 139	21 070
Sold in pod .. .. .tonnes	116	24	14	27	18	11
Potatoes .. .. .tonnes	57 978	72 591	70 370	78 286	62 866	95 610
Apples .. .. .'000 bush	6 207	7 373	5 873	7 024	5 948	5 013
Pears .. .. .'000 bush	490	397	296	302	309	158
Currants (black and red) .. .. .tonnes	1 043	1 015	1 140	905	865	951
Loganberries .. .. .tonnes	283	230	255	271	239	248
Raspberries .. .. .tonnes	1 530	1 340	1 311	1 466	946	1 216
Strawberries .. .. .tonnes	144	59	85	112	103	94

(a) Includes areas not in full bearing.

(b) Dry weight.

(c) Ex-shell weight.

Cereals for Grain

Barley has become the most important cereal grain crop, the area having levelled off after a steady increase up to 1970-71. The area under wheat for grain has declined to the lowest level since 1951-52.

The next table shows the geographical distribution of cereal grain growing:

**Area of Cereals for Grain in Statistical Divisions, 1974-75
(Hectares)**

Cereals for grain	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (a)	North Eastern (a)	Total	North Western (a)	Western (a)	Total	
Barley ..	3 810	4 730	1 234	5 964	2 246	..	2 246	12 020
Oats ..	2 156	1 915	1 766	3 681	232	..	232	6 069
Rye ..	5	..	..	..	..	..	..	5
Wheat ..	607	362	515	877	51	..	51	1 535
Total ..	6 578	7 007	3 515	10 522	2 529	..	2 529	19 629

(a) Statistical sub-division.

Legumes Mainly for Grain

The geographical distribution of these crops follows:

**Area of Legumes Mainly for Grain in Statistical Divisions, 1974-75
(Hectares)**

Crop	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (a)	North Eastern (a)	Total	North Western (a)	Western (a)	Total	
Beans—								
Navy ..	..	37	..	37	64	..	64	101
Horse ..	1	60	3	63	3	..	3	67
Field peas—								
Blue ..	16	876	15	891	62	..	62	969
Grey, etc. ..	101	287	..	287	82	..	82	470

(a) Statistical sub-division.

Hay and Green Feed

The following table shows the geographical distribution of hay and green feed crops:

**Area of all Hay and Crops for Green Feed or Silage in Statistical Divisions, 1974-75
(Hectares)**

Crop	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (a)	North Eastern (a)	Total	North Western (a)	Western (a)	Total	
Hay—								
Pasture ..	11 767	22 668	12 806	35 474	31 282	34	31 316	78 557
Oaten ..	423	379	154	533	425	..	425	1 381
Other ..	158	74	37	111	276	..	276	545
Total ..	12 348	23 121	12 997	36 118	31 983	34	32 017	80 483
Crops for green feed or silage (b) ..	9 879	7 413	7 778	15 191	5 123	74	5 197	30 267

(a) Statistical sub-division.

(b) Includes vegetables for stock feed and pasture harvested for green feed or silage.

The North Western sub-division, with the largest area devoted to sown pastures, produces approximately 40 per cent of the State's hay. Its predominance in area under hay and green feed crops can be related to the fact that it carries nearly 40 per cent of the State's cattle and is the principal dairying area.

The principal green feed crop is oats (nearly half of total green feed area); other green feed crops include soft turnips, rape, chou moellier, barley, millet, yecorn and wheat.

Orchard Tree Fruit and Berry and Small Fruit

The geographical distribution of orchards and berry and small fruit areas is shown below:

**Area of Orchard Tree and Berry and Small Fruit in Statistical Divisions, 1974-75
(Hectares)**

Type	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (a)	North Eastern (a)	Total	North Western (a)	Western (a)	Total	
Orchard tree fruit ..	3 146	704	14	717	306	..	306	4 169
Berry and small fruit ..	563	6	7	13	3	..	3	579

(a) Statistical sub-division.

Orcharding is heavily concentrated in and around the Huon Valley (Southern Statistical Division); the other main area is in the Tamar Valley (Northern Division). Berry and small fruit growing is almost entirely confined to the Derwent and Huon Valleys.

In the period from 1948-49 State production of berry and small fruit has dropped by almost two-thirds. In spite of this Tasmania is still a principal producer of raspberries and black and red currants.

Principal Small Fruits: Area and Production

Year	Currants (black and red)		Loganberries		Raspberries		Strawberries	
	Bearing area	Pro-duction	Bearing area	Pro-duction	Bearing area	Pro-duction	Bearing area	Pro-duction
	hectares	'000 kg	hectares	'000 kg	hectares	'000 kg	hectares	'000 kg
1948-49 (a) ..	812	2 735	86	380	844	3 449	101	395
1970-71 ..	238	1 015	38	230	227	1 340	19	59
1971-72 ..	238	1 140	42	255	206	1 311	21	85
1972-73 ..	232	905	38	271	198	1 466	24	112
1973-74 ..	216	865	39	239	179	946	15	103
1974-75 ..	228	951	31	248	169	1 216	13	94

(a) Representative year from period when small fruit areas were at record level.

Although apple production is declining the gross value of the apple crop still represents about one quarter of the total gross value of all crops. The next table gives recent details of area, production and average yield and illustrates the effect of economic problems confronting the industry.

Apples: Area and Production

Season	Area		Number of trees		Production		
	Bearing	Non-bearing	Bearing	Non-bearing	Total	Yield	
						Per hectare	Per bearing tree
	hectares	hectares	'000	'000	'000 bush.	bush.	bush.
1970-71	5 715	1 425	2 124	530	7 373	1 290	3.47
1971-72	5 218	1 358	2 015	524	5 873	1 125	2.91
1972-73	4 980	1 097	1 977	435	7 024	1 410	3.55
1973-74	4 148	837	1 647	332	5 948	1 434	3.61
1974-75	3 335	508	1 323	202	5 013	1 503	3.79

After World War I, the apple area was 10 500 hectares but the decline in area since then has been offset to a large extent by greatly increased average yield per hectare. Although the area planted with apples in New South Wales and Victoria is greater than in Tasmania the much higher average yields in Tasmania (1 503 bushels per hectare in 1974-75) have caused production of apples to exceed that of any other state. The higher yields, which are more than twice those in some states, can be attributed to several factors including a much greater density of trees and the greater use of irrigation.

Economic Problems: In recent years, economic problems related to the importance of overseas markets and shipping costs have prompted the introduction of assistance to apple growers through schemes providing a stabilisation price for each variety of apple exported at risk to European markets. In the 1970-71 export season the Federal Government's *Apple and Pear Stabilisation Act* came into effect. Under this Act a support price is decided upon for each variety and, depending on the average market return for that variety, payments either into or from the fund are calculated. Pay-outs, which predominate, are made up to a maximum of eighty cents per bushel for any variety. Net amounts paid for apples under this scheme were: 1970-71, \$1 701 000; 1971-72, \$1 872 000; 1972-73, \$1 798 000; 1973-74, \$1 918 000; 1974-75, \$1 733 000. In the 1973-74 and 1974-75 seasons further subsidies were provided by equal contributions from the Federal and Tasmanian Governments under the *Apple Industry (Assistance) Act*. Under this Act, which effectively lifted the limit on payments under the stabilisation scheme, the amounts paid have been: 1973-74, \$3 180 000; 1974-75, \$1 144 000. Details relating to compensation of growers for removal of apple and pear trees are given in the earlier section 'Rural Reconstruction'.

As shown earlier in this Chapter, the number of holdings with at least 0.5 hectares of orchard tree fruit (apples, pears, apricots, etc.) was only 486 at 31 March 1975 compared to 612 in 1974 and 768 in 1973; this decline is indicative of the serious problems facing the industry. The total government subsidy towards apples under the two Acts specified above (\$2.877m in 1974-75) gives an average of \$5 920 per holding in the 1974-75 season for the 486 holdings with at least 0.5 hectares of orchard tree fruit at 31 March 1975 (not all of these holdings produce apples).

Concurrent with increasing economic problems the number of apple trees planted has decreased markedly. In 1966 total tree plantings were 108 000 comprising: (i) replacement plantings in existing orchards for trees removed, 38 000; (ii) trees planted in new orchard areas, 70 000. In 1975 plantings were only 10 000 trees (6 000 replacement plantings and 4 000 trees in new orchard areas).

A wide variety of apples is produced in Tasmania but many only in small quantities. Of the total production of 5.013m bushels in 1974-75, two varieties accounted for 38 per cent (granny smith, 20 per cent and democrat, 18 per cent) while jonathon, delicious (golden and other) and sturmer pippin accounted for a further 44 per cent between them.

The next table shows tree plantings during 1974 and 1975 in new orchard areas and replacement plantings in existing orchard areas by variety.

Apple and Pear Trees Planted According to Variety
(Number)

Variety	1974			1975		
	In existing orchards (a)	In new orchards	Total	In existing orchards (a)	In new orchards	Total
APPLES						
Jonathon	24	..	24	195	..	195
Sturmer pippin	14	..	14	20	..	20
Democrat	377	390	767	342	..	342
Granny smith	800	270	1 070	2 115	..	2 115
Cleopatra .. .. .	..	..	..	31	..	31
Delicious—Golden	464	20	484	708	..	708
Other	7 083	1 810	8 893	1 998	2 585	4 583
Other	1 411	460	1 871	462	1 711	2 173
Total	10 173	2 950	13 123	5 871	4 296	10 167
PEARS						
Packhams triumph	31	144	175	75	416	491
Winter cole .. .. .	..	19	19	..	..	..
Beurre bosc	247	61	308	75	..	75
Other .. .. .	..	..	..	..	..	..
Total	278	224	502	150	416	566

(a) Trees planted as replacements for trees removed.

Vegetables for Sale for Human Consumption

As previous area and production tables indicated, there has been a decline in potato growing; the next table traces the history of this crop since 1860:

Potatoes: Area Under Crop and Total Production, Selected Years

Year	Area	Production		Year	Area	Production	
		Total	Yield per hectare			Total	Yield per hectare
1860-61 ..	hectares 3 084	tonnes 34 128	tonnes 11.07	1930-31 ..	hectares 15 066	tonnes 96 818	tonnes 6.43
1870-71 ..	3 975	36 606	9.21	1940-41 ..	15 121	115 844	7.66
1880-81 ..	4 217	33 070	7.84	1944-45 (a)	32 817	350 773	10.69
1890-91 ..	8 148	74 332	9.12	1950-51 ..	12 780	125 990	9.86
1900-01 ..	9 335	95 368	10.22	1960-61 ..	4 401	39 677	9.02
1910-11 ..	10 615	71 215	6.71	1970-71 ..	3 640	72 591	19.94
1920-21 ..	12 950	90 102	6.96	1974-75 ..	4 143	95 610	23.07

(a) Peak area and production year.

Potato growing was for many years a major activity in the North Western Sub-division and even in 1974-75, 82 per cent of the area and 84 per cent of the production of the State's potato crop was located in that area. The size of the Tasmanian potato crop has been influenced by the demand from other states, in particular New South Wales. In 1945-46, over 166 000 tonnes were exported; annual exports from 1960-61 to 1968-69 ranged between 28 000 and 39 000 tonnes but in 1974-75 they were only 2 552 tonnes. The considerably increased yield per hectare in recent years has been due mainly to the greater use of irrigation and artificial fertilisers. In 1974-75, 76 per cent of the State potato crop was irrigated compared with only 24 per cent 10 years earlier. (See 'Technical Aspects of the Agricultural Industry' later in this Chapter.)

As shown in the following table kennebec is the principal potato variety accounting for 81.3 per cent of total production.

Potato Varieties, 1974-75

Variety	Area	Production	Average yield
	hectares	tonnes	tonnes per hectare
Bismark	272	3 024	11.13
Brownell	339	4 997	14.73
Kennebec	3 096	77 756	25.11
Pink eye	75	620	8.28
Pontiac	108	2 623	24.37
Russet burbank	45	1 611	36.00
Up to date	49	591	11.94
Other	160	4 388	27.42
Total	4 143	95 610	23.07

The decline in the export crop has been largely offset by increased opportunities for disposing of potatoes and other vegetable crops to dehydrating, canning and deep freezing plants developed on the north-west coast and in the Scottsdale area since World War II. The principal vegetable crop currently grown for processing is green peas.

The concentration of vegetable growing in certain areas of the State is illustrated in the following table:

Vegetables for Sale for Human Consumption (a)
Area Under Selected Crops in Statistical Divisions, 1974-75
(Hectares)

Crop	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (b)	North Eastern (b)	Total	North Western (b)	Western (b)	Total	
Beans, French and runner ..	..	3	60	63	1 014	..	1 014	1 078
Peas, green ..	8	1 602	279	1 881	2 762	..	2 762	4 651
Potatoes ..	303	134	325	459	3 377	5	3 382	4 143
Turnips, swede and white ..	46	4	23	27	152	..	152	224
Other vegetables ..	190	112	162	274	962	..	962	1 425
Total ..	546	1 855	849	2 704	8 267	5	8 271	11 521

(a) Includes vegetables for processing.

(b) Statistical sub-division.

Hops

The hop industry has been established in Tasmania since the early nineteenth century. However, in recent years there has been a marked change in the structure of the industry. Grower numbers have been falling for some years as the growers with small areas drop out. Hand harvesting is now uneconomic and growers must have access to harvesting machines or have a large enough area to warrant the purchase of such a machine. If only one variety is grown the drying kiln must be large enough to handle the entire crop in three weeks.

The almost universal use of the variety 'Pride of Ringwood' has led to a general increase in per hectare yields. As well, this variety has a higher percentage of usable resin than the older types and at the same time more efficient extraction methods have been devised. This has led to a changed disposal pattern with more emphasis on export, although export markets have not been particularly rewarding in the last three years and stockpiling has occurred.

Other changes have also taken place. The majority of hops now produced are seedless (through the exclusion of male plants) so as to meet changing brewery demand and the market for hop extract. This change to seedless hops has occurred over the last three years and consequently, as yields are lower than for seeded hops, the comparability of data for this period with that for earlier years is affected. Also, an increased quantity of hops is being pelletised before shipment. In this process the dried hops are hammer-milled, compressed into pellets and put into airtight containers that are either vacuum sealed or nitrogen flushed before sealing. This reduces resin losses due to oxidation, allows storage without refrigeration and decreases the bulk to be shipped.

The north-east of the State increased its share of total area at the expense of the Derwent and Huon Valleys in 1974-75. Tasmania's total production of 1 439 tonnes was over 60 per cent of total Australian hop production.

The next table shows details of area, production and value over a five-year period.

Hops: Area, Production and Value

Season	Number of growers	Total area	Production		
			Total (a)	Yield per hectare (a)	Value
		hectares	'000 kg	kg	\$'000
1970-71	81	530	1 077	2 032	1 820
1971-72	74	539	1 159	2 149	2 186
1972-73	73	616	1 450	2 353	2 844
1973-74	76	703	1 949	2 772	3 213
1974-75	50	662	1 439	2 174	1 238

(a) Dry weight.

Oil Poppies

Oil poppies are a relatively new cash crop in Tasmania. Initially they were grown on the mid north-west coast, but more recently oil poppies have been grown in other parts of the State although adverse weather conditions, particularly excessive rain, are proving a problem in some areas.

In 1974-75 the total area of oil poppies was 1 146 hectares, the distribution being: Hobart and Southern statistical divisions, 340 hectares; Northern, 463 hectares; and Mersey-Lyell, 344 hectares. Production figures are not available for publication.

Oil poppy growing in Australia which provides the raw material in the production of codeine, is at present restricted to Tasmania and with two processing plants now operating, production after 1974-75 is expected to reach considerably higher levels than previously.

Pasture Seed

The geographical distribution (in hectares) of areas yielding pasture seed in 1974-75 was as follows: Northern, 1 745; Southern, 209; Mersey-Lyell, 232; Hobart, 33; total, 2 219. The area of pasture seed fluctuates widely depending on farming conditions; in 1972-73 only 840 hectares yielded seed.

The main seed varieties produced on Tasmanian farms during the past five years are listed in the following table:

Pasture Seed Production (a)
(kg)

Type of grass	1970-71	1971-72	1972-73	1973-74	1974-75
Clover—White	52 834	45 324	6 643	22 197	22 480
Red	31 294	2 880	..	6 217	2 027
Other	2 489	14 461	..	1 360	..
Ryegrass—Perennial	305 322	212 917	75 338	563 870	278 258
H.1.	53 952	56 309	19 146	86 713	10 343
Italian	33 631	57 022	35 929	399 425	210 774
Cocksfoot	23 064	1 905	336	11 157	13 350
Phalaris tuberosa	5 639	7 801	5 942	10 067	9 440
Lucerne	610	4 790	1 830	8 801	5 499
Other	30 329	28 208	20 389	20 125	5 740
Total	539 165	431 616	165 553	1 129 932	557 911

(a) Includes all pasture seed harvested, whether as a separate crop or from an area sown to grain crops.

'All Other Crops'

In the table 'Area of Principal Crops' the item 'Other crops' (437 hectares in 1974-75) includes lavender, flower seeds, cut flowers, lupins and a variety of other crops grown for seed.

LIVESTOCK

Introduction

This subject is dealt with in two parts: (i) this section, which deals with numbers of livestock on agricultural holdings; and (ii) a later section, 'Livestock Products'.

The first part needs no comment but the second part (Livestock Products) requires explanation. In relation to the various types of livestock, the following products are included:

Cattle—meat, milk, butter, cheese. *Sheep*—meat, wool.

Pigs—meat.

Poultry—meat, eggs.

Butter, meat and cheese, although regarded as manufacturing industry products, are included in the later section 'Livestock Products', because the pattern and scale of livestock farming is closely linked to the processing of these products.

Number of Livestock on Agricultural Holdings

The following summary table shows the number of livestock on agricultural holdings since 1860. The table highlights the increasing importance of cattle relative to the slower growth in sheep numbers.

Livestock on Agricultural Holdings: Selected Years

Year	Horses	Cattle	Sheep	Pigs
	no.	no.	'000	no.
1860 (a)	21 034	83 366	1 701	31 290
1900	31 607	165 516	1 684	68 291
1939-40 (a)	29 605	252 484	2 677	44 941
1949-50 (b)	21 197	274 740	2 170	35 841
1959-60	10 512	375 342	3 494	67 118
1969-70	6 478	646 439	4 560	111 275
1974-75	<i>n.a.</i>	920 835	4 136	63 973
Tasmanian numbers as proportion of Australian total (1974-75) ..	% <i>n.a.</i>	% 2.8	% 2.7	% 2.9

(a) At 31 December.

(b) At 31 March from 1949-50.

Cattle

Classification

The traditional way of classifying cattle has been to call them either 'dairy' or 'beef' cattle but this has possibly been confusing since the terms may refer to either *purpose* or *breed*. In the period 1942-43 to 1962-63, the annual farm census required this dissection but the terms were not defined. As from 1963-64 the cattle groupings have been as follows: (i) bulls classified by *breed*; (ii) 'house cows' specified separately; and (iii) all other cattle classified according to *purpose* (i.e. milk production or meat production). The results of the 1973-74 and 1974-75 farm censuses are given in the following table which closely follows the lay-out of the collection form and provides an analysis in which it is possible to isolate the number of cows and heifers directly associated with dairying:

Classification of Cattle on Agricultural Holdings at 31 March

	Description	1974	1975
Bulls used or intended for service	Dairy breed bulls (1 year and over)	2 808	3 091
	Beef breed bulls (1 year and over)	11 580	13 408
	Bull calves (under 1 year) intended for service—		
	Dairy breed bull calves	1 207	1 153
	Beef breed bull calves	4 562	4 594
Cows and heifers used or intended for production (for sale) of milk and cream	Cows—In milk at 31 March	116 169	} 143 719
	Dry at 31 March	24 232	
	Heifers (1 year and over)	35 559	38 990
	Heifer calves (under 1 year)	36 911	36 880
House cows (in milk and dry) and heifers (1 year and over) being kept primarily for own milk supply		3 444	3 439
Cattle and calves (not included above) mainly for meat production	Cows and heifers (1 year and over)	293 831	316 027
	Calves (under 1 year) including vealers	223 544	237 278
	Other (1 year and over) i.e. steers, bullocks, etc.	130 354	122 256
Total cattle and calves for all purposes		884 201	920 835

The total of 'Cows and heifers used or intended for production (for sale) of milk and cream' in the previous table (219 589) can be associated directly with the dairying industry. Similarly the total of 'Cattle and calves, mainly for meat production' (675 561) can be associated directly with the beef cattle industry. The previous change in classification makes it impossible to compare, in full detail, the description of cattle in 1964-65 and subsequent years with descriptions reported in previous years but the following table is compiled to show broad groups regarded as generally comparable:

Description of Cattle on Agricultural Holdings at 31 March

Year	Number of holdings with cattle	Bulls (1 year and over)	Cows and heifers (1 year and over)	Calves (under 1 year)	Other	Total cattle
1950	9 759	6 186	158 424	60 601	49 529	274 740
1955	9 668	7 002	194 016	78 252	40 147	319 417
1960	9 031	7 237	229 162	100 849	38 094	375 342
1965	8 384	(a) 8 311	283 955	119 455	39 750	451 471
1970	8 405	10 812	378 836	200 588	56 203	646 439
1971	8 384	12 188	420 738	229 500	70 984	733 410
1972	8 363	13 769	458 785	261 703	95 062	829 319
1973	8 314	14 638	481 201	288 489	116 161	900 489
1974	8 098	14 388	473 235	266 224	130 354	884 201
1975	7 986	16 499	502 175	279 905	122 256	920 835

(a) The specification of 'Bull calves (under 1 year)' from 1963-64 may have affected the comparability of the series.

The distribution of holdings with cattle is shown below:

Distribution of Cattle in Statistical Divisions, 31 March 1975

Statistical division or sub-division	Number of holdings with cattle	Total dairy cattle (a)	Total beef cattle (b)	Total cattle
Hobart and Southern	2 336	19 284	158 234	177 518
Northern—				
Tamar	1 864	54 405	169 526	223 931
North Eastern	809	26 948	158 988	185 936
Total	2 673	81 353	328 514	409 867
Mersey-Lyell—				
North Western	2 964	126 626	205 150	331 776
Western	13	9	1 665	1 674
Total	2 977	126 635	206 815	333 450
Total Tasmania	7 986	227 272	693 563	920 835

(a) Includes dairy breed bulls and bull calves, cows and heifers used or intended for production of milk and cream for sale and house cows.

(b) Includes beef breed bulls and bull calves and other cattle and calves mainly for meat production.

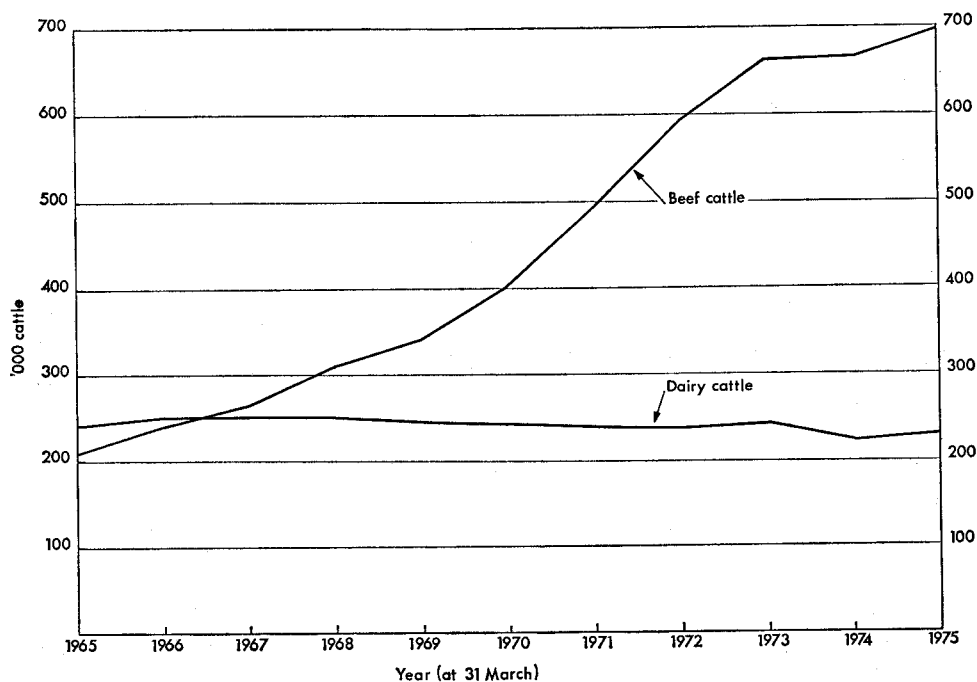
Breeds of Cattle

The main breeds of cattle in Tasmania for milk production are jersey, friesland and ayrshire with small numbers of milking shorthorn and guernsey, while breeds used for the production of beef are hereford, aberdeen angus, shorthorn and devon. In recent years, new cattle lines such as the brahmans, murray greys and charolais have been introduced by farmers wishing to utilise the advantages of cross-breeding.

The following graph gives an indication of the recent trend in numbers of cattle according to their association with the beef industry or the dairy industry. Details of the classification used are given in the notes to the last table. For the years 1965 to 1968 there was no split of bull calves between beef and dairy so this was estimated for the graph.

Numbers of Beef and Dairy Cattle, Tasmania, 1965 to 1975

(Cattle Mainly for Meat Production and Cattle Mainly for Milk Production)



Sheep

The table below shows the trend in sheep numbers on agricultural holdings since 1952:

Sheep on Agricultural Holdings at 31 March (*000)

Year	Sheep	Year	Sheep	Year	Sheep	Year	Sheep
1952	2 338	1958	3 298	1964	3 600	1970	4 560
1953	2 422	1959	3 536	1965	3 793	1971	4 517
1954	2 465	1960	3 494	1966	4 127	1972	4 237
1955	2 595	1961	3 439	1967	4 321	1973	3 824
1956	2 673	1962	3 532	1968	4 428	1974	3 964
1957	2 943	1963	3 570	1969	4 395	1975	4 136

The next table shows the geographical distribution and various descriptions of sheep and also details of the lambing season:

Description of Sheep at 31 March 1975 and Lambing, 1974 Season, in Statistical Divisions

Particulars	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (a)	North Eastern (a)	Total	North Western (a)	Western (a)	Total	
Holdings with sheep no.	1 365	1 138	496	1 634	844	1	845	3 844
Sheep ('000)—								
Rams (1 year and over) Breeding ewes ..	20.2	13.9	12.1	26.1	3.4	..	3.4	49.7
Other ewes (1 year and over) ..	796.3	490.7	434.9	925.6	123.6	..	123.6	1 845.5
Wethers (1 year and over) ..	90.0	50.6	62.2	112.7	6.2	..	6.2	208.9
Lambs and hoggets (under 1 year) ..	540.6	176.9	259.3	436.2	21.3	..	21.3	998.0
	477.8	231.5	253.9	485.4	70.9	..	70.9	1 034.0
Total ..	1 924.9	963.5	1 022.4	1 985.9	225.3	..	225.3	4 136.2
Lambing, 1974 season—								
Ewes mated ('000) ..	708.8	430.5	394.8	825.2	109.9	..	109.9	1 644.0
Lambs marked ('000) ..	637.2	386.4	339.8	726.2	102.8	..	102.8	1 466.2
Marking ratio (%) (b) ..	89.9	88.8	86.1	88.0	93.6	..	93.6	89.2

(a) Statistical sub-division.

(b) Lambs marked as percentage of ewes mated; lamb mortality is one of the factors affecting marking ratios.

The following table summarises the descriptions of sheep on a State basis and also gives details of lambing:

Description of Sheep at 31 March and Details of Lambing: Summary

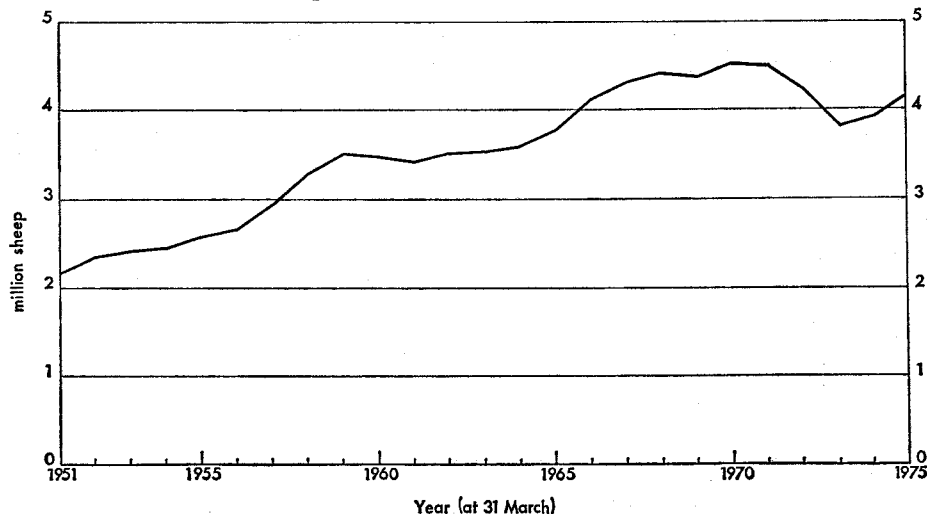
Particulars	1965	1970	1971	1972	1973	1974	1975
Holdings with sheep .. no.	5 114	4 815	4 611	4 257	3 973	3 784	3 844
Sheep ('000)—							
Rams (1 year and over) ..	43	50	51	50	48	47	50
Breeding ewes	1 739	2 026	1 994	1 841	1 711	1 788	1 846
Other ewes (1 year and over) ..	157	195	226	265	212	194	209
Wethers (1 year and over) ..	943	1 064	1 075	952	895	937	998
Lambs and hoggets (under 1 year)	910	1 225	1 171	1 128	960	998	1 034
Total	3 792	4 560	4 517	4 237	3 824	3 964	4 136
Lambing (a)—							
Ewes mated '000	1 478	1 831	1 889	1 805	1 604	1 535	1 644
Lambs marked—							
Number '000	1 374	1 715	1 705	1 617	1 369	1 361	1 466
Marking ratio (b) .. %	93.0	93.6	90.3	89.6	85.3	88.7	89.2

(a) In the season preceding the year named.

(b) Lambs marked as percentage of ewes mated.

The following graph shows the trend in sheep numbers since 1951 and highlights the decline in the early 1970's and the subsequent partial recovery.

Sheep Numbers, Tasmania, 1951 to 1975



Breeds of Sheep

The merino is the mainstay of the Australian wool industry and accounts for over 75 per cent of the Australian sheep population. However, in Tasmania the predominant sheep breeds are polwarth and corriedale; both were originally developed from merino cross-breeds. A new sheep breed, the 'cormo', has been developed in Tasmania to suit local conditions and to provide a highly fertile breed having a high yield of fine wool and good body conformation.

Over the past 10 years, the breeds of sheep reported by growers have shown a trend in favour of polwarths. Corriedale numbers, after showing a small but consistent increase for some years, are now exhibiting an opposite trend. The following table shows the percentage of the main breeds of sheep (including rams):

Proportion of Breeds of Sheep at 31 March (a)
(Per Cent)

Breed	1964	1967	1968	1969	1970	1971	1974
Polwarth	36.7	39.9	40.5	41.7	42.5	43.6	44.0
Corriedale	16.3	19.5	18.0	17.3	15.4	14.4	13.1
Merino	9.7	8.0	7.1	7.7	7.9	8.9	10.7
Romney marsh	2.3	2.2	2.0	1.9	1.2	1.3	0.7
Other breeds (b)	3.5	3.0	3.0	3.3	3.9	4.9	6.3
Comebacks	12.2	10.5	10.7	11.1	12.6	11.8	14.8
Cross-breeds	19.3	17.0	18.7	17.0	16.4	15.0	10.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Similar data are not available for 1972, 1973 or 1975.

(b) Recognised breeds of sheep which individually, in 1974, accounted for about one per cent or less of all sheep; includes cheviot, dorset horn, border leicester, English leicester, ryeland, south-down, suffolk, lincoln, poll dorset, shropshire and cormo.

The majority of all breeds of sheep are run on improved pastures. However, particularly in the Midlands, use is made of considerable areas of unimproved 'run' country for polwarths, comebacks and merinos. The Central Plateau also provides summer grazing, particularly for wethers.

Pigs

The geographical distribution of pigs, by statistical division, is shown in the next table:

Distribution of Pigs in Statistical Divisions at 31 March 1975

Particulars	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (a)	North Eastern (a)	Total	North Western (a)	Western (a)	Total	
Holdings with pigs (no.)	248	302	136	438	321	3	324	1 010
Pig numbers—								
Boars ..	184	291	129	420	368	4	372	976
Breeding sows ..	1 472	2 410	1 177	3 587	4 154	30	4 184	9 243
Other (b) ..	7 534	14 325	7 403	21 728	24 347	145	24 492	53 754
Total pigs	9 190	17 026	8 709	25 735	28 869	179	29 048	63 973

(a) Statistical sub-division.

(b) Includes baconers and porkers, backfatters, stores, weaners, suckers and slips.

Pig Population

The pig population at 31 March each year is not, in itself, a very significant figure. It is possible for a sow to produce two litters within the one year and for the offspring to number more than 10 in each litter. It follows, therefore, that the real measure of activity in pig-raising is not so much the size of the pig herd at a particular point in time but rather the number of pigs slaughtered and the dressed carcass weight of the meat so produced; such information is given in the 'Livestock Products' section of this chapter.

In the previous table, the most significant item is the number of breeding sows. A sow can be mated when only nine or ten months old and the gestation period is a mere four months. Piglets are weaned at four to six weeks—this early weaning calls for more skilled management but has the advantages of avoiding heavy weight loss by the sow and reducing the period between litters.

The following table summarises pig numbers:

Pigs on Agricultural Holdings at 31 March: Summary

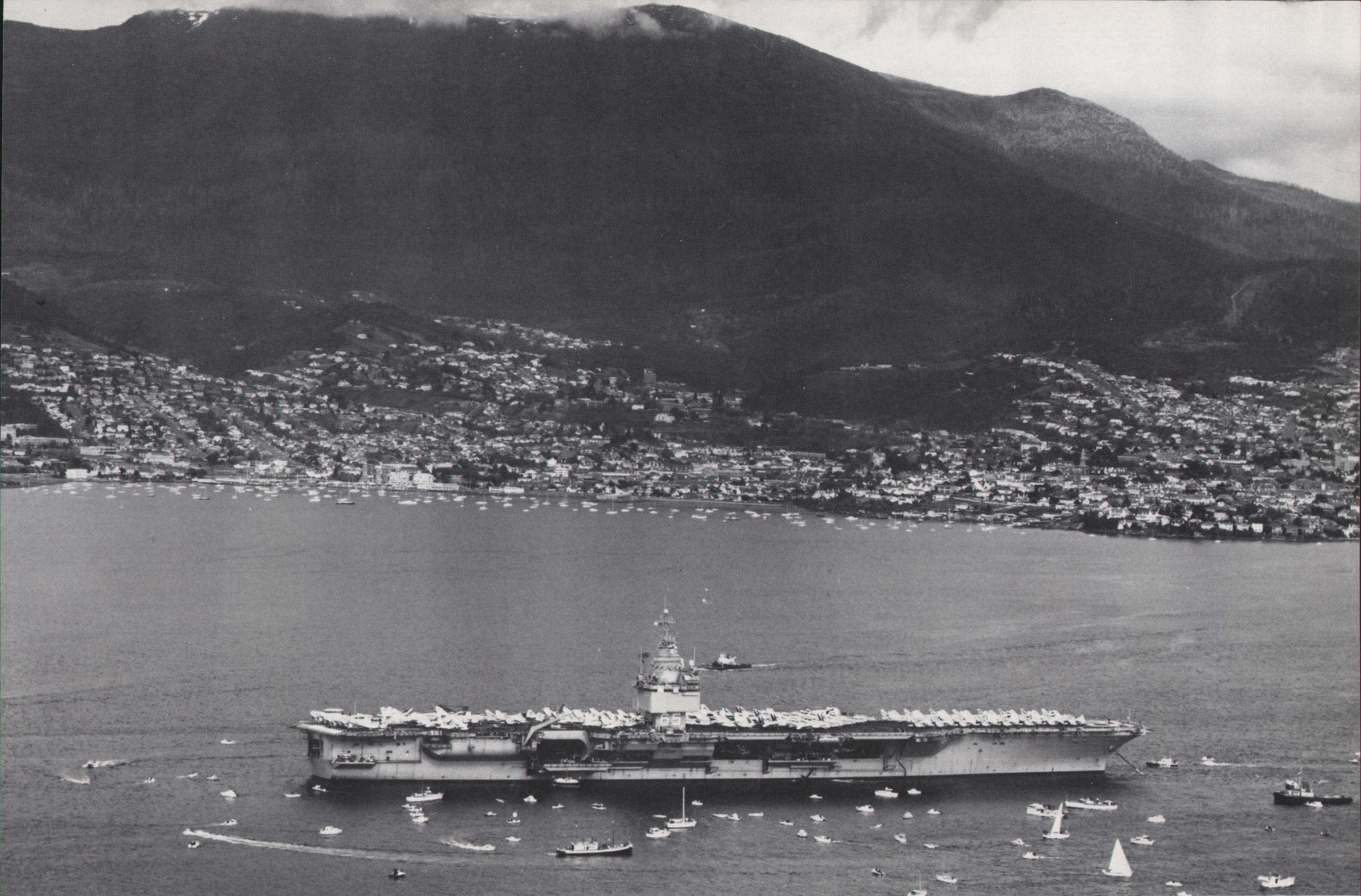
Year	Holdings with pigs	Boars	Breeding sows	Other (a)	Total pigs
1955	4 235	1 608	9 065	47 709	58 382
1960	3 681	2 075	10 730	54 313	67 118
1965	3 315	2 327	14 578	75 116	92 021
1970	2 302	1 978	16 629	92 668	111 275
1971	2 134	1 839	15 841	94 956	112 636
1972	1 888	1 670	14 462	87 802	103 934
1973	1 533	1 337	11 990	71 787	85 114
1974	1 185	1 051	10 120	57 208	68 379
1975	1 010	976	9 243	53 754	63 973

(a) Includes baconers and porkers, backfatters, stores, weaners, suckers and slips.



Y and X Class diesel-electric locomotives hauling Mainline freight train near Granton in 1960's

[Courtesy Tasmanian Railways]



The aircraft carrier U.S.S. Enterprise in the Derwent River, November 1976

[Dept of Film Production]

LIVESTOCK PRODUCTS

Quantity and Value of Livestock Products

The statistics in the following section refer, in the main, to quantities of livestock products. The associated values will be found under 'Value of Production' in Chapter 8.

Wool

Wool Production

For statistical purposes, the total amount of wool produced in the State in any year consists of not only the 'clip' (shorn wool) but also of the wool on skins, irrespective of whether it is actually removed by local fellmongers or exported on skins. Production figures for the latest 10-year period are given in the next table:

Wool Production (a) Summary
(*000 kg)

Year	Shorn wool (including crutchings)	Fell-mongered and dead wool, and wool exported on skins	Total	Year	Shorn wool (including crutchings)	Fell-mongered and dead wool, and wool exported on skins	Total
1965-66 ..	16 759	2 227	18 986	1970-71 ..	19 165	2 506	21 670
1966-67 ..	17 548	2 026	19 574	1971-72 ..	18 573	2 490	21 063
1967-68 ..	15 286	2 090	17 376	1972-73 ..	15 973	2 180	18 154
1968-69 ..	18 955	2 344	21 299	1973-74 ..	16 021	1 528	17 549
1969-70 ..	19 409	2 452	21 861	1974-75 ..	17 147	1 741	18 888

(a) Fellmongered wool has been converted to greasy wool equivalent weight.

As illustrated in the previous table the shorn wool component has accounted for almost 90 per cent of total wool production over the last 10 years.

Total wool production of 21 861 000 kilograms in 1969-70 was the highest recorded wool output for Tasmania. However, uncertain economic conditions in the wool industry for subsequent years have resulted in a substantial decline in wool production.

Export of Wool

Export details for wool for recent years are given in the following table:

Exports of Wool, Greasy (Overseas and Interstate)
(*000 kg)

Year	Quantity	Year	Quantity	Year	Quantity
1960-61 ..	11 069	1965-66	15 443	1970-71	17 146
1961-62 ..	12 342	1966-67	16 240	1971-72	20 413
1962-63 ..	11 919	1967-68	13 995	1972-73	17 735
1963-64 ..	11 379	1968-69	15 799	1973-74	16 740
1964-65 ..	13 757	1969-70	16 513	1974-75	15 947

It should be noted that not all Tasmanian wool is exported, some being used, after scouring, etc., for manufacturing purposes within the State. Any locally processed wool exported would not be classified under greasy wool.

Shorn Wool

The principal months for shearing in Tasmania are October, November and December, but during more recent years an increasing number of farmers have been shearing outside the traditional spring period. Such practices not only facilitate flock and property management but also provide more continuous employment for shearers and shed hands. The following table gives shearing details for recent years:

Shearing and Shorn Wool Obtained

Year	Numbers shorn			Shorn wool obtained			Average yield		
	Sheep	Lambs	Total	From sheep (a)	From lambs	Total	From sheep (a)	From lambs	Total
	'000	'000	'000	'000 kg	'000 kg	'000 kg	kg	kg	kg
1964-65 ..	3 171	807	3 978	15 310	847	16 157	4.83	1.05	4.06
1970-71 ..	3 864	942	4 806	18 045	1 120	19 165	4.67	1.19	3.99
1971-72 ..	3 711	895	4 607	17 441	1 132	18 573	4.69	1.26	4.03
1972-73 ..	3 413	838	4 251	15 038	935	15 973	4.41	1.12	3.76
1973-74 ..	3 280	821	4 101	15 010	1 011	16 021	4.57	1.23	3.90
1974-75 ..	3 417	736	4 153	16 182	965	17 147	4.73	1.31	4.12

(a) Includes crutchings from sheep.

The next table shows the geographical distribution of shorn wool production:

Shearing and Shorn Wool Obtained (a) in Statistical Divisions, 1974-75

Particulars	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (b)	North Eastern (b)	Total	North Western (b)	Western (b)	Total	

NUMBER SHORN ('000)

Sheep ..	1 622	777	865	1 642	153	..	153	3 417
Lambs ..	292	187	210	396	48	..	48	736

SHORN WOOL OBTAINED ('000 kg)

From—Sheep	7 548	3 686	4 253	7 939	695	..	695	16 182
Lambs	342	266	279	545	78	..	78	965
Total ..	7 890	3 951	4 532	8 483	774	..	774	17 147

AVERAGE YIELD (c) (kg)

Sheep ..	4.65	4.74	4.91	4.83	4.54	..	4.54	4.73
Lambs ..	1.17	1.42	1.33	1.37	1.65	..	1.65	1.31

(a) Includes crutchings from sheep.

(b) Statistical sub-division.

(c) Per sheep or lamb shorn.

Wool Auctions

The bulk of Tasmanian shorn wool is marketed in Hobart and Launceston at auctions organised by wool-selling brokers. Four auction sales are held each year—in October, December, February and June, with the February sale being the most important.

In addition to wool sold at auctions, some wool is bought direct from growers by dealers and by local manufacturers of woollen goods. A small proportion of the State's wool is marketed at Victorian auctions; growers on King Island and Flinders Island tend to use this outlet because of sea transport factors.

The following table shows the average price of shorn greasy wool sold at Tasmanian auctions in selected years since World War II and also the value of all wool produced. After a period of very low prices there was an upsurge in demand in 1972-73, particularly from Japanese buyers, and prices rose strongly. High prices continued until early 1974 when, with wool users turning to alternatives, buyers were being left with large stockpiles and prices started dropping. At this time the Australian Wool Corporation was established with the administration of the flexible reserve price scheme as part of its duties. A floor price of 300 cents per kilogram for 21 micron wool on a clean basis was originally set with the Wool Corporation carrying out 'support-buying'. The market declined further however, and the minimum price dropped to 250 cents for the 1974-75 season.

Tasmanian Average Auction Price and Total Value of Wool Produced

Year	Average auction price per kg of shorn greasy wool	Total value of wool produced (a)	Year	Average auction price per kg of shorn greasy wool	Total value of wool produced (a)
	cents	\$'000		cents	\$'000
1950-51	331	24 226	1970-71	74	14 983
1963-64	149	21 352	1971-72	86	(b) 18 001
1964-65	109	19 050	1972-73	229	(b) 37 481
1968-69	106	21 180	1973-74	192	31 973
1969-70	88	18 081	1974-75	137	23 890

(a) Includes value of shorn wool, fellmongered and dead wool and estimated value of wool exported on skins.

(b) Includes Government wool deficiency payments of \$1 258 000 in 1971-72 and \$112 000 in 1972-73.

The preceding price series refers only to shorn greasy wool sold at auction. In arriving at the value series for all wool produced, account is taken not only of wool sold at auction but also of direct growers' sales to dealers, manufacturers and fellmongers plus estimated value of wool exported on skins.

Classification of Greasy Wool Sold at Auction

The following information is compiled by the Wool Statistical Service of the Australian Wool Corporation on the basis of catalogues of auction sales. Wool sold at auction is classified according to quality which is expressed in terms of average fibre diameter. This is measured in millionths of a metre (microns).

The next table shows the proportions of wool sold at auction for the 1973-74 and 1974-75 seasons by quality categories:

Mean Micron Analysis (a) of Greasy Wool Sold at Auction
(Source: Australian Wool Corporation)

Average fibre diameter (mean microns)	Greasy wool sold at auction—percentage of total			
	In Tasmania		In Australia	
	1973-74	1974-75	1973-74	1974-75
Finer than 18	0.1	0.3	..	..
18	1.3	2.2	0.6	0.4
19	3.4	3.1	2.4	2.1
20	2.4	1.6	6.5	6.2
21	5.6	7.1	14.6	13.3
22	10.9	11.6	19.4	20.4
23	12.1	12.8	16.6	18.7
24	14.4	14.1	10.8	11.2
25	13.3	12.1	6.3	6.1
26	6.8	6.6	4.7	5.2
27	7.3	8.4	4.1	3.8
28	5.2	5.3	3.2	3.3
29	0.9	0.4	0.4	0.3
30	7.6	7.2	4.5	4.2
32	3.3	3.1	1.9	1.8
33	0.8	0.4	0.4	0.2
34	0.7	0.9	0.4	0.6
35 .. .. .	..	..	..	..
36	0.3	0.4	0.1	0.2
38	0.5	0.5	0.4	0.2
Coarser than 38	0.2	0.2	..	..
Oddments	2.9	1.9	2.4	1.7
Total	100.0	100.0	100.0	100.0

(a) A micron equals one millionth of a metre; the measurement relates to fibre diameter.

Clean Wool Yield

While the proportion of fine wool is comparatively low in the Tasmanian clip (since the State is historically and climatically a producer of crossbred wool), growers offering fine wool sell a high proportion of superfine merino wool at premium prices; this factor also operates to raise Tasmanian average auction prices above the Australian average. The next table shows Tasmanian yields and those for other States.

Average Clean Yield of Wool Clip, Tasmania and Other Australian States
(Source: Australian Wool Corporation)

State of sale (a)	Yield of clean wool from greasy (per cent)					
	1964-65	1970-71	1971-72	1972-73	1973-74	1974-75
New South Wales	56.84	57.49	57.61	57.64	58.33	60.54
Victoria	59.21	59.19	59.10	59.29	60.24	61.55
Queensland	55.70	53.30	54.03	54.89	55.96	59.04
South Australia	53.10	53.49	55.02	54.01	56.77	58.76
Western Australia	54.76	53.53	54.16	52.29	54.26	57.69
Tasmania	62.93	63.38	63.83	63.14	65.05	66.21
Australia	56.86	56.75	56.93	56.43	58.08	59.93

(a) Wool from other Australian states is not sold at Tasmanian auctions so, for Tasmania, 'State of sale' and 'State of origin' are virtually the same except that some wool from Tasmania (mainly King and Flinders Islands) is sold at Victorian auctions.

In 1974-75 the Tasmanian proportion of auctioned greasy wool classified as 'finer than 25 mean microns' was 53 per cent, whereas the corresponding Australian proportion was 72 per cent. There is usually a difference of this order, but the Tasmanian average price is nevertheless usually a few cents above the Australian auction average. Tasmanian averages, with Australian equivalents in brackets, have been (in cents): 1971-72, 85.96 (75.25); 1972-73, 228.90 (183.77); 1973-74, 191.82 (181.16); 1974-75, 137.46 (126.99). This apparent contradiction is explained by taking into account a second factor, not included in the foregoing quality analysis, namely the yield of clean wool that can be obtained from greasy wool. In respect of this factor, Tasmanian wools tend to yield higher than Australian; both natural and artificial environmental factors operate to the advantage of the Tasmanian clip. Evidence of this peculiarity of Tasmanian wool is provided in the previous table which suggests that Tasmanian wool is freer from dust and vegetable matter than wool produced in the other states.

Meat

Slaughtering

To fully record the level of meat production for human consumption, statistics should be obtained in respect of operations in abattoirs, other slaughtering establishments and factories; slaughtering on farms also needs to be taken into account. The following table summarises slaughtering activity for recent years:

Stock Slaughtered (a) for Human Consumption: Summary ('000)

Year	Cattle and calves	Sheep and lambs	Pigs	Year	Cattle and calves	Sheep and lambs	Pigs
1949-50 ..	58	508	51	1970-71 ..	162	1 394	171
1954-55 ..	75	643	79	1971-72 ..	185	1 475	165
1959-60 ..	145	1 166	115	1972-73 ..	261	1 278	152
1964-65 ..	174	987	135	1973-74 ..	259	825	116
1969-70 ..	178	1 297	160	1974-75 ..	262	980	101

(a) In all registered slaughtering establishments and on farms.

The next table analyses the items 'Cattle and calves' and 'Sheep and lambs':

Stock Slaughtered (a) for Human Consumption ('000)

Year	Cattle and calves				Sheep and lambs			Pigs
	Bulls, bullocks & steers	Cows and heifers	Calves	Total	Sheep	Lambs	Total	
1967-68	58	66	48	172	600	525	1 125	143
1968-69	68	64	45	178	568	673	1 241	139
1969-70	79	66	33	178	608	689	1 297	160
1970-71	79	61	22	162	713	681	1 394	171
1971-72	96	69	19	185	813	662	1 475	165
1972-73	125	110	26	261	637	642	1 278	152
1973-74	126	104	30	259	336	490	825	116
1974-75 (b)	149	75	37	262	403	577	980	101

(a) In all registered slaughtering establishments and on farms.

(b) In 1974-75 the on-farm components of total livestock slaughtered were: cattle and calves, 4 045; sheep and lambs, 66 076; pigs, 1 147.

Meat Production

Statistics of actual carcass weight rather than numbers of stock slaughtered provide a more precise measure of actual meat production and annual trends. The necessary weight data are collected from abattoirs, factories and licensed slaughterhouses (including 'country butchers'); in the case of livestock killed on farms, only the numbers are available and the resulting carcass weight has to be estimated. Statistics in terms of carcass weight cover the same field as the previous tables on slaughtering. The following table shows details of production from slaughtering:

Production of Meat
(*000 tonnes—Carcass Weight)

Year	Beef and veal			Mutton and lamb			Pigmeat (a)	Total meat
	Beef	Veal	Total	Mutton	Lamb	Total		
1969-70	30.9	0.6	31.5	12.8	11.3	24.0	8.0	63.6
1970-71	29.5	0.4	29.9	14.8	11.3	26.1	8.5	64.5
1971-72	34.4	0.4	34.8	16.3	10.9	27.2	8.3	70.3
1972-73	46.9	0.5	47.5	12.2	10.3	22.5	7.4	77.4
1973-74	45.7	0.6	46.3	6.7	8.1	14.8	5.5	66.5
1974-75	47.6	0.7	48.3	8.0	9.5	17.5	4.9	70.7

(a) Includes pork for manufacture into bacon and ham.

Export of Meat

As early as 1890, other Australian states were exporting frozen (and later, chilled) lamb, mutton, beef and veal to overseas destinations but the development of a similar meat export trade from Tasmania has been of comparatively recent origin. The first major step was in the field of fat lamb production when the 1931-32 season resulted in approximately 19 000 carcasses being exported overseas. Unfortunately the establishment of this activity coincided with the economic depression of the 1930's and the attempt to introduce a new line in 'mixed' farming was at first discouraged by low prices. World War II saw a revival of demand with over 100 000 carcasses exported overseas in 1943-44, and after something of a decline in the early post-war period, exports climbed to 161 815 carcasses in 1959-60. In recent years lamb exports have included greater proportions of processed cuts and therefore statistics of the number of lamb carcasses exported are no longer collected.

The other major development has been the growth of an export trade in beef and veal, the first shipments overseas commencing in 1954-55; also exports of mutton, mainly to Japan and U.S.A., increased substantially in 1965-66 and have been maintained at a high level since then. The next table shows meat exports by weight. Export weights cannot be directly compared with production weights since the former include boneless meat and meat which has had its fat content reduced, while the latter are in terms of carcass weight.

Total Exports of Meat, 1974-75
(Tonnes)

Destination	Beef and veal	Lamb	Mutton	Pork	Offal (edible)	Bacon and ham
Interstate	2 259	518	238	1 019	212	86
Overseas	10 675	338	2 283	..	818	..
Total	12 935	855	2 521	1 019	1 030	86

The importance of Tasmania's overseas meat trade can be judged from Australian Meat Board estimates of the percentage of Tasmanian production actually exported. The trends in recent years are shown by the following table:

Proportion of Tasmanian Meat Production Exported Overseas^(a)
(Source: Australian Meat Board)
(Per Cent)

Type of meat	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Beef and veal	34.6	32.2	44.0	44.2	r47.0	37.7
Mutton	47.5	43.1	59.6	53.7	r40.5	55.1
Lamb	10.1	6.6	6.0	8.4	1.7	7.3

(a) The estimated percentages are derived by converting actual export weights to a carcass weight equivalent, thus giving a basis for comparison with production figures.

Meat Export Works

In 1974-75 there were eight licensed exporters in Tasmania. These were in Launceston (two), Camdale, Devonport, Hobart, Longford, Smithton and King Island.

Bacon and Ham

In the tables on meat production, the product from pig slaughtering has been referred to as 'pigmeat'. Approximately 45 per cent of Tasmania's pigmeat was converted in Tasmania to bacon and ham in 1974-75. Considerable quantities of pigmeat are also exported and used, in part, for making bacon and ham in other states. The next table summarises the production of bacon and ham since 1944-45:

Production of Bacon and Ham
(Tonnes)

Year	Bacon and ham			Year	Bacon and ham		
	Factory (a)	Farm	Total		Factory (a)	Farm	Total (b)
1944-45 ..	1 140	69	1 209	1969-70 ..	1 403	n.a.	1 403
1949-50 ..	963	44	1 007	1971-72 ..	(c)1 984	n.a.	(c)1 984
1954-55 ..	1 008	36	1 044	1972-73 ..	1 902	n.a.	1 902
1959-60 ..	1 138	24	1 162	1973-74 ..	1 931	n.a.	1 931
1964-65 ..	1 177	13	1 190	1974-75 ..	2 169	n.a.	2 169

(a) From 1959-60 includes small quantities made in establishments not classified as factories.

(b) Excludes farm production from 1967-68.

(c) From 1970-71 all weights are on a bone-in basis; earlier figures include an element of unconverted bone-out weights.

Dairy Products

In 1974-75 Tasmania's production of milk was 460 521 000 litres, less than 2 per cent below the record level of 1969-70. Milk used for cheese manufacture increased from one per cent of total milk production in 1960-61 to 27 per cent during 1974-75.

The following table summarises milk production and utilisation since 1964-65:

Milk Production and Milk Utilisation: Summary

Year	Quantity of milk used for—			Total milk production	Dairy cows at 31 March	Average annual production of milk per dairy cow (b)
	Factory butter	Factory cheese	Other purposes (a)			
	'000 litres	'000 litres	'000 litres	'000 litres	no.	litres
1964-65 ..	293 773	23 935	79 361	397 069	143 257	2 678
1969-70 ..	336 715	54 194	78 306	469 216	155 040	2 955
1970-71 ..	314 121	55 681	79 988	449 790	153 402	2 837
1971-72 ..	314 503	59 172	77 452	451 127	154 825	2 853
1972-73 ..	264 392	72 342	87 108	423 841	154 823	2 671
1973-74 ..	252 766	84 662	84 386	421 814	140 401	2 788
1974-75 ..	248 075	123 781	88 665	460 521	143 719	3 165

(a) Milk used for 'Other purposes' goes into the making of cream, ice cream, milk powder, concentrated milk, and other preserved milk products. It includes milk consumed as such and the milk equivalent of farm-made butter and cheese.

(b) Average annual yield is based on the estimated number of dairy cows, including house cows, which were in milk during any part of the year. (The mean of the number of dairy cows and house cows at 31 March in the year of production and in the preceding year is used for this purpose.) The figures should therefore be treated as an index rather than as an actual average quantity of milk produced per dairy cow.

Milk Products

The Australian dairy industry is capable of producing butter and cheese in quantities considerably greater than are required for domestic consumption but competition from other countries in overseas markets has resulted in low prices which tend to discourage exports. The solution to this problem has been, in general terms, to pool the returns from both domestic sales and overseas sales and to distribute from the pool to each individual factory, irrespective of whether its products are sold at home or abroad; in effect, a process of price equalisation operates, the higher domestic price being used to offset the lower overseas price. The administrative body implementing this scheme is the Commonwealth Dairy Produce Equalisation Committee Ltd.

The industry has received subsidies from the Federal Government under the provisions of the various *Dairy Industry Assistance Acts*, the first of which was passed in 1942. Under the sixth five-year plan, which commenced on 1 July 1972, subsidies have been distributed each year by the Commonwealth Dairy Produce Equalisation Committee Ltd through factories to milk producers by payment on butter and cheese manufactured. However, in the 1973-74 Budget the Federal Government announced its intention to cease paying bounties on the production of butter and cheese after 1974-75.

Farmers in the past traditionally 'separated' their milk, producing a cream concentrate for delivery to the butter factory; the residue, skim milk, was used to feed pigs. Most factories now buy whole milk because they have diversified their output to include casein (a raw material for synthetic fibres, etc.) and dried skim milk.

In 1975-76 export values for skim milk powder fell to low levels. This fall in price was caused by a fall in world demand and a build-up of a large stock-pile of skim milk powder in the European Economic Community. As a result in 1975-76 some factories, particularly those committed to making skim milk

powder, paid suppliers less than \$1 per kg of butterfat, compared with prices of \$1.54 per kg in the previous season. All factories paid substantially lower prices in 1975-76 and this, coupled with inflation, resulted in a large reduction in net farm income for dairy farmers.

In May 1976, agreement was reached between the Federal and state governments to underwrite skim milk powder covered by equalisation arrangements in 1975-76 at \$300 per tonne. The cost was to be shared between the Federal and state governments on a two-for-one basis. An additional \$2 million was provided for the remainder of 1975-76 under the Dairy Adjustment Program for relocation diversification, farm amalgamation and for carry-on loans for dairy farmers experiencing difficulties. States are required to match the amounts the Federal Government contributes for carry-on loans.

Because of the poor outlook for dairy products on export markets in 1976-77, the Federal Government offered to continue underwriting skim milk powder at \$300 per tonne and to extend the underwriting to include casein at an equivalent butterfat rate. The cost was to be shared between the Federal and state governments on a two-for-one basis as in 1975-76. In addition, the Federal Government agreed to underwrite butter and cheese at \$900 and \$680 per tonne respectively for the six months ended December 1976. No assistance was given in respect of butter or cheese for 1975-76.

Although Tasmanian butter factories had been in operation before the turn of the century it was not till 1911 that annual factory production exceeded 1 000 tonnes and even by 1938-39 factory butter output was only approximately 4 000 tonnes; current production approximates 12 000 tonnes.

Cheese production, which did not exceed 1 000 tonnes per annum until 1963-64, has accelerated rapidly, reaching 12 387 tonnes in 1974-75 when, for the first time, it exceeded butter production. The following table shows details of factory production of butter and cheese for recent years:

Factory Production of Butter and Cheese
(Tonnes)

Year	Butter (a)	Cheese	Year	Butter (a)	Cheese
1964-65	14 126	2 388	1971-72	15 318	5 923
1968-69	16 017	5 820	1972-73	12 947	7 218
1969-70	16 343	5 407	1973-74	12 398	8 475
1970-71	15 273	5 556	1974-75	12 196	12 387

(a) Includes butter equivalent of butter oil.

Consumption of Butter

Over the past decade there has been a substantial decline in the annual Tasmanian per capita consumption of butter. The decline may be partly attributed to the greater use of margarine. However, in 1974-75 the State's average butter consumption of 10.0 kg per head of population was still well above the Australian figure of about 7.3 kg per person.

Disposal of Butter

Tasmania is a butter exporting state but the following table shows a marked decline in exports in recent years. The quantity of butter exported overseas decreased from over 10 500 tonnes in 1969-70 to under 1 500 tonnes in 1974-75.

Butter (a): Production, Exports and Local Consumption
(Tonnes)

Year	Production (factory)	Net exports (b)	Local consump- tion (c)	Year	Production (factory)	Net exports (b)	Local consump- tion (c)
1965-66 ..	14 229	9 444	4 460	1970-71 ..	15 273	10 955	4 665
1966-67 ..	14 541	10 241	4 479	1971-72 ..	15 318	10 138	4 712
1967-68 ..	13 999	9 547	4 773	1972-73 ..	12 947	7 514	4 452
1968-69 ..	16 017	9 350	4 519	1973-74 ..	12 398	r 8 275	4 176
1969-70 ..	16 343	12 763	4 725	1974-75 ..	12 196	4 916	4 052

(a) Includes butter equivalent of butter oil.

(b) Net and gross are identical as there were no imports during the years shown. Includes overseas and interstate exports.

(c) Quantity of butter released for the Tasmanian market (as supplied by the Commonwealth Dairy Produce Equalisation Committee Ltd) less the butter content of major commodities exported.

Bee-farming

The next table, which summarises bee-keeping statistics from 1964-65, is restricted to details from apiarists with five or more hives:

Bee-farming

Year	Apiarists	Hives	Honey produced		Beeswax produced	
			Quantity	Average per productive hive	Quantity	Average per productive hive
1964-65	no. 202	no. 8 373	'000 kg 324	kg 51.9	'000 kg 4.6	kg 0.73
1969-70	220	10 209	372	46.9	5.7	0.72
1970-71	277	11 680	455	48.9	6.4	0.69
1971-72	270	12 484	396	40.6	6.2	0.63
1972-73	243	11 926	418	44.8	5.6	0.60
1973-74	234	13 715	487	43.7	6.9	0.62
1974-75	226	13 033	617	57.1	9.0	0.83

Of the 226 apiarists with five or more hives in 1974-75, 28 with 100 or more hives contributed 83.5 percent of the total honey produced.

Tasmania is both an exporter and importer of honey with exports generally having a higher unit value than imports. The Tasmanian market shows a preference for the clover type of honey rather than the stronger flavoured leatherwood. Tasmania produces a high quality product but producers in mainland states have significant cost advantages in packaging because of the quantities involved. Therefore, considerable quantities of honey are imported from other states, both for manufacturing and for retail outlets, while much of Tasmania's production, particularly leatherwood, but also clover, is exported.

A proportion of the larger commercial apiarists can be described as 'migratory' in the sense that they seasonally move their hives for access to leatherwood growing in the Western Sub-division and near the new Lake Gordon. Leatherwood, *Eucryphia lucida*, from which a distinctively flavoured honey is produced, is unique to Tasmania. The quantity of leatherwood honey produced varies considerably from year to year depending upon the amount of blossom and weather conditions. In 1974-75 it accounted for 46 per cent of total honey production compared with 59 per cent the previous year and 21 per cent in 1966-67. The sources of honey for Tasmanian consumption and exports are shown in the following table:

Production and Consumption of Honey
(*000 kg)

Year	Production	Imports	Exports	Balance available for local consumption
1970-71	455	86	313	227
1971-72	396	83	301	179
1972-73	418	105	220	303
1973-74	487	123	218	392
1974-75	617	120	244	494

Poultry Farming

Household Production: Many householders have small flocks of up to 20 birds (i.e. below the legal minimum requiring registration and payment of fees) and surveys suggest that these 'back-yard' flocks may produce up to 50 per cent of all eggs. However, no accurate statistics are available for this component and it is excluded from the tables that follow.

Commercial Producers: Producers with small flocks over the legal minimum size (more than 20 birds) may nevertheless keep them mainly for their own use rather than for the sale of eggs. Accordingly, it was also decided to exclude from the statistics producers with less than 100 birds (of all types); the Bureau's 1966-67 census of the poultry industry established that producers with between 20 and 100 birds numbered 213 but owned only three per cent of the total number of hens and laying pullets in commercial flocks in Tasmania.

In the poultry industry, as in many other primary industries, there has been a trend to fewer but larger establishments in recent years. In 1967 there were 196 poultry farms with a total of 189 600 hens and laying pullets; by 1975 the number of farms had decreased to 88 with 190 200 hens and laying pullets and 445 200 other poultry. A size classification of the 88 farms in 1975 shows that 21 farms (only 24 per cent of farm numbers) possessed 76 per cent of the laying stock. Nearly 50 per cent of the poultry farms had less than 500 laying birds each.

Poultry Numbers and Egg Production, 1974-75
Commercial Producers Only (a)

Statistical division	Poultry farms	Poultry numbers at end of year			Eggs produced during year (b)
		Hens and laying pullets (c)	Other fowls	Ducks and drakes, turkeys and geese	
Hobart	no. 23	'000 46.7	'000 36.3	'000 n.p.	'000 doz. 872.3
Southern	22	56.2	300.0	..	1 140.9
Northern	26	65.9	92.7	n.p.	1 220.0
Mersey-Lyell	17	21.4	14.6	n.p.	428.5
Total Tasmania ..	88	190.2	443.5	1.7	3 661.7

(a) Includes only producers with a total of 100 or more birds of all kinds.

(b) Hen and pullet eggs only. Includes 18 675 dozen eggs produced by commercial poultry farms which ceased production before 30 June 1975.

(c) Not comparable with Egg Marketing Board series due to different definitions.

Poultry Slaughtering

Poultry slaughtering statistics are collected from all known establishments slaughtering 100 or more birds (of all types) annually.

Number and Weight of Poultry Slaughtered (a)

Year	Number	Live weight		Dressed weight (b)	
		Total	Average per bird	Total	Average per bird
		'000	'000 kg	kg	'000 kg	kg
CHICKENS (c)					
1972-73	1 558	2 521	1.6	1 850	1.2
1973-74	1 756	2 832	1.6	1 961	1.1
1974-75	1 895	3 345	1.8	2 340	1.2
OTHER FOWLS (d)					
1972-73	84	186	2.2	124	1.5
1973-74	111	246	2.2	160	1.4
1974-75	116	245	2.1	151	1.3
DUCKS AND DRAKES, TURKEYS AND GEESE					
1972-73	30	94	3.1	71	2.4
1973-74	12	45	3.6	34	2.7
1974-75	5	17	3.2	11	2.2

(a) Includes only establishments slaughtering 100 or more birds of all kinds.

(b) Includes weight of whole birds, pieces and giblets.

(c) Includes broilers, fryers and roasters.

(d) Hens, roosters, etc.

Size Structure of Slaughtering Industry

The trend in poultry slaughtering in recent years has been towards larger establishments. In 1965-66 there were 95 establishments slaughtering 100 or more birds (of all types). Nine establishments killing more than 5 000 birds each a year slaughtered a total of 606 000 birds. By 1974-75, however, there were only 33 establishments killing 100 or more birds, six of which slaughtered over 20 000 birds each and a total of 1 974 000 birds. The dressed carcass weight of birds produced in those establishments slaughtering over 20 000 birds was 2 445 000 kg; for all establishments in the following table, the total was 2 503 000 kg. In 1965-66 the over 20 000 birds size group accounted for 83.3 per cent of the number of birds slaughtered and in 1974-75, 97.9 per cent.

The following table classifies poultry slaughtering establishments according to the number of birds slaughtered for establishments slaughtering 100 or more birds of all types per year:

Number of Poultry Slaughtered According to Size of Establishment, 1974-75

Size of establishment (number of birds slaughtered) (a)	Number of establish- ments	Number of birds slaughtered			Total birds slaughtered	
		Chickens (b)	Other fowls (c)	Ducks and drakes, turkeys and geese	Number	Proportion of total
		'000	'000	'000	'000	per cent
100- 500	10	1	1	1	2	0.1
501- 1 000	6	4	1	..	5	0.2
1 001- 1 500	3	..	4	..	4	0.2
1 501- 2 000	2	..	3	..	3	0.2
2 001-20 000	6	5	23	..	28	1.4
Over 20 000	6	1 886	84	5	1 974	97.9
Total	33	1 895	116	5	2 017	100.0

(a) Classified according to number of birds of all kinds slaughtered.

(b) Includes broilers, fryers and roasters.

(c) Hens, roosters, etc.

RURAL POPULATION AND EMPLOYMENT

Employment on Agricultural Holdings

The following table gives details of males working on agricultural holdings as reported in the annual farm census at 31 March:

Male Farm Workers at 31 March

Particulars	1965	1971	1972	1973	1974	1975
Number of agricultural holdings (a) ..	10 979	9 926	9 807	9 733	9 375	9 052
Permanent full-time workers—						
Owners, lessees or share farmers ..	7 651	6 652	6 515	6 349	6 190	5 975
Relatives of owners, etc. (over fifteen years) not receiving wages	20	..	..	..	..	..
Employees (b)	4 075	3 082	3 166	2 975	2 678	2 310
Total	11 746	9 734	9 681	9 324	8 868	8 285
Temporary workers on wages or contract ..	5 993	4 703	4 179	4 169	4 256	3 674

(a) Mainly one hectare or more—see 'Agricultural Industry Statistics—Agricultural Holdings' earlier in this chapter.

(b) Includes managers and relatives receiving wages or salaries.

Female Workers on Agricultural Holdings

Similar details of female employment are not available due to a definitional difficulty in establishing at what point a woman performing ordinary domestic duties on an agricultural holding performs other agricultural tasks that justify her classification as a permanent full-time rural worker, in the same sense that the term is applied to a male.

TECHNICAL ASPECTS OF AGRICULTURAL INDUSTRY

Area of Land Irrigated

Comparison

In 1973-74, 0.6 million hectares of land were irrigated in Victoria and 0.6 million hectares in N.S.W. By way of contrast, the Tasmanian total was only 23 376 hectares. Owing to the generally more reliable rainfall in Tasmania, scarcity

of water is not such a problem as it is in the other Australian states, although quite a number of streams are not permanently flowing and drought conditions in some areas of Tasmania are not unknown.

Cressy-Longford Irrigation Scheme

This scheme is the first major irrigation project to be established in Tasmania. The source of supply is the tailrace of the Poatina power station from which 12 000 megalitres may be taken annually for use in the scheme. Water is distributed under gravity by an earth channel system approximately 95 km in length.

The scheme supplies water to lands within a constituted irrigation water district with a total area of 9 000 hectares of which some 4 500 hectares are watered by gravity from the channel system and can be flood, furrow or sprinkler irrigated. In addition, the scheme can serve 2 000 hectares above the channel system, which can be irrigated by pumping as well as a further 2 500 hectares outside the boundary of the irrigation district which can be supplied by gravity or pumping. There are 64 separate holdings in the irrigation district but at least another 30 outside the district can be supplied from the scheme. Water from the scheme can also be released into the Liffey River below Bracknell for some 20 riparian properties in the Liffey River augmented flow district.

'Irrigation rights' are allocated to holdings according to the area of land suitable for irrigation and it is estimated that under full development at least 3 000 hectares can be irrigated annually from the scheme.

Construction of the scheme started in 1971 and it was officially opened in 1974. The final capital cost is estimated to be \$1.2 million towards which the Federal Government has contributed \$750 000, the balance being met by the State Government.

Area Irrigated

A total of 1 550 farms reported the use of irrigation in 1974-75 compared with 1 616 in the previous year. Details of the area of crops and pastures irrigated in Tasmania in recent years are shown in the following table:

Area of Crops and Pasture Irrigated
(Hectares)

Year	Crop (a)						Pasture	Total
	Hops	Green feed	Fruit	Potatoes	Other vegetables	Other crops		
1964-65 ..	628	1 045	2 410	909	2 451	704	5 744	13 890
1969-70 ..	583	2 065	3 101	2 193	4 771	1 250	10 291	24 252
1970-71 ..	504	1 434	2 014	1 908	2 547	956	9 142	18 505
1971-72 ..	(b)	(b)	2 993	2 253	2 792	1 868	9 951	19 857
1972-73 ..	(b)	(b)	3 301	2 313	4 841	2 641	14 551	27 647
1973-74 ..	(b)	(b)	3 014	2 167	3 702	1 704	12 789	23 376
1974-75 ..	(b)	(b)	2 605	3 105	4 271	1 582	12 123	23 686

(a) Excludes pasture crops which are included with 'pasture'.

(b) Not available separately. Included with 'Other crops'.

Irrigation Methods and Sources of Water

In 1967-68, for the first time, statistics of irrigation methods and source of water used for irrigation were collected. The main method of irrigation is by 'spray' which accounted for 74 per cent of the total area irrigated in 1974-75. The following table gives details of the areas of crops, etc. irrigated and the methods of irrigation used:

Methods of Irrigation, 1974-75
(Hectares)

Crop or pasture irrigated	Method				Total
	Sprays	Furrows	Flood	Other and multiple methods (a)	
Crop—					
Potatoes	3 067	14	..	24	3 105
Other vegetables	4 235	14	..	22	4 271
Fruit	2 142	49	99	315	2 605
Other (b)	1 287	164	115	16	1 582
Pasture (incl. lucerne)	6 808	521	4 477	317	12 123
Total	17 539	762	4 691	694	23 686

(a) Includes 211 hectares of fruit watered by the 'trickle' method of irrigation.

(b) Excludes pastures harvested.

Potatoes respond particularly well to irrigation. For the 1974-75 season the State average potato yield from irrigated areas was 26.6 tonnes per hectare while for non-irrigated potato crops the yield was only 12.6 tonnes per hectare. The next table highlights the importance of irrigation in the potato growing industry:

Potatoes Irrigated

Particulars	1964-65	1971-72	1972-73	1973-74	1974-75
Total area of potatoes planted (hectares)	3 801	3 593	3 330	3 127	4 143
Area irrigated—					
Total	909	2 253	2 313	2 166	3 105
As proportion of area planted (per cent)	23.9	62.7	69.5	69.3	74.9

The next table shows areas irrigated from each source of water:

Source of Water for Irrigation (a)

Source of water	Area irrigated (hectares)		Number of holdings reporting each source of water	
	1971-72	1974-75	1971-72	1974-75
Surface water from—				
Communal irrigation schemes	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
State irrigation schemes	5	803	1	32
Rivers, creeks, etc.	9 660	9 943	643	540
Farm dams, etc.	9 830	12 319	1 077	997
Underground water supply (bore, well, etc.)	223	439	41	35
Town or country reticulated supply	139	182	70	53
Total	19 857	23 686	(b)1 713	(b)1 550

(a) Similar details were not collected for 1972-73 and 1973-74.

(b) This is the total number of holdings reporting the use of irrigation and not the total number of holdings reporting each source of water since one holding may report a number of different sources.

Farm Machinery on Agricultural Holdings

A previous table showing male farm workers indicated a steady fall in the agricultural labour force over a 10-year period. This decline must be associated, in some degree, with the increasing use of machinery on farms. The following table gives details of machinery on agricultural holdings at 31 March:

Machinery on Agricultural Holdings at 31 March

Type of machinery	1965	1971	1972	1973	1974	1975
Cultivating equipment—						
Rotary hoes and rotary tillers—						
Self contained power unit type ..	1 270	1 196	1 204	1 241	1 197	1 144
Tractor mounted or trailing type ..	680	906	1 105	1 175	1 175	1 159
Harvesting equipment—						
Headers, strippers and other harvesters ..	717	700	674	661	653	645
Mowers, agricultural—						
Reciprocating (cutter bar) type—						
Power drive	4 940	4 942	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Ground drive	1 176	512	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Rotary types (incl. slashers, etc.) ..	<i>n.a.</i>	1 607	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Hay rakes—						
Side delivery	2 336	2 614	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Buck	1 017					
Dump	1 060	1 640	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Forage harvesters	241	349	357	352	331	348
Pick-up balers	1 599	2 019	2 044	2 082	2 161	2 155
Potato diggers	95†	849	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Potato harvesters	<i>n.a.</i>	95	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Seeding and planting equipment—						
Grain drills (all types)	4 036	3 736	3 600	3 489	3 414	3 275
Fertiliser distributors and broadcasters—						
Rotary	3 657	4 229	4 287	4 341	4 353	4 279
Direct drop	1 978	1 654	1 545	1 425	1 319	1 239
Potato planters	215	289	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Other equipment—						
Shearing machines (number of stands) ..	4 493	<i>n.a.</i>	4 505	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Milking machines (number of stands) ..	13 806	<i>n.a.</i>	16 187	15 715	<i>n.a.</i>	<i>n.a.</i>
Hammer mills	440	691	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Spray plants, power driven	2 902	2 913	2 525	2 518	2 428	2 205
Irrigation plants, power driven	1 836	2 413	2 316	2 387	2 333	2 311

The next table shows tractor numbers for recent years:

Number of Tractors on Agricultural Holdings at 31 March

Type of tractor	1965	1971	1972	1973	1974	1975
Wheeled	10 250	11 701	11 716	11 742	11 710	11 560
Crawler	1 129	1 238	1 147	1 163	1 136	1 101
Total	11 379	12 939	12 863	12 905	12 846	12 661

Artificial Fertilisers

In 1974-75 there was a sharp drop in artificial fertiliser usage from the record level of 1973-74, the quantity used being the smallest since 1961-62. The removal of the government subsidy on superphosphate in December 1974, a substantial increase in its price and a need to reduce costs because of low prices for many farm products, contributed to this decline.

Changes in government policy on subsidies for the use of superphosphate have caused considerable interest in the extent of the concentration of usage. The following table shows the distribution of usage, according to quantity used on holdings, of artificial fertilisers, excluding straight nitrogenous types (2 326 tonnes in 1974-75 out of a total of 124 861 tonnes of artificial fertiliser used) and including 'other types and mixtures' (24 807 tonnes) which include a sizeable proportion of superphosphate. The table shows that holdings using over 30 tonnes accounted for 65.2 per cent of the quantity used in 1974-75 but represented only 16.9 per cent of the total number of holdings that used artificial fertiliser (other than straight nitrogenous types).

Rural Holdings Classified According to the Quantity of Artificial Fertiliser (Other than Straight Nitrogenous Types) Used, 1974-75

Particulars	Size category (tonnes used)				
	Up to 10	Over 10 and up to 30	Over 30 and up to 100	Over 100	Total
Number of holdings	2 842	1 591	732	170	5 335
Percentage (a)	53.3	29.8	13.7	3.2	100.0
Quantity used (tonnes) ..	13 286	29 251	38 770	41 228	(b) 122 535
Percentage (c)	10.8	23.9	31.6	33.6	100.0

(a) Of total holdings using fertilisers.

(b) Comprises 97 728 tonnes of superphosphate (including superphosphate with trace elements) and 24 807 tonnes of other types and mixtures.

(c) Of total fertiliser used.

The following table shows the amount of artificial fertiliser used, by the type of crop, for recent years:

Artificial Fertilisers Used

Particulars	Unit	1964-65	1971-72	1972-73	1973-74	1974-75
Vegetables (a)—						
Area fertilised	hectares	10 473	8 865	9 087	8 780	10 054
Fertiliser used—Total	tonnes	7 215	7 791	7 856	7 834	9 719
Per hectare	tonnes	0.69	0.88	0.86	0.89	0.97
Fruit—						
Area fertilised	hectares	8 366	5 545	5 306	4 577	3 346
Fertiliser used—Total	tonnes	7 238	5 075	4 919	4 505	3 073
Per hectare	tonnes	0.87	0.92	0.93	0.98	0.92
Other crops (b)—						
Area fertilised	hectares	69 558	44 087	47 916	42 158	35 521
Fertiliser used—Total	tonnes	16 934	11 044	12 460	11 678	9 679
Per hectare	tonnes	0.24	0.25	0.26	0.28	0.27
Pastures (b)—						
Area fertilised	hectares	558 372	499 928	602 991	724 104	510 594
Fertiliser used—Total	tonnes	113 561	110 532	131 323	156 293	102 390
Per hectare	tonnes	0.20	0.22	0.22	0.22	0.20
Total usage—						
Area fertilised	hectares	646 769	558 424	665 299	779 619	559 515
Fertiliser used	tonnes	144 948	134 442	156 558	180 310	124 861

(a) Vegetables for human consumption only.

(b) 'Pastures' includes lucerne from 1971-72 but lucerne is included in 'Other crops' for earlier years.

Types of Artificial Fertiliser

The basic types of artificial fertiliser employed are phosphatic (e.g. superphosphate), nitrogenous (e.g. sulphate of ammonia) and potassic (e.g. muriate of potash), their essential chemical contribution to plant nutrition being phosphoric oxide (P_2O_5), nitrogen (N) and potassium oxide (K_2O). Superphosphate, either 'straight' or with additives, is most widely used in Tasmania, the additives consisting of trace elements such as cobalt, molybdenum, copper, boron, zinc, etc. In addition to the basic fertiliser types, various combinations are also used. Due to the numerous fertiliser combinations on the market it has not been possible to obtain any detailed analysis of the types applied for various purposes.

Artificial Breeding

Introduction

Artificial breeding is a technique applicable to animals, birds and bees, whereby a female is inseminated artificially with semen collected from a male. In Tasmania, the main application has been in cattle breeding.

Major advantages of artificial breeding are the maximum use of superior sires (an average bull can produce 20 000-30 000 cow doses of semen per year) and fertility disease control by eliminating the contact between bulls and cows.

In Tasmania most artificial breeding activities are undertaken by the Artificial Breeding Board which operates a Semen Production Centre at Hadspen Park and seven artificial insemination centres throughout the State. Some artificial insemination services are provided by private organizations. Over 75 per cent of inseminations in Tasmania are carried out with semen produced at Hadspen Park.

Dairy Herd Improvement

Because artificial breeding allows extensive use of superior bulls it has been used as an effective tool for herd improvement. Since 1964 the Artificial Breeding Board of Tasmania has carried out dairy bull proving programs in which genetically superior bulls are selected on the performance of their female progeny in test mated herds and are then used extensively over large numbers of the State's dairy cows. It has been estimated that these programs have achieved a 1 per cent annual genetic gain in the State dairy herd.

Beef Herd Improvement

Owing to different management practices, artificial breeding has not been used so extensively in beef herds. The Artificial Breeding Board of Tasmania operates a beef cattle recording service which collects performance data from beef herds to be forwarded to the National Beef Recording Scheme, a program designed to evaluate the relative genetic merit of bulls. Superior bulls emerging from this program may be used for artificial breeding.

Semen Exports

Semen produced at Hadspen Park is exported to all Australian states and to several overseas countries. In recent years exports have been made to Canada, India, Kuwait, Malaysia, Sri Lanka, New Zealand and the United States of America.

Semen Imports

Semen may be imported into Tasmania from the other Australian states, Canada, Ireland, New Zealand and the United Kingdom. European beef breeds such as Charolais, Chianina, Limousin, Simmental, etc. have been established in Tasmania as a result of semen importation. Canadian Holstein and British and New Zealand Friesian together with a wide selection of minor dairy breeds, Guernsey, Ayrshire, Jersey, etc. have been used in dairy herds.

Artificial Breeding Statistics

The following table gives details of Artificial Breeding Board activities in recent years:

Artificial Breeding: Services and Inseminations
(Source: Artificial Breeding Board)

Year	Cows served (a)	Total Inseminations	Non-return rate for commercial service (b) (per cent)
1966-67	31 332	47 148	66.1
1967-68	42 089	60 587	68.3
1968-69	43 658	62 551	69.3
1969-70	49 818	70 350	70.2
1970-71	48 588	68 917	69.7
1971-72	55 505	81 581	66.1
1972-73	59 215	81 760	70.7
1973-74	57 751	69 728	72.6
1974-75	52 058	56 763	74.5

(a) Includes cows which have undergone infertility service, however numbers are negligible.

(b) Percentage of cows not returning for further service within 90-120 days following first service.

TASMANIAN DEPARTMENT OF AGRICULTURE

Aims and Structure

The Department of Agriculture was preceded by a series of agricultural organisations, the first of which was 'The Department', established by an Act of Parliament in 1875 to control stock diseases. This was followed in 1880 by the Agricultural Bureau of Tasmania, a non-government group with very narrow aims, and in 1891 by a 'Council of Agriculture' consisting of 11 members nominated by the Governor-in-Council. The Council continued to operate during the first few years of the 'Department of Agriculture and Stock', a Government Department established in 1898. Both the Council and Department of Agriculture and Stock were later abolished and replaced with a Department of Agriculture headed by a Director in 1911. In 1927 on the recommendation of the Commonwealth Development and Migration Commission the Department was completely re-organised and enlarged with a new and wider aim, 'to spread scientific knowledge among primary producers'.

The functions of the modern Department are: (i) active research and investigation into agricultural problems; (ii) wide dissemination of technical information and other advice to farmers; and (iii) regulatory and administrative action as required under various State Acts.

To carry out the functions associated with agriculture, the Department, headed by the Director is divided into six divisions (Agronomy, Horticulture, Animal Production, Plant Pathology, Fisheries and Entomology), three services (Extension, Animal Health and Administrative) and one section (Agricultural Economics). The Department has its own research stations and laboratories.

At present there are five research stations and four laboratories. Research programs initiated by different divisions are conducted at these research centres. Three research stations and two laboratories are involved in agronomical research, two research stations and one laboratory are concerned with livestock studies, two research stations and one laboratory are associated with horticultural research, one laboratory is responsible for dairy research and bacteriological investigations,

another laboratory deals with entomological and plant pathological investigations, whilst the marine laboratory is engaged on stock assessment, fisheries development and pollution and marine chemistry.

Total expenditure by the Department of Agriculture (including the Fisheries Division) from Consolidated Revenue in 1974-75 was \$7.587m compared to \$5.760m in 1973-74.

VITICULTURE IN TASMANIA

The Bureau of Statistics does not publish information relating to any single enterprise or establishment obtained from its own statistical collections, but treats any such information it collects as strictly confidential. (It does, however, publish statistical aggregates where these do not directly or indirectly reveal the operations of any single informant.) All statistics in the following articles have been supplied by the two (outside) contributors for publication and do not come from any internal Bureau sources. One relevant Bureau statistic is that the area of commercial grape vines in Tasmania as at 31 March 1976 was 44 hectares (as determined by the 1975-76 Agricultural Census).

WINE GRAPES IN TASMANIA

This article was contributed by Dr R. C. Menary, Department of Agricultural Science, University of Tasmania.

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Introduction

Grapes were brought to Tasmania by the early settlers and some of the original vines or their progeny still survive today. Introductions included some of the major cultivars currently grown in Australia and Europe such as Cabernet Sauvignon, Pinot noir, Malbec, Shiraz, Sauvignon blanc, Pinot blanc and Golden Chasselas. Wine was made from at least some of these cultivars and history records that wines from Prospect Farm, Newtown, were equal to the Gold Medal wine exhibited by Gregory Blaxland of Parramatta at the Royal Society of Arts Show held in London in 1827. Cuttings of the more popular varieties were taken to Victoria in 1834 and to South Australia in 1838. The reasons for failure of the first Tasmanian attempt are not clear. Contributing factors may have been insufficient sugar for the then popular ports and sherries, disease and irregularity of cropping.

The second Tasmanian attempt at producing wine grapes, which was made at Maria Island by a business entrepreneur, Mr Benacchi, was a dismal failure and for some reason left some firmly entrenched ideas that grapes had no place in Tasmania. On the basis of climate alone, Maria Island would probably lack sufficient heat during the growing season due to the modifying influence of the sea breeze.

The recent upsurge of interest in grape growing in Tasmania has been sparked by a few enthusiasts who recognise the potential of the Tasmanian environment to produce great wines of northern European tradition.

Mr Claude Alcorso and the late John Miguet could be regarded as the founders of the latest revival. They established small pilot vineyards in 1958 and 1959, respectively. Their enthusiasm has spread to others and many small areas have

been established on an experimental basis to assess local conditions, suitable cultivars and wine quality. Such areas include Windermere (1965), Legana (1969), the Department of Agriculture at Rowella (1969) and the University (1970). Commercial areas have now been established at Cradoc (1972), Bream Creek and Glenora (1974) and Pipers Brook (1975). Areas of established vineyard at the end of 1976 (to the nearest 0.5 hectare) are given in the following table:

Areas of Vineyards in Tasmania, 1976

Locality	Area (a) (hectares)	Locality	Area (a) (hectares)
Berriedale	1.0	Lilydale	1.5
Bream Creek	5.0	Pipers Brook	28.0
Campania	0.5	Richmond	0.5
Cradoc	9.0	Rowella	0.5
Glenora	2.0	Sandford	0.5
Koonya	0.5	Sandy Bay	0.5
Legana	1.5		

(a) Estimated by author.

Climate

Climate is the most important factor that is likely to influence the distribution of vineyards in Tasmania. Several aspects of the climate, such as radiation and hours of sunshine, have received considerable attention. A crude estimate of total heat can be obtained by summing, for each day of the growing season, the number of degrees by which the mean daily temperature exceeds 10°C, the temperature below which growth is unlikely to occur. These heat units are called degree days Celsius. The following table shows the number of degree days Celsius for Hobart over an eight-year period:

Climatic Conditions, Grape Yields and Quality at Moorilla Estate, Berriedale.

Year	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Degree days C. ..	1 100	996	1 194	1 116	1 316	1 272	1 303	1 300
Sugar Content (° Brix)								
(a)—								
Riesling	25	21	21	21	22	21	22	22
Cabernet	22	22	21	21	22	20	22	21
Shiraz	23	24	22	19	23	22	19	22
Acid content (g/100ml)—								
Riesling .. .. .	..	..	1.2	1.2	1.0	1.0	1.3	0.9
Cabernet .. .. .	..	..	0.8	0.8	0.7	0.9	0.8	0.8
Shiraz .. .. .	..	..	1.0	1.0	1.1	0.9	1.1	0.7
Yield (tonne/ha)—								
Riesling .. .. .	..	..	..	..	17	9	16	10
Cabernet .. .. .	..	..	..	..	11	14	16	11
Shiraz .. .. .	..	..	..	..	18	17	28	13

(a) Percentage of sugar by weight.

The recordings for Hobart are comparable with those of the northern limit of grape growing areas in Europe (i.e. a line through Nantes, Paris, Geisenheim, Frankfurt, Bratislava, Ramanetz, Podolsk and Odessa). Geisenheim on the Rhine,

which is one of the most northern areas, has approximately 1 000 degree days and a growing period of six months (mid-April to mid-October). By comparison, Hobart has more than 1 000 degree days and a growing period of eight months (October-May). South-East England has approximately 700 degree days with summer temperatures as high as Hobart but a shorter growing season. Although wine grapes are grown in England, growers concentrate on early maturing cultivars and have little success with Cabernet. In contrast, this cultivar performs quite well under Tasmanian conditions.

Grape areas on the Mainland have heat units well in excess of those achieved in Tasmania. One area which does have a similar climate is the Drumborg vineyard in South Australia. Their crop matures approximately one month before the Tasmanian crop, and some aspects of pruning, cropping and colour development are common to the two areas.

The heat unit system of expressing climatic conditions puts the Tamar Valley, North-East, East Coast and parts of the Derwent Valley well within the climatic limits for grape production. Furthermore, results from trial plantings and experience from a limited number of established vines indicates that there is some correlation between heat units and potential for production. Within these areas, general improvement in terms of heat units will be achieved through choice of aspect, soil colour, windbreaks, trellis type and row orientation. The heat unit system of measurement is only a guide to total heat and it does not give an estimate of the likelihood of unfavourable temperatures at the critical stages of growth bud burst, flowering, fruit set and flower initiation.

One unique aspect of Tasmanian grape production which is directly related to climate is the large variation in time and maturity between adjacent localities. Within 40 kilometres of Hobart there are commercial and experimental grape plantings which show as much as six weeks difference in time taken to reach optimum maturity. This variation may show as a locality difference between vines and as well it will provide economies in wine-making facilities as the extended season will reduce the capacity required for primary fermentation. This locality difference is likely to provide a great attraction for tourists.

Whatever the outcome of theoretical considerations of climate, the true test will come with commercial production and there is no substitute for the present set of trial plantings throughout the State.

Experience has shown that strong north and north-west winds can cause damage by either breaking newly-emerged shoots or reducing fruit-set. Wind breaks would appear to be a requirement for exposed areas. Species of Acacias, Casuarinas, Eucalypts and Pyrus (plate 4) form effective windbreaks but some of the benefits may be offset should they provide good cover for birds at harvest time.

Fruiting Behaviour

Trial work at the University has shown that most standard wine grape varieties are quite fruitful, to the extent that they usually initiate the maximum number of large inflorescences (flower buds). These inflorescences are developed within buds at each node on current season's growth in late December-January. They represent the first stage in the development of the next season's crop. Optimum conditions for maximum fruitfulness of a number of commercial varieties is a maximum temperature near 30°C, a day length of 16 hours and full sunlight. These conditions can be met in a number of selected localities within Tasmania. The cultivars Rhine Riesling and Shiraz have an ecological advantage over Cabernet,

for example, because they are reasonably fruitful at maximum temperatures as low as 20°C. In spite of this difference, Cabernet, like Shiraz and Riesling, is very fruitful under Tasmanian conditions and a mean yield of 13 tonnes per hectare has been recorded from Mr Alcorso's vineyard at Berriedale over a period of four seasons.

In spite of adequate fruitfulness in terms of flower numbers in the bud, poor fruit development can be experienced from time to time. This problem results from some upset in growth processes between the stages of flower initiation and fruit enlargement. This abnormality is most probably related to climatic conditions in spring or early summer. Trial work to date has indicated that this might be overcome with sprays of (2-chloroethyl) trimethyl-ammonium chloride (CCC). Grapes shown in plate 1 have been sprayed with CCC, resulting in good fruit-set and normal development of berries. In plate 2, plants were not sprayed and very few berries on bunches have shown normal development. This chemical retards vegetative growth and may reduce the competition between developing leaves and fruits for available nutrients. Whatever the physiological explanation, growth regulators may ensure a good level of cropping every year. Severe fruit setting problems have also been experienced with the varieties Merlot, Malbec and, to a smaller extent, with Traminer. To date, growth regulators have not been tested on these cultivars in Tasmania.

Under Tasmanian conditions highly fruitful vines will not always realise their full fruiting capacity. There is not sufficient heat and sunlight to enable berries to accumulate adequate sugar levels and allow sufficient carbohydrate reserves to be stored in stems for next year's crop. For this reason the vigneron has to compromise and accept a level of cropping which will allow for fruit-filling and continued cropping. Experiments at Berriedale and the University of Tasmania indicate that approximately 18 buds per plant (a potential of approximately 36 bunches) is a number which will ensure regular cropping. Variation in fruitfulness between basal buds and those in the mid-region of the cane is a characteristic of vines grown under Tasmanian conditions. Varieties such as Cabernet, Shiraz, Pinot noir, Merlot, Malbec, Riesling, Chardonnay, Traminer, Zinfandel and Muller-Thurgau all show this tendency. This observation places a constraint on the type of pruning system to be used.

Basically, there are two systems of pruning and the choice is largely determined by the fruitfulness of the buds on mature shoots. Where basal buds are fruitful, the spur pruning system is preferred, but where basal buds are not fruitful, as in Tasmania, cane or rod pruning is used. After choosing a given number of fruitful buds on one or more canes, these are then arranged on a trellis to give a canopy which will fully utilize the various components of the environment to produce a good yield of high quality fruit. In addition, there is a need to ensure that adequate canes and fruit buds are developed for the next season's crop. This latter condition is met by leaving a spur (a short cane with two buds) adjacent to the current season's fruiting cane. The position of the spur relative to the cane may be seen on the vine shown in plate 3.

Experience has shown that either a vertical, parallel wire (plate 4) or a 'Y' shaped trellis (plate 3) will provide adequate support for shoots and good light relations within the canopy. It is preferable to run rows in a north-south direction to allow both sides of the canopy to receive sunshine during the day. In the case of both trellis types the fruiting cane has been tied to the lower wire (plates 3 and 4). The young shoot buds may be seen at each node of the fruiting cane. The 'Y' type trellis allows for a more open arrangement of shoots which ultimately form two curtains of leaves hanging down on either side of the trellis

arms. With the vertical, parallel wire type the shoots may either grow directly or be placed manually between the parallel wires on the upper part of the trellis. Late in the season the tips of shoots which extend above the top set of wires may bend over in response to wind or gravity. A 'T' type trellis proved to be unsuccessful because young shoots lacked support and were easily damaged by moderate to strong winds which are a feature of Tasmanian weather during the early part of the growing season.

Cultivars and Wine Quality

Trial plantings to date have been based on cultivars which produce the classical high quality table wines of Europe. In many of the older vineyards Cabernet Sauvignon, Rhine Riesling and Shiraz were the preferred varieties because of their popularity on the Mainland. In some cases the level of cropping has been outstanding; for example a crop of Shiraz at Moorilla, Berriedale, yielded 28 tonnes per hectare. At this level of cropping the sugar content was 19° Brix (percentage of sugar by weight) which is too low to produce a good wine. This result emphasises the need to control the level of cropping to achieve maximum quality. Although Shiraz will produce high yields of good quality grapes under careful management it is unlikely that the wines would compete with Mainland wines made from this same cultivar.

Cabernet Sauvignon has cropped consistently and well at Moorilla during the past seven years. Yield data for the last four years indicate that a mean yield of 13 tonnes per hectare has been achieved. This compares very favourably with the best yields of this cultivar on the Mainland. The wine made from this cultivar has a brilliant colour, and is highly aromatic with good tannin. In some years it may be desirable to blend Cabernet to achieve a well-balanced, mellow and delicate wine. Cultivars being tested include Merlot, Malbec and Zinfandel. The first two produce large inflorescences but fruit-set is very poor. The latter variety which is very popular in California, produces well in southern Tasmania and makes a well balanced wine.

From the viticultural viewpoint the variety Pinot noir shows considerable promise. It yields well and there is a good balance between vegetative and fruit growth. It matures approximately four weeks before Cabernet and is very susceptible to bird and European wasp damage if grown in small areas along with late maturing cultivars. Wine made from this cultivar is highly aromatic but sometimes poor in colour. This may improve as vines age and the level of cropping is reduced.

Rhine Riesling crops consistently and has given a mean yield of 13 tonnes per hectare at Moorilla Estate, Berriedale. This cultivar tends to be acid and the grapes need to be held until late autumn when the acid drops to a reasonable level (0.8-0.9 per cent). It produces a dry table wine with a full, fruity bouquet and good after flavour. If harvested too early it tends to be too sharp and may need to be blended with cultivars like Muller-Thurgau, Chenin blanc or Sylvaner. These latter varieties fruit well under Tasmanian conditions but tend to lose too much acidity as they approach maturity.

Chardonnay is a consistently heavy yielding variety which produces wine with a characteristic apricot bouquet. It is inclined to be too sharp but this may be related to vine age and berry maturity.

Traminer, grown under Tasmanian conditions, is a low yielding variety. Bunches are medium to small in size and poor fruit-set is a common feature. Mature bunches have a typical 'hen and chickens' look which is associated with poor fruit-set and fruit enlargement. Wine made from this cultivar has a very spicy bouquet.

Concord (*Vitis labrusca*) or related types which are the common grapes of the Eastern United States, may have some potential in Tasmania. These are multi-purpose types, being used as fresh fruit or processed to produce wines, juice, jelly and preserves. These products have a foxy aroma which is associated with the ester methyl anthranilate. Concord types crop well under Tasmanian conditions provided they are managed correctly. A typical vine and trellis system for these types is shown in plate 5. It is desirable to establish two permanent fruiting arms per plant on the top wires of the trellis with each arm pointing in opposite directions on separate wires. This may be seen on the second plant in plate 5. On each of these permanent arms there are approximately six well spaced, five-bud spurs. This arrangement of canes produces a rectangular canopy, the sides of which form two curtains on the outer extremities of the trellis.

At this stage in the development of the wine industry in Tasmania, testing of cultivars and selections within these cultivars (clones) for yield and wine quality is a very necessary step leading to the establishment of an industry based on high quality table wines with distinctive characteristics. The adoption of standard cultivars from the Mainland instead of those which have been carefully selected for local conditions will deny this new industry the opportunity to fully exploit the uniqueness of the Tasmanian environment.

Optimum harvest time is governed by sugar and acid content of berries. Normally sugar content of berries increases with maturation while acid decreases. The criteria for sugar and acid vary with cultivar and wine type but for dry table wines a sugar (°Brix) to acid (g per 100 ml) ratio of 30 or less is desirable. The optimum harvest time is difficult to estimate when one is trying to balance quality factors in the grape against disease and bad weather. The variety Rhine Riesling, for instance, will reach a desirable sugar to acid ratio by late autumn but there is a constant threat of fruit losses from 'Noble rot' if weather conditions are humid. This is rot caused by the fungus *Botrytis cinera* which grows on the skin on the berries. The damage caused to the skin allows water-loss with an accompanying increase in sugar content. It may also play an important role in de-acidifying musts or wine and imparting a desirable *Botrytis* flavour. An extended period of maturation can lead to desiccation of berries which reduces the yield of juice after crushing and pressing, and may impart a 'baked' bouquet and dark colour to the wine. Another real hazard to all crops approaching maturity is the danger of damage from birds, European wasps and bees. Wasps and bees do not damage whole fruit but are attracted by products of fermentation following initial damage by birds, wind, etc.

Marketing

The success of marketing Tasmanian grown wine against competition from wines grown on the Mainland will be based on recognisable differences in quality. The first recognition of this quality difference was given at the first wine show held at the Royal Hobart Show in October 1975. Three medals were taken by Moorilla Estate, Berriedale; two golds (one for a 1975 Cabernet Sauvignon, the other for a 1975 Riesling) and one silver (for a 1973 Cabernet Sauvignon). In

1976, winning entries came from the north as well as the south of the State. Moorilla Estate took a gold medal for the 1976 Riesling and a bronze for 1976 Cabernet Sauvignon. The Heemskerk Vineyards, Pipers Brook took a silver medal for a 1976 Cabernet Sauvignon. These wines were judged by eminent Mainland judges using the standard scoring method for the three major criteria; colour and clarity (0-3 points), bouquet and aroma (0-7 points) and flavour (0-10 points). Wines receiving a total score greater than 18.5 points qualified for a gold medal.

Small vineyards and wineries in Tasmania have a high fixed cost per unit of wine produced in comparison with Mainland undertakings. The viability of the Tasmanian industry would be based on sales direct to the public at the vineyard. The 1976 Licensing Bill provides for a special wine producer's licence which will permit the sale of single bottles of wine from the vineyard. Eighty per cent of the liquor sold on this licence must come from wine grapes grown in Tasmania, this being made up of at least 50 per cent wine from the premises holding the licence with the balance (up to at least 80 per cent of all liquor sold) being wine from grapes grown in another part of the State. In addition to this legislation the *Public Health Act* requires that wines designated as being made of a particular variety from a specific locality must have at least 80 per cent of volume of wine of that variety or from that locality, as the case may be. Such legislation now protects grape growers against the influx of wines from the Mainland which could jeopardize the uniqueness and quality which has been shown to be a feature of Tasmanian wines. At the moment there appear to be two marketing plans emerging: the first is based on sales of high quality Tasmanian grown wines to wholesalers and restaurants and the second is based on sales direct to the public. The latter will have particular attraction to tourists as they will be able to see and appreciate the small-scale, quality-orientated approach to wine making.

Management

Establishment Costs

The management of vineyards in Tasmania is in the experimental stage at the present time and it might be profitable to discuss some management practices which have been useful in experimental and commercial situations. These suggestions are based on observations and limited experimentation and should not be regarded as commercial recommendations.

One of the first steps in the establishment of a commercial vineyard is a careful economic analysis. In Tasmania it is unlikely that large vineyards will be planted until the full market potential of Tasmanian wine has been assessed. Initial commercial plantings are likely to be based on reasonably small areas to assess problems of production and marketing.

Establishment Costs: Example

Costs associated with maintenance of vines up to the bearing stage are designated capitalized operating costs; thereafter, costs associated with the production of the crop are listed as costs of operation. These costs include pruning, harvesting, fertilizer, pest and disease control, tillage, herbicide, irrigation, fuel, cartage, taxes, depreciation and interest, and labour.

A development budget for the establishment of a five hectare vineyard, excluding the cost of land, is given in the following table as an example.

Development Budget for a Typical Five-hectare Vineyard (a)

Particulars	Year				
	First	Second	Third	Fourth	Fifth and subsequent
Estimated production tonnes	..	..	12	38	60
Value of crop (b) .. .. \$	..	..	2 400	7 600	12 000
<i>Less—</i>					
Asset purchase \$	28 250	1 250	875	..	..
Operating costs (c)—					
Capitalized \$	5 000	5 625	3 125	..	8 430
Other .. .. \$	..	..	2 500	7 500	8 430
Total \$	5 000	5 625	5 625	7 500	8 430
Net cash flow \$	-33 250	-6 875	-4 100	100	3 570

(a) See text below; calculations based on pay back method. Values are all in terms of current (1976) prices. On this basis of costs, yields and prices, the capital costs and early operating losses would be recouped after a total of 17 years.

(b) On basis of average of \$200 per tonne for grapes produced.

(c) Includes interest on capitalized operating costs only.

A development budget will vary according to the management plan, particularly where grapes form only part of the total farming enterprise.

Asset purchases for the grape enterprise include:

- (i) (in the first year) stock and rabbit proof fence, drip irrigation (including dam and pump), power sprayer (herbicide), knapsack, mower, rotary slasher, tractor, rootlings and windbreak trees;
- (ii) (in the second year) storage shed and supply and erection of trellis; and
- (iii) (in the third year) a power sprayer (fungicides) and farm trailer.

Receipts are based on a yield of 12 tonnes per hectare which is below the mean yields achieved on Moorilla Estate at Berriedale. Prices are an average of those set by the South Australian Prices Commissioner for the 1975 season (e.g. \$210 per tonne for Cabernet and \$180 per tonne for Riesling). Cash flows indicate that there is a total deficit of \$44 225 by the end of the third year of operation. This asset can be recouped after a further 14 years of operation (if no allowance is made for interest on funds required for the 'Asset Purchase').

Planting Material

The production of good quality planting material is a major consideration in vineyard establishment. The planting material is produced from one year old canes which are pruned from mature vines in the winter. Canes are cut into lengths of approximately six buds each (plate 6, first on left) with the basal end of each cutting being cut immediately below the last node. Selection of cuttings should be restricted to vines of known origin which are free from disease and have good fruiting characteristics. It is desirable to mark such plants in autumn when they are in full fruit and leaf.

Cuttings may be planted direct into the new vineyard or placed in a nursery bed in the first year. To establish a nursery bed, cuttings are placed in a furrow at 45° to the horizontal and approximately 10 centimetres apart. Cuttings planted at this angle will have two to three nodes covered with soil without the basal

node being too far below the surface. Planting is usually done in August and soil moisture is kept at or near field capacity until rooting has commenced. New shoots and roots should be produced by early December (plate 6, third from left) and these may reach a length of one metre by late autumn. In late winter, rootlings are dug from the nursery, shoots pruned to approximately two buds (plate 6, fourth from left) and heeled into sand or loam in readiness for planting into the vineyard.

Phylloxera is a major pest of grapes but is not present in Tasmania. There are strict quarantine regulations relating to the movement of grape planting material into the State and this should eliminate the need to use phylloxera-resistant root-stocks. Should these root-stocks be required they can be grafted on to the commercial cultivar during the winter (plate 6, second from left) and planted into the nursery bed as previously described.

Vineyard Establishment

There are two main strategies that might be employed in land preparation. One involves complete ploughing of the vineyard, commencing in late summer, with repeated ploughings into the autumn until weeds are brought under control and soil is brought to a fine tilth. The other alternative is to plough only the plant rows and leave the centre strip as the future sod. This latter technique reduces the cost of ploughing, eliminates the need to re-establish a sod, reduces the risk of erosion and provides a firm surface from which planting and spraying operations can be performed. When either technique is used the rows can be formed up in late autumn and a planting furrow made down the centre of the formed area. Superphosphate may be applied in the base of this furrow if required.

In August, rootlings can be planted into the row and soil pulled from either side to cover the roots. The distance between rows and plants will be determined by tractor size, cultivar, topography, trellis type, etc. but suggested distance for a vertical trellis using a standard tractor and rod pruning would be 3.4 metres between plants and 1.2 metres between rows. In late winter, soil conditions in the field are most unfavourable for cultural operations; after planting and before machinery can be put into the vineyard some weed growth will occur. Before buds break in September the wine row can be sprayed with a mixture of herbicides to control germination weeds and weeds which will germinate during the spring. A mixture which has been used successfully is one containing Diquat, Paraquat and Simazine. Since young vines have no green bark or leaves at this stage they will not be harmed by the herbicide mixture. Later in the summer a shielded sprayer is necessary in order to avoid contact between the herbicide and the green parts of the grape vine.

In the spring of the year after planting, it is advisable to erect the trellis while soil conditions are still favourable for driving posts. The height of the first wire on the trellis will depend on locality, susceptibility to frost, irrigation technique, etc., but 50 centimetres above the ground is a good compromise. During the summer young shoots can be tied to this wire. Other cultural operations during the summer include disbudding, slashing of sod and the spraying of weeds along the vine rows. The latter can be achieved by means of a shielded sprayer and herbicides as previously mentioned. Where persistent perennial weeds appear it may be necessary to spot-spray with other chemicals. During the late autumn, winter and spring when the trellised vines are dormant, the vineyard can be grazed with sheep. No damage will result if sheep are handled quietly and allowed into the vineyard for only a few hours each time.

In southern Tasmania there is usually a period of unreliable rainfall from November to April. During this period some form of irrigation is necessary on small vines to avoid severe losses. The choice of irrigation system will depend on factors such as existing systems, quality and quantity of stored water, topography, soil type and availability of capital. The drip or trickle system has a high capital cost but a low running cost and requires low labour inputs, and in the long term is probably the most economical method of water application. The cost per hectare for drip irrigation is approximately \$4 000. This is based on a five hectare vineyard and includes the cost of dam, pump, motor, mains, laterals, filters, pressure control valves and drippers.

Pests and Disease

Pests which are of significance in the Tasmanian vineyards are birds, possums, European wasps and blister mites. Mites are controlled with a lime sulphur spray applied to dormant buds in early spring. The other pests are not readily controlled and are particularly hazardous in small vineyards located adjacent to bush or forest. 'Downy mildew' and 'black spot' are known to occur but as yet these diseases are not of great economic significance in Tasmania. The major disease is 'powdery mildew' and this can be controlled by spraying with sulphur. In areas where 'powdery mildew' is a serious problem it may be necessary to alternate sulphur and benomyl sprays.

Plates

Note: The plates follow page 278.

Plate 1—Bunches of Cabernet Sauvignon induced to set with (2-chloroethyl) trimethylammonia chloride (CCC).

Plate 2—Bunches of Cabernet Sauvignon showing a severe fruit setting problem.

Plate 3—'Y' trellis 1.5 m high showing cane pruned vine on first wire 1 m above ground.

Plate 4—Vertical parallel wire trellis 1.3 m high showing cane pruned vines on first wire 0.5 m above ground.

Plate 5—'Y' trellis showing pruning system used for *Vitis labrusca*.

Plate 6—Propagating material used in vineyard establishment.

PIPERS BROOK VINEYARD PROJECT

(Grape-growing and Wine-making in Northern Tasmania)

This article was contributed by A. J. G. Pirie (managing partner of the vineyard) and D. B. Pirie (full-time manager)

Introduction

Pipers Brook, to the north of Launceston, was chosen as a new region for wine-grape planting following an extensive study to find the most suitable climate in Australia for the production of certain types of dry table-wines. The study was carried out by an Australian agricultural scientist who, after spending twelve months training in the French wine industry, saw potential for the production of new wine styles in Australia.

The fact that viticultural areas are still being opened up in cooler regions of Australia requires some explanation. Prior to 1966 fortified wines were the main type drunk in Australia. These wines are best produced in warm to hot

climates because only under those conditions do grapes attain the very high sugar levels necessary to make a wine of high alcohol content. It is probably a reflection of the demand for fortified wines, therefore, that wine production between the 1850's and 1960's was most firmly established in the hotter viticultural areas on the Australian continent.

In contrast to fortified wines, table wines (wines with no added alcohol) achieve highest quality when produced from grapes which are grown in climates warm enough to make the grapes ripen but cool enough to ensure that grapes have relatively high acid levels at the time of picking. The ideal climate for this sort of production is in fact much cooler than for fortifieds. As an example, at vintage time in the Champagne area in France, mean temperatures drop to between 10°C and 12°C compared with mean temperatures almost double that figure in Jerez, the home of sherry in Spain.

It is only recently, since the late sixties, that the table wine producing potential of the cooler regions in Australia has been recognised. In fact, it is now being discovered more and more that grape varieties we commonly used for table wines, nearly all from France and Germany, grow and yield better when grown (under dry land conditions) in areas cooler than many of those in which they are planted at present. Accordingly, plantings have been made in the last ten years in cooler areas of Western Australia (Margaret River, Mt Barker), South Australia (Padthaway) and Victoria (Drumborg). These were the first grape plantings for each of these areas.

Establishing a Vineyard at Pipers Brook

In 1972, a time of great expansion in table wine production, two brothers from Sydney, one an agricultural scientist and the other a farmer-businessman (the authors), became interested in producing their own wine from the best European vine varieties. In order to achieve the best results it was decided that the grapes should be grown in regions with climatic conditions as similar as possible to those of the 'native' European regions of the varieties. Since it was not known where these climates could be found in Australia, if at all, Mr Andrew Pirie, an agricultural scientist with some experience in climatology and viticulture, assumed the responsibility for a study.

The completed survey, later to become a part of a Ph.D. thesis, showed that only in parts of Tasmania were there climates which resembled those of the regions in Europe where varieties such as Rhine Riesling became famous.

One of the main reasons for this result is that factors important for vine growth such as evaporative demand in summer, sunshine intensity and day length are all linked with latitude and Tasmania (41° to 43° south, approximately) is the only part of Australia of comparable distance from the equator to the French and German areas (45° to 50° north).

As a result of these findings Mr David Pirie moved to Tasmania in July 1973 after several preliminary trips had confirmed the potential of the island for vine growing. He took with him 50 000 cuttings of the premium European varieties Chardonnay, Rhine Riesling and Gewurtztraminer.

In December 1973, 60 hectares of land were purchased at Pipers Brook because of its ideal soils (deep, well-drained basalts) and suitable micro-climate (low frost incidence in spring, adequate rainfall (700 mm per annum) for vine growth without need of irrigation and a dry, sunny but cool ripening period).

During field preparation of the site in early 1974 the vine cuttings were grown into rootlings in a nursery established at Low Head. At this time the venture received considerable encouragement in the form of a scholarship granted by the French Government to Mr A. Pirie. The scholarship sponsored a two-month tour of France to study the latest in vineyard design, trellising methods and wine making procedures. This trip was completed in time for the latest progress in these fields to be incorporated into plans for the new Tasmanian project.

A vineyard when planted, will be productive for 30 to 100 years with yields between 5 to 13 tonnes per hectare per year producing, in terms of wine, 5 000 to 13 000 bottles per hectare, or approximately half a bottle per vine. The importance of satisfactory initial choice of plant densities and trellis design in such a situation is obvious.

The Pipers Brook Vineyard design is more like that of French vineyards than any other in Australia to date. The vines are closely planted within the row and the rows are closely spaced (1.80 metres apart) to provide a trellising arrangement which maximises sunlight interception by the leaves—essential for latitudes where the sun is less intense. Trellising is a major capital item in vineyard development costing in the vicinity of \$3 700 per hectare. In the seven hectare area developed at Pipers Brook in 1975 there is 35 kilometres of trellis comprising four high tensile wires with treated pine posts every nine metres and spacer posts every three metres.

Total vineyard establishment costs (without processing facilities) can commonly be as high as \$8 600 per hectare. \$100 000 has been invested in the Piper's Brook project to date.

A vineyard requires three summers before vines are large enough to bear grapes; in the fourth summer a crop is produced which may be close to the yield potential of the vines. The major part of the Pipers Brook Vineyard planted in 1974 will therefore yield a small crop in the autumn of 1977 and should be in full production in 1978 or 1979. Equal areas of the white varieties, Chardonnay (from Burgundy, France), Rhine Riesling and Gewurtztraminer (both from the valley of the Rhine) make up the initial plantings. The 'white' varieties were planted first because white wines can be made and bottled within four months of picking the grapes, thereby providing a quick cash-flow. Red wines require up to two years before they can be bottled and sold and are therefore much more expensive to produce. One hectare of Cabernet Sauvignon is now being planted per year for red wine production envisaged at later stages.

Vineyard Labour Requirements

Vine growing is a labour-intensive form of agriculture. The labour required to manage eight hectares (20 acres) of vines is one permanent hand assisted by four to five part-time casual workers in summer and two to three in winter. Summer operations include ploughing, spraying and tillage for weed control (all carried out with a small inter-row tractor) with the extra labour required for the manual operations of dis-budding, and tying and arranging the new shoots. In winter pruning is the main job. The closely settled nature of the area around Pipers Brook has ensured a ready supply of local casual workers who find the vineyard work most acceptable. This situation puts Tasmania at a competitive advantage to many vineyards on the Mainland where high cost and shortage of labour is reducing the operating profitability of many large concerns.

Winemaking

All winemaking, processing and bottling will be carried out on the property using grapes grown by the proprietors. This 'grown-and-bottled-on-the-estate' approach is the normal practice in many European areas and has apparently evolved for reasons of economy and wine quality. In France, vigneronns are insistent that 'small is best' and that large operations cannot give the hand-finish required for production of wines of high quality.

Winemaking and bottling, in cool climates especially, are processes requiring much less technology than commonly thought. These operations can be carried out most efficiently even on a small scale (less than four hectares of vines) especially when winemaking labour is not costed, as in many family enterprises. Cool climates assist the economies of the process because expensive refrigeration of the grape juice and air-conditioning of the cellars, normal prerequisites of high quality in hotter areas, are not required.

The winery at Pipers Brook will consist of a 10 m x 20 m high-roofed shed with wax-lined concrete fermenting tanks, a grape-crusher and destalker, mechanical press, pump and hoses, filter, oak casks and basic bottling equipment—probably representing, all told, less investment than on an average-sized dairy farm.

This small-scale, quality-orientated approach to winemaking summarises the philosophy behind the Pipers Brook venture. The 'high-value per bottle' emphasis should be most suited to the Tasmanian situation where export markets will account for a large part of wine sales.

The most important part of the venture, the wines themselves, will fall into two marketing categories: the Rhine Riesling and Gewurtztraminer will be highly aromatic, dry wines pleasant when drunk young but not suitable for lengthy aging—this determined largely by the varietal characteristics of the grapes. The Chardonnay and Cabernet will be made as wines suitable for aging with their true potential only achieved after some period in the bottle. This is partly due to the grape variety and partly to the way in which they will be made.



Plate 1
Cabernet Sauvignon induced to set by spraying



Plate 2
Cabernet Sauvignon showing a severe fruit setting problem

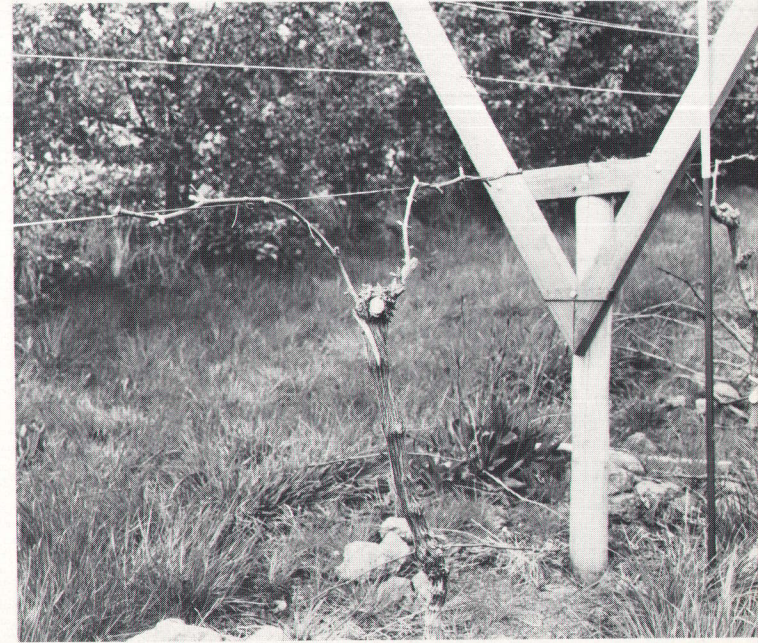


Plate 3
A 1.5 m high Y trellis

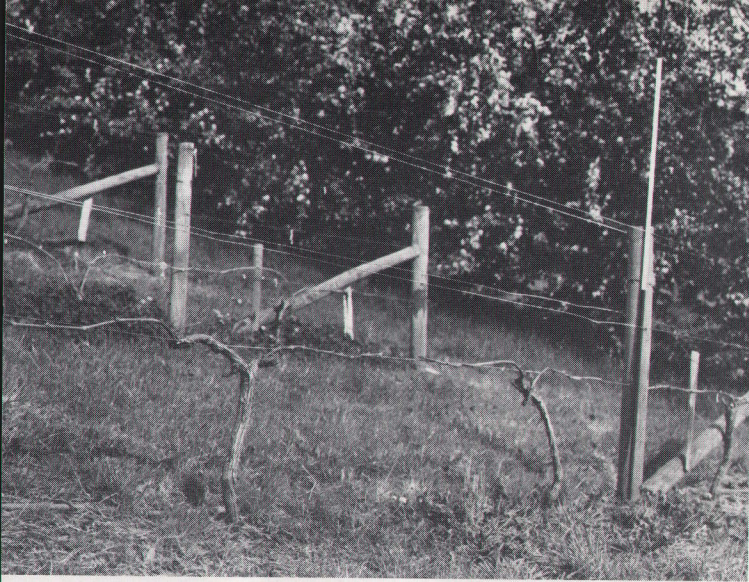


Plate 4

A 1.3 m vertical parallel wire trellis



Plate 5

A vertical parallel wire trellis system



Plate 6

Propagating material

Chapter 8

FORESTRY, MINING AND FISHERIES

FORESTRY

Introduction

When the first explorers ventured beyond the main coastal areas of mainland Australia, they encountered arid zones and desert nearly devoid of timber. By contrast, in Tasmania dense and continuous forest was the main barrier to early penetration, although the early settlements were sited in open savanna-like country which originated from firing by the Tasmanian natives. No other Australian state has similar widespread conditions favourable for forest growth: a cool temperate climate; an assured annual rainfall varying from 500 to 3 800 millimetres according to locality, and showing relatively small seasonal variation.

In the 170 years since the first settlement, land clearing, timber exploitation and fires have left their mark; however the Forestry Commission estimated the total forest area (including some forest of little or no commercial value) at 30 June 1975 as 2 802 000 hectares (i.e. about 40 per cent of the State's total area).

Forest Area

Of all the Australian states, Tasmania is unique in its concentration of forest resources. Native forests of potentially commercial quality cover 2 124 000 hectares (or 31 per cent of the State's mainland surface). Of this area 909 000 hectares are privately owned and 1 215 000 hectares are Crown owned forest.

The need for permanent reservation of land for timber production was first officially recognised by the *Waste Lands Act* 1881 and the first forest reservation occurred in the late 1880's when some 21 270 hectares were gazetted. Reservations had reached 403 660 hectares by 1910 and 651 890 hectares at the time of World War II. An on-going program of dedication of suitable lands as State forests in perpetuity is a firm undertaking of the Commission's policy. The mapped area at 30 June 1975 was 1 372 000 hectares towards a target of 1 618 000 hectares of permanent State-owned forests managed for the benefit, both material and environmental, of future generations. In addition to the State forests there are 'timber reserves' (land reserved for the supply of timber, including fuel); at 30 June 1975 the area of timber reserves was 65 000 hectares.

The State forests are located, in the main, in five distinct regions: (i) far north-west about the axis of the Arthur River; (ii) north-eastern highlands; (iii) north and north-west of the Great Lake; (iv) from the south coast, north to Lake King William; and (v) the east coast area.

Classification of State Forests and Timber Reserves

A classification of State forests, timber reserves and land acquired for forestry purposes is set out below:

Classification of State Forests and Timber Reserves at 30 June 1975
(*000 Hectares)

Forest type	Area
Eucalypt forest with a mature or potential mature height over 41 m	350
Eucalypt forest with a mature or potential mature height of 15 m to 41 m	589
Temperate rainforest (<i>N. cunninghamii</i>) and associated species	163
Plantations (mainly <i>P. radiata</i>)	25
Total forest area	1 128
Non-productive forests and other land included for protection purposes	309
Total	(a) 1 437

(a) Comprised: State forest, 1 372 000 hectares (gazetted State forest only); timber reserves, 65 000 hectares.

Timber Concession and Reserve Areas

The establishment in Tasmania of various industries using forest resources has given rise to the need for some guarantee of assured timber supplies to those industries. Therefore certain concessions and cutting rights on Crown lands have been awarded to companies relying on forest products as their raw materials. The map on the following page shows the location of concession and reserve areas in Tasmania. Concession areas are those areas where a company is at present allowed to operate while reserve areas are set aside for future use. Providing that the company meets certain stipulated conditions, permission to remove timber from the reserve area will be granted by the Forestry Commission. The total area of Crown land under pulpwood concessions and exclusive forest permits at 30 June 1975 was 1 786 000 hectares.

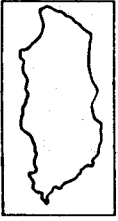
Plantations

The scarcity of native softwoods is being met, in part, by the creation of exotic plantations, the principal species grown being *Pinus radiata*, but at 30 June 1975 the softwood plantations (35 000 hectares) accounted for only 1.2 per cent of the State's total forested area. The Forestry Commission had established almost 25 000 hectares of softwood plantations in Tasmania by 30 June 1975.

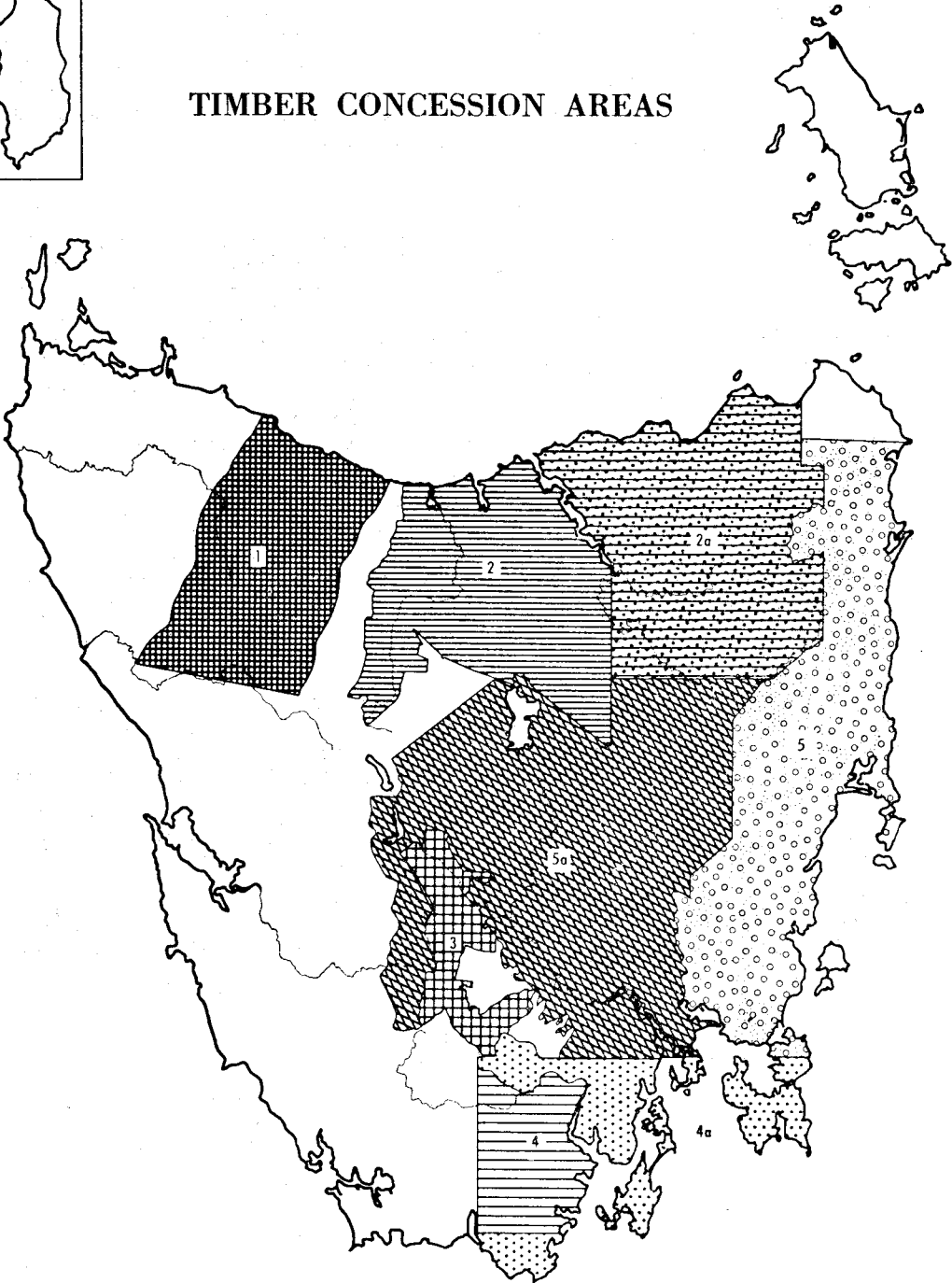
The following table shows the area of softwood and hardwood plantations established by the Forestry Commission (but excludes privately-owned areas):

Area of Forestry Commission Plantations at 30 June
(Hectares)

District	1974			1975		
	Softwood	Hardwood	Total	Softwood	Hardwood	Total
Smithton .. .. .	..	9	9	..	9	9
Burnie	2 516	3	2 519	2 580	3	2 583
Devonport	3 877	333	4 210	4 337	333	4 670
Queenstown	1 077	..	1 077	1 275	..	1 275
Launceston	660	1	661	692	1	693
Scottsdale	6 553	2	6 555	6 967	2	6 969
Fingal	8 425	2	8 427	9 034	2	9 036
Triabunna .. .. .	..	r 90	r 90	..	90	90
Geeveston	86	r 16	r 102	86	16	102
Total	23 194	r 456	r 23 650	24 971	456	25 427



TIMBER CONCESSION AREAS



A.P.P.M.: (1) Burnie Concession Area; (2) Wesley Vale Concession Area; (2a) Wesley Vale Reserve.
A.N.M.: (3) Concession Area.
A.P.M.: (4) Concession Area; (4a) Reserve.
T.P.F.H.: (5) Concession Area; (5a) Reserve.

In May 1974, following the calling of tenders for cutting rights in *Pinus radiata* plantations in the north-east of Tasmania, a substantial sale of sawlogs was made and resulted in the establishment of a milling complex near Scottsdale. The annual volume of timber to be harvested is 50 000 m³ which will be obtained by clear felling at a rotation age of 35 years. Harvesting commenced in early 1976 and will extend over 15 years at the end of which exclusive thinning rights will be granted for approximately 12 000 m³ per annum.

Tasmanian Forest Types

The better quality forests largely occur where the annual rainfall exceeds 760 mm, but soil quality and the frequency of past fires also influence distribution. This productive native forest estate consists of four main vegetation types, dry sclerophyll, open, wet sclerophyll and temperate rain forests. The rain forest is principally located in the western half and to a lesser extent in the north-east highlands; the other three types (eucalypt forest) predominate elsewhere. The rainforest is characterised by the dominance of *Nothofagus cunninghamii* (myrtle), *Atherosperma moschatum* (sassafras), *Eucryphia lucida* (leatherwood) and other trees which appear on poorer soils. *Acacia melanoxylon* (blackwood) grows where rain forest has been disturbed in the past; principally where fires have occurred.

Eucalypt forests of good quality are not common on soils of reasonable depth and fertility where the annual rainfall is below 760 mm. Where the rainfall is above 1 130 mm, rain forest species appear in the understorey but are excluded should fires occur, say, every 40 to 50 years. With rainfall above 1 520 mm rain forest can exclude eucalypts. However, even with rainfall well above 1 520 mm a combination of poor soils and frequent burning produces areas of button grass and heathy plains.

Tasmanian forests are cut almost exclusively for hardwood (eucalypts), the slow growing native softwoods never having been very plentiful. The principal softwood species which have been utilised are *Athrotaxis selaginoides* (king billy pine), *Dacrydium franklinii* (huon pine) and *Phyllocladus aspleniifolius* (celery-top pine).

Hardwoods: The most valuable eucalypts are those which belong to the so-called ash group—*E. obliqua* (stringy bark), *E. delegatensis* (gum-top stringy bark or alpine ash) and *E. regnans* (swamp gum or mountain ash). In the south and south-east *E. globulus* (Tasmanian blue gum) occurs in high quality forests. In areas where the annual rainfall is below 760 mm, the more important eucalypts are *E. amygdalina* (black peppermint), *E. ovata* (swamp or black gum), *E. viminalis* (white gum), *E. obliqua* (stringy-bark) and *E. linearis* (white peppermint).

Tasmania offers 11 tree types suitable for chipping, of which 10 are eucalypts. The eleventh is the myrtle (*Nothofagus cunninghamii*), a rainforest hardwood available in the north-west of the island. The eucalypts can be graded into:

- | | |
|-------------------------------------|---|
| (i) First quality (four species)— | <i>E. obliqua</i> (stringy-bark) (a) |
| | (b) |
| | <i>E. delegatensis</i> (gum-top stringy-bark) (a) (b) |
| | <i>E. regnans</i> (swamp gum) (b) |
| | <i>E. sieberi</i> (ironbark) |
| (ii) Second quality (three 'gums')— | <i>E. viminalis</i> (white gum) (a) |
| | (b) |
| | <i>E. globulus</i> (blue gum) (a) |
| | <i>E. ovata</i> (swamp or black gum) (b) |

- (iii) Third quality (three 'peppermints')—*E. amygdalina* (black peppermint) (*a*) (*b*)
E. linearis (white peppermint)
E. tasmanica (silver peppermint)

Two species of eucalypt—*E. delegatensis* and *E. obliqua* account for over 60 per cent of all eucalypt logs cut for woodchipping. The east coast offers all 10 varieties of which the five marked (*a*) are the common ones. The north coast offers, in useful quantity, only the six varieties marked (*b*).

Softwoods: Although Tasmania's native forests produce some very valuable softwood timber, these are very slow growing and in short supply. For this and other reasons, attention has been given to building up another section of the total forest estate—namely, plantations of exotic species, particularly *Pinus radiata*. At mid-1975 there were almost 25 000 hectares of State-owned pine plantations with another 10 300 hectares on private land.

Forest Utilisation

Introduction

An extensive sawmilling industry has been a major and traditional part of the Tasmanian scene since the mid 19th century—an industry solely reliant on native forests for its raw material. For several years, usage of logs for sawing, peeling and slicing has remained steady at about 1 080 000 cubic metres per year, producing an average output of 415 000 cubic metres of sawn, peeled or sliced timber.

However, typical native forests produce much wood not suitable for sawmilling and in 1937 a start was made on the use of this previously wasted resource for the manufacture of paper. Since that time, the use of pulpwood has expanded, particularly in the present decade, producing pulp, paper, building panelboards and raw woodchips. In 1941 the only newsprint mill in Australia was established at Boyer on the Derwent; more recently, in 1962, a pulp mill began operations at Port Huon in the south. A further pulp and paper mill commenced production during 1970 at Wesley Vale near Devonport. Further utilisation of forestry products has been introduced by factories producing plywood, hardboard, particle board, woodchips (for export), etc.

Establishment of the woodchip industry and the expansion of other timber-using industries has resulted in greatly increased annual timber requirements necessitating careful utilisation of existing forest resources and the development of viable reforestation schemes.

The problem of possible overtaxing of existing resources has been met partly by multiple use which, in effect, means the same logs supply the raw material for a number of purposes. Pulpwood is often obtained as a by-product from mill-logging operations while waste from sawmilling is used for the manufacture of woodchips, pulp and hardboard. During 1969-70, the year preceding the first export of woodchips, approximately 25 per cent only of sawmill waste was chipped for use in woodpulp and wallboard manufacture. As a direct consequence of the woodchip export trade the proportion was almost 65 per cent for 1973-74. Thinnings from Forestry Commission *Pinus radiata* plantations, which in the past were often discarded, are used in particle board manufacture.

Regeneration is carried out by the Forestry Commission and by the companies themselves. On Crown land reforestation is mandatory, the work in some areas being done by the companies and in other areas by the Forestry Commission.

Industries utilising privately owned forest resources have established incentive schemes to encourage reafforestation.

Total Log Usage

The next table shows total log usage by the sawmilling, paper making, chipping and allied industries:

Hardwood and Softwood Log Usage
(^{'000 m³})

Year	Sawmilling	Chipping, grinding and flaking	Total
1969-70	1 079.33	732.00	1 811.33
1970-71	1 054.80	(a) 771.50	(a) 1 826.30
1971-72	1 081.09	1 171.37	2 252.46
1972-73	1 096.99	2 133.65	3 230.64
1973-74	1 073.73	2 961.66	4 035.39
1974-75	1 071.27	2 866.34	3 937.61

(a) Production of woodchips for export commenced in February 1971.

Total log usage by statistical division for 1974-75 was (in ^{'000 m³}): Hobart and Southern combined, 1 378.92; Northern, 1 965.75; Mersey-Lyell, 592.94.

In the sections that follow some of the more significant details are given for the State's major timber-using industries, excluding sawmills.

Paper, Hardboard and Particle Board

Associated Pulp and Paper Mills Ltd and subsidiaries manufacture paper and hardboard at Burnie and particle board and paper at Wesley Vale. The company owns 101 172 hectares of forested land and holds cutting rights over Crown land for 24 kilometres on each side of the Emu Bay railway line from the north coast to the Pieman River.

In 1970 the company completed the first stage of its pulp and paper mill at Wesley Vale at a cost of \$25m. The first paper machine installed has an annual capacity of about 40 640 tonnes of magazine paper and provision has been made for the installation of three additional machines. Two small pulping units manufacture eucalypt cold soda semi-chemical pulp and *Pinus radiata* refiner groundwood. A.P.P.M. Ltd plans to establish a large chemical pulp mill at Wesley Vale by 1978 which will duplicate present production from the Burnie complex.

Newsprint

Australian Newsprint Mills Ltd, situated at Boyer on the Derwent River is Australia's sole manufacturer of newsprint. Its timber concession follows the general line of the Derwent as far north as Lake King William.

The *Florentine Valley Paper Act* 1966 increased A.N.M.'s concession area from 110 479 hectares to 150 948 hectares to provide the basis for an expansion program. The company is required by the Act to supply 23 600 cubic metres of logs to other timber-using industries each year. A third paper machine came into production in January 1969 increasing annual capacity to 168 000 tonnes of newsprint. Output on this machine was progressively speeded-up and further ancillary equipment introduced raised annual capacity to approximately 208 000 tonnes.

Woodpulp

Australian Paper Manufacturers Ltd manufacture woodpulp at Port Huon on the Huon River. The pulp is shipped in pellet form to the company's paper mills in other states, principally to Botany, N.S.W. The company's pulpwood

concession and reserve areas include virtually the whole of the D'Entrecasteaux Channel coastline and the south coast as far west as Prion Bay; inland it extends west to the Mt Picton area. Also included in the reserve are Bruny Island and the Tasman Peninsula.

Woodchips

Woodchips manufactured from sawmill waste and other timber previously of limited commercial value, are primarily used for woodpulp production. Three Tasmanian companies, Northern Woodchips Ltd, Tasmanian Pulp and Forest Holdings Ltd and Associated Pulp and Paper Mills Ltd have negotiated woodchip export contracts with Japanese interests. Before granting woodchip export licences, the Federal Government stipulated that the companies, if they did not already have the capacity, should develop woodpulp manufacturing facilities within 15 years.

Tasmanian Pulp and Forest Holdings Ltd's plant at Spring Bay, near Triabunna on the east coast, has an annual capacity of more than 610 000 tonnes of woodchips. Timber for the project comes from pulpwood concession areas extending along the Eastern Tiers from St Helens (177 kilometres north of Triabunna) to Buckland (24 kilometres to the south-west). The Company has also been granted concessions over reserve areas covering much of central Tasmania. These areas will ultimately be used provided Tasmanian Pulp and Forest Holdings Ltd meets various stipulations contained in the *Pulpwood Products Industry (Eastern and Central Tasmania) Act 1968*. In addition the company is permitted to obtain pulpwood from areas in the reserve set aside by the Forestry Commission for silvicultural purposes or by utilising trees removed to open the forest for economic extraction of milling-quality timber.

The company's first woodchips were exported from the Spring Bay complex in April 1971; by December 1971 the plant was operating at full capacity (610 000 tonnes of woodchips per annum).

Associated Pulp and Paper Mills Ltd and Northern Woodchips Pty Ltd constructed their woodchip plants at Long Reach, near Bell Bay, on the Tamar River. Northern Woodchips Pty Ltd has also installed portable and satellite chipping plants in the northern half of Tasmania. A.P.P.M. Ltd draws its timber supplies from Crown forest concessions, private land and sawmill waste while Northern Woodchips Pty Ltd relies on timber from private lands and sawmill waste. Annual capacity of the A.P.P.M. Ltd plant is 914 500 tonnes of woodchips; Northern Woodchips Pty Ltd's 15-year export contract is for an annual 711 000 tonnes of woodchips.

Both companies commenced production of woodchips in 1972; A.P.P.M. at its Long Reach plant in May 1972 and Northern Woodchips from its portable and satellite chipping plants in mid-1972. First exports by the two companies were made in late 1972. In February 1973 the first log trains commenced using the rail extension to Long Reach giving the two companies economic access to more distant timber supplies.

Definition of Forest Production

The cutting of logs in a forest and the production of sawn timber in a mill seem closely related activities and may both, in fact, be conducted by a single operator with the same team of employees; similarly, the cutting of pulpwood and its later conversion to newsprint or fine paper may be viewed, in a broad sense, as a single activity. For statistical purposes, however, sawmills, paper mills, newsprint mills, woodchip plants, etc. are classified as factories while log-

ging operations, which provide the raw materials for the factories, are classified as forestry activity. It necessarily follows that the definition of forest production must be restricted to include only the output of logs, hewn timber, firewood, tanning bark, etc. before such products have passed into the sector covered by factory statistics. Some forestry products, as just defined, (e.g. fence posts and rails, hewn sleepers, firewood, etc.) may go direct to the final consumer without passing as a raw material to the factory sector.

Value of Forest Production

Gross Value of Production is the value placed on the recorded production at the wholesale price realised in the principal markets. In cases where forestry products are consumed at the place of production or where they become raw material for a secondary industry, these points of consumption are presumed to be the principal markets (e.g. the value of logs cut for sawmilling is the value on the mill skids).

Local Value (i.e. value of recorded production at the place of production) is ascertained by deducting marketing costs from gross value. Marketing costs include freight, cost of containers, commission, and other charges incidental thereto.

Source of Production Data

The principal sources of data are the returns of the various establishments classified as factories (e.g. sawmills, newsprint mills, paper mills, plywood mills, etc.) which report details of logs, pulpwood, sawmill edgings, off-cuts, etc. used as raw materials; other data are available from the State Forestry Commission and the Bureau's export statistics.

Statistics of Forest Production

The next table shows the production of the various forest products and from where they are obtained, i.e. either Crown or private land. In this table, the 'Logs for processing' figures include the log usage of the woodchip export industry. Woodchips have been an input material for locally based paper and woodpulp plants for many years but demand increased greatly with the establishment of woodchip export markets from 1971.

The following table shows details of forest production:

Forest Production, 1974-75

Product	Obtained from—		Total
	Crown land	Private land	
Logs for processing (a)—			
Forest hardwoods '000 m ³	2 396.29	1 519.63	3 915.92
Indigenous softwoods '000 m ³	10.93	..	10.93
Plantation grown pines '000 m ³	51.40	18.82	70.22
Total logs—Quantity '000 m ³	2 458.62	1 538.46	3 997.08
Gross value \$'000	<i>n.a.</i>	<i>n.a.</i>	46 234
Hewn and other timber—Quantity '000 m ³	38.49	<i>n.a.</i>	(b) 38.49
Value \$'000	<i>n.a.</i>	<i>n.a.</i>	(c) 3 788
Total gross value of forest products \$'000	<i>n.a.</i>	<i>n.a.</i>	50 022

(a) Logs for sawing, peeling, slicing, chipping and pulping.

(b) From Crown land only; includes firewood, sleepers, transoms, girders, bridge timber, mining timber, poles, piles and other forest products.

(c) Includes estimates of the value of hewn and other timber and firewood taken from private land and of other forest products.

The next table shows details of forest production for a five-year period on a basis comparable with the previous analysis:

Forest Production

Product		1970-71	1971-72	1972-73	1973-74	1974-75
Logs for processing (a)—						
Forest hardwood ..	'000 m ³	1 763.0	2 184.7	3 159.6	3 974.3	3 915.9
Indigenous softwood ..	'000 m ³	8.5	4.3	8.4	11.1	10.9
Plantation grown pines	'000 m ³	56.9	57.0	56.4	73.3	70.2
Total logs—Quantity ..	'000 m ³	1 828.4	2 246.0	3 224.4	4 058.7	3 997.1
Gross value ..	\$'000	14 037	18 858	27 897	39 802	46 234
Hewn and other timber—						
Quantity (b)	'000 m ³	35.2	40.4	39.4	32.3	38.5
Value (c)	\$'000	3 046	3 069	3 025	3 471	3 788
Total gross value of forest products	\$'000	17 083	21 927	30 922	43 273	50 022

(a) Logs for sawing, peeling, slicing, chipping and pulping.

(b) From Crown land only; includes firewood, sleepers, transoms, girders, bridge timber, mining timber, poles, piles and other forest products.

(c) Includes estimates of the value of hewn and other timber and firewood taken from private land and of other forest products.

Tasmanian and Australian Log Production

For the purposes of the last two tables, log production is defined as relating to 'logs' for sawing, peeling, slicing, chipping and pulping (i.e. it includes logs used in sawmills as well as those used for production of woodpulp in newsprint and paper mills, woodchips, particle board, etc.). In terms of this definition Tasmania is the major producer, the State's log production being over 35 per cent of the Australian total in 1973-74. The ranking of the other major producers was Victoria with 18.4 per cent and N.S.W. with 18.2 per cent. Considering Tasmania's small relative size and population, it is apparent that forest production is one of its more important contributions to the Australian economy.

Gross and Local Value of Production

The following table gives details of gross and local values of forestry production for a five-year period.

Gross and Local Value of Forestry Production
(\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Gross value (production valued at principal markets)	17 083	21 927	30 922	43 273	50 022
Less marketing costs	2 882	3 734	5 562	7 393	7 160
Local value (production valued at place of production)	14 201	18 193	25 360	35 880	42 862

Timber and Timber Products

Output and Exports

The following table shows timber production by mills for a five-year period, together with exports of sawn timber:

Production and Exports of Sawn Timber

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
LOGS TREATED ('000 m ³)					
Hardwood	1 027.74	1 054.60	1 068.65	1 037.77	1 023.08
Softwood	27.06	26.48	28.34	35.96	48.19
Total	1 054.80	1 081.09	1 096.99	1 073.73	1 071.27
SAWN, PEELED OR SLICED TIMBER PRODUCED FROM LOGS TREATED (a) ('000 m ³)					
Hardwood	394.34	401.23	403.85	398.22	388.34
Softwood	11.76	11.62	12.45	16.10	21.81
Total	406.10	412.85	416.29	414.32	410.15
EXPORTS OF SAWN TIMBER (b) ('000 m ³)					
Total	200.58	202.33	224.83	270.25	213.43
VALUE OF EXPORTS OF SAWN TIMBER (b) (\$'000)					
Total	17 201	17 385	20 822	26 156	22 690

(a) Rough sawn timber including that subsequently seasoned and dressed to produce flooring, weather-boards, etc.

(b) Includes dressed and undressed timber.

Geographical Distribution of Sawmills

The next table records the absolute decline in the number of mills over recent years. The area with the heaviest incidence of closures has been the southern orcharding region.

Distribution of Operative Sawmill and Plywood Mill Locations by Statistical Divisions and Sub-divisions

Statistical divisions and sub-divisions	1969-70	1971-72	1972-73	1973-74	1974-75
Hobart	} 96 {	12	12	14	12
Southern		73	70	73	64
Northern—					
Tamar	53	61	61	56	55
North Eastern	36	29	29	30	27
Total	89	90	90	86	82
Mersey-Lyell—					
North Western	45	39	37	38	36
Western	8	8	8	7	7
Total	53	47	45	45	43
Tasmania	238	222	217	218	201

Average Size of Mills

In the year 1963-64 no Tasmanian sawmill exceeded an annual log input of 25 000 cubic metres. The size distribution of mills, classified by volume of log inputs, is given in the next table:

Number of Operative Sawmills (including Plywood Mills)
by Volume of Annual Log Input

Size classification (cubic metres)	Number of sawmills and plywood mills			
	1971-72	1972-73	1973-74	1974-75
Up to 500	49	42	50	53
501- 1 000	14	24	28	19
1 001- 1 500	17	14	11	10
1 501- 3 000	36	38	33	28
3 001- 5 000	35	29	30	26
5 001-10 000	42	40	40	35
10 001-15 000	13	14	14	14
15 001-30 000	15	14	8	11
30 001-45 000	1	1	2	4
45 001-60 000 .. .. .	..	..	1	..
Over 60 000 .. .. .	..	1	1	1
Total	222	217	218	201

Mill Production of Timber

As shown previously, in 1974-75 logs treated in sawmills and plywood mills for the production of sawn, peeled, and sliced timber totalled 1 071 000 m³ while the resulting timber produced totalled only 410 000 m³. The difference between the volume of logs treated and of timber produced is not all waste from the millers' point of view. Admittedly, there is very limited use for sawdust but most offcuts are sold as input to the woodchip and woodpulp industries or docked and sold as firewood.

Chipping, Grinding and Flaking of Wood

Apart from sawmills and plywood mills, the main users of logs from Tasmanian forests were, until early 1971, the mills producing as their final products wood pulp, paper, hardboard and particle board. As an intermediate stage in the various processing systems, the timber used was chipped, ground or flaked at eight locations.

The rapid development of woodchipping for export is shown in the following table:

Chipping, Grinding and Flaking of Wood

Particulars	1971-72	1972-73	1973-74	1974-75
Producing locations at 30 June number	18	28	30	31
Materials used—				
Logs (a) '000 m ³	1 171.37	2 133.65	2 961.66	2 866.34
Sawmill offcuts '000 m ³	139.09	224.10	268.73	246.43
Total '000 m ³	1 310.46	2 357.75	3 230.39	3 112.77
Chipped, ground and flaked wood produced (green weight)—				
For local processing '000 tonnes	<i>n.p.</i>	793.74	892.47	785.59
For export '000 tonnes	<i>n.p.</i>	1 397.18	2 150.16	2 161.28
Total '000 tonnes	1 213.17	2 190.93	3 042.63	2 946.87

(a) Includes log equivalent of limbwood and billets.

Since the commencement of woodchipping for export from Tasmania in February 1971, details have been regularly obtained of *log usage*, and of *production of chipped, ground and flaked wood*, from all mills engaged in producing woodchips as such, woodpulp, paper, hardboard and particle board. With the opening in late 1972 of two additional woodchip export sites at Long Reach on the Tamar estuary, it has become possible to classify output into woodchips, etc. for further local processing and those for export.

The State Forestry Commission

The principal officers of the State Forestry Commission are the chief commissioner and two assistant commissioners. At 30 June 1975 the Commission employed a work force of 647 including administrative staff.

The Forestry Commission is primarily concerned with the conservation of Tasmania's forests; this requires that it should exercise control over the rate at which logs and pulpwood are taken, and also that it should introduce effective measures to ensure regeneration. Other important functions include: (i) fire prevention and suppression; (ii) road construction to give access to forests; and (iii) development of plantations. Some concept of the scope of Forestry Commission activities can be obtained from the following table:

Activities of Forestry Commission: Summary
(Source: Forestry Commission)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Regeneration assistance, area of native forests treated hectares	909	1 426	3 146	4 492	7 296
Seedlings produced '000	3 275	3 295	3 266	2 901	3 707
Plantations—					
Established hectares	2 027	1 905	1 902	1 903	1 776
Pruned hectares	839	754	495	454	368
Thinned hectares	353	302	273	409	455
Firebreaks—					
Constructed kilometres	53	85	49	73	54
Roads—					
Constructed kilometres	142	132	130	103	129
Improved kilometres	11	5	5	12	25

The Commission has a responsibility for preventing and fighting forest fires; losses through bush fires fought by the Commission are reported in the following table:

Bush Fires Fought by the Forestry Commission
(Source: Forestry Commission)

Year	Fires reported	Area burnt				Cost of suppression
		State forest	Other Crown land	Private property (a)	Total (a)	
	no.	hectares	hectares	hectares	hectares	\$
1969-70 ..	118	1 954	3 327	940	6 221	21 963
1970-71 ..	114	5 987	1 575	1 101	8 663	22 493
1971-72 ..	95	1 016	292	518	1 826	13 841
1972-73 ..	305	50 170	64 870	25 860	140 900	262 531
1973-74 ..	62	2 147	3 727	180	6 054	23 688
1974-75 ..	48	805	412	1 083	2 300	18 205

(a) Includes only those fires on private property fought to protect adjoining State forest or timbered Crown land.

Total expenditure by the Commission during 1974-75 was \$8.5m. This expenditure was funded from Loan Funds, Consolidated Revenue, funds provided under the *Softwoods Forestry Agreement Act* and monies made available for unemployment relief. Money collected each year (mainly from timber royalties) is paid into Consolidated Revenue and, by law, becomes a grant to the Commission the following year.

The main revenue of the Forestry Commission is derived from royalties, i.e. charges paid by those taking timber from Crown lands. By law, such revenue is specifically reserved for expenditure on forestry. The next table has been compiled to show the revenue and expenditure of the Commission for the last five years; expenditure exceeds revenue since money from State loan funds devoted to forestry purposes is included in expenditure.

Forestry Commission: Revenue and Expenditure
(\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
REVENUE					
Royalties	1 690	1 969	2 369	3 141	3 724
Sale of forest products	93	123	109	100	104
Other	32	35	39	18	36
Total	1 815	2 127	2 517	3 259	3 865
EXPENDITURE (a)					
Administration—					
Revenue collection	239	290	295	422	584
Forest management	555	641	700	850	1 193
General	457	504	605	725	1 057
Forest works—					
Road construction	853	902	926	1 157	1 348
Building and other	90	98	102	199	168
Afforestation and reafforestation	1 236	1 330	1 657	1 917	2 633
Forest protection (n.e.i.)	134	138	274	198	230
Mapping and surveys	118	126	154	220	377
Land purchases	17	8	4	8	2
Purchases, plant and equipment	85	45	43	37	83
Interest on advances	392	451	500	550	654
Total	4 176	4 533	5 260	6 283	8 329

(a) Aggregate expenditure from all sources, i.e. Consolidated Revenue, Loan and Trust Funds.

Federal Government-State Agreement

The federal *Softwoods Forestry Agreement Act* 1967 was passed with the specific intention of increasing the rate of softwood-plantings in Australia by providing federal financial assistance to the states. Under the Act each state was allocated: (i) a *base year* area of softwood plantings which was financed by the state; and (ii) a *scheduled* area in excess of the base year figure, the excess financed by special Federal Government loans. The base year area was constant for each year of the five-year program which commenced in 1966-67.

Main features of the special Federal Government loans were: (i) repayment of advances, in 50 half-yearly instalments, is deferred until July of the eleventh year after the date on which payment was made to the state; (ii) the state may repay any portion of the advances at any time prior to the date that payment falls due; and (iii) the loans are interest free for a period of 10 years after which interest accrues on the outstanding balance.

In late 1972 federal legislation was passed which extended the Federal Government-State softwood forestry agreement for a further five years. The legislation was made retrospective from July 1971. Financial terms were similar to those set out in the 1967 agreement.

Base year areas (financed by the states) under the second Federal Government-State softwood forestry agreement are: N.S.W., 3 553 hectares; Vic., 2 635 hectares; Qld, 2 282 hectares; S.A., 1 376 hectares; W. A., 1 315 hectares; and Tas., 850 hectares. Tasmania's scheduled plantings for each of the five years ended 30 June from 1972 to 1976 were set at 1 862 hectares.

The Federal Government's aim is to establish 809 400 hectares of pine plantations in the next 40 years and Tasmania's target, as part of the plan, is 80 940 hectares.

MINING

Introduction

For statistical purposes, mining is taken to cover the operations normally thought of as mining and quarrying (i.e. the removal from underground or surface workings of ores, etc.), the recovery of minerals from ore dumps, tailings, etc. and ore dressing (i.e. concentration and other elementary treatment). It does not include the smelting and/or refining of metallic minerals or the processing of non-metallic minerals (e.g. limestone into cement); these operations are classified as manufacturing.

In the present Tasmanian economy, two important metals will serve to illustrate the distinction between mining and manufacturing: aluminium, produced at Bell Bay on the Tamar; and zinc at Risdon near Hobart. In terms of the previous definition, the two metals are considered to be the output of manufacturing and only a small part of their total value is attributable to the mining industry in Tasmania. In the case of aluminium, no Tasmanian ores or concentrates are used and no value accrues to the Tasmanian mining industry. A substantial part of the value of the aluminium is, in fact, accounted for by imported materials. Zinc is produced from both imported and locally-produced concentrate, but only the value of the local concentrates produced at Rosebery is included in the Tasmanian mining industry. The same principle applies with the State's iron-ore pellet industry, i.e. extraction of the ore is classified as mining but pellet-making is classified as manufacturing.

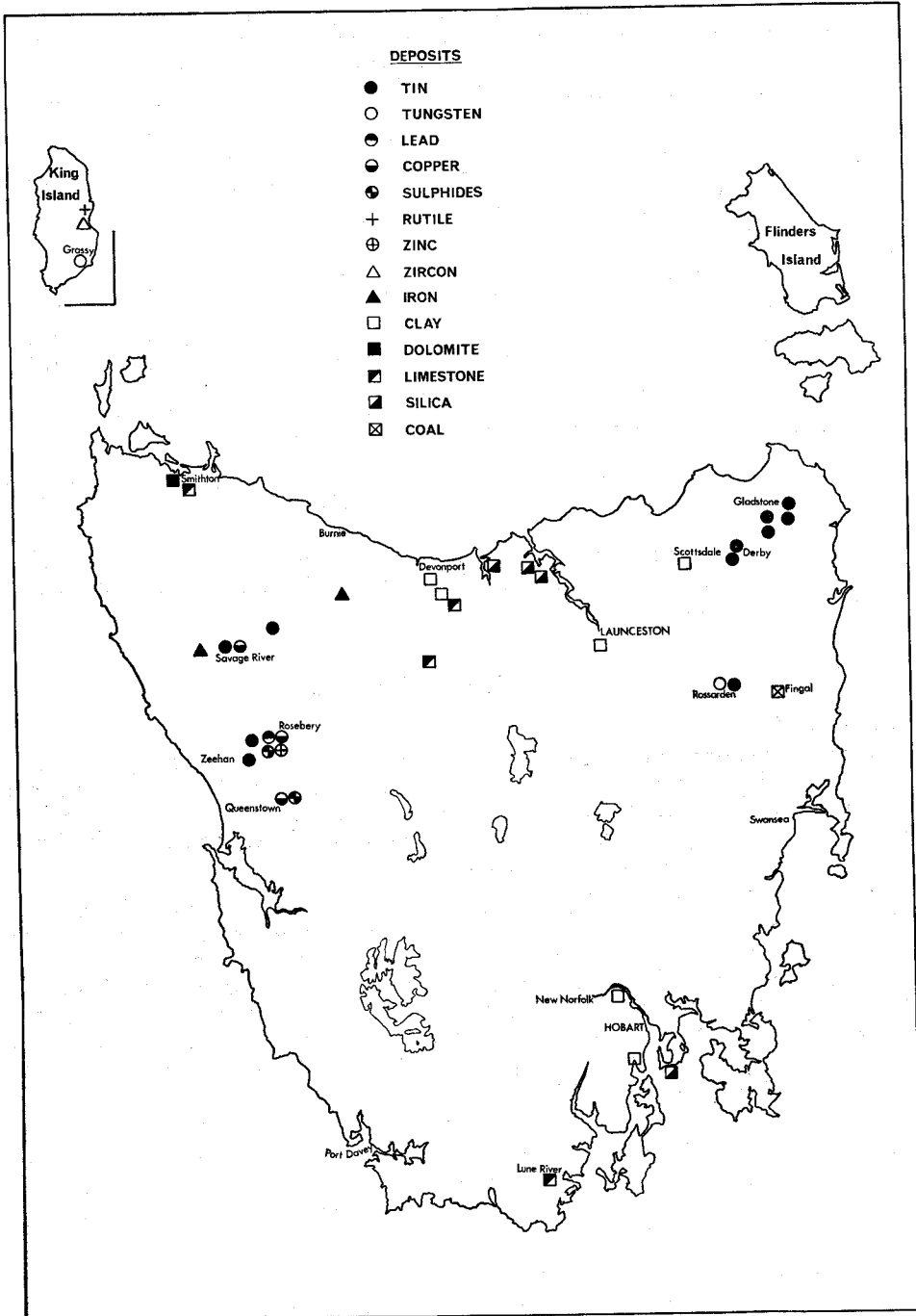
Historical

Tasmania's first mine opened at Port Arthur in 1834. In that year it produced 61 tonnes of coal but closed just 10 years later due to the poor quality of the coal and other discoveries. Major mineral discoveries were not made until later in the nineteenth century—tin oxide was first discovered near Mt Bischoff in 1871, silver-lead ore was discovered in the Zeehan-Dundas area in 1882 and the 'Iron Blow' copper ore outcrop near Mt Lyell was discovered in 1883. These and later discoveries led to the establishment of mining operations which have had a significant impact on Tasmania's growth. A more detailed historical background to the development of mining in the State is included in the 1976 and earlier editions of the *Year Book* and a 'West Coast Mining Chronology' is included in the 1968 edition.

Importance of Mining to the State

Mining activity in Tasmania has been subject to frequent and severe fluctuations, mainly as a result of changes in supply and demand. Nevertheless, mining forms an important sector of the Tasmanian economy. The next table lists the

Location of Principal Mining Operations, Tasmania
 Metallic, Non-Metallic and Fuel Minerals



major mineral products produced in Tasmania, the locations of the main mines, the assayed content of ores mined during 1974-75 and the assayed content of Tasmanian ores mined as a percentage of total Australian production.

Major Mineral Products: Tasmania-Australia Comparison, 1974-75

Mineral product	Location of main mine(s)	Unit	Assayed content of ores mined		Per cent (a)
			Tasmania	Australia	
Coal (black) ..	Fingal Valley	tonnes	(b) 137 868	(b) 70 142 000	0.2
Copper ..	Mt Lyell	tonnes	29 380	235 590	12.5
Gold ..	Mt Lyell, Rosebery	kg	1 569	15 061	10.4
Iron ..	Savage River	tonnes	1 426 352	60 860 000	2.3
Lead ..	Rosebery, Williamsford	tonnes	18 062	416 500	4.3
Silver ..	Rosebery, Williamsford	kg	73 287	709 092	10.3
Sulphur ..	Mt Lyell, Rosebery	tonnes	147 232	443 285	33.2
Tin ..	Renison Bell	tonnes	5 936	10 168	58.4
Tungstic oxide	Grassy (King Island)	tonnes	1 437	1 576	91.2
Zinc (c) ..	Rosebery	tonnes	61 457	508 174	12.1

(a) Tasmanian production as a proportion of Australian production. (At 30 June 1975, Tasmania's population was 3.0 per cent of the total population of Australia.)

(b) Actual production.

(c) Tasmania accounted for approximately 65 per cent of Australia's total refined zinc production in 1974-75. Both local and interstate concentrates are refined in the State.

The accompanying map shows the locations of major mines operative during 1974-75. No indication of relative size is given as the scale of operations varies greatly between mines.

Statistics of Mineral Production

Source of Data

Statistics relating to quantities of minerals produced (including assayed metallic content) are, in the main, obtained from the State Mines Department and are supplemented, where necessary, with data obtained from the annual census of mines and quarries conducted by the Australian Bureau of Statistics, and from the Commonwealth Bureau of Mineral Resources.

Other details of the mining industry, such as employment, value of output, and costs of production, etc. are obtained from the annual census of mines and quarries, conducted by the Bureau. This census was first conducted in 1952 and the information obtained from each census was basically the same until 1968. As from 1968-69 the mining sector census was standardised in accordance with the concepts employed in the integrated economic censuses (see 'Integrated Economic Censuses' in Chapter 18 for a comparison between mining and other industries included in the integrated censuses).

Tasmania's larger mining operations, in particular metal mining, are located in the West of the State and are concentrated in an area from Queenstown to Savage River. A number of tin mines operate in the North-East of Tasmania but their combined output no longer compares with either former activity in that area or current operations in the West.

Metallic Minerals

The table that follows shows the quantity of metallic minerals produced in Tasmania for a five-year period:

Metallic Minerals: Production

Mineral	1970-71	1971-72	1972-73	1973-74	1974-75
TONNES					
Copper concentrate ..	83 390	88 443	91 514	96 015	101 672
Copper-tin concentrate ..	4 367	5 187	4 586	3 124	2 506
Iron—Concentrate	2 044 584	2 200 630	2 450 932	2 304 575	2 051 783
Oxide	10 178	10 875	9 590	12 879	10 989
Lead concentrate	12 448	21 929	22 837	16 937	12 457
Lead-copper concentrate ..	10 227	18 025	16 605	19 919	19 952
Pyrite concentrate	132 526	192 402	197 813	238 850	218 474
Rutile concentrate	7 903	3 330	..	3 237	4 844
Tin concentrate	10 211	12 458	13 895	12 496	12 597
Tungsten concentrates—					
Scheelite concentrate ..	1 275	1 839	1 788	1 630	1 672
Wolfram concentrate ..	895	1 351	1 319	1 171	1 207
Zinc concentrate	68 548	122 804	125 087	127 352	108 793
Zircon concentrate	4 567	1 754	..	3 072	7 560
KILOGRAMS					
Gold (not in concentrates) ..	2	..	..	2	2

Assayed Content: In the following table, the various concentrates have been grouped to show their content in terms of individual metals. The contents stated are as determined by assay and include all pay metals and metals which are a refiner's prize; totals compiled on this basis contain no allowances for losses in smelting and refining and therefore, in general, exceed the quantities actually recoverable. The table refers exclusively to minerals mined in Tasmania.

Assayed Contents of Metallic Minerals Produced

Mineral	1970-71	1971-72	1972-73	1973-74	1974-75
COPPER (TONNES)					
Copper concentrate	21 465	22 921	23 449	24 292	25 824
Copper-tin concentrate ..	836	977	878	652	522
Lead concentrate	79	119	78	67	31
Lead-copper concentrate ..	1 235	2 133	1 828	2 350	2 652
Zinc concentrate	231	447	518	465	351
Total	23 846	26 597	26 751	27 826	29 380
GOLD (KILOGRAMS)					
Copper concentrate	405	430	475	470	508
Lead concentrate	80	150	91	82	30
Lead-copper concentrate ..	750	1 260	1 038	972	913
Zinc concentrate	76	143	165	166	116
Other sources	2	..	..	2	2
Total	1 313	1 983	1 769	1 692	1 569
IRON (TONNES)					
Iron concentrate	1 412 884	1 505 702	1 695 961	1 599 592	1 426 352

Assayed Contents of Metallic Minerals Produced—*continued*

Mineral	1970-71	1971-72	1972-73	1973-74	1974-75
LEAD (TONNES)					
Lead concentrate	7 256	12 579	13 414	10 920	8 648
Lead-copper concentrate	3 018	5 127	5 034	5 138	4 207
Zinc concentrate	2 220	4 979	4 616	5 568	5 207
Zinc-lead ore	22	23	..	..	..
Total	12 516	22 708	23 064	21 626	18 062
SILVER (KILOGRAMS)					
Copper concentrate	3 587	3 861	3 965	4 418	5 373
Lead concentrate	9 820	15 209	16 785	13 272	9 383
Lead-copper concentrate	28 824	49 602	49 357	53 034	45 211
Zinc concentrate	7 079	14 447	16 642	17 194	13 320
Zinc-lead ore	53	20	..	..	..
Total	49 363	83 139	86 749	87 918	73 287
SULPHUR (TONNES)					
Lead concentrate	2 495	4 475	4 565	3 118	2 138
Lead-copper concentrate	2 845	5 005	4 427	5 673	6 055
Pyrite concentrate	(a) 62 747	92 838	93 709	114 141	103 848
Zinc concentrate	22 521	40 343	41 064	41 820	35 191
Total	90 608	142 661	143 765	164 752	147 232
ZINC (TONNES)					
Lead concentrate	2 251	4 113	3 776	2 247	1 301
Lead-copper concentrate	1 278	2 360	2 333	2 657	2 409
Zinc concentrate	37 138	65 656	66 544	67 057	57 747
Zinc-lead ore	27	12	..	..	..
Total	40 694	72 141	72 653	71 961	61 457
TIN (TONNES)					
Copper-tin concentrate	174	157	129	81	73
Tin concentrate	5 148	6 312	6 289	5 957	5 863
Total	5 322	6 469	6 418	6 038	5 936
TUNGSTIC OXIDE (WO ₃) (TONNES)					
Scheelite concentrate	895	1 351	1 319	1 171	1 207
Wolfram concentrate	653	565	475	134	230
Total	1 548	1 916	1 794	1 305	1 437
CADMIUM (TONNES)					
Zinc concentrate	61	114	165	177	135

Assayed Contents of Metallic Minerals Produced—*continued*

Mineral	1970-71	1971-72	1972-73	1973-74	1974-75
MANGANESE (TONNES)					
Zinc concentrate	176	389	367	423	262
TITANIUM OXIDE (TONNES)					
Rutile concentrate	7 507	3 166	..	3 140	4 643
Zircon concentrate	16	8	..	9	23
Total	7 523	3 174	..	3 149	4 666
ZIRCON (TONNES)					
Rutile concentrate	55	18	..	26	38
Zircon concentrate	r 2 969	r 1 140	..	2 009	4 973
Total	r 3 024	r 1 158	..	2 035	5 011

(a) Increased concentrate produced from 1970-71 in association with sulphuric acid manufacture at Burnie.

Fuel Minerals (Coal)

The only fuel mineral mined in Tasmania is coal. There are known deposits of coal throughout much of Tasmania but the most important are those located in the Fingal Valley in the North-East which were first located in 1866.

In 1890 Tasmania produced 55 000 tonnes of coal and production continued to rise until a peak of over 300 000 tonnes was reached in 1959-60. Since then there has been a marked decline due to competition from oil fuel, particularly in manufacturing industries. Details of production for a five-year period are shown below.

Production of Coal in Tasmania
(Tonnes)

Description	1970-71	1971-72	1972-73	1973-74	1974-75
Coal, black—					
Semi-anthracite	519	..	..	..	..
Bituminous	124 960	121 302	128 478	122 788	137 868
Total	125 479	121 302	128 478	122 788	137 868

Non-Metallic (Excluding Fuel) Minerals

The quarrying of limestone is the earliest recorded activity in the field of non-metallic mineral mining in the State; burnt lime being sought as a base for building mortar. Production of this non-metallic mineral has gradually increased to meet a rising demand in various industrial processes. Large exports of limestone were made in the period 1918-1947, when the B.H.P. Co. Ltd operated quarries at Melrose on the north-west coast.

The next table shows the Tasmanian production of non-metallic minerals for a five-year period.

**Non-Metallic (Excluding Fuel) Minerals Production
(Tonnes)**

Mineral	1970-71	1971-72	1972-73	1973-74	1974-75
Clays and shales—					
Brick	121 731	131 391	128 080	138 770	139 679
Other	70 530	100 568	90 892	99 492	74 496
Dolomite	2 298	4 687	3 852	5 450	6 199
Limestone (a)	518 235	523 660	558 948	658 210	579 812
Peat moss	229	308	241	318	390
Ochre	84	23	74	62	..
Pebbles	1 611	1 712	1 134	1 264	976
Silica (b)	44 206	31 014	25 596	31 644	32 178

(a) Excludes quantities used directly as building or road construction materials.

(b) For glass, chemical, etc. manufacturing.

Construction Materials

In addition to the types of mining and quarrying previously described there is the quarrying of construction materials (for buildings, roads, etc.) such as crushed and broken stone, gravel and sand. This type of activity also is taken into account when placing a value on the output from mines and quarries, measuring their level of employment, etc.

Census of Mining Establishments

Annual censuses of mines were conducted by the Bureau from 1952; the last 'old-style' mining census covered the calendar year 1968. For 1968-69 simultaneous integrated economic censuses were undertaken in respect of mining and four other sectors (manufacturing; wholesale trade; retail trade; and electricity and gas production and distribution). In the section 'Integrated Economic Censuses' in Chapter 18 the results of these censuses are presented so that the economic significance of mining can be compared with that of other sectors included in the censuses. The reasons for changing to new concepts, new definitions, etc. are set out in Appendix A in the 1972 *Year Book*. Definitions of concepts and terms used are given in Appendix B of this *Year Book*.

Mining Establishments—Summary of Operations

The tables that follow give results for the mining censuses from 1970-71 to 1974-75.

**Census of Mining Establishments
Summary of Operations by Industry Sub-division**

Particulars	Unit	1970-71	1971-72	1972-73	1973-74	1974-75
METALLIC MINERALS						
Establishments	no.	29	(a) 17	16	16	16
Persons employed (b)—						
Males	no.	4 194	4 165	3 913	3 852	3 924
Females	no.	189	186	174	172	211
Total	no.	4 383	4 351	4 087	4 024	4 135
Wages and salaries	\$'000	21 661	25 370	26 955	29 179	40 993
Turnover	\$'000	74 280	84 567	90 605	138 417	120 489
Stocks—						
Opening	\$'000	10 805	13 515	13 941	12 541	15 108
Closing	\$'000	12 241	14 046	12 511	15 122	17 172
Purchases, etc. (c)	\$'000	19 853	28 035	29 622	59 099	53 984
Value added	\$'000	55 863	57 063	59 553	81 899	68 569
Rent, leasing expenses	\$'000	66	53	86	151	491
Fixed capital expenditure (d)	\$'000	25 746	15 899	12 107	12 383	18 129

Census of Mining Establishments
Summary of Operations by Industry Sub-division—continued

Particulars	Unit	1970-71	1971-72	1972-73	1973-74	1974-75
COAL (e)						
Establishments	no.	2	2	1	1	1
CONSTRUCTION MATERIALS						
Establishments	no.	19	24	21	29	26
Persons employed (b)—						
Males	no.	146	167	142	181	163
Females	no.	2	3	2	4	4
Total	no.	148	170	144	185	167
Wages and salaries	\$'000	490	634	647	892	1 041
Turnover	\$'000	2 510	2 856	3 407	4 972	4 871
Stocks—						
Opening	\$'000	214	223	342	360	347
Closing	\$'000	195	293	355	378	419
Purchases, etc. (c)	\$'000	1 111	1 449	1 681	2 566	2 553
Value added	\$'000	1 379	1 478	1 740	2 424	2 389
Rent, leasing expenses	\$'000	4	52	39	47	68
Fixed capital expenditure (d)	\$'000	144	378	170	666	737
OTHER NON-METALLIC MINERALS (e)						
Establishments	no.	9	10	10	10	13
TOTAL MINING						
Establishments	no.	59	53	48	56	56
Persons employed (b)—						
Males	no.	4 463	4 449	4 150	4 139	4 232
Females	no.	197	191	176	178	218
Total	no.	4 660	4 640	4 326	4 317	4 450
Wages and salaries	\$'000	22 641	26 458	28 091	30 623	43 026
Turnover	\$'000	78 057	88 675	95 350	144 917	127 688
Stocks—						
Opening	\$'000	11 058	13 801	14 332	12 966	15 526
Closing	\$'000	12 505	14 391	12 933	15 570	18 017
Purchases, etc. (c)	\$'000	21 408	29 948	31 765	62 200	57 276
Value added	\$'000	58 096	59 317	62 186	85 321	72 903
Rent, leasing expenses	\$'000	110	116	151	235	643
Fixed capital expenditure (d)	\$'000	25 967	16 532	12 482	13 159	19 430

(a) From 1971-72 small tin producing establishments with value of sales less than \$20 000 have been excluded from the Census.

(b) At last pay-period in June; includes working proprietors.

(c) Purchases, transfers in and selected expenses.

(d) Outlay on fixed tangible assets less disposals.

(e) Other data not available for separate publication but included in 'Total Mining'.

Smelting and Refining of Metals

The turnover for a mining establishment includes the selling value of products produced at the establishment (e.g. in a metal mining establishment usually the selling value of specific concentrates at the mine). Earlier, reference was made to the fact that Tasmanian manufacturing industry statistics include the extraction and refining of metals, not only from locally produced ores and concentrates, but also from those that have been imported.

The next table shows details of establishments engaged in making iron ore pellets; extracting and refining copper, zinc and aluminium; and making ferro-manganese alloys. In terms of numbers employed and of 'value added', it will be seen that this manufacturing activity is almost as important as mining activity.

Non-Mining Activity: Extracting and Refining Metals

Particulars	Unit	1969-70	1971-72 (a)	1972-73	1973-74
Establishments	no.	4	4	5	5
Persons employed (b)	no.	3 730	3 519	3 508	3 465
Turnover	\$'000	132 656	130 836	143 726	176 227
Value added	\$'000	54 688	46 323	48 966	65 912

(a) There was no manufacturing census in 1970-71.

(b) Average over whole year, includes working proprietors.

In the previous table, the principal metals and concentrates included are iron ore pellets (from local ore), ferro-manganese alloy (from imported ores), zinc and cadmium (from local and imported ores), alumina and aluminium (from imported bauxite). The codes for the Australian Standard Industrial Classification (ASIC) classes of establishments included in the table are: 2 911; 2 912; 2 921; 2 922; 2 923 and 2 924.

The value added in the manufacturing table does not duplicate values already recorded in the mining sector since the cost of basic raw materials (ores or concentrates) is one of the recorded costs (purchases and selected expenses) of manufacture deducted from the value of turnover.

The next table gives details of the production of zinc and copper by refinery processes:

**Non-Mining Activity: Production of Zinc and Copper
(Tonnes)**

Year	Refined zinc	Copper (a)	Year	Refined zinc	Copper (a)
1967-68	131 872	14 288	1971-72	175 798	..
1968-69	151 094	14 623	1972-73	193 782	..
1969-70	170 931	6 026	1973-74	182 749	..
1970-71	162 271	..	1974-75	152 749	..

(a) Blister copper. In October 1965, the Mt Lyell refinery was closed down and the blister copper was thereafter shipped to Port Kembla (N.S.W.) for refining. In December 1969, the Mt Lyell copper smelters closed down.

Aluminium Production: The refinery for the production of alumina and refined aluminium is situated at Bell Bay on the River Tamar. Production of alumina commenced in February 1955, and of refined aluminium in September 1955. Published statements indicate that the capacity of the plant, in terms of primary aluminium, has been lifted steadily in recent years. The commissioning in 1971 of a third potline brought annual capacity to 95 500 tonnes, nearly eight times the plant's capacity in 1961.

Mineral Exploration (Other than for Petroleum)

The statistics in the following tables relating to exploration for minerals other than petroleum are derived from the annual census of mineral exploration.

'Mineral exploration' consists of the search for mineral deposits, the appraisal of newly-found deposits, and the further appraisal of known deposits (including those being worked) by geological, geophysical, geochemical and other methods (including drilling). Exploration for water is excluded. The construction of shafts and adits is included if primarily for exploration purposes.

The data obtained in the mineral exploration census are divided into the following categories:

Exploration on Production Leases: Relates to exploration carried out on a production lease currently producing, or under development for production of, minerals other than petroleum. Mines included in this section of the mineral exploration census correspond closely to those in the annual census of mining and quarrying with the exception of a limited number of itinerant prospectors and small mines excluded from the collection.

Exploration on Other Areas: Relates to: (i) exploration carried out on areas covered by exploration licences issued by the Department of Mines for minerals other than petroleum; and (ii) exploration by private enterprise for minerals which is not directly connected with areas under lease or licence, including general surveys, aerial surveys, report writing, map preparation and other off-site activities not directly attributable to particular lease or licence areas.

**Mineral Exploration Other Than for Petroleum: Expenditure
(\$'000)**

Year	Wages and salaries paid	Stores, materials, fuels, etc. purchased	Payments to contractors (a)	Other current expenditure (b)	Net capital expenditure (c)	Total
PRIVATE EXPLORATION ON PRODUCTION LEASES						
1971-72 ..	315	125	63	77	18	597
1972-73 ..	404	116	408	<i>n. p.</i>	<i>n. p.</i>	1 077
1973-74 ..	461	168	452	95	24	1 200
1974-75 ..	596	143	859	79	63	1 740
OTHER PRIVATE EXPLORATION						
1971-72 ..	579	152	1 481	626	43	2 881
1972-73 ..	556	101	1 105	<i>n. p.</i>	<i>n. p.</i>	2 314
1973-74 ..	899	317	1 180	548	49	2 994
1974-75 ..	1 129	397	1 660	517	121	3 824
TOTAL PRIVATE EXPLORATION						
1971-72 ..	893	277	1 544	703	61	3 478
1972-73 ..	960	217	1 512	674	29	3 392
1973-74 ..	1 360	485	1 632	643	74	4 194
1974-75 ..	1 725	540	2 519	596	184	5 565
TOTAL GOVERNMENT EXPLORATION (d)						
1971-72 ..	301	..	..	23	..	324
1972-73 ..	368	..	..	34	..	401
1973-74 ..	197	17	3	28	2	246
1974-75 ..	318	62	2	39	13	435

Forestry, Mining and Fisheries

Mineral Exploration Other Than for Petroleum: Expenditure—*continued*
(\$'000)

Year	Wages and salaries paid	Stores, materials, fuels, etc. purchased	Payments to contractors (a)	Other current expenditure (b)	Net capital expenditure (c)	Total
TOTAL PRIVATE AND GOVERNMENT EXPLORATION						
1971-72 ..	1 194	277	1 544	726	61	3 802
1972-73 ..	1 328	217	1 512	708	29	3 793
1973-74 ..	1 557	502	1 635	671	76	4 440
1974-75 ..	2 043	602	2 522	635	199	6 000

(a) Amounts paid to contractors, geological consultants, etc., employed to carry out exploration activities.

(b) Other current exploration expenditure such as maintenance expenses, map preparation, aerial surveys, rent and fees paid to governments for mineral tenements.

(c) From 1973-74 net capital expenditure is defined as expenditure on fixed tangible assets less disposals. In previous years, capital expenditure was defined as expenditure on fixed tangible assets.

(d) Exploration by Tasmanian Department of Mines.

The next tables show the total drill hole depths drilled, sunk or driven in mineral exploration (other than for petroleum) in recent years.

Mineral Exploration Other Than for Petroleum: Metres Drilled, Sunk or Driven

Year	Drilling		
	Core (a)	Non-core (b)	Total
PRIVATE EXPLORATION ON PRODUCTION LEASES			
1971-72	14 697	1 422	16 119
1972-73	32 331	839	33 170
1973-74	38 087	27 543	65 630
1974-75	44 036	918	44 954
OTHER PRIVATE EXPLORATION			
1971-72	32 308	11 799	44 107
1972-73	14 245	12 231	26 476
1973-74	20 848	9 785	30 633
1974-75	26 798	8 674	35 472
TOTAL PRIVATE EXPLORATION			
1971-72	47 005	13 221	60 226
1972-73	46 576	13 070	59 646
1973-74	58 935	37 328	96 263
1974-75	70 834	9 592	80 426
TOTAL GOVERNMENT EXPLORATION (c)			
1971-72	1 269	..	1 269
1972-73	1 456	..	1 456
1973-74	1 519	..	1 519
1974-75	1 627	..	1 627

**Mineral Exploration Other Than for Petroleum:
Metres Drilled, Sunk or Driven—continued**

Year	Drilling		
	Core (a)	Non-core (b)	Total
TOTAL PRIVATE AND GOVERNMENT EXPLORATION			
1971-72	48 274	13 221	61 495
1972-73	48 032	13 070	61 102
1973-74	60 454	37 328	97 782
1974-75	72 461	9 592	82 053

(a) Diamond drilling, or any kind of drilling in which cores are taken.

(b) Alluvial, percussion and other drilling in which cores are not taken.

(c) Exploration by Tasmanian Department of Mines.

Problems for the Mt Lyell Mining and Railway Co. Ltd

On 16 February 1976, the Mt Lyell Mining and Railway Company Ltd released its results for the six months ending 31 December 1975 which showed a loss of \$3.9m on mining operations for the period. This result was due to depressed copper prices and Mt Lyell's Chairman, Sir Brian Massey Greene, stated that future large losses were certain unless there was a significant increase in the price of copper. He also said that if copper prices did not show some signs of recovery a decision on whether mining operations would continue or not would have to be made within the next 18 months.

The company had made borrowing arrangements with its bankers early in 1975 to finance future operations but the Chairman said that these would be inadequate to fund the planned capital expansion program and mining operations if the price of copper remained depressed. As a result, the directors had decided to defer a multi-million dollar shaft development expansion program and to sell shares held by the company in ICI Australia Ltd and Renison Ltd. This would provide sufficient funds for continued operations for the time being in the hope that the copper price would improve before these funds were exhausted. The sale of the shares was expected to raise about \$12.8m.

As a result of deferment of the expansion program, 38 employees were retrenched. However, the alternatives of either shutting down or slowing down production would have thrown a large number of employees out of work and brought considerable hardship to the town of Queenstown, which is almost entirely dependent on the mine for its continued existence. (The population of urban Queenstown at 30 June 1971 was 5 025 and that of the Queenstown municipality, 5 123. The population of the Queenstown municipality at 30 June 1976 was 4 622.)

On 27 April 1976, the Company's General Manager, Mr D. P. C. Sawyer, announced that three retail stores owned by the Company would be sold to release more money for mining operations.

The Mt Lyell Mining and Railway Co. Ltd's annual report for 1975-76 showed a consolidated net loss for the year of \$1.99m compared to a consolidated profit of \$3.10m for 1974-75; the loss on mining operations during 1975-76 was \$5.47m. At the Company's Annual General Meeting on 23 September 1976, the Chairman, Sir Brian Massey-Greene, said that the significant increase in copper prices in the second six months of the year had made the future appear rather less bleak. However, the improvement in copper prices was not sufficiently large or well sustained

to offset the effects of cost escalations over the past two years—to just cover the costs of operations at the mine as at September 1976 an L.M.E. price of above £Stg 1 000 would have been required. Sir Brian said that unless there was either a very substantial increase in copper prices or the exchange rate between the British pound and the Australian dollar changed dramatically, then the Company would incur very substantial losses during 1976-77. However, he said that 'on present projections the Company appears to have adequate cash resources to meet its commitments during the current financial year, subject to there being no adverse variation in the level of production and to the copper price improving above present levels'. Sale of shares held by the Company in Renison Ltd had realised a surplus of \$8.39m by 30 June 1976 and a small further sum was to be brought to account during 1976-77. The Company's work force was reduced from 1 332 to 1 072 during the year, mainly as a result of a policy of non-replacement.

On 4 November 1976, the Company announced that the two North Lyell mines would be closed and that 400 workers were to be retrenched over the following two months. Total production of ore was to be reduced from a level of 22 000 tonnes per year to 15 000 tonnes per year. The General Manager, Mr D. C. P. Sawyer, told employees that the Company had been losing \$25 000 per day on mining operations at Queenstown. The main Prince Lyell shaft was also running at a loss but it was hoped that these losses could be contained at a tolerable level, enabling this mine to be kept open. However, it was stated that any more drastic falls in copper prices could also close that mine. The Chairman of Directors, Sir Brian Massey-Greene, said that copper prices would need to increase by 30 to 40 per cent before the Company could consider re-opening the North-Lyell shafts. The London Metals Exchange copper price (expressed in Australian dollars) of \$1 023 per tonne on 4 November 1976 was over 30 per cent below Mt Lyell's break-even price of \$1 473 per tonne at that time.

The Australian dollar was devalued by 17½ per cent on 28 November 1976 (followed by revaluations of just over two per cent and one per cent on 7 December and 13 December 1976, respectively). Subsequently on 13 December 1976, the Company announced that in view of the devaluation it would limit retrenchments to about 200 instead of the originally announced 400. (Following the original announcement of large scale retrenchments by the Company, a Senate Select Committee was appointed to inquire into the Company's problems and on 3 December 1976 had reported that in its opinion, devaluation should allow the Company to abandon all the proposed retrenchments.) The General Manager, Mr Sawyer, announced that production at the Prince Lyell shaft would be increased from the proposed level of 15 000 tonnes to 17 500 tonnes of ore per annum. However, the Company was still losing about \$19 000 a day despite devaluation and a substantial increase in copper prices would be necessary to enable a return to profitability.

The next table shows the wide fluctuations in the price of copper in recent years. From a peak average copper price for February 1974 of \$1 477, reached during the 1973-74 commodities boom, the Australian price fell by 38.4 per cent to \$910 for February 1975. London prices fell by 59.6 per cent from a monthly peak of £Stg 1 267.7 for April 1974 to £Stg 512.4 for January 1975. (Although Australian prices are normally based on L.M.E. prices, the Prices Justification Tribunal limited Australian prices to a maximum of \$1 460 per tonne from March 1974.) Added to the sudden decline in copper prices, the cost of operating and developing mines has increased very significantly over recent years—it is generally accepted that cost increases in this area have been considerably greater than movements in the Consumer Price Index (see Chapter 17 for details relating to price indexes and average weekly earnings).

Average Daily Prices of Copper, Australia and London Metals Exchange

Period	Australia (a) (\$A per tonne)	L.M.E. (b) (£Stg per tonne)	Period	Australia (a) (\$A per tonne)	L.M.E. (b) (£Stg per tonne)
1969-70	1 476.4	671.8	1974-75—		
1970-71	1 070.2	477.7	January	935.0	512.4
1971-72	961.2	427.9	February	910.0	528.7
1972-73	990.3	508.6	March	980.0	554.5
1973-74	1 428.8	980.7	April	1 010.0	560.5
1974-75	1 050.5	598.3	May	965.7	539.7
1975-76	1 017.9	655.3	June	918.1	522.5
1973-74—			1975-76—		
January	1 377.0	913.2	July	911.3	559.3
February	1 477.0	1 006.5	August	972.0	603.7
March	(c)1 460.0	1 172.0	September	987.6	580.2
April	(c)1 460.0	1 267.7	October	952.2	573.2
May	(c)1 460.0	1 190.6	November	934.0	575.1
June	(c)1 460.0	1 020.1	December	923.8	568.2
1974-75—			January	936.0	587.5
July	1 402.0	801.9	February	945.7	601.6
August	1 264.0	767.9	March	1 033.0	683.7
September	1 017.0	631.0	April	1 115.6	816.9
October	1 073.9	599.2	May	1 254.3	836.0
November	1 080.0	608.2	June	1 249.0	878.0
December	1 032.0	553.2			

(a) Refined electrolytic copper, Mount Isa Mines copper price.

(b) Refined electrolytic wirebars, L.M.E. warehouse, mid-day cash price, average of buyers' and sellers' quotes, L.M.E.

(c) Price limited to this maximum by the Prices Justification Tribunal.

FISHERIES

General

The Tasmanian industry involves about 1 350 licensed fishermen who operate from some 600 vessels. The species which comprise the annual catch are not only scale fish but also include elasmobranchs (sharks), molluscs (scallops, oysters, abalone) and crustaceans (southern rock lobster).

In 1974-75 the catch of fish, molluscs and crustaceans totalled approximately 7 875 tonnes. This figure is 47 per cent below the record catch for 1973-74 when 14 828 tonnes were harvested. The high catch for 1973-74 was mainly due to the establishment of a fish protein factory at Triabunna which has since ceased operations.

The Sea Fisheries Division controls saltwater fisheries and the Inland Fisheries Commission controls the freshwater fisheries. Most freshwater fish are caught for sport but two species (eels and whitebait) are caught for sale.

Commercial fishing for whitebait began in 1941 and reached a peak in 1947 when over 450 tonnes were caught. Since 1950 the catch has gradually declined to such a degree that no catches of whitebait were reported in 1974-75. (It was a closed season for whitebait in 1975-76.)

Rainbow trout are raised commercially on a trout farm at Bridport. There are rainbow and brown trout in Tasmanian lakes and rivers (introduced as exotic species) but these may only be fished for by licensed sportsmen and may not be sold.

A commercial freshwater fishery for the short-finned eel was established in 1965 and the catch in 1974-75 was 3 526 kilograms.

Fish Varieties and Species

The following table lists the main Tasmanian commercial fish varieties and species with their code numbers. The code numbers are prepared on behalf of the Federal/State Fisheries Conference by the Fisheries Division of the Federal Department of Agriculture.

Main Commercial Fish Varieties, Species and Code Numbers

Variety	Species	Code number	Variety	Species	Code number
Eels	<i>Anguilla australis</i>	035	Flathead	<i>Neoplatycephalus fuscus</i>	615
Whitebait	<i>Loветtia sealii</i>	076		<i>N. richardsoni</i>	616
Rainbow trout ..	<i>Salmo gairdnerii</i>	101		<i>N. speculator</i>	617
Flounder	<i>Rhombosolea spp</i>	151		<i>Trudis bassensis</i>	621
	<i>Pseudo hombus spp</i>	176		<i>Leviprora laevigata</i>	625
Cod	<i>Physiculus barbatus</i>	201	Shark	<i>Mustelus antarcticus</i>	651
Tuna.. .. .	<i>Thunnus maccoyii</i>	301		<i>Galeorhinus australis</i>	655
	<i>T. alalunga</i>	303	Garfish	<i>Hemirhamphus melanochir</i>	712
	<i>Katsuwonus pelamis</i>	315			
Mackerel	<i>Auxis thazard</i>	334	Southern rock lobster	<i>Jasus novaebollandiae</i>	780
Snoek (barracouta)	<i>Leionura atun</i>	335	Oyster	<i>Ostrea angasi</i>	831
Mullet	<i>Mugil cephalus</i>	351		<i>Crassostrea gigas</i>	832
	<i>Aldrichetta forsteri</i>	370	Scallop	<i>Pecten meridionalis</i>	835
Trevally	<i>Usacaranx nobilis</i>	401		<i>Equiclamys bifrons</i>	836
Salmon	<i>Arripis trutta</i>	490		<i>Mimacclamys asperimus</i>	837
Trumpeter	<i>Latris lineatus</i>	535	Abalone	<i>Notobaliotis ruber</i>	845
	<i>Latridopsis forsteri</i>	536		<i>Schismotis laevigata</i>	846

Fisheries Statistics

Source of Data and Method of Presentation

Statistics presented in this section have been supplied principally by the Sea Fisheries Division of the State Department of Agriculture. In the preparation of fisheries production statistics, the quantities are generally in terms of the form in which the catch is taken from the water. For example, the statistics of fish production are in terms of 'estimated live weight' which is calculated from landed weights by using conversion factors for the various species. These conversion factors allow for the fact that the quantities of fish reported are frequently in a gutted, headed and gutted, or otherwise reduced condition. Crustaceans are reported on a 'whole weight' basis and molluscs (edible) on a 'gross (in-shell) weight' basis.

The actual edible yield varies depending on types of fish and methods of preparation. Barracouta yield about 51 per cent of liveweight when filleted, and shark about 60 per cent when headed and gutted. The edible flesh in molluscs represents only a small portion of the in-shell weight. Approximately 1 kg of scallop flesh equals 4.5 kg in-shell weight and 1 kg of abalone flesh equals 2.25 kg in-shell weight.

The catch is generally defined as that landed in Tasmanian ports, regardless of whether it is caught in Tasmanian waters or not, or whether it is caught by Tasmanian fishermen or not. Shark, southern rock lobster and other fish taken by Victorian based fishermen in Tasmanian waters, but landed in Victoria are included in the Victorian catch and excluded from Tasmanian figures, on the basis that the catch influences the Victorian rather than the Tasmanian economy.

Details of production refer only to recorded commercial production. In view of the importance of amateur fishermen in certain types of fishing, details shown cannot be taken as representing the whole catch. In addition, it is likely that the figures shown understate, to some extent, the full commercial catch since no information is available on fish taken for sale by persons not licensed as professional fishermen.

Employment and Boats

Persons Engaged and Boats

The following table shows details of persons and boats employed in the taking of fish, crustaceans and edible molluscs. The data are derived from boat registration records of the State Sea Fisheries Division. The term 'number of crew' refers to the usual number of crew on registered fishing vessels and lacks the precision of the concept 'average number employed' used in statistics of other production sectors. Many of the fishermen operate part-time only, and may normally follow other occupations:

Fisheries: Number and Value of Boats, Number of Crew, etc.

Particulars	1971 (a)	1972 (a)	1973 (a)	1974 (b)	1975 (c)
Number of boats engaged (d)	588	589	594	616	607
Value of boats engaged (d) \$'000	6 980	7 478	8 611	r 12 546	13 060
Average value per boat \$	11 870	12 696	14 497	r 20 367	21 516
Number of tender boats	337	341	345	400	395
Total value of fishing gear \$'000	598	628	728	r 1 261	1 255
Value of fishing gear per boat \$	1 018	1 067	1 226	2 095	2 068
Number of crew	1 207	1 235	1 268	1 343	1 347
Number of boats according to size (e)—					
Under 6 metres	108	120	127	147	149
6 and under 9 metres	109	92	82	88	81
9 and under 12 metres	138	132	129	116	117
12 and under 15 metres	152	152	151	157	150
15 and under 18 metres	60	69	77	77	78
18 and under 21 metres	13	15	15	15	15
21 and under 26 metres	3	5	9	8	10
26 and under 30 metres	3	2	1	4	4
30 metres and over	2	2	3	4	3

(a) Based on figures collected in 1969 adjusted for new registrations and de-registrations.

(b) Complete details collected.

(c) Based on figures collected in 1974 adjusted for new registrations and de-registrations.

(d) Excludes tender boats.

(e) Size groupings, originally in feet, have been directly converted to the nearest metre.

The boats used for the estuarine fisheries are mostly small vessels, propelled by diesel or petrol motors of low power. The offshore vessels range in length from 9 metres to over 30 metres and almost invariably are powered by diesel engines. Refrigeration of the catch at sea is becoming more common, the four main types being ice box, ice cooling, brine tanks and dry refrigeration; almost all boats have wells or deck tanks which serve to keep the catch alive, e.g. southern rock lobster or abalone.

The next table indicates the high proportion of relatively new boats operating in the fishing industry and analyses the 616 boats registered in 1974 according to age:

Number of Boats Classified According to Length and Age, 1974 (a)

Length of boat (metres) (a)	When constructed							
	Before 1930	1930 to 1939	1940 to 1949	1950 to 1954	1955 to 1959	1960 to 1964	1965 to 1969	1970 to 1974
Under 6 .. ..	..	1	2	3	4	4	33	100
6 and under 9	1	3	16	17	8	11	12	20
9 and under 12	8	7	19	14	15	23	19	11
12 and under 15	17	4	21	8	12	14	53	28
15 and under 18	4	4	10	2	6	12	19	20
18 and under 21 .. ..	..	2	2	..	1	2	4	4
21 and under 26	2	..	1	..	..	1	1	3
26 and over	1	..	3	..	..	..	..	4
Total	33	21	74	44	46	67	141	190

(a) Size groupings, originally in feet, have been directly converted to the nearest metre.

Production

Fish Catch

The following table shows the production of certain types of fish caught in Tasmania for a five-year period. The fish types appear in the table without any further description to identify the particular species but a specification of the more common species for each type is given earlier in this section.

Fish: Production by Type
(*000 kg Estimated Live Weight) (a)

Type	1970-71	1971-72	1972-73	1973-74	1974-75
Mullet	10	11	7	7	5
Tuna	8	44	40	n.a.	135
Shark	793	859	497	1 187	651
Australian salmon	201	508	461	371	631
Flathead	69	63	39	73	23
Barracouta (snoek)	610	581	915	598	760
Whitebait	15	5	1	3	..
Cod	6	4	4	2	2
Flounder	19	30	14	10	18
Trevally	14	38	63	41	74
Trumpeter	21	15	7	7	4
Garfish	27	34	36	50	40
Other	146	189	181	(b) 7 535	527
Total	1 940	2 380	2 265	(b) 9 884	2 870

(a) Estimated live weights are calculated from landed weights by conversion factors since quantities of fish are reported frequently in a gutted, headed and gutted, or otherwise reduced condition (e.g. barracouta and shark).

(b) Used mainly for input to a fish protein factory established at Triabunna. See sub-section 'General' at the beginning of the Fisheries Section.

Crustaceans and Molluscs

In terms of value, the most important item in the Tasmanian catch is southern rock lobster (crayfish) and the next table shows details of production of this crustacean and also of molluscs:

Crustaceans and Molluscs: Production by Type

Type	1970-71	1971-72	1972-73	1973-74	1974-75
CRUSTACEANS ('000 kg WHOLE WEIGHT)					
Southern rock lobster ..	1 607	1 469	1 583	1 514	1 525
MOLLUSCS ('000 kg IN-SHELL WEIGHT)					
Squid	3	8	154	5	6
Oysters	32	53	147	207	105
Scallops .. .. .	..	52	515	1 158	1 261
Abalone	3 488	2 971	2 172	2 060	2 108
Total	3 523	3 084	2 988	3 430	3 480

Development of the Tasmanian abalone fishery dates from 1964 when divers commenced taking abalone for export. The 1963-64 catch was only 33 000 kg. In 1974-75 the catch was 2 108 000 kg which was 1.4m kg below the record 1970-71 abalone harvest of 3 488 000 kg. Currently, in terms of value, abalone is the second most important species in the Tasmanian catch.

Comparison with Other States

Rock Lobster: Total production of rock lobster in Australia during 1974-75 was 13.6 million kilograms of which Tasmania produced 11 per cent. The main producing states were Western Australia (71 per cent) and South Australia (14 per cent).

Abalone: The Tasmanian abalone fishery in 1974-75 accounted for 37 per cent of Australian production of 5.7m kg (in the shell). Victoria was the leading producer with 38 per cent of the total Australian catch.

Scallops: For many years Tasmania was the only state in Australia with a commercial scallop fishery; in 1955-56 Tasmania was joined by Queensland, but continued to retain its dominant position in the industry. In 1963, however, Tasmanian fishermen started a Victorian fishery in beds known to exist in Port Phillip Bay and the new site in its first year (1963-64) produced more than twice the quantity of the Tasmanian fishery. No scallops were dredged from Tasmanian waters in 1970-71, and only 52 000 kg in 1971-72, but following the discovery of new beds in Bass Strait the Tasmanian catch increased to 1 261 000 kg in 1974-75. Victoria produced 6 840 000 kg of scallops in 1974-75 which was 69 per cent of the Australian total of 9 871 000 kg, while Queensland contributed 15 per cent.

Catch of Fish Landed at Fishing Ports

The table that follows shows the proportion of fish landed at Tasmanian fishing ports. The information relates to port of landing only, and not to the area in which the catch was made.

Forestry, Mining and Fisheries
Proportion of Fish Landed at Each Port
(Per Cent)

Port	1973-74	1974-75	Port	1973-74	1974-75
Derwent & Channel—			Bass Strait & islands—		
Dover	0.8	0.3	Bridport	1.1	1.7
Hobart	1.3	4.3	Currie .. ..	..	..
Kettering	2.2	2.3	Lady Barron	0.3	0.5
Margate	1.2	20.3	Port Sorell	8.0	25.1
Southport	0.1	0.4	Smithton	0.7	3.9
			Stanley	1.5	5.6
			'Tamar' (a)	0.8	1.3
			Wynyard	4.6	5.0
Total	5.6	27.6	Total	17.0	43.3
East Coast and Penin- sula—			West Coast—		
Bicheno	77.0	3.1	Strahan	0.6	0.6
Coles Bay		0.3			
St Helens		9.6			
Triabunna		8.0			
Dunalley		4.0			
Port Arthur		3.4	Total Tasmania	100.0	100.0
Total	77.0	28.4			

(a) Launceston, Beauty Point and other Tamar ports.

The next table shows the proportion of the total fish catch landed each month.

Proportion of Fish Landed in Each Month
(Per Cent)

Month	1973-74	1974-75	Month	1973-74	1974-75
July	2.2	2.8	January	30.8	8.6
August	1.5	2.7	February	4.7	9.3
September	3.7	13.2	March	10.6	9.6
October	5.0	2.5	April	5.6	15.0
November	4.8	4.3	May	20.9	16.3
December	4.8	5.9	June	5.4	9.7

Value of Production—Fishing

The table that follows gives details of gross values of edible fishery products. (For definition see later section 'Value of Production'.)

Fisheries: Gross Value of Production
(\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Fish (a)	542	643	546	1 235	768
Crustaceans (b)	3 062	3 351	3 203	3 338	3 476
Molluscs	1 512	1 935	1 989	2 440	2 683
Total	5 116	5 929	5 739	7 014	6 928

(a) Includes value of seaweed harvested for production of alginate.

(b) Mainly southern rock lobster but includes crabs.

Fish and Seafood Processing

In an island state where employment opportunities are fewer than in the industrialised mainland states, interest has always been shown in the extent of secondary processing carried out on the local catch. The summary below has been made possible by combining data collected annually from fish preserving factories with information derived from a special return sent to those marketing establishments which clean, fillet, freeze, or package fish and other seafoods. Establishments predominantly engaged in retailing have not been included.

Summary of Operations for Fish and Seafood Processing Establishments

Year ended June	Employment at 30 June			Wages and salaries	Turn-over	Opening stock	Closing stock	Purchases and selected expenses	Value added	Fixed capital expenditure
	Males	Females	Persons							
	no.	no.	no.	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1973	126	160	286	748	8 043	727	815	7 205	926	113
1974	139	155	294	920	9 002	829	832	7 404	1 601	82

Marketing

In general terms, it can be said that production of fish, crustaceans and molluscs from the Tasmanian fisheries far exceeds the demand generated by the relatively small State population; it follows, therefore, that the industry is largely dependent on its ability to find export markets, both interstate and overseas, and this raises the problem of preserving a perishable product. The problem of preservation has three aspects: (i) at sea; (ii) on shore; and (iii) in transit to market. Of the 616 registered fishing boats in 1974, 201 boats (i.e. 33 per cent) had refrigeration plants of various kinds. In addition, some catches, e.g. southern rock lobster, can be kept alive in boat wells. Cold storage facilities ashore serve to hold the catch before its despatch to interstate and overseas markets while actual exports are carried by air, by refrigerated trailer and container on the roll-on roll-off ferries and in the refrigeration chambers of conventional ships. The fact that Tasmania has an exportable surplus, yet nevertheless imports some fishery products, is chiefly due to differences in type; the imported varieties include canned sardines, anchovies, oysters, crabs, etc. together with frozen, salted or smoked varieties mainly of European, New Zealand, Canadian or South African origin.

Fishery Products: Value of Exports and Imports (\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
EXPORTS					
Fish (a)—Overseas	7	11	27	64	4
Interstate	437	452	482	660	573
Southern rock lobster—					
Overseas	1 108	1 146	439	863	802
Interstate	966	1 298	1 923	2 988	2 371
Molluscs—Overseas	1 061	1 680	1 117	1 780	2 030
Interstate	314	193	349	849	551
All types—Overseas	2 176	2 837	1 583	2 707	2 836
Interstate	1 716	1 943	2 753	4 497	3 495
Total	3 892	4 780	4 336	7 204	6 333

Fishery Products: Value of Exports and Imports—continued
(\\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
IMPORTS					
Fish—					
Fresh and frozen—					
Overseas	187	58	60	65	66
Interstate	67	155	172	130	107
Preserved in tins—					
Overseas	133	86	99	247	265
Interstate	67	105	142	225	227
Other (b)—Overseas	34	2	..	1	1
Interstate	4	29	28	31	21
All types—Overseas	354	146	160	313	332
Interstate	137	289	342	386	355
Total	491	435	502	699	686

(a) Includes fresh and frozen fish and fish preserved in tins.

(b) Includes smoked, salted and potted fish, extracts and caviar.

Fisheries Division

(Department of Agriculture)

Administration

The Division of Fisheries comes under the responsibility of the Minister for Agriculture and Fisheries. For purposes of administration the Division is under the control of the Director of Agriculture.

Under the *Fisheries Act* 1959, provision is made for a Sea Fisheries Advisory Board to advise the Minister on fisheries except in respect of salmon, trout, eels and whitebait which come under the control of the Inland Fisheries Commission. The Board consists of nine members appointed by the Governor as follows: the Director of Agriculture (or his representative); the Commissioner of Police (or his representative); a representative of groups interested in the science of zoology; two representatives of processors; and four representatives of professional fishermen.

Fisheries Control

Patrol and inspection duties are carried out by Division officers throughout the State. As well as Tasmanian fisheries, certain Australian waters and the Tasmanian section of the continental shelf are patrolled in addition to the enforcement of the provisions of the Australia-Japan Fishing Agreement; regular inspections are made of Japanese fishing vessels when they enter the port of Hobart. For fisheries control and patrol purposes the Division has five high powered patrol vessels plus the *Challenger* (21.18 metres), a long-range patrol-research vessel. Frequent use of light aircraft is made to assist in patrol duties. During 1974-75, 62 cases relating to breaches of fishery regulations went before the courts and resulted in total fines of \$7 814. The number of offences detected among amateur fishermen was considerably lower than in the previous year.

Research

Fisheries monitoring plays an important role in the Division's research. Analysis of catch and effort data together with measurement of the size of animals in the catch (market measuring) provides up to date information for assessment of

closely managed fisheries such as rock lobster and abalone. These investigations are supported by population dynamics projects aimed to determine growth, age, movements and mortality rates. Tagging work at present underway with rock lobster and abalone is basic to this work. Similar studies not utilising tagging are in progress with jack mackerel.

Research is directed toward assessment of fish stocks in Tasmanian waters and investigation of reproduction and growth rates of the species principally fished and the effect of fishing on stocks. A large part of the research effort includes exploratory fishing to locate, test and quantify new potential fisheries and to engage in experimental fishing techniques and adaption of known techniques to the fishery. Research work also includes the culture of a variety of marine species.

Aquaculture research presently centres on hatchery studies of scallops and oysters with other projects involving investigation of farming techniques for mussels, scallops and oyster cultivation.

Pollution and marine chemistry research has evolved from environmental surveys to more intensive investigation of particular fisheries problems. Most work concerns an understanding of the distribution of heavy metals in a large estuary and in its fauna.

Appendix

VALUE OF PRODUCTION, PRIMARY INDUSTRIES

Introduction

The value of primary production for Tasmania and the other Australian states has been computed in accordance with decisions reached at Conferences of Australian Statisticians, and principally at the Conference held in 1935. The values shown in the tables that follow refer only to the production of primary industries and exclude certain agricultural operations on 'rural holdings' of less than one hectare (one acre for 1972-73 and earlier) unless such operations are of an intensive nature (e.g. nurseries).

New Value Concepts

The value series allowing direct comparison of primary and secondary industries ends at 1967-68. From 1968-69 new value concepts were introduced in the mining and manufacturing sectors. The new value concepts, while analogous to those described in the following section, are nevertheless sufficiently different to prevent direct comparisons being made for years later than 1967-68. Eventually it is proposed that these new concepts will be introduced to cover all sectors of the economy and in recent years considerable progress has been made in applying them to the agricultural industry. Brief details of this progress are shown below.

In the section 'Integrated Economic Censuses' in Chapter 18, series will be found which combine and compare value data for mining, manufacturing, wholesale and retail establishments.

Primary Industries

Statistics of the value of production for the various primary industries generally have been estimated by applying average prices to the recorded quantities of items of production i.e. the gross value of each industry (dairying, pastoral,

etc.) has been taken to be the total estimated value of groups of farm products appropriate to that industry. For example, the value of milk plus the value of dairy cattle sold for slaughter has been regarded as the value of the 'dairy' industry. Similarly, the 'pastoral' industry has comprised the value of wool plus that of sheep and cattle (other than dairy cattle) sold for slaughter.

Agricultural Industry Statistics

An alternative series of economic statistics for the agricultural industry, currently being developed, is income and expenditure data collected directly from farmers. Because of the difficulties and cost involved, it was not practicable until recent years to collect such detail, but advances in computer processing have now made it feasible to conduct, on a sample basis, regular annual surveys. No results of these surveys, which have been in the developmental stage for some years, are included in this publication. However the Australian Statistician has already published some details for the years 1971-72 to 1973-74 and these are available on request from the Bureau.

The surveys conducted up to and including 1973-74 were restricted to financial details relating to agricultural pursuits, the sample being selected from all 'rural holdings' included in the annual farm census (rural holdings were first classified according to their predominant activity). With the object of producing economic statistics completely compatible with those available since 1968-69 for certain other sectors of the economy (e.g. manufacturing, mining, etc.), the design of the sample was changed as from 1974-75. Unlike the earlier surveys which were restricted to agricultural pursuits, the 1974-75 sample was selected from *enterprises* (i.e. legal entities *not* rural holdings) whose predominant activity was classified as agriculture. Such agricultural enterprises were required to report income and expenditure relating to all economic activity even though some of this may have been in respect of manufacturing, mining, wholesaling, etc. Enterprises classified to some other sector of the economy, (because of the predominance of non-farming activity) included any financial data relating to agriculture in their return in respect of their *dominant* activity. Although this method does lead to some minor under or over-statement in certain industries, it nevertheless reduces the possibility of double counting in the totals for all industries.

With the introduction of the annual agricultural finance surveys, the old 'Value of Production' series of statistics is being scaled down, so that as from 1974-75, only estimates of *gross* and *local* value of production will be produced i.e. 'Net value of production' will no longer be calculated. No estimates of net value of production are included in this publication for the years for which they were calculated, but details are included in the 1976 and earlier editions of the *Year Book*.

Concurrently with the alterations referred to above, changes have been made to the industry classifications and the terms pastoral, dairying, poultry and bee farming are being discontinued. Under the industrial heading 'Agriculture', in the value of production series, all farm produce is now being grouped as follows: (i) Crops; (ii) Livestock slaughterings and other disposals; (iii) Livestock products; and (iv) Total agriculture.

Other Primary Industries

Estimates of gross and local values of production will continue to be produced as previously for the primary industries 'Hunting', 'Forestry' and 'Fishing'. Value of production estimates have not been calculated for the mining industry as this sector has been covered by the integrated economic censuses from 1968-69 (see the section 'Census of Mining Establishments' in Chapter 8 for details).

Definitions

The following uniform definitions, where appropriate, are employed for primary industries:

- (i) *Gross Value of Production* is the value placed on recorded production at the wholesale prices realised at the principal markets. In cases where primary products are consumed at the place of production, or where they become raw material for a secondary industry, these points of consumption are presumed to be the principal markets. Subsidies and bounties paid by the State and Federal Governments to primary industries are, in general, included in gross value of production.
- (ii) *Marketing Costs* include freight, cost of containers, commission and other charges incidental thereto.
- (iii) *Local Value* (i.e. recorded production valued at the place of production) is ascertained by deducting marketing costs from the gross value.

Sources of Information*Primary Production, Agriculture*

The data used are those concerning quantity of primary production (supplied principally by farmers, etc.) together with information collected from various sources on prices realised in the principal markets for different products, the costs of marketing these products and the costs of certain materials used in their production. Price and cost data are obtained from statutory authorities (e.g. Dairy Produce Equalisation Committee), market reports, special returns collected from wholesalers, brokers, auctioneers, etc., and from overseas and interstate trade statistics.

Primary Production, Other

(i) *Hunting*: Principal data are derived from export of skins and information on the annual mutton bird catch.

(ii) *Forestry*: Principal value data are available from the annual factory census, since forestry products are the basic raw material for sawmills, newsprint and paper mills, etc.

(iii) *Fishing*: Quantity data are supplied by fishermen and prices are collected from fish wholesalers and agents.

Period Covered

Primary, Agriculture: Generally the year ended 30 June but includes current season's production harvested after 30 June, e.g. potatoes.

Primary, Other: Year ended 30 June.

The Agricultural Industry

As already noted, the Agricultural industry, for value of production purposes, is divided into: (i) crops; (ii) livestock slaughterings and other disposals; and (iii) livestock products. This dissection is merely a convenient grouping of the aggregate production of individual products and replaces the groups previously used.

Crops

The following table shows gross values for the crops sector:

Forestry, Mining and Fisheries

Gross Value of Production: Crops
(\$'000)

Crop	1970-71	1971-72	1972-73	1973-74	1974-75
Cereals for grain	2 296	2 066	1 896	2 916	3 164
Legumes mainly for grain.. .. .	576	258	147	376	525
Crops for hay (a)	275	167	426	394	530
Crops for green feed or silage (b)	2 958	1 905	3 448	3 534	4 218
Orchard tree fruit	15 689	12 430	17 312	14 473	14 910
Berry and small fruit	991	1 037	1 064	949	1 471
Vegetables for sale for human consumption	8 538	8 648	10 863	13 374	15 071
Other crops (a)	2 770	3 352	3 953	4 765	3 064
Pasture harvested for hay	5 590	5 612	4 405	8 839	10 470
Pasture harvested for seed	285	179	79	562	269
Pasture harvested for green feed or silage	202	218	100	171	182
Total	40 169	35 870	43 693	50 355	53 874

(a) Excludes harvested pasture.

(b) Includes vegetables for stock feed.

The next table shows quantity and value details for the main items comprising the crops sector. Also included in the table is the average value per unit of production.

Gross Value of Production: Crops 1974-75

Crop	Unit of quantity	Production	Gross value	
			Per unit	Total
			\$	\$'000
Crops (excluding pasture harvested)—				
Cereals for grain—				
Barley	tonne	27 266	91.78	2 502
Oats	tonne	5 496	77.53	426
Wheat	tonne	2 282	103.51	236
Total cereals for grain .. .. .	..	..	..	(a) 3 164
Legumes mainly for grain—				
Beans, navy	tonne	63	308.00	19
Peas, field—Blue	tonne	2 171	167.19	363
Grey and other	tonne	788	159.41	126
Total legumes mainly for grain .. .. .	..	..	..	(a) 525
Crops for hay (b)	tonne	8 288	63.95	530
Crops for green feed or silage (c) .. .. .	..	..	..	4 218
Fruit—				
Orchard tree fruit—				
Apples	bushel	5 013 000	2.82	(d) (e) 14 158
Pears	bushel	158 000	3.61	(d) 571
Total orchard tree fruit	(a) 14 910

Value of Production

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Gross Value of Production: Crops, 1974-75—continued

Crop	Unit of quantity	Production	Gross value	
			Per unit	Total
Fruit—continued—				
Berry and small fruit—				
Currants	kg	1 086 293	0.47	507
Loganberries	kg	247 914	0.46	115
Raspberries	kg	1 215 500	0.53	645
Strawberries	kg	93 627	1.73	162
Total berry and small fruit .. .. .	..	..	..	(a) 1 471
Vegetables for sale for human consumption—				
Beans, French and runner	tonne	7 982	118.64	947
Peas, green (ex-shell)	tonne	21 081	163.27	3 442
Potatoes	tonne	95 610	59.43	5 682
Total vegetables for sale for human consumption .. .. .	..	..	..	(a) 15 071
Other crops—				
Hops (dry weight)	tonne	1 439	860.22	1 238
Other .. .. .	..	..	..	1 826
Total other crops .. .. .	..	..	..	3 064
Total (excluding crops from pasture)	..	..	..	42 953
Pasture (f) harvested—				
Pasture harvested for—Hay	tonne	375 969	27.85	10 470
Seed	kg	557 911	0.48	269
Green feed or silage .. .. .	..	..	..	182
Total crops from pasture .. .. .	..	..	..	10 921
Total all crops .. .. .	..	..	..	53 874

(a) Includes other crops not specified in the table.

(b) Excludes pasture for hay.

(c) Includes vegetables for stock feed.

(d) Adjusted for Government Stabilisation Subsidy: plus \$1 733 000 for apples and minus \$100 000 for pears.

(e) Includes payments under the 'Apple Industry (Assistance) Act 1974 of \$1 144 000.

(f) Includes lucerne.

As shown in the above table, the most valuable crop according to gross value in 1974-75 was apples (\$14.2m, including government subsidies of \$2.9m), followed by pasture harvested for hay (\$10.5m), potatoes (\$5.7m) and barley (\$2.5m). The gross value of vegetable crops for sale for human consumption other than potatoes was \$9.4m. The gross values for these crops in the 1973-74 season were as follows: apples, \$13.6m (including government subsidies of \$5.1m); pasture harvested for hay, \$8.8m; potatoes, \$5.5m; other vegetable crops for sale for human consumption, \$7.9m; and barley, \$1.8m.

Average Unit Gross Values: In the next table, average unit gross values for the principal crops are shown for a five-year period. The unit values have been calculated for the principal agricultural products by dividing the total quantity produced into the total gross value of production for each crop. They therefore represent weighted average 'prices' of the product in all markets (including the farm itself where quantities are retained for farm use) and indicate trends rather than prices actually paid to farmers.

Average Unit Gross Values: Principal Crops
(\$)

Crop	Unit of quantity	1970-71	1971-72	1972-73	1973-74	1974-75
Cereals for grain—						
Barley	tonne	51.34	47.29	52.53	77.00	91.78
Oats	tonne	44.84	43.18	71.52	87.11	77.53
Wheat	tonne	48.27	54.04	52.20	103.97	103.51
Legumes mainly for grain—						
Beans—						
Navy	tonne	..	117.37	120.40	160.00	308.00
Peas, field—						
Blue	tonne	100.01	99.98	90.44	183.87	167.19
Grey and other	tonne	84.92	77.81	112.13	197.41	159.41
Crops for hay	tonne	13.10	12.84	24.38	30.11	63.95
Orchard tree fruit—						
Apples	bushel	1.97	1.97	2.30	2.29	2.82
Apricots	bushel	3.05	3.51	4.91	3.90	7.56
Pears	bushel	2.74	2.39	3.48	2.34	3.61
Berry and small fruit—						
Blackberries	kg	0.27	0.23	0.24	0.27	0.41
Currants	kg	0.33	0.34	0.35	0.39	0.47
Gooseberries	kg	0.19	0.20	0.22	0.24	0.31
Loganberries	kg	0.33	0.35	0.34	0.38	0.46
Raspberries	kg	0.36	0.35	0.35	0.41	0.53
Strawberries	kg	0.70	0.83	0.95	1.02	1.73
Vegetables for sale for human consumption—						
Beans, French and runner	tonne	119.97	109.83	111.03	97.03	118.64
Peas, green (ex-shell)	tonne	119.08	115.31	106.14	115.72	163.27
Potatoes	tonne	41.51	37.32	57.23	86.92	59.43
Turnips	tonne	109.22	106.02	105.22	93.98	115.24
Hops	kg	1.69	1.88	1.96	1.65	0.86
Pasture (a) for hay	tonne	13.10	12.84	20.43	19.72	27.85
Pasture (a) for seed—						
Clover	kg	0.92	1.02	1.23	1.02	1.34
Other	kg	0.45	0.31	0.45	0.49	0.45

(a) Includes lucerne.

Livestock Slaughtering and other Disposals

For the main categories of livestock sold for slaughter, the first of the next two tables shows average prices paid, and the second table the gross value of production (including an adjustment for net exports).

Average Livestock Prices (a)
(\$)

Livestock	1970-71	1971-72	1972-73	1973-74	1974-75
Cattle (other than calves) ..	104.00	104.10	108.60	145.20	71.10
Sheep	3.40	3.00	5.80	9.60	3.50
Lambs	5.50	5.40	8.30	14.20	7.90
Pigs	30.00	31.70	31.40	43.10	54.90

(a) Estimated average prices, on the hoof, of livestock sold for slaughter.

Gross Value of Production: Livestock Slaughtering and Other Disposals (a)
('\$000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Cattle and calves	16 205	19 329	28 799	41 314	17 753
Sheep and lambs	5 734	5 634	8 622	10 209	6 359
Pigs	5 150	5 254	4 821	4 992	5 625
Poultry	1 053	1 251	1 320	1 505	1 970
Total	28 142	31 468	43 562	58 019	31 707

(a) Includes an adjustment for net export of live animals.

Livestock Products

A wide range of goods are manufactured in Tasmanian factories from livestock products, but the number of such livestock products is very limited. The two major ones are wool and milk and in terms of gross values, in 1974-75 accounted for 41 and 50 per cent respectively.

Details of gross values for livestock products for the years 1970-71 to 1974-75 are shown below.

Gross Value of Production: Livestock Products
('\$000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Wool—					
Shorn (including crutchings)	13 986	(a)17 044	35 291	30 226	22 930
Fellmongered and exported on skins ..	998	957	2 191	1 747	960
Total	14 984	18 001	37 481	31 973	23 890
Dairy products, whole milk used for—					
Butter	12 368	13 761	10 088	9 134	9 630
Cheese	2 706	3 085	3 922	4 814	8 311
Processed milk products	1 830	2 523	3 285	3 421	4 466
Human consumption and other purposes	5 340	5 071	5 252	5 775	6 951
Total dairy products	22 244	24 440	22 549	23 144	29 358
Eggs	4 495	4 373	4 502	4 548	4 903
Honey	173	159	213	322	423
Beeswax	7	7	7	8	14
Total livestock products	41 903	46 980	64 750	59 995	58 588

(a) Includes Government wool deficiency payment of \$1 258 000.

All Primary Industries (Excluding Mining)

In the table that follows gross and local values of production for all primary industries (excluding mining) are brought together for a five-year period. For reasons explained under 'New Value Concepts' earlier in this Appendix, details of value of production for the mining industry are no longer available.

Forestry, Mining and Fisheries

Gross and Local Values of Tasmanian Primary Production
(\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
CROPS					
Gross value of production	40 169	35 870	43 693	50 355	53 874
Less Marketing costs	10 995	9 705	11 780	9 680	9 739
Local value of production ..	29 174	26 165	31 913	40 675	44 135
LIVESTOCK SLAUGHTERINGS AND OTHER DISPOSALS					
Gross value of production	28 142	31 468	43 562	58 019	31 707
Less Marketing costs	2 232	2 512	3 199	4 019	2 624
Local value of production ..	25 910	28 956	40 363	54 000	29 083
LIVESTOCK PRODUCTS					
Gross value of production	41 903	46 980	64 750	59 995	58 588
Less Marketing costs	1 709	1 847	3 098	2 733	4 461
Local value of production ..	40 194	45 133	61 652	57 262	54 127
TOTAL AGRICULTURE					
Gross value of production	110 214	114 317	152 006	168 369	144 169
Less Marketing costs	14 937	14 064	18 077	16 432	16 825
Local value of production ..	95 277	100 253	133 929	151 937	127 345
FORESTRY					
Gross value of production	17 083	21 927	30 922	43 273	50 022
Less Marketing costs	2 882	3 734	5 562	7 393	7 160
Local value of production ..	14 201	18 193	25 360	35 880	42 862
FISHING					
Gross value of production	5 116	5 929	5 739	7 014	6 928
Less Marketing costs .. .. .	..	..	..	..	..
Local value of production ..	5 116	5 929	5 739	7 014	6 928
HUNTING					
Gross value of production	308	259	415	470	428
Less Marketing costs	23	19	28	31	29
Local value of production ..	285	240	387	439	399
TOTAL PRIMARY (EXCLUDING MINING)					
Gross value of production	132 721	142 432	189 082	219 126	201 547
Less Marketing costs	17 842	17 817	23 667	23 856	24 014
Local value of production ..	114 879	124 615	165 415	195 270	177 534

Chapter 9

MANUFACTURING, ELECTRICITY AND GAS

INDUSTRIAL DEVELOPMENT

Primary-Secondary Relativity

Prior to World War II, there were few large manufacturing establishments in Tasmania. The economy of the State was dominated by primary industries which, in 1938-39, accounted for 60 per cent of the net value of production of all recorded industries.

By today's criteria, pre-war operations of manufacturing establishments were on a small scale but some enterprises have since emerged as national leaders in particular fields. Despite the limitations of geographical isolation and a relatively small domestic market, the State went through a period of important industrial development following World War II; the cessation of hostilities released a world-wide demand for goods and services, and a number of new Tasmanian factories were established to take advantage of the situation.

Post-war expansion of factory activity has made the State an important supplier of manufactured goods and processed materials. Major factories which have been established since World War II include producers of chemicals, wood pulp, textiles, processed foods, industrial equipment, refined aluminium, manganese alloys, iron ore pellets and woodchips.

Tasmania as a Site for Industry

The State has certain advantages which have attracted new industrial enterprises. The principal factors are:

Hydro-Electric Power: The availability of cheap, bulk electricity for power intensive industries (e.g. in metal smelting and refining, heavy chemicals, paper and paper pulp making) has had a significant influence on Tasmania's industrial development and is discussed in greater detail below.

Water Resources: In some parts of the world, water resources are inadequate; shortage of water and the high cost of conservation, re-use and 'purification' have become major problems in the expansion of industry. This is not the situation in Tasmania where water is abundant. The terrain favours the economical construction of high-level storages, while run-of-the-river pumping schemes are feasible at many sites.

Industrial Land, Harbours and Shipping: Cheap land, and its proximity to deep-sea ports are factors influencing the expansion of industry in and around the four main centres of population: Hobart, Launceston, Burnie and Devonport. The associated ports are served by overseas ships and by interstate ships using modern roll-on roll-off and containerised cargo techniques.

Stability of the Workforce: Tasmania has established a record over many years for having less industrial disputes and, almost always, far fewer days lost per employee each year due to strikes, than any other Australian state.

Legislation and Government Assistance

The policy of the State Government is to promote the establishment and growth of secondary industries in Tasmania, as provided by the *Industrial Development Act 1954*. This Act is administered by the Director of Industrial Development and Trade under the Minister for Industrial Development.

The Directorate gives advice, information and assistance on a wide range of important industrial matters. It is empowered to provide financial assistance, including loan guarantees, to help the expansion of existing industries and the establishment of new enterprises. To provide a service to industry, the Directorate has officers specialising in the areas of finance, trade, development, research and the publication of information, and they are supported by the resources and expertise of other Federal and State Government departments and instrumentalities. A recently appointed Trade Officer operates from the offices of the Agent-General for Tasmania in London.

Electric Power and Industrialisation

The key to the large scale industrial development of Tasmania was its abundant water at high level in the Central Plateau and the State's industrial revolution may be thought of as beginning in 1916 when the Waddamana turbines below the Great Lake began operating; from the initial 7 500 kW then developed, the hydro-electric system has expanded to a capacity of 1.2m kW (excluding gas turbines at Bell Bay with a generator capacity of 240 000 kW). The availability of cheap electric power resulted in the establishment of new types of industry, some on a very large scale; examples are: electrolytic zinc production, 1917; carbide manufacture, 1918; fine paper production, 1938; aluminium production, 1955; ferro-manganese production, 1962. The introduction of pulp and paper manufacture is a special case to the extent that changes in technology made possible the use of native hardwoods for the first time; the production of suitable pulp from eucalypts was pioneered in Tasmania before plants were established in other Australian states.

Major Industries

Source of Data: In normal circumstances, the Bureau of Statistics does not publish information relating to any single enterprise or establishment, and treats any such information it collects as strictly confidential. It does, however, publish statistical aggregates where they do not directly or indirectly reveal the operations of any single informant. A description of industrial development without mentioning individual organisations is not very illuminating; therefore, the *State Directorate of Industrial Development and Trade* has prepared the following section and accepts responsibility for the information given.

Brief descriptions of some of the major factories operating in Tasmania are given below:

Aluminates Tasmania Pty Ltd, Heybridge: This company has established a chemical plant at Heybridge to produce sodium aluminate, zinc oxide and alum sulphate. Operations commenced in 1973.

Associated Pulp and Paper Mills: This group of companies is a major Australian integrated forest products complex and Australia's principal producer of fine printing and writing papers, magazine papers and coated papers. In Tasmania the

company operates major manufacturing complexes at three centres: (i) *Burnie*—where it commenced paper production in 1938; present annual capacity of the Burnie plant is 121 000 tonnes. Hardboard is also produced at the Burnie complex by the associate company Hardboards Australia Ltd. (ii) *Wesley Vale*—In 1970 the first stage of an integrated pulp and paper complex was completed when the first paper machine commenced production. The machine has an annual capacity of 35 500 to 41 000 tonnes of paper. Production at Wesley Vale is mainly of magazine papers. A particle board factory, run by the subsidiary Burnie Timber Pty Ltd, also operates at Wesley Vale; annual production exceeds 2.5m square metres. (iii) *Long Reach*—A.P.P.M. completed its woodchip plant and made its first export shipment in 1972. The company has two contracts for the export of woodchips to Japan: (a) 600 000 tonnes per annum from 1972 to 1983; (b) an additional 300 000 tonnes per annum from 1973 to 1978.

Australian Glass Manufacturing Co. (Hobart): This company is an operating unit of Australian Consolidated Industries Ltd, and has been manufacturing glass containers in Tasmania since 1949. Current capacity is up to 50 tonnes of glass containers a day. A plastic blow moulding plant was established in 1972 to produce containers.

Australian Newsprint Mills Ltd (Boyer): The first paper machine, with a capacity of 27 400 tonnes per annum, began operating in 1941; a second machine, installed after the war, increased capacity to 95 500 tonnes of newsprint per annum; the third machine was commissioned in 1969. Annual production is now about 200 000 tonnes. The company meets approximately 45 per cent of Australia's newsprint requirements.

Australian Paper Manufacturers Ltd (Port Huon): Production of pelletised woodpulp began in 1963, with an initial capacity of 25 400 tonnes per annum. For the financial year 1974-75 production was 57 500 tonnes. All production is exported to paper and board mills in other states.

Tascot Templeton Pty Ltd (E. Devonport) (formerly known as *British Carpets (Aust.) Pty Ltd*): The first piece of carpet produced in Tasmania was woven in 1961. Since then a spinning and dyeing plant has been installed (1965) and additional looms have been progressively introduced. In 1972 a five-year expansion program commenced and this will double production capacity.

Cascade Group of Companies: Operates the Cascade Brewery in Hobart (established in 1824), the Boag's Esk Brewery in Launceston and cordial, fruit juice and apple cider making companies. The Group provides employment for about 600 Tasmanians.

Cadbury Schweppes Australia Ltd (Claremont): In 1921 an association of three British confectioners established their Australian plant at Claremont, near Hobart. Today, the plant is the largest cocoa and confectionery factory in Australia. In conjunction with H. P. Bulmer and Co., a plant was installed at Claremont in 1974 for apple juice extraction and concentration for export.

Coats Patons (Aust.) Ltd (Launceston and George Town): This company first produced yarns in Launceston in 1923 with a staff of 130. Steady expansion followed. The Launceston and George Town factories are now producing hand-knitting yarns, both worsted and synthetic.

Comalco Aluminium (Bell Bay) Ltd: The production of aluminium commenced in 1955 at a plant erected with Federal Government funds (with State Government participation). The present company was formed in 1960 to buy out the

Federal Government's interest. Production capacity has grown from 13 000 to 95 600 tonnes of primary aluminium a year. A \$20m expansion program, scheduled for completion in 1976, will increase production capacity to 114 500 tonnes a year.

Comalco Aluminium Powder Pty Ltd (Bell Bay): This plant was established in 1968 to produce aluminium powder and paste and is capable of supplying the whole of Australia's requirements.

Edgell (Division of Petersville Ltd) (Devonport and Ulverstone): Is Tasmania's leading producer of processed vegetables. Combined factory intake of vegetables for both centres is about 66 000 tonnes per annum. Planned joint production expenditure for 1975-76 is approximately \$16m.

Electrolytic Zinc Company of A/asia Ltd (Risdon): Established in 1916, the factory at Risdon is now one of the largest electrolytic zinc plants in the world. The company produces zinc and zinc alloys, cadmium, sulphuric acid, superphosphate, sulphate of ammonia and aluminium sulphate. Production capacity at the company's mining complex at Rosebery is 610 000 tonnes of silver-lead-zinc ore per annum. The zinc plant supplies a large proportion of Australia's total requirements.

Goliath Portland Cement Company Ltd (Railton): Formed in 1928 to take over a small plant, the company began production in 1930 with an output of 66 000 tonnes of cement a year. Annual production capacity increased to about 100 000 tonnes by the end of the decade and was more than 200 000 tonnes by 1956. Plant expansion in 1970 lifted annual production capacity to over 500 000 tonnes.

James Nelson (Aust.) Pty Ltd (Launceston): Established in 1951, the company now produces a wide range of fabrics for women's and men's apparel, rain-wear, household furnishings, typewriter ribbons, computer tapes, decorative ribbons, banners and blanket bindings, as well as fabrics for industrial use. It also produces parachute fabrics and loomstate fabric for printing. The company is a member of the Courtauld's Group.

Kelsall and Kemp (Tas.) Ltd (Launceston): From small beginnings in 1921, the company has become a leading producer of woven fabrics in the Australian textile industry.

Lactos Pty Ltd (Burnie): Rapid expansion followed the establishment of Lactos in 1953 and in 1961 cheddar production commenced. A \$1.25m cheese manufacturing unit was opened early in 1973 to supply Gouda cheese to Japan. Further extensions have been made to the plant and the production of Gouda cheese is planned to exceed 3 000 tonnes during 1975-76.

Northern Woodchips Pty Ltd (Long Reach): The Long Reach plant is designed with capacity in excess of firm contractual commitments as a provision against future growth in the woodchip export market. Present contracts are for the export of more than 9.1m tonnes of woodchips over a 15 year period. The first export shipment took place in 1973.

North-West Acid Pty Ltd (Burnie): Established in 1970 to process pyrites from the west coast, the \$14m plant has a designed annual production capacity of some 420 000 tonnes of sulphuric acid.

Repc Bearing Company Pty Ltd (Launceston): In 1949 this company was established to manufacture engine bearings for the Australian automotive spare parts trade. The factory has since expanded and diversified the range of products. There was significant expansion in 1973 and 1974.

Savage River Mines (Pickands Mather and Co. International Managing Agent): Established at a cost of \$80m, the Port Latta iron ore pelletising plant commenced operation in 1968. Annual production is about 2.5m tonnes of high-grade iron ore pellets. The entire production is sold to Japanese steel mills.

S.P. Holyman and Sons Pty Ltd (Devonport): Is one of Tasmania's principal slaughterers of livestock producing meat for export.

Tasmanian Electro Metallurgical Co. Pty Ltd (Bell Bay): The Broken Hill Co. Pty Ltd established a plant in 1962 to produce high carbon ferro-manganese for the Australian steel industry, with an initial annual output in excess of 26 000 tonnes. Silico-manganese alloys are now also being produced and a current \$36.5m expansion program will increase capacity from 77 000 tonnes to about 154 000 tonnes a year and will allow production of ferro-silicon in Tasmania for the first time.

Tasmanian Pulp and Forest Holdings Ltd (Triabunna): In early 1971 the company made its first export shipment of woodchips to Japan. The company has since been supplying 610 000 tonnes of woodchips annually to Japan under a 15 year contract.

The Stanley Works Pty Ltd (Moonah): This company was incorporated in 1963 and is jointly owned by the Stanley Works, United States of America, and the Titan Manufacturing Company Pty Ltd (a B.H.P. subsidiary). The Australian member of the new company, Titan Manufacturing Company, commenced operations in Hobart in 1945 making nails and barbed wire, later diversifying to produce wood chisels. The Stanley Works Pty Ltd now produces a wide range of hand tools.

Tioxide Australia Pty Ltd (Burnie): Production of titanium dioxide pigments began in 1948 with a plant capacity of more than 1 500 tonnes per annum. The production capacity of 25 400 tonnes was planned to be increased to 32 000 tonnes by December 1976.

Tootal of Australia (Devonport): First operations in 1952 used piece-goods imported from the U.K. to make textiles. The company now manufactures a wide range of woven and knitted fabrics from man-made fibres.

United Milk Products (Smithton): Is one of the State's principal producers of butter, milk-powder, casein and cheese. Annual cheese production is about 6 000 tonnes. Casein is exported to Japan, U.S.A. and Europe. The company also operates an export abattoir.

Universal Textiles Australia Ltd (Derwent Park): This company is part of the textile division of the Dunlop (Aust.) Group. The Hobart manufacturing division commenced operations in 1948. Additional machinery has since been installed and the company now supplies printed fabrics in silk, polyester, nylon, rayon and cotton. Production also includes woven fabrics for heavy, wide furnishings, fabrics for light furnishings, apparel, sailcloth and printed sheets and shower screens.

Wander (Aust.) Pty Ltd (Quoiba): Established in Tasmania in 1942, the Quoiba unit has become one of the largest 'Ovaltine' factories in the world. The factory is equipped to manufacture all types of malt extract to specification, as well as a range of dietetic products.

Wattie Pict Ltd (Scottsdale): This Scottsdale vegetable processing operation is concentrating on the production of frozen peas, beans and French fried potatoes.

MANUFACTURING STATISTICS

Principal Articles Manufactured

The articles listed later do not include the following important Tasmanian products: aluminium, automotive engine bearings, carbide, cement, confectionery, ferro-manganese alloys, hand tools, hardboard, iron ore pellets, particle board; printing, writing and wrapping papers; starch, titanium di-oxide; canned, dehydrated and quick frozen vegetables; woodpulp, woollen manufactures, and other textile products. Where there are only one or two producers or where one producer dominates, it is not possible to publish details for articles that are important and would otherwise be included. Some articles, although principal manufactures, such as cakes, pastry and pies, wooden furniture and joinery (excluding doors) are not included, as value details only are collected for such items.

The following table lists the principal articles manufactured in Tasmania. To give some indication of changes in production, quantity details are given for 1938-39, and for recent years:

Principal Articles Manufactured: Quantities

Article	Unit	1938-39	1971-72	1972-73	1973-74	1974-75
Acid, sulphuric	tonnes	14 385	558 658	652 513	570 156	517 052
Aerated waters	'000 litres	1 537	14 402	15 236	15 751	14 845
Bacon and ham	tonnes	878	1 984	1 902	1 931	2 169
Bed bases, woven wire	no.	3 386	6 792	10 333	10 077	<i>n.p.</i>
Bran and pollard	tonnes	8 109	9 198	12 120	11 723	<i>n.a.</i>
Bread (2lb loaf equivalents)	'000	11 337	27 931	26 751	26 943	
Bricks, blocks, etc.	'000	14 541	44 945	50 422	58 505	56 378
Butter (a)	tonnes	4 118	15 318	12 947	12 398	12 196
Cheese	tonnes	1 443	5 923	7 218	8 475	12 387
Concrete, ready mixed	'000 m ³	..	212 287	199 791	236 407	247 385
Electricity, total generated	m kWh	567	5 778	5 902	6 010	6 095
Fertilisers—						
Sulphate of ammonia	tonnes	..	41 358	48 654	33 191	54 701
Superphosphate	tonnes	30 569	104 763	177 192	180 458	103 253
Flour	tonnes	17 764	22 488	31 698	34 643	34 938
Fruit—						
Canned or bottled—						
Apples, solid pack	tonnes	1 049	3 626	5 955	7 669	<i>n.a.</i>
Berry fruits	tonnes	416	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
Dehydrated and evaporated apples	tonnes	346	283	457	<i>n.a.</i>	<i>n.a.</i>
Paper, newsprint	tonnes	..	181 477	199 053	200 852	196 240
Timber—						
Sawn, peeled or sliced (b)—						
Hardwood	'000 m ³	197.0	401.2	403.8	398.2	388.3
Softwood	'000 m ³	3.6	11.6	12.4	16.1	21.8
Dressed—						
Floorboards	'000 m ³	12.1	60.7	77.3	76.7	
Weatherboards	'000 m ³	4.5	1.8	5.2	4.8	
Other	'000 m ³	2.7	59.8	58.4	62.5	
Woodchips, etc. (green weight) (c)	'000 tonnes	..	1 213	2 191	3 043	2 947
Zinc, refined	tonnes	70 946	175 798	193 782	182 749	152 749

(a) Includes butter equivalent of butter oil.

(b) Includes timber to be further processed.

(c) Defined in forestry section of Chapter 8.

Manufacturing Censuses

Annual censuses of factories were conducted by the Bureau from almost the start of the present century; the last 'old style' factory census covered the year 1967-68. For 1968-69 simultaneous integrated economic censuses were undertaken in respect of manufacturing and four other sectors (mining; wholesale trade; retail trade; and electricity and gas production and distribution).

The 1968-69 integrated economic censuses were fully described in Appendix A of the 1972 *Year Book* in which there also appears an explanation of the factors which made necessary the termination of 'old style' factory censuses and the start of a new series, based on new reporting units and data concepts. In the following section, the results of manufacturing censuses covering 1969-70, 1971-72, 1972-73 and 1973-74 are given. (There was no census for 1970-71.)

Definitions and data concepts introduced by the integrated economic censuses will be found in Appendix B of this edition. A summary of factory statistics relating to the years preceding the integrated censuses is set out in Chapter 9 of the 1973 *Year Book*. Results from manufacturing censuses are compared with those from integrated economic censuses covering other industry sectors in the section 'Integrated Economic Censuses' in Chapter 18.

Census Results

The following tables summarise the information from the annual manufacturing censuses, as a time series. In more detailed later tables, only the final results of the single year 1973-74 are given.

Manufacturing Establishments Classified According to Industry

The table that follows contains a summary of the principal manufacturing statistics by industry sub-division:

Manufacturing Establishments: Operations by Industry Sub-division (a)

ASIC code (b)	Industry sub-division Description	Year ended June	Estab-lish-ments operating at 30 June	Employment (including working proprietors)—average over whole year			Wages and salaries	Turn-over
				Males	Females	Persons		
			no.	no.	no.	no.	\$'000	\$'000
21,22	Food, beverages and tobacco	1970	189	4 659	1 907	6 566	20 299	130 307
		1972	168	4 228	1 753	5 981	21 556	149 617
		1973	157	4 221	1 704	5 925	23 706	172 166
		1974	152	4 393	1 955	6 348	29 300	196 274
23	Textiles	1970	19	1 759	2 115	3 874	9 063	35 021
		1972	21	1 630	2 027	3 657	10 785	39 634
		1973	20	1 733	2 057	3 790	12 330	43 992
		1974	19	1 685	1 958	3 643	14 199	57 836
24	Clothing and footwear	1970	13	108	248	356	702	1 692
		1972	13	93	214	307	756	1 584
		1973	12	102	232	334	901	2 052
		1974	13	104	256	360	1 165	2 937
25	Wood, wood products and furniture	1970	391	4 400	292	4 692	12 845	57 381
		1972	364	4 256	364	4 620	14 698	65 837
		1973	351	4 401	344	4 745	17 160	87 768
		1974	336	4 594	377	4 971	22 631	115 782
26	Paper and paper products and printing	1970	58	4 808	1 004	5 812	21 191	89 766
		1972	62	5 126	941	6 067	27 170	99 846
		1973	67	4 877	862	5 739	27 392	109 564
		1974	65	4 912	900	5 812	33 636	129 956
27	Chemical, petroleum and coal products	1970	18	1 324	77	1 401	5 581	30 319
		1972	21	1 396	80	1 476	7 122	36 242
		1973	21	1 356	82	1 438	7 637	40 082
		1974	21	1 339	86	1 425	10 103	43 831

Manufacturing Establishments: Operations by Industry Sub-division (a)—continued

Industry sub-division		Year ended June	Establishments operating at 30 June	Employment (including working proprietors)—average over whole year			Wages and salaries	Turn-over
ASIC code (b)	Description			Males	Females	Persons		
				no.	no.	no.		
28	Non-metallic mineral products	1970	48	980	72	1 052	\$'000 3 976	\$'000 17 654
		1972	54	948	79	1 027	4 275	20 720
		1973	55	995	80	1 075	5 196	23 060
		1974	66	1 065	83	1 148	6 506	29 025
29	Basic metal products	1970	14	3 967	139	4 106	16 575	138 513
		1972	14	3 681	130	3 811	19 292	136 120
		1973	15	3 657	144	3 801	21 173	150 457
		1974	13	3 592	147	3 739	24 971	182 976
31	Fabricated metal products	1970	88	1 384	210	1 594	4 908	21 585
		1972	86	1 179	196	1 375	4 780	19 755
		1973	84	1 175	197	1 372	5 218	21 275
		1974	99	1 143	214	1 357	5 829	24 601
32	Transport equipment	1970	23	1 063	168	1 231	3 649	10 027
		1972	34	1 047	200	1 247	4 328	12 421
		1973	31	1 055	190	1 245	5 332	14 372
		1974	37	1 183	217	1 400	7 288	17 397
33	Other industrial machinery and equipment and household appliances	1970	60	761	138	899	2 876	8 055
		1972	60	1 053	127	1 180	3 905	11 329
		1973	62	858	84	942	3 663	10 120
		1974	72	937	85	1 022	4 591	12 967
34	Miscellaneous manufacturing	1970	24	158	19	177	439	1 315
		1972	36	219	40	259	746	2 506
		1973	37	238	40	278	993	3 856
		1974	42	256	46	302	1 168	4 468
	Total manufacturing	1970	945	25 371	6 389	31 760	102 104	541 636
	1972	933	24 856	6 151	31 007	119 411	595 612	
	1973	912	24 668	6 016	30 684	130 703	678 763	
	1974	935	25 203	6 324	31 527	161 386	818 049	

(a) No census held covering 1970-71.

(b) Australian Standard Industrial Classification number.

Manufacturing Establishments: Operations by Industry Sub-division (a)—continued (\$'000)

Industry sub-division		Year ended June	Stocks		Purchases, transfers in and selected expenses	Value added	Fixed capital expenditure
ASIC code (b)	Description		Opening	Closing			
21,22	Food, beverages and tobacco	1970	20 742	22 891	89 235	43 221	5 829
		1972	21 608	21 663	99 472	50 200	5 127
		1973	21 678	21 976	107 852	64 612	7 054
		1974	22 535	23 627	130 773	66 593	4 543
23	Textiles	1970	11 093	10 892	18 993	15 827	697
		1972	10 195	9 760	20 519	18 679	844
		1973	10 064	14 118	26 922	21 124	626
		1974	14 110	16 881	33 909	26 698	1 741

Manufacturing Establishments: Operations by Industry Sub-division (a)—continued

(\$'000)

ASIC code (b)	Industry sub-division Description	Year ended June	Stocks		Purchases, transfers in and selected expenses	Value added	Fixed capital expen- diture
			Opening	Closing			
24	Clothing and footwear	1970	355	325	737	925	-1
		1972	275	259	651	917	17
		1973	273	305	1 000	1 084	18
		1974	309	364	1 484	1 508	13
25	Wood, wood products and furniture	1970	12 502	12 915	32 414	25 381	1 170
		1972	13 857	14 394	37 538	28 835	10 720
		1973	14 556	15 619	48 698	40 133	10 236
		1974	15 219	17 111	65 478	52 196	5 754
26	Paper and paper pro- ducts and printing	1970	12 925	14 245	49 996	41 090	15 192
		1972	16 273	16 805	53 015	47 364	166
		1973	16 842	14 245	59 010	47 957	1 011
		1974	15 072	16 986	71 701	60 169	1 711
27	Chemical, petroleum and coal products	1970	5 976	6 065	17 293	13 113	12 737
		1972	5 901	6 277	20 792	15 826	2 106
		1973	6 152	6 212	22 626	17 516	1 352
		1974	6 387	7 224	27 397	17 270	2 960
28	Non-metallic mineral products	1970	2 132	2 275	8 037	9 760	1 603
		1972	2 360	2 629	9 347	11 642	1 170
		1973	2 645	2 557	9 780	13 192	645
		1974	2 575	2 736	13 854	15 332	1 101
29	Basic metal products	1970	25 276	22 729	79 076	56 890	10 854
		1972	28 133	35 039	94 715	48 310	4 063
		1973	35 088	31 486	95 296	51 560	2 158
		1974	31 251	37 539	120 725	68 539	4 419
31	Fabricated metal pro- ducts	1970	3 922	4 238	12 590	9 311	430
		1972	4 404	4 262	11 497	8 116	313
		1973	4 248	4 085	12 066	9 045	342
		1974	3 946	4 387	13 800	11 242	241
32	Transport equipment	1970	2 372	2 563	4 257	5 960	611
		1972	2 752	2 940	5 079	7 531	550
		1973	2 967	3 515	4 943	9 977	535
		1974	3 521	4 900	7 146	11 631	1 182
33	Other industrial mach- inery and equipment and household appli- ances	1970	1 420	1 492	4 174	3 953	210
		1972	1 471	1 641	5 330	6 170	638
		1973	1 623	1 485	4 473	5 509	694
		1974	1 898	2 006	6 282	6 793	459
34	Total miscellaneous manufacturing	1970	195	274	743	650	110
		1972	559	875	1 345	1 477	231
		1973	854	672	1 961	1 712	221
		1974	671	718	2 236	2 280	674
	Total manufacturing	1970	98 911	100 904	317 546	226 083	49 443
		1972	107 787	116 543	359 300	245 068	25 944
		1973	116 990	116 275	394 628	283 420	24 893
		1974	117 493	134 479	494 785	340 250	24 798

(a) No census held covering 1970-71.

(b) Australian Standard Industrial Classification number.

Tasmania-Australia Comparison

Using 1968-69 as the base: Australian employment in manufacturing in 1973-74 was 6.12 per cent greater whereas the corresponding Tasmanian employment was only 1.45 per cent greater. Again with 1968-69 as base: 'value added' for Australian manufacturing in 1973-74 was 76.1 per cent higher; the corresponding Tasmanian increase was 72.3 per cent. (Tasmania's mean population as a proportion of Australia's for 1973-74 was 3.01 per cent.)

The Tasmanian share in 1973-74 of Australian employment in manufacturing was 2.36 per cent; and of Australian 'value added' in manufacturing, 2.58 per cent.

Manufacturing by Statistical Division

The next table shows, as a time series, the chief measures of manufacturing operations by statistical divisions:

Manufacturing Establishments: Main Items by Statistical Division (a)

Main items	Unit	Year ended June	Statistical divisions			Tasmania
			Hobart and Southern	Northern	Mersey-Lyell	
Number of establishments	no.	1970	409	326	210	945
		1972	397	327	209	933
		1973	391	324	197	912
		1974	406	324	205	935
Employment (b)—Males	no.	1970	11 182	7 333	6 856	25 371
		1972	10 591	7 452	6 813	24 856
		1973	10 322	7 590	6 756	24 668
		1974	10 321	7 905	6 977	25 203
Females	no.	1970	2 402	2 583	1 404	6 389
		1972	2 179	2 546	1 426	6 151
		1973	2 127	2 501	1 388	6 016
		1974	2 302	2 442	1 580	6 324
Persons	no.	1970	13 584	9 916	8 260	31 760
		1972	12 770	9 998	8 239	31 007
		1973	12 449	10 091	8 144	30 684
		1974	12 623	10 347	8 557	31 527
Wages and salaries	\$'000	1970	44 328	29 218	28 561	102 104
		1972	48 379	35 992	35 040	119 411
		1973	52 075	40 751	37 877	130 703
		1974	61 484	50 861	49 039	161 386
Value added	\$'000	1970	93 534	66 232	66 316	226 083
		1972	96 425	73 543	75 100	245 068
		1973	114 757	82 693	85 969	283 420
		1974	139 940	100 709	99 601	340 250
Fixed capital expenditure ..	\$'000	1970	15 580	4 897	28 967	49 443
		1972	8 295	15 081	2 569	25 944
		1973	6 617	12 259	6 016	24 893
		1974	9 911	6 505	8 383	24 798

(a) No census held covering 1970-71.

(b) Includes working proprietors; figures are average over whole year.

Non-comparability

Direct comparisons with figures for years preceding 1968-69 are not possible because of changes in census units, scope of the census and items of data.

One major change in scope in 1968-69 was the exclusion of electricity and gas production; in tables for previous years this sector appeared as Class XVI, Heat, Light and Power. Details for this sector appear in the next section of this chapter. 'Value added' is conceptually allied to the old 'value of production' but differences in definition prevent direct comparison of 1968-69 and later figures with those for previous years.

Geographical Distribution of Classes of Industry

The next table, containing the principal manufacturing variables, is a regional cross-classification by industry sub-divisions for the year ended 30 June 1974:

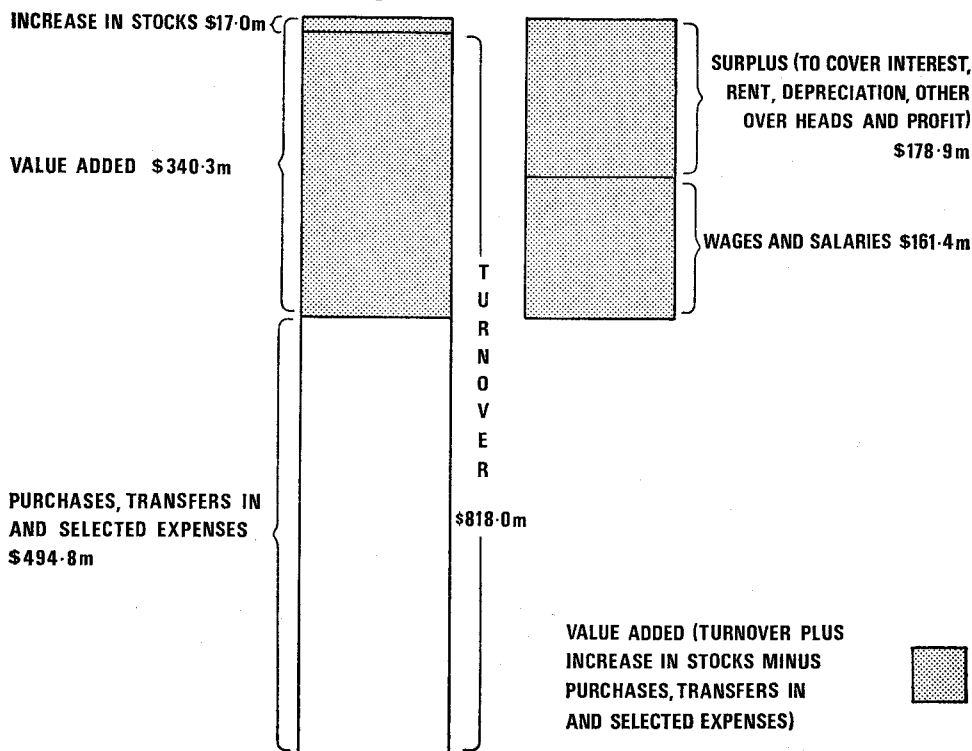
Manufacturing by Statistical Division and Type of Industry, 1973-74

Industry sub-division		Estab- lish- ments operat- ing at 30 June	Employment (including working proprietors)— average over whole year			Wages and salaries	Value added
ASIC code	Description		Males	Females	Persons		
		no.	no.	no.	no.	\$'000	\$'000
HOBART STATISTICAL DIVISION							
21,22	Food, beverages and tobacco ..	53	1 851	1 061	2 912	12 727	31 061
23	Textiles	6	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
24	Clothing and footwear	6	60	117	177	585	764
25	Wood, wood products and furni- ture	86	955	148	1 103	4 308	8 938
26	Paper and paper products and printing	28	1 876	256	2 132	11 569	19 849
27	Chemical, petroleum and coal pro- ducts	8	706	29	735	4 135	4 686
28	Non-metallic mineral products ..	19	373	36	409	2 190	4 521
29	Basic metal products	7	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
31	Fabricated metal products	40	518	138	656	2 750	4 711
32	Transport equipment	15	71	5	76	308	495
33	Other industrial machinery and equipment	42	558	55	613	2 687	3 858
34	Miscellaneous manufacturing ..	19	112	19	131	412	770
	Hobart Division	329	9 680	2 202	11 882	58 065	125 972
SOUTHERN STATISTICAL DIVISION							
21,22	Food, beverages and tobacco ..	11	120	67	187	716	1 869
24	Clothing and footwear	1	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
25	Wood, wood products and furni- ture	53	410	10	420	1 796	5 769
26	Paper and paper products and printing	3	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
27	Chemical, petroleum and coal pro- ducts .. .. .	..	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
28	Non-metallic mineral products ..	1	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
31	Fabricated metal products	2	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
32	Transport equipment	3	5	..	5	2	38
33	Other industrial machinery and equipment	3	3	..	3	..	17
	Southern Division	77	641	100	741	3 419	13 968

Manufacturing by Statistical Division and Type of Industry, 1973-74—continued

Industry sub-division		Estab- lish- ments operat- ing at 30 June	Employment (including working proprietors)— average over whole year			Wages and salaries	Value added
ASIC code	Description		Males	Females	Persons		
		no.	no.	no.	no.	\$'000	\$'000
NORTHERN STATISTICAL DIVISION							
21,22	Food, beverages and tobacco ..	43	1 205	273	1 478	6 824	15 771
23	Textiles	11	1 017	1 408	2 425	8 907	13 527
24	Clothing and footwear	5	43	129	172	564	702
25	Wood, wood products and furni- ture	124	1 783	110	1 893	9 212	19 691
26	Paper and paper products and printing	17	415	148	563	2 763	4 838
27	Chemical, petroleum and coal products	7	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
28	Non-metallic mineral products ..	27	252	16	268	1 381	2 994
29	Basic metal products	3	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
31	Fabricated metal products	35	454	40	494	2 144	4 205
32	Transport equipment	16	1 100	212	1 312	6 961	11 032
33	Other industrial machinery and equipment	21	315	25	340	1 609	2 379
34	Miscellaneous manufacturing ..	15	31	16	47	124	332
	Northern Division	324	7 905	2 442	10 347	50 861	100 709
	Statistical sub-divisions—						
	Tamar	290	7 512	2 381	9 893	48 851	96 784
	North Eastern	34	393	61	454	2 010	3 924
MERSEY-LYELL STATISTICAL DIVISION							
21,22	Food, beverages and tobacco ..	45	1 217	554	1 771	9 034	17 893
23	Textiles	2	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
24	Clothing and footwear	1	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
25	Wood, wood products and furni- ture	73	1 446	109	1 555	7 318	17 797
26	Paper and paper products and printing	17	2 535	476	3 011	18 519	29 376
27	Chemical, petroleum and coal products	6	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
28	Non-metallic mineral products ..	19	440	31	471	2 935	7 813
29	Basic metal products	3	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
31	Fabricated metal products	22	170	36	206	933	2 313
32	Transport equipment	3	7	..	7	18	66
33	Other industrial machinery and equipment	6	61	5	66	291	539
34	Miscellaneous manufacturing ..	8	113	11	124	630	1 177
	Mersey-Lyell Division	205	6 977	1 580	8 557	49 039	99 601
	Statistical sub-divisions—						
	North Western	196	6 925	1 575	8 500	48 771	99 008
	Western	9	52	5	57	269	593
TASMANIA							
	Total manufacturing	935	25 203	6 324	31 527	161 386	340 250

Manufacturing Establishments, Tasmania, 1973-74



Tasmania in Comparison with Other Australian States

A comparison of Tasmanian manufacturing activity with that of the other Australian states and territories is shown in the following table. Applying the appropriate population relativity factors to the Tasmanian figures, it will be seen that, on most indicators Tasmania is relatively more industrialised than Queensland, Western Australia, Northern Territory and the Australian Capital Territory and approaches the level of South Australia.

Tasmania-Australia Comparison of Manufacturing Activity, 1973-74

State or territory	Popula- tion relativity (a)	Estab- lish- ments	Wages and salaries	Turn- over (b)	Stocks at 30 June		Pur- chases, etc. (c)	Value added
					1973	1974		
N.S.W.	11.9	no.	\$m	\$m	\$m	\$m	\$m	\$m
Vic.	9.1	13 828	2 833	11 933	1 676	2 070	7 145	5 181
Qld	4.9	12 103	2 522	10 675	1 553	1 914	6 481	4 556
S.A.	4.9	4 279	597	3 260	337	396	2 099	1 220
S.A.	3.0	2 968	666	2 657	403	501	1 650	1 105
W.A.	2.7	2 819	344	1 727	190	223	1 112	648
Tasmania	1.0	935	162	818	117	134	495	340
N.T.	0.2	102	18	84	16	25	44	49
A.C.T.	0.4	139	22	76	6	8	37	42
Total Australia	33.3	37 173	7 165	31 229	4 299	5 273	19 063	13 141

(a) Tasmania's total mean population for 1973-74 is expressed as 1.0; other state populations in proportion to 1.0.

(b) Sales, transfers out and other operating revenue.

(c) Purchases, transfers in and selected expenses.

CENSUS OF ELECTRICITY AND GAS ESTABLISHMENTS, NEW SERIES**Introduction**

Until 1968-69 factory production statistics contained details for Class XVI (Heat, Light and Power); in the 'old style' annual factory censuses, of which the last covered 1967-68, this class was confined to the *production* of electricity and gas and such operations were treated as a particular type of factory activity. For 1968-69 simultaneous economic censuses were undertaken in respect of electricity and gas production and distribution and four other sectors (manufacturing; retail trade; wholesale trade; and mining). In this section results of the 1971-72 census of electricity and gas establishments for Tasmania are given. (For a detailed description of the 1968-69 integrated economic censuses see Appendix A of the 1972 Year Book.)

Definitions of Electricity and Gas Establishments*Basic Census Unit*

The basic census unit, in general, now covers all the operations carried on under the one ownership at a single physical location. However, for electricity and gas, the basic census unit is *an exception* to the above general concept of the standardised unit. The nature of the activities of electricity and gas undertakings makes the single operating location basis unsuitable. In the Tasmanian situation, for example, the householder paying a bill for power may draw his electricity from any combination of 20 or so stations in an integrated grid; in brief, 'sales' are not recorded against individual stations but are necessarily credited to the grid as a whole.

The special *establishment unit* in this census consists of *all locations*, including administrative offices and ancillary units, mainly concerned with the production and/or distribution of electricity or gas, operated by the one undertaking in the one state.

Effects of New Classification

The use of the above new definition is one of the reasons for the number of electricity and gas establishments in 1971-72 being considerably less than those of earlier years. A second cause is the exclusion from 1968-69 of some generating stations operated by enterprises for their own use (only if their value of sales and transfers of electricity exceeded \$100 000 were such stations included in the electricity census).

Data Concepts

It should be stressed that pre-1968-69 figures for the 'Heat, Light and Power' class of industry referred only to production; from 1968-69, the electricity and gas census covered not just production but also distribution.

The new data concepts, definitions, etc., introduced in the 1968-69 census are set out in Appendix B.

Results, 1971-72

Direct comparisons with figures for years prior to 1968-69 are not possible because of changes in the census units, the scope of the census and the items of data.

Census of Electricity and Gas Establishments (a), 1971-72: Summary

Establishments operating at 30 June 1972 .. no.	5
Persons employed (average over whole year)—	
Males	2 727
Females	244
Persons	2 971
Wages and salaries \$m	14.7
Turnover	47.6
Stocks at 30 June—	
1971	5.0
1972	5.3
Purchases, transfers in and selected expenses	2.2
Value added	45.7

(a) Establishments producing and/or distributing. See special definition of *establishment* in preceding text.

The following table gives a comparison between Tasmania and the other Australian states. Applying the appropriate population relativity factors to Tasmanian figures it can be seen that Tasmania compares favourably on most indicators.

Tasmania-Australia Comparison of Census of Electricity and Gas Establishments (a), 1971-72

State (b)	Popula- tion relativity	Estab- lish- ments	Persons em- ployed	Wages and salaries	Turn- over (c)	Stocks at 30 June		Pur- chases, etc. (d)	Value added
						1971	1972		
		no.	no.	\$m	\$m	\$m	\$m	\$m	\$m
N.S.W. ..	11.8	72	28 740	152.7	755.9	52.9	57.5	363.4	397.1
Vic. ..	9.0	17	18 225	98.6	374.8	26.9	27.9	136.5	239.3
Qld ..	4.7	28	9 544	47.2	205.9	13.5	14.8	84.2	123.0
S.A. ..	3.0	16	6 532	34.0	106.5	8.8	9.2	29.2	77.7
W.A. ..	2.7	48	4 606	22.9	82.3	7.5	7.8	22.9	59.7
Tasmania ..	1.0	5	2 971	14.7	47.5	5.0	5.3	2.2	45.7
Total Australia	32.9	193	71 187	373.0	1 592.1	114.8	122.8	648.0	952.1

(a) Establishments producing and/or distributing. See definition of *establishment* in preceding text.

(b) In some states electricity is produced by undertakings other than those which distribute it. In these states sales of electricity are duplicated due to the inclusion of bulk sales to distributors in addition to retail sales. Sales figures for N.T. and the A.C.T. are not available for separate publication: therefore the territories have been included only in the total.

(c) Sales, transfers out and other operating revenue.

(d) Purchases, transfers in and selected expenses.

SURVEY OF HOUSEHOLD ENERGY SOURCES

The Collection

Tasmanian households visited during the routine quarterly population survey for August 1975 were asked supplementary questions on source of energy; the sample interviewed—1 875 dwellings—was approximately 1.7 per cent of the total number of households in the State. A statement on the standard errors for this particular sample will be found in the May 1975 issue of *The Labour Force* (ref. no. 6.20) published by the Canberra office of the Bureau.

The basic questions asked were: what main form of heating do you use: (i) in your main living area? (ii) for storage hot water? (iii) for cooking? These were asked in three time frames: (i) a year ago; (ii) now; (iii) anticipated change in next twelve months. Results for the first two time frames are summarised below.

Manufacturing, Electricity and Gas

Sources of Energy, August 1975

The next table analyses source of household energy by broad areas of the State based on answers relating to 'now' (August 1975). (It should be noted that the results for the Hobart Statistical Division, etc. are subject to very much higher sampling errors than those for Tasmania taken as a whole.)

Source of Energy, August 1975
(Percentage of Sampled Dwellings) (a)

Source of energy	Hobart Statistical Division	Urban Launceston	Other urban areas	Rural areas	Tasmania
FOR HEATING MAIN LIVING AREA					
Open fire	17.6	23.6	30.2	51.9	27.9
Solid fuel	12.1	16.8	15.4	18.3	14.8
Oil	42.4	32.7	40.6	20.9	36.5
Kerosene	6.4	8.1	3.9	3.5	5.5
Electricity—Off peak	7.4	2.3	3.7	0.9	4.5
Normal tariff	11.1	11.0	3.9	2.4	7.7
Gas—Town mains	0.8	3.9	..	..	1.0
Bottled	1.6	1.3	2.4	1.8	1.8
Other method .. .. .	..	..	..	0.3	0.1
No facility available	0.5	0.3	..	..	0.3
Total	100.0	100.0	100.0	100.0	100.0
FOR STORAGE HOT WATER					
Open fire .. .. .	..	..	0.4	1.5	0.4
Solid fuel	0.5	2.3	3.5	14.7	4.1
Oil	0.1	0.3	0.4	0.9	0.4
Kerosene .. .. .	..	..	..	..	..
Electricity—Off peak	2.7	1.0	3.7	1.5	2.5
Normal tariff	94.8	90.3	91.1	75.2	89.6
Gas—Town mains	0.3	4.5	..	..	0.9
Bottled	0.1	..	0.2	0.3	0.2
Other method .. .. .	..	..	..	..	..
No facility available	1.4	1.6	0.7	5.9	2.1
Total	100.0	100.0	100.0	100.0	100.0
FOR COOKING					
Open fire .. .. .	..	..	0.4	0.9	0.3
Solid fuel	0.8	2.9	4.8	18.6	5.3
Oil .. .. .	..	0.3	..	1.2	0.3
Kerosene .. .. .	..	..	..	..	..
Electricity—Off peak .. .. .	..	..	..	..	..
Normal tariff	96.0	77.7	94.1	77.0	89.1
Gas—Town mains	2.7	18.8	..	..	4.2
Bottled	0.5	0.3	0.7	2.4	0.9
Other method .. .. .	..	..	..	..	..
No facility available .. .. .	..	..	..	..	..
Total	100.0	100.0	100.0	100.0	100.0

(a) The sample distribution was: Hobart Division 41 per cent; Urban Launceston 17 per cent; other urban 24 per cent; rural 18 per cent; in all 1 875 sampled dwellings.

Change from August 1974 to August 1975

The following table compares the source of energy 'now' (August 1975) and 12 months previously. The number of sampled dwellings was reduced to 1 644 since 231 reported 'not at this dwelling 12 months ago'.

Changes in Energy Sources over 12 Months
(Percentage of Sampled Dwellings) (a)

Source of energy	Heating main living area		For storage hot water		For cooking	
	Aug. 1974	Aug. 1975	Aug. 1974	Aug. 1975	Aug. 1974	Aug. 1975
Open fire	31.6	27.7	0.5	0.3	0.2	0.2
Solid fuel	16.4	15.7	4.6	4.4	6.0	5.7
Oil	35.9	38.1	0.3	0.4	0.2	0.3
Kerosene	4.3	4.8	..	..	..	..
Electricity—Off peak ..	3.2	4.0	1.9	2.3	..	..
Normal tariff ..	6.7	7.0	89.2	89.4	88.4	88.6
Gas—Town mains	0.9	0.9	0.9	0.9	4.5	4.3
Bottled	0.8	1.6	0.2	0.1	0.7	0.9
Other method	0.1	0.1	..	..	..	..
No facility available ..	0.1	0.1	2.4	2.2	..	..
Total	100.0	100.0	100.0	100.0	100.0	100.0

(a) Percentage of 1 644 sampled dwellings (excludes dwellings where occupiers were not at the same address 12 months prior to the interview).

GOVERNMENT HYDRO-ELECTRIC POWER

The Tasmanian Electricity Generating System

Until 1971 Tasmania was unique among Australian states in that its electric power system was based exclusively on hydro-electric installations but in 1971 a thermal oil-fired station commenced operations at Bell Bay opening a new phase in the development of the generating system. Other Australian states rely principally on thermal plants while hydro-electric power, if available, is used only to supplement the basic supply. The Snowy River Hydro-Electric Scheme, which feeds power to Victorian and N.S.W. grids, is not designed to cope with the base load demand in these states, and its essential function is to provide the extra power necessary to meet peak loads, and also to supply irrigation water to the inland. The Tasmanian system, despite its lower installed capacity, produces more power than the Snowy Scheme. The total generator capacity of the Tasmanian hydro-electric system in mid-1976 was 1.4m kilowatts.

Early Development and Current Generating Capacity

Hydro-electric power for public use was first introduced in 1895 with construction of the 450 kW *Duck Reach* station on the South Esk River near Launceston. This was a purely municipal supply and work on Tasmania's state-wide system did not begin until 1911 with the exploitation of the Great Lake catchment waters and diversion of the Ouse and Shannon Rivers.

The following table outlines the development of the Tasmanian generating system:

Tasmanian Power Generating System

Station	Year of commission	Head (in metres)	Generator capacity (kW) (a)
COMPLETED STATIONS			
Waddamana 'B' (b)	1949	344	48 000
Tarraleah	1951	299	90 000
Butlers Gorge	1951	56	12 200
Trevallyn	1955	126	80 000
Tungatinah	1956	306	125 000
Lake Echo	1956	173	32 400
Wayatinah	1957	62	38 250
Liapootah	1960	110	83 700
Catagunya	1962	43	48 000
Poatina	1965	829	250 000
Tods Corner	1966	41	1 600
Meadowbank	1967	29	40 000
Cluny	1967	16	17 000
Repulse	1968	27	28 000
Rowallan	1968	49	10 450
Lemonthyme	1969	159	51 000
Devils Gate	1969	69	60 000
Wilmot	1971	251	30 600
Bell Bay (Stage 1)	1971	(c)	120 000
Cethana	1971	99	85 000
Paloona	1972	31	28 000
Fisher	1973	651	43 200
Bell Bay (Stage 2)	1974	(c)	120 000
Total	..	..	1 442 400
STATIONS UNDER CONSTRUCTION			
Gordon (Stage 1)	1977	186	288 000
Poatina (d)	1977	829	50 000
Mackintosh	1981	68	72 000
Rosebery	1983	63	76 500
Pieman	1985	93	270 000
Total	..	..	756 500

(a) Emergency gas turbine at Bell Bay with generating capacity of 20 000 kW not included.

(b) Reserve plant only.

(c) Thermal station.

(d) Additional generator to be installed in the existing station.

The concentration on water as a source of power in Tasmania has resulted in the need to follow a policy of water conservation; to regulate the high winter and spring run-off. Emphasis in the power developments has been on the creation of large storages and successive use of the impounded waters e.g. water from Lake St Clair may pass through eight power stations before reaching the tidal waters of the Derwent River at New Norfolk.

By May 1916 Waddamana 'A' station (7 000 kW), the first stage of the Great Lake scheme, was commissioned. Shannon station was opened in 1934 and in 1944 the third stage of the scheme, Waddamana 'B' station (48 000 kW) commenced generation. When Poatina station was commissioned in 1965, the Waddamana 'A' and Shannon stations were closed down, Waddamana 'B' being retained only for emergency and peak-load generation.

Completed Schemes

Tarraleah-Butlers Gorge

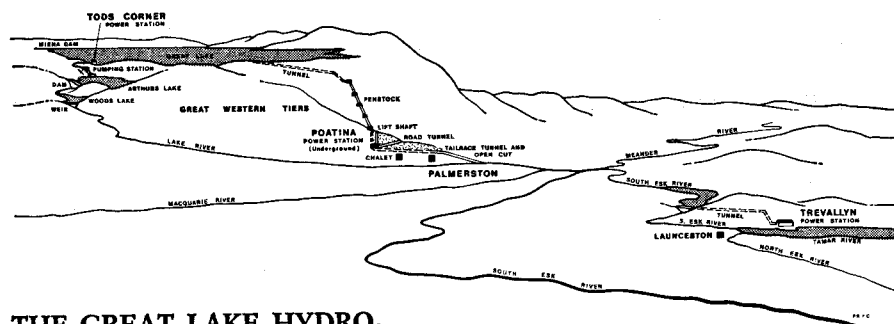
The Tarraleah development with headwaters regulated by raising Lake St Clair (1937) and the man-made Lake King William (1949) was commenced in 1934 and first generated power in 1938. The capacity of *Tarraleah* was progressively expanded to 90 000 kW and the station was completed in 1951 with the installation of a sixth generator, *Butlers Gorge* station (12 000 kW), commenced generation on the completion of the Clark Dam in 1951.

Tungatinab-Lake Echo

Built to regulate run-off from the extensive area between Great Lake and Lake St Clair, the 32 400 kW *Lake Echo* and 125 000 kW *Tungatinab* stations were commissioned in 1956.

Great Lake-South Esk

The *Poatina* station (250 000 kW), the largest of all the stations in the Tasmanian hydro-electric development, was completed in 1965. The station utilises the waters of Great Lake which have been diverted into the South Esk River system. A sixth generator of 50 000 kW capacity is to be commissioned in 1977 bringing the total installed capacity of the station to 300 000 kW. The *Poatina* tailrace discharges into the South Esk River which feeds the run-of-the-river *Trevallyn* station (80 000 kW) located near Launceston. The following diagram shows the Great Lake scheme in detail:

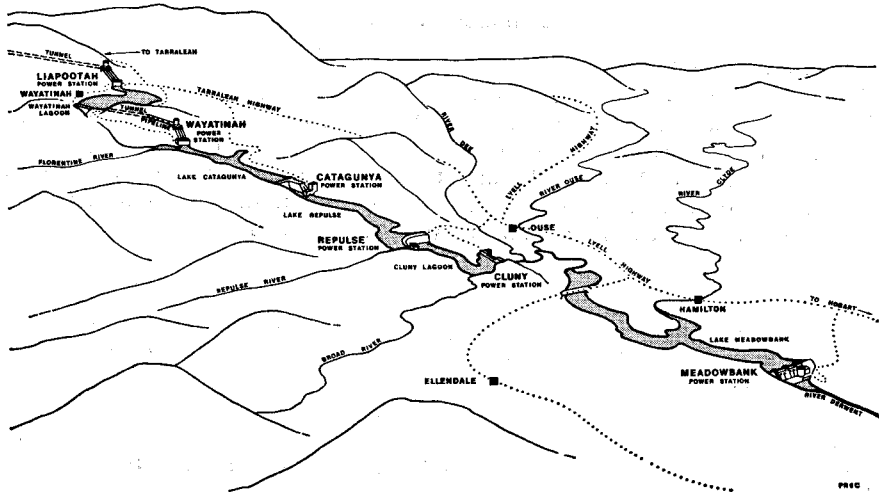


THE GREAT LAKE HYDRO-ELECTRIC POWER DEVELOPMENTS

Derwent River Power Developments

Two systems in the middle and lower Derwent River utilise the waters of the Derwent and its major tributaries, the Nive and Florentine. In the middle Derwent system the *Wayatinab* station (38 250 kW) was completed in 1957, followed by the 83 700 kW *Liapootah* station (1960) and the 48 000 kW *Catagunya* station (1962). The lower Derwent stations *Meadowbank* (40 000 kW), *Cluny* (17 000 kW) and *Repulse* (28 000 kW) were completed during 1967 and 1968.

The following diagram shows the development of the power potential of the Derwent River catchment downstream of Tarraleah:

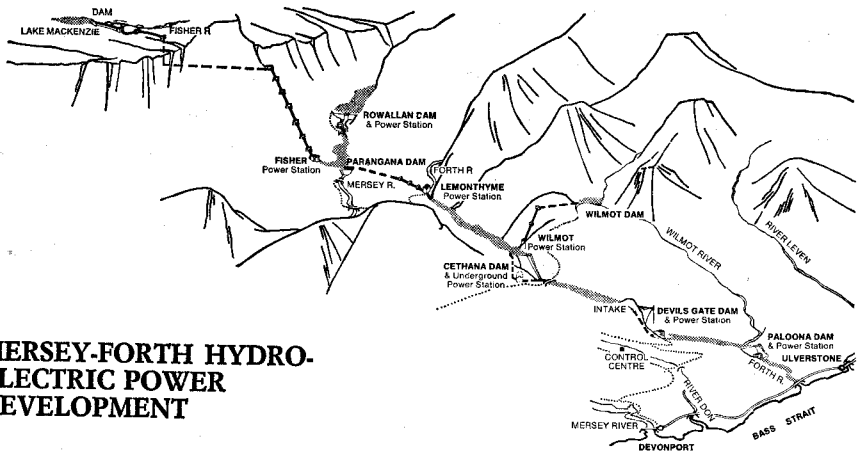


DERWENT RIVER POWER DEVELOPMENTS

The Mersey-Forth Scheme

Construction of the Mersey-Forth development in north-western Tasmania was completed in 1973. As shown in the next diagram the Fisher, Mersey, Wilmot and Forth Rivers have been exploited by a combination of seven power stations, seven large dams and three major tunnels together with associated penstocks, canals and flumes.

On the Mersey River, Lake Rowallan is of major importance as it provides the main storage of the development as a whole and regulates the water flow to the down-stream stations. Water flows through the *Rowallan* (10 450 kW) station and downstream to the Parangana Dam.



MERSEY-FORTH HYDRO-ELECTRIC POWER DEVELOPMENT

The second high-level storage in the scheme is derived from the development of Lake Mackenzie on the Fisher River. Water is taken by flume, canal, tunnel and pipeline to the *Fisher* (43 200 kW) station. Tailrace waters discharge into the Fisher River which joins the Mersey River just above the Parangana Dam. The Parangana Dam diverts waters of the Mersey and Fisher Rivers westwards by a tunnel and penstock to the *Lemonthyme* (51 000 kW) station on the Forth River.

Downstream, the waters of the Wilmot River are diverted to the east by tunnel to the *Wilmot* station (30 600 kW) located on the Forth River above the Cethana Dam.

The combined flows of all four rivers (Fisher, Mersey, Wilmot and Forth) are then used for power generation at three more power stations, all situated in the Forth Valley at the foot of dams at *Cethana* (85 000 kW), *Devils Gate* (60 000 kW) and *Paloona* (28 000 kW).

All seven power stations are designed for fully automatic operation and are remotely controlled from a centre near Sheffield.

Bell Bay Thermal Station

Installation of the second turbo-generator of the Bell Bay oil-fired thermal station was completed in 1974. Power generation from the first stage commenced in February 1971. The station was originally designed to accommodate these two oil-fired steam driven 120 000 kW generators.

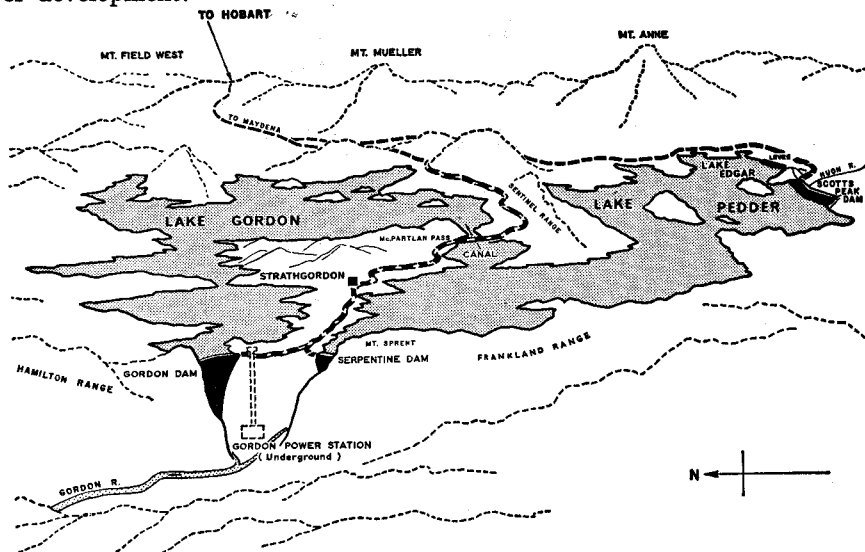
Present Developments

Gordon River Power Development—Stage I: This development, to be completed by 1977, has created the largest live storage in Australia, six times the volume of the Great Lake, and three times the volume of Lake Eucumbene, the largest lake in the Snowy Mountains' Hydro-Electric Authority Scheme.

The Gordon River Power Development comprises two lakes, with a total surface area of about 510 square kilometres and joined by the McPartland Pass canal: Lake Gordon (1974) being created by a 137 metre high dam on the Gordon River. Three more dams, one on the Serpentine River (1971) and two on the Huon River (1972), created the greatly enlarged Lake Pedder.

From Lake Gordon water will be carried by a vertical shaft to the power station 186 metres underground. Access to the Gordon Power Station will be via the busbar and lift shaft or by road tunnel. The station will be operated by remote control from Hobart, 161 kilometres away.

The following diagram shows the essential features of the Gordon River power development:



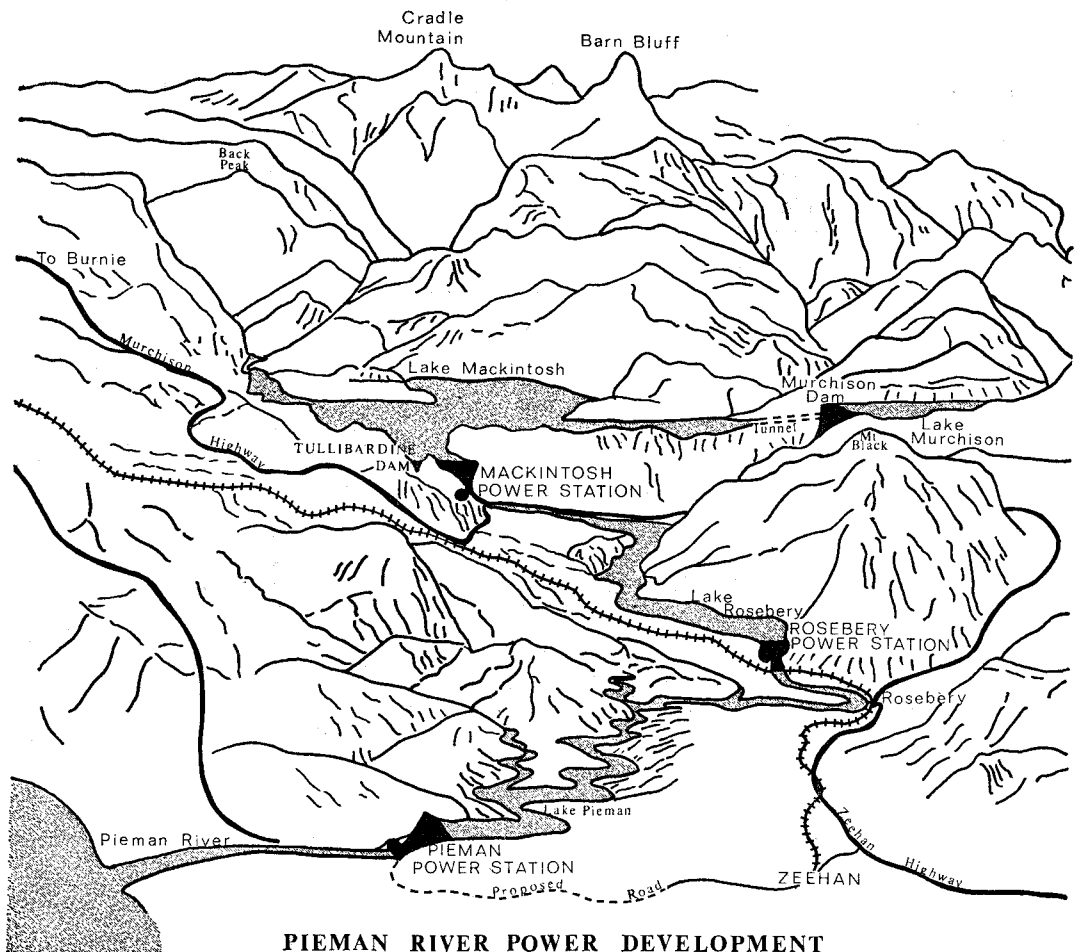
GORDON RIVER POWER DEVELOPMENT

Future Developments—Pieman River

In a report presented to Parliament on 21 October 1970, the Hydro-Electric Commission announced a power development in the Pieman River catchment of the west coast. The total capital cost was estimated at \$134m (1970); the total installed capacity at 418 500 kW; and the eventual average output at 1 770 million kilowatt hours per annum. Completion of the scheme is expected by 1985.

Location: The Pieman River flows from the confluence of the Murchison and Mackintosh Rivers, entering the sea below Corinna (see next diagram). The catchment area of 2 678 square kilometres is mostly rugged, mountainous Crown land, experiencing annual rainfall between 2 300 mm and 3 560 mm. Only two per cent (62 square kilometres) of the catchment area will be inundated.

Power Stations: (i) *Mackintosh.* The scheme includes: a dam over 91 metres high on the Murchison River; a 2 072 metres long tunnel from Lake Murchison to Lake Mackintosh; a dam 76 metres high on the Mackintosh River about three kilometres downstream from the Sophia River junction and the subsidiary Tullibardine Dam (24 metres high) together creating the main storage of the entire development; and a 72 000 kW power station below the Mackintosh Dam through which the combined flows of the Mackintosh and Murchison Rivers will pass.



(ii) *Rosebery*. Includes: a dam about 73 metres high, located on the Pieman River upstream from the Rosebery township, creating a lake extending up the Mackintosh River to the Mackintosh Power Station and up to the Murchison River to just downstream of the Murchison Dam; a power station immediately below the Rosebery Dam, installed capacity, 76 500 kW; the relocation of two kilometres of the Murchison Highway including new bridges over the Murchison and Mackintosh Rivers; and the relocation of about three kilometres of the Emu Bay railway, including a new bridge over the Pieman River.

(iii) *Pieman*. Comprises: a dam about 119 metres high located on the Pieman River immediately upstream from its junction with Stringer Creek; a subsidiary dam 15 metres high; a 270 000 kW power station, located at the junction with Stringer Creek; and a main access road, the Pieman Road, 54 kilometres long, from the Murchison Highway to the dam site, about 10 kilometres upstream from Corinna.

Growth of Hydro-Electric System

The following table shows the growth of the system in recent years:

Hydro-Electric Commission: Operating Statistics

Year	Total rating of alternators	Peak loading	Average loading	Annual load factor (a)
	kW	kW	kW	per cent
1965	807 550	593 700	427 580	72.0
1966	849 150	624 100	451 047	72.3
1967	866 150	636 900	445 490	69.9
1968	904 600	628 000	449 028	71.5
1969	1 015 600	735 500	556 249	75.6
1970	1 015 600	778 700	589 718	75.7
1971	1 251 200	842 900	633 838	75.2
1972	1 279 200	856 200	646 000	75.4
1973	1 322 400	891 100	667 822	74.9
1974	1 442 400	917 300	684 236	74.6
1975	1 442 400	891 500	659 020	73.9

(a) Average annual loading as a percentage of annual peak loading.

Load Factor

The alternator rating (i.e. generator capacity) is necessarily much higher than the peak loading since some generating plant must be held in reserve against the possibility of breakdown. Also reliability varies according to the state of the water storages.

A power system must be designed to meet both the peak loading (the demand component) and the average loading (the energy component). Peak loading tends to represent high demand for relatively short periods, i.e. it has relatively little energy associated with it. The obvious design and operational problem is to create sufficient capacity to meet peak loading and, at the same time, to encourage the use of power so that the highest possible average loading is obtained.

All things being equal, the cheapest system, from the consumer's point of view, will be the one with the highest load factor. By world standards, the load factors in the previous table indicate a high standard of design and operational efficiency.

The Hydro-Electric Commission

The Hydro-Electric Commission is an autonomous statutory authority, responsible almost entirely for the conduct of its own affairs. The 'Minister Administering the Hydro-Electric Commission Act' is answerable to Parliament for the

activities of the Commission, but the Commission is not directed by nor responsible to the Minister as is a government department. In other words, the Commission is envisaged as a trading or business organisation, and the purpose of the legislation that created it was to remove it from day-to-day political control. The power exerted by Parliament is mainly financial, not over the ordinary revenue and expenditure of the authority, but over the supply of loan moneys for new capital works.

Two other restrictions on the Commission can be listed: (i) it cannot change its tariff charges for the supply of electricity to consumers except with the approval of the Governor-in-Council; and (ii) in certain of its dealings, such as in real estate, the Commission must obtain the approval of the Minister.

The status of the Commission was described thus by the High Court of Australia in a judgment delivered in 1950: 'In the eye of the law the corporation is its own master and is answerable as fully as any other person or corporation. It is not the Crown and has none of the immunities or privileges of the Crown. Its servants are not civil servants and its property is not Crown property.'

Organisation

Under the Commission, with its full-time Commissioner and three part-time Associate Commissioners, there are five branches:

(i) *Civil Engineering Branch*. Responsible for: survey of water resources; design and construction of all civil works involved in power development and allied projects.

(ii) *Electrical Engineering Branch*. Responsible for: studies of load growth and system development; design and construction of all electrical engineering works in conjunction with the Civil Engineering Branch.

(iii) *Power Branch*. Responsible for: operation and maintenance of completed power developments; generation and transmission of power in bulk.

(iv) *Retail Supply Branch*. Responsible for: distribution of electricity to consumers; operation and maintenance of the distribution system; inspection of installations and equipment; consumer advisory activities; sale of electrical appliances; licensing of wiremen and contractors.

(v) *Secretarial*. Responsible for general administrative business of the Commission with subsections dealing with accounts, law, personnel, transport, stores and purchasing, medical services, central records, public relations and other services.

Technical Details

Generation

The total installed generator capacity of the Commission's 22 power stations is 1 442 400 kW. All stations generate alternating current at a frequency of 50 cycles per second. The power is stepped up at each station to the voltage required for transmission.

Transmission

Power is conveyed from the power stations by 220 000, 110 000 or 88 000 volt transmission lines to major sub-stations at various load centres. All power stations and major sub-stations are linked into a grid system thereby increasing the reliability of supply to all parts of the State.

Distribution

Power is distributed from the major sub-stations by a network of 44 000, 33 000, 22 000, 11 000 and 6 600 volt feeder lines from which power is stepped down at zone sub-stations to a lower feeder voltage and/or finally at distribution sub-stations to 415/240 volts for supply to individual consumers. Some consumers take supply at feeder voltage.

Bruny Island is connected to the main power supply by a submarine cable; King and Flinders Islands are partly supplied by diesel-generation stations operated by the Commission at Currie and Whitemark respectively.

Retail Distribution

In the early days of the Commission's operation, consumers of electrical power received it from three sources: from municipalities with their own generating capacity; from municipalities retailing power bought from the Commission; and from the Commission direct. Gradually uniformity was achieved, municipalities stopped generating and retailing and the one authority became the sole supplier, both of bulk power to industry and retail power to homes, shops, businesses, etc. One effect has been uniformity in tariff charges for retail power so that the farmer on the most remote holding is charged no more than dwellers in the principal cities. Tasmania has achieved an Australian record figure for distribution of electrical power—it is estimated that nearly 99 per cent of homes and farms are now connected. Tariff charges are also the lowest in Australia.

Finances of Hydro-Electric Commission

The table that follows shows the Commission's income and expenditure:

Hydro-Electric Commission: Income and Expenditure
('\$000)

Particulars	1971-72	1972-73	1973-74	1974-75
INCOME				
Sales—Bulk power ..	18 549	20 053	21 581	23 382
Retail current ..	26 376	28 683	30 136	36 208
Other income	1 361	775	1 013	2 705
Total	46 286	49 511	52 730	62 295
EXPENDITURE				
Operation, distribution, administration	16 700	16 589	19 385	24 646
Interest on loans and re- serves	25 213	27 369	28 899	32 008
Less interest capitalised ..	-4 106	-3 657	-5 298	-7 782
Depreciation provision ..	5 255	5 505	5 760	5 984
Superannuation contribu- tion and retirement bene- fits	1 644	1 662	2 968	4 530
Contribution to consoli- dated revenue	804	1 251	1 362	1 430
Other expenditure	768	578	950	1 054
Net profit or loss	8	214	-1 296	425
Total	46 286	49 511	52 730	62 295

All annual charges (interest, depreciation, operation, etc.) are borne by the Commission out of its revenue from the sale of electricity. There are no subsidies or other contributions from general State revenue.

Sales and Prices of Electric Power

The following table shows comparative average prices for power in Australia:

Price of Electric Power: Tasmania and Other States, 1974-75 (a)
(Cents per Kilowatt Hour)

State or territory	Residential sales	Commercial sales	Industrial sales	Average all sales (b)
New South Wales ..	2.45	(c)	(c)	2.45
Victoria	2.44	3.65	1.99	2.50
Queensland	2.78	4.58	2.24	2.93
South Australia ..	2.05	3.30	1.88	2.30
Western Australia ..	3.13	(c)	(c)	3.04
Tasmania	1.87	3.25	0.82	1.11
A.C.T.	1.82	(c)	(c)	2.11
Average	2.45	n.a.	n.a.	2.41

(a) Source: 'Statistics of the Electricity Supply Industry in Australia' (published by Electricity Supply Association of Australia).

(b) Includes power for traction, public lighting, etc. not specified in first three columns.

(c) Not recorded separately.

It will be observed that the Tasmanian average is the *lowest* and the householder pays less per unit on the average than his counterpart in other Australian states. The economy of hydro-electric generation can be best obtained by comparing the prices charged to industrial users.

The following table shows the amount of power sold in Australia:

Sales of Electric Power: Tasmania and Other States, 1974-75 (a)
(Million Kilowatt Hours)

State or territory	Residential sales	Commercial sales	Industrial sales	Total sales (b)
New South Wales ..	8 663	(c) 12 101		21 356
Victoria	5 831	2 549	5 303	14 070
Queensland	2 933	1 285	2 744	7 008
South Australia ..	1 944	840	1 615	4 434
Western Australia ..	1 246	(c) 1 738		3 017
Tasmania	1 126	134	4 108	5 385
A.C.T.	456	(c) 385		865
Total	22 199	(c) 32 083		56 136

(a) Source: 'Statistics of the Electricity Supply Industry in Australia' (published by the Electricity Supply Association of Australia).

(b) Includes power for traction, public lighting, etc. not specified in first three columns.

(c) Not recorded separately.

Chapter 10

TRADE AND DISTRIBUTION

OVERSEAS AND INTERSTATE TRADE

Historical

The *Statistical Returns of Van Diemen's Land* and the *Statistics of Tasmania* provide a continuous series of total trade statistics dating from 1824 to 1909. Until the foundation of the Commonwealth in 1901, trade with other parts of Australia was recorded as originating from or being destined for 'British Colonies'; in other words, all Tasmanian sea trade was regarded as overseas. From Federation to 1909, statistics were collected and compiled by the newly formed federal Customs Department for *all* sea trade, but since 1910 only direct *overseas* trade has been recorded by Australian Customs. In an island state, it became apparent that statistics of overseas trade alone were inadequate to record economic activity and, from 1922-23, the Government Statistician collected and published details of interstate trade; the collection of these data, now undertaken by the State Office of the Australian Bureau of Statistics, is carried out independently of Australian Customs and depends primarily on documents made available by Tasmanian port authorities. In brief, there is a *total* trade series (1824-1909), an *overseas* trade series (1910 to 1921-22) and a *total* trade series (1922-23 to today).

In the immediate post-war period, there was a marked expansion of commercial aviation; the freight being carried was a component of interstate trade and steps were taken to record it, the first published figures appearing for 1949-50. Thus, the total trade of Tasmania is now recorded in three categories: by sea, overseas; by sea, interstate; by air, interstate.

Value of Trade from 1824

Note on Currency

The pre-Federation details were recorded in sterling; subsequent details were recorded in £A which had parity with sterling until 1930 when devaluation made £A1.25 equal to the £ sterling. In 1949 the £ sterling was devalued by 30.5 per cent and the £A was correspondingly devalued to preserve the 1930-1949 relativity. In 1966 Australia changed to decimal currency, with \$A equal to £A0.5. In late 1967, the £ sterling was devalued from an equivalency of \$A2.51 to \$A2.15. The \$A was devalued by approximately 2.25 per cent against the £ sterling in 1971. The exchange rate between the \$A and the £ sterling is no longer fixed and from December 1971 the \$A has been quoted in terms of \$U.S. Later changes in the exchange rate appear in Chapter 12, Private Finance. In the tables in this section, pre-1966 recorded figures have been converted to \$A by simply doubling the originals, *irrespective of their year of occurrence* and no account has been taken of changes in exchange rates. Post 1966 figures similarly have not been adjusted to take account of changes in exchange rates.

Due to considerable and persistent changes in the purchasing power of money, it is extremely difficult to satisfactorily interpret any long-term statistical series expressed in money terms. The following table is therefore of interest historically but subject to all the disabilities (including changes in the value of Australian currency) associated with long-term money series:

Total Value of Trade by Sea and Air: Historical Summary
(\$'000)

Year	Value of imports				Value of exports			
	By sea		By air	Total	By sea		By air	Total
	Overseas	Interstate	Interstate		Overseas	Interstate	Interstate	
1824	<i>n.a.</i>	<i>n.a.</i>	..	124	<i>n.a.</i>	<i>n.a.</i>	..	30
1860	1 686	450	..	2 136	1 544	380	..	1 924
1880	738	2 000	..	2 738	1 568	1 456	..	3 024
1900	1 402	2 746	..	4 148	3 078	2 144	..	5 222
1910	1 662	(a)	..	<i>n.a.</i>	1 040	(a)	..	<i>n.a.</i>
1919-20 ..	1 626	(a)	..	<i>n.a.</i>	4 022	(a)	..	<i>n.a.</i>
1929-30 ..	3 668	16 028	..	19 696	4 978	13 198	..	18 176
1939-40 ..	3 188	21 780	..	24 968	4 852	20 954	..	25 806
1949-50 ..	18 704	51 218	(b)10 670	80 592	29 936	42 672	(b) 3 996	76 604
1959-60 ..	27 606	130 014	19 210	176 830	47 730	137 530	20 818	206 078
1969-70 ..	(c)46 998	257 441	20 551	(c)324 989	143 470	286 083	26 287	455 840
1974-75 ..	100 616	402 081	26 850	529 547	226 154	379 933	31 699	637 786

(a) Collection discontinued for period 1910 to 1921-22.

(b) First collected in 1949-50.

(c) From 1965-66 the value of outside packages is included in the value of overseas imports. The recorded value of these outside packages was \$566 000 in 1969-70 and \$886 345 in 1974-75.

Definition of 'Overseas' and 'Interstate'

Statistics of overseas trade of Tasmania include details of goods landed directly from overseas or shipped directly to overseas ports; and, in addition, details of goods transhipped through other Australian states, *provided that the overseas import or export document has been lodged with Customs in Tasmania*. Statistics of interstate trade include details of goods landed in or shipped from other Australian states; and, in addition, details of goods transhipped through other Australian states, *provided that the overseas import and export document has been lodged with Customs in another Australian state*.

By way of example, a new Japanese car transhipped in Melbourne and discharged in Tasmania is classified as an item of interstate trade. Victoria, not Japan, is classified as the place of origin, provided that the overseas import document has been lodged with Customs in Victoria.

Effect of Motor Vehicles on Total Value of Imports and Exports

Import and export details of motor cars and commercial vehicles include tourist vehicles entering and leaving the State. The inauguration of a vehicular ferry service in October 1959 resulted in a sharp increase in the transport of vehicles as is suggested in the following table.

Motor Cars and Commercial Vehicles (a): Value of Imports and Exports
(\$'000)

Particulars	1959-60	1970-71	1971-72	1972-73	1973-74	1974-75
Imports ..	29 148	59 062	63 016	64 943	75 231	98 110
Exports ..	13 100	27 087	28 229	28 537	28 997	32 524

(a) As well as new and used vehicles, includes business and tourist vehicles moving to and from the State.

Since Tasmania does not carry out motor vehicle assembly on any extensive scale (and certainly not for export), it follows that total import and export values for 1974-75 are both inflated by approximately \$33m worth of vehicles, principally tourist, which entered and left the State. If vehicle exports are offset against imports, the net import figure will still include some used as well as new vehicles.

Source of Trade Statistics

Overseas trade statistics are compiled from documents obtained under the *Federal Customs Act 1901* and supplied to the Australian Bureau of Statistics by the Australian Customs. *Interstate sea* trade statistics are compiled from documents required under the authority of the *Marine Act 1921* and made available to the Tasmanian Office of the Bureau by the various port authorities. Statistics of *interstate air* trade are compiled from returns furnished direct to the Tasmanian Office of the Bureau by all those who use this medium for the transportation of goods in commercial or industrial operations.

Values

The cost of importing goods into any country will theoretically contain four elements: (i) the 'original' price at door of factory, warehouse, etc.; (ii) the cost of delivering goods to the ship 'free on board'; (iii) sea freight and associated charges between ports; and (iv) cost of delivery from port to buyer.

Trade statistics base values on the first two elements but exclude the third and fourth as set out in the following definitions:

The basis of value for overseas imports is 'transaction value, actual (*f.o.b.*)' or 'domestic value (*f.o.b.*)' if higher. Overseas exports are valued *f.o.b.* at the Australian port of shipment as follows: (i) for goods sold before export—the price at which the goods were sold; or (ii) for goods shipped on consignment—the current price offering for similar goods of Australian origin in the principal markets of the country to which the goods were despatched. Interstate imports and exports are valued *f.o.b.* at the port of shipment.

Tasmanian Ports

Although there are seven port authorities (usually called marine boards) in Tasmania, overseas trade is restricted to the ports of Hobart, Launceston, Burnie, Devonport and Stanley. (Exports of iron ore from Port Latta are credited to Stanley and exports of woodchips from Spring Bay are credited to Hobart.) The names of ports in subsequent tables refer to the towns in which the controlling port authorities are located. Thus 'Hobart' includes Port Huon, Spring Bay, Howden and Strahan; 'Launceston' includes Bell Bay, Inspection Head and Long Reach; 'Stanley' includes Port Latta; 'Currie' includes Naracoopa and Grassy; and 'Lady Barron' includes Whitemark.

This chapter deals only with the imports and exports passing through these ports. For a description of the major ports and for the financial operations of the port authorities, see Chapter 11.

Total Trade of Tasmania

The following table shows Tasmanian total trade and its components in recent years. It will be observed that interstate trade is the major element both in imports and exports.

**Total Trade
(\$'000)**

Year	Imports				Exports			
	By sea		By air	Total imports	By sea		By air	Total exports
	Overseas	Interstate	Interstate		Overseas	Interstate	Interstate	
1969-70 ..	46 998	257 441	20 551	324 989	143 470	286 083	26 287	455 840
1970-71 ..	45 719	269 022	19 777	334 519	143 198	277 669	27 103	447 970
1971-72 ..	39 749	281 576	20 622	341 947	178 950	302 608	29 374	510 932
1972-73 ..	45 045	289 862	21 238	356 145	218 712	320 910	30 626	570 247
1973-74 ..	69 277	357 805	24 760	451 843	259 745	404 382	34 566	698 692
1974-75 ..	100 616	402 081	26 850	529 547	226 154	379 933	31 699	637 786

The next table shows the balance of trade (excess of exports over imports):

Balance of Trade (Sea and Air)

Year	Balance of trade (excess of exports)		Year	Balance of trade (excess of exports)	
	Total (\$'000)	Per head of mean population (\$)		Total (\$'000)	Per head of mean population (\$)
1963-64	52 496	144.71	1969-70	130 851	338.74
1964-65	78 957	215.51	1970-71	113 451	291.46
1965-66	72 926	197.31	1971-72	168 985	430.64
1966-67	58 347	156.31	1972-73	214 102	542.17
1967-68	51 845	137.37	1973-74	246 850	618.67
1968-69	93 404	244.23	1974-75	108 239	267.65

Overseas Trade by Sea

Details of Tasmania's trade with overseas countries for the past six years are shown in the following table:

**Total Value of Trade by Sea With Overseas Countries
(\$'000)**

Year	Value of imports from—				Value of exports to—			
	United Kingdom	United States of America	Japan	Other overseas countries	United Kingdom	United States of America	Japan	Other overseas countries
1969-70 ..	10 563	6 636	5 309	24 490	24 363	19 945	43 465	55 697
1970-71 ..	6 098	7 269	5 419	26 933	20 574	18 427	54 999	49 198
1971-72 ..	6 878	4 655	5 049	23 167	29 580	27 062	55 997	66 312
1972-73 ..	6 000	5 986	7 003	26 056	23 918	35 434	75 231	84 129
1973-74 ..	10 237	8 930	12 462	37 648	19 514	46 819	104 880	88 532
1974-75 ..	8 714	14 718	12 931	64 253	14 867	33 257	99 549	78 481

In 1974-75 the United States of America was Tasmania's major overseas supplier of imports, followed by Japan and New Zealand.

Trade with Selected Countries

The principal countries of origin together with values (in \$m) for overseas imports shipped direct to Tasmania in 1974-75 were: United States of America, 14.7; Japan, 12.9; New Zealand, 10.9; United Kingdom, 8.7; Canada, 7.9; and Federal Republic of Germany, 7.7. The principal countries of destination for overseas exports shipped direct from Tasmania (value in \$m) were: Japan, 99.5; United States of America, 33.3; United Kingdom, 14.9; India, 11.0; Malaysia, 8.1; Thailand, 7.2; Indonesia, 5.7; and Hong Kong, 4.9.

Trade With Overseas Countries (\$'000)

Country of origin or destination	Imports (a)			Exports		
	1972-73	1973-74	1974-75	1972-73	1973-74	1974-75
Belgium-Luxembourg ..	180	170	255	2 900	1 585	458
Canada	4 341	8 866	7 903	505	1 971	1 221
China, Excl. Taiwan Province	83	75	141	1 789	622	419
China, Taiwan Prov. only ..	507	1 893	1 721	4 248	5 715	3 749
Christmas Island	352	673	605	..	..	..
Denmark	141	298	693	819	1 452	1 018
France	177	235	700	4 848	4 742	2 868
Germany, Dem. Republic of	2	6	76	1 518	36	10
Germany, Federal Republic..	873	1 733	7 657	6 579	4 488	3 658
Gilbert and Ellice Islands ..	49	..	412	..	..	..
Hong Kong	616	929	860	4 313	4 448	4 857
India	39	98	90	6 128	7 518	11 036
Indonesia .. .. .	..	..	..	3 858	7 195	5 710
Iran	874	1 841	2 936	1 701	1 665	2 084
Italy	431	757	1 913	2 854	3 022	1 876
Japan	7 003	12 462	12 931	75 231	104 880	99 549
Korea	16	1 373	51	193	3	128
Malaysia	18	41	56	5 403	4 738	8 115
Nauru	639	1 041	1 011	..	20	..
Netherlands	546	355	2 759	2 683	2 847	1 529
New Zealand	7 732	8 252	10 865	2 033	2 895	3 096
Norway	201	279	1 757	428	276	198
Philippines	2	119	28	1 965	3 714	3 290
Poland.. .. .	11	14	229	2 647	1 711	2 508
Singapore	1 714	926	2 511	2 899	3 267	4 111
South Africa	99	170	317	419	67	251
Sweden	1 502	1 765	4 513	1 482	1 994	1 242
Switzerland	109	160	586	400	52	230
Tanzania	21	..	..	1 491	925	115
Thailand	5	6	22	7 040	7 086	7 249
United Kingdom	6 000	10 237	8 714	23 918	19 514	14 867
U.S.A.	5 986	8 930	14 718	35 434	46 819	33 257
U.S.S.R.	12	14	41	5 472	5 517	2 129
Yemen, People's Dem.	..	..	..	..	..	..
Republic of	189	980	2 820	..	..	..
Yugoslavia	1	3	27	3 549	4 707	1 048
Other countries	4 506	4 522	10 681	3 956	4 203	4 155
'For orders' (b) .. .. .	..	..	..	9	51	9
Unknown	51	41	..	..	..	114
Australia (re-imported) ..	17	13	17	..	..	..
Total	45 045	69 277	100 616	218 712	259 745	226 154

(a) Value of outside packages included: 1972-73, \$407 000; 1973-74, \$562 000; 1974-75, \$886 345.

(b) Country of consignment not determined at the time of export.

The preceding table shows the trade of Tasmania with selected overseas countries; countries selected are those for which imports or exports approached or exceeded \$0.5m in any one of the three years under review, with the exception of countries for which figures are confidential. It should be noted that some goods are received from, or sent to, overseas countries by transshipment through other Australian states; no data are available on such transactions.

Tasmanian and Australian Overseas Trade

The following table compares Australia's total overseas imports and exports with the corresponding values for Tasmania; by using a per capita comparison, certain conclusions can be drawn about the relative importance of Tasmania's overseas exports bearing in mind that Tasmania's figures are understated and Australia's correspondingly inflated in respect of transshipments not recorded as overseas trade for Tasmania.

Value of Overseas Trade: Tasmania and Australia

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
IMPORTS					
Australia—Total .. \$'000	4 150 028	4 008 365	4 120 727	6 085 004	8 083 099
Per head .. \$	327.9	310.8	315.0	458.6	600.1
Tasmania—Total .. \$'000	45 719	39 749	45 045	69 277	100 616
Per head .. \$	117.3	101.3	114.1	173.6	248.0
EXPORTS					
Australia—Total .. \$'000	4 375 757	4 893 368	6 213 704	6 913 746	8 672 762
Per head .. \$	345.7	379.4	474.9	521.1	643.8
Tasmania—Total .. \$'000	143 198	178 950	218 712	259 745	226 154
Per head .. \$	367.5	456.0	553.8	651.0	559.2

The relatively low value of overseas imports per head of Tasmanian population is due largely to the transshipment of goods in other Australian ports. Since some goods go overseas from Tasmania by transshipment and are therefore *not* recorded as Tasmanian overseas exports, the export comparisons *per head* of Australian and Tasmanian populations suggest that the State plays an important role as an earner of export income for Australia.

Interstate Trade by Air

No data are compiled to show state of origin or state of destination for trade by air; most planes carrying commercial freight, to and from Tasmania, take off from or land in Victoria. The following is a summary of Tasmania's air trade for recent years:

Value of Interstate Air Trade
(\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Imports	19 777	20 622	21 238	24 760	26 850
Exports	27 103	29 374	30 626	34 566	31 699
Total	46 880	49 996	51 864	59 327	58 550

Interstate Trade by Sea

As might be expected with Melbourne being the closest major port to Tasmania, the bulk of the island's interstate trade is transacted with Victoria. The next table shows the value of interstate sea trade with other Australian states. Imports include the value of some goods imported into other states from overseas and transhipped to Tasmania; exports include the value of some goods exported to other states for transhipment overseas.

Value of Interstate Sea Trade
(\$'000)

Australian state or territory of origin or destination	Imports			Exports		
	1972-73	1973-74	1974-75	1972-73	1973-74	1974-75
New South Wales	44 133	52 961	59 391	116 849	133 763	128 923
Victoria	207 347	257 220	273 228	176 241	230 357	213 858
Queensland	(a) 14 802	(a) 18 493	(a) 25 962	11 236	13 881	14 870
South Australia	22 179	28 379	42 951	13 757	19 554	18 069
Western Australia	1 401	752	549	2 804	5 803	4 037
Northern Territory	n. p.	n. p.	n. p.	23	1 023	175
Total	289 862	357 805	402 081	320 910	404 382	379 933

(a) Includes the value of manganese ore imported from the Northern Territory. Details are not available for separate publication.

Sea Trade of Tasmanian Ports

In the following table, the total value of interstate and overseas imports and exports by sea is shown for each port:

Total Value of Sea Trade Classified According to Port
(\$'000)

Port	Imports		Exports		Total sea trade	
	1973-74	1974-75	1973-74	1974-75	1973-74	1974-75
Burnie	72 338	88 272	r 159 235	139 252	r 231 573	227 525
Devonport	97 374	100 987	102 539	90 117	199 912	191 105
Hobart	125 863	179 422	228 269	212 245	354 133	391 667
Currie	2 518	3 149	7 801	8 899	10 319	12 047
Launceston	125 173	130 662	136 795	125 982	261 969	256 645
Stanley	3 745	165	r 27 408	28 783	r 31 153	28 947
Lady Barron	71	41	2 078	808	2 150	848
Total	427 082	502 697	664 126	606 086	1 091 208	1 108 784

The decline in the proportion of sea trade attributed to Hobart since 1958-59 is related to the increased use of 'sea-road' facilities available through the ports of Devonport, Launceston and Burnie. The vessels involved in the 'sea-road' service to northern and north-western ports are the *Melbourne Trader* and *Empress of Australia*, while Hobart is served by the *Seaway Prince* and *Seaway Princess*.

The *Princess of Tasmania* inaugurated this type of service between Devonport and Melbourne in October 1959, the *Seaway Queen* began a 'sea-road' service between Hobart and Melbourne in June 1964, and a Hobart-Sydney service was commenced by the *Seaway King* in September 1964. In July 1975, the new *Seaway Prince* replaced the *Seaway Queen* and in February 1976 the *Seaway*

Princess, a sister ship to the *Seaway Prince*, replaced the *Seaway King*. However, in March 1976 the *Seaway Prince* was damaged at sea by fire and the *Seaway King* was brought back into service as a temporary replacement until repairs to the *Seaway Prince* were completed in August 1976.

The *Empress of Australia*, which had provided a regular service since January 1965 with Sydney-Hobart-Sydney as one route and Sydney-Bell Bay-Burnie-Sydney as the other, was withdrawn in April 1972 for re-fitting prior to replacing the *Princess of Tasmania* on the Bass Strait run. The *Empress of Australia* was replaced immediately by the *Australian Trader* which had served northern ports regularly since mid-1969. However, the *Australian Trader*, which had provided overnight accommodation for passengers, was withdrawn from Tasmanian service from August 1976 due to substantial losses being made on this run.

In October 1971 another roll-on roll-off type vessel, the *Mary Holyman*, commenced a regular service between South Australia and Tasmania with Port Adelaide-Hobart as one route and Port Adelaide-Burnie as the other. In January 1973 the *Darwin Trader*, a bulk carrier-container vessel, inaugurated a regular service with Darwin-Launceston as one route and Hobart-Darwin, via Melbourne, Sydney and Brisbane as the other. Another vessel, the new *Bass Trader*, commenced a regular service between Northern Tasmania and Queensland in August 1976. Several other vessels (e.g. *Sydney Trader*, *Brisbane Trader*, *Townsville Trader*) provide, as required, irregular sea-road services between the four main Tasmanian ports and other Australian states.

The *Straitsman* operated on a regular Melbourne-Grassy-Stanley service during May and June 1972 and again from October 1973 until 23 March 1974 when she rolled over and sank in the River Yarra. The Tasmanian Transport Commission then chartered two temporary replacement vessels and also purchased the Finnish vessel *Ra* (later renamed *Rah*) which commenced a regular Melbourne-Grassy-Stanley service in December 1974. This vessel was withdrawn in October 1975 when the *Straitsman*, following a complete refit, recommenced the service.

The next table compares the proportion of total sea trade values attributed to each port (using 1958-59 for comparison):

Total Value of Sea Trade: Port Proportions
(Per Cent)

Port	1958-59	1970-71	1971-72	1972-73	1973-74	1974-75
Burnie	15.3	21.9	21.7	20.8	r 21.2	20.5
Devonport	6.8	16.2	16.5	18.7	18.3	17.2
Hobart	50.8	(a) 32.0	33.6	32.9	32.5	35.3
Currie	0.5	1.7	1.3	0.3	0.9	1.1
Launceston	23.5	24.4	23.4	23.9	24.0	23.1
Stanley	0.6	3.8	3.4	3.2	r 2.9	2.6
Strahan	2.4	(b) ..	..	..	..	..
Lady Barron .. .. .	..	0.1	0.1	0.2	0.2	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes Strahan from 1 October 1970.

(b) July to September 1970 only; on 1 October 1970 the port of Strahan came under the control of the Marine Board of Hobart.

Air Trade of Tasmanian Airports

Although Tasmania has a number of airports, only six are used on a regular basis for interstate trade and of these, two accounted for 87 per cent of total air trade in 1974-75. Launceston's airport accounted for 57 per cent of the total

value of air trade in 1974-75 while Hobart's airport accounted for a further 31 per cent. The following table shows the value of interstate air trade passing through Tasmanian airports:

Total Value of Interstate Air Trade Classified According to Airport
('\$000)

Airport	Imports		Exports		Total air trade	
	1973-74	1974-75	1973-74	1974-75	1973-74	1974-75
Hobart	12 434	13 024	5 387	4 905	17 822	17 929
Launceston	7 439	8 374	27 041	24 893	34 480	33 267
Devonport	1 672	2 033	550	415	2 222	2 448
Wynyard (a)	2 128	2 365	262	294	2 390	2 659
King Island	696	729	1 060	989	1 755	1 718
Flinders Island	391	325	267	203	658	528
Total	24 760	26 850	34 566	31 699	59 327	58 549

(a) Includes Smithton.

Commodities Carried by Air

It will be observed that the value of trade by air is about five per cent of the value of total overseas and interstate trade by sea and air combined. In 1974-75 the total value of air trade to and from Tasmania was \$58.5m compared to the total value of sea and air trade of \$1 167.3m. With regard to exports by air (valued at \$31 699 000 in 1974-75), the major group was 'textiles and yarns' valued at \$28 113 000; exports of all foodstuffs (meat, rock lobster, fruit, etc.) accounted for a further \$2 009 000. For imports there is a much greater range of commodities involved, the chief group being 'clothing and footwear' valued at \$16 615 000.

The annual values of both imports and exports by air have not increased greatly over the past 10 years, which means that the quantities of goods involved have almost certainly declined because of the general increase in prices over the period. A possible explanation is the improvement in sea carriage techniques (roll-on roll-off vessels, container vessels, etc.) and improved shipping schedules.

The following table shows the value of imports to and exports from Tasmania by air for the past 10 years:

Air Trade: Value of Interstate Imports and Exports
('\$000)

Year	Imports	Exports	Year	Imports	Exports
1965-66	21 123	25 575	1970-71	19 777	27 103
1966-67	20 311	25 680	1971-72	20 622	29 374
1967-68	20 590	26 941	1972-73	21 238	30 626
1968-69	21 051	25 825	1973-74	24 760	34 566
1969-70	20 551	26 287	1974-75	26 850	31 699

Imports of Principal Commodities

The next table shows the value of the principal commodities imported into Tasmania by sea and air for a four-year period:

Imports of Principal Commodities by Sea and Air: Values
(£'000)

Commodity	1971-72	1972-73	1973-74	1974-75
Beer, wine and spirits	3 908	4 052	4 400	5 225
Aluminium oxide and hydroxide	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
Clothing and accessories	15 119	16 515	19 704	26 473
Cocoa beans and cocoa butter	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
Confectionery	3 705	3 467	4 082	4 000
Footwear	3 779	3 983	4 408	4 790
Machinery—Electrical	12 668	12 091	14 817	22 886
Other	21 807	24 309	33 296	31 336
Metal manufactures	7 920	7 893	9 134	10 243
Metals	15 683	15 274	20 050	20 552
Motor vehicles—New	35 321	37 428	47 389	65 557
Other (a)	27 938	27 902	28 805	33 823
Ores and concentrates—Zinc	9 341	12 856	20 330	30 886
Other	5 995	3 930	4 434	5 587
Paper and paper manufactures	7 300	7 474	11 215	11 690
Petroleum products—Motor spirit	8 495	9 527	10 653	12 657
Fuel oils	11 605	12 210	12 445	18 402
Other	7 106	7 521	8 263	11 199
Pulp for paper-making	9 190	10 354	12 348	19 042
Rubber manufactures	5 273	5 448	6 574	7 292
Sugar, refined	4 368	4 142	4 909	5 436
Textile yarn and fabrics	14 198	15 799	23 690	20 836
Tobacco and cigarettes	13 246	11 158	13 601	14 730
Wheat	2 780	2 783	5 074	6 588
Other (b)	95 202	100 029	132 222	140 317
Total imports	341 947	356 145	451 843	529 547

(a) Mainly tourist and other motor vehicles imported as personal effects.

(b) Includes value of items marked 'n. p.'.

The table that follows shows the quantities of the principal commodities imported and has been compiled, as far as this is practicable, to match the preceding table of values.

Imports of Principal Commodities by Sea and Air: Quantities

Commodity	Unit of quantity	1971-72	1972-73	1973-74	1974-75
Alcoholic beverages—					
Ale, beer, stout and cider <i>r</i>	'000 ℓ	2 130	2 065	1 692	1 749
Wine <i>r</i>	'000 ℓ	2 422	2 670	2 970	3 236
Spirits and liqueurs—Overseas (b)	'000 ℓ al	34	36	45	41
Interstate <i>r</i>	'000 ℓ	819	836	828	910
Aluminium oxide and hydroxide	kg	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
Cocoa beans and cocoa butter	kg	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
Confectionery	'000 kg	2 855	2 686	2 897	2 556
Iron and steel	t	106 889	100 570	120 378	115 954
Motor vehicles—New	no.	15 958	16 589	19 740	20 902
Other (a)	no.	17 886	16 754	17 200	18 688
Ores and concentrates—Zinc	t	330 428	333 803	274 732	275 433
Other	t	472 851	403 324	212 158	167 792
Petroleum products—					
Motor spirit	'000 ℓ	321 741	365 569	357 525	361 523
Fuel oils	'000 ℓ	595 087	639 537	547 938	478 237
Pulp for paper-making	t	71 883	84 582	83 657	94 578
Sugar, refined	'000 kg	24 518	23 245	26 623	26 664
Tobacco and cigarettes	'000 kg	1 018	823	936	912
Wheat	t	49 978	49 359	76 092	83 006

(a) Mainly tourist and other motor vehicles imported as personal effects.

(b) Overseas imports of spirits and liqueurs are recorded in 'litres alcohol'.

Imports from Principal Overseas Countries

The next table shows the value of imports, by commodities, from principal overseas countries. As can be seen from the table, Japan replaced the United Kingdom as Tasmania's principal source of imports in 1972-73 and the United States of America replaced Japan in 1974-75. In 1974-75 the value of imports from the United States (\$14.7m) accounted for nearly 15 per cent of the total value of imports from overseas countries (\$100.6m), while Japan accounted for 13 per cent, New Zealand 11 per cent, the United Kingdom 9 per cent and Canada 8 per cent.

Value of Imports from Principal Overseas Countries
(\$'000)

Commodity	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
UNITED STATES OF AMERICA						
Chemicals	685	167	199	333	556	1 090
Clays	341	210	395	422	396	1 023
Coke of coal	54	278	63	45	87	315
Commercial vehicles	134	322	1	37	550	1 287
Machinery	2 792	1 886	895	2 362	2 329	4 182
Petroleum coke	748	1 680	1 666	1 073	946	2 535
Woodpulp	971	1 839	957	1 070	2 094	2 463
Other	911	887	479	644	1 972	1 823
Total	6 636	7 269	4 655	5 986	8 930	14 718
JAPAN						
Chemicals	402	1 420	856	558	879	1 368
Commercial vehicles	263	231	381	809	775	1 392
Machinery	667	1 008	908	1 172	2 266	2 916
Passenger motor vehicles	483	653	719	1 081	2 141	3 129
Textiles	1 794	1 121	1 569	2 566	3 579	1 902
Motor cycles	91	166	160	242	500	853
Other (a)	1 609	820	456	575	2 322	1 371
Total	5 309	5 419	5 049	7 003	12 462	12 931
NEW ZEALAND						
Chemicals	38	155	144	200	357	383
Machinery	96	115	189	99	253	428
Paper and paper board	330	403	395	273	1 765	1 883
Textiles	372	791	1 170	2 548	1 464	554
Woodpulp	2 306	3 260	3 324	4 055	3 801	6 561
Other	359	384	579	557	612	1 056
Total	3 501	5 108	5 801	7 732	8 252	10 865
UNITED KINGDOM						
Chemicals	307	456	633	687	725	735
Food, beverages and tobacco	288	207	178	178	149	441
Machinery	6 098	2 051	2 400	1 406	4 004	2 561
Metal manufactures	283	451	632	503	521	646
Printed matter	287	251	284	288	275	547
Textiles	1 380	1 148	924	1 192	1 763	1 394
Tyres and tubes	151	247	212	187	196	463
Other	1 769	1 287	1 615	1 559	2 604	1 927
Total	10 563	6 098	6 878	6 000	10 237	8 714

Value of Imports from Principal Overseas Countries—continued
(\\$'000)

Commodity	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
CANADA						
Potato flakes						324
Woodpulp	2 832	3 293	3 276	3 666	4 729	5 599
Zinc concentrates					3 029	1 181
Other	1 402	1 508	502	675	1 108	799
Total	4 234	4 801	3 778	4 341	8 866	7 903

(a) Includes value of items not available for separate publication.

Exports of Principal Commodities

The following table shows the value of principal commodities exported (inter-state and overseas) from Tasmania by sea and air:

Exports of Principal Commodities by Sea and Air: Values
(\\$'000)

Commodity	1972-73	1973-74	1974-75
Butter (including butter oil)	6 104	6 441	4 460
Cheese	4 085	5 930	7 922
Fertilisers, manufactured	2 697	1 852	1 899
Fish, crustaceans and molluscs	4 336	7 206	6 333
Fruit—Apples (fresh)	10 846	15 419	9 885
Juices and syrups	1 504	1 316	1 198
Other	3 209	3 976	3 138
Hides and skins (cattle, calf, horse and sheep)	5 364	5 211	3 892
Hops	2 802	819	1 996
Live animals	4 336	10 284	2 209
Machinery	5 524	5 056	3 581
Meat—Beef and veal	15 237	18 818	9 183
Lamb and mutton	2 548	1 942	1 650
Other	2 583	1 747	1 602
Metal manufactures	6 162	9 503	7 632
Metals, refined—Cadmium	2 180	2 500	1 985
Zinc	63 707	77 143	74 298
Motor cars and commercial vehicles (a)	28 537	28 997	32 524
Ores and concentrates—Copper	24 108	35 170	20 088
Iron	27 994	25 352	28 882
Lead	7 471	11 303	11 634
Tin	21 455	17 967	23 583
Tungsten	6 515	4 589	7 053
Sulphuric acid	8 657	6 958	6 947
Tallow	1 316	2 049	1 293
Textile yarn, fabrics and made-up articles	31 680	41 174	31 454
Timber—Dressed	7 481	7 753	8 303
Undressed	13 341	18 403	14 387
Vegetables, fresh and preserved	16 518	20 296	19 297
Woodchips	16 833	31 019	35 212
Wool, greasy	34 579	38 319	26 640
Commodities not available for publication (b)	168 707	216 681	198 716
All other exports	11 831	17 499	28 910
Total	570 247	698 692	637 786

(a) Mainly tourist and other motor vehicles exported as personal effects.

(b) Commodities comprising this item are: aluminium, alumina, beadings and mouldings, paper, hard-board, cement, ferro-manganese, silicon-manganese, confectionery, cocoa and chocolate, food beverages, paper pulp, metal scrap, calcium carbide, titanium oxides, plywood, welding rods and electrodes, particle board and asbestos-cement articles.

The next table shows the quantities of the principal commodities exported and has been compiled, as far as possible, to match the preceding table of values:

Exports of Principal Commodities by Sea and Air: Quantities

Commodity (a)	Unit of quantity	1972-73	1973-74	1974-75
Butter (including butter oil)	'000 kg	7 437	8 269	5 012
Cheese	'000 kg	6 656	7 730	10 386
Fertilisers, manufactured	t	34 293	31 752	23 682
Fish—Abalone	'000 kg	700	1 018	1 104
Rock lobster	'000 kg	847	1 423	1 020
Other	'000 kg	909	1 549	1 054
Fruit—Apples (fresh)	'000 kg	79 781	87 141	55 735
Juices and syrups	'000 l	2 231	1 726	1 832
Other	'000 kg	12 670	12 275	9 851
Hides and skins (cattle, calf and sheep) ..	'000 kg	7 074	7 183	7 014
Hops	'000 kg	1 470	478	1 408
Live animals—Cattle	no.	33 899	53 461	16 376
Sheep	no.	125 529	146 894	116 876
Meat—Beef and veal	'000 kg	14 472	17 197	12 935
Lamb and mutton	'000 kg	4 893	2 534	3 376
Pork	'000 kg	2 202	1 330	1 019
Other	'000 kg	1 494	1 106	1 127
Metals, refined—Cadmium	'000 kg	476	485	323
Zinc	t	208 349	190 293	139 253
Motor cars and commercial vehicles (b) ..	no.	17 006	17 314	17 956
Ores and concentrates—Copper	t	99 440	115 693	81 690
Iron	'000 t	2 536	2 341	2 061
Lead	t	47 404	45 311	41 974
Tin	t	15 331	11 031	13 146
Tungsten	t	2 381	1 614	2 261
Timber—Dressed	m ³	60 547	60 117	60 985
Undressed	m ³	164 281	210 131	152 443
Vegetables—Fresh	'000 kg	12 926	23 571	17 035
Preserved	'000 kg	45 393	49 478	46 743
Woodchips	'000 t	1 156	2 138	2 031
Wool, greasy	'000 kg	17 735	16 963	15 947

(a) Principal commodities not available for publication comprise: aluminium, alumina, hardboard, cement, ferro-manganese, silicon-manganese, confectionery, cocoa and chocolate, food beverages, paper-pulp, metal scrap, calcium carbide, titanium oxides, plywood, welding rods and electrodes, particle board and asbestos-cement articles.

(b) Mainly tourist and other motor vehicles exported as personal effects.

Export of Selected Commodities

The following table shows, in summary form, total exports of some important commodities for selected years since 1939-40:

Exports of Selected Commodities by Sea and Air

Commodity	Unit of quantity	1939-40	1949-50	1959-60	1969-70	1974-75
QUANTITY						
Apples and pears, fresh	'000 kg	74 373	56 911	80 683	109 384	57 473
Butter (including butter oil)	'000 kg	2 816	2 179	7 864	12 611	5 012
Hops	'000 kg	719	802	1 340	1 368	1 408
Meat, fresh, chilled or frozen	'000 kg	2 534	957	9 225	17 048	18 357
Ores and concentrates	'000 t	137	6	28	2 175	2 200
Timber, dressed and undressed	'000 m ³	120	148	178	207	213
Woodchips	'000 t	.. .. .	.. .. .	.. .. .	.. .. .	2 031
Wool, greasy	'000 kg	5 110	5 228	12 690	16 513	15 947
Zinc, refined	t	72 047	81 998	115 680	163 847	139 253

Exports of Selected Commodities by Sea and Air—continued

Commodity	1939-40	1949-50	1959-60	1969-70	1974-75
VALUE (\$'000)					
Apples and pears, fresh	2 270	4 348	9 490	14 905	10 261
Butter (including butter oil)	742	1 277	5 390	6 950	4 460
Meat, fresh, chilled or frozen	310	312	3 801	11 774	12 236
Ores and concentrates—Copper .. ..	..	2	40	8 369	20 088
Iron .. ..	..	..	..	25 286	28 882
Lead	595	386	2 956	7 358	11 634
Tin	688	723	1 507	16 207	23 583
Textile yarn and fabrics	2 674	5 540	17 524	27 784	31 454
Timber, dressed and undressed	1 238	2 930	8 952	16 238	22 690
Woodchips .. ..	..	..	..	..	35 212
Wool, greasy	1 376	6 202	15 254	17 821	26 640
Zinc, refined	2 856	9 964	22 922	42 625	74 298

Exports to Principal Overseas Countries

Details for commodities exported to principal overseas countries are given in the next table:

Exports to Principal Overseas Countries

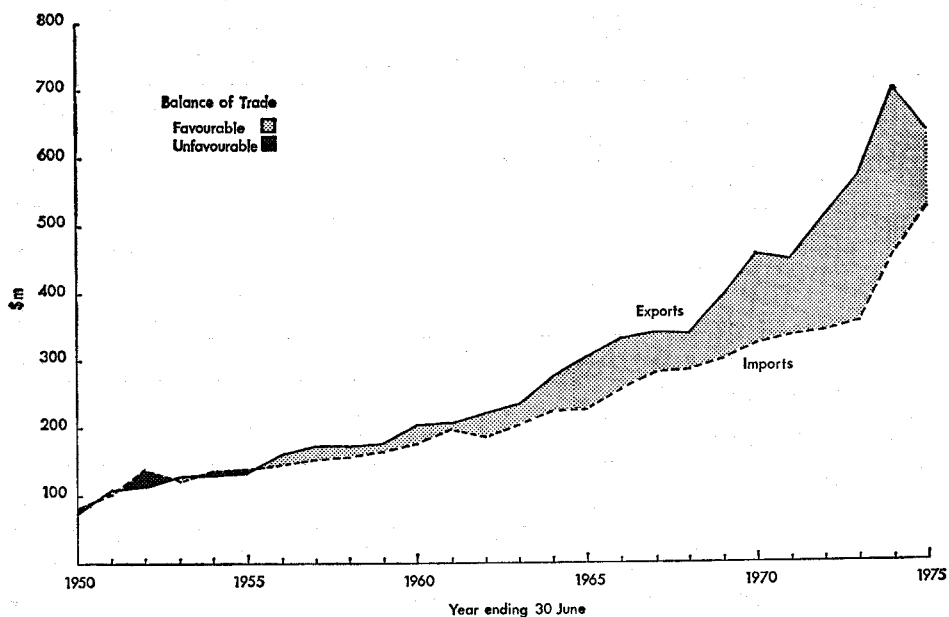
Commodity	Unit of quantity	Quantity			Value (\$'000)		
		1972-73	1973-74	1974-75	1972-73	1973-74	1974-75
JAPAN							
Abalone	'000 kg	246	513	606	604	1 133	1 241
Cheese	'000 kg	1 870	2 154	5 098	1 092	1 518	4 194
Copper ores and concentrates	t	71 409	91 517	60 787	15 793	31 030	14 280
Hides and skins (cattle and calf) ..	'000 kg	1 040	1 106	1 064	773	693	491
Iron ores and concentrates	'000 t	2 532	2 334	2 051	27 950	25 268	28 783
Meat and bone meal	t	3 955	3 121	1 962	529	606	191
Meat, fresh, chilled or frozen	'000 kg	4 172	3 662	1 823	3 510	4 281	1 206
Milk, dried	'000 kg	..	1 747	270	..	649	142
Pulpwood	t	..	27 706	37 484	..	521	967
Woodchips	'000 t	1 156	2 138	2 031	16 833	31 018	35 212
Wool, greasy	'000 kg	3 415	2 023	2 043	5 987	4 894	3 428
Other (a) .. ..	..	..	..	..	2 161	3 267	9 414
Total .. ..	..	..	..	..	75 231	104 880	99 549
UNITED STATES OF AMERICA							
Butter	'000 kg	..	1 113	..	..	763	..
Cadmium, refined	'000 kg	62	42	19	298	224	112
Casein	t	1 071	1 144	25	785	833	20
Cheese	'000 kg	1 415	3 542	640	956	3 149	543
Lead ores and concentrates	t	39 300	40 137	31 372	6 642	11 078	10 954
Meat, fresh, chilled or frozen	'000 kg	8 530	9 917	9 267	9 526	11 430	6 370
Rock lobster	'000 kg	71	127	107	418	812	798
Wheat gluten	'000 kg	1 251	1 015	645	536	473	362
Zinc, refined	t	40 255	22 209	19 537	13 998	10 935	11 631
Other (a) .. ..	..	..	..	..	2 276	7 122	2 467
Total .. ..	..	..	..	..	35 434	46 819	33 257

Exports to Principal Overseas Countries—*continued*

Commodity	Unit of quantity	Quantity			Value (\$'000)		
		1972-73	1973-74	1974-75	1972-73	1973-74	1974-75
UNITED KINGDOM							
Apples, fresh	'000 kg	27 407	33 151	15 846	3 498	6 128	2 648
Butter	'000 kg	4 678	..	..	3 959	..	..
Fruit juices	'000 £	240	479	946	189	347	680
Meat, fresh, chilled or frozen ..	'000 kg	4 541	2 684	1 755	3 201	2 164	872
Pears, fresh	'000 kg	2 440	2 577	596	361	553	108
Timber	m ³	1 096	1 135	551	152	206	116
Tin ores and concentrates	t	4 210	927	2 742	1 815	554	2 628
Wheat gluten	'000 kg	..	541	1 030	..	336	632
Wool, greasy	'000 kg	1 052	648	685	1 943	1 229	901
Zinc, refined	t	33 432	20 015	15 675	7 740	7 024	5 545
Other (a) .. .. .	..	..	..	..	1 060	972	737
Total .. .. .	..	..	..	..	23 918	19 514	14 867
INDIA							
Zinc, refined	t	18 453	19 009	18 253	5 693	7 193	11 014
Other (a) .. .. .	..	..	..	..	435	325	22
Total .. .. .	..	..	..	..	6 128	7 518	11 036

(a) Includes item(s) for which details are not available for separate publication.

Balance of Trade Since 1949-50



RETAIL TRADE IN TASMANIA

Censuses of Retail Establishments

Historical

Before the Integrated Economic Censuses of 1968-69, retail censuses were undertaken for the years ended 30 June 1948, 1949, 1953, 1957 and 1962. The information collected in each census was extensive and provided details of retail trading in local government areas, in statistical divisions, and in special 'statistical retail areas'. The census information was also used as a bench-mark for designing a sample, representative of all retail establishments, for the purpose of inter-censal quarterly surveys which are the basis for calculating estimates of the quarterly value of retail sales.

In 1968-69 simultaneous economic censuses for five sectors were undertaken: retailing; manufacturing; mining; wholesaling; and electricity and gas. Results of these censuses appear in the section 'Integrated Economic Censuses' in Chapter 18; definitions of concepts and terms appear in Appendix B, 'Economic Censuses'.

Retail Census—1973-74

A retail census was conducted covering trading in 1973-74 but there were no data items collected for purchases, stocks or capital expenditure (as there had been in the 1968-69 census); also certain types of establishment were now excluded: bread and milk vendors; footwear repairers; motion picture theatres; and laundries and dry cleaners. The aim of the census was to provide an up-to-date framework for the quarterly retail surveys; therefore the types of establishment included and the financial data collected were limited to serve this rather narrow purpose. The following table gives results for Tasmania of the 1973-74 retail census. Direct comparisons with the results of previous censuses cannot be made because of changes in the scope of the census.

Census of Retail and Selected Service Establishments, 1973-74
Summary of Operations by Industry Group

Industry group	ASIC code (a)	Establishments operating at 30 June	Persons employed (b)			Wages and salaries \$m
			Males	Females	Persons	
		no.	no.	no.	no.	
Department, variety and general stores	481	80	677	2 089	2 766	8.8
Food stores	482	1 441	2 660	3 454	6 114	10.7
Clothing, fabric and furniture stores	484	529	935	1 768	2 703	7.7
Household appliances and hardware stores	485	291	819	535	1 354	4.1
Motor vehicle, petrol and tyre retailers	486	955	4 663	1 020	5 683	17.4
Other retailers	487	571	754	1 400	2 154	4.6
Total retail establishments	..	3 867	10 508	10 266	20 774	53.2
Restaurants and licensed hotels	921	417	2 315	3 422	5 737	15.8
Licensed clubs	922	163	501	172	673	1.9
Hairdressing and beauty salons	932	256	127	646	773	1.4
Total selected service establishments	..	836	2 943	4 240	7 183	19.1
Grand total .. .. .	..	4 703	13 451	14 506	27 957	72.3

(a) Australian Standard Industrial Classification.

(b) At last pay day in June; includes working proprietors and unpaid helpers working at least 15 hours during the week.

Census of Retail and Selected Service Establishments, 1973-74
Summary of Operations by Industry Group—continued

Industry group	Retail sales (c)	Wholesale sales (c)	Other operating revenue (c)	Turnover
	\$m	\$m	\$m	\$m
Department, variety and general stores ..	56.7	0.9	1.7	59.3
Food stores	137.5	0.7	0.9	139.2
Clothing, fabric and furniture stores ..	64.5	0.1	0.6	65.1
Household appliances and hardware stores ..	29.7	0.4	3.0	33.1
Motor vehicle, petrol and tyre retailers ..	160.1	9.5	21.7	191.4
Other retailers	36.1	0.6	0.4	37.1
Total retail establishments ..	484.6	12.3	28.3	525.2
Restaurants and licensed hotels	41.9	..	25.0	66.9
Licensed clubs	7.7	..	1.3	9.0
Hairdressing and beauty salons	0.1	..	3.3	3.5
Total selected service establishments	49.7	..	29.6	79.3
Grand total	534.3	12.3	57.9	604.5

(c) Components of turnover in the last column.

In the next table, details are given of establishments, persons employed and value of retail sales by statistical divisions:

Number of Retail and Selected Service Establishments, Persons Employed and Value of Retail Sales by Statistical Division, 1973-74

Statistical division or sub-division	Retail and selected service establishments	Persons employed (a)	Value of retail sales (b)
	no.	no.	\$'000
Hobart	1 741	12 527	237 003
Southern	326	1 099	16 058
Northern—			
Tamar	1 198	6 991	139 779
North Eastern	226	819	10 420
Total	1 424	7 810	150 199
Mersey-Lyell—			
North-Western	1 074	5 812	120 140
Western	138	709	10 900
Total	1 212	6 521	131 040
Total Tasmania	4 703	27 957	534 306
Urban Hobart	1 527	11 663	221 225
Urban Launceston	892	5 900	121 388

(a) At last pay day in June; includes working proprietors and unpaid helpers working at least 15 hours during the week.

(b) These figures refer to the total value of all commodities sold retail by all retail establishments and similar sales by selected service establishments.

Sales by Commodity: Classifications by industry or by region of the sales of commodities shown in the next table are available from the Bureau.

Number of Retail and Selected Service Establishments Reporting Retail Sales, and Value of Sales by Commodity Item, 1973-74

Commodity item	Establishments	Retail sales	Proportion of total sales
	no.	\$'000	per cent
Groceries	1,169	63 775	11.94
Fresh meat	384	26 154	4.90
Confectionery, ice cream, soft drinks, etc. ..	1 512	14 570	2.73
Other food (a)	1 007	21 255	3.98
Beer, wine and spirits	492	47 823	8.95
Cigarettes and other tobacco products ..	1 794	15 874	2.97
Clothing and drapery	621	65 754	12.31
Footwear	295	10 338	1.94
Domestic hardware (b)	489	14 397	2.69
Radios, television sets, musical instruments, etc. (c)	224	10 965	2.05
Household electrical appliances (d)	186	13 531	2.53
Furniture (e)	125	11 477	2.15
Floor coverings (f)	120	9 931	1.86
Cosmetics, perfumes, toilet preparations ..	479	9 629	1.80
Prescription and patent medicines (g) ..	247	10 532	1.97
Newspapers, books and stationery	516	13 116	2.46
Goods not elsewhere classified (h)	720	15 419	2.89
New motor vehicles, new and used motor cycles, etc. (i)	142	61 445	11.50
Used motor vehicles	172	48 802	9.13
New and used parts and accessories, petrol, oil, etc.	723	49 523	9.27
Total .. .. .	..	534 306	100.00

(a) Includes fresh fruit and vegetables, bread, cakes and pastry, fish (fresh or cooked), chips, hamburgers and cooked chicken.

(b) Includes china, glassware, jewellery, watches and clocks and garden equipment but excludes basic building materials, builders' hardware and supplies such as tools of trade, paint, etc.

(c) Includes radiograms, tape recorders, records, sheet music, etc.

(d) Includes domestic refrigerators and freezers, washing machines, stoves, household heating appliances, bottled liquid petroleum gas, etc.

(e) Includes mattresses, blinds, etc. and installation and repairs.

(f) Includes carpets, lino, etc. and laying of floor coverings.

(g) Includes therapeutic appliances.

(h) Includes photographic equipment and supplies, sporting goods, bicycles, toys, antiques, disposal and secondhand goods, cut flowers, garden seeds, shrubs, travel goods and brief cases, etc.

(i) Includes new and used boats and caravans.

Quarterly Estimates of Value of Retail Sales

Each quarter, returns of retail sales are collected from a fraction (or sample) of all retail businesses recorded in the most recent census of retail establishments, the fraction being selected to represent the field covered by the census. This sample is varied annually to make provision for 'new' establishments opening up, 'old' establishments closing down and 'old' establishments changing type ('old', in this context, relates to business as recorded at the most recent census of retail establishments).

Retail Sales of Goods, Tasmania

The following table sets out details of estimated value of retail sales, by commodity groups, during 1974 and 1975 for Tasmania.

Retail sales relate principally to sales to the final consumer of new and used goods for personal and household purposes and the survey is intended primarily as an indicator of such sales.

Estimated Value of Retail Sales of Goods by Commodity Groups (a)

Commodity group	1974		1975	
	Value	Proportion of total	Value	Proportion of total
	\$m	%	\$m	%
Groceries	71.9	16.4	84.3	16.1
Butchers' meat	31.9	7.3	31.9	6.1
Other food	43.3	9.9	50.7	9.7
Beer, wine and spirits	56.1	12.8	68.9	13.2
Clothing and drapery	80.0	18.2	95.5	18.3
Footwear	11.3	2.6	13.7	2.6
Domestic hardware, china and glass-ware	14.4	3.3	17.8	3.4
Electrical goods	28.7	6.5	41.0	7.8
Furniture	24.6	5.6	27.6	5.3
Chemists' goods	21.2	4.8	26.2	5.0
Newspapers, books, stationery, etc.	15.2	3.5	16.3	3.1
Other goods (b)	40.2	9.2	49.0	9.4
Total (b)	438.8	100.0	522.9	100.0

(a) Based on sample from the 1968-69 Integrated Census.

(b) Excluding motor vehicles, parts, petrol, etc.

Retail Sales of Goods, Australia

The following table gives details of the estimated value of retail sales of goods for recent years and quarters for Australia at current (actual prices paid) and constant (average 1968-69) prices. The constant prices series is derived from the original series by using specially constructed price indexes for various commodity groups in order to eliminate the direct effects of price changes (for further details see the Canberra office publication 'Retail Sales of Goods' (ref. 11.4) for the December quarter 1975).

Estimated Value of Retail Sales of Goods: Australia (a)
(\$ million)

Year or quarter	Food and drink		Other (b)		Total (b)	
	Current prices (c)	Constant prices (d)	Current prices (c)	Constant prices (d)	Current prices (c)	Constant prices (d)
1968-69 (census results) ..	4 074.8	4 074.8	4 247.4	4 247.4	8 322.3	8 322.3
1972-73 r	5 609.3	4 765.4	6 274.2	5 245.3	11 883.5	10 010.7
1973-74 r	6 592.0	4 907.9	7 690.1	5 841.4	14 282.1	10 749.3
1974-75 r	7 605.9	5 023.0	9 213.1	6 016.3	16 819.0	11 039.3
1974-75—						
September r	1 796.3	1 213.9	2 090.4	1 434.1	3 886.7	2 648.0
December r	1 970.0	1 315.7	2 595.8	1 709.6	4 565.8	3 025.3
March r	1 898.1	1 247.6	2 074.2	1 336.6	3 972.3	2 584.2
June	1 941.5	1 245.8	2 452.7	1 536.0	4 394.2	2 781.8
1975-76—						
September	2 019.7	1 245.9	2 471.1	1 510.1	4 490.8	2 756.0
December	2 346.0	1 370.4	3 084.6	1 805.0	5 430.6	3 175.4

(a) Excludes Northern Territory and Australian Capital Territory.

(b) Excludes motor vehicles, parts, petrol, etc.

(c) Original prices.

(d) Average 1968-69 prices—see text preceding table.

Household Expenditure

The section 'Household Expenditure Survey' in Chapter 18 includes details relating to household expenditure in Hobart (dissected by type of payment and weekly household income group) for 1974-75.

WHOLESALE TRADE**Introduction**

Censuses and surveys of retail trade were introduced by the Bureau in the late 1940's; a continuous quarterly series shows retail sales for the last 25 years or so in terms of broad commodity groups. Developments in this field occupied all the resources available and the problem of creating a matching wholesale series had to be deferred. However, a pilot census was conducted covering wholesale trading in 1963-64, the aim being to identify the various categories of wholesalers and to discover the various types of operation.

The results of the pilot census were not published but they served to show the definitional framework necessary for a full-scale census, and to highlight differences between retail and wholesale operations (e.g. the greater relative importance in the wholesale sector of sales on commission).

The decision was taken to defer any full-scale wholesale census until 1968-69 when simultaneous censuses were being held in other sectors of the economy, the more relevant being those covering manufacturing and retailing. The link between wholesaling and these two sectors is easily apparent; manufacturers often market through wholesalers, and the wholesalers in turn are suppliers of goods to retailers. The inclusion of all three sectors in three simultaneous censuses meant that there were no overlaps or gaps in coverage.

Census of Wholesale Establishments, 1968-69

For definitions of terms, concepts, etc., see Appendix B, 'Economic Censuses'.

Types of Wholesale Operations

(i) *Primary Produce Dealers or Agents*: Establishments mainly purchasing produce direct from farmers, graziers, fishermen, etc. or selling produce on commission to such producers; included are all establishments of the country 'stock and station agent' type.

(ii) *Wholesale Merchants*: Establishments mainly selling goods owned by the enterprise and not bought direct from primary producers. A further dissection separates out 'import and/or export merchants' as a special sub-set.

(iii) *Manufacturers' Sales Branches Holding Stocks*: Establishments mainly selling goods manufactured by other establishments of the same enterprise *provided*: (a) the sales branch is separately located from all manufacturing establishment locations; and (b) it supplies goods direct to customers from stocks physically held at premises occupied or controlled by the branch itself.

(iv) *Commission Agents or Brokers*: Establishments mainly selling or purchasing goods on commission for other enterprises (except those selling on behalf of primary producers, included in (i) previously; and on behalf of oil companies, included in (v) following).

(v) *Petroleum Distributors*: Establishments mainly dealing in petroleum products, either on account of the enterprise or on commission for other enterprises.

(vi) *Repairers and Lessors of Machinery and Equipment*: Establishments mainly repairing farm machinery or business machines, or leasing machinery or equipment without operators for periods exceeding one year. These activities are included in wholesale trade because they are usually performed by establishments whose main activity is the wholesale distribution of machinery. Other repair activity which is usually performed by manufacturing establishments is included in the manufacturing census.

Results of the 1968-69 Census

The tables that follow show some of the main items recorded in the 1968-69 census of wholesale establishments.

Census of Wholesale Establishments, 1968-69
Summary of Operations by Broad Type of Operation

Type of operation	Establishments operating at 30 June	Persons employed (a)			Wages and salaries	Sales on commission (b)
		Males	Females	Total		
	no.	no.	no.	no.	\$m	\$m
Primary produce dealers or agents	87	1 279	356	1 635	4.7	53.1
Wholesale merchants—						
Import and/or export	57	330	127	457	1.2	1.6
Other	500	3 982	1 080	5 062	13.3	5.4
Manufacturers' sales branches	98	560	160	720	2.2	12.1
Commission agents or brokers	102	224	146	370	0.5	21.9
Petroleum distributors	56	392	71	463	1.5	54.9
Repairers and lessors of machinery and equipment	20	59	9	68	0.2	..
Total wholesale trade	920	6 826	1 949	8 775	23.6	149.1

Census of Wholesale Establishments, 1968-69
Summary of Operations by Broad Type of Operation—continued

Type of operation	Turnover	Stocks at 30 June		Purchases, transfers in and other selected expenses	Value added
		1968	1969		
	\$m	\$m	\$m	\$m	\$m
Primary produce dealers or agents	45.4	6.1	6.1	35.1	10.3
Wholesale merchants—					
Import and/or export	24.5	3.3	3.2	21.3	3.2
Other	178.9	25.0	27.7	148.9	32.8
Manufacturers' sales branches	31.9	3.0	3.2	25.6	6.5
Commission agents or brokers	3.5	0.2	0.2	2.1	1.5
Petroleum distributors	23.3	1.4	1.9	17.5	6.4
Repairers and lessors of machinery and equipment	1.0	..	0.1	0.4	0.6
Total wholesale trade	308.6	39.1	42.4	250.7	61.2

(a) At last pay period in June; includes working proprietors and unpaid helpers working at least 15 hours during the week.

(b) The *commission* from these sales is included in the calculation of 'value added' (since commission received is a component of 'turnover') *but the sales themselves are excluded* from the calculation.

A peculiarity of wholesale trading is that there are two types of sales: (i) those made on own account; and (ii) those made on commission. While 'turnover' includes value of sales on own account it includes only the commission received in respect of sales on commission. The next table shows a broad geographical distribution of the main wholesale census items:

Census of Wholesale Establishments, 1968-69: Main Items by Statistical Division

Statistical division or sub-division	Establishments operating at 30 June	Total persons employed (a)	Wages and salaries	Sales on commission (b)	Sales on own account and transfers out	Value added
	no.	no.	\$m	\$m	\$m	\$m
Hobart	395	4 008	11.1	64.9	144.7	29.1
Southern	44	241	0.4	1.2	4.2	0.8
Northern—						
Tamar	283	2 674	7.1	47.0	76.6	16.4
North Eastern	32	83	0.2	0.2	2.9	0.5
Total	315	2 757	7.3	47.2	79.5	16.9
Mersey-Lyell—						
North Western	161	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
Western	5	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
Total	166	1 769	4.9	35.8	58.3	14.4
Tasmania	920	8 775	23.6	149.1	286.7	61.2
Urban Hobart	384	3 921	10.9	63.1	144.0	28.7
Urban Launceston	251	2 578	6.9	35.1	74.5	15.7

(a) At last pay period in June; includes working proprietors and unpaid helpers working at least 15 hours during the week.

(b) The *commission* from these sales is included in the calculation of 'value added' (since commission received is a component of 'turnover') but the sales themselves are excluded from the calculation.

Chapter 11

TRANSPORT AND COMMUNICATION

PORT AUTHORITIES

Introduction

Tasmania has a number of ports capable of accommodating overseas vessels; they are sited on the Derwent and Huon Rivers in the South (Hobart and Port Huon); in Spring Bay on the east coast; on the Tamar in the north (Inspection Head, Long Reach and Bell Bay); on the Mersey (Devonport), in Emu Bay (Burnie) and at Port Latta, all in the north-west. All these ports provide depths of approximately 9 metres or more of water at berths; Port Latta provides a depth of 16 metres nearly one and a half kilometres off-shore.

Interstate and intrastate trade passes through the main ports and operates as well through ports at Strahan, Stanley, Ulverstone, Currie (on King Island) and Lady Barron (on Flinders Island).

This section deals primarily with the authorities which control the harbours but a brief description is given of the main ports.

Port of Hobart

Location

The approach to the Derwent and the Port of Hobart is made through a very wide strait between Cape Queen Elizabeth (Bruny Island) and Cape Raoul (Tasman Peninsula), approximately 50 kilometres south-east from the city. The mouth of the Derwent, five and a half kilometres wide, lies 19 kilometres south-east of the port which is built upstream on the western bank in a U-shaped cove; the opposite bank lies two and a half kilometres away to the east. The shores of the Derwent and the arms of the cove act as natural breakwaters.

Description

The present main port of Hobart is extremely compact, being U-shaped with only 610 metres or less separating the southern and northern arms. The southern arm is devoted to Princes Wharf with berths numbered one to four; the centre contains Elizabeth Street Pier and Kings Pier while the northern arm is made up of the Macquarie Wharf complex. Most wharves and sheds in the main port are of concrete and steel construction. The Elizabeth Street Pier was converted for use as a passenger terminal in early 1975 following the collapse of the Tasman Bridge. A tanker berth, formerly sited at Macquarie Point, was decommissioned in 1971 and the whole area was redeveloped to provide additional berths (Macquarie Wharves five and six). Within a week of its completion in early November 1975, the Macquarie No. 6 shed was gutted by a fire which extensively damaged the \$450 000 construction. The 'Seaway' class vessels use the new Macquarie berths.

Princes No. 1 and No. 4 berths are specialised terminals with a drive-on ramp and vehicle marshalling areas. The berths accommodate the 'Trader' class coastal vessels and the roll-on roll-off vessel *Mary Holyman* which operates on the Hobart-Adelaide service.

The most striking feature of the Port of Hobart is the ease with which large vessels can be brought to berth. Tides present no problem, the maximum rise and fall being 1.37 metres (average approximately 0.61 metres), and dredging of approach channels has never been necessary.

Subsidiary Ports

In addition to the main port in the heart of the city, there are a number of subsidiary outlets serving the south of the State. Port Huon wharf, located on the west bank of the Huon River near Geeveston, is in the centre of the principal orcharding area and used mainly for fruit exports. Also based on the Huon River (at Hospital Bay) is the A.P.M. Ltd private wharf (for export of paper pulp). At the port of Spring Bay, near Triabunna on the east coast, accommodation has been provided for bulk carriers loading woodchips for Japan. In the Derwent itself, four kilometres upstream from the main port, is a tanker berth at Sels Point where bulk petrol and oil are stored; tankers pass under the 47 metre high navigation span of the Tasman Bridge on their way to Sels Point.

The Sels Point area is being developed as a petroleum products storage area and has replaced the Macquarie Wharf facilities as Hobart's petroleum installation. One and a half kilometres upstream from Sels Point is the Electrolytic Zinc Company Ltd private wharf at Risdon. At Boyer, located nearly 32 kilometres upstream from the main port, is the Australian Newsprint Mills Ltd plant. Newsprint is ferried to the main port by barge.

Administration

The Marine Board of Hobart is the authority controlling the main ports of Hobart, Port Huon and the Port of Spring Bay. When the Marine Board of Strahan ceased to function on 30 September 1970, Parliament extended the responsibilities of the Marine Board of Hobart to cover the control and operation of the Port of Strahan. The Board's jurisdiction covers the west, south and east coasts of Tasmania between the parallel of $41\frac{1}{2}^{\circ}$ south latitude and Cape Portland.

Works Program

The 1975-76 works program included: (i) The continued construction and completion of the Macquarie Wharf No. 6 Berth for roll-on roll-off interstate vessels which included the construction of ramp and shed facilities and marshalling area. (ii) The demolition of the Macquarie No. 4 Berth and the commencement of construction of the new replacement No. 4 Berth. This included reclamation and the commencement of pile driving and deck structure. The berth is scheduled for completion in December 1977. It will be a common-user facility with capacity to handle the heaviest containers in service. (iii) The reconstruction and extensions to the George Bay Wharf at St Helens.

Port of Launceston

Location

The port of Launceston is situated on the River Tamar, which originates at the confluence of the North and South Esk Rivers at the City of Launceston and flows 60 kilometres to Bass Strait where deep water and broad expanses of river

provide a valuable natural harbour. In this area, encompassing Bell Bay, Inspection Head and Long Reach, are located the major activities of the Port of Launceston. A tidal range of between three and 3.6 metres creates strong tidal currents, which by natural scour eliminate the need for any maintenance dredging in the lower reaches of the river.

Because extensive areas of deep water frontage are available, the development of the port is decentralised with the main operations located as follows:

- (i) *Bell Bay*: Wharves include two tanker berths, a general cargo and bulk berth, a passenger berth, roll-on roll-off facilities and a special bulk berth serving Comalco Aluminium Ltd. One roll-on roll-off berth serves Australian National Line vessels and a common-user roll-on roll-off berth is also available. The Bell Bay site is on the eastern shore, some 13 kilometres upstream from the mouth of the Tamar. The Bell Bay and Long Reach areas have been linked to the railway system.
- (ii) *Long Reach*: Port facilities have been developed upstream from Bell Bay, the main function being export of woodchips from adjacent plants.
- (iii) *Inspection Head*: Overseas berths on the western bank, opposite Bell Bay, for shipment of fruit, frozen meat and general cargo. Large cool storage and freezer facilities are provided as well as bulk storage and special loading facilities for tallow.
- (iv) *Kings Wharf, Launceston*: Berths for inter and intrastate trade; facilities also include a graving dock and fitting-out berths for small ship docking and repair.

Description

All berths and facilities now in service in the port have been constructed since about 1950 and are, therefore, of modern standard.

Channel and lighting improvements in the lower reaches have been carried out over recent years, permitting vessels drawing up to 10.67 metres to work the river for 16 kilometres from Bass Strait to the site of the new woodchip berths in Long Reach. The channel improvement works have been designed to provide for the rapidly growing industrial complex at Bell Bay which is creating an ever increasing demand for large bulk carriers.

Administration

The port is administered by the Port of Launceston Authority whose jurisdiction covers the full length of the River Tamar, together with the northern coastline westward to Badger Head and eastward to Cape Portland.

Port of Devonport

Location

The Port of Devonport is situated on the Mersey River within two kilometres of the coast. The entrance 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 as a major port by extensive dredging and engineering works has resulted in a secure harbour for large ships.

Description

The main harbour is formed around two turning basins each 259 metres in diameter with wharves on both banks providing 1 067 lineal metres of berthage.

The western bank contains four overseas and interstate berths and one specialised cattle jetty. These berths are provided with storage sheds, oil pipelines, wheat silos, bulk cement silos, as well as one of the largest and most modern cold storage facilities in the State. Provision has also been made for the handling of bulk commodities and heavy lifts while all berths are connected to the railway network.

Two terminals for roll-on roll-off and container cargo are located on the eastern bank; one is leased to the Australian National Line and the other is a common-user facility. Both are equipped with stern loading ramps and cranes for lift-on lift-off cargo. Extensive vehicle marshalling and cargo assembly areas are provided, with land available for expansion. Approximately 115 000 passengers pass through the No. 1 Terminal each year. In July 1972 the *Empress of Australia* replaced the *Princess of Tasmania* on the passenger run to and from Melbourne. The A.N.L. vessels *Melbourne Trader*, *Sydney Trader*, *Brisbane Trader*, and *Townsville Trader* maintain a regular cargo service from both terminals.

A 30-tonne portal travelling crane at No. 2 Berth is capable of handling all types of cargo units. For the speedy handling of bulk cargoes a 14-tonne grab and 40-tonne capacity hopper are available as auxiliaries to the crane. A 30-tonne portainer crane was expected to commence operations at No. 1 Berth east in 1976. Further extensions of port facilities will depend on proposed expansion by major industries in the area.

Port of Burnie

Location

The ports of Hobart, Launceston and Devonport all lie within the shelter of rivers but the Port of Burnie, on Emu Bay, was built out into the open sea in the lee of Blackmans Point. Protection from the potentially rough seas 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 is virtually fog-free. It is in operation 24 hours every day, and vessels can be at full speed 20 minutes after departure. All wharves are connected to the State railway system.

Description

The shelter necessary for all-weather use of the port is provided by a 380-metre breakwater anchored to Blackmans Point, and running out to sea with a south-east orientation. The wharves are thus protected by the point and by the breakwater from swells coming in from the west or north, the two quarters from which heavy seas are feared. Ocean Wharf is constructed immediately in the lee of the breakwater, the two structures appearing as one, and other berths are provided by piers parallel to the breakwater but lying further south.

An island breakwater sited north-east from the end of Ocean Wharf and consisting of concrete caissons 488 metres long, is orientated south-east and is calculated to give ample protection for up to 610 metres of berthage south of existing piers. An interesting feature is the use of the lee of the island breakwater for a tanker berth for both petroleum and sulphuric acid, the fuel being pumped to the land along a submarine pipe, and the sulphuric acid pumped to the berth over a bridge spanning the gap between the two breakwaters.

A modern passenger and roll-on roll-off cargo terminal handles 600 000 tonnes of general cargo shipped annually by Australian National Line vessels servicing Melbourne, Sydney and Queensland ports. The terminal is equipped with a 40-tonne portal crane. A further roll-on roll-off terminal handles general cargo for the Adelaide service. Burnie has six other berths in regular use. East Ocean Wharf, North McGaw Pier and North Jones Pier (old) are conventional berths used for general cargo, paper pulp and drummed tallow, and for handling LASH

barges. South McGaw Pier is used primarily for inward bulk cargoes such as ilmenite and clay and is equipped with one 12-tonne and one 14-tonne crane. New Jones Pier North is a bulk cargo berth, capable of handling vessels of up to 240 metres in length and 9.8 metres draft. It is transversed by a conveyor loader, owned by the Emu Bay Railway Company Ltd, with a loading rate of 1 270 tonnes per hour. It loads zinc, lead and copper concentrates from the West Coast mines, and calcines from the Wivenhoe Acid Plant. New Jones Pier South is the port's major general cargo berth, used by quarter ramp Ro-Ro vessels, LASH vessels of up to 250 metres length and 9.4 metres draft, and cellular container vessels. It has two large transit sheds, incorporating a cool store. Adjacent to this berth is a container compound with a nominal capacity of 200 standard 'T.E.' units, of which 96 may be reefer. There is additional storage area close by for a further 100 units, and also a bulk tallow installation servicing both North and South berths.

Circular Head (Port Latta)

A deep-water offshore terminal, capable of accommodating bulk ore carriers, has been constructed at Port Latta for the export of iron ore pellets to Japan. The loading facility consists of a 1.2 metre wide conveyor belt which carries pellets to two swivel loaders located 1.6 kilometres offshore. Vessels moor in 15.8 metres of water to take on pellets, the system having a discharge capacity of about 3 050 tonnes per hour.

Constitution of Port Authorities

Election of Wardens

The present system of choosing port authority wardens is summarised in the following table:

Port Authorities: Election of Wardens

Authority	Number of wardens	System of election of wardens
Hobart Marine Board	9	Special electorate of ship-owners, importers and exporters
Port of Launceston Authority	5	Electors of Launceston, Beaconsfield and George Town as for local government elections
Burnie Marine Board	8	} Municipal electors within proclaimed areas
Devonport Marine Board	11	
Circular Head Marine Board	5	
King Island Marine Board	5	
Flinders Island Marine Board	3	Municipal electors

Boards of Hobart and Launceston

The *Marine Boards Act* 1889 created a special electorate for the Hobart and Launceston boards, the nine wardens for each to be elected by ship-owners, importers and exporters. The respective collectors of customs were required annually to compile rolls of these users of the ports and the number of votes each elector could exercise was proportional to his financial interest; for example, an exporter of goods valued from \$400 to \$3 999 had one vote, \$4 000 to \$9 999 two votes, and over \$10 000, three votes. Importers received similar voting powers in proportion to the wharfage paid while ship-owners' votes were proportional to tonnage of their vessels. It was further provided that three wardens should retire annually and the master warden be elected by board members. By an amending Act in 1895, the voting powers of importers were divorced from wharfage paid, and placed on the same basis as those exercised by exporters.

The special electorate just described continues to elect the wardens of the Hobart Marine Board; the scale of values affecting the number of votes to be exercised by importers and exporters also remains unchanged. However, in the case of

the marine board for Launceston, the system of the special electorate was abolished in 1902. All Launceston citizens on the rolls for the House of Assembly became eligible to cast single votes, a right extended in 1910 to citizens in the other municipalities bordering the Tamar. In 1916, with the adoption of the Hunter scheme for improvements affecting the whole length of the River, changes were made to increase the number of wardens by representatives from the bordering municipalities. The *Marine Act* 1921 reduced the number of wardens to five, restricted eligibility for standing as warden to citizens of Launceston and changed the voting qualifications so that marine board electors had to be those qualified to vote at an election of aldermen for the City of Launceston. More recently, electors in Beaconsfield and George Town have again been given voting rights.

Navigation and Survey Authority of Tasmania

The Authority was constituted in 1963 to implement sections of the *Marine Act* 1921 relating to the safety of life and property at sea. Member marine boards contribute equally to the costs of running the Authority; the income is derived from survey and service fees.

Finances of Port Authorities

Port Authorities
Receipts and Expenditure: All Funds, 1974-75
(\$'000)

Particulars	Authority							Total
	Hobart	Launceston	Devonport	Burnie	Circular Head	King Island	Flinders Island	
REVENUE FUNDS								
Receipts—								
Wharfage charges ..	1 254	1 353	1 261	1 445	43	70	29	5 455
Other service charges	918	2 493	589	512	57	8	3	4 580
Plant hire	702	573	104	298	..	9	..	1 686
Government grants ..	5	12	..	..	52	..	18	87
Other (a)	183	188	129	121	2	3	1	627
Total	3 062	4 619	2 083	2 376	155	90	51	12 435
Payments (b)—								
Administration ..	492	548	207	382	12	22	1	1 664
Debt charges—								
Interest	307	614	463	725	67	6	12	2 194
Redemption and sinking fund contributions ..	477	398	305	295	31	6	3	1 515
Works and services	1 175	2 302	789	660	32	36	37	5 031
Other	432	353	43	55	8	15	4	910
Total	2 883	4 215	1 807	2 117	150	85	56	11 314
LOAN FUNDS								
Receipts, loan raisings, etc.	2 014	594	500	16	90	..	..	3 215
Payments (c)	2 921	610	773	321	60	7	1	4 693

(a) Includes interest receipts, sundry licences, fines and discounts received.

(b) Excludes amounts applied from reserves for capital purposes.

(c) Includes amounts applied from reserves for capital purposes.

The preceding table gives details of revenue and expenditure for each port authority in 1974-75.

The principal sources of revenue of the port authorities are shipping tonnage rates and import and export wharfage rates; other sources are charges for pilotage services and the hiring of equipment. Expenditure is summarised under the heading 'works and services' which includes the provision of ordinary port services (e.g. pilotage, tug assistance, etc.), the maintenance of the port (e.g. dredging, etc.) and the improvement of the port (e.g. new wharves, new berths, etc.). To raise the additional funds required to finance port improvements, the authorities borrow money subject to State Treasury approval, the Treasury acting on behalf of the Australian Loan Council.

The next table summarises the transactions of all port authorities for the years 1970-71 to 1974-75:

Port Authorities
Receipts and Expenditure: Summary
(\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
REVENUE FUNDS					
Receipts—					
Wharfage charges	3 660	3 881	4 419	4 830	5 455
Other service charges	1 880	2 098	2 380	2 602	4 580
Plant hire	1 085	1 268	1 481	1 562	1 686
Government grants	30	57	107	48	87
Other (a)	477	449	620	1 117	627
Total	7 133	7 752	9 007	10 159	12 435
Payments (b)—					
Administration	803	861	911	1 146	1 664
Debt charges—					
Interest	1 564	1 738	2 021	1 961	2 194
Redemption and sinking fund contributions	971	1 106	1 202	1 401	1 515
Works and services	2 618	2 928	2 761	3 785	5 031
Other	411	562	472	1 017	910
Total	6 366	7 194	7 367	9 310	11 314
LOAN FUNDS					
Receipts—					
Loan raisings	4 471	4 590	3 455	3 021	2 930
Other .. .. .	..	7	2	46	285
Total	4 471	4 597	3 457	3 067	3 215
Payments (c)	5 042	5 261	4 805	3 150	4 693

(a) Includes interest receipts, sundry licences, fines and discounts received.

(b) Excludes amounts applied from reserves for capital purposes.

(c) Includes amounts applied from reserves for capital purposes.

The following table gives the loan debts of port authorities at the end of each financial year for recent years:

Port Authorities
Loan Debt of Principal Authorities at End of Year
(\$'000)

Authority	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Hobart	3 394	4 378	5 885	6 627	8 399	9 721
Launceston	5 200	6 504	7 441	9 196	9 219	9 412
Devonport	6 404	6 921	7 118	7 160	7 374	7 589
Burnie	11 554	12 462	12 950	12 722	12 377	12 083
Other	912	792	1 254	1 268	1 287	(a) 1 328
Total	27 464	31 057	34 648	36 973	38 656	40 133

(a) Comprised: Circular Head, \$1 046 000; Flinders Island, \$184 000; King Island, \$98 000.

The next table shows a summary of annual borrowings, aggregate debt and the provision for loan redemption.

Port Authorities
Loan Raisings, Loan Debt and Provisions for Redemption
(\$'000)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Loan raisings during year (a)	3 910	4 471	4 590	3 455	3 061	2 930
Loan debt at 30 June ..	27 464	31 057	34 648	36 973	38 656	40 133
Provisions for loan redemption at 30 June (b) ..	743	874	999	1 151	1 315	1 507

(a) No loans were raised from the State Government during the period covered by the table.

(b) Balance of sinking funds and loan redemption provision accounts at end of year.

SHIPPING AT TASMANIAN PORTS

System of Record

The shipping statistics contained in this section were compiled on a new basis from 1 July 1966 and are not fully comparable with statistics published for previous periods. Prior to this date, shipping statistics were compiled from details assembled and supplied by the Department of Customs and Excise and by State port authorities. Since 1966-67 Tasmanian shipping statistics have been compiled from details submitted by shipping companies or their representatives, through the Department of Customs and Excise, for each arrival and each departure of a vessel. Not all vessels which arrived at, and departed from, ports in Tasmania are included in the new series of shipping statistics; the following are now excluded:

- (i) naval vessels;
- (ii) yachts and other craft used for pleasure;
- (iii) foreign fishing vessels that neither load nor discharge cargo;
- (iv) Australian-registered fishing vessels operating from Tasmanian ports;
- (v) geographical, seismic and oceanographic survey vessels;

- (vi) offshore oil drilling rigs and vessels servicing them; and
- (vii) vessels of 200 registered net tons and under.

Movements of Vessels

The inward and outward movements of vessels using Tasmanian ports were classified according to type of voyage and not according to the type of vessel. Each movement of a vessel was allocated to one of the following:

- (i) overseas direct;
- (ii) overseas via other state;
- (iii) interstate direct;
- (iv) overseas via port in Tasmania;
- (v) interstate via port in Tasmania; and
- (vi) intrastate.

Addition of the first three classifications (overseas and interstate movements) gives an unduplicated total for Tasmania. The inclusion of the other three classifications (intrastate or coastal movements) must be taken into account to reflect the volume of shipping arriving at, or departing from, individual ports in Tasmania.

However, in 1969-70, it was decided that classification by type of voyage was unsatisfactory in two particular categories, namely:

- (ii) overseas via other state; and
- (iii) interstate direct.

While vessels confining their operations to Australian waters could never be associated with category (ii), it was nevertheless possible for vessels engaged in overseas voyages to undertake movements classified under category (iii). For example, a ship bound for the U.K. could be sailing Sydney-Hobart-Melbourne-London. The arrival in Hobart, under the pre-1969-70 classification, could be called 'interstate direct' as would the arrival in Melbourne.

For 1969-70 and following years, the classification has been varied so that categories (ii) and (iii) are based on the type of vessel, not on the type of movement. Thus, in terms of the previous example, the U.K.-bound ship's arrival both in Hobart and Melbourne would be classified 'overseas via other state', and not 'interstate direct'.

Tonnage of Vessels

Statistics of vessels are compiled in terms of registered net tonnage. This is an international unit of measurement of a vessel's carrying capacity. (There is no recognised equivalent of net tonnage in the metric system.) Net tonnage is expressed in units of 100 cubic feet (i.e. 100 cubic feet equals 1 ton) and it represents the volume of enclosed space which can be utilised for cargo or passengers.

Overseas and Interstate Shipping

Definitions

The classification 'overseas' in the following table is now much more meaningful since, from 1969-70, the category 'interstate direct' is not used to describe movements of ships engaged in overseas travel voyaging from one Australian state to another; the category now used is 'overseas via other state'. The details are also restricted to entries classified as overseas and interstate movements and in each case the figures are lower than those shown in a later table which includes intrastate movements.

Transport and Communication

Vessels Entered Ports in Tasmania (a), 1974-75

Port of entry	Overseas				Interstate direct		Total vessels entered	
	Direct		Via other state		No.	Net tons ('000)	No.	Net tons ('000)
	No.	Net tons ('000)	No.	Net tons ('000)				
Hobart	71	644	91	488	285	606	447	1 738
Burnie	8	49	48	422	213	589	269	1 060
Currie .. ..	..	..	24	13	14	5	38	18
Devonport	10	28	15	58	366	996	391	1 081
Lady Barron .. ..	..	..	..	..	11	3	11	3
Launceston	61	1 243	54	217	268	726	383	2 186
Stanley	40	705	28	26	4	3	72	733
Total	190	2 669	260	1 224	1 161	2 928	1 611	6 820

(a) Excludes intrastate shipping.

The next table gives a ten-year summary:

Shipping: Overseas and Interstate (a), Summary
Vessels Entered Ports in Tasmania

Year	Overseas				Interstate direct		Total vessels entered	
	Direct		Via other state		No.	Net tons ('000)	No.	Net tons ('000)
	No.	Net tons ('000)	No.	Net tons ('000)				
1965-66	123	331	264	1 092	1 258	2 464	1 645	3 887
1966-67 (b)	87	321	160	715	1 437	3 049	1 684	4 085
1967-68	67	252	146	635	1 463	3 215	1 676	4 102
1968-69	81	580	134	672	1 580	3 393	1 795	4 645
1969-70 (b)	113	996	462	2 035	1 184	2 543	1 759	5 574
1970-71	110	952	297	1 467	1 232	2 920	1 639	5 338
1971-72	117	1 209	267	1 443	1 370	3 285	1 754	5 937
1972-73	172	2 156	308	1 531	1 308	3 552	1 788	7 239
1973-74	173	2 703	238	1 435	1 220	3 085	1 631	7 223
1974-75	190	2 669	260	1 224	1 161	2 928	1 611	6 820

(a) Excludes intrastate shipping.

(b) Not fully comparable with previous years; see beginning of this section for explanations.

Comparability

In the previous table, breaker bars are inserted to show the break in comparability between 1968-69 and 1969-70. However, there is no break in comparability affecting the columns under 'total vessels entered'. The effect of the definitional change is simply to transfer certain movements of overseas vessels from 'interstate direct' to the category 'overseas via other state'.

The following table has been compiled to show the country of registration of vessels entering all ports in Tasmania. The number of vessels and net tonnage figures shown in this table cannot be added to arrive at a State total as some vessels may have called at two or more ports within the State during the same voyage and are therefore subject to double, triple, etc., counting.

Country of Registration of Vessels Entered Tasmanian Ports: Overseas, Interstate and Intrastate

Country of registration	Vessels entered Tasmanian ports					
	1972-73		1973-74		1974-75	
	Number	Net tons	Number	Net tons	Number	Net tons
Australia	1 472	4 023 306	1 307	3 477 540	1 264	3 291 093
Bahama Islands	2	814	5	2 035	..	..
Belgium-Luxembourg	1	29 500	..	..	2	5 304
Bermuda	1	6 121	..	..	..	..
China—Taiwan Prov. only	1	5 641	..	..	..	..
Cyprus	6	27 584	1	4 983	..	..
Denmark	35	90 521	15	84 712	11	63 267
Germany, F.R.	21	109 047	9	28 248	11	33 855
Greece.. .. .	21	177 150	20	335 067	19	211 169
Hong Kong	14	37 063	6	12 804	..	..
India	12	53 235	13	58 669	8	36 705
Indonesia	9	23 001	6	14 645	2	4 882
Israel	5	24 127	4	14 121	1	3 103
Italy	4	36 125	6	74 161	8	59 128
Japan	69	1 098 983	57	1 128 711	58	1 001 883
Korea, Republic of .. .. .	..	..	1	6 169	1	7 257
Liberia	39	635 981	57	872 117	49	734 963
Morocco .. .. .	..	..	..	..	1	6 077
Nauru .. .. .	..	..	8	73 947	4	39 484
Netherlands	26	150 412	32	160 668	54	176 976
New Zealand	22	46 031	21	41 698	14	27 661
Norway	43	212 791	15	142 258	19	139 391
Panama	17	75 863	15	288 622	27	493 598
Papua New Guinea	1	556	1	1 737	..	..
Philippines	3	4 941	1	1 647	..	..
Poland.. .. .	25	99 867	11	43 186	9	39 182
Singapore	16	108 419	18	40 755	22	61 466
South Africa	1	5 652	..	..	..	..
Spain	1	2 443	..	..	1	11 348
Sweden	24	140 395	22	120 823	9	53 662
Tonga .. .. .	..	..	..	..	9	4 380
United Kingdom	227	781 383	186	702 196	261	736 854
United States of America	15	122 258	20	374 120	26	470 678
U.S.S.R.	7	20 669	5	27 682	15	48 473
Yugoslavia	9	46 568	4	19 200	3	12 972

The next table shows the number and net tonnage of vessels which entered individual Tasmanian ports during 1974-75. The names of ports in this table refer to the cities or towns in which the controlling port authorities are located:

- (i) 'Hobart' includes Port Huon, Port of Spring Bay and Strahan;
- (ii) 'Launceston' includes Bell Bay, Long Reach and Inspection Head;
- (iii) 'Devonport' includes Ulverstone;
- (iv) 'Stanley' includes Port Latta;
- (v) 'Currie' includes Naracoopa and Grassy; and
- (vi) 'Lady Barron' includes Whitemark.

A State total of number of vessels entered and their net tonnage cannot be obtained from the next table by adding the port totals since vessels falling within the categories 'overseas via other Tasmanian port', 'interstate via other Tasmanian port' and 'intrastate' will be counted at each port of entry as a 'vessel entered'.

**Shipping: Overseas, Interstate and Intrastate
Vessels Entered Tasmanian Ports, 1974-75**

Port (a) of entry and type of service (b)		Vessels entered					
		With cargo		In ballast		Total	
		No.	Net tons	No.	Net tons	No.	Net tons
Hobart—	Overseas direct	35	188 321	36	455 359	71	643 680
	Overseas via other state	84	455 332	7	33 093	91	488 425
	Overseas via other Tasmanian port	17	164 126	3	15 549	20	179 675
	Interstate direct	253	560 810	32	45 347	285	606 157
	Interstate via other Tasmanian port	17	25 668	..	..	17	25 668
	Intrastate	38	52 635	2	1 706	40	54 341
	Total Hobart	444	1 446 892	80	551 054	524	1 997 946
Burnie—	Overseas direct	6	38 743	2	10 356	8	49 099
	Overseas via other state	44	416 367	4	5 895	48	422 262
	Overseas via other Tasmanian port	17	118 228	..	..	17	118 228
	Interstate direct	159	488 355	54	100 669	213	589 024
	Interstate via other Tasmanian port	40	179 747	..	..	40	179 747
	Intrastate	6	14 693	12	24 694	18	39 387
	Total Burnie	272	1 256 133	72	141 614	344	1 397 747
Currie—	Overseas via other state	22	12 918	2	285	24	13 203
	Overseas via other Tasmanian port	18	10 274	1	661	19	10 935
	Interstate direct	9	3 508	5	1 470	14	4 978
	Intrastate	18	18 331	3	882	21	19 213
	Total Currie	67	45 031	11	3 298	78	48 329
Devonport—	Overseas direct	2	7 053	8	21 116	10	28 169
	Overseas via other state	12	54 259	3	3 338	15	57 597
	Overseas via other Tasmanian port	6	31 378	..	..	6	31 378
	Interstate direct	313	929 163	53	66 409	366	995 572
	Interstate via other Tasmanian port	12	121 334	..	..	12	121 334
	Intrastate	13	12 763	..	..	13	12 763
	Total Devonport	358	1 155 950	64	90 863	422	1 246 813
Lady Barron—	Interstate direct	10	2 940	1	294	11	3 234
	Interstate via other Tasmanian port	1	294	..	..	1	294
	Intrastate	12	3 528	8	2 352	20	5 880
Total Lady Barron	23	6 762	9	2 646	32	9 408	
Launceston—	Overseas direct	16	96 783	45	1 146 387	61	1 243 170
	Overseas via other state	51	197 985	3	18 595	54	216 580
	Overseas via other Tasmanian port	10	51 472	2	4 121	12	55 593
	Interstate direct	264	718 729	4	7 047	268	725 776
	Interstate via other Tasmanian port	15	62 745	..	..	15	62 745
	Intrastate	3	9 765	..	..	3	9 765
	Total Launceston	359	1 137 479	54	1 176 150	413	2 313 629

**Shipping: Overseas, Interstate and Intrastate
Vessels Entered Tasmanian Ports, 1974-75—continued**

Port (a) of entry and type of service (b)		Vessels entered					
		With cargo		In ballast		Total	
		No.	Net tons	No.	Net tons	No.	Net tons
Stanley—	Overseas direct	9	70 329	31	634 177	40	704 506
	Overseas via other state ..	28	25 534	..	..	28	25 534
	Overseas via other Tasmanian port	18	24 374	..	..	18	24 374
	Interstate direct	4	2 900	..	..	4	2 900
	Interstate via other Tasmanian port	4	2 900	..	..	4	2 900
	Intrastate	1	725	..	..	1	725
	Total Stanley	64	126 762	31	634 177	95	760 939

(a) See introduction to this table.

(b) Type of service ('overseas direct', etc.) is defined under 'Movements of Vessels' at the beginning of this section.

The following table shows, in summary form, the number and net tonnage of vessels which entered Tasmanian ports during the last three years:

**Shipping: Overseas, Interstate and Intrastate
Vessels Entered Tasmanian Ports**

Port (a) of entry	1972-73		1973-74		1974-75	
	Number	Net tons	Number	Net tons	Number	Net tons
Hobart	612	2 116 689	556	2 108 833	524	1 997 946
Burnie	430	1 401 499	359	1 315 168	344	1 397 747
Currie	70	49 967	18	24 100	78	48 329
Devonport	487	1 727 768	448	1 299 116	422	1 246 813
Lady Barron	30	12 875	19	5 604	32	9 408
Launceston	464	1 984 933	420	2 496 163	413	2 313 629
Stanley	56	902 716	46	903 537	95	760 939

(a) See explanation in introduction to previous table.

**Cargo Discharged and Shipped (a)
Individual Tasmanian Ports, 1974-75**

Port	Overseas		Interstate		Total	
	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres
DISCHARGED						
Hobart	217 103	24 136	648 854	222 655	865 957	246 791
Burnie	100 910	218	247 722	346 580	348 632	346 798
Currie .. ..	..	..	4 039	8 139	4 039	8 139
Devonport	9 706	..	178 361	704 584	188 067	704 584
Lady Barron .. ..	..	..	1 248	93	1 248	93
Launceston	95 213	9 513	584 646	284 625	679 859	294 138
Stanley	60 712	..	1 323	25 395	62 035	25 395
Total	483 644	33 867	1 666 193	1 592 071	2 149 837	1 625 938

Transport and Communication

Cargo Discharged and Shipped (a)
Individual Tasmanian Ports, 1974-75—continued

Port	Overseas		Interstate		Total	
	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres
SHIPPED						
Hobart	724 734	69 691	419 818	162 552	1 144 552	232 243
Burnie	144 063	1 687	392 399	173 990	536 462	175 677
Currie .. .. .	.. .. .	.. .. .	9 785	10 145	9 785	10 145
Devonport	17 448	6 277	109 162	754 936	126 610	761 213
Lady Barron .. .. .	.. .. .	.. .. .	305	3 229	305	3 229
Launceston	1 388 862	9 868	190 715	263 022	1 579 577	272 890
Stanley	2 034 048	.. .. .	125	18 259	2 034 173	18 259
Total	4 309 155	87 523	1 122 309	1 386 133	5 431 464	1 473 656

(a) Cargo statistics are compiled in units of weight or volume depending on the units in which the details were originally reported. It is therefore *not* possible to provide statistics for total cargo using a single unit of measurement.

In the previous table, details are given of the cargo handled at each port in Tasmania. The classifications 'overseas' and 'interstate' relate either to the origin or destination of the cargo.

Cargo handled at ports is recorded in terms of units of weight or units of volume depending on the basis on which freight is charged. In these statistics separate details are shown in tonnes for cargo that was recorded in units of weight and in cubic metres for cargo that was recorded in units of volume.

The following table gives a summary of overseas and interstate cargo discharged and shipped at Tasmanian ports:

Cargo Discharged and Shipped, All Tasmanian Ports (a)

Year	Overseas		Interstate		Total	
	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres
DISCHARGED						
1965-66	341 087	39 580	1 114 755	802 922	1 455 842	842 502
1966-67 (b)	378 729	46 301	1 507 095	948 843	1 885 824	995 144
1967-68	264 914	46 736	1 607 425	1 034 153	1 872 339	1 080 889
1968-69	246 826	53 225	1 752 557	1 088 925	1 999 383	1 142 150
1969-70	327 242	51 102	1 682 528	1 240 547	2 009 770	1 291 649
1970-71	414 304	29 664	1 702 148	1 228 912	2 116 452	1 258 576
1971-72	375 197	17 852	1 825 406	1 350 451	2 200 603	1 368 303
1972-73	516 891	18 883	1 684 286	1 438 171	2 201 177	1 457 054
1973-74	508 988	13 690	1 574 158	1 520 697	2 083 146	1 534 387
1974-75	483 644	33 867	1 666 193	1 592 071	2 149 837	1 625 938

Cargo Discharged and Shipped, All Tasmanian Ports (a)—continued

Year	Overseas		Interstate		Total	
	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres
SHIPPED						
1965-66	206 075	244 971	647 178	600 418	853 253	845 389
1966-67 (b)	223 702	208 792	629 498	758 517	853 200	967 309
1967-68	277 379	282 402	696 318	855 309	973 697	1 137 711
1968-69	1 618 480	264 051	817 726	913 968	2 436 206	1 178 019
1969-70	2 585 794	104 238	935 089	907 559	3 520 883	1 011 797
1970-71	2 577 912	84 002	991 636	985 409	3 569 548	1 069 411
1971-72	2 919 672	184 107	1 188 696	1 134 175	4 108 368	1 318 282
1972-73	4 417 232	37 232	1 237 236	1 181 601	5 654 468	1 218 833
1973-74	4 891 948	67 779	1 283 131	1 316 286	6 175 079	1 384 065
1974-75	4 309 155	87 523	1 122 309	1 386 133	5 431 464	1 473 656

(a) Statistics for total cargo using a single unit of measurement are not available.

(b) From 1966-67 not comparable with previous years; see beginning of this section for explanation.

TRANSPORT COMMISSION

Origin of Commission

The State railways operated at a considerable loss during the period following World War I and this difficulty was accentuated by the increasing use of commercial road transport. The 1938 report of the Commonwealth Grants Commission contained the following comment: 'A large State may conceivably stand the cost of duplicated transport, but it is obvious that Tasmania cannot. We believe that the Tasmanian Government appreciates this position and that it can only be met by initiative and decision.' At the time of this report, railways were controlled by a Minister; motor vehicle registration and licensing of drivers were Police Department functions; and public vehicle licensing was administered by a Transport Committee appointed by the Government.

Following an inquiry, Parliament passed the *Transport Act 1938* establishing a new authority headed by a Commissioner and two Associate Commissioners. In December 1972 the Act was amended and the number of Associate Commissioners that might be appointed was increased to three. The Associate Commissioners' areas of responsibility were: (i) management and operation of railways; (ii) public transport operations and administration and control of road traffic; and (iii) management and operation of shipping services. This Act and subsequent amending legislation had the effect of creating an administrative authority unique in Australia because the management and control of all public transport, with minor exceptions, became the responsibility of one central authority. The government omnibus services in Hobart, Launceston and Burnie and the privately-owned Emu Bay Railway were the exceptions.

Functions of the Commission

The functions of the Commission are as follows:

- (i) the regulation and licensing of commercial road transport (i.e. of 'public vehicles');
- (ii) the registration and taxation of motor vehicles and the licensing of drivers;

- (iii) the control and operation of the Bruny Island ferry service and the Flinders Island and King Island shipping services;
- (iv) the administration of regulations under the *Traffic Act* concerning road traffic control;
- (v) the administration and control of State aerodromes;
- (vi) traffic engineering associated with the control of traffic; and
- (vii) control and operation of an engineering plant (known as the 'precision tool annexe').

In brief, the Transport Commission emerges as a *business undertaking*, an *administrative body* and a *taxing authority*.

Control of Commission

The Commission, by section 6 (2) of the Act, is absolutely free from political control except that the Minister for Transport may, under section 33, appeal to the Governor if dissatisfied with decisions of the Commission. Section 34 allows the Governor, as a form of assistance to industry in certain cases, to direct the Commission to reduce freight charges but, to the extent that such direction causes a revenue loss, the Treasurer is obliged to reimburse the Commission; the formula for reimbursement requires either acceptance of the Commission's original charges as the economic cost of the service or substitution of the Auditor-General's calculation of the economic cost, should the level of the Commission's original charges be considered uneconomic by the Auditor-General.

Commission's Financial Operations

The revenue of the Commission comes from three main sources: (i) own business undertakings—shipping services and an engineering plant ('precision tool annexe'); (ii) public vehicle licensing fees; and (iii) grants from Consolidated Revenue.

The financial transactions of the Commission are summarised in the tables that follow. For simplicity of presentation, the transactions are arranged in two sets of accounts, firstly Trading and Profit and Loss and secondly Taxation, Licensing, etc. It should be noted that the net loss in the trading and profit and loss account for any year becomes a charge on Consolidated Revenue in the following year; also that the proceeds from motor taxation, registration, licensing, etc. are passed to Consolidated Revenue, the Commission being reimbursed the cost of collecting such revenues and the costs and expenses incurred in connection with the control of, and the provision of, facilities for motor traffic. A distinction is drawn, however, between public vehicle fees and public vehicle licensing; the latter charges are taken into the profit and loss account as an offset against net trading loss.

Transport Commission: Trading and Profit and Loss Account
(\$'000)

Particulars	1971-72	1972-73	1973-74	1974-75
REVENUE				
Railways (a)	6 326	7 373	7 896	8 698
Marine services	314	573	1 335	1 579
Tool annexe	340	347	360	554
Public vehicle licensing (by transfer)	80	82	88	95
Other revenue	121	145	152	200
Net loss (b)	6 340	7 796	12 129	18 187
Total	13 522	16 315	21 960	29 313

Transport Commission: Trading and Profit and Loss Account—continued
(\$'000)

Particulars	1971-72	1972-73	1973-74	1974-75
EXPENDITURE (c)				
Railways (a)	10 587	12 360	15 820	20 405
Marine services	464	767	2 159	3 755
Tool annexe	345	336	390	533
General, including administration..	463	563	691	933
Interest	1 663	2 290	2 900	3 687
Total	13 522	16 315	21 960	29 313
Percentage increase ..	20.7	20.7	34.6	33.5

- (a) State railway system controlled by Transport Commission up to 1 July 1975.
- (b) To be charged against Consolidated Revenue in following year.
- (c) Provisions for depreciation included in each item.

The remaining transactions can be summarised as follows (road safety accounts are excluded):

Transport Commission: Motor Taxation Collection, Licensing, etc.
(\$'000)

Particulars	1971-72	1972-73	1973-74	1974-75
REVENUE				
Motor tax	5 323	5 539	5 941	6 379
Public vehicle licensing, fees, etc...	448	445	459	450
Registration, licences, etc. ..	1 631	1 913	2 234	2 346
Refunds of stamp duty	-1	-1	-1	-3
Stamp duty on vehicle registrations	441	514	613	1 873
Transfers from Consolidated Revenue—				
Road transport administration	685	795	990	1 170
Traffic engineering section ..	415	475	529	595
Minister for Transport	25	27	33	38
Total	8 967	9 707	10 799	12 848
EXPENDITURE				
Profit and loss account (transfers)(a)	80	82	88	95
Paid to Consolidated Revenue ..	7 789	8 328	9 159	10 952
Administration, traffic control, etc.	1 086	1 280	1 542	1 803
Total	8 955	9 690	10 789	12 850

- (a) Receipts from public vehicle licensing paid into profit and loss account.

Of the total taxes and charges levied on motorists and paid into the Consolidated Revenue Fund, only the motor tax and public vehicle fees components (\$6 660 000 in 1974-75) are transferred by the Treasurer to the State Highways Trust Fund. A part of motor vehicle registration fees, licences, etc. is retained in the Consolidated Revenue Fund.

Annual Loss

In 1968-69 and earlier years the Commission received two grants from Consolidated Revenue: (i) reimbursement of the previous year's loss; and (ii) a grant equal to State Land Tax collections. From 1969-70, the loss incurred by the

Commission for the previous year has been reimbursed by a single grant from Consolidated Revenue (\$18 186 584, the loss for 1974-75 reimbursed during 1975-76). The accounts reveal that the Commission's net loss occurred principally in respect of railways but the case for continued subsidisation was argued on a number of grounds: (i) abandonment of all railway operations would have left the State with liability for annual debt charges exceeding \$2.9m; (ii) heavy bulk freights now carried by rail would rapidly break up present road surfaces if they were transferred to road haulage, and considerable sums would have to be spent on increased road maintenance or road improvements; and (iii) because rail transport for certain types of freight is still considered more economical than road haulage, closing the railways might add appreciably to the costs of many primary and secondary producers.

Transport Commission Shipping Services

The Transport Commission operates a coastal shipping service between King Island, Stanley and Melbourne, and a vehicular ferry service to Bruny Island. During 1974-75 the coastal service was operated by the *Joseph Banks*, the *Rah* and the *Alban*.

The *Joseph Banks*, purchased in January 1969, continued to service Flinders and King Islands with bulk cargoes and livestock. While regular superphosphate cargoes were carried up to 31 December 1974, the combined effects of the withdrawal of the superphosphate bounty and the rural decline resulted in only limited employment for the vessel from this date. The vessel was laid up at the Commission's terminal at Prince of Wales Bay in September 1975.

Following the sinking of the *Straitsman* in March 1974, the Commission chartered the Dutch flag general cargo ship *Alban* to continue the Melbourne-King Island-Stanley trade. The vessel commenced trading on 23 June 1974 and carried 22 234 tonnes of general cargo for the six months until the charter ended on 4 January 1975.

In August 1974, the State Government purchased the Finnish vessel, *Rah*, a roll-on roll-off vessel with a cargo capacity of some 2 400 tonnes. The *Rah* commenced service in December 1974 on the triangular run previously serviced by the *Straitsman* and the *Alban*. The *Straitsman*, following its successful salvage from the River Yarra, was repaired and reclassified by the Port of Launceston Authority. The vessel returned to the King Island service in October 1975. The *Rah* has since been placed in the hands of ship brokers for sale.

During 1974-75, vessels operated by the Commission made a total of 260 voyages in providing essential services to and from King Island and between Stanley and Melbourne. The shipping services handled 41 940 sheep, 12 873 cattle and carried 95 253 tonnes of general cargo, 8 063 tonnes of superphosphate and 3 435 tonnes of fuel.

The Commission continues to operate the vehicular ferries *Mangana* and *Melba* on the Bruny Island service. The *Melba* has recently undergone a major engine refit, with additional strengthening being made to the hull. Preliminary investigations are being made into the provision of new terminals at Barnes Bay and Kettering.

Derwent Ferry Services

Following the Tasman Bridge disaster on 5 January 1975, emergency trans-Derwent ferry services were established between Hobart and Bellerive on the Eastern Shore. The services were provided by the Transport Commission's Bruny

Island vehicular ferry *Melba* and the privately-owned passenger ferries *Matthew Brady*, *James McCabe* and *Cartela*. The *Ray Larsson*, a privately-owned ferry, was introduced into a Hobart-Lindisfarne service on 20 January 1975.

Soon after the collapse of the Tasman Bridge steps were taken to construct a modern multi-berth ferry terminal at Kangaroo Bay, Bellerive. This project was undertaken by the Hydro-Electric Commission on behalf of the Transport Commission and was operational within one month of the commencement of the construction work. Ferry terminal facilities were later expanded. The Lindisfarne jetty and adjacent areas were improved and the Hobart Marine Board made available the Elizabeth Street Pier for conversion into a fully covered and seated multi-berth ferry terminal. (A special article, 'The Tasman Bridge Disaster', is included in the 1976 *Year Book*.)

In mid-1976, the Hobart-Bellerive ferry service was being provided by: (i) the Transport Commission ferries *Lady Wakehurst* (chartered from the Public Transport Commission of New South Wales) *Kosciusko* and *Harry O'May* (the latter two were both purchased by the State Government); and (ii) five ferries owned and operated by private operators. A Hobart-Lindisfarne service was being provided by four privately-owned ferries in June 1976. During the first seventeen months following the collapse of the Tasman Bridge, approximately 9.6 million passengers were carried across the Derwent by the combined ferry fleet. In mid-1976 the average number of passengers carried across the Derwent (total, both directions combined) on a week-day was 18 870. This was substantially below the corresponding figure of 25 790 for mid-1975 due to the opening of a temporary Bailey bridge six kilometres upstream from the Tasman Bridge in December 1975 (see the section 'Bridges' later in this chapter).

RAILWAYS

Historical

Tasmania has a 1 067 millimetre gauge government railway system based on a route network of 850 kilometres. A private railway of 134 kilometres is operated by the Emu Bay Railway Company Ltd between Burnie and Melba Siding (19 kilometres south of Rosebery).

The first railway in Tasmania was opened for traffic in 1871 (construction having begun three years earlier on the 72 kilometre line from Deloraine to Launceston). It is significant that only one-ninth of the original capital was subscribed by the shareholders of the Launceston and Western Railway Company, the remaining \$800 000, being raised by the Government. The line was laid in broad gauge (1 600 millimetre) without regard for the fact that narrower gauge might be needed in the more mountainous parts of the island. Within a year of opening, the company was in financial difficulties and the line was taken over by the Government. At the start of construction, the island's population had not passed 100 000.

The second line was an even more ambitious undertaking—196 kilometres of 1 067 millimetre track from Hobart to Western Junction, linking there with the 1 600 millimetre line—and involved considerable problems of contour survey because of the high plateau lying across the route. The Tasmanian Main Line Railway Company opened the line for traffic in 1876. The problem of differing gauges on the two systems was overcome by laying a third rail on the 16 kilometres of the 1 600 millimetre track from Western Junction to Launceston, the Main Line Company having running rights over this stretch. In 1890 the Government purchased the line for \$2 213 000.

The next line to open for traffic (1884) was owned by the Emu Bay and Mount Bischoff Railway Company which converted an existing horse tram-way to 1 067 millimetre gauge; the 77 kilometre line connected Waratah to the Port of Burnie, the primary objective being to ship out freight from the rich Mount Bischoff tin mines.

By 1890 the essential framework of the present railway system on 1 067 millimetre gauge had been laid, and future growth involved track extensions mainly in directions already determined in the first twenty years of rapid construction. The following table shows the pattern of development in 1890 and compares it with that of the present system. Under 'route' is shown firstly the terminals of individual tracks in 1890 and secondly the present extent of the same tracks. Except for the Bell Bay line, only opening dates before 1890 are quoted since later extensions of track were carried out in several stages.

Government and Private Railways
Route-Kilometres of Lines Open: 1890 and 1976

Route	Area served	Year open for traffic	Kilometres of lines open	
			1 Jan. 1890	30 June 1976
Launceston to Devonport	North-west	1885	(a) 132	.. ..
Launceston to Smithton .. ..	" "	..	..	(a) 286
Hobart to Western Junction	North-south link	1876	(b) 198	(a) 199
Burnie to Waratah	West coast	1884	(b) 77	.. ..
Burnie to Melba Siding .. ..	" "	..	..	(b) 134
Conara to St Marys	Fingal Valley	1886	(a) 74	(a) 76
Bridgewater to Glenora	Derwent Valley	1888	(a) 39	.. ..
Bridgewater to Florentine .. ..	" "	..	..	(a) 70
Launceston to Scottsdale	North-east	1889	(a) 76	.. ..
Launceston to Herrick .. ..	" "	..	..	(a) 137
Cold Water Creek to Bell Bay	Tamar Valley	1973	..	(a) 45
Other branches .. ..	..	..	(a) 6	(a) 37
Total route kilometres open .. ..	..	..	602	985
Government .. ..	..	..	327	851
Private .. ..	..	..	275	134

(a) Government

(b) Private.

The table does not show two defunct lines which used to operate on the west coast; these were: the Government service, Zeehan to Strahan (47 kilometres), opened in 1892; and the private service, Queenstown to Strahan (34 kilometres), opened in 1899. The Emu Bay railway had reached Zeehan by 1900 when it became possible to make a Burnie-Queenstown trip by using all three services and moving Burnie-Zeehan-Strahan-Queenstown.

In 1965, the Emu Bay Railway Company Ltd closed the line from Rosebery to Zeehan; 19 kilometres of this line, from Rosebery to Melba Siding, were re-opened in January 1970 to enable the transportation of iron pyrites to the North-West Acid Pty Ltd plant at Burnie.

Work commenced in 1971 on the construction of a new rail link from Cold Water Creek to the port of Bell Bay. Log trains began using the first section of this line (Cold Water Creek to Long Reach) in February 1973. The final section to Bell Bay became operational in February 1974.

Growth and Decline

The main task of developing and maintaining railways became the responsibility of the Tasmanian Government after it purchased the Hobart-Western Junction line in October 1890.

The peak of development was reached in 1930 when 1 093 kilometres were open for traffic; since then, many branch lines have been closed down, the competition of road transport making their operation uneconomic. Length of lines open has actually declined to what it was at the outbreak of World War I. Examples of lines now closed down are: Brighton to Apsley, 43 kilometres; Bellerive to Sorell, 24 kilometres; and Zeehan to Strahan, 47 kilometres.

The next table shows the length of Government-owned railways from 1895 to the present:

Government Railways: Route-Kilometres of Lines Open at 30 June

Year	Route-kilometres open	Year	Route-kilometres open	Year	Route-kilometres open
1895 (a)	676	1930	1 093	1955	974
1905	745	1935	1 038	1960	866
1915	858	1940	1 036	1965	805
1920	1 012	1945	1 033	1970	805
1925	1 083	1950	987	1975	851

(a) At 31 December 1895.

Recent Developments

Improved Operations

The use of the East Tamar Junction Yard facilities considerably reduced traffic congestion in the Launceston railway goods yard in 1974-75, and the new railway re-alignment resulted in improvements to the working of log trains to Long Reach and container trains to the port of Bell Bay.

Improvements also were made to train running during the year as a result of the re-scheduling of services on the Main and North-Eastern Lines, and the lifting of some speed restrictions in vital areas.

Overnight train schedules on the Main Line were re-arranged to restrict road-side and intermediate goods trains to one train only in each direction between Hobart and Launceston, and to enable overnight bogie goods trains to handle through freight only. Provision was made in the re-scheduling to cross Main Line night goods trains at Tunbridge. This necessitated extensions to the crossing loop at Tunbridge which eliminated the need to extend the Campbell Town crossing loop and to provide night staff at York Plains, Ross and Campbell Town. Train schedules on the North-Eastern Line also were re-scheduled and reduced train working on this line resulted.

Bell Bay Rail Link

Although various proposals to construct the link had been made, some dating as far back as 1912, it was not until two woodchip exporting companies announced proposals to construct shipping berths at Long Reach, near Bell Bay, that the

link was considered economically feasible. Work started on the project in late 1971 and the Bell Bay link became operational in late 1973. The train services to Bell Bay have been co-ordinated with the regular overnight services between Hobart and Launceston.

The Bell Bay line and associated works were completed during 1974-75. Sophisticated colour light signalling installations at the new East Tamar Junction were commissioned on 18 August 1974 and, at the same time, trains commenced using the full length of the Launceston deviation between East Tamar Junction and Cold Water Creek. The Mowbray spur was opened to traffic on 20 December 1974.

Upgrading of Tracks

In recent years the Commission has taken active steps to upgrade the tracks in Tasmania. The consulting engineers, Maunsell and Partners Pty Ltd, are preparing a master plan for upgrading all tracks in the Tasmanian railway system. An outline of the plan had been submitted by June 1974 and detailed reports on each section of line were being prepared.

At Railton on the Western Line, work on the railway deviation, a new station, a goods and shunting yard, and the spur line to the plant of the Goliath Portland Cement Company was completed during 1974-75. After rehabilitation of eight kilometres of track on the Western Line near Rocky Cape, work has begun on rehabilitation of a further eight kilometres of track in the area.

Work on new crossing loops at Western Junction and at Tunbridge on the Main Line is well advanced.

Also during 1974-75, work commenced on the upgrading of the 15 kilometres section of line between Launceston and Western Junction and the construction of a new loop near Relbia. When completed, the standard of the track will compare with the Bell Bay railway.

The cost of the upgrading program is estimated at \$1.25 million and is the largest project since the completion of the Bell Bay railway.

Closure of Hobart Suburban Services

The Hobart suburban rail service was closed by the State Government from 1 January 1975. The decision to close the service followed a decline in patronage over a long period and an annual loss of about \$1m attributed to suburban services. The service was re-opened for a short period in January 1975 following the collapse of the Tasman Bridge but was again closed due to lack of patronage.

Federal Takeover

Takeover Agreement

Following negotiations with the Federal Government, the State Government passed the *Railways (Transfer to Commonwealth) Act 1975* which provided for the transfer of control of the State's railway system to the Federal Government with effect from 1 July 1975.

The agreement provided for the takeover of the administration, maintenance and control of the railway system by the Australian National Railways Commission and for the transfer of Tasmanian Government Railway employees to the Commission. With the exception of some land and minor buildings and the plant, equipment and materials in the precision tool annexe at Launceston, the National Railways Commission was to take over all the assets of the Tasmanian Government Railways.

Under the agreement, however, the State retains the following rights: (i) to consult with the Federal Government on any proposals to increase freight rates; (ii) to dispute the abolition of any service where in the opinion of the State Government that service is desirable; and (iii) consult with the Federal Government on the operation of new or existing railways which are of particular concern to the State. The State was also granted representation on the Australian National Railways Commission and the Australian Shipping Commission for an initial period of five years.

Provision was made in the agreement for the Transport Commission to continue to operate the railway after 1 July 1975, subject to direction by the Australian National Railways Commission, for a period known as 'the interim period' during which final arrangements, particularly those relating to the transfer of employees, were to be made. This period was originally expected to be 12 months.

Financial Arrangements

The Federal Government agreed to discharge the State from all liabilities and financial obligations connected with the operation of the railways thus freeing the State from the burden of: (i) interest and sinking fund contributions on outstanding loan funds (about \$0.5m annually); and (ii) the operating losses which the service was expected to incur in its continued operation (the estimated operating loss for 1974-75 was \$14.5m).

In consideration of the transfer of railway assets, the Federal Government agreed to pay the State a sum of \$5m before the commencement date of the agreement; this would assist the State in reducing the budget deficit for 1974-75. The State was also to receive additional Financial Assistance Grants. The initial increase in the grants was to be \$3.3m and this would, in turn, increase according to the formula used to calculate the grants.

The Federal Government agreed to reduce Tasmania's loan fund allocations by only \$5m annually which was substantially less than the amount of loan funds the State Government had expected to allocate for railways. This would release additional loan funds for other capital works in the State. It was estimated that the Federal Government would spend in excess of \$60m in upgrading the railways over a five-year period.

Operating and Financial Statistics

The following table shows the principal operating statistics for the Tasmanian system:

**Tasmanian Government Railways
Operating Statistics**

Year	Route-kilometres open (a)	Revenue train-kilometres	Passenger- journeys	Goods and livestock carried
	kilometres	'000 kilometres	'000	'000 tonnes
1969-70	805	1 899	907	1 278
1970-71	805	1 764	871	1 221
1971-72	805	1 767	785	1 299
1972-73	831	1 960	752	1 554
1973-74	851	2 154	693	1 828
1974-75	851	1 983	429	1 731

(a) At end of period.

The following tables give details of gross earnings and working expenses and of the number of employees, and wages and salaries paid:

Transport and Communication

Tasmanian Government Railways
Financial Operations

Year	Gross earnings		Working expenses (a)		Net earnings (b)	
	Total	Per revenue train-kilometre	Total	Per revenue train-kilometre	Total	Per revenue train-kilometre
	\$'000	\$	\$'000	\$	\$'000	\$
1969-70 ..	6 950	3.66	9 031	4.75	-2 081	-1.09
1972-73 ..	6 842	3.49	11 829	6.03	-4 987	-2.54
1973-74 ..	7 674	3.56	15 598	7.24	-7 924	-3.68
1974-75 ..	8 266	4.17	19 973	10.07	-11 707	-5.90

(a) Includes provision for depreciation but excludes interest.

(b) Excess of gross earnings over working expenses.

Tasmanian Government Railways
Number of Employees and Wages and Salaries Paid

Year	Average number of employees (a)		Salaries and wages paid (\$'000)	Year	Average number of employees (a)		Salaries and wages paid (\$'000)
	Salaried	On wages			Salaried	On wages	
1969-70 ..	419	1 783	7 024	1972-73 ..	402	1 574	9 197
1970-71 ..	421	1 701	7 637	1973-74 ..	r 334	r 945	11 907
1971-72 ..	404	1 582	7 914	1974-75 ..	330	889	15 198

(a) Excludes construction staff.

Comparison with Other Australian Systems

The Tasmanian system of government railways is the smallest in Australia and the following table, showing principal operational details, allows a comparison to be made:

Australia: Government Railway Systems, 1974-75
Operating Statistics

System	Route-kilometres open	Revenue train-kilometres	Passenger-journeys (a) (b)	Revenue goods and livestock carried (a)	Revenue net tonne-kilometres
	kilometres	'000 kilometres	'000	'000 tonnes	million
N.S.W.	9 756	55 661	171 844	33 476	8 782.3
Victoria	6 659	33 876	117 720	11 057	3 091.4
Queensland	9 780	30 114	36 632	30 208	9 118.0
S.A.	3 888	10 189	12 697	6 738	1 756.9
W.A.	6 075	12 866	394	16 153	4 262.4
Tasmania	851	1 983	429	1 731	273.3
Australian Government ..	3 595	5 936	(c) 239	(d) 4 102	2 507.3
Total Australia	40 604	150 624	339 954	103 465	29 791.6

(a) Interstate traffic is included in the total for each system over which it passes.

(b) Based on ticket sales making allowances for periodical tickets. Tickets sold at concession rates are counted as full journeys.

(c) Passenger journeys continuing over both the Trans-Australian and Central Australia Railway systems are counted twice. In 1974-75 these numbered 8 168.

(d) Tonnages carried over both the Trans-Australian and Central Australia Railway systems are counted twice. In 1974-75, 244 816 tonnes were counted twice.

The financial operations of the six state railways and the Federal Government systems are shown below:

Australia: Government Railways, 1974-75
Financial Operations
(\$ Million)

System	Gross earnings (a)	Working expenses (b)	Net earnings (c)	Plus other earnings payable to railways (d)	Less other expenses charged to railways (e)	Surplus or deficit
N.S.W.	291.4	415.2	-123.9	4.7	47.8	-166.9
Victoria	129.9	243.4	-113.5	0.1	13.0	-126.3
Queensland	183.7	227.9	-44.2	..	45.0	-89.2
S.A.	48.0	(f) 80.5	-32.5	40.4	9.6	-1.8
W.A.	106.8	(f) 103.7	3.1	1.5	16.3	-11.7
Tasmania	8.3	(f) 20.0	-11.7	..	3.2	-15.0
Australian Government	41.4	(f) 55.8	-14.5	..	..	-14.5
Total Australia	809.4	1 146.5	-337.1	46.7	134.9	-425.3

(a) Excludes government grants and road motor services.

(b) Excludes road motor services.

(c) Gross earnings less working expenses. See notes (a) and (b).

(d) Includes state government grants and road motor earnings.

(e) Includes interest and exchange, sinking fund, road motor expenses and other expenses charged to railways.

(f) Includes provision for depreciation.

Financial Comparison

In comparing the financial results of the Tasmanian system with those of other authorities, certain difficulties arise from the treatment of depreciation. In the preceding table, working expenses for the Tasmanian, S.A., W.A., and Federal Government systems include provision of reserves for depreciation. A further complication arises from the fact that interest is not charged against the railways accounts of the Federal Government system, and in the Victorian system only in respect of loan expenditure since 1 July 1960.

To the extent that there is differing treatment of interest and of depreciation provisions in the various systems, the 'surplus or deficit' shown in the table is not a good basis for making comparisons; however, if due allowance is made for interest charges in the case of the Federal Government system, it will be seen that loss, rather than profit, is characteristic of all Australian systems.

GOVERNMENT OMNIBUS SERVICES

Introduction

The only Government road services in operation since 8 December 1968 (when the Transport Commission road services were discontinued) have been those operated by the Metropolitan Transport Trust at Hobart, Launceston and Burnie. Prior to this date the Transport Commission operated omnibus services throughout the State. However, following trading losses on the operation of the Transport Commission's omnibus services during 1965-66 and 1966-67 Parliament refused approval for continuation of the service. The *Transport Commission (Road Transport Undertaking Disposal) Act 1968* required the Commission to sell its omnibus fleet to a private operator. Disposal of the fleet was completed in December 1968.

Metropolitan Transport Trust

Until 1955, tramway, trolley-bus and omnibus services were operated in Hobart and Launceston by the local government authority in each city. The Hobart system had operated without subsidy but the Launceston system received, as one item of revenue, the annual proceeds from a special tramways rate.

The *Metropolitan Transport Act 1954* empowered the State to enter into agreements for the acquisition of the two systems and to vest them in the newly constituted semi-government authority named in the Act. After negotiation with the two local government authorities, the Trust arranged to take over the Hobart system from 28 February 1955, and the Launceston system from 1 July 1955. It was part of the agreement that the Trust should reimburse to the local government authorities the annual charges relating to the loan debt of each system. Future capital was to come from the State Loan Fund. During 1959-60, the Trust commenced the operation of omnibus services in Burnie.

The present service is based entirely on omnibuses, although trolley-buses were in use on some Hobart and Launceston routes as late as 1968. It was in October 1960 that the Trust closed down the last of the tramway services in Hobart; Launceston City had closed down all its tramway services before the city transport system was taken over by the Trust in July 1955. Although increasing motor vehicle ownership provides formidable competition to attracting passengers to urban public transport, the number of passenger journeys in 1974-75 continued the upturn experienced in the previous year, compared with decreases in 1971-72 and 1972-73. The main cause of the current increase has been a large increase in school charter work during the week-day off-peak period.

Financial Operations of Trust

The following table shows the income and expenditure of the Metropolitan Transport Trust:

Metropolitan Transport Trust Income and Expenditure (\$'000)					
Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
INCOME					
Traffic operations	2 284	2 597	2 612	2 698	2 844
Other earnings	38	41	46	52	72
Subsidy, State Government ..	1 418	1 310	1 692	2 520	3 957
Total	3 739	3 948	4 350	5 270	6 873
EXPENDITURE					
Traffic operations	2 040	2 160	2 407	3 025	3 961
Maintenance	578	596	664	800	1 066
Power and fuel	250	267	265	310	370
Workshop and stores	56	65	67	71	90
Administration and general	462	516	594	764	1 080
Debt charges	144	146	143	143	148
Depreciation charges	211	199	194	169	183
Total	3 741	3 949	4 333	5 283	6 897

A break-down of income earned from traffic operations in the three centres for 1974-75 (in \$'000) is as follows: Hobart, 2 106; Launceston, 566; and Burnie, 171.

Loan Debt of Trust

Net advances to the Trust from the State Loan Fund at 30 June 1975 stood at \$3 264 167.

Operating Statistics

The next table shows the principal operating statistics for the Metropolitan Transport Trust:

**Metropolitan Transport Trust
Operating Statistics**

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Route-kilometres (a)	383	385	402	407	459
Vehicle-kilometres	8 766	8 647	8 381	8 618	9 091
Passenger journeys .. '000	20 797	19 606	18 728	19 515	20 589
Fare income per passenger journey (b) \$	0.11	0.13	0.14	0.14	0.14
Working expenses per passenger journey (c) \$	0.16	0.18	0.21	0.25	0.32

(a) At end of period.

(b) Income from fares only—excludes other revenue.

(c) Excludes debt charges and depreciation.

At 30 June 1975 the Metropolitan Transport Trust had a fleet of 319 vehicles comprising 302 passenger buses and 17 maintenance vehicles. Disposition of the fleet was: Hobart, 216 passenger buses and 12 maintenance vehicles; Launceston, 65 passenger buses and four maintenance vehicles; and Burnie, 21 passenger buses and one maintenance vehicle.

ROADS AND BRIDGES

Scope

The details in the following section refer to:

- (i) 'classified' roads;
- (ii) roads of local government authorities; and
- (iii) roads of other government authorities.

A further qualification is that the roads are those normally open to traffic.

Definitions and Road Lengths

(i) *Classified Roads*: These are roads for which the State Government accepts direct responsibility, the construction and maintenance authority being the Public Works Department. The length of classified (or State) roads at 30 June 1975 was as follows: State highways, 1 937 kilometres; main roads, 1 065 kilometres; secondary roads, 292 kilometres; tourist roads, 114 kilometres; developmental roads, 198 kilometres; total State roads, 3 606 kilometres.

(ii) *Roads of Local Government Authorities*: The roads for which the local government authorities accept responsibility at 30 June 1975 comprised: sealed roads 3 697 kilometres; unsealed roads, 9 126 kilometres; total 12 823 kilometres.

(iii) *Roads of Other Government Authorities:* Roads which were the responsibility of these authorities at 30 June 1975 comprised: roads of the Hydro-Electric Commission, 497 kilometres; Forestry Commission, 4 067 kilometres; total 4 564 kilometres. The Hydro-Electric Commission roads include the Gordon River Road from Maydena to the Gordon River dam site (85 kilometres) and the Scotts Peak Road which runs from the Gordon River Road to Scotts Peak Dam (35 kilometres).

It is not generally recognised that the Hydro-Electric Commission, intent on developing the State's power supplies, has made valuable contributions to Tasmania's road system. Roads, originally built to give access to construction sites, have later been absorbed into the classified road system and therefore are available for general use. This type of development has not come to an end and new roads are likely to result from the future operations of the authority in the Pieman River area of the west coast and in the region of the major rivers further south. The main areas where the Commission's activities have already affected the road systems are in the upper Derwent; Great Lake; Mersey Valley; and the Gordon-Pedder lakes area.

Surface of Roads

The following table shows lengths of all roads normally open to traffic classified according to road surface and according to the level of government which accepts responsibility for construction and maintenance. The proportion of classified (State) roads with sealed surfaces has increased from 63.9 per cent at 30 June 1965 to 86.5 per cent in June 1975. Sealing of the Lyell Highway was completed during 1973-74.

Length of Roads According to Nature of Surface at 30 June

Type of surface	1971	1972	1973	1974	1975
CLASSIFIED STATE ROADS					
Sealed (a) .. kilometres	2 890	2 905	2 973	3 013	3 120
Unsealed (b) .. kilometres	618	607	548	503	487
Total .. kilometres	3 508	3 512	3 521	3 516	3 606
Sealed ratio (c) .. %	82.4	82.7	84.4	85.7	86.5
ROADS OF LOCAL GOVERNMENT AUTHORITIES					
Sealed (a) .. kilometres	3 050	3 219	3 363	3 552	3 697
Unsealed (b) .. kilometres	10 145	9 794	9 447	9 311	9 126
Total .. kilometres	13 195	(d) 13 013	(d) 12 810	12 862	(e) 12 823
Sealed ratio (c) .. %	23.1	24.7	26.3	27.6	28.8
ROADS OF OTHER GOVERNMENT AUTHORITIES					
Sealed (a) .. kilometres	119	167	151	151	121
Unsealed (b) .. kilometres	3 853	4 005	4 148	4 239	4 442
Total .. kilometres	3 972	4 172	4 299	4 390	4 564
Sealed ratio (c) .. %	3.0	4.0	3.5	3.4	2.7

Length of Roads According to Nature of Surface at 30 June—continued

Type of surface	1971	1972	1973	1974	1975
ALL ROADS					
Sealed (a) .. kilometres	6 059	6 292	6 487	6 716	6 937
Unsealed (b) .. kilometres	14 616	14 405	14 143	14 052	14 055
Total .. kilometres	20 675	20 697	(d) 20 630	20 767	20 993
Sealed ratio (c) .. %	29.3	30.4	31.4	32.3	33.0

(a) Bitumen or concrete.

(b) Includes roads formed or cleared only.

(c) Sealed roads as a proportion of total roads.

(d) The reduction in length of Local Government roads in 1972 and 1973 resulted from revisions based on survey work carried out by the Public Works Department.

(e) The reduction in length of Local Government roads in 1975 resulted mainly from a transfer of part of the road systems of the Brighton and Richmond municipalities to the State (classified) roads, in order to form part of the new road links made necessary by the collapse of the Tasman Bridge.

Classified (or State) Roads

The next table analyses the length of classified roads according to their description and surface. The principal State highways include the following: (i) *Arthur* (74 kilometres), from Sorell to Port Arthur; (ii) *Bass* (283 kilometres), from Launceston to Marrawah in the far north-west; (iii) *Channel* (95 kilometres), from Hobart to Huonville, via D'Entrecasteaux area; (iv) *Huon* (99 kilometres), from Hobart to Hythe via Dover; (v) *Lake* (150 kilometres), from Deloraine via Great Lake to Melton Mowbray; (vi) *Lyell* (284 kilometres), from Granton, near Hobart, to Strahan; (vii) *Midland* (185 kilometres), from Glenorchy to Launceston; (viii) *Murchison* (78 kilometres), linking the Zeehan and Waratah Highways; (ix) *Tasman* (422 kilometres), from Hobart to Launceston, via east coast and St Helens; (x) *Waratah* (72 kilometres), from Somerset to Waratah.

Classified (or State) Roads
Description and Length of Roads at 30 June 1975
(Kilometres)

Description	Nature of surface		Total
	Sealed (a)	Unsealed (b)	
Highways	1 843	94	1 937
Main roads	907	158	1 065
Secondary roads	152	140	292
Tourist roads	50	64	114
Developmental roads	168	30	198
Total	3 120	487	3 606

(a) Bitumen or concrete.

(b) Gravel or stone.

Expenditure on Roads

As indicated in the preface to this section, the responsibility for road construction and maintenance is placed upon the State Government and upon local government and semi-government authorities. The next table gives a detailed analysis only of funds available to the State Government and expenditure from State road funds:

State Road Funds: Receipts and Payments
(\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
RECEIPTS					
Motor vehicle taxation, registration, licences, fees, fines, etc.	5 033	5 659	5 912	6 338	6 660
Federal Government grants	10 230	10 820	12 150	13 950	18 585
State Loan Fund	1 020	930	540	710	618
Contributions by local government authorities	17	17	19	17	..
Other	93	307	277	441	426
Total	16 393	17 733	18 897	21 456	26 289
PAYMENTS					
Construction and reconstruction of roads and bridges	12 320	12 960	13 810	15 757	19 261
Maintenance of roads and bridges	4 297	4 475	4 686	4 978	6 402
Planning and research	185	189	186	220	363
Total	16 802	17 624	18 682	20 955	26 026

Federal Government Roads Grants provide the bulk of the funds with a major contribution also coming from motor vehicle taxation, registration fees, etc.

Receipts and Expenditure, Local Government Authorities

Some of the expenditure appearing in the State Road Funds table consists of grants from the State Government to local government authorities, although such grants are not specifically dissected. In Chapter 4, 'Local Government', details will be found of: (i) grants from the State to local government authorities for road purposes; (ii) road rates collected by local government authorities; and (iii) expenditure on road construction and maintenance by local government authorities from revenue, and from loan funds.

Bridges*The Paterson Bridge*

The Paterson Bridge, Tasmania's latest major bridge construction, is located across the mouth of the South Esk River just downstream from the pre-existing Kings Bridge. The new bridge provides a separate connection between West Tamar Road and the City of Launceston. Kings Bridge has been retained as the direct connection between Trevallyn and the City.

The Tasman Bridge

The Tasman Bridge link between Hobart's eastern and western suburbs was broken on 5 January 1975 following the destruction of two sets of piles by a ship carrying ore upstream. Restoration work commenced in June 1975 following

the announcement of reconstruction plans by the specially set up Joint Tasman Bridge Restoration Commission. (The 1976 edition of the *Year Book* includes a special article on the effects of the Tasman Bridge Disaster, reconstruction plans and plans for a second Derwent River crossing.) In mid-1976, Tasman Bridge restoration work, together with a project to widen the Bridge to carry five lanes of traffic, was expected to be completed by about August 1977.

A temporary, two-lane, Bailey bridge was erected over the Derwent from Dowsings Point on the western shore to Cleburne Point some six kilometres upstream from the Tasman Bridge and was opened to traffic on 16 December 1975. In mid-1976, the average usage of the Bailey bridge was 17 500 vehicle trips per day (both directions combined). The maximum usage recorded was 19 000 vehicle trips (both directions combined) in one 24-hour day (on a Sunday). The road distance from the Hobart G.P.O. to the Bellerive Post Office via the Bailey bridge was 22.5 kilometres compared to 4.5 kilometres via the Tasman Bridge. In 1975 it was announced that a second permanent Derwent crossing would be built at a site just slightly north of the temporary Bailey bridge. Detailed investigations and design for this proposed new four-lane bridge were continued in 1976.

MOTOR VEHICLE REGISTRATIONS

General

Statistics in this section deal with: (i) motor vehicles 'on register' at specific dates; and (ii) new motor vehicles registered within a specified period, e.g. a year.

Definitions

Register: To be allowed on the public roads, motor vehicles, except those owned by the Federal Government, are required to be registered with the State Transport Commission; State Government vehicles, as well as privately-owned vehicles, are registered with this authority. Federal Government-owned vehicles, except those belonging to the defence services, are recorded on a separate Federal Government register. 'On the register', in this section, refers to both the State and Federal Government registration records, and to all motor vehicles except those of the defence services. Statistics of new motor vehicle registrations comply with the same definition.

Vehicles Included: The statistics cover cars, station wagons, motor cycles and commercial vehicles. Commercial vehicles as defined include utilities, panel vans, rigid and articulated trucks, other truck type vehicles (i.e. commercial vehicles used for purposes other than freight carrying, e.g. fire engines) and omnibuses. Tractors, trailers and mobile plant and equipment are excluded.

Because of the multi-purpose nature of rear-door sedans it is possible for these types of vehicles to be registered as either cars or station wagons. In these statistics all rear-door sedans are classified as cars.

Vehicles on Register

The following table has been compiled to show, in summary form, the increase in motor vehicles on the register since 1910. To give a convenient measure of this growth, vehicles on the register have been related to the population (vehicles per 1 000 persons), and increases have been expressed as annual averages for each decade.

Motor Vehicles on Register from 1910

At 30 June	Cars and station wagons	Com-mercial vehicles	Motor cycles	All vehicles		
				Total	Average annual increase (a)	Per 1 000 of population
1910	'000 0.2	'000 (b)	'000 0.2	'000 0.4	'000 ..	no. 2
1920	2.4	(b)	1.7	4.1	0.4	20
1930	12.5	2.2	4.8	19.5	1.5	89
1940	17.6	5.2	3.4	26.2	0.7	109
1950	25.3	12.9	4.9	43.2	1.7	156
1960	63.7	26.4	3.1	93.2	5.0	271
1970	118.6	32.6	3.1	154.3	6.1	398
1975	152.8	35.5	7.7	196.0	(c) 8.3	483

(a) For decade ending in year shown.

(b) Included with cars and station wagons.

(c) For five years ended 30 June 1975.

The next table gives details of motor vehicles on the register during the past decade; annual increases are shown to allow comparison with the average annual increases for each decade appearing in the previous historical table.

Motor Vehicles on Register

At 31 December	Cars and station wagons	Com-mercial vehicles	Motor cycles	All vehicles		
				Total	Annual increase	Per 1 000 of population
1965	'000 93.7	'000 29.0	'000 1.4	'000 124.1	'000 6.1	no. 336
1966	99.5	30.2	1.6	131.3	7.2	352
1967	104.2	30.6	1.8	136.6	5.3	362
1968	110.6	31.6	2.5	144.7	8.1	378
1969	116.1	32.4	2.9	151.4	6.7	391
1970	122.0	32.7	3.3	158.0	6.6	405
1971	128.0	33.3	3.7	165.0	7.0	420
1972	133.6	33.7	4.1	171.5	6.5	434
1973	140.2	34.5	5.3	180.0	8.5	451
1974	147.0	35.1	7.4	189.6	9.6	468
1975	158.2	36.0	7.7	201.9	12.3	494

Motor Vehicles on Register in Australia

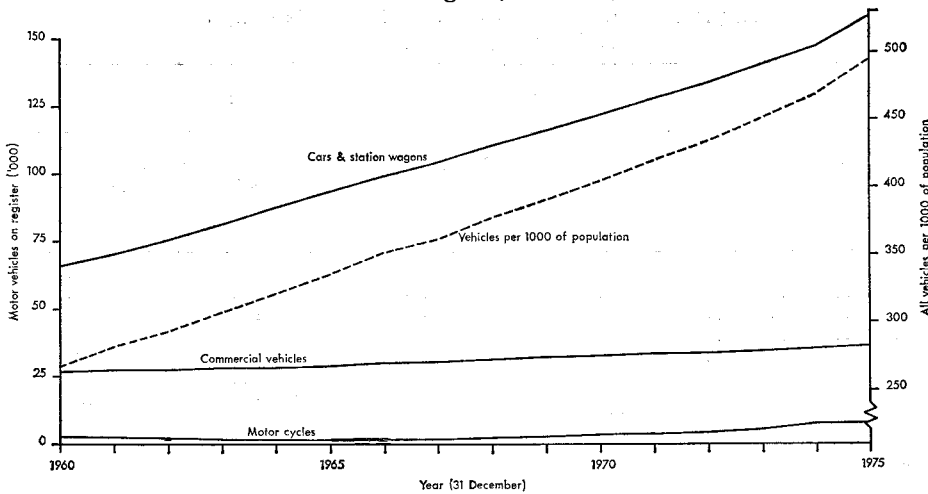
While different concepts of what constitutes 'motor vehicles on register' at a particular point of time may be appropriate for different purposes, for the purpose of obtaining uniform statistics for all states and territories, it is necessary to adopt a common concept of what constitutes 'motor vehicles on register' at a particular date. For this series, the Bureau has adopted the concept of motor vehicles on register at a particular date as being: (i) vehicles whose fees were paid up at that date, in respect of that date; and (ii) vehicles whose fees were not paid up at that date but subsequently were paid retrospectively to that date (or to an earlier date); and excluding all vehicles whose fees were not subsequently paid up in respect of that particular date, even though at that date their registrations may not have been formally terminated.

The following table shows estimated details of motor vehicles on the register for each state and territory at 30 June 1975. The figures are based on the final results of the census of motor vehicles conducted in respect of 30 September 1971. Motor vehicles on register are compiled from data supplied by the various registration authorities and include diplomatic and consular vehicles and all Federal Government-owned vehicles other than those belonging to the defence services.

Australia: Motor Vehicles on Register, 30 June 1975

State or territory	Cars and station wagons	Commercial vehicles	Motor cycles	All vehicles	
				Total	Per 1 000 of population
	'000	'000	'000	'000	no.
New South Wales	1 691.6	387.6	92.6	2 171.9	454
Victoria	1 375.6	276.5	48.5	1 700.6	463
Queensland	671.2	206.5	63.6	941.3	471
South Australia	482.5	101.2	32.5	616.1	499
Western Australia	414.4	129.4	26.0	569.8	508
Tasmania	152.8	35.5	7.7	196.0	483
Northern Territory	25.5	15.6	5.0	46.2	527
Australian Capital Territory..	86.1	13.3	5.7	105.2	548
Total	4 899.7	1 165.7	281.7	6 347.1	470

Motor Vehicles on Register, Tasmania, 1960 to 1975



Registration of New Motor Vehicles

A revised classification of commercial vehicles was adopted from 1 January 1972. Under the new classification commercial vehicles are grouped into the following categories:

- (i) *Light commercial—open*: vehicles (utilities and open light trucks) with a manufacturer's carrying capacity specification of less than one tonne.
- (ii) *Light commercial—closed*: vehicles (panel vans and closed light trucks) with a manufacturer's carrying capacity of less than one tonne, and all ambulances and hearses.

- (iii) *Heavy commercial*: rigid and articulated vehicles with a manufacturer's carrying capacity specification of one tonne or over; and vehicles other than those used for freight carriage (e.g. fire engines).

The next table shows details of registrations for recent years:

Annual Registrations of New Motor Vehicles

Classification	1971	1972	1973	1974	1975
Motor cars	10 633	11 051	12 269	13 074	13 130
Station wagons	1 282	1 204	1 396	1 591	2 051
Commercial vehicles—					
Light open	1 076	(a) 1 054	1 118	1 148	1 228
Light closed	635	(a) 486	706	899	1 249
Heavy	714	(a) 892	1 058	1 154	1 153
Buses	97	83	114	138	215
Motor cycles	851	1 089	1 863	r 3 051	2 254
Total	15 288	15 859	18 524	r 21 055	21 280

(a) Revised classification—see section preceding this table.

New Registrations According to Make

The table that follows analyses Tasmanian registrations of new cars and new station wagons according to make, and illustrates the present popularity of Holden, Ford, Datsun, Toyota and Chrysler makes.

Registrations of New Cars and New Station Wagons, 1975
Classified by Predominant Make

Make	Cars		Station wagons	
	Number	Proportion of total cars (per cent)	Number	Proportion of total station wagons (per cent)
Alfa Romeo	35	0.3	..	..
B.M.W.	33	0.3	..	..
Chrysler	1 124	8.6	252	12.3
Citroen	19	0.1	3	0.1
Datsun	1 702	13.0	132	6.4
Fiat	182	1.4	..	..
Ford	2 481	18.9	458	22.3
Holden	3 783	28.8	539	26.3
Honda	197	1.5	..	..
Jaguar	17	0.1	..	..
Lancia	29	0.2	..	..
Leyland	315	2.4	..	..
Mazda	556	4.2	127	6.2
Mercedes Benz	65	0.5	..	..
Peugeot	100	0.8	1	..
Renault	222	1.7	56	2.7
Statesman	112	0.9	..	..
Subaru	150	1.1	85	4.1
Toyota	1 506	11.5	293	14.3
Triumph	105	0.8	..	..
Volkswagen	232	1.8	58	2.8
Volvo	136	1.0	27	1.3
Other	29	0.2	20	1.0
Total	13 130	100.0	2 051	100.0

'Scrapping of Motor Vehicles'

Apart from the few 'veteran' cars owned by enthusiasts, most vehicles are eventually scrapped. No information is collected on the number scrapped each year but the following table contains information from which some inferences may be drawn:

New Motor Vehicles Registered and Annual Increase in Motor Vehicles on Register
(000)

Particulars	1970	1971	1972	1973	1974	1975
New motor vehicles registered (a)	14.9	15.3	15.9	18.5	21.1	21.3
Annual increase, motor vehicles on register (b) ..	6.6	7.0	6.5	8.5	9.6	12.3

(a) During year ended 31 December.

(b) Annual increase measured at 31 December.

In comparing the two sets of figures in the previous table, it would be wrong to assume that the difference in each year represented scrapped vehicles only; exceptions would include vehicles transferred interstate and vehicles 'on blocks'—the fact that an owner has let a registration expire does not necessarily mean that he intends to scrap his vehicle. Subject to these and similar difficulties of interpretation, it would appear that upwards of about eight thousand motor vehicles have been scrapped annually since 1970.

ROAD TRAFFIC ACCIDENTS IN TASMANIA

Scope of Statistics

With the rapid development of road transport, there has been an increase in the number of road traffic accidents; some merely involve damage to vehicles, but others result in injury or death. To evolve meaningful statistics describing these events, it has been found necessary to narrow the field of observation to those road traffic accidents which involve casualties, since most accidents resulting only in vehicle damage are not required by law to be reported to the police (the drivers might merely exchange names and report to their respective insurance companies). Further, there is the difficulty of fixing, in monetary terms, some valid standard for determining what degree of vehicle damage warrants inclusion of an accident in a long-term statistical series—obviously \$50 or \$200 for repairs in 1950 is not comparable with \$50 or \$200 for repairs now.

For these and other reasons, the statistics in this section are restricted to details of those road traffic accidents involving casualties requiring medical or surgical treatment, or causing death and which were recorded by the police.

Source of Data

Details of each road traffic accident reported to the police, or investigated by the police are recorded on a standard form and copies are made available to the Transport Commission and to the Australian Bureau of Statistics; at the Bureau, quarterly statistics are compiled only from those reports describing accidents involving casualties. The Transport Commission employs the reports it receives in connection with road engineering, the location of traffic signs and signals, the pin-pointing of dangerous locations, traffic engineering, and accident prevention in general.

Responsibility for, and Causes of, Accidents

For the purpose of the statistics in this section, the police officer reporting the accident determines, on the basis of the evidence available, the road user or agency responsible, and also the prime cause of the accident. The fact that civil or criminal courts may later make different decisions on these matters is disregarded in these statistics; nor is any attempt made to distinguish between accidents giving rise to subsequent legal action and those not doing so.

Causes of Accidents

Causes of accidents in Tasmania are classified, for statistical purposes, in accordance with a standard list of 76 prime causes (although, in this section, only the most frequent causes are shown). Contributory causes and conflicting or incomplete evidence make precise classification difficult. No provision is made to record and classify such antecedent causes as fatigue, discourtesy, impatience or other driving faults. However, since July 1971 accidents where consumption of alcohol is involved have been given a special classification. Where the blood alcohol level of the road user considered responsible is 0.05 (grams of alcohol per 100 millilitres of blood) or greater, this is recorded separately and no cause for the accident is assigned. The same practice is followed for road users who were reported 'obviously affected by alcohol' by the police and: (i) refused breath and/or blood tests; or (ii) had a blood alcohol level under 0.05; or (iii) were not tested because facilities were not readily available. The double assumption in each such case is: (i) the road users skills were impaired by alcohol; and (ii) this impairment was a factor contributing to the accident.

Road Traffic Accident Statistics

Summary

Generally there has been an increase in both the number of road traffic accidents and in the number of persons killed in road traffic accidents in recent years, although the number of persons killed showed a marked decline in 1972-73. The following table summarises the principal statistics of road traffic accidents involving casualties for selected years from 1949-50:

Road Traffic Accidents Involving Casualties, Selected Years from 1949-50

Period	Accidents		Persons			
	Number	Per 10 000 vehicles registered (a)	Killed		Injured	
			Number	Per 10 000 vehicles registered (a)	Number	Per 10 000 vehicles registered (a)
1949-50	969	242	64	16.0	1 154	288
1959-60	743	82	79	8.7	1 004	111
1969-70	1 413	93	122	8.0	2 268	150
1970-71	1 396	89	124	7.9	2 031	129
1971-72	1 371	83	118	7.2	1 984	120
1972-73	1 423	83	83	4.8	2 052	119
1973-74	1 454	81	126	7.0	2 046	114
1974-75	1 466	77	120	6.3	2 061	108

(a) Based on average number of motor vehicles on register during period. 'Vehicles on register' is defined in the earlier section headed 'Motor Vehicle Registrations'.

Location of Accidents

The next table shows the location of accidents in the State:

Road Traffic Accidents and Casualties by Local Government Area, 1974-75

Local government area	Accidents involving casualties	Persons killed	Persons injured
Hobart	296	10	390
Launceston	123	12	156
Glenorchy	159	7	226
Clarence	126	18	158
Burnie	53	1	72
Devonport	65	5	91
Other	644	67	968
Total	1 466	120	2 061

Causes of Accidents—Drivers of Motor Vehicles Responsible

The next table analyses accidents for which drivers of motor vehicles were believed responsible:

Road Traffic Accidents Caused by Drivers of Motor Vehicles, 1974-75
Classification by Cause

Principal causes of accidents for which drivers of motor vehicles (excluding motor cycles) were responsible	Accidents involving casualties	Persons killed	Persons injured
Accidents involving alcohol—			
Driver's blood alcohol level 0.05 (a) or greater	271	44	412
Driver refused test	4	..	7
Other cases (b)	53	5	96
Other accidents—			
Excessive speed having regard to conditions	104	16	181
Not keeping to the left	78	8	146
Not giving right of way	205	3	310
Failing to make right-hand turn with due care	58	1	81
Inexperience	17	..	28
Inattentive driving	89	1	153
Reversing without care	3	..	4
Overtaking without sufficient clearance	24	1	43
Following other vehicle too closely	27	..	32
Infirmity of driver	8	..	10
Driver asleep or drowsy	15	..	20
Dazzled by lights of approaching vehicle	7	..	8
Failing to signal intention of turning or stopping	2	..	2
Pulling out from kerb without warning	17	1	18
Failing to observe traffic sign or signal	4	..	4
Crossing railway level crossing without due care	6	2	4
Hit-run (n.e.i.)	16	..	19
Other causes	2	..	2
Total	1 010	82	1 580

(a) Grams of alcohol per 100 millilitres of blood.

(b) Driver reported obviously affected by alcohol by police but blood alcohol level less than 0.05, or not tested because facilities not readily available.

Road Traffic Accidents, Drivers of Motor Vehicles Responsible (a): Summary

Accidents involving casualties	1970-71	1971-72	1972-73	1973-74	1974-75
Drivers of motor vehicles responsible—					
Number of accidents	1 004	1 002	1 031	1 053	1 010
Proportion of total accidents %	71.9	73.1	72.5	72.4	68.9

(a) Excludes riders of motor cycles.

Responsibility for Road Accidents

The next table shows the type of road user or agency believed responsible:

Responsibility for Road Traffic Accidents, 1974-75

Responsibility attributed to—	Accidents involving casualties	Persons killed	Persons injured
Drivers of motor vehicles ..	1 010	82	1 580
Riders of motor cycles ..	133	11	139
Pedal cyclists	29	1	29
Pedestrians	195	19	181
Passengers	4	1	4
Motor vehicle defects ..	16	..	26
Motor cycle defects	3	..	3
Pedal cycle defects	4	..	4
Animals	7	..	8
Road conditions	37	5	49
Weather	9	1	16
Parties not involved (a) ..	18	..	20
Other causes	1	..	2
Total	1 466	120	2 061

(a) e.g. a car collides with another, after swerving to avoid a pedestrian who is not struck.

Alcohol-factor Accidents, Drivers of Motor Vehicles Responsible

The following table shows the blood alcohol level and age group of drivers of motor vehicles (excluding motor cycles) believed responsible for casualty accidents:

Road Traffic Accidents, Drivers of Motor Vehicles Responsible, 1974-75
According to Blood Alcohol Level and Age Group

Blood alcohol level (a)	Age group of drivers responsible (in years)								Total
	Under 21	21-24	25-29	30-39	40-49	50-59	60 and over	Not stated	
Less than 0.05	13	5	4	5	1	..	1	..	29
0.05	14	..	2	1	1	..	..	..	18
0.06	5	4	..	4	..	..	..	1	14
0.07	6	1	6	3	1	1	..	..	18
0.08	8	5	3	3	..	1	1	..	21
0.09	4	2	..	..	..	1	1	..	8
0.10	10	2	1	2	1	2	..	..	18
0.11 or 0.12	20	9	10	6	3	2	1	..	51
0.13 or 0.14	7	6	7	5	..	..	..	..	25
0.15 or 0.16	10	5	2	6	2	2	1	..	28
0.17 or 0.18	6	4	6	3	1	1	1	..	22
0.19 or 0.20	4	4	4	3	1	2	1	..	19
0.21 or 0.22	3	3	1	2	4	..	..	..	13
0.23 or 0.24	1	..	..	1	4	1	2	..	9
0.25 or 0.26 .. .. .	..	2	1	..	1	..	..	..	4
0.27 or 0.28	1	..	..	..	..	..	..	..	1
0.29 or 0.30 .. .. .	..	..	1	..	..	..	..	..	1
0.31 or above .. .. .	..	..	..	1	..	..	..	..	1
Refused test .. .. .	..	1	1	1	..	..	1	..	4
Test facilities not available	11	4	7	2	..	..	..	..	24
Total	123	57	56	48	20	13	10	1	328

(a) Grams of alcohol per 100 millilitres of blood.

Of the 328 'driver responsible' casualty accidents in which alcohol was considered to be the possible prime or antecedent cause, 180 accidents (i.e. 54.9 per cent) involved drivers under 25 years of age.

Drivers Involved in Accidents, Age Group and Licence Type

During 1974-75 a total of 2 035 drivers of motor vehicles (excluding motor cycles) were involved in casualty accidents which were reported to the police. Of these, 27 per cent (550) were under 21 years of age and a further 29 per cent (597) were from 21 to 29 years of age.

The age group and type of driving licence held by these drivers at the time of the accident are shown in the next table:

Road Traffic Accidents, Drivers of Motor Vehicles Involved, 1974-75
According to Licence Type and Age Group

Type of driving licence	Age group of drivers involved (in years)								Total drivers involved
	Under 21	21-24	25-29	30-39	40-49	50-59	60 and over	Not stated	
Learner	26	4	3	5	2	1	..	..	41
Provisional	443	64	41	20	15	5	5	..	593
Ordinary	34	206	229	279	192	163	125	..	1 228
Interstate or international	4	13	11	12	4	3	1	2	50
No licence	41	12	11	8	9	..	1	1	83
Not known	2	2	1	2	2	4	..	27	40
Total	550	301	296	326	224	176	132	30	2 035

Causes of Accidents

The table below analyses road traffic accidents for which pedestrians were held responsible:

Road Traffic Accidents, Pedestrians Responsible, 1974-75
Classification by Cause

Principal causes of accidents for which pedestrians were responsible	Accidents involving casualties	Persons killed	Persons injured
Accidents involving alcohol—			
Pedestrian's blood alcohol level 0.05 (a) or greater ..	8	6	2
Pedestrian refused test .. .. .	..	..	..
Other cases (b)	15	2	13
Other accidents—			
Walking across roadway without due care	76	5	73
Running across roadway	34	1	35
Passing behind or in front of moving or stationary vehicle or object	10	2	8
Stepping off kerb without due care	2	..	2
Children under seven years of age not under, or breaking away from, the supervision of an older person ..	47	3	45
Other causes	3	..	3
Total	195	19	181

(a) Grams of alcohol per 100 millilitres of blood.

(b) Pedestrian reported 'obviously affected by alcohol' by police but blood alcohol level less than 0.05, or not tested because facilities not readily available.

Road Features and Accidents

The following table analyses all accidents involving casualties according to road features at the site and shows that, in 1974-75, 39 per cent of accidents occurred on a straight section of road.

Features of Roadways on Which Accidents Occurred, 1974-75

Feature of roadway	Accidents involving casualties	Persons killed	Persons injured
At intersections—			
Controlled	51	1	68
Uncontrolled	418	14	625
Other than at intersections—			
Straight road	569	47	724
Bend or curve	410	51	625
Bridge, culvert or causeway	8	4	8
Other locations	10	3	11
Total	1 466	120	2 061

Road Users Killed or Injured

The next table analyses the type of road user killed or injured:

Type of Road User Killed or Injured, 1974-75

Type of road user involved	Killed			Injured		
	Males	Females	Persons	Males	Females	Persons
Drivers of motor vehicles	38	4	42	583	221	804
Motor cyclists	12	..	12	181	9	190
Pedal cyclists	2	1	3	42	5	47
Passengers—						
Motor vehicle	20	17	37	363	427	790
Motor cycle .. .. .	..	..	..	11	15	26
Pedal cycle .. .. .	..	..	..	..	..	..
Pedestrians	20	6	26	133	70	203
Other .. .. .	..	..	..	1	..	1
Total	92	28	120	1 314	747	2 061

Types of Accidents

Most accidents arise from collisions between vehicles, followed by accidents in which vehicles overturn or leave the road, as shown in the following analysis:

Types of Accidents, 1974-75

Types of accidents	Accidents involving casualties	Persons killed	Persons injured
Collisions between vehicles—			
Angle	386	16	568
Head on	159	21	307
Rear end	110	1	156
Side swipe—Same direction	45	4	59
Opposite direction	72	10	111
Vehicle—			
Overturning or leaving road	409	41	575
Colliding with—Fixed object (incl. parked vehicle)	53	..	70
Pedestrian	220	26	202
Animal	8	..	9
Passenger accidents	4	1	4
Other types of accidents .. .. .	..	..	..
Total	1 466	120	2 061

Age and Responsibility

Drivers of motor vehicles (excluding motor cycles) were believed responsible for 1 010 out of the 1 466 accidents involving casualties which were reported to the police during 1974-75.

Drivers under 25 accounted for 474 or 32.3 per cent of these accidents (male drivers under 25, 407; female drivers under 25, 67).

Casualties associated with accidents attributed to drivers under 25 were: killed, 48; injured, 802.

The following table analyses the age and sex of the drivers responsible:

Road Traffic Accidents, 1974-75
Age and Sex of Drivers of Motor Vehicles Responsible

Age group of drivers responsible (in years)	Male driver			Female driver		
	Accidents involving casualties	Persons killed (a)	Persons injured (a)	Accidents involving casualties	Persons killed (a)	Persons injured (a)
Under 17 ..	11	..	27	2	..	7
17-20	274	36	478	42	..	77
21-24	122	11	178	23	1	35
25-29	113	11	161	31	..	50
30-39	108	8	174	26	2	34
40-49	70	3	95	23	1	34
50-59	57	2	82	15	1	19
60 and over ..	60	2	85	17	1	23
Not stated (b)	15	3	20	1	..	1
Total ..	830	76	1 300	180	6	280

(a) The age groups relate to the driver who may or may not be included in the casualty figures.

(b) Includes accidents for which hit-run drivers were responsible.

Age and Sex of Road Users Killed

The next table shows the age and sex of the various types of road user killed:

Road Traffic Accidents, 1974-75
Age and Sex of Road Users Killed

Age group (in years)	Type of road user killed					All road users
	Drivers of motor vehicles	Motor cyclists	Pedal cyclists	Passengers (all types)	Pedestrians	
MALES						
Under 7 ..	..	..	..	2	2	4
7-16 .. ..	..	4	2	3	2	11
17-20	15	6	..	9	4	34
21-29	14	2	..	4	3	23
30-39	3	..	..	1	1	5
40-49	2	..	..	1	1	4
50-59 .. ..	..	..	..	..	2	2
60 and over ..	4	..	..	..	5	9
Not stated ..	..	..	..	..	..	..
Total ..	38	12	2	20	20	92

Road Traffic Accidents, 1974-75
Age and Sex of Road Users Killed—continued

Age group (in years)	Type of road user killed					All road users
	Drivers of motor vehicles	Motor cyclists	Pedal cyclists	Passengers (all types)	Pedestrians	
FEMALES						
Under 7 ..	..	..	..	..	2	2
7-16 ..	..	..	1	1	..	2
17-20 ..	..	..	..	6	..	6
21-29 ..	1	..	..	4	..	5
30-39 ..	1	..	..	..	1	2
40-49 ..	1	..	..	2	..	3
50-59 ..	..	..	..	1	..	1
60 and over ..	1	..	..	3	3	7
Not stated ..	..	..	..	..	..	..
Total ..	4	..	1	17	6	28

Days of the Week on Which Accidents Occurred

The following table shows accidents and casualties according to the day of the week on which they occurred:

Road Traffic Accidents, 1974-75
Days of the Week on Which Accidents Occurred

Day of the week	Accidents involving casualties	Persons killed	Persons injured
Monday	160	12	221
Tuesday	148	9	190
Wednesday	172	8	234
Thursday	205	14	261
Friday	246	20	322
Saturday	294	32	475
Sunday	241	25	358
Total	1 466	120	2 061

No-Fault Third Party Insurance

'No-fault' third party insurance was introduced in Tasmania on 1 December 1974 under the *Motor Accidents (Liabilities and Compensation) Act 1973*. Prior to the introduction of the 'no-fault' scheme, motorists were compelled to insure with insurance companies against claims by other persons resulting from motor vehicle accidents. The success of a claim was dependent upon the claimant proving negligence (or fault) on the part of the driver of a motor vehicle. 'No-fault' insurance, however, entitles a person to compensation for injuries sustained in a motor vehicle accident without regard to who was at fault. The extent of the compensation is determined by the scheduled benefits outlined in the Act. The operation of the scheme does not, however, preclude the individual from suing for damages should it be felt that the scheduled benefits are insufficient compensation and that the accident was the result of negligence. Insurance is compulsory under the Act.

Premiums

Premiums vary according to the type of vehicle and the purpose for which it is used. The annual premium for a private passenger type vehicle was \$56.60 in mid-1976. Premiums are subject to review annually by the Premiums Board of Tasmania which is established under the Act to recommend rates of premiums to the Minister responsible. (The annual premium was initially \$35.00.)

Scheduled Benefits

The more important of the scheduled benefits prescribed in the Act are:

- (i) Medical, hospital and ambulance expenses.
- (ii) Weekly disability allowance for employed and self-employed persons and housewives.
- (iii) Dependant's allowance.
- (iv) Death benefits.
- (v) Funeral benefits.

Motor Accidents Insurance Board

The Motor Accidents Insurance Board, set up to administer the Act, consists of five members who are appointed by the Governor. The chairman, a legal practitioner, is appointed directly and the other four members are each appointed on the recommendation of one of the following organisations: (i) the Tasmanian Government Insurance Board; (ii) participating insurers other than the Tasmanian Government Insurance Board; (iii) the Transport Commission; and (iv) the Royal Automobile Club of Tasmania (representing the interests of motor vehicle users). The Board may enter into agreements with insurance companies to allow them to act as agents in the administration of the Act.

AIR TRANSPORT IN TASMANIA

Introduction

On 16 December 1919, Lt Arthur Long of the Army Flying Corps crossed Bass Strait to Melbourne. Shortly afterwards he started an aerial newspaper-carrying business between Hobart and Launceston.

In January 1931 a scheduled air service from Melbourne to Hobart was commenced by Australian National Airways, but it only operated until June 1931. Separate Launceston-Flinders Island services were commenced in 1932 by L. Johnson and the Holyman brothers—these two services were soon merged to become Tasmanian Aerial Services.

Across Bass Strait services were reintroduced in 1933 by two operators (Matthews Aviation operating via King Island and Hart Aircraft via Flinders Island). In the same year Tasmanian Aerial Services extended their Launceston-Flinders Island run to Melbourne. Matthews Aviation and Hart Aircraft ceased operations in 1934 and Tasmanian Aerial Services was reformed and renamed Holymans Airways. The company introduced, in October 1934, four-engined DH86 bi-planes on the Bass Strait routes—six crossings were made each week (three via King Island and three via Flinders Island). In 1936 Holymans put a Douglas DC2 monoplane on a daily Melbourne-Launceston-Hobart service in addition to the DH86 services. In November 1936 Holymans merged with Adelaide Airways and West Australia Airways—the new company was named Australian National Airways.

In November 1946 the newly-formed Federal Government airline, Trans-Australia Airlines, began services from Melbourne to Launceston and Hobart. Ansett Airways entered the Tasmanian air service in November 1946. (Ansett Airways and A.N.A merged in 1957 to become Ansett-A.N.A.; this name was changed in 1968 to Ansett Airlines of Australia.)

In mid-1976, Ansett Airlines of Australia and Trans-Australia Airlines were operating the greater percentage of passenger traffic to and from the Tasmanian mainland with 93 jet aircraft and 60 prop-jet aircraft per week. PAGAS (Port Augusta Air Services Pty Ltd) operated a commuter service between Melbourne and Flinders Island five days per week.

Supplementary intrastate services began during 1964 and in 1976 Executive Airlines operated a commuter service between Launceston and Flinders Island and Launceston and King Island via Wynyard and Devonport.

Air freight is carried regularly between Melbourne and the major Tasmanian airports and islands in a variety of aircraft ranging from Lockheed Electras of Ansett Airlines of Australia and quick-change Fokker F27 aircraft of Trans-Australian Airlines, to the Argosy, DC3 and Bristol Freighters of the major charter operators.

Planning and Administration

Air Transport and Land Use Planning

Because of the importance of aviation to Tasmania, efforts are being made to have transportation studied as an integrated system to maximise returns on investment in transport facilities. This requires close co-operation between federal, state and local governments since policy decisions in relation to air transport not only affect other transport methods but also have an impact on land use in areas adjacent to airport terminals. In Tasmania, the Tasmanian Airfields Committee has been established to co-ordinate airport developments and adjacent land development.

Administration of the Air Navigation Act and Regulations in Tasmania

The Federal *Air Navigation Act 1920-1974* and associated regulations are administered for Tasmania by the Regional Director, Department of Transport, Victoria-Tasmania Region. The authority is the Federal Department of Transport. The Department's more important functions include the provision and maintenance of government aerodromes and associated facilities, the licensing of aircraft and pilots and a responsibility for supervising all aspects of air safety.

Classification of Flying Activities

Flying activities are classified by regulation into the following well-defined categories:

- (i) *Private Operations*: Private use of aircraft may be gauged by the fact that there were 531 licensed private pilots in the State in June 1976.
- (ii) *Aerial Work Operations*: These operations refer to aircraft used for aerial survey; spotting; photography; agriculture; advertising; flying training; ambulance service; or for the carriage of goods owned by the pilot, the owner or the hirer, for the purposes of trade. Within Tasmania there are four licensed flying training organisations and two aerial agricultural organisations carrying out most of the aerial work activities.

- (iii) *Charter Operations*: These refer to aircraft hired for passenger or freight movement, but not according to fixed schedules, or to and from fixed terminals. There were 11 licensed charter operators based in Tasmania in June 1976.
- (iv) *Commuter Operations*: These are charter operations on a fixed schedule, and to or from fixed terminals; they are authorised by an exemption granted under Air Navigation Regulations. Tasmania has one approved operator.
- (v) *Regular Public Transport*: This refers to aircraft carrying freight and passengers according to fixed schedules, and operating on specified routes. All services of this kind are provided in Tasmania by T.A.A. and Ansett Airlines.

Tasmanian Aerodromes

The major aerodromes in Tasmania are owned and operated by the Federal Government through the Department of Transport. Since 1957 the Federal Government policy has been that aerodromes (except capital city airports) should be owned and operated by local authorities under the local ownership plan. The following describes both Federal Government-owned and other aerodromes in use at 30 June 1976.

Federal Government-owned Aerodromes

Hobart Airport: Ranks seventh in the volume of passengers handled at Australian terminals. It was completed in 1956. Extension and strengthening of the runway, taxiway and aprons to take DC9 and Boeing 727 aircraft at full weight was completed in 1966. The airport is equipped with complex aviation aids. New terminal and communication buildings were completed in 1976. Formerly 18 kilometres by road from the city, the airport became isolated when the Tasman Bridge disaster made a 71 kilometre coach journey necessary for most of 1975. In 1976, the coach journey was reduced to 35.25 kilometres through use of the temporary Bailey bridge erected from Dowsings Point, a site six kilometres upstream from the Tasman Bridge. A helicopter charter service operates between the airport and the city.

Launceston Airport: 16 kilometres south-east of Launceston, it ranks next after Hobart in passenger volume but handles considerably more freight. The area control centre provides air traffic control for Tasmania via repeater stations, south on Mt Wellington and north on Mt Barrow. The airport is also used for flying training, light aircraft charter and aerial work operations.

Devonport Airport: This was originally constructed in the early 1930's. In 1950 it was developed to handle DC3, DC4 and Viscount type aircraft. Regular passenger services (using F27 aircraft), aerial and charter work, flying training and private operations are carried on from this location.

Wynyard Airport: This has one sealed runway of 1 341 metres and one 1 189 metres long for regular public transport operations, charter, aerial work and private operations and ranks next to Devonport in number of passengers carried.

King Island Airport: Is located six kilometres north-east of Currie. It has three gravel runways, night lighting and radio navigational equipment.

Flinders Island Airport: Is located five kilometres north of Whitemark. There are two gravel and one grass landing strips plus an apron, taxiway, terminal and navigation aid facilities.

Cambridge Airport: This was constructed during the early period of aviation and has four runways. The proximity of hills prevent further development and after completion of the Hobart Airport, Cambridge became a centre for light aircraft activities.

Locally Owned Aerodromes

Smithton Airport: Located three kilometres west of Smithton, it is owned by the Transport Commission. It has a sealed main runway plus lesser gravel strips and is used for itinerant charter and private flights.

St Helens Airport: The aerodrome is owned and operated by the Municipality of Portland. A grassed strip 1 189 metres long and 91 metres wide is of sufficient dimension to permit operations by DC3 and F27 type aircraft. The aerodrome currently serves the charter, aerial work and private operation requirements for the area and has a non-directional beacon for instrument navigation.

Queenstown Airport: The Municipality of Queenstown provided an authorised landing area for light aircraft in 1937. In 1963 work was commenced on the construction of a runway suitable for the operation of DC3 type aircraft at Queenstown under the local ownership plan; it was opened on 17 April 1966.

Strahan Airport: This airport, together with Queenstown airport, serves the west coast of Tasmania. Opened for regular public transport operations in 1964, Strahan aerodrome was constructed under the aerodrome local ownership plan and is owned by the Municipality of Strahan.

Aircraft, Passenger and Freight Movements

The following table shows the number of scheduled aircraft movements at the principal airports in Tasmania during recent years. For the purposes of the statistics in this table a take-off is regarded as one movement and a landing as another.

Aircraft Movements: Principal Airports

Year	Hobart (a)	Launceston	Devonport	Wynyard	King Island	Flinders Island
1970	6 301	10 463	3 649	3 727	1 297	600
1971	6 404	11 165	4 039	4 056	1 221	609
1972	6 254	10 581	4 147	4 144	1 283	591
1973	7 061	11 297	4 982	4 769	1 279	604
1974	7 599	10 982	5 409	5 148	1 079	(b) 349
1975	7 365	9 856	4 775	4 334	732	..

(a) The phasing-out of turbo-prop aircraft and the introduction of pure jet aircraft has increased carrying capacity and reduced the number of flights required.

(b) Regular public transport operated by Ansett Airlines of Australia ceased from October 1974.

The next table shows the volume of passengers and freight handled at each airport; the following definitions apply:

Passengers: The figures are for fare-paying passengers only at each airport and are the sum of embarkations and disembarkations.

Freight: The figures are the sum of all revenue freight (including excess baggage) loaded and unloaded at each airport.

Passenger and Freight Movements: Principal Airports (a)

Year	Hobart	Launceston	Devonport	Wynyard	King Island	Flinders Island
PASSENGERS ('000)						
1970	209	186	67	64	20	10
1971	226	205	76	71	23	10
1972	236	216	76	69	23	11
1973	345	271	95	82	26	12
1974	392	299	107	91	22	(b) 7
1975	371	287	100	90	15	..
FREIGHT (Tonnes)						
1970	6 706	9 514	290	281	395	188
1971	6 749	9 730	333	286	471	161
1972	6 487	9 701	318	266	401	118
1973	6 449	12 368	434	304	287	118
1974	7 130	12 131	404	343	220	(b) 60
1975	7 040	11 646	337	335	122	..

(a) See definitions preceding this table.

(b) Regular public transport operated by Ansett Airlines of Australia ceased from October 1974.

Comparison of Principal Australian Airports

The next table shows the volume of activity at the principal Australian airports in terms of the number of passengers, freight and aircraft movements. Details of international services have been excluded so that comparisons are purely in terms of domestic traffic (international services are centred on Melbourne, Sydney, Brisbane and Perth).

Australia: Principal Airports
Passengers, Freight and Aircraft Movements (a), 1975

Airport	Passengers	Freight (tonnes)	Aircraft movements
Sydney (b)	4 980 900	47 054	91 703
Melbourne	4 088 611	55 365	69 798
Brisbane	2 238 326	26 669	37 516
Adelaide	1 549 359	16 640	24 893
Canberra	982 702	3 784	19 187
Perth (b)	702 507	10 823	12 384
Hobart	370 642	7 040	7 365
Launceston	287 187	11 646	9 856

(a) See definitions earlier in this section.

(b) Partially estimated.

POSTAL AND TELECOMMUNICATIONS SERVICES

Introduction

Prior to 1 July 1975 the Postmaster-General's Department provided and controlled postal and telecommunications services in Tasmania, supported by engineering, finance and accounting, supply, personnel and administrative establishments. From 1 July 1975 control of these services has been vested in two commissions: the Australian Postal Commission and the Australian Telecommunications Commission. The Postal Commission now controls the collection, processing and

delivery of mail, postal order and stamp-sales and other postal services while the Telecommunications Commission is responsible for the provision and maintenance of all telephone and telegraph services.

Postmaster-General's Department

Since the inception of the Postal and Telecommunications Commissions the major function of the Postmaster-General's Department has been the regulation and licensing of radio communication stations. These are described in a later section. The following tables, however, show employment details and financial operations of the Postmaster-General's Department for the last year prior to the inception of the two commissions.

Employment

The next tables analyse the total number employed by the Department in Tasmania:

Postmaster-General's Department
Persons Employed by Category at 30 June 1975

Office staff (a)	No.	Others	No.
Permanent officers	2 877	Non-official postmasters and staff ..	243
Temporary and exempt officers (b)—		Telephone office keepers	1
Full-time	545	Mail contractors (c)	162
Part-time	128		
Total	3 550	Total	406

(a) 'Office staff' are those directly under the control of the Department. The remainder shown as 'others' provide services, which may or may not occupy them full time, under contract or in return for payments appropriate to work performed.

(b) Exempt staff are persons exempt from the provisions of the *Public Service Act* (federal).

(c) Includes persons employed to drive vehicles.

Persons Employed at 30 June (a): Summary

Year	Number	Year	Number
1965	4 169	1971	3 828
1966	4 254	1972	3 897
1967	4 247	1973	3 911
1968	4 188	1974	3 984
1969	4 034	1975	3 956
1970	4 030		

(a) Total full-time and other persons included in preceding table.

Revenue and Expenditure

The table that follows gives details of the financial operations of the Department in Tasmania. The following points of explanation are necessary:

Cash Receipts: Prior to 1968-69, cash receipts were paid into the Federal Government Consolidated Revenue Fund; since 1968-69, they have been paid into the Post Office Trust Account which forms part of the Trust Fund of the Federal Government.

Cash Expenditure: Up to, and including 1967-68, cash payments for 'non-capital works' and 'capital works' were made from the Federal Government Consolidated Revenue Fund. From 1968-69, cash expenditures were made from the Post Office Trust Account. Interest and superannuation liability are not brought to account in this table.

Postmaster-General's Department: Financial Operations in Tasmania, 1974-75

Cash receipts (a)		Cash expenditure (b)	
Particulars	\$'000	Particulars	\$'000
Postal	6 896	Salaries and wages	28 744
Telephone	25 938	Material	6 810
Telegraph	712	Carriage of mails by contractors..	415
Proceeds of sales	212	Buildings, sites and properties ..	1 642
Recoverable works	1 526	Accommodation services	924
International services	93	Other (c)	1 745
Total	35 377	Total	40 280

(a) Excludes revenue earned but not actually received.

(b) Excludes expenditure incurred but not actually paid.

(c) Includes travelling allowances, repairs to plant, engineering works and hire of vehicles.

Australian Postal Commission (Australia Post)

Services Provided

Apart from its obvious role of providing postal services the Commission also provides a money order and postal order service and also acts as an agent for a number of other instrumentalities in transactions which include: savings banks deposits and withdrawals; War Service Homes repayments; sale of State duty stamps; sale of taxation instalment stamps and work undertaken on behalf of Telecom Australia (including receipt of telephone account payments).

Money Orders: An order may be obtained for sums up to \$200 on a single order. Orders for overseas are limited to \$100, and a remitter may send only one such order in any week.

Postal Orders: Postal Orders provide security since they can be traced and may also be 'crossed' like a bank cheque. The highest denomination is \$10.

The Postal Service

The first long-distance overland mail service in Australia was started between Hobart and Launceston in 1816, the carrier walking both ways and taking a fortnight for the round trip.

The number of individual postal articles handled in Tasmania in 1974-75 amounted to 60 million compared to 64 million in 1973-74. The Post Office handled 2 682 million articles throughout Australia in 1974-75 compared to 2 818 million in the previous year.

All classes of mail to and from Tasmania are carried by air, free of airmail surcharge. In the more heavily populated areas of the State, one mail delivery is made daily except in the Hobart inner-city area where two deliveries are made. The rationalisation of rural postal services in recent years has preceded improvement of rural mail delivery services.

The following table shows the volume of mail handled and the monetary transactions carried out in Tasmania:

Postal Services (a)

Particulars	Unit	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Post offices—Official ..	no.	52	50	46	46	46	46
Non-official ..	no.	322	307	288	284	251	234
Postal traffic (b)—							
Letters, postcards, etc.	'000	58 824	57 916	54 780	56 328	56 438	52 592
Newspapers, books, etc.	'000	8 953	8 640	6 773	6 859	6 834	7 052
Parcels	'000	300	353	352	358	289	308
Registered articles ..	'000	312	313	268	228	203	193
Money orders—							
Issued—No.	'000	265	214	166	165	149	152
Value	\$'000	5 229	4 624	4 335	4 416	4 629	5 970
Paid—No.	'000	211	167	128	128	115	116
Value	\$'000	4 516	4 257	3 721	3 826	3 960	4 970
Postal Orders—							
Issued—No.	'000	428	496	498	505	507	484
Value	\$'000	871	1 295	1 514	1 605	1 824	1 945
Paid—No.	'000	223	276	263	285	288	271
Value	\$'000	512	784	942	1 078	1 188	1 239

(a) Controlled by Postmaster-General's Department up to 1 July 1975.

(b) Number of separate articles handled.

Australian Telecommunications Commission (Telecom Australia)

Commission Charter

On 1 July 1975, the Australian Telecommunications Commission commenced operating under the provisions of the *Telecommunications Act 1975* and the *Postal and Telecommunications Commissions (Transitional Provisions) Act 1975*. On that date it took over from the Australian Post Office responsibility for telecommunication services within Australia. On commencement the Commission had approximately 3.5 million telephone subscribers throughout Australia, net assets of \$4 000m, a staff of 88 600 and a projected budget for 1975-76 of \$1 900m.

The *Telecommunications Act* includes in the functions of the Commission the responsibility to plan, establish, maintain and operate telecommunications services within Australia. The Act further specifies that the Commission shall perform its functions in such a manner as will best meet the social, industrial and commercial needs of the Australian people for telecommunications services and shall, so far as it is, in its opinion, reasonably practicable to do so, make its telecommunications services available throughout Australia for all people who reasonably require those services.

The Commission is required also to have regard to:—

- (i) the desirability of improving and extending its telecommunications services in the light of developments in the field of communications;
- (ii) the need to operate its services as efficiently and economically as practicable; and
- (iii) the special needs for telecommunications services of Australian people who reside or carry on business outside the cities.

The Act specifies that the financial policies to be followed by the Commission are: (i) revenues are to cover all operating expenditure; and (ii) at least 50 per cent of capital expenditure is to be financed internally by the Commission, the balance being appropriated from the Budget as borrowings.

Development of Telecommunications

Hobart and Launceston were linked by a telegraph line in 1857 and two years later a Bass Strait cable was in operation, only to fail in 1861. By 1869 a second cable was laid and communication with overseas countries became possible in 1872 when the Overland Telegraph was established between Adelaide and Darwin.

The first telephone line in Tasmania linked Hobart and Mt Nelson signal station in 1880, both Hobart and Launceston having exchanges by 1883. However, no link with Victoria or overseas countries was provided until 1936.

The State is now served with a network of high-capacity, high-quality trunk channels which are extended to other Australian states and linked with the Seacom and Compac cables connecting Australia to overseas countries. There are also links to the Overseas Telecommunications Commission earth satellite stations at Carnarvon, Ceduna and Moree.

Telegraph: The teleprinter exchange (TELEX) had only one Tasmanian subscriber in 1957 but 461 were connected by 30 June 1975. The TELEX service is fully automatic and subscribers can now contact each other without an exchange operator's assistance. Calls can be made automatically to many overseas countries tied in with Australian telegraphic services, while the remainder can be contacted through an exchange operator. Extensive use is made of the long established picturegram service by the press; organisations such as the Bureau of Meteorology and private companies have a similar service available for the transmission of charts and documents.

Telephones: The Commission is working towards a highly automated telephone system in Tasmania. More than 98 per cent of telephone subscribers in the State are connected to automatic exchanges which provide continuous service.

The installation, in recent years, of the high-capacity trunk channels, known as the Broadband System, together with modern trunk switching exchanges, has enabled the Commission to provide Subscriber Trunk Dialling (S.T.D.) facilities for the direct dialling of trunk calls. This facility enables subscribers to make direct long-distance calls to anywhere in Australia by simply dialling the required number. Over 98 per cent of telephone subscribers in Tasmania have access to S.T.D. which avoids the delays associated with manually-operated exchanges. Charges are based on actual time used and there is no minimum time period as with manually booked trunk calls.

Facilities for Data Transmission are also available from the Commission in Tasmania. An extension in the use of UHF (ultrahigh frequency) radio to provide mobile telephone services from vehicles is foreseen and the introduction of a radio paging system is under development.

The policy in recent years has been to install underground cables which have higher traffic densities than overhead wires. This policy has resulted in a reduction of overhead wires which is illustrated in the following table:

Cable and Aerial Wire Kilometres at 30 June

Particulars	1971	1972	1973	1974	1975
Aerial wire, single wire	45 548	37 728	31 434	28 702	25 150
Conductors in cable, single wire (a) ..	1 276 195	1 343 912	1 401 030	1 468 978	1 545 372
Co-axial cable, tube	943	943	943	958	958

(a) Mainly underground.

Telephone and Telegraph Services

Telephones: The following tables analyse the telephone and telegraph services in Tasmania:

Telephone Services at 30 June: Operating Services (a)
(‘000)

Particulars	1970	1971	1972	1973	1974	1975
Services in operation—						
Business	35.8	36.5	37.3	37.9	37.8	37.4
Residential	37.8	41.3	43.2	46.4	50.5	57.4
Public telephones ..	1.1	1.1	1.1	1.1	1.1	1.1
Instruments in operation ..	104.8	108.5	112.6	118.4	126.8	133.0

(a) Telecommunications services controlled by Postmaster-General's Department prior to 1 July 1975

Telecommunications (a)

Particulars	Unit	1970-71	1971-72	1972-73	1973-74	1974-75
Telephone—						
Automatic service subscribers	‘000	72	76	80	86	93
Manual service subscribers	‘000	6	5	4	3	2
Subscribers with access to S.T.D.	‘000	60	71	77	84	93
Automatic exchanges ..	no.	167	178	183	189	191
Manual exchanges ..	no.	90	60	47	35	21
Value of calls made—						
Metered (local and S.T.D.)	\$‘000	5 621	7 263	8 430	10 354	12 666
Trunk	\$‘000	2 503	2 477	2 562	2 585	2 297
Public telephone (local and trunk)	\$‘000	465	510	558	601	721
Telegraph—						
Phonograms lodged ..	‘000	266	231	259	256	221
All telegrams lodged (b) ..	‘000	534	494	473	472	424

(a) Telecommunications services controlled by Postmaster-General's Department prior to 1 July 1975.

(b) Includes telegrams lodged by telephone (i.e. phonograms).

RADIO COMMUNICATION

Stations in Tasmania

To establish and operate radio communication equipment, it is necessary to obtain a licence from the Postmaster-General's Department. This Department is responsible for overall management of the radio frequency spectrum involving the following radio regulatory functions: (i) frequency allocation; (ii) frequency measuring and radio monitoring; (iii) determination of equipment standards; (iv) conduct of examinations for Radio Operators' Certificates of Proficiency; (v) inspectorial functions; and (vi) licensing formalities. The radio frequency spectrum is a national resource although it is somewhat different from other resources such as minerals, water, fuels, fisheries, forestry, etc. The radio frequency spectrum is used and not consumed and it is wasted when not used correctly. It is for this reason that the Postal and Telecommunications Department makes every effort to ensure interference-free operation for all services.

Some examples of the use to which this form of communication is put include: (i) mobile radiotelephone networks operated by governmental and semi-government bodies including Tasmania Police, the Hydro-Electric Commission Tasmania, Forestry Commission, Fire Brigades, Municipal Councils, etc.; (ii) mobile

radio-telephone networks operated by private enterprises such as transport and taxi companies, building contractors, etc.; (iii) coastal radio services to ship stations at sea provided by stations operated by the Overseas Telecommunications Commission; (iv) coastal radio services for fishing boats provided by stations operated by private enterprises engaged in the fishing industry at various ports around the Tasmanian coastline; and (v) coastal radio stations in the International VHF Maritime Mobile Radiotelephone Service operated by various Marine Boards for ship-to-shore communications with overseas ships.

The next table relates to radio communication stations only; particulars of broadcasting stations are specifically excluded and are dealt with in a subsequent section.

Number of Authorised Radio Communication Stations at 30 June
(Two-way Services)

Particulars	1970	1971	1972	1973	1974	1975
Fixed stations (a)—						
Aeronautical	8	7	..	..	..	..
Outpost (b)	16	17	17	16	14	11
Other	89	108	92	103	110	108
Total	113	132	109	119	124	119
Land stations (c)—						
Aeronautical	8	8	8	8	7	7
Base stations for—						
Land mobile services ..	401	453	478	523	627	684
Harbour mobile services	16	13	8	7	8	12
Coast (d)	29	27	32	36	37	38
Special experimental ..	17	16	18	16	16	17
Total	471	517	544	590	695	758
Mobile stations—						
Aeronautical	38	47	42	48	52	54
Land mobile services ..	3 489	3 867	4 201	4 606	4 562	5 223
Harbour mobile services ..	72	78	70	69	82	116
Outpost	60	58	72	43	45	48
Ships	507	569	625	691	781	789
Total	4 166	4 619	5 010	5 457	5 522	6 230
Amateur stations	244	231	229	224	229	240
Grand total	4 994	5 499	5 892	6 390	6 570	7 347

(a) For exchange of radio messages with other similar stations.

(b) Stations established in remote localities for communication with control stations, e.g. the lighthouse service.

(c) For exchange of radio messages with mobile stations.

(d) Land stations for communication with ocean-going vessels.

RADIO AND TELEVISION BROADCASTING

General

In Australia radio and television services are provided both from commercial and Federal Government transmitters; the federal *Broadcasting and Television Act 1942-75* governs the operation of services designated to the national broadcasting service, the national television service, the commercial broadcasting service and the commercial television service.

The National Services

The national services (both radio and television) are provided by the Australian Broadcasting Commission which has sole responsibility for program material; the actual transmitters are operated by the Australian Telecommunications Commission.

The Commercial Services

The commercial services (both radio and television) are operated under licences granted by the Minister for Post and Telecommunications, who, in exercising his licensing powers, takes into consideration recommendations made by the Australian Broadcasting Control Board. The revenue of the commercial services is obtained from advertising. Licence fees, payable to the Australian Broadcasting Control Board, are charged on a sliding scale from one per cent to four and one half per cent of gross advertising revenue.

The Australian Broadcasting Control Board

Although the commercial services are operated as private enterprise undertakings, the Board exercises control in certain fields, by prescribing program standards, laying down rules for advertising time and advertising content, determining hours of operation, and by establishing and supervising operational standards. The Board allocates frequencies for transmission and investigates applications for the establishment of stations. In all these functions, it works under the jurisdiction of the Minister for Post and Telecommunications.

Hours of Transmission

At 30 June 1976, eight commercial radio stations were operating in Tasmania; two in the Hobart area each averaging 168 hours weekly; six elsewhere in the State averaging 119.20 hours weekly. The corresponding figures for the two commercial television stations were 67.15 hours weekly in the Hobart area, and 68 hours in the Launceston area.

Program Standards—Commercial Stations*Broadcasting Standards*

Licenses are required to provide programs in accordance with standards determined by the Australian Broadcasting Control Board. These standards contain requirements for the acceptability of program material and advertising. There are special provisions dealing with family and children's programs designed to ensure that all programs broadcast at times when large numbers of children and young persons are listening will be suitable for this category of listener. Special provisions relate to the duration and suitability of advertisements; with regard to their duration the standards require, for example, that advertisements in a sponsored program should not exceed 20 per cent of the program time and that in the case of programs during which spot advertisements are broadcast, advertisements should not exceed 30 per cent of program time. Not more than 18 minutes of spot advertising may be included in any period of 60 minutes.

Also under the *Broadcasting and Television Act 1942-75*, licensees are required to broadcast religious services, or other matter of a religious nature during such periods as the Board determines. The minimum time set by the Board is one hour per week but many stations are providing, free of charge, considerably more time than is required for religious broadcasts.

Television Standards

The Board has prescribed program standards for commercial television, and these, as in the case of radio, contain requirements for the acceptability of program material and advertising. The standards contain special provisions designed to protect the interests of children and young persons with respect to televised material shown prior to 7.30 p.m. The advertising standards relate to the suitability, number, content and duration of advertisements; with regard to their duration, the standards make the distinction between prime time (7.00 p.m. to 10.00 p.m.) and non-prime time. Broadly, advertisements should not occupy more than 11 minutes in each clock hour in prime time and not more than 13 minutes in each clock hour in non-prime time.

Category of Television Programs

The following table shows, as varying proportions of transmission time, the types of programs televised in the Hobart area.

**Category of Television Programs by
Proportion of Transmission Time: Hobart
(Source: Australian Broadcasting Control Board)**

Program category	Commercial programs	National programs
	per cent	per cent
Cinema movies	18.8	2.6
Other drama	35.4	16.7
Light entertainment	16.3	8.7
Sport	8.6	15.3
News	5.5	6.6
Children	4.1	21.4
Family activities	5.8	1.0
Information	1.8	4.1
Current affairs	1.8	6.7
Political matter	0.2	0.2
Religious matter	1.7	1.7
The arts .. .. .	..	1.3
Education .. .. .	..	13.7
Total	100.0	100.0

Australian Content

Section 114 of the *Broadcasting and Television Act* provides that commercial stations shall as far as possible employ the services of Australians in the production and presentation of programs. It also provides that not less than five per cent of the time occupied by music on radio stations shall be devoted to works of Australian composers.

Australian programs account for 52 per cent of radio stations' transmissions. Since July 1973, an additional requirement has applied to radio stations. This called for at least 10 per cent of music time to be occupied by performances (as distinct from compositions) by Australians. This requirement was raised to 12.5 per cent in July 1974, 15 per cent in January 1975 and further increased to 20 per cent in May 1976.

In August 1973, the Board introduced a revised system of requirements designed to encourage a better balanced service by giving incentive to the production and presentation of more Australian material in a wide variety of program categories. Essentially the revised system is based on programs in differing

categories being awarded differing point scores, with the highest point ratings being awarded to those categories which are most in need of encouragement. These include drama, quality variety, current affairs, documentaries and programs dealing with the arts and education. Stations are required to meet a total points target equal to their transmission time in hours. The new system, which retained the specific quotas for drama and children's programs, has been revised twice since its introduction to provide greater flexibility in the light entertainment, information and drama fields.

Television Stations in Operation

The next table gives details of the television stations in operation:

Television Stations in Operation, 30 June 1976

Call sign and channel	Area	Transmitter location	Height above sea level—top of aerial (metres)	Hours of service (weekly)
NATIONAL				
ABT 2	Hobart	Mt Wellington	1 344	89.15
ABNT 3 (a)	NE. Tasmania	Mt Barrow	1 457	89.15
ABKT 11 (a)	King Island	Gentle Annie Hill	245	89.15
COMMERCIAL				
TVT 6	Hobart	Mt Wellington	1 323	67.15
TNT 9	NE. Tasmania	Mt Barrow	1 419	68.00

(a) Transmits programs originating from ABT2.

Relay of Television Programs from Other States

Tasmania is linked with Victoria by a broadband radio link installed by the Australian Telecommunications Commission which enables the direct relay of television programs from the mainland states.

Microwave Links, Intrastate Relays and Translator Stations

Television Translator Stations in Operation at 30 June 1976

Area served	Parent station		Local channel	
	National	Commercial	National	Commercial
Queenstown-Zeehan	ABT2	TVT6	4	8
Rosebery-Renison Bell	ABT2	TVT6	1	10
Taroona .. .. .	..	TVT6	..	8
Swansea-Bicheno	ABT2	TVT6	4	8
Smithton-Stanley	ABNT3	TNT9	1	6
Gowrie Park	ABNT3	TNT9	11	1
South Launceston	ABNT3	TNT9	1	11
St Marys-Fingal Valley	ABNT3	TNT9	1	11
Maydena .. .. .	..	TVT6	..	8
Waratah	ABNT3	TNT9	2	10
Savage River-Luina	ABNT3	TNT9	4	7
Strahan	ABT2	..	10	..
Strathgordon	ABT2	TVT6	5	8
Derby .. .. .	..	TNT9	..	11

The prime sources of programs in Hobart are the commercial and national studios which are linked to their Mt Wellington transmitters (TVT6 and ABT2) by micro-wave links; the commercial studio in Launceston feeds programs to its Mt Barrow transmitter (TNT9) by the same method. As there is no national studio at Launceston, the transmitter on Mt Barrow (ABNT3) relays the Hobart national programs through the broadband radio link. This service is also available to commercial stations.

Tasmania, due to its terrain, has areas where television reception direct from the Mt Wellington or Mt Barrow transmitters is either difficult or impossible. To provide good reception in such areas, translator stations, which are low-powered stations receiving signals from a parent station and re-transmitting on another channel to areas with poor reception, have been installed as shown in the preceding table.

De-icing

In view of the temperature and weather conditions existing at Mt Wellington and Mt Barrow, precautions have been necessary to prevent the formation of ice on the aerial elements and the resultant danger of damage from falling ice.

In the case of the aerial at the Hobart national station (ABT2, Mt Wellington), the aerial elements are heated by mains power which is switched on automatically by means of a thermostat when the temperature falls below freezing point. In the case of the Hobart commercial station (TVT6, Mt Wellington), the junctions between the coaxial feeder lines and the aerial elements are protected by small plastic covers. At the Launceston (Mt Barrow) commercial station TNT9 and national station ABNT3, the whole of the aerials are covered by a plastic cylinder. The lower part of the ABNT3 mast is metal-sheathed for 57.91 metres to ward off ice which falls from the plastic cylinder and which could damage the mast.

Radio Stations in Operation

The following table gives details of the radio stations in operation:

Radio Stations in Operation at 30 June 1976

Call sign	Classification	Location	Hours of service (weekly)
7ZL	National	Hobart	133.00
7ZR	National	Hobart	133.00
7NT (a)	National	Launceston	133.00
7QN (a)	National	Queenstown	133.00
7HO	Commercial	Hobart	168.00
7HT	Commercial	Hobart	168.00
7AD	Commercial	Devonport	116.30
7BU	Commercial	Burnie	113.30
7EX	Commercial	Launceston	137.00
7LA	Commercial	Launceston	134.00
7QT	Commercial	Queenstown	98.30
7SD	Commercial	Scottsdale	116.30

(a) Transmits, in the main, programs originating from 7ZL and 7ZR.

Although there are areas of poor reception due to difficult terrain, most of Tasmania receives a satisfactory radio service from one or more of the above stations. In addition, the northern part of the State receives a service from some

mainland stations. The structure and population distribution in the State has given rise to a regional pattern of radio stations with concentrations in Hobart and Launceston and outlying stations in the north-east, north-west and west.

REPORT ON TRANSPORT TO AND FROM TASMANIA

Introduction

On 10 April 1974, Mr J. F. Nimmo, C.B.E., was appointed by the Federal Government as Commissioner of a 'Commission of Inquiry into Transport to and from Tasmania'. The Report of the Commission, commonly referred to as the 'Nimmo Report' was presented to the Government on 8 March 1976.

The Commission had been appointed because of the widely held view that Tasmania suffered a considerable disability with regard to freight and passenger rates to and from the Mainland as compared to other Australian states. This had been recognised in the past by government subsidies towards shipping serving Tasmania. Pending the findings of the Nimmo Commission, the 1974 Australian National Line freight rates for northbound cargo from Tasmania were frozen. ('Australian National Line' is the operating name of the Australian Shipping Commission.)

Terms of Reference of the Inquiry

The Commission was required to inquire into, report upon and make appropriate recommendations arising out of its findings on the following matters:

- (i) 'the existence and extent of any differences between the levels of charges for the transport of persons and goods between places in Tasmania and places on the mainland of Australia and the levels of charges for the transport of persons and goods between places on the mainland of Australia;
- (ii) 'the main causes of any such differences;
- (iii) 'the effects of any such differences on particular industries in Tasmania and on the possible intention to extend existing industries and develop new industries in Tasmania;
- (iv) 'any measures that might be taken to reduce or eliminate any such differences that have an adverse effect for Tasmania, being measures to improve efficiency in respect of shipping, port utilisation, the organisation of freight forwarding, and other relevant matters, with a view to reducing transport costs . . . '.

The Commission was also directed to ' . . . take account of any disadvantages which Tasmanian industries may suffer in relation to transport because of their physical separation from the mainland of Australia, having regard, however, to any advantages, that industries may enjoy by location in Tasmania . . . '.

The Inquiry

The Commission of Inquiry, which took nearly two years to complete, involved investigation of almost every aspect of the movement of goods and persons between Tasmania and the Mainland, and of the many effects of Tasmania's physical separation from the Mainland on the State's economy. A great deal of information was collected from operators of transport services, freight forwarders, port authorities, Tasmanian and Mainland producers of goods, and from other firms, organisations and individuals. Opinions were sought both in private discussions and at public

hearings. Information on the charges made for moving goods was obtained from 150 individual consignors; also, 87 persons, representing 48 firms and organisations, appeared before the Commission at public hearings and 86 written submissions were received by the Commission. In addition, the Commission engaged Canadian Pacific Consulting Services as advisers.

Principal Findings

Efficiency

The Commission found the efficiency of freight forwarders to be high, although it was considered that a reduction in the variety of cargo units in use would lead to some improvement and also that the turn-around of these units could be speeded up. However, the efficiency of aspects of the administration and operation of some shipping and stevedoring services could be improved. In particular, industrial stoppages were cited in the Report as having increased ship operating costs. The economic viability of privately owned shipping lines was being threatened by the government subsidies paid to the Australian National Line and the Tasmanian Transport Commission. The costs of operating the Australian National Line's passenger vessel *Empress of Australia* and the Transport Commission's *Straitsman* were considered to be so high as to suggest that these vessels were inefficient for the purposes for which they were being used.

The Commission considered that the most economic means of moving goods by sea between the Mainland and places in Northern and North-Western Tasmania would be by the continued use of the ports of Bell Bay, Devonport and Burnie. The Port of Hobart was also considered to have an essential role to play in the interstate movement of general cargo.

The services provided by the Tasmanian Railways were found to be less than efficient. Investigation of the comparative economic cost of moving goods over various routes and by alternative transport modes between Hobart and Melbourne revealed that direct sea movement was cheaper and more efficient than a combined sea-road or sea-rail movement.

Level of Freight Charges

It was widely accepted that Tasmanians suffered no appreciable financial disadvantage resulting from the movement of goods in bulk by sea. However, the Commission found that the average door-to-door charge in the March quarter 1975 for the surface movement, north and south, of almost every non-bulk good between places in Tasmania and places on the Mainland was higher than the charge for moving similar goods over comparable distances by road and rail on the Mainland. Some of the reasons why the charges for moving most goods between Tasmania and the Mainland were higher than the comparable Mainland charges were found to be:

- (i) included in the charge for moving goods by sea are the costs of two intermodal transfers at sea terminals which do not form part of direct road or rail linehails on the Mainland;
- (ii) the need for more consolidation of goods moved by sea;
- (iii) the greater emphasis placed on the space occupied by low density cargo moved by sea in setting sea freight rates than in determining charges for the movement of similar goods by road or rail; and
- (iv) costs for the sea linehaul have been rising more rapidly than the costs for road and rail linehails on the Mainland.

The Commission found that most national manufacturers and distributors located on the Mainland adopted the practice of equalising the prices they charge for their goods delivered to Australian capital cities in respect of a wide range of items. However, average retail prices in Hobart, Launceston and Burnie were found to be a few per cent higher than in Melbourne or Sydney.

Also, the Commission found that there was widespread concern in Tasmania over the relatively high cost of sea and air passenger fares between Tasmania and the Mainland. These fares were found to be consistently higher than those for travelling over similar distances on the Mainland.

Other Transport Disadvantages Suffered by Tasmania

The Report stated that many Tasmanian firms producing for export to the Mainland were more concerned by the unreliability of the shipping services (due primarily to industrial stoppages and the threat of industrial stoppages) than by having to meet excess transport charges. Nevertheless, most firms still considered the relatively high transport charges for moving goods to and from the Mainland a matter of concern.

The time taken to transport goods to the Mainland resulted in some loss of sales and reduced profits for some firms and it was considered that more damage to goods was sustained when they were moved by sea rather than by road or rail.

Summary of Principal Recommendations

The Commission set out a number of recommendations in its Report and the principal ones are summarised below:

- (i) 'That the Federal Government offer direct financial assistance to Tasmanian consignors of most goods bought for use or exported for sale on the Mainland. The assistance would be confined to merchandise moving interstate from Tasmania by sea in Ro-Ro (roll-on and roll-off) or conventional vessels or by air (i.e. it would not apply to the interstate movement of goods in bulk ships) That the level of rates be reviewed either annually or biennially, possibly by the Interstate Commission.'
- (ii) 'That investigations be pursued forthwith, with a view to offering financial assistance to producers who use imported materials and equipment which are not price equalised by Mainland distributors.'
- (iii) 'That operators of Government-owned services be required as quickly as practicable to charge economic freight rates.'
- (iv) 'That Australian National Line be asked to carry out as expeditiously as possible a study of the cost of moving general cargo between a port in Westernport Bay and a wharf in Devonport in a Pure Ro-Ro vessel that completes the round trip in 24 hours as compared with the cost of moving the same cargo between Webb Dock (Melbourne) and Devonport in a Searoad or the *Melbourne Trader*.' If such a Pure Ro-Ro service was assessed to be the cheaper alternative, further studies should be undertaken into the relative costs of moving goods between places in Victoria and Northern Tasmania, with a view to eventually establishing a Pure Ro-Ro service if these studies indicated such a service to be more efficient and cheaper.'

(NOTE: 'Pure Ro-Ro' refers to the method of cargo handling in which cargo transported by sea remains in or on the same wheeled unit during the voyage as during road [or rail] transport to and from the vessel.)

- (v) 'That provision of a rail ferry service between Westernport Bay and Devonport for the carriage of goods and livestock be investigated in depth.'
- (vi) 'That the future sea passenger service between Tasmania and the Mainland be provided by two vessels operating between Westernport Bay and Burnie. Features of the service would be return crossing in 24 hours; daylight passenger service; and express cargo service by night.'
- (vii) 'That until such time as a more efficient sea-passenger service is introduced for the Bass Strait crossing, the Federal Government increase its subsidy to \$2 million per annum on condition that the *Empress of Australia* makes three return trips per week; and Australian National Line increase fares and charges to rates, which when account is taken of the subsidy, are economic.'
- (viii) 'That the Tasmanian Government be requested to consider setting up a central port authority to co-ordinate future port development.'
- (ix) 'That all replacement pallets for use in the Tasmanian trades be constructed on the 1 100 mm x 1 100 mm basis.'
- (x) 'That either " . . . the level of charges for the rail movement in Tasmania of all goods moving interstate be increased to, at least, double its present level; or . . . interstate goods moved by rail between places south of parallel of latitude 42 degrees south, and northern Tasmanian ports be made ineligible for the direct transport assistance proposed . . . " in (i) and (ii), above'.
- (xi) 'That the Federal Government subsidise passenger air fares between Melbourne and Flinders Island and Melbourne and King Island.'

Subsequent Developments

On 9 June 1976, the Federal Minister for Transport announced a radical new freight equalisation scheme for Tasmania that was to operate from 1 July 1976. The main points of the scheme were as follows:

- (i) Introduction of a freight equalisation subsidy of at least \$16 million per year on cargo shipped from Tasmania to the Mainland. Payment of the subsidy for eligible cargoes was to be directly to the consignor rather than to the shipping companies and was designed to place sea freight rates on cargo shipped from Tasmania to the Mainland on a par with rail freights over similar distances on the Mainland.
- (ii) Doubling the annual subsidy on the *Empress of Australia* passenger service from \$1 million to \$2 million.
- (iii) Discontinuance of Australian National Line passenger services between Sydney and Tasmania. (As a result, the *Australian Trader* was to be sold.)
- (iv) Termination of the previously existing \$4.5 million a year subsidy to the Australian National Line.

- (v) Australian National Line freight and passenger rates were to be brought up to economic levels. This was to involve: doubling the north-bound freight rates (which had been frozen in 1974); an increase of approximately 20 per cent in south-bound rates; and an increase of about 15 per cent in *Empress of Australia* passenger fares (Devonport-Melbourne service).

The Minister said that the freight equalisation scheme was based largely on the Nimmo Report and that other aspects of the Report would be considered later. A re-assessment of the subsidy would be made in 18 months time and the whole scheme would be reviewed by not later than 1980. Details of a south-bound sea freight subsidy scheme on goods to be used in Tasmania for production, by industry and on farms, would be announced by the end of the year (this would not apply to consumer goods imported from the Mainland).

Soon after the freight equalisation scheme was announced, Australian National Line published increased freight rates to apply to its Tasmanian general coastal cargo from 1 July 1976. The Line also announced that its cargo carrying capacity to and from Tasmania would be increased by 50 per cent from 1 July 1976. The Chairman of the Australian Shipping Commission said that this increase in capacity was in expectation of a growth in sea traffic to and from Tasmania which would be encouraged by the Government's freight equalisation scheme.

The *Australian Trader* had originally been intended to be taken off the Tasmania-Sydney run from 1 July 1976, but the Australian National Line later extended this to 1 August 1976. On 30 July 1976, maritime unions decided not to allow the *Australian Trader* to leave Bell Bay, where she was then berthed, until the decision to sell her overseas was reversed. The decision was not reversed and the unions finally allowed the vessel to leave her berth at Bell Bay on 24 September 1976. The ship then sailed for Sydney where she was to be sold.

Statement No. 3 attached to the Federal Budget Speech 1976-77 (delivered on 17 August 1976) included the following reference to Tasmanian shipping:

'An amount of \$16 million is provided for the Tasmanian freight equalisation scheme. Under this scheme Tasmanian consignors will receive a subsidy from the Commonwealth in respect of eligible cargoes shipped by sea from Tasmania to the mainland. The scheme is aimed at making the door-to-door freight cost 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. The Government has agreed to extend the scheme to producers' goods and materials shipped from the Mainland to Tasmania. Details of the assistance to apply to eligible south-bound cargo have still to be announced.

'The Budget also includes subsidies payable to the Australian Shipping Commission of \$2 million for the *Empress of Australia* passenger service between Tasmania and the mainland and \$2.8 million for retrospective payment of losses incurred by the Commission in 1975-76 on north-bound general cargo carried from Tasmania to the Mainland.'

Chapter 12

PRIVATE FINANCE

INSURANCE

General

Definitions

The following data on insurance are divided into life insurance and insurance other than life; i.e. fire, marine and general insurance. No distinction is made between insurance and assurance, the former term being used in all contexts.

Legislation

Section 51 of the Federal Constitution confers the necessary powers on the Federal Parliament to legislate with respect to 'insurance other than state insurance; also state insurance extending beyond the limits of the state concerned'. The principal Federal legislation affecting current insurance business is as follows:

Life Insurance Act 1945: This Act provides for uniform control throughout Australia of life insurance business other than business transacted by state government insurance offices, friendly societies and trade unions providing benefits for members or dependants. Also excluded is business in relation to superannuation benefits provided wholly by an organisation established by employers, employees or both.

Under the Act each company must maintain at least one office in each State or Territory in which it conducts life insurance business. Companies are also required to set up statutory funds in respect of their life insurance business in Australia and all amounts received in respect of this business must be paid to, and form part of, the assets of these funds. The assets of the statutory funds can only be used to meet liabilities or expenses relating to the life insurance business and, in certain circumstances, the payment of dividends to shareholders.

Insurance Act 1973: This Act restricts the right to carry on insurance business to authorised companies and Lloyds' underwriters and makes arrangements aimed at ensuring that these are at all times financially sound. Insurance business carried on by the Federal Government or a state government or by a number of named government or semi-government authorities is exempt. The Act does not extend to life insurance business, registered medical or hospital benefits organisations and certain other bodies.

Life Insurance

Since 1947 returns lodged under the *Life Insurance Act 1945* have been used to compile life insurance statistics. In Tasmania, the Government Insurance Office does not transact life insurance business so the tables that follow refer to operations of enterprises exclusively in the private sector. The transactions in the next table are concerned with Tasmania as the 'State of issue' of the policies, not necessarily as the 'State of risk'.

Life Insurance Transactions (Excluding Annuities)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
ORDINARY BUSINESS					
New policies issued—					
Number	17 952	19 016	18 710	17 179	16 300
Sum insured \$'000	107 365	128 738	143 697	158 395	188 795
Annual premiums \$'000	2 430	2 914	2 953	2 794	3 020
Policies discontinued or reduced—					
Number	11 354	12 429	12 432	10 440	15 028
Sum insured \$'000	42 271	49 543	52 647	59 557	76 436
Annual premiums \$'000	999	1 153	1 258	1 327	1 682
INDUSTRIAL BUSINESS (a)					
New policies issued—					
Number	3 642	3 709	3 648	3 127	2 243
Sum insured \$'000	4 730	5 470	6 694	6 577	5 639
Annual premiums \$'000	167	185	213	204	181
Policies discontinued or reduced—					
Number	4 295	5 091	6 124	4 490	5 534
Sum insured \$'000	2 502	3 465	3 983	4 349	5 020
Annual premiums \$'000	99	129	138	142	176
SUPERANNUATION BUSINESS					
New policies issued—					
Number	1 925	1 903	1 785	2 220	2 845
Sum insured \$'000	35 400	38 011	61 799	73 880	98 218
Annual premiums \$'000	1 069	1 205	1 162	2 150	2 907
Policies discontinued or reduced—					
Number	2 105	2 074	2 900	1 436	1 769
Sum insured \$'000	18 131	17 080	27 464	28 339	33 569
Annual premiums \$'000	562	515	653	718	962
TOTAL BUSINESS					
New policies issued—					
Number	23 519	24 628	24 143	22 526	21 388
Sum insured \$'000	147 494	172 220	212 189	238 853	292 648
Annual premiums \$'000	3 666	4 305	4 330	5 146	6 103
Policies discontinued or reduced—					
Number	17 754	19 594	21 456	16 366	22 331
Sum insured \$'000	62 904	70 088	84 095	92 245	115 026
Annual premiums \$'000	1 659	1 797	2 051	2 189	2 818
NEW LOANS PAID OVER (EXCLUDING ADVANCES OF PREMIUMS)					
On mortgage of real estate \$'000	3 345	2 293	2 779	2 503	4 876
On companies' policies \$'000	2 004	2 211	1 606	1 634	2 392
On other securities \$'000	60	52	45	278	211
Total \$'000	5 408	4 555	4 428	4 418	7 479

(a) Industrial business refers, in the main, to policies on which the premiums are collected as regular instalments by agents on commission.

Fire, Marine and General Insurance

Information for insurance, other than life, is compiled from returns provided by insurance companies transacting fire, marine and general insurance business in Tasmania (including the Tasmanian Government Insurance Office). Statistics that follow relate to financial years of companies ending within the period shown and to policies *issued* in Tasmania and not necessarily to those for which the risk is situated in Tasmania.

Definitions

Premiums represent the full amount receivable in respect of policies issued and renewed in the year, less returns, rebates and bonuses paid or credited to policy-holders during the year. They are not adjusted to provide for premiums unearned at the end of the year and consequently the amounts differ from 'earned premium income' appropriate to the year. When business is increasing, as shown in the following statistics, premiums receivable are greater than 'earned premium income' appropriate to the year. The converse applies when business is declining.

Claims include payments made during the year, *plus* estimated amount of outstanding claims at end of year, *less* estimated amount of outstanding claims at beginning of year.

Contributions to fire brigades, commission and agents' charges, and expenses of management are those amounts actually paid during the year.

Taxation represents payments made during the year and includes pay-roll tax, licence fees, etc. Stamp duty and income tax are included in this item up to 1973-74, but excluded from 1974-75.

The following table should not be construed as a profit and loss statement; selected revenue and expenditure items only have been used.

Fire, Marine and General Insurance
(\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Premiums (less returns, rebates and bonuses)	r 23 277	r 27 984	r 30 825	r 34 958	44 445
Interest, dividends, rents	487	639	660	771	(a)
Total (selected revenue items) ..	r 23 764	r 28 623	r 31 485	r 35 729	44 445
Claims (less amounts recoverable) ..	r 13 218	r 15 285	r 18 249	r 23 507	29 743
Contributions to fire brigades	583	(b) 815	979	1 069	1 369
Commission and agents' charges	2 388	2 696	2 999	3 330	3 956
Expenses of management	4 942	5 856	6 364	6 875	8 025
Taxation	626	738	780	1 041	(c) 374
Total (selected expenditure items) ..	r 21 757	r 25 390	r 29 371	r 35 822	(c) (d) 43 853

(a) From 1974-75 figures for this item are available only for Australia as a whole due to a change in collection methods.

(b) Contribution formula changed by law.

(c) Refer to note on Taxation preceding table. Figures for 1974-75 are not comparable with previous years.

(d) Includes other underwriting expenses of \$386 000.

Types of Insurance

The next table shows premiums and claims according to the class of insurance business transacted in 1974-75. ('Premiums' and 'Claims' have been compiled in accordance with the definitions introducing the section.)

Fire, Marine and General Insurance
Premiums and Claims for Each Type of Insurance, 1974-75 (a)
 (\$'000)

Class of business	Premiums	Claims	Class of business	Premiums	Claims
Fire and sprinkler leakage	4 387	992	Public liability	681	879
Houseowners' and householders' comprehensive	3 960	2 000	Plate glass	149	110
Contractors' all risks ..	104	36	Livestock	67	49
Loss of profits	1 117	220	Burglary	416	126
Fruit crop and hailstone..	29	6	Guarantee	25	..
Marine (hull and cargo)..	2 149	2 125	Aviation	6	10
Motor vehicle comprehensive (b)	11 547	8 357	All risks/baggage ..	368	209
Compulsory third party (c)	7 821	5 747	Boiler, engineering and machine breakdown ..	314	248
Personal accident	1 280	541	Other	716	255
Employers' liability	9 308	7 833			
			Total	44 445	29 743

(a) Not strictly comparable with figures published for earlier years due to minor changes in classification.

(b) Includes motor cycles.

(c) Motor vehicles only. The Motor Accident Insurance Board accepted all rights, obligations and liabilities in respect of Compulsory Third Party Insurance from 1 October 1974.

Ratio of Claims to Gross Premiums: The following table shows the ratio of claims to premiums for the more important classes of business over a three-year period:

Fire, Marine and General Insurance
Ratio of Claims to Premiums (a)
 (Per Cent)

Class of business (b)	1972-73	1973-74	1974-75
Fire and sprinkler leakage	39.6	r 31.0	22.6
Houseowners' and householders' comprehensive ..	r 39.5	r 41.1	50.5
Loss of profits	47.0	12.8	19.7
Marine (hull and cargo)	r 51.5	181.4	98.9
Motor vehicle comprehensive (including motor cycles)	67.5	66.5	72.4
Compulsory third party (c)	117.8	149.1	73.5
Employers' liability	64.1	67.1	84.2
Personal accident	38.3	37.7	42.3
Public liability	27.6	41.5	129.1
Plate glass	r 68.5	66.4	73.8
Burglary	r 43.5	50.6	30.3
All classes	r 59.2	r 67.2	66.9

(a) See beginning of section for definition of claims and premiums.

(b) From 1974-75, the classes of business have been revised in accordance with changes in the bases of collection; figures for 1972-73 and 1973-74 have been revised accordingly.

(c) Motor vehicles only.

BANKING AND EXCHANGE RATES**Types of Banks***General*

Banks in Tasmania can be classified by ownership as follows: (i) Government—The Reserve Bank of Australia, the Commonwealth Development Bank of Australia, the Commonwealth Trading Bank of Australia and the Commonwealth Savings Bank; (ii) Private—the private trading banks and the private savings banks; and (iii) Trustee—The Savings Bank of Tasmania (previously the Hobart Savings Bank) and the Launceston Bank for Savings. The Agricultural Bank is *not* a bank for the purpose of these statistics.

For statistical purposes such a classification is not helpful since banks, both government and private, may be engaged in the same type of activity. Hence, the classification in use is one which groups banks according to their type of activity, not according to their ownership. The major banking statistics for the State are presented in two distinct series under the headings 'Trading Banks' and 'Savings Banks'.

Trading Banks

The following seven institutions in Tasmania are classified, for statistical purposes, as 'trading banks': Commonwealth Trading Bank of Australia; Australia and New Zealand Banking Group; Bank of New South Wales; The Commercial Bank of Australia Ltd; The Commercial Banking Company of Sydney Ltd; The National Bank of Australasia Ltd; and The Bank of Adelaide.

Savings Banks

In the 1950's, only three savings banks operated branches in Tasmania: Hobart Savings Bank (now The Savings Bank of Tasmania), Launceston Bank for Savings (both trustee savings banks) and the Commonwealth Savings Bank. The trustee savings banks date from early colonial days, the Launceston Bank opening in 1835, and the Hobart Bank in 1845.

In recent years, private trading banks have opened savings bank subsidiaries in the State, the current list of such banks being: Australia and New Zealand Savings Bank Ltd; The Bank of Adelaide Savings Bank Ltd; Bank of New South Wales Savings Bank Ltd; The Commercial Savings Bank of Australia Ltd; C.B.C. Savings Bank Ltd; and The National Bank Savings Bank Ltd.

Savings banks also offer cheque facilities to customers; however, for statistical purposes their cheque operations are included in 'savings banks statistics'.

Transactions of Trading Banks

The accompanying table summarises the principal statistics relating to all trading banks in Tasmania for a five-year period. The following definitions apply:

- (i) Deposits—a bank liabilities item. The figure is the average, for the year, of *balances* read at weekly intervals.
- (ii) Loans, advances and bills discounted, etc.—a bank assets item. The figure is the average, for the year, of *balances* read at weekly intervals.
- (iii) Debits to customers' accounts—mainly the total of all cheques drawn by customers during a given period. The figure is the average, for the year, of such weekly entries.

**Transactions: All Trading Banks
(Including Commonwealth Trading Bank)**

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
NUMBER					
Branches open (a)	107	104	103	103	101
WEEKLY AVERAGES (\$'000)					
Deposits—					
Federal and state governments ..	6 465	1 210	3 029	3 573	6 499
Other—					
Fixed	50 525	54 940	64 743	93 961	112 543
Current—Bearing interest ..	6 816	7 273	8 915	10 162	11 031
Not bearing interest ..	69 782	71 676	82 454	99 343	99 781
Total	133 587	135 099	159 141	207 040	229 851
Loans, advances and bills discounted (b) ..	86 976	88 098	99 192	121 077	137 189
Debits to customers' accounts (c) ..	64 177	69 970	85 291	103 041	119 447
DEBITS TO CUSTOMERS' ACCOUNTS (c): WEEKLY AVERAGES (\$'000)					
July	66 938	66 582	82 465	104 799	124 844
August	60 901	69 053	75 412	90 398	108 103
September	58 254	65 259	73 670	93 145	109 645
October	60 345	66 151	81 079	104 710	114 603
November	64 483	71 738	82 304	102 197	120 800
December	69 519	74 431	92 456	114 328	139 914
January	53 020	60 180	73 132	88 608	98 287
February	61 912	67 406	81 262	103 674	118 235
March	66 385	72 446	90 043	104 276	127 038
April	65 411	68 674	97 751	111 611	114 590
May	70 679	78 518	103 184	110 055	132 369
June	69 777	76 504	95 639	113 295	131 302
Weekly average for year	64 177	69 970	85 291	103 041	119 447

(a) At end of year.

(b) Excludes loans to authorised dealers in the short-term money market.

(c) Excludes debits to Federal and state government accounts at Hobart branches. In addition to trading bank transactions, those of the Rural Credits Department of the Reserve Bank and the Commonwealth Development Bank are included in this item.

**Trading Banks: Classification of Advances Outstanding Within Tasmania to Borrowers
Resident Within Australia
(\$'000)**

Type of advance	At second Wednesday in July			
	1972	1973	1974	1975
BUSINESS ADVANCES BY MAIN INDUSTRY OF BORROWER				
Agriculture, grazing and dairying—				
Mainly—Sheep grazing	7 791	5 297	5 548	6 700
Wheat growing	8	6	34	24
Dairying and pig raising ..	4 787	6 204	6 937	6 723
Other	8 982	9 732	10 795	13 165
Total	21 568	21 239	23 314	26 612

Trading Banks: Classification of Advances Outstanding Within Tasmania to Borrowers
Resident Within Australia—*continued*
(\$'000)

Type of advance	At second Wednesday in July			
	1972	1973	1974	1975
BUSINESS ADVANCES BY MAIN INDUSTRY OF BORROWER—<i>continued</i>				
Manufacturing	21 983	23 642	30 846	24 728
Transport, storage and communication ..	2 662	3 029	3 023	3 420
Finance—				
Building and housing societies	199	697	468	425
Pastoral and finance companies	285	5	1 211	728
Hire purchase and other finance companies	512	483	1 041	1 117
Other	515	1 147	1 248	801
Total	1 511	2 332	3 968	3 071
Retail and wholesale trade	15 673	17 600	22 608	21 541
Building and construction	2 821	3 809	4 203	4 407
Other business	13 359	14 288	22 095	25 703
Unclassified	741	559	861	739
Total business advances ..	80 318	86 498	110 919	110 221
ADVANCES TO PUBLIC AUTHORITIES				
Public authorities (excl. Federal and state governments)	127	92	537	1 159
PERSONAL ADVANCES BY PURPOSE OF ADVANCE				
Building or purchasing own home (individuals)	4 961	6 379	8 266	9 420
All other	10 042	17 461	23 643	25 223
Total personal advances	15 003	23 840	31 909	34 643
ADVANCES TO NON-PROFIT ORGANISATIONS				
Non-profit organisations	892	1 080	1 410	1 498
TOTAL ADVANCES TO RESIDENT BORROWERS				
Total advances to resident borrowers ..	96 340	111 510	144 776	147 521

The table above gives a classification of trading bank advances outstanding within Tasmania by type of borrower resident within Australia.

Interest Rates and Security Yields

The next table shows the interest rates available on fixed deposits, the interest yield from treasury notes and the yield from government securities:

Interest Rates and Security Yields
(Per Cent Per Annum)

Particulars	Rate		
	June 1973	June 1974	June 1975
Trading banks (maximum rate)—			
Fixed deposits (less than \$50 000)—			
3 months and less than 6 months ..	4.30	6.75	8.00-9.00
6 months and less than 12 months ..	4.30	6.75	8.25-9.50
12 months and less than 18 months ..	4.50	7.50	8.25-9.50
18 months and less than 2 years ..	4.50	7.50	8.25-9.50
2 years	5.50	7.50	8.00-9.50
More than 2 years and less than			
3 years	5.00	7.50	8.00-9.50
3 years and less than 4 years ..	5.00	7.50	8.00-9.50
4 years	5.50	7.50	8.00-9.50
Fixed deposits (\$50 000 and over)—			
30 days to 4 years	(a) 6.50	(a) 8.00	(a) 10.00
Federal Government securities yield—			
Non-rebateable bonds (b)—			
2 years	6.04	10.80	8.49
10 years	6.72	9.52	9.50
20 years	6.99	9.49	9.50
Treasury notes (issue yield)—			
13 week notes	4.91	10.75	7.81
26 week notes	5.10	10.76	8.01

(a) Subject to this maximum, actual rates are a matter for negotiation between banks and their customers.

(b) Yields shown are average for week centred on last Wednesday of month and exclude effect of brokerage.

Savings Banks

The following table summarises the principal statistics relating to savings banks in Tasmania. Deposits are compiled on a basis different from that used in the case of trading banks. 'Deposits lodged' is the total inflow of deposits during the year, and 'depositors' balances' is a single liability reading taken at the end of the year.

The number of operative accounts excludes school bank accounts and small inoperative accounts. The other items in the table relating to depositors' balances etc., relate to all accounts including school bank accounts and small inoperative accounts.

All Savings Banks

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Branches open (a) no.	153	151	155	155	153
Operative accounts (a) '000	486	507	529	561	591
Deposits lodged \$'000	285 190	333 667	419 885	542 651	707 421
Interest added \$'000	7 625	9 406	10 469	13 371	17 085
Excess of deposits over withdrawals \$'000	10 247	15 787	35 660	25 677	37 213
Depositors' balances (a) \$'000	217 663	242 856	288 986	328 029	382 326
Per head of population—					
Depositors' balances (a) \$	558	619	730	819	941

(a) At end of year.

The next table gives details of housing finance transactions by savings banks in Tasmania. Figures for this activity are not available for years prior to 1969-70.

Savings Banks: Housing Finance Transactions

Period	Loans approved to individuals for—						Cancellation of loans previously approved to individuals for housing (a)	
	Dwellings not previously occupied		Dwellings previously occupied		Alterations and additions	Total		
	Number (b)	Amount (c)	Number (b)	Amount (c)	Amount	Amount	Number	Amount
		\$'000		\$'000	\$'000	\$'000		\$'000
1969-70	444	3 357	865	5 542	289	9 188	78	524
1970-71	578	4 853	1 281	8 989	242	14 085	113	1 151
1971-72	630	5 718	1 580	12 171	409	18 298	125	999
1972-73	776	7 953	2 037	18 108	569	26 630	135	1 350
1973-74	860	10 534	1 782	18 422	753	29 709	140	1 314
1974-75	689	9 695	2 291	28 394	957	39 046	202	2 302

(a) Includes amounts cancelled as a result of periodic examination of undrawn commitments.

(b) Number of loans for dwelling units approved for first mortgage finance only.

(c) Includes second mortgage finance to complete original purchase or construction.

At 30 June 1975, the balances outstanding on housing loans made by savings banks to individuals and to building societies were \$104 781 000 and \$1 948 000, respectively.

Interest Rates

The next table shows the maximum rates of interest paid to depositors or charged to borrowers with home mortgages by The Savings Bank of Tasmania. Interest rates paid to depositors or charged to borrowers with home mortgages by the Launceston Bank for Savings, the Commonwealth Savings Bank and the savings bank subsidiaries of the private trading banks, may vary marginally from the rates shown in this table.

The Savings Bank of Tasmania: Maximum Interest Rates (a)
(Per Cent Per Annum)

Date of change in rate	On savings accounts (b)	On home mortgages	Date of change in rate	On savings accounts (b)	On home mortgages
June 1964	3.50	5.50	June 1972	(c) 4.50	7.00
April 1965	3.75	5.75	March 1973	(c) 4.00	7.00
June 1966	3.75	6.00	October 1973	(c) 4.00	(d) 8.00
August 1968	4.00	6.25	August 1974	(c) 4.00	(d) 10.00
May 1970	4.25	7.00	April 1975	(e) 4.00	(f) 9.50
May 1971	5.00	7.00	February 1976	(e) 4.00	(g) 10.50

(a) Operative from first day of month shown.

(b) Fixed deposit rates were the same as for trading banks until February 1966. From February 1966 the rates were 0.25 per cent greater than trading banks rates.

(c) Effective on accounts to \$4 000.

(d) Effective for loans to \$12 500.

(e) Effective on accounts to \$4 000. From \$4 001 to \$20 000 the interest rate was 6.25 per cent.

(f) Effective rate for loans to \$12 500. For loans from \$12 501 to \$20 000 the rate was 11.0 per cent. For loans over \$20 000 the rate was 11.5 per cent.

(g) Effective for all loans to \$100 000.

Private Finance
Overseas Exchange Rates

The next table shows average overseas exchange rates operative for recent periods:

Exchange Rates (a): Average for Period Shown, Overseas Currency Relative to Australian Dollar

Country	Unit of overseas currency	1971-72	1972-73	1973-74	1974-75
Belgium (b)	Francs	52.49	53.51	57.17	50.69
Canada (c)	Dollars	1.17	1.27	1.44	1.35
China-excl. Taiwan Province ..	Renminbi (Yuan)	2.71	2.74	2.87	(d)
France (b)	Francs	6.00	6.05	6.31	6.04
Germany, Federal Republic of ..	Deutsche marks	3.80	3.85	3.71	3.34
Hong Kong	Dollars	6.67	6.94	7.40	6.68
India	Rupees	8.51	9.74	11.48	10.85
Italy (b)	Lire	696	828	892	878
Japan	Yen	368.29	363.49	404.52	401.70
Malaysia	Dollars	3.38	3.37	3.50	(d)
Netherlands	Guilders	3.84	3.92	3.93	3.44
New Zealand	Dollars	0.998	1.031	1.031	1.014
Pakistan	Rupees	5.39	(d)	(d)	(d)
Singapore	Dollars	3.33	3.38	3.50	3.18
South Africa	Rands	0.852	0.957	0.977	0.925
Sri Lanka	Rupees	6.85	8.12	9.56	9.01
Switzerland	Francs	4.57	4.50	4.47	3.66
U.S.A.	Dollars	1.17	1.28	1.47	1.37
U.S.S.R. (c)	Roubles	0.989	1.016	1.1	(d)
United Kingdom	Pound stg	0.461	0.522	0.614	0.581

(a) Average telegraphic transfer selling rates at Sydney.

(b) Two rates were quoted for France from 20.9.71 to 22.3.74, Italy from 1.2.73 to 22.3.74 and Belgium from 20.9.71. The rate shown for these periods is the financial rate used for trade transactions.

(c) Derived from foreign exchange rates quoted against pound stg in London and against pound stg in Sydney.

(d) Daily quotations available on application to any trading bank.

INSTALMENT CREDIT AND OTHER FINANCING

Finance Companies

Finance Companies: In these statistics finance companies are incorporated companies mainly engaged in providing, to the general public, the following credit facilities: (i) instalment credit for retail sales; (ii) personal loans; (iii) wholesale finance; (iv) factoring; (v) other consumer and commercial loans; (vi) financial leasing of business equipment and plant; and (vii) bills of exchange.

The definitions associated with the statistics are set out in considerable detail in the bulletin *Finance Companies Transactions* published by the Australian Bureau of Statistics, Canberra.

Comparability: This was affected by changes introduced on 1 July 1971, 1 July 1972 and 1 July 1973. From 1 July 1971: (i) the exclusion level for companies with balances outstanding was raised from \$100 000 to \$500 000; and (ii) the basis of valuation of leasing agreements was changed from 'initial capital cost less depreciation to date' to 'gross receivables', i.e., the present value of expected future receipts, including unearned income plus the agreed residual value of the goods at the end of the leasing period.

From 1 July 1972: (i) the category 'Commercial Loans Repayable at Call or Within 90 Days' was discontinued; and (ii) the definition of 'Personal Loans' has been amended to include any loans to persons for alterations and additions to existing dwellings estimated to cost less than \$10 000.

From 1 July 1973: (i) the definition of a 'Finance Company' was altered to include leasing and bill of exchange transactions as qualifying assets; (ii) companies mainly engaged in financing the operations of related companies by directly writing agreements with the general public were included in these statistics; and (iii) the item 'Instalment Credit for Retail Sales' has been redefined to exclude details of financing of 'producer' type goods such as plant and machinery, tractors, earth moving equipment, business machines and motor vehicles other than cars and station wagons.

Finance Companies: Transactions (a)
(\$m)

Year	Instalment credit for retail sales	Wholesale finance	Other consumer and commercial loans		Total all contracts
			Contracts including charges (b)	Contracts excluding charges (c)	
AMOUNT FINANCED					
1970-71	32.3	31.0	3.9		67.2
1971-72	34.1	35.5	4.5		74.0
1972-73	38.0	43.1	5.0		86.1
1973-74	36.0	52.3	14.4		102.8
1974-75	44.8	65.7	12.8		123.3

COLLECTIONS AND OTHER LIQUIDATIONS OF BALANCES

1970-71	39.8	31.1	2.3	1.7	74.8
1971-72	42.9	34.7	1.8	2.8	82.3
1972-73	47.2	43.8	1.9	4.2	97.0
1973-74	43.1	52.1	12.3	3.2	110.5
1974-75	46.7	64.2	14.6	3.2	128.8

BALANCES OUTSTANDING AT END OF YEAR

1970-71	49.2	4.7	2.5	5.1	61.5
1971-72	52.7	5.6	2.3	5.4	66.0
1972-73	57.3	5.8	2.9	4.5	70.5
1973-74	52.0	7.0	16.4	5.7	81.1
1974-75	64.2	8.2	18.0	6.4	96.8

(a) See explanatory notes preceding table for explanation of breaks in continuity.

(b) Includes details of personal loans.

(c) Includes factoring

The value of capital goods (business equipment and plant) leased by finance companies, over a five-year period, is shown in the table below:

Finance Companies: Business Equipment and Plant on Lease
(\$m)

Particulars	1970-71	1971-72 (a)	1972-73	1973-74 (b)	1974-75
Value of goods leased during period ..	5.1	5.5	7.5	14.5	14.8
Balances outstanding at end of year ..	8.3	11.8	15.1	21.3	27.3

(a) Change in basis of reporting value of leased goods; see earlier section 'Comparability'.

(b) Change in definition of a Finance Company; see earlier section 'Comparability'.

In the following table the amount financed in respect of instalment credit for retail sales agreements (a single item in previous tables) is further classified by type of commodity.

Finance Companies: Instalment Credit for Retail Sales
(\$m)

Year	Amount financed during year					Cash collections and other liquidations during year	Balances outstanding at end of year
	Motor vehicles, etc.		Plant and machinery	Household and personal goods	Total		
	New	Used					
1970-71	10.4	14.9	3.4	3.5	32.3	39.8	49.2
1971-72 (a) ..	10.5	17.0	2.8	3.7	34.2	43.0	52.7
1972-73	11.9	19.3	3.8	3.0	37.8	47.2	57.3
1973-74 (a) ..	(b) 32.6		..	3.4	36.0	43.1	52.0
1974-75	(b) 40.7		..	4.1	44.8	46.7	64.2

(a) See earlier section 'Comparability'.

(b) Not available for separate publication.

Instalment Credit for Retail Sales in Tasmania

The collection of data on instalment credit transactions began as a series dealing simply with the hire purchase operations of non-retail finance businesses. The series was then expanded to, firstly, cover the hire purchase operations of retail businesses and, secondly, to introduce a concept of instalment credit considerably broader than hire purchase. A further stage in development has now been reached with a redefinition of the term 'instalment credit' and a change in the classification of businesses which operate instalment credit schemes from 'Retail Businesses' and 'Non-Retail Finance Businesses' to 'Finance Companies' and 'Other Businesses'.

As a result of this change in scope in the series, the statistics published in the next table are not strictly comparable with those published in previous years.

Definitions

The statistics cover operations of all types of instalment credit schemes which relate primarily to the financing of retail sales of goods, whether the credit is advanced by finance companies or other businesses. In general, the term 'instalment credit' is defined as relating to schemes in which repayment is made by regular pre-determined instalments. Types of schemes covered include hire purchase, time payment, budget account and personal loan schemes which relate primarily to financing of retail sales of goods. The term 'retail sales' relates only to retail sales covered by the censuses of retail establishments; from July 1973, other sales of goods to final purchasers (e.g. plant and equipment) are excluded.

Figures for amounts financed exclude interest, hiring charges, insurance, etc. Figures for balances outstanding and collections and other liquidations include these charges. Details are not available of these charges or of other items (e.g. rebates allowed for early payment, late payment charges and bad debts written off) which affect the reconciliation of the three main instalment credit series: amount financed, collections and other liquidations, and balances outstanding.

Statistics of amounts financed are classified by type of goods, defined as follows: (i) motor vehicles, etc.—new and used motor cars and motor cycles, boats, caravans, trailers, and motor parts and accessories; and (ii) household and personal goods—furniture, furnishings and floor coverings, domestic refrigerators, electrical goods, radios, televisions, musical instruments, bicycles, motor mowers, clothing, etc. The category 'plant and machinery' has been discontinued from 1 July 1973 and the category 'motor vehicles, etc.' now *excludes* commercial type vehicles.

Instalment Credit for Retail Sales (a)
(Hire Purchase and Other Instalment Credit)
(\$'000)

Year	Amount financed during period (b)			Balances outstanding at end of period (c)
	Motor vehicles, etc. (d)	Household and personal goods	Total all goods	
FINANCED BY FINANCE COMPANIES				
1973-74	32 555	3 427	35 982	52 032
1974-75	40 712	4 068	44 780	64 186
FINANCED BY OTHER BUSINESSES				
1973-74	457	5 489	5 946	5 621
1974-75	371	5 753	6 124	4 352
FINANCED BY ALL BUSINESSES				
1973-74	33 012	8 916	41 928	57 653
1974-75	41 083	9 821	50 904	68 538

(a) Includes time payment, budget account, and personal loan schemes relating primarily to the financing of retail sales.

(b) Excludes hiring charges, interest and insurance.

(c) Includes hiring charges, interest and insurance.

(d) Types of goods included are defined under 'Definitions' preceding the table.

OTHER PRIVATE FINANCE

Friendly Societies

Scope

The details that follow refer to 'ordinary' societies, not to 'special' societies. Ordinary societies are those which provide customary sick and funeral benefits and are subject to actuarial valuation. Special societies restrict their membership to employees of industrial parent organisations and are not subject to actuarial valuation.

Friendly Health Services (F.H.S.): This organisation was originally established to administer medical and hospital benefit funds to which members of existing societies could contribute; funds, membership and activities of this description are excluded from statistics of ordinary friendly society activities. F.H.S. later extended its scope to 'ordinary' society activities. Details of the latter only are included in friendly society statistics.

Membership

Friendly societies were a form of social organisation to help members meet the costs of sickness, burial, etc. at a time when government social services were either meagre or non-existent. Membership reached a maximum (over 22 000 in male lodges) in the pre-depression years but has since steadily declined. From the 1950's, there has been rapid development of various government-encouraged insurance schemes to assist families with hospital and other expenses associated with sickness; such schemes have evolved, in general, outside the framework of the friendly society movement.

With F.H.S. excluded from consideration, it was observed that: (i) decline in membership of other ordinary societies has continued (from 6 816 members in 1962 to 3 275 in 1974); (ii) the average age of members has continued to increase (from 36.7 years in 1920 to 66.8 years in 1974).

In the following table male and female members of the F.H.S. Sickness and Assurance Fund and Whole of Life and Endowment Fund have been included.

Friendly Society Membership and Number Who Received Sick Pay, 1974

Particulars	Membership details					Members who received sick pay
	Financial members	Total membership (a)	Average age of members	Admissions	Departures (b)	
	no.	no.	years	no.	no.	no.
All societies (excl. Friendly Health Services)—						
Males	3 175	3 217	66.8	6	239	444
Females	58	58	69.0	..	1	1
Total	3 233	3 275	66.8	6	240	445
Friendly Health Services (c) ..	371	465	32.5	n.a.	n.a.	98
Total all societies ..	3 604	3 740	62.6	n.a.	n.a.	543

(a) Includes financial members but not honorary members.

(b) Includes deaths.

(c) Due to a change in the basis of calculation of membership for F.H.S. the numbers of admissions and departures are not available.

The figures in the next table, which excludes details for F.H.S., show the decline in membership of other ordinary societies:

Societies, Lodges and Membership (a)
(Number)

Particulars	1969	1970	1971	1972	1973	1974
Societies	8	8	8	8	8	8
Lodges—Male	105	105	103	102	100	(b) 51
Female	6	6	6	5	5	7
Benefit members	4 400	4 164	3 931	3 726	3 509	3 275
Financial members	4 347	4 104	3 877	3 666	3 461	3 233

(a) Friendly Health Services excluded.

(b) Revised method of calculation. Previously some amalgamated branches were double-counted.

Revenue and Expenditure

The following tables show the net revenue and expenditure of friendly societies (excluding inter-fund transfers and transfers between districts and lodges) for the financial years which ended in the years shown.

Friendly Societies (a): Net Revenue and Expenditure, 1974

(\$)

Revenue			Expenditure		
Particulars	Total	Per financial member	Particulars	Total	Per financial member
Members' contributions (b)	55 639	15.44	Medical attendance and medicine ..	1 169	0.32
Interest, rent and dividends ..	98 096	27.22	Sick pay	23 500	6.52
All other income ..	18 565	5.15	Funeral benefits ..	42 226	11.72
			Administration ..	45 000	12.49
			Endowment benefits	10 236	2.84
			Other	15 946	4.42
Total	172 300	47.81	Total	138 077	38.31

(a) Includes Friendly Health Services.

(b) Includes levies.

Friendly Societies (a): Receipts, Expenditure and Accumulated Funds

(\$'000)

Year	Net receipts (b)		Net expenditure (b)				Accumulated funds
	Contributions and levies	Total (c)	Sick pay	Funeral benefits	Other (d)	Total	
1970	59	164	18	47	r 75	r 140	1 411
1971	64	r 168	17	41	r 74	r 132	1 447
1972	66	175	23	47	r 89	158	1 463
1973	64	r 176	25	51	r 116	r 192	r 1 447
1974	56	172	24	42	72	138	1 482

(a) Includes Friendly Health Services.

(b) Excludes inter-fund transfers and transfers between branches within societies.

(c) Comprises: (i) income from investments; (ii) grants received by Friendly Health Services from the ordinary societies; and (iii) other revenue items not specified in the table.

(d) Includes administration and medical attention expenses and endowment benefits paid by societies to members.

Registered Building Societies

Permanent Societies: These societies are both savings and deposit-receiving institutions which advance funds for home building or purchase against the security of first mortgages. Those who invest by taking shares or by making deposits are in a separate category from those who borrow to build or buy a home. The following table summarises the transactions of permanent building societies:

Permanent Building Societies

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
	no.	no.	no.	no.	no.
Operating societies	6	6	6	5	5
Investing shareholders	13 104	14 347	15 765	26 936	35 971
Borrowers	6 094	6 408	7 514	7 124	6 795
	\$'000	\$'000	\$'000	\$'000	\$'000
Loans—Advanced	6 520	10 097	18 777	17 849	17 145
Repaid	5 137	5 546	7 758	10 144	10 803
Deposits—Received (a)	29 549	38 975	52 625	54 629	71 817
Withdrawn	26 876	36 187	44 491	61 074	64 965
Liabilities—					
Paid-up capital and subscriptions	17 780	23 553	31 169	40 379	55 782
Accumulated profits, reserves	1 079	1 147	1 363	1 490	1 581
Deposits	19 841	22 630	30 763	24 318	30 002
Other	844	822	1 613	2 401	2 151
Total	39 544	48 152	64 907	68 589	89 517
Assets—					
Loans on mortgage	35 107	39 657	50 676	58 381	64 723
Land and buildings	1 188	928	1 240	1 440	1 781
Government securities	1 534	3 055	4 003	4 149	3 884
Other investments	1 430	4 151	8 508	3 954	18 086
Cash and current deposits	96	77	100	129	180
Other	188	283	380	536	863
Total	39 544	48 152	64 907	68 589	89 517

(a) Includes interest credited to depositors' accounts.

Co-operative (Terminating) Societies

Terminating Societies are societies which, by their rules, are to terminate at a fixed date or when a result specified in their rules is attained. Societies issue members one class of share and require equated monthly instalments towards share capital from members; when a member borrows to build (and only a member may borrow) he is required to pay additional equated monthly instalments, such addition constituting interest only. The regular instalments in respect of share capital are calculated to amount, with interest, to the nominal amount of the member's shares over the life of the society (say 26 or 30 years). If the member takes out shares with a nominal value of \$6 000, then his borrowing ceiling is set at \$6 000—in other words, the member takes out, in nominal share capital, the amount which he wishes to borrow for home-building. In effect, the member is contributing to a sinking fund for the liquidation of his loan. The terminating societies are termed 'co-operative'.

In the following table relating to co-operative (terminating) housing societies, 'Loans from government' and 'Loans due to government' up to 1971-72 refer principally to loan money made available under the Federal-State Housing Agreement. Such funds were advanced to the societies through the Agricultural Bank which acted as agent for the Federal Government in this field. For 1971-72, loans from the Government for co-operative housing societies were allocated from the State Loan Fund. This system of allocation continued to operate during 1972-73. However, from 1 July 1973 funds were again advanced from money made available under a Federal-State Housing Agreement.

The maximum limit of an individual loan has been increased progressively from \$8 000 (prior to August 1969) to \$22 500 (from July 1976). Societies registered prior to 1 July 1976 were bound by previous limits; societies registered after 1 July 1976 may advance up to \$22 500 to each borrower.

The following table summarises the transactions of the co-operative housing societies operating in Tasmania:

Co-operative Housing Societies

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
	no.	no.	no.	no.	no.
Operative societies	92	98	103	112	116
Shareholders	2 089	2 109	2 212	2 259	2 504
	\$'000	\$'000	\$'000	\$'000	\$'000
Loans—Advanced	1 622	734	1 572	1 568	3 519
Repaid	480	558	888	1 050	624
Loans from—Government	1 333	525	1 553	1 498	3 442
Other lenders	373	258	98	126	210
Repayments to—Government	532	542	799	962	779
Other lenders	237	258	337	303	263
Liabilities—					
Share subscriptions	980	1 087	1 200	1 257	1 379
Reserves	447	522	604	698	876
Loans due to—Government	7 024	7 007	7 761	8 297	10 960
Other lenders (a)	2 897	2 898	2 658	2 481	2 428
Other	170	139	193	185	193
Total	11 518	11 652	12 415	12 917	15 836
Assets—					
Loans on mortgage	11 250	11 425	12 109	12 627	15 522
Other	268	227	306	290	314
Total	11 518	11 652	12 415	12 917	15 836

(a) Includes bank overdrafts for day-to-day running of societies.

Co-operative Societies

The next table summarises the financial transactions of societies registered under Tasmanian law as co-operative industrial societies; excluded are co-operative credit societies which are dealt with in a subsequent section. The activities of co-operative societies include processing of primary products, fish and meat marketing, and wholesaling groceries; profits are distributed among members.

Co-operative Societies

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
	no.	no.	no.	no.	no.
Societies	17	16	15	15	18
Shareholders	6 434	6 695	7 047	7 186	(a) 5 364
	\$'000	\$'000	\$'000	\$'000	\$'000
Sales	11 063	12 346	11 918	10 638	11 523
Less cost of goods sold	9 278	10 506	10 401	9 229	9 773
Trading profit	1 784	1 840	1 517	1 409	1 749
Add non-operating receipts (b)	626	670	474	488	293
Less expenses—					
Wages and salaries	893	871	559	502	681
Interest	169	172	142	117	132
Administration	281	316	313	307	300
Other	993	955	798	780	1 072
Net surplus	74	196	178	192	-143
Dividends paid	74	32	26	71	104

(a) Decrease in membership due to one large society going into liquidation during the year.

(b) Commissions, discounts, services, etc.

Co-operative Societies: Assets and Liabilities at End of Year
(£'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Liabilities—					
Paid-up capital	1 248	1 304	1 410	1 425	1 516
Accumulated profits	685	788	907	512	285
Reserve funds	546	479	420	966	1 042
Loans and bank overdraft	2 388	2 333	1 633	1 501	2 067
Sundry creditors	2 041	2 022	1 319	1 467	1 359
Other (a)	352	279	342	333	1 359
Total	7 260	7 205	6 032	6 203	7 627
Assets—					
Fixed	2 156	2 306	2 067	2 227	2 369
Stock on hand	1 224	1 228	944	922	2 176
Sundry debtors	2 920	2 804	1 484	1 253	1 141
Other (b)	961	868	1 538	1 801	1 940
Total	7 260	7 205	6 032	6 203	7 627

(a) Includes provision for taxation (£57 000 in 1974-75).

(b) Includes shares in other companies (£125 000 in 1974-75).

Co-operative Credit Societies

The co-operative credit societies (credit unions) are registered under the *Co-operative Industrial Societies Act 1928*. Most credit unions have been established by trade unions (e.g. those serving teachers, hospital employees, etc.) and by church groups. Members contribute capital by taking out shares and making deposits. The aim of the societies is to make loans to members at low rates of interest.

The following table shows the societies' annual transactions:

Co-operative Credit Societies

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
	no.	no.	no.	no.	no.
Operating societies	26	27	27	27	23
Shareholders	16 983	19 882	22 918	25 508	24 379
	£'000	£'000	£'000	£'000	£'000
Loans—Advanced	4 543	5 814	(a) 7 664	(a) 7 795	9 400
Repaid	3 112	4 148	(a) 5 284	(a) 6 370	7 539
Deposits—Received (b)	6 978	9 787	(a) 12 780	(a) 13 966	18 334
Withdrawn	5 378	7 862	(a) 10 397	(a) 12 419	15 684
Liabilities (at end of period)—					
Paid-up capital	149	174	195	217	219
Reserves, accumulated profits	84	78	72	24	17
Deposits	6 308	8 233	10 615	12 161	(c) 13 749
Other	318	378	500	549	317
Total	6 859	8 863	11 382	12 952	14 302
Assets (at end of period)—					
Loans	6 399	8 064	10 442	11 868	(c) 12 815
Cash and current deposits	207	349	366	285	586
Other (d)	254	450	574	800	902
Total	6 859	8 863	11 382	12 952	14 302

(a) Partially estimated.

(b) Includes interest credited.

(c) Does not reconcile with data for previous year due to changed collection method.

(d) Includes investments and fixed assets.

Pension and Superannuation Schemes

Private Schemes

Surveys on an Australia-wide basis have revealed superannuation and/or retiring allowance schemes for employees in the private sector as follows: (i) schemes operated through life insurance offices, friendly societies and other organisations such as unit trusts; (ii) superannuation, pension and retiring allowance funds constituted by businesses; and (iii) direct payments of pensions and/or retiring allowances by the employer. No details have been released for individual states. Australian data are published in the Bureau's bulletin 'Survey of Selected Private Pension Funds'.

Government, Local Government and Semi-Government Schemes

The levels of government operating in Tasmania are: (i) federal; (ii) state; (iii) local authority; and (iv) semi-government authority. In the section that follows, any pension or superannuation scheme affecting employees of the Federal Government or its instrumentalities is excluded.

Government superannuation and pension schemes are included as part of 'Private Finance' because the funds involved do not belong to any government but are actually trust moneys held on behalf of contributors. Employees of the State Government contribute to separately constituted funds to which the State Government also makes contributions. Employees of local government and semi-government authorities are covered either by separately constituted funds or by schemes operated through life insurance offices.

The first pension and gratuity scheme for State public servants, introduced in 1860, was non-contributory and short-lived, being repealed in 1863. A contributory provident fund was established under the *Civil Service Act 1900* but this scheme was also short-lived and made way for a contributory but State-subsidised scheme established under the *Public Service Superannuation Fund Act 1905*; a year earlier, a distinct fund had been established with similar principles to serve the teaching service. The *Superannuation Act 1938* established a new fund to serve both public servants and teachers but some pensions continued to be paid from the two funds established in 1904 and 1905. It was not until 1 July 1968 that the residual assets and pension liabilities of these older funds were transferred to the State Superannuation Fund Board. The assets transferred from the 1904 teachers' fund were \$52 990 and from the 1905 public servants' fund, \$17 103.

State Superannuation Scheme 1971: In December 1970, the *Superannuation Fund Act 1938* was amended to provide for adjustments to pensions in accordance with movements in the Consumer Price Index. Next, a new scheme was embodied in the *Retirement Benefits Act 1970*, the date of operation being fixed at 1 July 1971. Contributors to the 'old' scheme were given the right of election, i.e. to change to the 'new' scheme or to stay with the 'old'.

The adoption of fixed percentage contributions as the basis for the new scheme overcame the main difficulty with the more traditional type of scheme, namely the prohibitive cost of new units for contributors in the upper age brackets. The other improvement was the provision for automatic adjustment of the pension in accordance with annual Consumer Price Index movements.

Separately Constituted Funds: In the table that follows, the operations of the following schemes have been combined and summarised: (i) State Superannuation Fund; (ii) State Retirement Benefits Fund; (iii) Police Provident Fund; (iv) Metropolitan Transport Trust—Retiring Allowance and Staff Pension Funds; (v) Marine Boards' independent schemes; (vi) University of Tasmania—Non-Assurance

Subscribers' Accumulation and Additional Benefits Funds; (vii) Hobart Corporation Retiring Allowance Funds; and (viii) Milk Board of Tasmania Superannuation Fund.

**State, Local Government and Semi-Government Pension and Superannuation Schemes
Operated Through Separately Constituted Funds**

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
	\$'000	\$'000	\$'000	\$'000	\$'000
Income—					
Contributions—					
Employees	2 715	3 647	4 098	4 945	6 966
Employing authorities	2 700	3 339	3 542	4 122	5 112
Interest, dividends and rent	1 905	2 194	2 513	2 990	3 936
Other income	84	152	241	447	562
Total	7 405	9 332	10 394	12 505	16 576
Expenditure—					
Pensions	3 132	3 572	4 126	4 862	5 910
Lump sum payments—					
On retirement or death	570	1 032	755	818	1 202
On resignation or dismissal	485	362	530	737	554
Other expenditure	105	32	30	47	272
Total	4 292	4 998	5 441	6 464	7 938
Total assets at end of year	32 914	37 299	42 206	48 274	57 114
	no.	no.	no.	no.	no.
Funds in operation	12	13	12	12	12
Contributors at end of year	14 006	14 699	15 087	15 705	16 468
Number of pensioners at end of year	2 886	3 053	3 152	3 249	3 401

In the previous table, the principal funds included are the State Superannuation Fund and the Retirement Benefits Fund contributed to by all permanent full-time employees of the Public Service, Teaching Service, Transport Commission, Hydro-Electric Commission, Metropolitan Transport Trust, all hospitals subsidised by the State Government and certain police officers (see notes on Police Provident Fund for details). The following table gives principal details of these two funds:

State Superannuation Fund and Retirement Benefits Fund

Particulars at 30 June	Number of contributors	Number of pensioners		Accumulated funds (a) (\$'000)
		Ex-employees	Widows and children	
STATE SUPERANNUATION FUND				
1972	7 282	1 577	1 213	30 280
1973	6 255	1 612	1 195	32 611
1974	5 674	1 604	1 180	(b) 22 767
1975	3 922	1 626	1 165	25 318
RETIREMENT BENEFITS FUND				
1972	6 117	184	43	1 624
1973	7 364	240	64	3 748
1974	8 560	329	88	(b) 19 110
1975	11 092	429	121	24 457

(a) Total assets less liabilities.

(b) Assets to the value of \$12 355 344 were transferred from the State Superannuation Fund to the Retirement Benefits Fund during 1973-74.

Police Provident Fund: The Police Provident Fund, a *closed fund* included in an earlier table, had accumulated funds of \$4 135 734 at 30 June 1975. An amendment to the *Superannuation Act 1938*, in 1963, provided that police officers appointed after 31 December 1963 were required to become contributors to the now closed State Superannuation Fund. Police officers appointed prior to 1 January 1964 could continue as contributors to the Police Provident Fund or exercise an option to become contributors to the State Superannuation Fund. Police officers appointed on or after 1 July 1971 contribute to the Retirement Benefits Fund.

Schemes Operated Through Life Insurance Offices: A number of local government and semi-government authorities in Tasmania operate pension and superannuation schemes for their employees through life insurance offices. The next table combines and summarises the operations of such schemes. The following are the main authorities concerned: (i) Semi-government—marine boards, fire brigades, Metropolitan Transport Trust (Launceston and Burnie), University of Tasmania, ambulances, Society for Blind and Deaf, Museum and Art Gallery, Botanical Gardens; and (ii) Local government—the cities and municipalities. Some authorities, e.g. University, Metropolitan Transport Trust, etc., operate schemes on both bases, i.e. some through separately constituted funds, and others through life insurance offices.

Local and Semi-Government Pension and Superannuation Schemes Operated Through Life Insurance Offices

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
	\$'000	\$'000	\$'000	\$'000	\$'000
Income—					
Contributions—					
Employees	519	611	653	914	1 168
Employing authorities	782	923	994	1 523	1 906
Surrenders	148	184	125	237	397
Death claims	99	85	68	156	174
Matured policies	226	120	567	521	511
Other income	31	34	20	155	166
Total	1 804	1 957	2 428	3 507	4 322
Expenditure—					
Premiums paid to insurance companies	1 308	1 534	1 674	2 192	2 734
Benefits—					
On death or retirement	334	217	640	678	813
On resignation or dismissal	131	138	121	235	399
Other expenditure	14	(a) 43	7	10	24
Total	1 786	1 932	2 442	3 115	3 970
Funds in operation	no. 19	no. 19	no. 21	no. 22	no. 22
Contributors (at end of period)	2 436	2 448	2 832	3 061	3 233

(a) Includes \$29 000 transferred by policy surrender to the Retirement Benefits Fund.

Miners' Pension Fund

In 1943 a bill was introduced into the Tasmanian Parliament to establish a miners' pension fund; the legislation received Royal Assent in 1944. For the purposes of the original legislation and subsequent amending Acts a mine was defined as '... a coal mine or oil-shale mine in this State, and includes a quarry in this State from which coal or oil-shale is obtained, and all the land at or near the entrance to the workings in such a mine or quarry and occupied by the owner in connection with the winning of coal or oil-shale therefrom'.

From the Fund, administered by a three-man board, pensions are paid to miners upon retirement or when incapacitated by injury, etc. and in certain circumstances, to widows and dependants. Contributions to the Fund are made by the State Government, mine owners and miners. Details are as follows:

Miners' Pension Fund

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
	\$'000	\$'000	\$'000	\$'000	\$'000
Income—					
Contributions—					
Employees	2	2	2	2	2
State Government	30	30	30	50	50
Mine owners	11	12	12	11	12
Interest, dividends and rent	9	10	10	10	13
Total	53	54	54	73	77
Expenditure—					
Pensions	57	56	52	50	58
Other expenditure	2	2	2	4	2
Total	59	59	54	54	60
Assets (at end of period)	172	168	168	187	203
Contributors (at end of period)	no. 53	no. 53	no. 46	no. 55	no. 66
Pensioners (at end of period)	145	140	132	129	123

An actuarial report in 1963 indicated that the fund was deficient to the extent of \$657 098. Amending legislation in 1963 provided for the State to contribute such annual sum, not exceeding \$30 000, as the Treasurer might consider necessary to ensure the solvency of the Fund. Previously the State had matched the mine owners' contributions which were related to coal production. The Act was further amended in 1973 to remove the limit on the Government's contribution.

The Parliamentary Pension and Superannuation Scheme

The *Parliamentary Retiring Allowances Act 1955* was repealed and replaced by the *Parliamentary Superannuation Act 1973*, effective from 1 July 1973.

The previous scheme was purely contributive. It provided for a full basic rate pension for members who retired, or were defeated, after a minimum qualifying period of 15 years. Lesser rate pensions were calculated pro-rata to the length of service expressed as a fraction of 15 years; for service less than eight years, a member received only a refund of his contributions. The pension applicable was an amount equal to \$12.50 weekly, plus 34.5 per cent of Australian average weekly earnings per employed male unit in each year ended March, as calculated from employment and wages data on pay-roll tax returns.

Parliamentary Superannuation Act 1973

Administration of the Fund, established under the Act, is vested in the Parliamentary Superannuation Trust which consists of the President of the Legislative Council, the Speaker of the House of Assembly and the Under-Treasurer. Contribution to the Fund is compulsory and is payable at the rate of 12 per cent of the member's parliamentary salary.

The annual rate of pension is calculated as a proportion of basic salary, multiplied by the ratio of the total parliamentary salary (excluding allowances) received during the period of service, to the total basic salary payable in respect

of that period. The proportion of basic salary used in the calculation varies with the length of service (from 41.2 per cent for eight years service to 70.0 per cent for 20 years or more service). Members who retire or resign with less than eight years service are only entitled to a refund of their contributions.

Pension Entitlement: A member is entitled to a pension in the following circumstances:

- (i) if he ceases to be a member, for any reason, after 15 years service; or
- (ii) he has been a member for eight years or more but less than 15 years and resigns for reasons which the Trust certifies to be 'good and sufficient'; or
- (iii) he has been a member for eight years or more but less than 15 years, his term of office expires and he fails to be re-elected for one of several reasons specified in the Act; or
- (iv) he is forced to retire for medical reasons (under these circumstances a member with less than eight years service may be entitled to a pension calculated as though he had served for eight years).

These general provisions of contribution and rate of pension may be varied in cases where the Trust sees fit and which are in accordance with the Act. Any appeal against a decision of the Trust is heard by the Supreme Court of Tasmania.

State Parliamentary Superannuation Scheme
(\$'000)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74 ^(a)	1974-75
Income—						
Members' contribution ^(b)	41	43	46	49	86	97
Government contribution	34	49	76	72	140	200
Interest .. .. .	..	..	..	..	..	..
Total	75	92	122	121	227	297
Expenditure—						
Pension payments ^(c) ..	86	90	93	120	216	295
Other (including refunds)	1	3	29	1	7	3
Total	86	92	122	121	224	299
Total assets (at end of period)	4	..	..	..	6	6
Less liabilities	3	..	..	..	2	4
Accumulated funds .. .. .	..	..	..	..	3	2

(a) New scheme introduced. See explanatory notes preceding table.

(b) Number of contributors throughout period, 54. Contribution for basic rate pension compulsory.

(c) Number of pensioners at 30 June 1975, 39.

Real Estate Transactions

Title to Land

When acquiring land today, the buyer needs to know whether the documents are under the 'old system' or the 'new system'. The new system dates from the *Real Property Act* 1862 when Tasmania introduced an adaptation of the Torrens system (Sir Robert Torrens' Real Property Act became law in S.A. in 1858). The Torrens system provides that the matter of title to land shall be a government responsibility. Each piece of separately-owned land is represented by a certificate of title which, with a few minor exceptions, is guaranteed by the State; in Tasmania,

the issue and registration of titles is the work of the Land Titles Office. A statutory assurance fund is maintained to indemnify owners against loss through error.

Land alienated before 1862 was not subject to the provisions of the *Real Property Act* and transactions involving such land are still being recorded under the *Registration of Deeds Act* (the first Tasmanian Deeds Act was made in 1827); this is the 'old system', involving complicated conveyancing, searching, etc. The conveyance is merely evidence of ownership as between the parties to the agreement and lacks the element of conclusive proof inherent in the new system under which the Torrens certificate of title proclaims 'that the person mentioned in it is owner of the land therein described as against all the world'. Put another way, land passing from A to B, and then to C under the old system requires a search to ascertain the validity of B's ownership and then of A's ownership; under the new system, C's certificate of title is adequate proof without any reference to A and B.

The dual system persists to this day but the *Local Government (Registered Titles) Act* 1966 provided that all new sub-divisions of land should be brought under the *Real Property Act* without charge. Fees on voluntary applications to bring land under the *Real Property Act* have also been abolished to encourage other owners to change to the Torrens system.

Property Sales and Mortgages

Sales of real estate, and mortgages on the security of real estate, involve either certificates of title, under the new system, or deeds, conveyances, etc. under the old system. In the following table, sales and mortgages, recorded both under the *Real Property Act* and the *Registration of Deeds Act* are combined to give a single series showing real estate transactions in Tasmania over a 10-year period:

Real Estate Transactions (a)

Year	Property sales		Mortgages			
	Number	Total consideration	Registered		Discharged	
			Number	Amount	Number	Amount
		\$'000		\$'000		\$'000
1965-66 ..	10 272	56 637	9 818	44 999	6 722	22 957
1966-67 ..	11 011	65 341	9 408	52 258	7 578	24 990
1967-68 ..	11 626	72 651	10 233	60 980	7 419	25 086
1968-69 ..	10 657	74 069	10 616	67 009	7 009	25 237
1969-70 ..	11 478	87 763	9 877	68 924	7 359	28 490
1970-71 ..	11 092	85 043	9 085	66 468	7 150	32 286
1971-72 ..	11 452	91 435	9 803	71 007	7 813	37 332
1972-73 ..	14 052	135 539	12 134	93 804	9 842	59 796
1973-74 ..	17 685	205 549	13 448	129 787	11 125	61 124
1974-75 ..	14 716	188 436	11 759	120 491	10 127	61 366

(a) Registered under the *Real Property Act* and *Registration of Deeds Act*.

Chapter 13

HOUSING AND BUILDING

DWELLING STATISTICS

The 1971 Census and Intercensal Estimates

Information concerning the housing of the State's population is obtained from householders' schedules collected during the population censuses. For the purposes of the 1971 Census an 'occupied dwelling' was defined as 'any habitation occupied by a household group living together as a domestic unit, whether comprising the whole or only part of a building'. The term, therefore, has a very wide reference.

Definitions

For the 1971 Census, private dwellings were dissected into the following categories: (i) Private houses; (ii) Flats; and (iii) Other private dwellings. (An analysis of dwellings classified according to the results of the 1971 Population Census is included in the 1974 to 1976 *Year Books*.) However, as from 1 July 1973, definitional changes affecting dwellings were introduced into the 'building approvals' and 'building construction' statistical series. Private dwellings are now merely dissected into 'houses' and 'other dwellings' and definitions for these are shown below. (These definitions were adopted for the 1976 Population Census.)

House: A house is defined as a building which has been designed or adapted so that its prime purpose is a single self-contained dwelling unit which is completely detached from other buildings; and occupies (except in such cases as dwellings built for employees or families of the owner or lessee of the land) a separate titled block of land.

Other Dwellings: 'Other dwellings' describes all other private dwellings not included under 'houses' and includes dwellings previously described as 'flats, semi-detached home units, villa units, duplexes, etc.'

Intercensal Dwelling Estimates

It is not possible to prepare a detailed analysis of dwellings between censuses but intercensal estimates of the number of houses and other dwellings by local government areas are prepared. The base for the estimates is the total number of occupied and unoccupied private houses and flats as recorded at the preceding census. The census figures are then adjusted for: (i) demolitions, destructions by fire, conversions and transfers of houses and other dwellings; and (ii) completions of new houses and other dwellings. Transfer of houses between local government areas is merely a redistribution and does not affect total number of houses for the State. Information about demolitions, conversions and transfers is obtained from local government authorities and the Hydro-Electric Commission. The number of new houses and other dwellings completed is available from the quarterly building construction collection conducted by the Bureau.

The following table shows the distribution of total houses and other dwellings recorded at the 1971 Census and the estimated distribution for other years. Details are also shown of the percentage of houses and other dwellings which were occupied in each local government area at 30 June 1971. Very low occupancy rates are indicators of the high proportion of holiday homes—most of which would not be occupied at 30 June—located in those areas:

Number of Houses and Other Dwellings at 30 June

Local government area (statistical division and sub-division in bold type)	Houses and other dwellings					
	1971 Census		1972	1973	1974	1975
	Number (a)	Percentage occupied	Estimate (b)	Estimate (b)	Estimate (b)	Estimate (b)
Hobart (H)	16 836	94.1	17 103	17 419	17 746	18 051
Glenorchy (H)	11 778	97.5	12 141	12 401	12 627	12 860
Clarence (H)	10 372	92.6	10 816	11 324	11 914	12 462
Brighton (H) (S)	640	95.3	644	789	969	1 153
Kingborough (H) (S)	3 224	92.8	3 361	3 535	3 797	4 063
New Norfolk (H) (S)	2 590	93.0	2 612	2 660	2 702	2 719
Sorell (H) (S)	2 187	50.0	2 230	2 289	2 379	2 480
Bothwell (S)	708	35.9	708	713	715	717
Bruny (S)	324	35.0	325	326	334	343
Esperance (S)	1 168	81.6	1 186	1 197	1 210	1 220
Glamorgan (S)	686	52.6	695	716	738	754
Green Ponds (S)	261	95.8	266	269	277	279
Hamilton (S)	1 029	91.4	1 066	1 084	1 086	1 089
Huon (S)	1 380	96.2	1 382	1 385	1 388	1 400
Oatlands (S)	772	84.6	773	778	786	792
Port Cygnet (S)	742	78.7	742	749	764	783
Richmond (S)	493	94.3	511	518	528	539
Spring Bay (S)	610	66.2	652	685	739	755
Tasman (S)	628	51.5	642	663	673	696
HOBART	56 428	89.8	57 855	59 500	61 372	63 155
SOUTHERN						
Launceston	11 614	94.5	11 703	11 776	11 851	11 927
Beaconsfield	3 828	82.4	3 938	4 072	4 198	4 319
Deloraine	1 525	91.9	1 545	1 566	1 583	1 612
Evandale	431	95.6	431	436	442	456
George Town	1 855	77.3	1 928	1 982	2 045	2 094
Lilydale	2 207	95.8	2 264	2 323	2 363	2 405
Longford	1 610	93.9	1 621	1 638	1 665	1 688
St Leonards	4 494	95.7	4 644	4 819	4 983	5 235
Westbury	1 485	93.9	1 522	1 555	1 628	1 667
Tamar	29 049	91.9	29 596	30 167	30 758	31 403
Campbell Town	547	83.9	546	545	556	565
Fingal	1 105	87.3	1 105	1 106	1 111	1 121
Flinders	329	83.3	331	333	335	339
Portland	1 036	44.3	1 069	1 090	1 125	1 164
Ringarooma	816	88.0	823	828	840	855
Ross	182	90.7	182	184	183	183
Scottsdale	1 323	80.6	1 342	1 365	1 400	1 432
North Eastern	5 338	76.9	5 398	5 451	5 550	5 659
NORTHERN	34 387	89.6	34 994	35 618	36 308	37 062

Number of Houses and Other Dwellings at 30 June—continued

Local government area (statistical division and sub-division in bold type)	Houses and other dwellings					
	1971 Census		1972	1973	1974	1975
	Number (a)	Percentage occupied	Estimate (b)	Estimate (b)	Estimate (b)	Estimate (b)
Burnie	5 593	95.3	5 720	5 829	5 919	6 058
Circular Head	2 444	85.3	2 467	2 491	2 529	2 574
Devonport	5 876	95.4	6 027	6 237	6 500	6 736
Kentish	1 573	88.2	1 562	1 502	1 499	1 503
King Island	755	93.6	764	781	796	802
Latrobe	1 607	85.4	1 642	1 704	1 754	1 801
Penguin	1 355	95.3	1 394	1 427	1 472	1 510
Ulverstone	3 306	93.8	3 411	3 517	3 641	3 733
Wynyard	3 088	90.8	3 193	3 303	3 440	3 545
North Western	25 597	92.5	26 180	26 791	27 550	28 262
Gormanston	119	97.5	119	117	114	114
Queenstown	1 289	97.6	1 289	1 290	1 287	1 293
Strahan	190	64.7	201	205	205	208
Waratah	477	94.1	495	516	515	515
Zeehan	1 108	79.0	1 262	1 274	1 290	1 311
Western	3 183	88.6	3 366	3 402	3 411	3 441
MERSEY-LYELL	28 780	92.1	29 546	30 193	30 961	31 703
TASMANIA	119 595	90.3	122 395	125 311	128 641	131 920

(a) Comprises only those dwellings classified as private (occupied or unoccupied) houses and other dwellings.

(b) Census figures adjusted for new houses and other dwellings completed, demolished, destroyed by fire, transferred between local government areas, etc.

BUILDING STATISTICS

Scope

For statistical purposes, building relates exclusively to the erection of new buildings (including major new additions to existing buildings); construction work such as the building of railways, bridges, earthworks, water storages, piers, wharves, etc. is excluded. Minor additions, alterations, renovations and repairs to buildings are also excluded because of the difficulty of obtaining lists of persons who undertake this work.

When a dwelling is attached to a new building, the whole unit, both in regard to number and value, is classified according to the type of new building (e.g. a new shop and dwelling is classified simply as a shop). Figures for other dwellings include 'home units' but not conversions of existing buildings into flats. Number of 'other dwellings' refers to the number of new individual dwelling units (e.g. one block of flats containing 10 separate flat units would be counted as 10 dwellings).

Details obtained from government authorities on their construction programs and from building contractors refer to all parts of the State. Details for owner-builders cover only those areas subject to building control by local government authorities; thus some farm buildings are excluded but this does not materially affect the figures.

Source of Data

The main statistics relate to building approvals and to building operations (commencements, completions, etc.). The data are derived as follows:

Building Approvals: These comprise: (i) approvals by local government authorities for the construction of private buildings; (ii) contracts let and day labour projects commenced by governmental authorities; and (iii) private buildings reported by contractors to have been commenced in certain areas of the few rural municipalities where building regulations do not apply to the whole municipality. Details are compiled monthly.

Building Operations: Returns are obtained from: (i) building contractors engaged in the erection of new buildings; (ii) owner-builders; and (iii) federal, state, local and semi-government authorities. Statistics are compiled at quarterly intervals.

Definitions

Contract-built: Includes the operations of all building contractors and government authorities which undertake the erection of new buildings.

Owner-built: An 'owner-built' house is one actually erected or being erected by the owner, or under the owner's direction, without the services of a contractor who is responsible for the whole job.

Commenced: A building is regarded as having been commenced when work on the foundations has begun.

Completed: A building is regarded as having been completed when the contractor has fulfilled the terms of the contract.

With both 'completions' and 'commencements' there is some difficulty in maintaining a uniform classification since the definition of an exact point of time in building operations is involved.

Under Construction: A building is so classified if it is uncompleted at the end of the period, whether or not work on it was actively proceeding at that date.

Values: All values shown exclude the value of land and represent the estimated value of buildings *on completion*. In the case of owner-built dwellings, the owner-builder is required to estimate the value from the cost of the materials and the cost of labour, including his own.

Alterations and additions for jobs valued at \$10 000 and over are included in the tabulations. For building approvals, alterations and additions valued from \$2 000 to \$9 999 are also included. (Numbers of alterations and additions are *not* included.)

All values shown are *current values*, i.e. no adjustment has been made for the substantial rise in building costs over recent years (in order to facilitate comparisons over time). Some perspective to the increases in values can be gained from the wholesale price indexes of materials used in house building and of materials used in building other than house building for Hobart, and from increases in average weekly earnings per employed male unit for Tasmania (see Chapter 17 for details).

Building Approvals

The following table shows details of building approvals; a distinction is made between 'private' and 'government' and the information is dissected to give separate figures for statistical divisions. In 1974-75, 49 per cent of the total value of building approvals was attributed to the Hobart Division, 4 per cent to the Southern Division, 23 per cent to the Northern Division and 24 per cent to the Mersey-Lyell Division.

Building Approvals, By Statistical Division, 1974-75

Particulars	Hobart	Southern	Northern	Mersey-Lyell	Total Tasmania
NUMBER					
Houses—Private	735	202	475	627	2 039
Government	349	16	215	93	673
Total	1 084	218	690	720	2 712
VALUE (\$'000)					
Houses—Private	17 685	2 595	9 200	12 278	41 758
Government	5 789	374	3 309	1 366	10 837
Other new buildings (a)—					
Private	13 882	528	8 875	5 718	29 002
Government	17 684	709	4 713	8 033	31 139
Alterations and additions—					
Private	2 816	222	1 500	1 111	5 648
Government	112	27	53	3	196
All buildings—Private ..	34 383	3 345	19 574	19 106	76 408
Government	23 585	1 109	8 076	9 402	42 172
Grand Total	57 968	4 454	27 650	28 508	118 581

(a) Includes other dwellings.

The next table shows a decline in the number of building approvals for houses between 1970-71 and 1971-72, an increase in house building activity for the following two years and a substantial decline again in 1974-75.

Building Approvals, Selected Years

Particulars	1964-65	1970-71	1971-72	1972-73	1973-74	1974-75
NUMBER						
New houses—						
Private	1 929	1 969	1 996	2 457	2 677	2 039
Government	477	612	488	601	654	673
Total	2 406	2 581	2 484	3 058	3 331	2 712
VALUE (\$'000)						
Houses—						
Private	11 612	21 333	23 896	33 378	44 479	41 758
Government	2 852	5 286	4 535	6 077	7 992	10 837
Other new buildings (a)—						
Private	5 920	24 281	21 218	21 892	27 507	29 002
Government	5 584	17 092	20 434	29 074	20 742	31 139
Alterations and additions—						
Private	1 308	2 801	3 408	3 659	4 388	5 648
Government	316	253	337	213	310	196
All buildings—						
Private	18 840	48 415	48 522	58 929	76 374	76 408
Government	8 752	22 631	25 305	35 364	29 043	42 172
Grand total	27 592	71 046	73 827	94 293	105 417	118 581

(a) Includes other dwellings.

Houses Constructed: The next table shows details of number and value of houses commenced, completed and under construction:

Construction of Houses

Year	Commenced		Completed		Under construction (a)	
	Number	Value (b)	Number	Value (b)	Number	Value (b)
		\$m		\$m		\$m
1969-70 ..	2 682	27.6	2 861	28.3	1 163	11.9
1970-71 ..	2 546	27.0	2 263	24.5	1 393	14.5
1971-72 ..	2 231	25.7	2 261	26.2	1 337	14.5
1972-73 ..	2 795	36.4	2 384	29.6	1 735	22.0
1973-74 ..	3 159	50.0	2 837	42.0	2 016	31.4
1974-75 ..	2 552	50.6	2 691	48.8	1 822	35.3

(a) At end of year.

(b) When completed.

Material of Outer Walls: The following table shows the number of new houses completed and their classification according to the material used in their outer walls. Until 1963-64, wood was the predominant material used for outer wall construction. However, since then there has been a continuous fall in the proportion of wooden walled houses completed; in 1974-75, brick veneer houses accounted for 81 per cent of all houses completed.

Number of Houses Completed Classified by Material of Outer Walls

Material of outer walls	1964-65	1970-71	1971-72	1972-73	1973-74	1974-75
Brick, concrete, etc.—						
Solid	174	93	80	75	128	159
Veneer	1 178	1 618	1 701	1 943	2 390	2 191
Wood (weatherboard, etc.) ..	1 142	350	196	204	161	130
Asbestos cement	78	121	103	125	126	184
Other	7	81	181	37	32	27
Total	2 579	2 263	2 261	2 384	2 837	2 691

Government Construction of Houses: The post-war era was notable for the entry of the State Government into the housing field on a large scale; in November 1945, the Federal Government entered into an agreement with the states whereby it would provide finance for housing projects to be built by the state governments. Under the agreement, Tasmania received \$5 670 000 which it repaid on withdrawing from the scheme in August 1950. The Tasmanian Government nevertheless continued to build houses using the resources available from its own Loan Fund. In 1956, the State Government entered into a new agreement with the Federal Government, an arrangement renewed with minor modifications in 1961 and 1966. This method of allocating funds to the states ceased at 30 June 1971. Tasmania's aggregate advances under the scheme to 30 June 1971 were \$89 477 000. For 1971-72 and 1972-73 funds for State housing were provided as a part of the State's approved loan raisings (i.e. loans raised for housing were credited to Loan Fund and expenditure was made from Loan Fund). Tasmania's Loan Fund allocations for housing were: 1971-72, \$8 300 000 (*Homes Act 1935*, \$5 810 000); and advances through the Agricultural Bank for private home construction, \$2 490 000); and 1972-73, \$9 050 000 (*Homes Act 1935*, \$6 500 000; and advances through the Agricultural Bank \$2 550 000). However, at the June 1973 Premiers' conference the question of allocation of funds for

state housing was again discussed and a new Federal-State Housing Agreement was proposed which provided for the states to receive advances for welfare housing during the five years 1973-74 to 1977-78; these advances are in addition to the states' Loan Fund borrowing programs. (In effect the pre 1971-72 situation has been restored.) Tasmania's allocation for 1975-76 under the new Housing Agreement was \$17 700 000.

The following table shows, for Tasmania, the number of houses completed, for a recent ten-year period and distinguishes between those built for government authorities (all types) and those built for private persons:

Number of Houses Completed For Government Authorities and Private Persons

Year	For government authorities	For private persons	Total	Year	For government authorities	For private persons	Total
1965-66 ..	557	1 703	2 260	1970-71 ..	627	1 636	2 263
1966-67 ..	627	2 138	2 765	1971-72 ..	466	1 795	2 261
1967-68 ..	737	2 594	3 331	1972-73 ..	542	1 842	2 384
1968-69 ..	735	1 969	2 704	1973-74 ..	587	2 250	2 837
1969-70 ..	683	2 178	2 861	1974-75 ..	550	2 141	2 691

The principal construction authority in Tasmania is the State Housing Department but 'houses built for government authorities' includes construction by, or for, other State and Federal Government departments, instrumentalities, etc.

Construction of Houses and Other Dwellings

The figures for the more recent years show a high level of dwellings other than houses (individual units) erected. In 1974-75 other dwellings comprised 23 per cent of the total number of dwellings completed.

In the following tables, details are given of completions of houses and other dwellings:

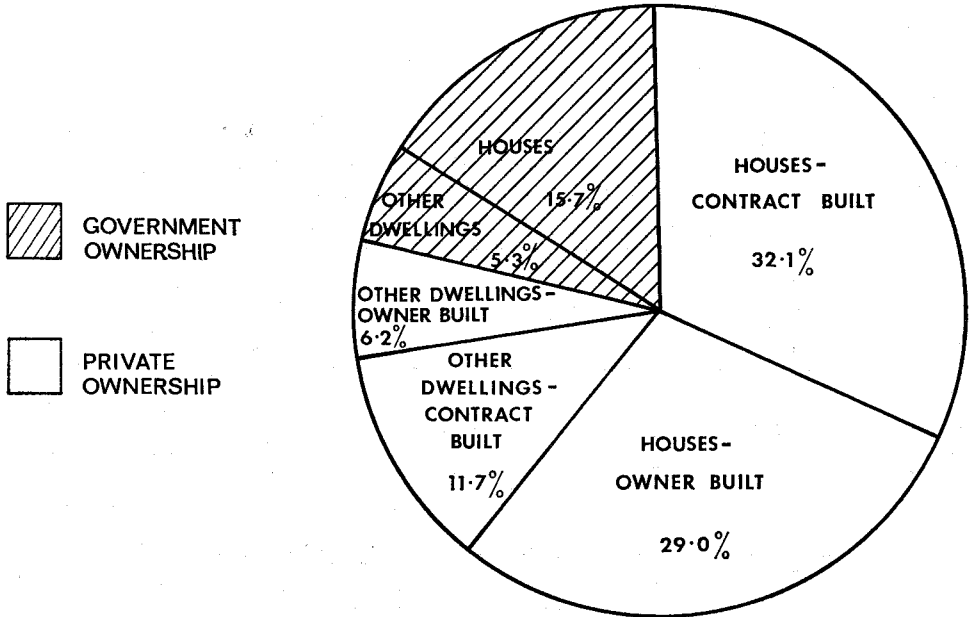
Houses and Other Dwellings Completed

Particulars	1964-65	1970-71	1971-72	1972-73	1973-74	1974-75
NUMBER						
Houses—						
Government ownership—						
Contract-built	275	307	243	280	290	271
Day labour	304	320	223	262	297	279
Private ownership—						
Contract-built	1 200	1 092	1 198	1 117	1 269	1 125
Owner-built	800	544	597	725	981	1 016
Total houses	2 579	2 263	2 261	2 384	2 837	2 691
Other dwellings (a)	153	667	767	781	705	816
Total houses and other dwellings	2 732	2 930	3 028	3 165	3 542	3 507
VALUE (\$'000)						
Houses	19 216	24 459	26 165	29 648	41 957	48 775
Other dwellings (a)	844	4 816	5 534	6 542	6 649	10 049

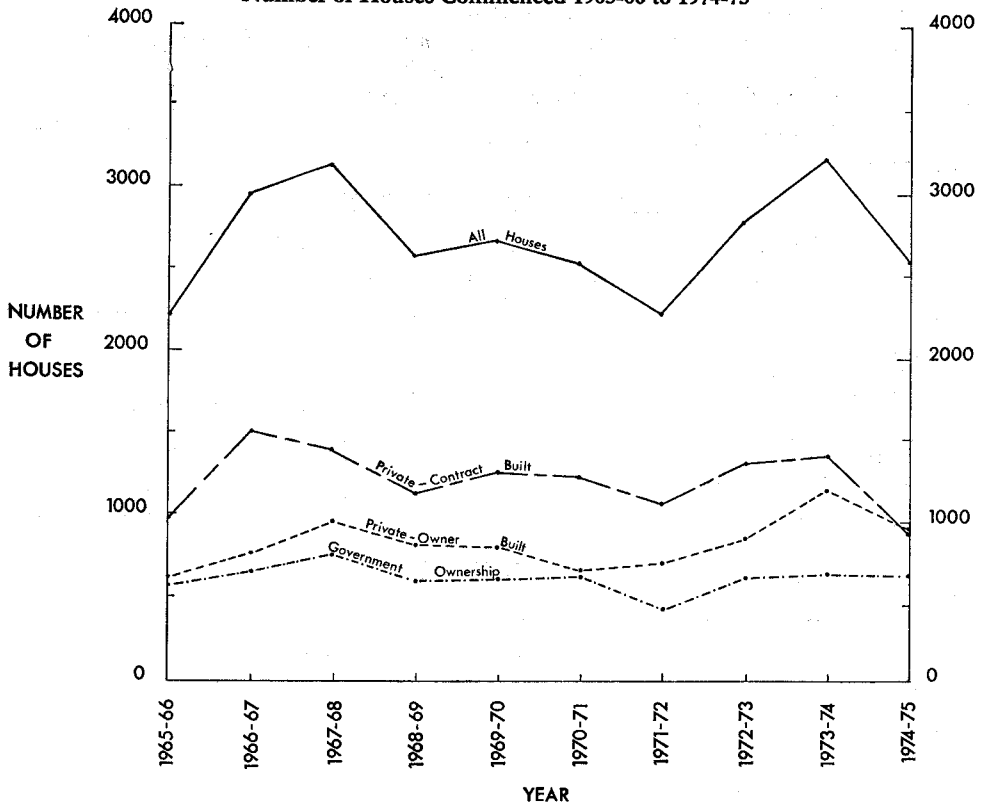
(a) Individual dwelling units.

Housing and Building

**Dwellings Completed 1974-75
(Proportion of Total Number)**



Number of Houses Commenced 1965-66 to 1974-75



Number of Houses and Other Dwellings Completed

Statistical division or sub-division	1973-74			1974-75		
	Houses	Other dwellings	Total	Houses	Other dwellings	Total
Hobart	1 289	507	1 796	1 215	520	1 735
Southern	177	2	179	174	8	182
Northern—						
Tamar	565	77	642	538	167	705
North Eastern	88	18	106	105	4	109
Total	653	95	748	643	171	814
Mersey-Lyell—						
North Western	688	101	789	626	111	737
Western	30	..	30	33	6	39
Total	718	101	819	659	117	776
Total Tasmania	2 837	705	3 542	2 691	816	3 507

The preceding pie chart shows diagrammatically the proportions of dwellings completed classified according to type of ownership and type of dwelling for 1974-75. The graph shows house commencements, classified according to ownership, over a 10 year period.

Construction of All New Buildings

The previous tables in this section have been concerned with the construction of new dwellings. In 1974-75 the value of houses and other dwellings completed represented 59 per cent of the value of all new buildings completed. This compares with 55 per cent in the previous year, 46 per cent in 1972-73 and 45 per cent in 1971-72. The next table shows the value of all buildings completed according to type; houses and other dwellings are included to allow comparison.

Value of All Buildings Completed: Classified According to Type (\$'000)

Type of building	1964-65	1970-71	1971-72	1972-73	1973-74	1974-75
Houses (a)	19 216	24 459	26 165	29 648	41 957	48 775
Other dwellings	844	4 816	5 534	6 542	6 649	10 049
Hotels, etc.	980	2 609	2 464	7 751	4 488	2 256
Shops	1 216	2 097	2 515	2 470	3 980	3 156
Factories	2 536	7 451	4 124	4 447	3 820	5 670
Offices	1 246	2 905	6 746	7 287	8 381	5 721
Other business premises	2 332	4 330	2 854	2 038	2 398	4 296
Education	2 586	4 259	9 240	10 654	13 209	9 980
Religion	308	377	162	289	147	825
Health	3 272	1 921	6 668	4 208	848	3 120
Entertainment and recreation	1 008	1 264	1 006	1 802	1 322	1 700
Miscellaneous	2 200	3 197	2 238	969	1 747	3 946
Total all buildings	37 744	59 684	69 717	78 105	88 946	99 493

(a) Includes estimated value of owner-built houses.

The following table gives details of the total value of all buildings commenced, completed and under construction. The items included under 'all buildings' are specified in the previous table.

Value (When Completed) of All Buildings (a)
(\$m)

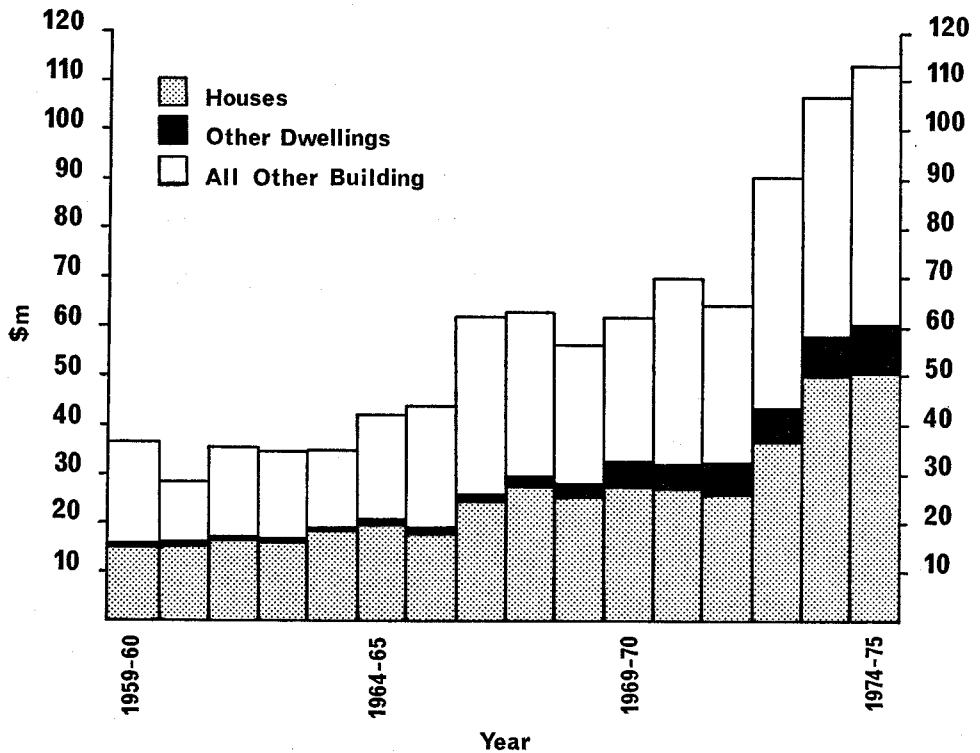
Year	Com- menced	Com- pleted	Under construc- tion (b)	Year	Com- menced	Com- pleted	Under construc- tion (b)
1965-66 ..	43.8	39.7	37.4	1970-71 ..	70.2	59.7	63.5
1966-67 ..	62.1	48.2	51.3	1971-72 ..	64.3	69.7	61.6
1967-68 ..	63.2	61.9	52.5	1972-73 ..	90.6	78.1	76.5
1968-69 ..	56.2	56.9	51.9	1973-74 ..	107.1	88.9	97.4
1969-70 ..	62.1	66.5	51.0	1974-75 ..	113.2	99.5	116.3

(a) Includes estimated value of owner-built houses.

(b) At end of period.

The column graph below shows the value of all building jobs commenced, dissected according to houses, other dwellings and all other building, for the period 1959-60 to 1974-75.

Value of All Building Commenced



The following table shows the distribution of the value of buildings completed according to type:

Value of Buildings Completed, By Type of Building, 1974-75
(\$'000)

Statistical division or sub-division	Houses	Other dwellings	Hotels, etc.	Office buildings	Education buildings	Other buildings	Total all buildings
Hobart	23 582	6 786	1 286	2 951	5 144	9 491	49 241
Southern ..	2 137	89	139	84	186	792	3 426
Northern—							
Tamar ..	9 652	1 964	487	354	1 640	7 501	21 597
North Eastern ..	1 629	57	..	10	..	839	2 535
Total ..	11 281	2 021	487	363	1 640	8 340	24 132
Mersey-Lyell—							
North Western ..	11 154	1 062	334	2 285	2 549	3 864	21 247
Western ..	621	91	10	38	462	225	1 447
Total ..	11 775	1 153	344	2 322	3 011	4 090	22 694
Total Tasmania	48 775	10 049	2 256	5 721	9 980	22 713	99 493

FINANCIAL ASSISTANCE FOR HOUSING

The State Housing Department

General

The Housing Department was established in July 1953 as a separate authority to administer that portion of the *Homes Act* 1935 which relates to the purchase and development of land for housing, and the erection of homes for rental and sale. Funds for these purposes, up to 30 June 1971, were made available under the Federal-State Housing Agreement; allocations of loan funds under the agreement were: (i) in addition to loan raisings credited to State Loan Fund; and (ii) not part of State public debt. For 1971-72 and 1972-73 loans for State housing were credited to State Loan Fund and formed part of public debt. However, for 1973-74 the pre 1971-72 situation was restored when a new Federal-State Housing Agreement became operative. In addition to providing finance for the purchase and development of land and construction of houses, the new Agreement also provides finance for the purchase, upgrading and renovating of existing dwellings and places certain restrictions on the allocation of homes constructed from Agreement funds. The Department uses both day labour and private contractors and has its own factory for timber storage, milling and joinery manufacture in addition to plumbing and electrical workshops, etc. Most dwellings constructed are now three-bedroom brick veneer units, roofed with tiles or corrugated iron. Flats for elderly persons, multi-unit flats and villa units have also been constructed.

Departmental Construction of Dwellings

During 1974-75, 751 dwellings (602 houses, 54 villa flats, 20 multi-unit flats and 75 elderly persons' units) were completed. The following table shows the aggregate of dwelling units constructed by the Housing Department (and by an earlier State housing construction authority) since 1944:

**Aggregate of Dwellings Constructed by State Housing Department
From 1944 to 30 June 1975 (a)**

Type of dwelling	Bed-sitting room	One bedroom	Two bedroom	Three bedroom	Total
Single unit—Timber .. ..	..	..	566	9 291	9 857
Other material .. ..	..	..	93	4 078	4 171
Elderly persons' flatettes ..	449	188	..	..	637
Maisonettes .. ..	..	..	12	10	22
Multi-unit flats (individual units)	1	129	169	17	316
Villa flats .. ..	..	4	153	27	184
Total dwelling units ..	450	321	993	13 423	15 187

(a) Construction to 30 June 1953 undertaken by Housing Division of Agricultural Bank of Tasmania; subsequent construction by State Housing Department.

Dwellings for Rental

Flats, maisonettes and elderly persons' homes are for rental only. Houses may be occupied on either a rental or purchase contract basis. There is no actual income limit for eligibility to rent homes built prior to January 1974, but families on higher incomes may be expected to purchase. The 1973 Agreement, however, does provide certain income limits for eligibility where homes financed from the Agreement are concerned. It also stipulates that, in the case of Tasmania, 50 per cent of the homes built from the advances in the year commencing 1 January 1974 shall be rented, 60 per cent in the year commencing 1 January 1975, and 70 per cent for the remaining three years of the Agreement. The weekly rental of a newly erected three-bedroom house in the Hobart metropolitan area approximated \$33.50 in the March quarter 1976. In all cases where the occupiers' incomes are insufficient to enable them to afford the full economic rental, rebates may be provided. Rebates are graduated according to the incomes of the occupiers.

Dwellings for Sale

Sales are made on a no-deposit purchase contract basis with repayments over a maximum term of 53 years. Homes financed under the 1973 Agreement may be allotted on a purchase contract basis only to those applicants who qualify within a means test. When the agreed purchase price and other charges have been paid ownership of the property is transferred from the Department to the purchaser. Purchasers may sell their homes in certain circumstances. The aggregate number of purchase contracts less surrenders entered into by 30 June 1975 was 8 012. The sale price, excluding land, of a new three-bedroom Department house in the Hobart metropolitan area was approximately \$22 400 in the March quarter 1976.

Amounts outstanding in respect of loans made by the Housing Department by way of purchase contracts are shown in the following table:

Housing Department: Purchase Contracts at 30 June

Loans outstanding	1970	1971	1972	1973	1974	1975
Number	7 434	7 770	8 001	8 123	8 093	8 012
Value \$'000	52 199	55 892	58 740	60 948	62 354	64 284

The interest rate at 1 January 1976 was 5.75 per cent. To be eligible for housing assistance an applicant must satisfy the Department that he is in need of such assistance. Date of application, number of dependants, income and existing accommodation are considered in determining priorities for applicants.

Agricultural Bank of Tasmania—Advances to Homebuilders**Housing Function**

The Agricultural Bank, as an approved authority under the Federal-State Housing Agreement, provides loans under the provisions of the *Homes Act* to prospective home owners. To be eligible for a loan, an applicant, whose gross income is subject to a needs test, must be married, about to be married, or have children for whom it is necessary to provide a home. Loans up to a maximum of \$15 000, or 97 per cent of the Bank's valuation of land and dwelling, whichever is the lesser, are considered on acceptable proposals throughout Tasmania. Such loans attracted interest of 5.75 per cent or 6.25 per cent in May 1976, depending on the application of the needs test. Loans are repayable by equated monthly instalments over periods up to 30 years. Other limited funds were available at 8.5 per cent in May 1976.

The following table shows details for recent years:

Agricultural Bank: Advances for Housing (a)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Advances approved—						
Number	274	322	291	317	490	453
Value \$'000	2 250	2 840	2 571	3 018	5 480	6 148
Advances outstanding (b)						
\$'000	19 184	20 939	22 187	23 219	25 608	30 290

(a) Excludes advances to building societies.

(b) At end of period.

The Agricultural Bank also acts as agent for the State in the transmission of advances under the Federal-State Housing Agreement to the co-operative building societies; details of such advances and of the building societies appear in Chapter 12, 'Private Finance'.

The Australian Housing Corporation**General**

The Corporation's main function is to administer the *Defence Services Homes Act* which was enacted in order to assist certain ex-servicemen to obtain housing with finance made available on a term of up to 45 years at an interest rate of 3¾ per cent.

Defence Service Homes Loans

To be eligible for a loan, an ex-serviceman must have dependants, and must: (i) have volunteered for, or had, overseas service; (ii) be a member or ex-member of the defence forces who has served at least for three years continuous service after 7 December 1972; or (iii) be a National Serviceman who completed the period of service for which he was deemed to have been engaged to serve, on or after 7 December 1972. Also, he must not be the owner of a home at the time of seeking a loan. The following table shows details of Defence Service Homes activities in the provision of finance for Tasmanian housing. Transfers of loans (and houses) between borrowers are not shown as expenditure, nor are details given of additional loans advanced for alterations, etc., to homes already subject to Defence Service Homes finance.

Defence Service Homes Operations: Homes Financed in Tasmania

Year	Loan applications approved (a)	Homes financed			Expenditure
		Homes purchased (b)	Homes built	Mortgages taken-over (c)	
	no.	no.	no.	no.	\$'000
1969-70	181	127	6	32	1 300
1970-71	217	133	9	49	1 530
1971-72	221	144	16	41	1 670
1972-73	203	153	17	47	2 050
1973-74	301	224	7	48	3 200
1974-75	256	190	5	54	3 220

(a) Loan applications *approved* are not necessarily paid out in the same year. A transfer from one borrower and a resale to another is included as a loan approved but not included elsewhere.

(b) New or existing properties not previously subject to Defence Service Homes finance.

(c) Mortgages, raised by individuals to build homes, taken over by Defence Service Homes on satisfactory completion of the home.

Homes Savings Grant Scheme

Under the Federal *Homes Savings Grant Act* 1964-1975, a grant is payable to eligible persons who have accumulated savings, over a period of at least three years, towards the purchase of their first home. In September 1972 conditions of the scheme were liberalised and the maximum grant increased to \$750.

In the 1973-74 Budget the Federal Government announced its intention to end the current homes savings grant scheme and subsequently introduced a scheme of tax deductibility of mortgage interest which had effect from 1 July 1974. Home savings grants were continued for homes contracted to be bought or built, or commenced by an owner-builder, on or before 31 December 1976, by persons who had already commenced to save by 21 August 1973.

The following table gives details for recent years of grants made under the scheme:

Home Savings Grants in Tasmania

Year	Number of grants approved for homes			Grants	
	Purchased	Contract-built	Owner-built	Number approved	Value
					\$'000
1969-70	432	208	76	716	297
1970-71	638	264	101	r1 003	r422
1971-72	712	204	86	r1 002	r421
1972-73	1 109	256	86	r1 451	r716
1973-74	1 059	252	99	r1 410	r824
1974-75	840	138	84	1 062	628

(a) Includes flats and home-units.

Housing Loans Insurance Corporation

The Housing Loans Insurance Corporation was established by the *Housing Loans Insurance Act* 1966 to administer the Federal Government Housing Loans Insurance Scheme under which approved lenders may be insured against losses arising from the making of housing loans. The Corporation consists of a Chairman

(who is also Managing Director) and a Deputy Chairman, who are full-time members, and three part-time members, all of whom are appointed by the Governor-General.

The main purpose of the Housing Loans Insurance Scheme is to assist people to borrow as a single loan, at a reasonable rate of interest, the money they need and can afford to repay to obtain a home suited to their requirements.

To encourage lenders to make high ratio loans, the Corporation may insure a loan of up to \$75 000. The maximum loan to valuation ratio is: (i) 95 per cent where the security is a house or a unit; or (ii) for loans in respect of two units of accommodation 90 per cent.

A 'once and for all' premium is charged by the Corporation at the time the loan is made. The premium is payable by the borrower but lenders may agree to add it to the amount of the loan for repayment by the borrower over the period of the loan. On loans comprising 94 and 95 per cent of the valuation of a home the premium is 1.4 per cent of the amount of the loan. On loans less than 94 per cent of valuation, the premium falls progressively down to 0.25 per cent on loans of less than 76 per cent of valuation.

The Corporation will insure a loan made to enable a borrower who is to occupy the dwelling to buy or build a house, to buy a home unit, or to discharge an existing mortgage. A loan for a dwelling consisting of two units of accommodation is insurable if one of the units is to be occupied by the borrower. Loans for alterations and extensions and loans to meet expenses of providing or improving lighting, sewerage, drainage, fences, roads, etc. are also insurable. In addition to loans secured by a registered first mortgage, there is provision for the insurance of second mortgage loans and cover is available for either full term, fixed term or five year loans.

An insured loan may be made only by an approved lender. Approved lenders are appointed by the Corporation from within approved classes of lenders specified by the Federal Minister for Housing. Approved classes include banks, building societies, friendly societies, mortgage management companies, solicitors, credit unions and trustees of superannuation funds.

The Corporation commenced operations in November 1965 and to April 1976 had insured loans in Tasmania totalling \$112m. The following table shows, for a three year period, the number of loans insured, their purpose and amount:

Housing Loans Insurance Corporation
Loans Insured in Tasmania

Purpose of loan	1972-73		1973-74		1974-75	
	Number	\$'000	Number	\$'000	Number	\$'000
Housing—						
Building a new house ..	137	1 725	110	1 645	47	854
Purchase of—						
New house	160	2 114	169	2 382	78	1 425
Established house ..	1 416	14 359	1 082	12 405	1 009	13 824
Discharge of mortgage ..	58	619	33	389	39	599
Home units	28	316	25	328	37	655
Other	20	312	10	95	10	159
Total	1 819	19 445	1 429	17 244	1 220	17 516

Chapter 14

EDUCATION AND CULTURAL ACTIVITIES

SCHOOL EDUCATION

Introduction

In 1869 Tasmania became the first Colony in the British Empire to make education compulsory. The ages for obligatory attendance at school were progressively widened: in 1898 school attendance was made obligatory between the ages of seven and 13 years; in 1912 between six and 14 years; and in 1946 Tasmania became the only Australian state to make attendance compulsory up to the age of 16, the starting age being six.

Education in Tasmania is now provided at primary, secondary and tertiary levels by government institutions and to secondary level by non-government schools.

A period of 82 years in which the State accepted no financial responsibility for non-government education ended in 1967 when amendments to the *Education Act* 1932 allowed government grants to independent schools. The assistance is paid on a capitation basis and is dependent upon the level of schooling of the pupil.

The task of Tasmanian educational authorities, as in other Australian states in the post-war period, has been to provide more schools, more teachers and better facilities; the principal factors exerting pressure have been: (i) a rapidly growing school population; (ii) a change in attitude resulting in increased demand for secondary and tertiary education; and (iii) community acceptance in general of the need for better education. A feature of recent years has been the acceptance of greater financial responsibility by the Federal Government in a field which was once exclusively the concern of the State.

The remainder of this section on school education covers the following:

- (i) the State (or Government) school system;
- (ii) the non-government (or independent) schools;
- (iii) teachers and teacher training;
- (iv) examinations and Schools Board moderation procedures; and
- (v) functions of the Education Department relating to equipment, libraries, etc.

Schools, Government and Non-Government

In 1946 the Tasmanian government and non-government systems of education were reorganised to provide a three, four or five-year post-primary course. (The pre-war system of secondary education had comprised two stages, a three-year course followed by a two-year course; with a leaving age of 14, and with *selective entry* to government high schools. The proportion of pre-war pupils taking secondary education was very low.)



Flooding on the Macquarie River near Ross in November 1975

[The Examiner, Launceston]

Cethana Dam on the Mersey-Forth hydro-electric scheme

[The Advocate, Burnie]



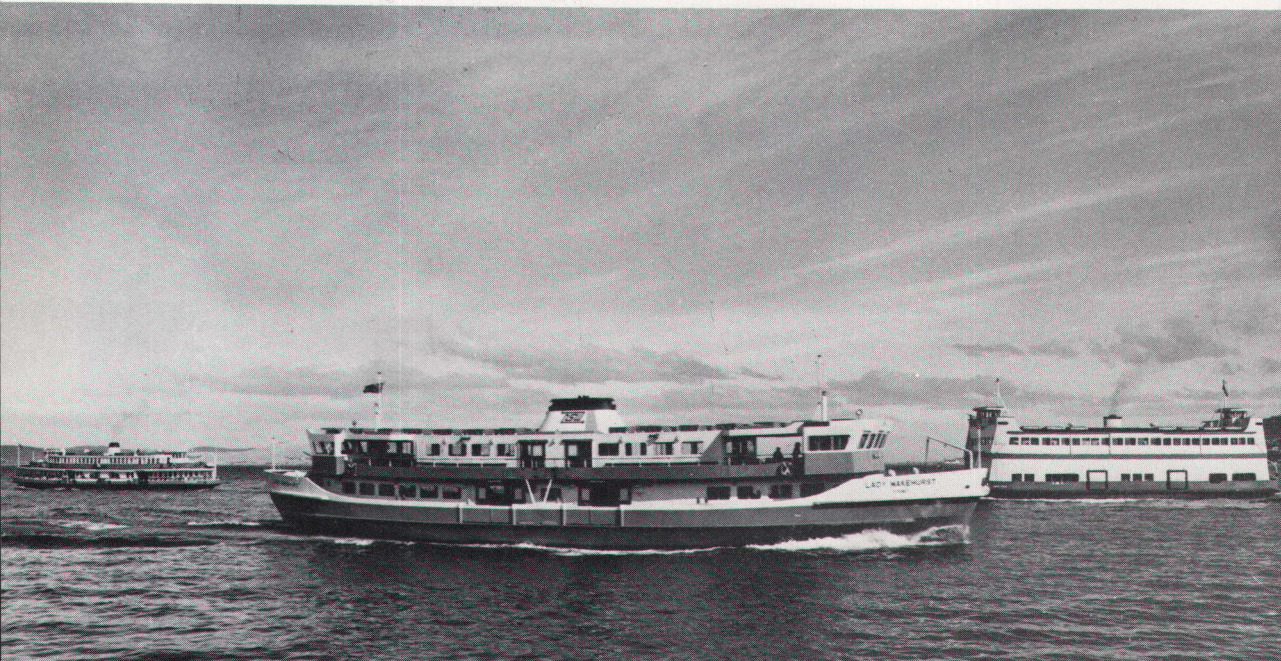


Ferries on the Derwent

Above: The Sullivans Cove Ferry Co. Pty Ltd ferries Martin Cash, Matbew Brady and James McCabe.

Below: The Government ferries Kosciusko, Lady Wakeburst and Harry O'May

[Don Stephens and Associates]



The dual nature of educational responsibility in Tasmania and the numbers of pupils in both government and non-government schools, in primary and secondary grades, are shown in the following table:

Government and Non-Government Schools
Pupils Enrolled at 1 August According to Grade of Education
(Number)

Particulars	1971	1972	1973	1974	1975
Government schools—					
Primary grades (a)	51 361	50 584	49 845	49 515	49 976
Secondary grades	27 888	28 541	28 935	29 347	30 042
Special (b)	843	832	925	973	899
Total	80 092	79 957	79 705	79 835	80 917
Non-government schools—					
Primary grades	8 028	7 815	7 882	7 973	8 204
Secondary grades	6 361	6 266	6 342	6 426	6 393
Special	26	17	13	8	..
Total	14 415	14 098	14 237	14 407	14 597
Total all schools	94 507	94 055	93 942	94 242	95 514

(a) Includes kindergarten classes; see text below.

(b) Includes pupils in special classes attached to ordinary schools.

Kindergarten Classes and Preparatory Classes

In this chapter, the term *kindergarten* is used to describe all pre-school classes, irrespective of whether they operate attached to other schools or whether they operate as separate entities. Separate figures are shown in a later table for enrolments in kindergartens. *Preparatory* classes, commenced in 1974, are included in 'Primary grades'.

The State (or Government) School System

Introduction

The present system had its genesis in the *Education Act 1885*, under which a department was established, headed by a Director of Education, responsible to a Minister. Under the Act, aid to non-government schools was abolished and only in 1967 was this principle re-introduced (with a system of capitation subsidies).

Education is compulsory between the ages of six and 16 years although, in some cases, special exemptions may be obtained. With two exceptions, all schools are co-educational. Education is secular and free; parents buy their children's books, paints, instruments, etc. Pupils' transport is either provided by the Department or subsidised where daily travel costs on public transport exceed 20 cents. The arrangement of transport has been important in the organisation of district and high schools where educational facilities are concentrated and centralised, thereby eliminating many of the smaller country schools.

Present Organisation

Under a Director-General operate three Directors designated: (i) primary; (ii) secondary; and (iii) technical. Regional directors and superintendents are responsible for specific districts; supervisors assist in administration and provide services to schools. Specialist sections deal with curricula, teaching aids, science equipment, speech education, music, physical education, guidance and welfare, library services, educational planning and research, etc.

Expenditure on Education

The following table shows educational expenditure by the State Government from the public account; expenditure from Trust Funds is made by the State acting mainly as agent for the Federal Government.

Expenditure on Education from Consolidated Revenue, Loan Fund and Trust Funds
(\$'000)

Particulars	1972-73	1973-74	1974-75
From Consolidated Revenue—			
General administration, regulation and research ..	1 672	2 091	3 479
Student transport	2 459	2 818	3 347
Primary and secondary	r 30 259	r 38 028	53 238
Technical	2 272	3 060	4 841
University	3 312	2 067	13
Other higher education	6 384	4 871	3 460
Special schools	530	696	1 828
Other	r 471	r 616	1 371
Total	47 358	54 246	71 576
From Loan Fund r—			
General administration, regulation and research ..	2 772	3 482	3 922
Primary and secondary	6 668	7 857	13 213
Technical	992	1 108	188
University	1 962	1 373	..
Other higher education	3 183	2 078	..
Adult education	47	57	40
Special schools	28	245	16
Pre-schools .. .. .	..	154	1 157
Total	15 652	16 354	18 536
From Trust Funds—			
General administration, regulation and research ..	223	42	27
Primary and secondary	1 841	2 452	4 673
University	2 891	6 683	13 992
Other higher education	817	3 249	11 442
Adult education	356	435	663
Other	98	140	310
Total	6 227	13 001	31 108
Grand total	r 69 237	r 83 601	121 220

It should be noted that the preceding table includes amounts voted under other departmental heads for the provision of educational facilities, principally rental and tenancy charges and water, sewerage and other rates paid by the Lands Department.

Enrolment

Enrolments in government schools in the last five years were:

Government Schools
Number of Pupils at 1 August

Pupils	1971	1972	1973	1974	1975
Boys	41 783	41 654	41 318	41 299	41 712
Girls	38 309	38 303	38 387	38 536	39 205
Total	80 092	79 957	79 705	79 835	80 917

Age of Pupils in Each Class

The following table summarises the system of government schooling in Tasmania showing the average ages of pupils in each grade and the type of certificate issued for final year examinations:

Government Schools
Average Ages of Pupils, Primary and Secondary, in Each Grade, and Certificates Issued

Primary classes				Secondary classes				
Grade	Mean age at 1.8.75		Grade	Mean age at 1.8.75		Certificate issued		
	Years	Months		Years	Months			
Kindergartens—								
Separate	4	11	7 ..	12	10	..		
Attached	5	3	8 ..	13	10	..		
Preparatory	5	9	9 ..	14	9	Preliminary School Certificate School Certificate Higher School Certificate		
1	6	8						
2	7	9	10 ..	15	8			
3	8	9	11 (a)	16	11			
4	9	9	12 (a)	18	1			
5	10	10						
6	11	9						

(a) Secondary grades eleven and twelve indicate pupils in their first or second year at Higher School Certificate level.

Number of Government Schools

The following table shows the number of government schools in Tasmania:

Number of Government Schools at 1 August

Type of school	1970	1971	1972	1973	1974	1975
Kindergartens (separate)	45	44	41	39	34	38
Primary (a)	143	144	144	148	155	153
Primary with secondary classes	8	7	8	2	1	..
Special (b)	15	16	16	17	18	18
Area (c)	35	35	34	..	..	..
District (c)	6	6	6	39	36	37
High	28	28	30	30	30	32
Matriculation colleges	3	3	3	5	5	7
Total	283	283	282	280	279	285

(a) Many have kindergartens attached.
 (b) Includes the correspondence school.
 (c) These schools provide both primary and secondary facilities. From 1973 'area schools' became 'district schools'.

Kindergarten Education

Until 1969, pre-schools were established on the initiative of groups of parents, the Department providing the cost of the building but eventually recovering half its outlay from the parents. Commencing in 1969, all new facilities for pre-school education were provided in kindergartens attached to primary schools.

At present, there is a mixture of pre-school facilities, some being provided at primary schools and others constituting separate entities. Pupils at this level of education are shown in the next table:

Enrolments in Kindergartens at 1 August

Particulars	1971	1972	1973	1974	1975
Kindergartens—					
Separate	1 928	1 745	1 714	1 449	1 628
Attached	4 502	4 955	5 277	4 538	4 957
Total (a)	6 430	6 700	6 991	(b) 5 987	6 585

(a) Included in other tables as part of total government school enrolments.

(b) See text that follows for explanation of decrease.

State Primary Schools

General: As mentioned earlier, a preparatory grade was introduced to some schools in 1974. This extra grade will be provided in all primary schools as staffing and accommodation allow. Thus, in future there will be seven primary grades plus kindergarten. It is expected that the approximate age of entry will, within the next few years, become: four years to kindergarten, five years to preparatory and six years to grade 1, at 1 January of each year.

Primary Classes: Most primary schools have six grades, a kindergarten and, increasingly, a preparatory class. Generally parents may select the school they prefer for their children without restriction but, in some areas, zoning directs children to attend a particular primary school.

In addition 37 district schools have primary grades and draw many pupils from outlying localities previously served by one or two-teacher schools. Free transport has made this possible and has led to a reduction in the total number of primary schools.

Primary Pupils: The table below shows the ages and numbers of pupils receiving primary education in Tasmanian Government schools:

Ages and Numbers of Pupils Receiving Government Primary Education (a) at 1 August

Age last birthday (years)	1971	1972	1973	1974	1975
Under 5	2 053	2 012	2 054	1 888	2 260
5	4 781	4 923	5 418	6 034	6 145
6	6 534	6 264	6 219	6 511	7 019
7	7 058	6 549	6 341	6 289	6 522
8	7 127	7 019	6 502	6 287	6 436
9	7 394	7 089	7 098	6 647	6 320
10	7 518	7 258	7 036	6 939	6 352
11	6 826	7 225	6 972	6 724	6 856
12	1 889	2 104	2 048	2 049	1 960
13	160	124	140	124	98
14	14	9	11	13	6
15 and over	7	8	6	10	2
Total—Boys	26 652	26 288	24 797	25 613	25 711
Girls	24 709	24 296	25 048	23 902	24 265
Pupils	51 361	50 584	49 845	49 515	49 976

(a) Includes kindergarten classes.

Primary Curriculum: The primary school curriculum has undergone considerable change in recent years both in teaching methods and subject matter. The subjects are English (including reading, spelling, oral and written work), social science, arithmetic, science, art, music, arts and crafts, religious and moral education, and health and physical education.

Pupil Grouping: Promotion within the schools is generally by age at the beginning of the school year, with accelerated progress or repetition of classes at the principal's discretion; grouping may be by ability, where numbers allow, with each child being able to work with his equals in each subject, regardless of age. Differential teaching adapts the school program to meet the widely varying needs and abilities of pupils. The skill subjects of reading, writing, spelling and arithmetic are particularly suited to this method of teaching, testing and grading. The increasing provision of specially designed open plan areas housing two, three or four classes in the space available, provides opportunity for teachers to work as a team and assist in the treatment of individual differences in pupils. Schools now being erected or planned provide both dual and single classrooms. Some schools have experimented with *non-grading*, a method of organisation which allows pupils in certain subjects to work at their own level of competence. A few other schools have adopted this organisation in one or two subjects only.

Special Schools and Special Classes

The Department has special schools, and also special and remedial classes in ordinary schools, for children who are physically handicapped, mentally retarded, or otherwise unable to profit from ordinary class teaching. Instruction varies according to the handicap; where it is physical, the main need is to maintain normal or near-normal individual programs. Many pupils eventually can be transferred to ordinary schools into the grades appropriate to their ages.

Schools and classes for slow learners and mentally retarded children follow the curricula for kindergartens and primary schools but no attempt is made to reach examination standards. The teaching of activities and basic skills is the main concern in these classes which are also to be found in some primary and high schools.

Government Secondary Schools

Almost all children attend secondary classes, starting at an age varying from 11½ to 13 years. If a choice has to be made between a high and a district school a transfer committee considers the matter, taking note of performance in grade 6. High schools are non-selective, comprehensive and, with two exceptions, co-educational.

The differences between the types of secondary schools are related mainly to the level of the final examination or certificate available to students. The levels are: School Certificate endorsed Preliminary (three-year course); School Certificate (four-year course); Higher School Certificate (five or six-year course). The School and Higher School Certificates replaced the Secondary Schools, Schools Board and Matriculation Certificates which were last awarded in 1968.

The essence of the present system is: (i) all assessment and certification come under the authority of the Schools Board of Tasmania; (ii) two certificates only are issued; and (iii) the certificates record achievement in individual subjects. The certificates are:

The School Certificate: Awarded in subjects for three and four-year courses; basis of award is by internal assessment and recommendation by schools.

The Higher School Certificate: Awarded in subjects studied in fifth or sixth secondary year; basis of award is an external examination conducted by the Board (not the University as for matriculation in the past). The University is still free to determine what constitutes qualification for university entrance and can nominate the subjects and the levels of achievement at the Higher School Certificate examination necessary for entry; the scope of the examination has been enlarged to cover subjects not designed primarily for purposes of university entrance.

A more detailed account of the examinations and procedures adopted for awarding the School and Higher School Certificates is contained in a later section, 'Examinations'.

The following table shows the age and number of students in Tasmanian government secondary schools:

Pupils Receiving Government Secondary Education at 1 August, by Age

Age last birthday (years)	1971	1972	1973	1974	1975
11	(a) 420	389	261	246	235
12	4 864	4 837	4 902	4 943	4 977
13	6 640	6 682	6 924	7 137	6 710
14	6 381	6 681	6 787	6 848	7 177
15	5 540	5 451	5 640	5 792	6 101
16	2 522	2 800	2 645	2 671	2 742
17	1 130	1 285	1 284	1 231	1 382
18 and over	391	416	492	479	718
Total—Boys	14 609	14 841	14 928	15 067	15 420
Girls	13 279	13 700	14 007	14 280	14 622
Pupils	27 888	28 541	28 935	29 347	30 042

(a) Includes one boy under 11 years.

The next table shows the number of secondary pupils by sex and grade in all government schools:

Secondary Pupils in Government Schools at 1 August, by Grade

Year	Secondary Grade						Total
	7	8	9	10	11	12	
Boys							
1971	3 669	3 590	3 301	2 476	865	708	14 609
1972	3 605	3 542	3 360	2 617	934	783	14 841
1973	3 736	3 565	3 305	2 642	890	790	14 928
1974	3 795	3 693	3 299	2 609	942	729	15 067
1975	3 607	3 760	3 521	2 726	936	870	15 420
GIRLS							
1971	3 347	3 211	3 156	2 333	789	443	13 279
1972	3 453	3 284	3 040	2 426	922	575	13 700
1973	3 473	3 365	3 124	2 458	912	675	14 007
1974	3 438	3 469	3 186	2 530	1 000	657	14 280
1975	3 313	3 429	3 341	2 701	1 071	767	14 622

District Schools

Area schools, first established in 1935, were replaced by district schools from the beginning of 1973. The area schools were designed to serve rural areas; however, changing concepts of education and parental demands for a higher level of education more closely related to the levels provided by high schools, led to an upgrading of the level of education offered at country secondary schools and to the creation of district schools.

Subjects for the School Certificate are available to pupils in all district schools and high schools.

Government Matriculation Colleges

At matriculation colleges students are exclusively concerned with Higher School Certificate subjects undertaken as one or two-year courses. The first such college was the Hobart Matriculation College (previously Hobart High School)—no junior students were enrolled after 1961 and by 1965 all students were attempting matriculation. In 1967 Launceston High reached this stage and in 1968 the Elizabeth Matriculation College, in Hobart, was opened and elimination of junior students was completed by 1970. In 1973 the newly constructed Rosny College was opened to serve the eastern shore suburbs of Urban Hobart and the new Don College was opened at Devonport. (The three earlier matriculation colleges had resulted from conversion of existing high schools.) Alanvale College at Launceston was opened in 1975, while the new Hellyer College at Burnie was opened in 1976 to replace Higher School Certificate classes previously available at Burnie High School. As many students do not attempt to matriculate, the word 'matriculation' is not used in the names of the new colleges.

The advantages claimed for matriculation colleges is that they concentrate, in the one centre, teachers who are specialists; further, the students benefit to the extent that the colleges are an intermediate step between the more disciplined high school and the university.

Correspondence School

In 1975, the External Studies Section of the Division of Technical and Further Education took over the work of the Correspondence School. The section offers education by correspondence at primary level, in some School Certificate subjects, some Higher School Certificate subjects and some Technical and Further Education courses.

Non-Government (or Independent) Schools

Non-government schools have played a valuable part in Tasmanian education. Policies are framed by principals in conjunction with their senior staff and with the approval of their governing bodies or church.

Registration

Non-government schools and teachers are subject to the regulations of the Teachers' and Schools' Registration Board. This Board consists of nine members who hear and determine all applications for registration and keep a record of all teachers and schools not administered by the Education Department. Every school is graded and teachers are registered in one or more classifications or as special subject teachers. 'Provisional' teachers are those gaining qualifications so they can be registered. The Board may prescribe the mode of classifying teachers, the course of study and training required, the examinations to be passed, and the recognition of overseas qualifications. To secure registration, schools must provide for proper access, drainage, light, ventilation and sanitary conveniences, and inspections may be made by officers appointed by the Board. A daily register of attendance has to be kept.

State Assistance to Non-Government Schools and Pupils

The *Education Act* 1932 was amended in 1967 to provide for direct payments to non-government schools. The amount paid is based on the number of pupils enrolled at 1 August each year. For 1974-75 the amounts were \$24 per annum per primary pupil, \$34 per annum per secondary pupil up to fourth-year level

and \$54 per annum per pupil at fifth and sixth-year levels. From 1972-73 per capita grants of \$24 per annum per pupil were paid in respect of kindergarten pupils aged five years or more at 1 August. The 1975-76 expenditure was \$998 000, which included a special grant of \$580 000. From the beginning of 1970, the Federal Government also provided per capita grants to independent schools. Details are contained in a later section dealing with Federal Government activities in education. State legislation passed in June 1970 provides for subsidies related to building loans interest. The amount of subsidy paid in 1975-76 was \$250 000.

Apart from these subsidies, benefits include: free or subsidised transport; use of the facilities of the Department's curriculum, teaching aids, speech education and guidance branches; attendance at trade and domestic science classes if room is available; and attendance by teachers at Departmental schools of method. Equipment can be purchased through the Supply and Tender Department.

Enrolment at Non-Government Schools

Most non-government school pupils are in schools controlled by religious denominations, as the next table shows:

**Non-Government Schools and Pupils at 1 August
(Number)**

Particulars	Church of England	Presbyterian	Catholic	Seventh-day Adventist	Other schools	All schools
PUPILS						
1971 Boys	878	256	4 800	70	876	6 880
Girls	734	299	5 367	67	1 068	7 535
1972 Boys	835	236	4 677	63	905	6 716
Girls	722	302	5 182	66	1 110	7 382
1973 Boys	852	247	4 633	64	999	6 795
Girls	706	325	5 211	62	1 138	7 442
1974 Boys	875	257	4 651	76	1 066	6 925
Girls	734	349	5 129	76	1 194	7 482
1975 Boys	895	226	4 675	71	1 150	7 017
Girls	818	351	5 156	72	1 183	7 580
SCHOOLS						
1975	4	2	40	3	18	67

The following table shows the number of secondary pupils by sex and class in all non-government schools:

Secondary Pupils in Non-Government Schools, by Year, at 1 August 1975

Pupils	Secondary year						Total
	1	2	3	4	5	6	
Boys	645	609	615	536	334	222	2 961
Girls	761	757	686	674	327	227	3 432
Total	1 406	1 366	1 301	1 210	661	449	6 393

Of the 23 schools in 1975 which catered for secondary pupils, 17 had Higher School Certificate classes.

Most independent school pupils are to be found in primary classes, and most of them are in Catholic schools. The following table shows the numbers and ages of all pupils in non-government school primary and sub-primary classes:

Pupils Receiving Non-Government Primary Education at 1 August, by Age

Age last birthday (years)	1971	1972	1973	1974	1975
Under 7	2 109	2 106	2 363	2 496	2 773
7	1 081	959	857	946	938
8	1 073	1 073	1 000	906	988
9	1 089	1 057	1 037	1 044	977
10	1 133	1 106	1 098	1 090	1 072
11	1 147	1 103	1 131	1 112	1 106
12	358	373	367	346	319
13	33	36	26	29	28
14	3	1	3	4	3
15 and over	2	1	..	..	..
Total—Boys	3 829	3 703	3 750	3 903	4 056
Girls	4 199	4 112	4 132	4 070	4 148
Pupils	8 028	7 815	7 882	7 973	8 204

The following table shows the ages of pupils in non-government schools at secondary level:

Pupils Receiving Non-Government Secondary Education at 1 August, by Age

Age last birthday (years)	1971	1972	1973	1974	1975
11	109	118	107	97	84
12	1 042	942	1 051	1 063	1 059
13	1 309	1 321	1 283	1 343	1 362
14	1 304	1 309	1 337	1 341	1 344
15	1 200	1 191	1 214	1 231	1 174
16	863	790	799	816	866
17	428	484	442	443	425
18 and over	106	111	109	92	79
Total—Boys	3 051	3 013	3 045	3 022	2 961
Girls	3 310	3 253	3 297	3 404	3 432
Pupils	6 361	6 266	6 342	6 426	6 393

Teachers and Teacher Training

There is a variety of courses available to trainee teachers in this State. The University of Tasmania awards the Diploma of Education after one year of a post-graduate course in which graduate students train as infant, primary or secondary teachers. Since 1975, a four-year course leading to the degree of Bachelor of Education has been provided. The Tasmanian College of Advanced Education, with divisions in Launceston and Hobart, provides a basic three-year course with an extension to four years for some selected students. On completion of the three-year course the student is awarded the Diploma of Teaching and on completion of a four-year course the student qualifies for the degree of Bachelor of Education. A course is provided for full-time and part-time graduate students leading to the degree of Master of Education. Both divisions offer courses for

training in kindergarten, infant, primary and secondary teaching, but specialist courses are not common to both divisions. Specialisation in physical education, music, art and industrial arts is only possible in Hobart, whereas courses in English speech and drama, home economics and commercial subjects are only offered in Launceston.

Each year some students are given the opportunity of training in other states in areas for which courses are not available in Tasmania, e.g. speech pathology (at the University of Queensland), Asian languages (at the Australian National University, Canberra) and training for teaching deaf children (at the Glendonald Institute in Victoria).

The following table shows the number of teachers and instructors in Tasmanian government schools (excluding technical colleges):

Number of Government School Teachers and Instructors at 1 August 1975 (a)

Type of school	Full-time			Part-time and casual		
	Males	Females	Persons	Males	Females	Persons
Kindergarten (separate) ..	..	57	57	..	8	8
Special (b)	28	91	119	..	23	23
Primary	320	1 309	1 629	11	301	312
District—						
Primary	53	238	291	2	52	54
Secondary	161	96	257	2	40	42
High	862	648	1 510	10	38	48
Matriculation colleges ..	193	105	298	4	2	6
Total	1 617	2 544	4 161	29	464	493

(a) Excludes teachers in non-teaching positions (e.g. curriculum branch staff, guidance officers, speech education, music and training aid centres).

(b) Includes correspondence school.

The following table shows the number of teachers and teachers-in-training in Tasmania:

Full-Time Teaching Staff in Government Schools (a) and Teachers-in-Training at 1 August

Type of teacher	1971	1972	1973	1974	1975
Head teachers—					
Males	229	223	235	234	233
Females	15	17	15	16	20
Other teachers—					
Males	1 197	1 275	1 395	1 405	1 520
Females	2 368	2 391	2 506	2 560	2 657
Total teachers (a)—Males ..	1 426	1 498	1 630	1 639	1 753
Females ..	2 383	2 408	2 521	2 576	2 677
Teachers-in-training—					
Males	460	492	473	465	435
Females	856	945	997	1 060	1 130

(a) Includes teachers in non-teaching positions (e.g. curriculum branch staff, guidance officers, etc.) but excludes supervisors, those engaged in teacher training and technical education, part-time teachers, and those on long service leave.

In the primary schools in 1975, 80 per cent of the teachers were females. All subjects are taught by each teacher in these schools but itinerant teachers, when available, take physical education, music and speech classes on a circuit basis with

each teacher being responsible for the teaching of the subject in several schools. In the post-primary schools, most teachers are specialists attached to subject departments within each school. In the smaller district schools, one teacher may take several subjects; rural science, home arts and crafts and technical subjects are handled by resident or itinerant specialists as available.

Teacher Training: The institutions where teachers-in-training are studying are shown in the next table:

Teachers-in-Training at 1 August

Institution attended	1971	1972	1973	1974	1975
MALES					
'Absorbed' colleges (a)	146	243	244	237	217
University of Tasmania	266	243	244	237	217
Tasmanian College of Advanced Education .. .. .	..	197	229	227	217
Other institutions	48	52	..	1	1
Total	460	492	473	465	435
FEMALES					
'Absorbed' colleges (a)	524	287	308	344	364
University of Tasmania	325	287	308	344	364
Tasmanian College of Advanced Education .. .. .	..	653	686	704	752
Other institutions	7	5	3	12	14
Total	856	945	997	1 060	1 130

(a) Teachers colleges, School of Art, Conservatorium of Music; absorbed by College of Advanced Education.

Examinations

Introduction

The Schools Board of Tasmania was constituted on 31 October 1944 by the *Education Act 1944* to devise and govern new systems of awarding school certificates.

In 1946 the school leaving age in Tasmania was raised to 16 years and the Board instituted a four-year course of academic secondary education leading to the Schools Board Certificate. The Intermediate Examination, which had been conducted by the University at third-year secondary school level until 1938, had been replaced by similar examinations conducted by the State Education Department and the Associated Public Schools. These were replaced in 1946 by the Schools Board Certificate, studied at fourth-year level.

The Schools Board Certificate demanded a level of achievement in basic and optional subjects after a four-year course of general education. Secondary schools were allowed the choice between an accrediting system or an external examination.

As a result of the proposals of the Schools Board and the Radford Report, the Schools Board was re-constituted with a membership of 21 on 1 September 1966, to allow the Board to become, in 1969, the sole examining and certifying body at the secondary level. A further amendment to the Act in 1974 made provision for the Council of Advanced Education to nominate members, and increased the membership of the Board to 23 as from 1 July 1974.

An important change of considerable significance to employers, and to the prerequisites they demand of applicants for employment, concerns the new types of certificate introduced in 1969. There are only two such certificates issued, known as the School Certificate and the Higher School Certificate. These replaced all previous certificates. The Schools Board Certificate, the Secondary Schools Board Certificate of the Education Department and the Matriculation Certificate of the University of Tasmania are no longer issued. The previous certificates were *group* certificates demanding, in varying degrees of detail, certain compulsory subjects or groups of subjects as prerequisites to the award of the certificate. The essential difference is that both of the new certificates are *subject* certificates requiring no compulsory subjects or groups of subjects to be studied.

For the School Certificate there are no external examinations and awards are determined by internal assessment with a wide variety of methods of evaluation. A system of regional moderation has been implemented by the Schools Board to ensure comparability of standards between schools. (*See the later section outlining organisation of moderation procedures.*) Final results of the School Certificate are notified to candidates in December by the principal of the school attended by the candidate. Each candidate receives a printed result slip showing the level of study and the award given in each subject. The formal certificate is issued by the Schools Board of Tasmania.

The School Certificate

The subjects for this certificate may be taken at various levels and a wide choice is available to cater for different levels of ability and interests. A preliminary award may be granted after the third year of secondary education to those candidates who leave school at this stage. The full award is granted to successful candidates who complete four years of study.

The Higher School Certificate

This is taken at the end of the fifth or sixth year of secondary education. The certificate is awarded as a result of examinations conducted in November or December each year. Subjects may be studied at Level I, Level II, Level III Division 1 or full Level III, but all levels are not necessarily available for all subjects. Requirements for matriculation are determined by the University of Tasmania from the results of the Higher School Certificate examinations conducted by the Schools Board of Tasmania in certain Level III subjects.

In some Level III subjects awards are determined solely on the basis of an external examination. In other Level III subjects awards are determined by the use of an external examination component together with a school assessment component. The Schools Board has ruled that the school assessment component may provide a maximum of 50 per cent of the total result, but the actual proportion of this component to be used for each subject is determined by the Schools Board on the recommendation of the appropriate subject committee. Where an internal assessment component exceeds 10 per cent of the total result, the Board has ruled that the school assessments for each class must be standardised to have the same mean and standard deviation as the external examination results of the members of that class. In Level I, Level II and Level III Division 1 subjects, awards are determined by the candidate's school, after the school has taken part in a consultative system, which aims to provide comparability in standards between schools in the subject. The Board appoints a Subject Adviser in each subject field. The Subject Advisers are responsible to the Schools Board for the co-ordination of assessment procedures in their particular subject field and for ensuring that satisfactory standards are maintained.

In most subjects at Level III a Division 1 syllabus will also be provided for those wishing to undertake a preliminary study of the subject before attempting the full Level III syllabus. It is not necessary to attempt the Division 1 syllabus to obtain full Level III award, nor do results at Level III Division 1 count towards the full Level III award.

State Organisation of Moderation Procedures

The Schools Board of Tasmania is the body responsible for awarding the secondary school awards (the School and Higher School Certificates) discussed in the previous section. The Schools Board is also responsible for ensuring development of satisfactory moderation procedures and the maintenance of subject standards. To this end, the State is divided into seven *moderation regions*. Moderation is the method used to ensure reasonable comparability of standards between schools throughout the State.

Committee for Moderation of Standards: This body determines subject standards and reviews moderation procedures. Members of the committee include representatives from the Schools Board, superintendents of high schools and representatives from non-government schools and the teachers' union—the Teachers' Federation.

Regional Council: Operations of the scheme for moderation of standards are reviewed by the Council which recommends variations to the Schools Board. Members include secondary school superintendents and school principals in the region. The chairman is appointed by the Schools Board from members of the Committee for Moderation of Standards.

Moderation Advisory Committee: Moderation procedures are planned in detail by the Committee which also investigates problems in particular subject fields. The chairman of the Committee for Moderation of Standards is also the chairman of this body; other members include the members of the Committee for Moderation of Standards and the chief moderators.

State Moderation Committee: The Committee promotes the flow of ideas on moderation between regions and identifies and resolves problems connected with particular subjects. The chief moderator in each subject is chairman and the remaining members are the regional moderators (seven) in each subject.

Regional Moderation Committee: Application of moderation procedures within the region is the responsibility of this Committee. Chairmanship is vested in the regional moderator; other members are subject moderators from each school in the region.

As well as the various committees there are a number of positions, mostly filled by teachers, which are basic to the successful operation of the system. The following briefly outlines the functions associated with each position:

Chief Moderator: Appointed by the Schools Board and responsible for the co-ordination of moderation procedures between regions in each subject field.

Regional Moderator: Appointed by the Schools Board on the recommendation of the Regional Executive Committee. A regional moderator is appointed in each subject field. The duties associated with this position include: (i) maintaining contact between subject moderators within the region and ensuring satisfactory subject standards; and (ii) informing subject moderators of current developments in their subject and in the field of assessment.

School Moderator: This position will normally be held by the school principal. The school moderator's duties include: (i) appointing school subject moderators; (ii) determining the results of each School Certificate candidate in his school and submitting award recommendations to the Schools Board; (iii) communicating result sheets (showing percentage scores of students on test materials) to the Schools Board for distribution to the Regional Moderation Committees; and (iv) informing the Regional Executive Committee of names of teachers willing to accept nomination for the position of regional moderator.

Subject Moderator: Appointed by the school moderator. The duties include: (i) supervising all details of assessment in his subject for the award of the School Certificate; and (ii) informing the Regional Moderation Committee of proposed assessment plans.

Other Education Matters

Various functions of the Education Department are described in the following section; some of these are applicable to both government and non-government schools.

Equipment

The Department maintains an active interest in the development of teaching methods and of teaching aids. The Tasmanian Media Centre (formerly known as the Teaching Aids Centre) provides specialised assistance to schools. A library of 16 mm films, film strips and coloured slides and records are distributed on loan. The records are mainly used for music appreciation, poetry and languages. Printed aids, mainly in the form of charts and booklets, are provided. Audio-visual aids (tape recorders, film projectors, centralised radio systems, strip and sound projectors, television receivers, etc.) are bought by the Centre and re-sold to the schools with a \$ for \$ subsidy given by the Department. Repair and maintenance of this equipment is done free of charge by the Centre. Specialised electronic equipment has been developed and produced, e.g. auditory training equipment for deaf students. A talks studio with recording equipment and tape duplicating facilities operates to prepare language laboratory programs and for the recording of school broadcasts.

A number of students' books are produced for sale to schools by both the Education Department and the Australian Broadcasting Commission.

Libraries

A significant development program in this field has been implemented in recent years, particularly in the high schools and matriculation colleges where substantial print and audio-visual resource collections have been built up in attractive and spacious library suites. Teacher-librarians are now appointed to the larger primary and district schools. Grants are made directly to schools on a per capita basis for the purchase of library resources.

The introduction of a post-graduate course in librarianship at the Tasmanian College of Advanced Education has made possible the recruitment and training of at least ten new teacher-librarians each year. Shorter courses to train primary school librarians became available in 1974.

The Library Services Branch, under the direction of a supervisor of libraries, offers expert bibliographic and technical advice to schools and controls a central cataloguing service to schools.

Radio and Television Programs

Radio: All schools in the State use one or more of the programs provided by the Australian Broadcasting Commission. In most primary schools, programs are taken direct from the air, but secondary schools use a tape service provided by the Tasmanian Media Centre. The Centre records all secondary school programs and distributes the tapes on loan to schools which would otherwise have trouble fitting programs into school timetables. Some primary programs are also recorded for schools in poor reception areas.

Television: Tasmania is well advanced in the availability and use of educational television; programs are provided by the A.B.C. Every government and non-government school within a television reception area is equipped with at least one receiver. The schools have a standard issue of one free set each and extra sets may be purchased. For extra sets the State Government provides a subsidy equal to 50 per cent of the purchase price. The maximum use of television is made by primary schools where timetables are quite flexible; many secondary schools have difficulty in planning timetables so that classes may view programs. For this reason great interest is being shown in Departmental experiments with video-recording which, it is hoped, will make television as flexible an educational aid as pre-recorded radio programs.

Selection of Programs: Curriculum officers and teachers are represented on the planning and appraisal committees for all Tasmanian produced programs. The committees also assist with selection of series from other sources.

Staff: Apart from technical staff, the A.B.C. employs a State Supervisor of Education (schools broadcasts), two radio producers, two television producers and associated staff. The Education Department provides a liaison officer and studio teachers, seconded full-time to the A.B.C.

Safety Officers

Transport Commission officers visit the schools regularly to give lectures and practical demonstrations dealing with various aspects of road safety. Driver education courses are given in some schools, a type of training likely to be extended. Periodically students are reminded of the dangers associated with explosives, fire-arms and drug abuse.

Parents and Friends Associations

One of the functions of these bodies is fund-raising for the provision of subsidised equipment and library books, they also act as a valuable forum for discussions on education.

Migrant Education

This is arranged by the Department at certain schools or by combined radio-correspondence lessons to teach English to migrants. The cost of migrant education is reimbursed by the Federal Government.

Bursaries

A system of junior and senior bursaries once operated to assist pupils in post-primary government and non-government schools. However, senior bursaries have not been awarded since 1966 when Federal Government Secondary Scholarships were introduced. After the introduction in 1973 of a Federal Government scheme of assistance for school children living in remote localities the award of junior bursaries also ceased.

During 1975, 15 junior bursaries were held at a cost to the Bursaries Board of \$779. The Bursaries Board fund comprised money from the Government and private donations.

Currently the principal forms of assistance are:

- (i) *School Certificate Allowances* payable to parents or guardians of full-time students undertaking their fourth year of secondary education. The allowance, subject to a means test, amounts to \$70 per annum. The number granted during 1975 was 295 and expenditure was \$20 650.
- (ii) *Special Bursaries* awarded in cases of necessitous circumstances. For 1975, 79 special bursaries, involving expenditure of \$5 045 were awarded.
- (iii) *Loan Issue Supplies* provided to assist parents who are unable to meet the cost of text books, materials and subject levies associated with educating their children. Expenditure under this scheme during 1975 was \$143 280.

TECHNICAL AND ADULT EDUCATION

Technical Education

The Education Department administers Technical Colleges at Hobart, Launceston, Devonport, Burnie and Queenstown which provide trade, technical and sub-professional technician courses. Some students also receive tuition at Rosebery and Smithton using the high school facilities. Technical College courses cater for students who are above the age of compulsory school attendance.

Courses

Certificate Courses: These courses cater for middle level vocations that lie between trades and professions. They are designed in consultation with industry to meet the increasing need for sub-professional personnel who are performing many tasks previously carried out by university graduates or diplomates. On successful completion of a course, a certificate is awarded by the Education Department. Courses provided include drafting, engineering, surveying, architecture, building, commerce, business studies, marketing and food services.

Trade Courses: These courses combine theoretical and practical aspects of the trade, and are complementary to employer training given to apprentices. From 1965 apprentices have been required to attend one full day per week for three years and this has practically eliminated evening classes for apprentice training. Since 1968 a system of block training has operated in respect of a number of trades and for apprentices previously taught by correspondence. During the year, periods of two weeks are spent in full-time study in a technical college. On successful completion of the course, a Certificate of Trade Proficiency is awarded. Post-trade courses are available to extend the skill and knowledge of the tradesmen.

Correspondence Tuition: This is administered through the Hobart Technical College and is intended for isolated students. Many apprentice correspondence courses have been replaced by the system of block training.

Enrolments

The total enrolment in technical colleges during 1975 was 10 650. Enrolment distribution was: Hobart Technical College, 49 per cent of total enrolments; Launceston, 25 per cent; Burnie, 12 per cent; Devonport Technical College, 12 per cent; and Mount Lyell School of Mines and Industries, two per cent. Distribution of persons enrolled between courses was: trade and post-trade courses, 41 per cent of total enrolments; certificate and post-certificate courses, 43 per cent; and miscellaneous subjects, 16 per cent. Of the total number of students enrolled, 62 per cent were males.

College Councils

Each technical college has a council comprising local community representatives who have been appointed by the Governor. Members are drawn from trades and industries, professions and municipal councils. They advise the Director of Technical Education on the provision and development of college facilities and courses.

Examinations

These are conducted by the Education Department in July and November each year. Papers are set and marked, or assessments carried out on a State-wide basis except for the first and second year trade subjects in which case each college makes its own arrangements.

Technical Teachers, Students and Expenditure

The following table shows the number of schools, teachers and students in technical education and the yearly expenditure:

Technical Education: Teachers, Students and Expenditure

Particulars	1971 (a)	1972 (a)	1973 (a)	1974	1975
Schools, colleges, etc. no.	7	7	6	7	9
Teachers—Full-time .. no.	189	172	194	258	(b) 294
Part-time .. no.	565	394	513	653	(c) 572
Students (d) no.	6 849	7 234	7 519	9 826	10 254
Expenditure (e) .. \$'000	2 366	2 607	3 004	3 667	5 775

(a) Excludes details for diploma courses provided as a part of the advanced education system. All such courses had been transferred to the College of Advanced Education by 1974.

(b) 247 males and 47 females.

(c) 447 males and 125 females.

(d) Gross number enrolled during the year.

(e) Excludes capital expenditure on new buildings, etc.

Adult Education

Origin and Organisation

Establishment of a mechanics' institute in Hobart in 1827 was the start of adult education in Australia. The mechanics' institute movement which was then just three years old (there were only two other institutes at that time: in London and Glasgow) was the fore-runner of the present adult education organisation in Tasmania which began in 1914. One part-time tutor was appointed and three classes started in 1914 with support for the new system coming from the University of Tasmania and the Workers' Educational Association. Financial assistance was given by the State Government.

From 1948 to 1975 adult education was administered by a statutory board established under the *Adult Education Act* 1948. From 1 January 1976, the *Education Act (No. 2) 1975* came into force, which proclaimed an advisory Adult Education Board and a Division of Adult Education within the Education Department. The new Board consists of 11 members; six nominated by the Minister for Education and one each nominated by: the University of Tasmania; the Tasmanian College of Advanced Education; the Board of Technical Education; the Director-General of Education; and the Professional Adult Education Officers' Association. In addition to the Board there is a Director, an Assistant Director, five Regional Principals, six District Principals and a Community Arts Officer.

Hobart has three Adult Education Centres: at the Domain, South Hobart and North Hobart; as well as an enquiries and enrolment centre in the city centre.

There are also centres and offices established in Launceston, Devonport, Burnie, Queenstown and in Rosny College, Hobart. 'The Grange', a National Trust home at Campbell Town (south of Launceston), is the Board's residential college.

Operations

Courses: Courses are run throughout the year and vary in duration from one term to three terms. The 1 194 courses undertaken in 1975 attracted a record 13 757 enrolments requiring 477 part-time tutors. In addition, enrolments in seminars, lectures, weekend and summer schools and art performances totalled 5 052. The range of courses included the arts, practical crafts, homecrafts, languages, physical education, liberal studies and social service courses. The Board, in co-operation with the University of Tasmania, arranges courses in Launceston for external students and, in conjunction with the Department of Immigration and Ethnic Affairs, courses in intensive English for migrants, in Hobart, and other courses for migrants throughout the State. Increasing emphasis was given to assisting people with low reading and writing skills.

Schools, Seminars, Special Lectures: During 1975, the Board ran 109 special events and 11 art performances. As a contribution to International Women's Year, a Women's Art Performance was organised in Hobart. Two conferences, with interstate speakers, were held in Hobart on: (i) Continuing Education: Concept and Reality; and (ii) Adult Literacy. The annual 'Meet the Composer' event, held in conjunction with the Australian Broadcasting Commission, featured James Penberthy. The Morris Memorial Lecture was given by Judith Wright on the theme of conservation.

Residential College: 'The Grange' residential college has been leased from the National Trust since 1964. Built in 1848, 'The Grange' is an elegant colonial country house used for both week-end schools and week-long summer schools. The house offers accommodation for 27 students. During 1975, 20 schools were held at 'The Grange'.

Book Discussion Groups: In 1975, there were 42 groups with a total membership of 483 which met throughout the State. During the year there was considerable re-organisation of this service.

Publications: During 1975, the Board published four new booklets: (i) *The Scope of Adult Education* (Douglas Payne); (ii) *Occasional Papers Vol. 1* (Ed. Douglas Payne); (iii) *Conservation—Choice or Compulsion* (Judith Wright); and (iv) *Poetry N.W.*—limited edition.

The following table shows the annual receipts and expenditure on selected items for a five-year period:

Adult Education: Selected Receipts and Expenditure
(Source: Annual Reports of the Auditor-General)

Item	(\$)				
	1970-71	1971-72	1972-73	1973-74	1974-75
RECEIPTS					
State Government grant ..	183 700	188 000	212 500	298 642	474 085
Student fees	64 029	75 704	93 450	104 877	137 361
Schools, seminars, lectures, etc.	21 116	23 127	27 606	30 298	41 099
Other	2 990	6 052	5 073	5 470	4 774
Total	271 835	292 883	338 629	439 287	657 319

Adult Education: Selected Receipts and Expenditure—*continued*
(Source: Annual Reports of the Auditor-General)
(\$)

Item	1970-71	1971-72	1972-73	1973-74	1974-75
EXPENDITURE					
Salaries	134 591	143 045	162 362	212 749	329 976
Tutors' fees, allowances	53 912	60 721	86 700	94 328	148 833
General administration	34 293	47 026	48 234	59 650	97 030
Schools, seminars and exhibitions	18 813	31 401	32 165	41 732	53 770
Visiting artists	14 326	82			
Other	19 251	13 880	21 694	22 013	28 137
Total	275 186	296 155	351 155	430 472	657 746

TERTIARY EDUCATION

Advanced Education in Tasmania

Concept

Education at tertiary level has been available at universities but there have also been professional courses provided by other institutions; in Tasmania technical colleges provided courses of this type in addition to playing their main role in providing apprentice training, trade courses, etc. So, in effect, the development in recent years of colleges of advanced education does not represent a radical innovation but rather a rationalisation and re-organisation of non-university tertiary courses. The Federal Government, having first accepted some financial responsibility for university education, has now gone further and is actively encouraging the development of colleges of advanced education.

In general terms, the colleges are providing tertiary education and training with a vocational emphasis, as distinct from the academic education provided by universities (though, of course, some university courses in Australia tend to be also vocational, e.g. legal and medical courses). In some states advanced education is being developed on a base provided by existing institutions but in Tasmania and the A.C.T. separate colleges have been established.

History

Following a national seminar on planning for colleges of advanced education held in Hobart towards the end of 1967, the educational specifications and a master plan for the Mt Nelson College were prepared. In June 1969 the contract for the Resources Materials Centre (stage 1) of the project was let. Appointment of staff to the College commenced in 1971 and during 1972 the first on-site lectures were held at Mt Nelson. In 1973 a campus of the College was established at Newnham (a suburb of Launceston).

Finance

At the June 1973 Premiers' Conference the states accepted the Federal Government's offer to assume full financial responsibility for tertiary education from 1 January 1974. (The amounts of recurrent expenditure saved by the states were deducted from their financial assistance grants.) The Federal Government also announced in its 1973-74 Budget the decision to abolish tuition fees.

Prior to 1972-73 Federal Government grants for colleges of advanced education and for teachers' colleges were provided under separate programs, but since then they have both been absorbed into a wider program of grants for advanced education.

Advanced Education Council and College

The *Advanced Education Act* 1968 established the Council of Advanced Education. An amendment to this Act now provides for the appointment of 15 members of whom one shall be the person holding the office of the Principal; two shall be officers of the Advanced Education Service (other than the Principal); and one shall be a person who is undertaking a course of advanced education.

The Tasmanian College of Advanced Education is organised into divisions consisting of the Division of Administrative Studies, the Division of Science and Technology, the Division of Teacher Education, the Division of Educational Services and the Office of the Registrar. In addition, the School of Art and the Conservatorium of Music are part of the College. The campus at Newnham (Launceston) consists of the Division of Teacher Education and General Studies and extensions of the Divisions at the Mount Nelson (Hobart) campus. Some residential facilities exist at Newnham but none are available at Mount Nelson.

A Committee on Post-Secondary Education, appointed jointly by the Federal and State Governments in April 1975, has recommended major changes in the College of Advanced Education including the take-over of the Mount Nelson campus by the University of Tasmania and the establishment of an autonomous Institute of Advanced Education at Newnham. Under the proposals the University would take over most of the courses conducted at Mount Nelson but the School of Art and environmental design, physical education and art courses would be transferred to the Newnham campus. The proposal is aimed at widening the range of courses at the University, in Hobart, and establishing the Newnham college as the centre of advanced education in the north of the State. A two-year timetable was recommended for the change-over.

Courses

Awards are made at four levels: bachelor degree, diploma, graduate diploma and master degree. In the following table students in some courses have been shown at the bachelor degree level although a number of students will complete them at the diploma level.

College of Advanced Education: Enrolments by Course, 1976
(Number)

Course	Full-time		Part-time		Total	
	Males	Females	Males	Females	Males	Females
Degree courses—						
Accounting	57	14	157	18	214	32
Business administration	14	1	41	8	55	9
Engineering	83	2	96	..	179	2
Pharmacy	29	33	5	6	34	39
Public administration	4	..	34	..	38	..
Surveying	52	..	11	..	63	..
Applied chemistry (a)	14	2	30	2	44	4
Medical technology	12	11	23	20	35	31
Education (a)	253	760	96	103	349	863
Music	38	48	9	11	47	59
Environmental design	60	12	..	..	60	12
Social work	23	29	..	4	23	33
Total	639	912	502	172	1 141	1 084

College of Advanced Education: Enrolments by Course, 1976—continued
(Number)

Course	Full-time		Part-time		Total	
	Males	Females	Males	Females	Males	Females
Diploma courses—						
Metallurgy (b) .. ..	..	..	5	1	5	1
Visual art	46	49	2	1	48	50
Visual art teaching ..	18	38	1	..	19	38
Art and craft	26	14	9	5	35	19
Old diploma courses (business administration, accounting, public admin- istration) (b) .. .. .	..	..	13	..	13	..
Valuation (R.M.I.T.) ..	2	..	2	..	4	..
Total	92	101	32	7	124	108
Post-graduate diplomas—						
Librarianship	8	17	3	8	11	25
Legal practice	23	5	..	..	23	5
Special teacher education..	2	15	..	..	2	15
Architecture .. .. .	..	..	18	2	18	2
Landscape planning ..	..	..	1	1	1	1
Urban planning .. .. .	..	..	14	2	14	2
Music	2	3	1	1	3	4
Total	35	40	37	14	72	54
Post-graduate degrees—						
Master of Education ..	1	2	38	16	39	18
Master of Pharmacy ..	1	1	..	..	1	1
Total	2	3	38	16	40	19
Total all courses ..	768	1 056	609	209	1 377	1 265

(a) Students in these courses have been shown at degree level, although many students will complete their course at diploma level.

(b) Courses are being phased out.

The next table shows total enrolments for a three-year period:

College of Advanced Education: Enrolments
(Number)

Description	1974			1975			1976		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
Full-time ..	680	941	1 621	732	1 016	1 748	768	1 056	1 824
Part-time ..	542	98	640	533	154	687	609	209	818
Total ..	1 222	1 039	2 261	1 265	1 170	2 435	1 377	1 265	2 642

University of Tasmania

History

The University of Tasmania was founded in 1890 and was the fourth to be established in Australia. When teaching began in 1893 with three lecturers and six students it occupied 1.6 hectares of land on the Queen's Domain at Hobart.

Growth of the University was slow for the first half century despite the State's progressive policy in education generally. The Faculties of Arts, Science and Law were established first, with Commerce added in 1919 and Engineering in 1922. At the outbreak of World War II, the teaching staff in many departments consisted of one full-time professor or lecturer, possibly with part-time assistants.

After the war, the influx of ex-servicemen filled all Australian universities to capacity and student enrolments in Tasmania rose to 740 in 1947. Financial assistance from both State and Federal Governments enabled the staff to be almost doubled between 1945 and 1950 and energetic research schools developed. A Faculty of Education was established in 1947 with responsibility for some of the State's teacher training. In 1957 came the Murray Report on the Australian Universities, leading to a significantly increased flow of Federal Government money into the universities. Since 1958 Faculties of Agricultural Science and Medicine have been established.

Residential Colleges

There are five residential colleges in the University. Christ College, affiliated with the University in 1933, was moved to new premises on the University Campus at Sandy Bay in 1962 and provides accommodation in single study-bedrooms for 138 male and female students, eight tutors and a deputy warden. Hytten Hall was opened in 1959 with accommodation for 124 male students. Extensions have raised this figure to 180 male students with about half accommodated in single study-bedrooms and the remainder in double rooms. St John Fisher College, opened in 1962, accommodates 86 male students in single study-bedrooms and is under the direction of the Catholic Church. Jane Franklin Hall was founded by the Tasmanian Council of Churches in 1950 as a hall of residence for women students. The Hall provides accommodation for 150 students. Ena Waite Women's College was founded in 1968 and accommodates 25 female students.

Buildings

The University site at Sandy Bay was chosen in 1944. Until 1957 temporary huts were used extensively, mainly by the rapidly growing science departments. In 1957 the first permanent building was erected and by 1973 all departments of the eight faculties were housed in permanent buildings.

Since that date the new buildings completed are a computer centre, a child care centre, a cosmic ray observatory, a sports and recreation centre, a further extension to the Union building and the University Centre which consists of a complex of lecture theatres (which can be thrown open to form a single 800 seat hall), a fine arts gallery and a classics museum. A major extension to the Arts/Commerce/Education building was completed during 1976.

Finance

From 1974 the Federal Government assumed full responsibility for tertiary education and in 1975 it provided \$13.11m towards the University's recurrent expenditure. In 1972 the Federal Government had provided only \$2.17m towards recurrent expenditure while the State Government provided \$2.84m for this purpose. Tuition fees were abolished as from 1974 and a means tested assistance scheme was introduced to assist full-time students.

The following table shows the income and expenditure of the University of Tasmania for a four-year period:

University Income and Expenditure (a)
('\$000)

Particulars	1972	1973	1974	1975
INCOME				
Recurrent purposes—				
Federal Government	2 166	2 706	9 427	13 107
State Government	2 835	3 866	..	..
Fees	1 136	1 141	..	..
Other	101	200	413	494
Total	6 238	7 913	9 840	13 601
Equipment grants—				
Federal Government .. .. .	..	265	265	702
State Government .. .. .	..	265	..	..
Total .. .. .	..	530	265	702
Other purposes—				
Halls of residence	143	152	160	191
Prizes, scholarships and benefactions	52	98	83	99
Research grants	288	345	464	470
Other	194	61	49	46
Total	677	656	756	806
Total income	6 915	9 099	10 861	15 109
EXPENDITURE				
Recurrent purposes—				
Academic activities (incl. research)	4 297	5 410	6 605	8 880
Academic services	616	698	1 018	1 377
Student and staff services	87	108	131	222
General university services	1 315	1 626	2 293	2 981
Other	2	6	16	74
Total	6 317	7 848	10 063	13 534
Equipment grants—				
Academic activities (incl. research) .. .. .	..	242	204	168
Academic services .. .. .	..	173	619	175
General university services .. .. .	..	10	91	17
Total .. .. .	..	425	914	360
Other purposes—				
Halls of residence	148	164	195	231
Prizes, scholarships and benefactions	23	30	41	49
Research grants	312	377	434	530
Other	174	75	..	..
Total	657	646	670	810
Total expenditure	6 974	8 919	11 647	14 704

(a) Excludes receipts for capital purposes and capital expenditure.

Government of the University

The governing body of the University is the Council, comprising twenty members; seventeen of whom are elected or appointed and three (the Director-General of Education and the chairman and deputy chairman of the Professorial Board) are *ex officio*.

The Vice-Chancellor is the chief academic and executive officer. He presides over the Professorial Board which is the governing body on academic matters.

Staff and Students

The next table shows the courses in which students were enrolled:

University Enrolments, 1976

Course	Students enrolled			
	New enrolments 1976 (a)	Total enrolments		
		Males	Females	Total
Master and Doctor degrees ..	67	201	52	253
Bachelor degrees—				
Agricultural Science	23	44	14	58
Arts	573	616	658	1 274
Economics	82	228	41	269
Education	66	53	90	143
Special Education (b)	10	1	9	10
Engineering	46	165	1	166
Law (c)	73	144	38	182
Medicine (d)	52	185	75	260
Science	176	377	147	524
Combined B.A./LL.B. (e) ..	..	10	12	22
Combined B.Ec./LL.B. (e) ..	..	8	1	9
Total	1 101	1 831	1 086	2 917
Non-degree courses—				
Education	190	125	143	268
Other (f)	52	56	45	101
Total	242	181	188	369
Total all courses ..	1 410	2 213	1 326	3 539

(a) New enrolments refer to those students who either commenced studies for higher degrees or, being undergraduates, enrolled at the University of Tasmania for the first time in 1976, or transferred from one faculty to another.

(b) A two-year full-time course leading to the degree of Bachelor of Special Education was introduced in 1976.

(c) From 1975, students must complete one year in another faculty before starting law.

(d) Students may enrol for an honours degree in Medical Science after completing at least three years of M.B., B.S. course.

(e) Two five-year bachelor courses leading to the combined degrees of B.A./LL.B. and B.Ec./LL.B. were introduced in 1976.

(f) Of the students classified as 'other' 17 students were enrolled for a master degree qualifying examination. The remainder were enrolled for university subjects but were not proceeding to either a degree or diploma.

The following table shows the number of teaching staff and students:

University Teaching Staff (Full-time) and Students Enrolled

Particulars	1970	1971	1972	1973	1974	1975	1976
Teaching staff—							
Professors	30	31	33	32	33	33	35
Other	172	189	215	219	238	247	255
Total teachers	202	220	248	251	271	280	290
Individual students enrolled ..	3 119	3 444	3 371	3 263	3 414	3 399	3 539

closed and its functions transferred to the Tasmanian Department of Education which acted as an agent for the Federal Government. With increased financial involvement in education the Hobart office was re-opened in 1964. However, education was still primarily a state responsibility.

The portfolio of the Federal Minister for Education includes the Department of Education, the Universities Commission, the Commission on Advanced Education, the Technical and Further Education Commission, the Schools Commission, the Curriculum Development Centre, the Commonwealth Teaching Service, the Interim Australian Capital Territory Schools Authority and the Interim Australian Capital Territory Technical and Further Education Authority. The Office of Child Care which advises the Government on support for child care and pre-school education programs is located within the Department of Social Security.

From January 1974, when the Federal Government assumed full financial responsibility for financing tertiary education, tuition fees have not been charged at universities, colleges of advanced education and technical colleges. The Federal Government has announced its intention of reintroducing tuition fees for certain categories of students in 1977.

Department of Education

The Department provides advice to the Federal Minister for Education on general educational policy measures and the development and investigation of educational policy proposals in new areas. It is involved in planning and evaluation of the effective use of resources in Australian education and co-ordinates programs of advisory commissions and committees.

The Department advises the Federal Government on policy for furthering educational research. It undertakes educational research projects and provides the secretariat for the Education Research and Development Committee. The Committee advises the Minister on priorities in educational research, recommends the award of research grants and assists in the training of research personnel.

The Department is responsible for international relations in education, for example for co-ordinating Australian participation in the educational activities of UNESCO and OECD. It administers schemes of assistance for Australian students and also exchange programs which enable Australians to study overseas and overseas students and educationists to visit Australia. The Department is responsible for the migrant education program and the production of language teaching materials. It provides advice on Aboriginal education and administrative assistance for a number of advisory committees including the Australian Council on Awards in Advanced Education. The Council promotes consistency throughout Australia in the nomenclature and standards used for awards in advanced education.

Secretariat services are provided to a number of advisory bodies including the following:

Australian Council on Awards in Advanced Education: The Council was established in 1971 to promote consistency in the nomenclature used for awards in advanced education and in establishing consistency between the courses and their associated awards.

Australian Advisory Committee on Research and Development in Education: This Committee was established in 1970 to advise the Minister on priorities in educational research, to recommend the award of research grants and to propose measures for the training of research personnel. The first of the Committee's awards of Educational Research Scholarships and Educational Research Fellowships were made in 1975.

Office of Child Care

The Office of Child Care within the Department of Social Security was established in June 1976 to administer programs of assistance which provide for the care and development of young children before they reach school age, and of older children outside school hours.

By supporting a variety of programs carried out both through state governments and, directly, by local governments and community groups, the Office of Child Care aims to help families provide adequately for the needs of their children.

The Office also aims to provide a comprehensive integrated approach to children's services which will include family day-care programs, pre-schools, play-groups, after school and holiday care programs, occasional care and emergency care. The emphasis will be on providing services to help people join together to make the best use of existing facilities for children.

The Australian Schools Commission

The Schools Commission was created by the Federal Government as a statutory body under the *Schools Commission Act 1973*, which was assented to on 19 December 1973. The Commission was preceded by the Interim Committee for the Australian Schools Commission, chaired by Professor Peter Karmel. The Interim Committee reported to the Federal Government in May 1973 in a Report entitled 'Schools in Australia', the major recommendations of which were accepted by the Government. As a result of this Report, funding for Australian schools for 1974 and 1975 was made available by the Federal Parliament which enacted the *States Grants (Schools) Act 1973*. Other Federal Government funds continued to be available under the *States Grants (Schools) Act 1972*. Supplementary grants were made in subsequent amendments to both Acts. Over this period some \$760m has been made available to Australian schools and school systems under both Acts through Federal Government programs administered by the Schools Commission.

In broad terms, the functions of the Commission are:

- (i) To report to the Federal Minister of Education, after consultation with interested parties, on the needs of primary and secondary schools and on the priorities that should be given to satisfying those needs.
- (ii) To enquire into and report on important aspects of primary and secondary schooling, with a view to improving the quality of education and the efficient use of resources.
- (iii) To carry out, in conjunction with various schools and school systems, studies aimed at finding solutions to educational problems.

State Planning and Finance Committee

The functions of the State Planning and Finance Committee are to:

- (i) Supervise the distribution to non-government schools of Federal Government grants within the State and in particular to recommend subsidy levels for non-systemic schools and report regularly to the Schools Commission on the application of the needs principle in the distribution of block subsidy grants for Catholic systemic schools.
- (ii) Establish priorities based on need and approve applications for building grants from non-government schools.

- (iii) Recommend non-government schools seeking to be declared as disadvantaged for the purposes of the Disadvantaged Schools Program.
- (iv) Advise the Commission on matters affecting the financing and development of non-government schools, and on other matters as referred by the Commission from time to time.

Members are appointed by the Federal Minister for Education with the aim of achieving broadly representative committees in each state competent to make decisions on priorities and levels of funding in individual schools.

The levels of assistance to which a school may be entitled are shown in the following table. (In the case of Catholic systemic schools a block subsidy grant at one of these levels is given to cover all schools in the system.)

Per Capita Grant Levels: Non-Government Schools, 1976
(\$)

Level of assistance	Amount per primary school student	Amount per secondary school student	Level of assistance	Amount per primary school student	Amount per secondary school student
1	72	108	4	156	246
2	100	154	5	184	292
3	128	200	6	212	338

Programs and Funding for 1976

The Commission operated six programs in 1976 instead of the seven it operated in 1974 and 1975. The programs and Tasmania's share of the funds allocated are summarised below.

General Recurrent Grants Program: Tasmania was allocated \$7.2m to cover staffing and other operating costs including \$0.29m for the needs of children from non-English speaking homes.

Disadvantaged Schools Program: To encourage declared schools to provide additional help for children whose social circumstances make it difficult for them to learn, Tasmania was allocated \$0.32m.

Special Education Program: Tasmania was allocated \$0.56m towards the education of physically and mentally handicapped children.

Services and Development Program: For teacher development, the provision of support services in schools and teacher managed education centres, Tasmania was allocated \$0.27m.

Special Projects Program: The funds were not allocated on a state basis but \$3.5m was provided nationally for the support of innovative educational projects. The money was granted to individual applicants on the basis of careful appraisal of their proposals.

Capital Grants Program: Tasmania was allocated \$3.3m for general capital works and for the capital component of other specific programs.

The following table shows, in greater detail, the grants allocated for the 1976 programs:

**Schools Commission Funding for the 1976 School Program
(\$'000)**

Program	Total allocation for Australia	Allocation for Tasmania		
		Government schools	Non-Government schools	Total
General recurrent grants	295 612	4 512	2 660	7 172
Disadvantaged schools	15 600	280	40	320
Special education	11 188	320	..	320
Capital grants	(a) 121 805	(b) 2 850	(c) 457	3 307
Total	(a) 444 205	(b) 7 962	(c) 3 157	11 119
		All schools (d)		
Special education—				
Training	782		29	
Replacement	5 770		213	
Development activities—				
Training	6 083		227	
Replacement	1 918		69	
Education centres (e)—				
General support	860		(e)	
Facilities	400		(e)	
Special projects (e)	r 3 587		(e)	
Total	r 19 400		538	
Total all programs	(a) r 463 605		(b) 11 657	

(a) Includes \$45m provided under the States Grants (Schools) Act 1973-74.

(b) Includes \$1 279 000 provided under the States Grants (Schools) Act 1973-74.

(c) Includes \$229 000 provided under the States Grants (Schools) Act 1973-74.

(d) Programs available for all schools.

(e) Funds to be disbursed in accordance with priorities determined by the Commission.

Migrant Education

Child Migrant Education: Under this scheme, which commenced in April 1970, the Federal Government provided finance for both government and non-government schools for: (i) salary costs of teachers and supervisory staff involved in teaching English to migrant pupils; (ii) provision of approved language teaching equipment; (iii) provision of appropriate teaching and learning materials; (iv) special training courses for teachers in methods of teaching English as a foreign language; and (v) provision of emergency classroom accommodation during the financial years 1973-74, 1974-75 and 1975-76. Except for one non-government school at Launceston, children attend classes run in government schools—centres have been established for Hobart, Launceston, George Town, New Norfolk, the North-West Coast and the West Coast. At 30 June 1976 the number of teachers involved was 31 and the number of children attending the classes was 922. The scheme is now administered by the Schools Commission.

Adult Migration Education Program: For many years the Federal Government has provided adult migrants with the opportunity to learn English and also something of the Australian way of life. This has been done mainly through part-time evening classes, and to a lesser extent through radio and correspondence courses. The program commenced in 1947 and since 1951 has been a joint effort by the Federal Government and the states. At the present time, following a series of agreements reached between the Federal Government and the states in 1951,

the Federal Department of Education retains overall responsibility for the program while administrative control of migrant teaching activities is in the hands of the states. Recent developments in the program have been the establishment of full-time courses and the payment of a living allowance to students attending these courses which include courses in industry, a home tutor scheme and a television migrant education program in colour. During the 1975-76 financial year the total expenditure on the adult program in Australia was \$8.09m, of which Tasmania's share was \$89 000. At 30 June 1976, 21 migrant continuation classes were operating in Tasmania for 149 students. A further 24 students were enrolled in the correspondence course, 60 students per year were attending full-time accelerated courses and 21 migrant women were receiving one-to-one instruction in their homes under the Home Tutor Scheme. A total of 86 students attended special English classes during the year.

Tertiary Education

Commission on Advanced Education

This Commission provides the Federal Government with information and advice with a view to promoting the balanced development of tertiary education outside the university system in Australia. In particular, the Commission advises the Government in connection with grants for capital and recurrent purposes made to institutions and to the states for advanced education (other than at universities).

Universities Commission

This Commission's main function is to study and to advise the Federal Government on the needs and problems of universities and further, to advise the Government on financial assistance to, and the development of, Australian universities. Another function is the promotion of balanced development of universities so that their resources can be used to the greatest possible advantage of Australia.

Assistance to the states for the recurrent expenditure of universities dates from 1951-52. Grants were made on a matching basis (one dollar for each \$1.85 of state expenditure). Assistance for capital purposes was provided on a dollar for dollar basis, however, from 1 January 1974 the Federal Government alone has financed universities and other tertiary education. The next table shows Tasmanian receipts from the Federal Government for university education:

Federal Government Payments to Tasmania for University Education
(\$'000)

Purpose of expenditure	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74 (a)	1974-75	1975-76
Recurrent	1 315	1 504	1 818	2 105	2 530	r 6 415	12 274	13 659
Capital	902	757	429	665	842	r 694	1 279	2 589

(a) From 1 January 1974 the Federal Government accepted full responsibility for financing tertiary education.

Colleges of Advanced Education

Assistance for state colleges of advanced education commenced in March 1965 when the Federal Government agreed, as an interim measure, to make capital grants totalling \$5m during the remainder of the 1964-1966 triennium.

Grants for recurrent expenditure were made from the beginning of the 1967-1969 triennium. These grants were subject to a matching formula—for recurrent expenditure the basis was \$1 by the Federal Government for each \$1.85 provided by the states; capital expenditure grants were on a dollar for dollar basis.

From 1 January 1974 when the Federal Government assumed full financial responsibility for tertiary education, the matching arrangements ceased, all tuition fees were abolished and additional provision was made in both the capital and recurrent programs for cost increases which were not foreseen when the programs were formulated.

The following table sets out Federal Government expenditure on advanced education in Tasmania in recent years.

Federal Government Expenditure on Advanced Education in Tasmania
('\$000)

Purpose of expenditure	1971-72	1972-73	1973-74 (a)	1974-75 (a)	1975-76	1976-77
Recurrent	887	1 128	3 959	6 888	7 011	8 251
Capital (b)	2 035	1 425	292	2 968	5 313	1 406

(a) From 1 January 1974 the Federal Government assumed full responsibility for financing tertiary education.

(b) Includes the following payments made under States Grants (Teachers Colleges) and (Pre-School Teachers Colleges) Acts (\$'000): 1971-72, 650; 1972-73, 250; and from 1973-74, nil.

Technical and Further Education Commission

In April 1973, the Australian Committee on Technical and Further Education was established to examine and make recommendations on technical and further education (TAFE) in Australia. Included in its scope were assessment of needs, priorities, the amount and allocation of financial assistance and conditions upon which assistance should be granted. The Committee produced two reports, the first recommending, inter alia, financial grants to the states for capital and recurrent expenditure on technical and further education over the period July 1974 to December 1975, whilst the second recommended further grants to cover the remainder of the triennium, i.e. to 30 June 1976.

The Technical and Further Education Commission was established in July 1975. The Commission is responsible for the administration of Federal Government funds provided under the States Grants (TAFE) legislation and for providing advice to the Minister on the general development of TAFE in Australia, on the needs and priorities in the provision of facilities, on desirable standards for these facilities and on financial assistance to the states for and in respect of institutions of TAFE.

Technical and Further Education Funding

The *State Grants (Technical and Further Education) Act 1974* provided funds totalling \$4.65m for Tasmania up to and including 1976. This amount comprised \$2.76m for capital works (\$1.70m for land and building, and \$1.06m for equipment and minor works) and \$1.89m for recurrent expenditure. In accordance with a later decision, all grants available under this Act between July 1975 and December 1976 were to be indexed. Legislation to provide the additional funds resulting from indexation was expected to be introduced into the Parliament in late 1976.

Payments to Tasmania for technical and further education in recent years have been: 1970-71, \$0.33m; 1971-72, \$0.38m; 1972-73, \$0.38m; 1973-74, \$0.69m; 1974-75, \$0.90m; 1975-76, \$1.97m. It was expected that \$3.34m would be paid to Tasmania during 1976-77 under existing legislation and proposed legislation for the provision of funds for 1977.

Federal Government Assistance for Tertiary and Secondary Students

The next table shows the number of students in Tasmania receiving Federal Government assistance under the various schemes:

Number of Students in Tasmania Receiving Federal Government Assistance at 30 June

Scheme	1972	1973	1974	1975	1976
Tertiary education assistance	..	..	1 460	1 668	1 770
University	916	920	..	..	..
Advanced education	220	359	..	..	..
Technical	97	108	29	12	2
Secondary	560	274	2	..	..
Adult secondary .. .. .	..	..	..	37	39
Senior secondary .. .. .	..	739	1 341	670	2
Secondary allowances .. .. .	..	..	164	200	260
Post graduate	52	52	50	54	54
Aboriginal secondary	32	140	241	313	316
Aboriginal study	3	7	16	11	15
Isolated children .. .. .	..	805	603	806	731
Other (a)	32	55	37	23	9
Total	1 912	3 459	3 943	3 794	3 198

(a) Includes National Service Vocational Training Scheme, Pre-School Teacher Trainees (from 1973) and Federal Government Teaching Service Scheme.

Assistance for Isolated Children: This scheme provides financial assistance to enable children living in isolated areas to have improved educational opportunities. Benefits are available for pupils who must live away from home to attend school and those studying through state education department correspondence schools. At 30 June 1976, there were 731 Tasmanian students receiving this assistance.

Tertiary Education Assistance Scheme: This scheme provides means-tested (non-competitive) allowances to full-time, unbonded students attending approved courses at tertiary institutions. In Tasmania, 1 770 students were receiving tertiary allowances at 30 June 1976. Benefits in 1977 include an allowance, subject to a means test, of up to \$1 250 per annum for a dependent student living with his parents; up to \$1 976 per annum for a dependent student living away from home; or up to \$2 236 per annum for an independent student. Dependents' allowances of \$29 per week for a dependent spouse and \$7.50 per week for each dependent child will be payable. Also provided are allowances to assist with student union and other incidental fees. The following incidentals allowances will be paid in 1977: for students enrolled at universities, \$100; for students at colleges of advanced education, \$70; and for students at technical colleges, \$30.

Adult Secondary Education Assistance Scheme: Assistance is available under this scheme for adult students who have had a break from secondary studies and who have returned to undertake final year secondary or matriculation studies at secondary schools, technical colleges and other approved institutions. Benefits payable are the same as those provided under the Tertiary Education Assistance Scheme. As at 30 June 1976, 39 Tasmanian students were being assisted under this scheme.



'The Last Muster of the Aborigines', painting by John Glover

[Dept of Film Production]

(By courtesy of the Queen Victoria Museum and Art Gallery)



John Glover, self portrait

[Dept of Film Production]

(By courtesy of the Tasmanian Museum and Art Gallery)



'Bush Scene near Patterdale', oil by John Glover

(By courtesy of the W. L. Crowther Library, Hobart)

[Dept of Film Production]



'Mills Plains', painting by John Glover

[Dept of Film Production]

(By courtesy of the Tasmanian Museum and Art Gallery)



'Australian Landscape with Cattle', oil by John Glover

[Rex Nan Kivell Collection, National Library of Australia]

Commonwealth Senior Secondary Scholarship Scheme: This scheme offers scholarships to students in the final two years of secondary education. No new awards were offered after 1974. At 30 June 1976, 2 Tasmanian students were receiving assistance under the scheme.

Secondary Allowances Scheme: Families with limited financial resources are assisted under this scheme to maintain their children at school for the final two years of secondary education. In 1977 an allowance of up to \$550 per annum will be provided on a non-competitive basis subject to family income. In Tasmania 260 students were receiving this assistance at 30 June 1976.

Postgraduate Awards: Awards are made annually to enable students to undertake post-graduate studies at an Australian university or college of advanced education. In Tasmania, in 1976, 21 new awards were made available for university studies. Selection is made on the basis of ranking by each university and in the case of Course Awards, the final order of merit list is drawn up by a Central Selection Committee. The award, subject to annual renewal, may be held for a maximum of four years in the case of a doctorate degree candidate or two years in the case of a master's candidate. In 1977 Award holders will receive a living allowance of \$4 000 per annum. Provision is also made for assistance with travel, establishment and thesis costs and married award holders receive a dependants allowance for a dependent spouse and children.

Aboriginal Grants Schemes: The Department of Education administers, on behalf of the Department of Aboriginal Affairs, two schemes of assistance for students of Aboriginal descent, the Aboriginal Study Grants Scheme and the Aboriginal Secondary Grants Scheme. Aboriginal study grants assist Aboriginals to undertake training and study after leaving school and provide the full-time student with fees and a living allowance. In 1977, married students or students 18 and over will receive \$54.50 per week, while unmarried students under 18 will receive \$45 per week. Other special allowances are also payable. Part-time students receive fees and incidental expenses. At 30 June 1976, 15 students in Tasmania were receiving this assistance. The Aboriginal Secondary Grants Scheme provides assistance to Aboriginal secondary school students to encourage them to obtain a secondary education. The scheme provides a living allowance which, in 1977, is \$308 per annum for students in junior grades and \$440 for senior students. Allowances are also payable for the cost of board, textbooks, uniforms, fares, fees and other items. There were 315 Tasmanian students being assisted under this scheme as at 30 June 1976.

Commonwealth Teaching Service Scholarship Scheme: This scheme provides competitive awards to students undertaking full-time courses of teacher education with the intention of becoming teachers in the A.C.T. or the Northern Territory. Benefits are comparable with the maximum amounts payable under the Tertiary Education Assistance Scheme, and are not subject to a means test. In Tasmania 9 students were being assisted under this scheme at 30 June 1976.

STATE LIBRARY OF TASMANIA

General

The present State Library Service dates from the *Libraries Act 1943*. This legislation made provision for: (i) establishment of a State Library; (ii) constitution of a Tasmanian Library Board which would be responsible for management and development of library services in the State; and (iii) co-ordination of various library services then subsidised by the State Government. The Tasmanian Library Board is now completing a re-organisation of library services which will result

in the consolidation of the headquarters in central Hobart supported by six regional library systems. Three regions were in operation at the end of 1976; the Hellyer, Mersey and Northern regions. The Tasmanian Library Board expects the re-organisation to be completed in 1977-78.

The next table gives selected statistics for the State Library of Tasmania:

State Library of Tasmania: Selected Statistics

Particulars	1971-72	1972-73	1973-74	1974-75	1975-76
EXPENDITURE (\$'000)					
Salaries and pay-roll tax	573	727	957	1 703	2 105
Purchase of books, etc.	304	364	390	588	665
Grants to municipalities	29	29	29	29	29
Other	104	207	273	471	1 067
Total expenditure	1 011	1 298	1 620	2 762	3 837
BORROWING: BOOKS, FILMS AND RECORDS ('000)					
Books	3 636	3 642	3 405	3 703	4 003
Films	13	13	10	11	13
Records	51	105	161	231	254

Receipts

The total funds available for the State Library System in 1975-76 were \$3 837 250 comprising an appropriation from Consolidated Revenue of \$3 321 250 and a municipal contribution of \$516 000.

Resources

The following materials were held by the Library in 1975-76: books, 856 000; films, 5 000; records and cassettes, 58 000; play sets, 3 250; and sheet music, 1 555.

Organisation

Regional Libraries

The following outlines the six regions which will result from the re-organisation at present being undertaken.

Channel Region: This region will serve 23 000 people in five southern municipalities and will be serviced from Kingston.

Derwent Region: This region will serve 66 000 people in seven midland municipalities to be serviced from Glenorchy.

Hellyer Region: This region serves the north-west and west coast population of 61 000 from a new regional headquarters building in Burnie.

Mersey Region: This region serves 44 000 people in four municipalities centered at the central north coast city of Devonport.

Northern Region: A large modern building in Launceston serves 110 000 people in 16 municipalities.

Tasman Region: This region will serve 52 000 people from six municipalities in south-eastern Tasmania.

The following table shows the distribution of Branch Libraries, Depots, etc. throughout these regions:

Public Libraries: Tasmania, 30 June 1976

Regional System	Buildings			Bookmobiles
	Central Library	Branch Library	Depots (a)	
State Library Headquarters ..	1	..	..	3
Channel Region .. .. .	..	6	..	..
Derwent Region .. .. .	..	15	1	..
Hellyer Region	1	13	..	1
Mersey Region	1	4	1	..
Northern Region	1	22	8	3
Tasman Region .. .. .	..	7	1	..
Total	4	67	11	7

(a) Comprises a small collection of materials not housed in a separate library building or room.

Hobart Headquarters

The following major departments are located in the Hobart headquarters building comprising stages one (1962) and two (1972). Stage three is yet to be planned.

State Reference Library: Provides reference and information facilities for the general public and industry, and contains a bookstock of approximately 175 000 books, periodicals, pamphlets, maps, etc. Special sections of this department house unique collections of books, documents, etc. relating to Tasmania. Collections include: (i) the Tasmanian Collection—a definitive collection of books published in Tasmania; (ii) the W. E. Crowther Library—a large research collection of books, pamphlets and other items relating to Tasmania and Australia; and (iii) the Allport Library and Museum of Fine Arts—comprises a collection of antique furniture, china, glass, silver, pictures, prints and rare books in fine editions.

Archives Office: The *Archives Act* 1965 made this library department the official repository for all official State Government records. A considerable quantity of private records of individuals, companies, associations, societies and institutions is held as well as official records.

Division of Unregionalised Services: This division supplies books and other library materials to, and co-ordinates library services in, those libraries which are not yet part of the regional library system.

Hobart Lending Library: Provides a book lending service for adults and children. Approximately 110 000 volumes are held in this collection.

Films and Recorded Music Library: Contains over 5 000 films and almost 50 000 gramophone records and 8 000 cassette tapes. Films and records are available for borrowing by individuals and organisations.

JOHN GLOVER'S MIGRATION TO TASMANIA

The following article was contributed by P. Chapman, Senior Research Assisant, History Department, University of Tasmania

Glover's English Background

John Glover has been characterised, rather extravagantly, as having 'been hurled by some unknown force to the other end of the world . . . ' Tasmania.¹ Indeed there has been some small mystery about the arrival of this famous painter in Tasmania in March 1831.² It was certainly an event for the tiny artistic community in the small Colony, physically impressive, over 183 cm (six feet) tall and 114 kg (18 stone) in weight, Glover was also a giant on the cultural landscape. Born on 18 February 1767, he was one of three sons of a small farmer. From a modest beginning as writing master for the Appleby free school, this man of humble origins and 'plain education' had achieved a European reputation as a landscape painter before migrating. A founder member of both the Society of Painters in Watercolours and the Society of British Artists, and later President of the former society, Glover's landscapes had commanded an impressive market. His picture of Durham Castle brought £500 sterling in 1815 and while this seems to have been his most substantial sale it was reported that he had amassed a fortune of some £68 000 sterling from his art on the eve of his departure to the Antipodes and that he was taking it with him.³ Glover, who frequently toured the European continent, was awarded a Gold Medal by the recently restored Bourbon, Louis XVIII, for a landscape composition executed in the Louvre in 1814. This was a piquant event in Glover's far from uneventful life for Louis was prevented from personally awarding this medallion by the unexpected return of Napoleon Bonaparte from Elba. Both Bourbon and painter fled the country, but Bonaparte, on learning of the Monarch's intention, and having admired the work, forwarded the medal to John Glover in England.⁴

Rather surprisingly, however, Glover failed to gain admission to the Royal Academy in 1819—it seems, amongst other matters, the perennial sin of popular success and prodigious output was held against him.

To have been admired by Napoleon Bonaparte, patron of that extravagant stylist David, could hardly have been a recommendation to the doyens of the Royal Academy. Nevertheless, Glover, who was greatly influenced by the pastoral landscapes of the great French painter Claude and publicised his wish to be known as the 'English Claude', maintained his connection with the French Court. The Duke of Orleans, later to become King Louis Phillippe of France, commissioned and eventually purchased (in 1835) two of Glover's Tasmanian Landscapes.⁵

Glover has been seen both as a founder of English water colour painting and as a minor early figure amongst the artists of the Romantic movement, anticipating perhaps the emergence of his great contemporary and acquaintance, William Turner.⁶

Certainly his delicate effects with mist and light are evocative of this, as was his material preference for Ullswater and the House near Patterdale which he is said to have bought from Wordsworth. Yet against this Romantic association must be set both his striving for the pastoral themes of Claude, and his own, countryman's, close intense absorption in the physical structure of the rural landscape. This was nonetheless termed a 'hideous fidelity to Nature' by an admiring contemporary in Van Diemen's Land and, with the fashion of the day, deterred the Academicians.⁷

The Decision to Emigrate

Tasmania's novel landscape, unordered by the hand of man, has often been represented as the attraction which drew Glover from his original intention of a retirement spent painting in Westmorland. However, it is possible at least to argue that this is too simple an explanation for such an Odyssey, physically adventurous and resourceful though Glover always was.⁸ The suggestion that the migration was one of pique, either at rejection by the Academy or changing fashion, may be confidently rejected—for Glover was both wealthy, successful and of an eminently serene temperament and the rejection occurred some eleven years prior to his migration. However, the proposition that the move was prompted for the economic betterment of his grown up family seems worthy of consideration.⁹

Glover was a devoted father, instructing his children in painting and indeed exhibiting the work of his sons William and John together with his own work.¹⁰ His eldest son is alleged to have got into serious financial difficulties and there were the problems of the Post Napoleonic Depression and the 1825 financial crisis. The attraction of free land grants in Tasmania were circularised at that time. It is not unreasonable, therefore, to suppose that migration, with landed patrimony at the end, must have seemed attractive to a father with an insecure family to settle and an obsession with both landscape and country life.¹¹

Yet, although this may be so, John Glover senior did not leave England until over 18 months after the first instalment of his family departed (his sons William, Henry and James, and James' wife arrived in Hobart Town on the *Prince Regent* on 11 July 1829). When at last he did prepare to depart, together with his wife and John Glover junior, his original destination was not Tasmania at all, but the Swan River settlement in Western Australia.

In an advertisement in the *Times* of 12 May 1830, ' . . . respectfully acquainting the Nobility and gentry, Amateurs and Patrons of the fine arts of . . . [an] Auction . . . of all the finished Drawings in Water-Colours of John Glover Esq. . . . ' we learn that also to be sold are 'the remaining part of his paintings in Oil, abounding in the romantic and beautiful scenery of the mountains and lakes of England, Scotland and Switzerland, which it is acknowledged he portrays with a fidelity that rivals Nature: with them will be found many Claude like Italian views . . . highly interesting for their classical character, their sweetness and amenity . . . '. Also that 'Mr Glover having concluded his arrangements for his departure to the Swan River . . . the necessity is imperious to sell all without reserve . . . '.

All the indications are that Glover was initially quite determined on the Swan River as his destination and this is confirmed by J. W. M. Turner's surprise in early November of the same year when he wrote: 'Mr G. puzzles me . . . I understand he is off, but not to the Swan River but to New South Wales and has taken a van load of pictures . . . '.¹² Glover's change of mind may well have been influenced by the disquieting reports which were beginning to filter in from the struggling Swan River Colony. Indeed with one such report, appearing in the *Times* of 24 May 1830—a bare week after the auction of Glover's pictures—it is difficult to escape the conclusion that it was written with John Glover very much in mind. After noting that 'The face of the country is really most beautiful and picturesque and would require the pencil of a Claude to do it justice . . . ', the writer concludes 'No person can establish himself and family decently as a settler with less than £1 000 clear money on landing . . . Persons with wild and romantic ideas as to the capabilities of this or any other colony had better remain in England.'

In the meantime, there would have been ample time for correspondence, descriptive of Tasmania's landscape and its more hospitable climate, to have reached Glover from his emigrant family. In summation it seems that, more than anything else, what the ageing artist sought was not only a new landscape, but one set in fertile agrarian seclusion. This would match both his childhood at Houghton on the Hill and the retreat near Patterdale at Ullswater to which he had originally intended to retire.

The Voyage

At the time of their departure from England in the *Thomas Lawrie* in September 1830, Glover at 63, though still physically vigorous, was by the standards of the day becoming an elderly man,¹³ while his wife, Sarah, six years his senior, was old.¹⁴ The long voyage which, thanks to a mistiming of their embarkation, began with a scramble up 'the common rope ladder up the whole side of the vessel',¹⁵ was a trial for both of them. John Glover junior recorded the extreme fatigue and sickness of Mrs Glover, particularly in his later letters home to his sister. The experience of the voyage indeed seems to have been a substantial bar to them ever returning to England.¹⁶ Glover nevertheless was sufficiently recovered by Madeira to paint a 'distant view of the sky and the water'.

The six month voyage of the *Thomas Lawrie* was an unusually long one. So much so indeed that real fears were entertained for the vessel's safety.¹⁷ Short of water and all but out of fuel they had to put into King Island for water and provisions, but eventually arrived safely at Launceston on 21 February 1831. The first view of the new landscape was an encouraging one: there was 'a blazing sun and a glowing landscape', John Glover junior wrote home ' . . . the hills are tolerably high . . . the contrasts of the different masses strong and striking, very like the management of Gasper Poussin's landscapes . . . '.¹⁸

While the party recouped in the Tamar, however, there were encounters with other more alien features of the new land which were also to find a place in Glover's paintings. One evening John Glover junior missed his way in the scrub near Launceston, and discovered that 'the hills here are so much alike, in form like a succession of the waves of the sea, that when a person has once missed his certain course, to be lost is the next certainty . . .'. Such sameness was to attract the attention of the *Times* critic of Glover's paintings a few years later. Also the Aborigines, whom Glover later took pains both to study and depict, first made their appearance. A provisioning party from the ship encountered a 'party of natives' on the banks of the Tamar, ' . . . one of whom was shot and knocked over . . . but they all finally escaped, as did also our party, no less thankful . . . '.¹⁹

Hobart Town

The Glovers eventually arrived in Hobart Town on 1 April 1831 and once more the landscape did not disappoint them. They lodged in a house at 'the farther end of Town, on a steep hill overlooking the whole town, harbour and surrounding hills . . . a romantically pleasing view . . . '.²⁰

At Hobart Town Glover met the cultivated Colonial Auditor, G. T. W. B. Boyes, a voluminous diarist and letter writer, and himself a minor but talented water-colourist. In a letter to his wife Mary, Boyes left a vivid impression of the artist:

'Glover the Artist is arrived here. He is come out to establish himself and has brought a handful of drawings and paintings and some hundreds of well filled sketch books—besides the means of living "En Prime" . . .', and of Glover dining with Boyes:

‘ . . . a very pleasant evening we had of it. At about eight pulled out two sketch books and putting both hands upon them on the table, said: “Now Sir, your Portfolio—and we will exchange for the evening.”’

‘There were scores of beautiful things in his books—scenes of Ullswater, Windemere, Wales, Scotland, Italy, particularly about Tivoli, where his spirit appears to have revelled in its own elements, and many other parts whither he has gone in search of natural beauties. He is delighted with this country—assures me that Nature is not less singular and especially distinguished in her landscape than in the animal creation, although I might not at present see it . . .’

‘I was rather surprised that he sketched upon so small a scale—few of his efforts covered more paper than 20 square inches i.e. 5 by 4, yet the expanse rendered therein by the aerial perspective and knowledge of proportion was quite astonishing. Mountains thousands of feet high and valleys of almost interminable length were represented in all their grandeur and beauty within the limits of a common card . . .’

Already the zeal for religion which was to increasingly absorb Glover in later years was evident to Boyes:

‘Glover is a most agreeable old man and has got into the habit of raising his mind from the Created to the Creator and expresses himself in a strain of sincere and genuine piety. He gives a turn to all his views so that in looking at Nature’s works he seems to penetrate into futurity and carries as it were, his sentiment of Landscape beauty beyond the grave. He really looks through Nature up to Nature’s God . . .’

Glover, who was shortly to attempt to mould the life of himself and his family to a pastoral idyll at Mills Plains, also had more ambitious plans for bringing Nature to mankind. Boyes wrote of these plans:

‘He has some schemes in his head at this time which he will probably abandon after a little time. He intends to reform the Convicts/ no trifling labour/ and to direct the views and regulate the conduct of the rest of the population till they have arrived at such estate of moral advancement that will make the idea of human perfection no longer Utopian. All this is to [be] chiefly effected by the instrumentality of Art—water and oil. He is a worthy old man and I wish him every success in his reasonable undertakings . . .’²¹

While Glover remained in or near Hobart, Boyes maintained contact with the artist and his work and has left this record of his reaction to Glover’s portrait of Mt Wellington:

‘Saw his picture of Mount Wellington—sun rising and moon setting . . . I liked the twilight part of it very well—the depth of the valley where the night damps are still lying, while upon the higher ground the vapour is escaping along the face of the Mountain in the form of cloud before the approach of morning . . .’²²

The evocation is of Ullswater and while Glover painted tirelessly, and sent two pictures home for the Suffolk Street Exhibition in January 1832, the recreation of an Antipodean counterpart to his former Westmorland retreat was a pre-occupation with the ageing artist.²³

Within a few weeks of arrival in Hobart he bought Ring Farm at Tea Tree where the family chronicler, John Glover junior, had his first experience of Tasmanian farming. However, the ultimate settlement was inland, on a 1 000 hectare

location at Mills Plains on the Northern slope of Ben Lomond. Here Glover was to build his house on the bank of the Nile River and name the farm 'Patterdale' after the village on the shore of Ullswater where he had spent so much of his painting life.²⁴ Glover's son James, in particular, had already been 'expediting' arrangements there but the departure of the main Glover party from Hobart Town on 12 March 1832 on the long bullock trek for Mills Plains, had all the flavour of a pioneer saga.

Life on the Patterdale Farm

Establishment of the Farm

They travelled with 'two carts, one covered with Mrs Glover and Mrs Henry Glover, the other with the final luggage, birdcages etc.'. Bullock driving was slow: 'If we averaged 10 or 12 miles a day we were satisfied . . .', and there was a camp at Cross Marsh, where 'Mr Glover slept in a settler's hut . . . but Mrs G. preferred sleeping in her own covered cart . . .'. Provisions were no problem for 'We had also a flock of Henry's sheep with us, so that we had only to kill and eat as we found convenient . . .'. In all the 145 kilometre journey took eleven days.²⁵

Despite James' preparations, early life at 'Patterdale' was primitive. Most of the newly arrived Glover party slept in a two room hut—the artist and his wife in one room, Henry Glover and his wife (soon to be confined) in the other. John Glover junior slept for a while 'in the stable in a long packing box encompassed by other packing boxes and snug'.²⁶

Soon, other houses were built and life assumed a more settled pattern, but it seems that Glover's hopes of reforming the convicts by art were soon disappointed. Their free servant soon deserted them, whilst the 'assigned female servants' proved to be 'the most troublesome beings in the Colony'. They will do admirably for a time, but then relax and if spirits be not procurable for a little indulgence, they will decamp with scarcely the civility of a notice . . . thus Mrs Glover has been served several times . . .'.²⁷ Backhouse also noted the elderly lady's difficulties when he visited the settlement in 1833.²⁸

While Glover painted assiduously for his intended exhibition of Tasmanian landscapes, the other members of the family developed the farm.

'We sow, plant, fence and break up new ground in progressive order', John Glover junior wrote home to his sister,²⁹ 'Our crops are equal to most, our wheat in particular often surprises our neighbours . . . we always grow enough for our own, despite other grain for disposal . . . Wool is the best staple article for reimbursement of which we make the most of our stock . . .'.

Painting from Patterdale

Appropriately, the artist, who was to take such pains in capturing the form of the flora of the Tasmanian landscape, had imported English trees, shrubs, and songbirds with him.³⁰ Glover, who had always been absorbed with the minutiae of rural life as well as the landscape, and who had once startled the art world by exhibiting a life size study of a bull, seems (as he suggested to Boyes) to have seen an inner significance to this aspect of nature as well. He included studies of birds in his exhibition for England and at 'Patterdale', continued to exercise that extraordinary empathy which had already gained him a legendary reputation for captivating, taming and training birds.³¹

A grandchild was born to Glover shortly after their arrival at 'Patterdale' and it was in this background of family, rural activity and painting that the artist spent the last 17 years of his life.³²

One of the neighbours who must have been impressed by the Glover establishment was John Batman, the pioneer of Melbourne. With Batman and another pioneer, John Helder Wedge, Glover made the first recorded European ascent of Ben Lomond. John Glover junior left the following account of the expedition:

'At one of our neighbouring settlers', a Mr Batman, are kept a number of domesticated Sydney natives for the particular purpose of sending them out to trace our own wild ones, if any should happen to be reported to be seen. These, with other servants were sent forward a day previous to make our accommodation ready. The grand party then followed and slept a night or two on the top, which is an immense flat surrounded by precipitous and romantically wild rocks. There are several small lakes on the top, of one of which Mr Glover has made a painting, a romantic curiosity . . . Mr Glover went up on horse-back . . . the only horse that has been so high.'³²

Glover painted on industriously and by late 1834 had completed a collection of 68 pictures for exhibition in London. Apart from newly completed English and European landscapes, this also included a full representation of the new country, its flora, landscape and Aborigines. Of the latter, despite his son's pessimistic comment to the effect that relations between the settlers and the natives had deteriorated to a point where 'annihilation' seemed almost the only alternative (e.g. Batman's roundups), Glover took pains to represent them, often as a centre-piece to his landscapes. He won the confidence of the tame and less timid who posed and performed for him.³³

Glover's Style

Louis Phillippe, now King of France purchased two of Glover's Tasmanian landscapes in 1835 and his exhibition at 106 New Bond Street in London in June 1835 was received with enthusiasm. 'These pictures', the *Times* reviewer wrote on 29 June 1835, 'will convey a more correct idea than the mere reading of books of travel can convey . . . the country itself is beautiful and picturesque . . . in some districts magnificent and sublime . . . In the neighbourhood of Hobart Town stupendous Mountain scenery and [the] broad expanse of waters bear in many respects a resemblance to the views on the lakes of Cumberland, with the exception the hills are more lofty, possess more of a primeval aspect and abound more in forest scenery. The trees are large and branching "far and wide", but they are neither so delicate nor so umbrageous as the trees of Europe . . . there is moreover a sameness of appearance about them which deprives their representation of interest . . .'

The latter observation seems to mirror John Glover junior's experience when lost, and the review itself is a useful exposure of the fallacy that has grown up that Glover was somehow *unable* to master the forms of the new flora, particularly the Eucalypts. In some ways it is extraordinary that this has arisen, as for many of his contemporary critics it was precisely his insistence on 'hideous' detail that disqualified him from greatness. As Backhouse observed when he visited Glover in 1833, and also the art historian Boase relatively recently, it was Glover's intention to employ that highly developed ability precisely to capture the 'novel' forms of the Antipodean landscape.

Part of the misapprehension may have stemmed from the fact that a significant proportion of the eucalypts in the Tasmanian landscape which Glover painted, particularly for instance the slender, graceful black and silver peppermints (*Euca-*

lyptus Amygladina and *E. Terminarius*) were very different from the straggling, contorted specimens around early Sydney Town and in that hinterland which has come to be accepted as the stereotype of the Australian landscape. It was (and is) a difference which did not escape the attention of sensitive contemporaries. Glover's acquaintance and fellow artist, G. T. W. B. Boyes, recoiled from the trees about Sydney as being ' . . . of a stunted, ragged and frightful appearance. Indeed I have seen no trees here of the same perfect forms that ornament the Derwent-forms that till lately I thought were to be found nowhere but in the imagination of the painter . . . ' ³⁴

In fact Glover mastered all forms of the *Eucalypt*, from the slender peppermints, present in many of his works, to the white gums (and wattles) in such pictures as *Cawood near the Ouse*, and *Harvest Home*, while as Professor Bernard Smith has pointed out, the 'stunted, ragged' form of convention is faithfully presented in his *Australian Landscape with Cattle*.³⁵

This having been said, Eldershaw's complaint of an excessive sinuosity in some of Glover's trees is not entirely without weight. This however stems from no technical weakness—as is evidenced by other trees in the same pictures—but artistic design. These trees, great black gums with extravagant, voluptuous, serpentine branches, appear especially in landscapes featuring Aborigines: singly as in the *Western View of Mountains and Mills Plains*, or more numerous and obtrusively as in the *Last Muster of the Aborigines*. They seem to stand in silent mysterious empathy to the alien doomed race with which very few of the Europeans, even sensitive religious men like Boyes, could finally come to terms.³⁶

Glover certainly was intrigued by and seems to have been sympathetic towards the Aborigines, as when he writes of his painting *A Corrobbery of Natives by Moonlight* that 'one seldom sees such gaiety in a Ball room as among these untaught savages'.³⁷

His Last Years

Glover was 68 at the time of the New Bond Street exhibition, and while he continued to paint, exhibiting as late as 1847 at the Launceston Mechanics Institute, the religiosity which Boyes had noted in 1831 increasingly absorbed him. Towards the end of his life much of his time passed in religious study and reading.³⁸

Indeed, despite the regular arrival of the Colonial newspapers with the latest intelligence from Europe, the alarms about bushrangers, or such events as the visit of the artist J. S. Prout in 1845—who painted Glover asleep, the old man refusing to sit for a portrait—a tranquil sense of isolation seems to have descended on the settlement. The sea, the 'immensity of waters', as John Glover junior wrote in 1839, had become an impossible barrier against the senior Glover's return to England.

He wrote with mild curiosity of how 'England must be much altered since we left with her railroads etc. . . . '—alterations which Glover's old contemporary and rival Turner was to celebrate in great and astonishing pictures.³⁹ Glover, however, who was described as 'calm and unruffled . . . robust . . . amiable and healthy' at about the time of his death, was serene in the Antipodean landscape of his choice. He died on 9 December 1849, aged 82. His wife survived him by four years, attaining the age of 92.⁴⁰

After the death of the artist the farming venture at 'Patterdale' declined. With the exception of John Glover junior, all the other sons and their families had by then moved on to other ventures and the land was let to tenants. By the early 1880's Henry Dutton, son-in-law to Henry Glover and a former visitor to the settlement, records the place as deserted and in 'complete decay'.⁴¹

John Glover's artistic achievement remains remarkable. Not surprisingly for a landscape artist born in 1767, the pastoral formalism of Claude and Poussin remained an influence on his work till the end. However, Glover's originality lay in the immensity of his enterprise and his astonishing accomplishment as an ageing man to seek out this most distant and novel landscape and vividly present it to Europe.

Footnotes

1. Grant, *Old English Landscape Painters* (O.E.L.P.) V.5; 2. A.D.B. (see (i), 'References', below); 3. Smith, *European Vision and the South Pacific* (E.V.S.P.) and D.N.B. ((v) below); 4. O.E.L.P. see also Long (xi); 5. H. Button, ((iv) below); 6. Finberg, ((vii) below) and O.E.L.P.; 7. Boyes, *Diary* 9 September 1831; 8. O.E.L.P. Grant relates how in the alps, Glover, who had apparently no sense of vertigo, used to caper on the edges of precipitous ledges, to the astonishment and alarm of his companions; 9. E.V.S.P.; 10. O.E.L.P.; 11. E.V.S.P.; 12. Finberg ((vii) below) - especially pp. 323-4; 13. Boyes-Letter, 20 April 1831. *Times*, Extracts from the Glover correspondence, 15 November 1830; 14. 15. and 17. *Times* as above; 16. *Times* as above, and letter from John Glover jr. (J.G.j.), 12 July 1839; 18. Letter-J.G.j., 20 February 1839; 19. Letters-J.B.j., 8 and 15 September 1831. *Times*, 29 June 1835; 20. J.B.j. 'Diary' Letter 4, 5 September 1831; 21. Boyes-Letter, 20 April 1831; 22. Boyes-'Diary', 9 September 1831; 23. J.B.j. 'Diary', Letter 4, 5 September 1831; 24. A.D.B.; 25., 26. and 27. 'Diary', Letter 5, 22 September 1833; 28. Backhouse; ((ii) below) p. 147; 29. J.G.j. 'Diary', Letter 19, 12 July 1839; 30. 'Diary', Letter 5, 22 September 1833; 31. O.E.L.P. p. 395; 32. J.G.j., 'Diary', Letter 5. (birth of a grandson); 33. See John Glover's Catalogue ((viii) below) and his commentary; 34. Boyes, letter, 24 January 1824; 35. E.V.S.P.; 36. Boyes, letter, 6 May 1824; his first reaction 'that there could be little or nothing human in the creatures before me. . .'; 37. John Glover's Catalogue-No. 56; 38. Button ((iv) below) and others; 39. Turner's remarkable 'Rain, Steam and Speed' was exhibited in 1844; and 40. and 41. Button ((iv) below).

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The diaries and letters of G. T. W. B. Boyes (Royal Society, Tasmania).

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- (i) *Australian Dictionary of Biography* (A.D.B.); (ii) BACKHOUSE, J., *A Narrative of a Visit to the Australian Colonies*. (London, 1843); (iii) BOASE, T.S.R., *English Art 1800-70* (Oxford); (iv) BUTTON, H. *Flotsam and Jetsam*; (v) *Dictionary of National Biography* (D.N.B.); (vi) ELDERSHAW, P.R., 'John Glover' in *Proceedings of the Tasmanian Historical Research Association*; (vii) FINBERG, *Life of J. M. W. Turner*. (Oxford, 1961); (viii) GLOVER, John (Snr), *A Catalogue of Sixty-Eight Pictures Descriptive of the Scenery and Customs of the Inhabitants of Van Diemen's Land, together with Views in England, Italy, etc. Painted by John Glover*. (London, 1935); (ix) GRANT, Colonel M. H., *The Old English Landscape Painters*; (x) *Launceston Examiner* (1850); (xi) LONG, B. S., 'John Glover' in *Walker's Quarterly* 15 (1924); (xii) MOORE, W., *The Story of Australian Art*. (Sydney, 1934); (xiii) SMITH, B., *Australian Painting 1788-1960* (Oxford, 1962); (xiv) *European Vision and the South Pacific* (Oxford, 1960); (xv) *Times* (1830-35, 1930).

Chapter 15

SOCIAL WELFARE AND HEALTH SERVICES

WELFARE

Introduction

In Australia, the principal social welfare benefits are provided by the Federal Government under the *Social Services Act 1947*, as amended, which is administered by the Federal Department of Social Security. Finance for the benefits is provided from the National Welfare Fund which is augmented each year from the Consolidated Revenue Fund by an amount equal to the payments made.

State social welfare, which covers child welfare and relief, is administered by the State Department of Social Welfare.

Federal Department of Social Security

The following table shows expenditure in Tasmania from the National Welfare Fund on benefits under the federal *Social Services Act*. The most noticeable fluctuations occur in expenditure on unemployment benefits.

**Social Security Payments Under the Social Services Act
(\$'000)**

Benefit or service	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Age and invalid pensions ..	21 835	25 543	33 656	35 804	60 118	77 976
Widows' pensions ..	3 327	3 842	5 136	6 582	8 521	11 221
Supporting mother's benefit ..	..	..	..	..	..	4 742
Maternity allowances ..	274	260	241	230	229	215
Child endowment (a) ..	6 686	7 196	8 185	7 212	6 610	7 766
Unemployment benefits ..	366	966	2 095	3 125	7 746	15 256
Sickness benefits ..	327	497	792	1 247	1 692	2 409
Special benefits ..	71	79	128	224	421	811
Rehabilitation service ..	122	130	152	176	369	440
Funeral benefits ..	43	42	44	44	44	41
Double orphans' pension ..	..	..	..	17	43	43
Handicapped child's allowance ..	..	..	..	..	45	197
Total	33 050	38 556	50 428	54 661	85 838	121 117

(a) In 1972-73 five 12-weekly payments, instead of the usual four, were paid.

Federal activity in social services began with the passage of the federal *Invalid and Old Age Pensions Act 1909*. This and the *Maternity Allowances Act* were administered by the Department of the Treasury until 1941 when the Department of Social Services commenced to function as a separate organisation. Later, the functions of the Department were widened with the passing of the *Child Endowment Act*, the *Widows' Pensions Act* and the *Unemployment and Sickness Benefits Act*. A referendum held in 1946 empowered the Federal Government to legislate for the provision of certain social services formerly provided by the states. In 1947, a consolidated *Social Services Act* was passed. Other major Acts administered by the Department include the *Aged and Disabled Persons Homes Act*, the *Handicapped Persons Assistance Act* and the *Homeless Persons Assistance Act*.

Pensions and Benefits

Social Security benefit rates announced at recent budgets are set out in the next table:

Social Security Benefits, 1974-75 and 1975-76
(\$ Per Week Unless Noted as Lump Sum Payment)

Benefit	Maximum rate			
	1974-75		1975-76	
	August budget	Amending legislation (April)	August budget	Amending legislation (April)
Age and invalid pensions and sheltered employment allowances—				
Single person (a)	31.00	36.00	38.75	41.25
Married couple (both eligible and living together), each	25.75	30.00	32.25	34.25
Married couple (both eligible but living apart through ill health or one eligible), each (a)	31.00	36.00	38.75	41.25
Wife (if not a pensioner)	25.75	30.00	32.25	34.25
First and each subsequent child under 16 years (b) ..	5.50	7.00	7.50	7.50
Guardian's allowances—				
Where there is a child under 6 years or an invalid child requiring full-time care	6.00	6.00	6.00	6.00
Other cases	4.00	4.00	4.00	4.00
Maternity allowances (c)—				
No other children	30.00	30.00	30.00	30.00
One or two other children	32.00	32.00	32.00	32.00
Three or more other children	35.00	35.00	35.00	35.00
Multiple births, additional payment for each additional child	10.00	10.00	10.00	10.00
Child endowment—				
First child under 16 years	0.50	0.50	0.50	0.50
Second child under 16 years	1.00	1.00	1.00	1.00
Third child under 16 years	2.00	2.00	2.00	2.00
Each other child under 16 years	(d)	(d)	(d)	(d)
Student child over 16 years and under 21 years ..	1.50	1.50	1.50	1.50
Orphan's pension	11.00	11.00	11.00	11.00
Handicapped child's allowance	10.00	10.00	10.00	10.00
Supporting mother's benefit	31.00	36.00	38.75	41.25
Widows' pensions (a)—				
Class A, widows with dependent children—	31.00	36.00	38.75	41.25
Where there is a child under 6 years or an invalid child requiring full-time care	6.00	6.00	6.00	6.00
Other cases	4.00	4.00	4.00	4.00
First and each subsequent child under 16 years (b)	5.50	7.00	7.50	7.50
Class B, widows aged 50 years or more (e)	31.00	36.00	38.75	41.25
Class C, widows under 50 years of age in necessitous circumstances	31.00	36.00	38.75	41.25
Funeral benefits (c)	40.00	40.00	40.00	40.00
Unemployment and sickness benefits (f)—				
Single person	31.00	36.00	38.75	41.25
Married couple	51.50	60.00	65.50	68.50
First and each subsequent child under 16 years ..	5.50	7.00	7.50	7.50
Rehabilitation service	(g)	(g)	(g)	(g)
Personal care subsidy (b)	15.00	15.00	15.00	15.00

(a) Supplementary assistance at a maximum rate of \$5.00 a week is payable in certain circumstances.

(b) Or a person who is a full-time student and dependent on the pensioner.

(c) Single lump sum payment.

(d) Increased by 25 cents a week for each child after the third so that the rate payable was \$2.25 a week for the fourth child, \$2.50 for the fifth child and so on.

- (e) Class B Widows' pensions may also be payable to certain widows between 45 and 50 years of age
- (f) A supplementary allowance at a maximum rate of \$5 a week is payable subject to the payment of rent and to a means test.
- (g) During periods of rehabilitation treatment disabled patients receive the appropriate pension or benefit and while receiving vocational training they are paid a rehabilitation allowance. In addition a training allowance and, where appropriate, a living away from home allowance are also payable free of means test. Free vocational training, with associated allowances, may also be available to Class A and Class B widow pensioners.
- (h) Payable in respect of persons who receive approved personal care in an aged persons' home conducted by an eligible organisation under the *Aged and Disabled Persons Homes Act*.

In the previous table a description was given of the various Social Security pensions, benefits, etc. The rates and conditions are varied from time to time by amending legislation; the 1975-76 rates were announced in the Federal Budget of August 1975 and were further increased by legislation in April 1976. (The Federal Treasurer outlines social security proposals in his budget and these are implemented in later Acts.)

Age and Invalid Pensions

Generally pensions are payable to persons who have been resident in Australia, New Zealand or the United Kingdom for 10 years in the case of age pensioners and five years in the case of invalid pensioners. (Reciprocity agreements exist with New Zealand and the United Kingdom.)

The qualifying ages for aged pensions are 65 years for men and 60 years for women; invalid pensions are payable to persons over 16 years of age who are permanently incapacitated for work. Additional allowances are payable for dependants under certain conditions.

For age and invalid pensions, the same means test on income and property operates. 'Means' can consist entirely of income, entirely of property, or any combination of them. The calculation of income excludes the pension itself, (actual) income from property, gifts from family, benefits from hospital and medical insurance schemes, child endowment, etc.; the property component excludes home, furniture, personal effects, the first \$400 of other property and \$1 500 of surrender value of life policies, and the capital value of any life or contingent interest, etc. Blind persons, however, may receive the maximum rate of pension free of means test.

Amending legislation in April 1976 varied the sliding scale means test so that a single pensioner can draw the full pension (\$2 145 per annum) and also have other income (including income equivalent of property component of 'means') not exceeding \$1 040. When the single pensioner's other income reaches \$5 330, all pension ceases.

Married pensioners can draw full pension (\$3 549 per annum) and also have other income of \$1 794. When their other income reaches \$8 918, all pension ceases.

Income equivalents of property are calculated by assuming that 'income' is 10 per cent of the value of property. So the permissible property limits (if no means other than property) under the varied means test are as follows:

Single: Lower Limit: $\$1\,040 \times 10$ plus $\$400 = \$10\,800$.

Upper Limit: $\$5\,330 \times 10$ plus $\$400 = \$53\,730$.

Married: Lower Limit: $\$1\,794 \times 10$ plus $\$800 = \$18\,740$.

Upper Limit: $\$8\,918 \times 10$ plus $\$800 = \$89\,980$.

If the only means are those assessed on the basis of property, then the lower limits shown above are compatible with drawing full pension; and the upper limits are those at which all pension ceases.

The 1973 Budget abolished the means test for all people aged 75 years or more and an amending Act passed in April 1975 abolished the means test for all persons aged 70 years or more. However, the total income (*including* pension) of aged pensioners is subject to normal income tax. Persons wholly or largely dependent upon the aged pension have incomes below the minimum income which attracts income tax. Pensions are paid fortnightly by cheque posted to the pensioner's address.

Free medical service and medicine are provided for pensioners and their dependants under Medibank and a concessional telephone rental equal to one-third of the amount otherwise payable is available to blind people, pensioners who live alone, and to certain others. On the death of one of a married pensioner couple, the survivor receives six fortnightly instalments at the married couple rate before reduction to the single rate.

Widows' Pensions

These were introduced by the Curtin Government in 1942. They are payable to widows who have been resident in this country, New Zealand or the United Kingdom for five years before claiming a pension. There is no residential qualification where the woman and her husband were living permanently in Australia before he died. A woman also qualifies if her husband died overseas and she has lived in Australia for 10 years at any time.

The classes of widows are as follows: (i) a class A widow has one or more dependent or student children in her care; (ii) a class B widow is at least 50 years of age, or 45 years when her class A pension ceases (because she no longer has a child in her care); and (iii) a class C widow is under 50, without children, and in necessitous circumstances in the 26 weeks following her husband's death. The term 'widow' includes a deserted wife, a divorcee and a woman whose husband has been imprisoned for at least six months or is a patient in a mental hospital. Certain 'dependent females' may also qualify for pension.

The following table shows, for Tasmania, the number of persons receiving age, invalid and widow's pensions, and supporting mothers benefits; and the amounts paid out in pensions and allowances:

Age, Invalid, Widow Pensioners and Supporting Mothers: Number and Payments

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Age and invalid pensions—						
Number of age pensioners (a)—						
Males	7 667	8 057	9 270	10 304	11 225	11 700
Females	17 227	17 611	19 837	21 600	23 044	23 894
Persons	24 894	25 668	29 107	31 904	34 269	35 594
Number of invalid pensioners (a)—						
Males	2 523	2 592	2 836	3 028	3 341	3 918
Females	1 793	1 906	2 019	2 059	2 119	2 173
Persons	4 316	4 498	4 855	5 087	5 460	6 091
Amount of pensions paid .. \$'000	21 835	25 543	33 656	35 804	60 118	77 976
Widow's pensions—						
Number (a)	3 138	3 205	3 600	3 932	4 103	4 209
Amount paid \$'000	3 327	3 842	5 136	6 582	8 521	11 221
Supporting mother's benefit—						
Number (a) .. .. .	..	..	..	936	1 289	1 699
Amount paid \$'000	..	..	..	..	2 819	4 742

(a) At 30 June.

Unemployment, Sickness and Special Benefits

Legislation for these benefits was introduced in 1944 by the Curtin Government and payments began in 1945. The minimum age is 16 years, the maximum 65 (male) and 60 (female). There are no nationality restrictions, but if a claimant has not been resident in Australia for one year before making the claim, the Department must be satisfied that he intends to live here permanently. Benefits are not payable to people qualified to receive invalid, age, widows' or service pensions, supporting mothers' benefits, or tuberculosis allowances.

To receive unemployment benefit, a person must be out of work (but not through being a direct participant in a strike), must be capable of undertaking and willing to undertake suitable work and have taken reasonable steps to obtain employment. Registration with the Commonwealth Employment Service is necessary; payment is at the discretion of the Department of Social Security.

Sickness benefit may be paid to a person temporarily unable to work because of sickness or accident and who has suffered a loss of income because of this. A married woman is not eligible to receive a sickness benefit if it is reasonably possible for her husband to maintain her. Where the husband is able to maintain her partially, a benefit may be paid at a rate considered reasonable in the circumstances.

A special benefit may be granted to a person not qualified for a pension or an unemployment or sickness benefit if, because of age, physical or mental disability, domestic circumstances, or for other valid reasons, he is unable to earn a sufficient livelihood for himself and his dependants. Recipients of special benefits include, among others, persons caring for invalid parents, deserted fathers and persons ineligible for either age or invalid or widower's pensions because of lack of residence qualifications.

The next table gives Tasmanian details for unemployment, sickness and special benefits:

**Unemployment, Sickness and Special Benefits
Beneficiaries and Payments**

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Unemployment benefits—						
Claims granted no.	4 388	8 974	12 536	11 562	22 088	30 930
Persons on benefit—						
At 30 June no.	782	1 697	2 330	1 769	3 555	7 228
Weekly average no.	501	1 187	2 073	2 089	4 439	6 302
Benefits paid \$'000	366	966	2 095	3 125	7 746	15 256
Sickness benefits—						
Claims granted no.	2 687	2 964	3 295	3 739	4 144	5 018
Persons on benefit—						
At 30 June no.	349	428	583	604	682	1 064
Weekly average no.	292	382	499	642	632	772
Benefits paid \$'000	327	497	792	1 247	1 692	2 409
Special benefits—						
Claims granted no.	388	418	459	574	800	1 760
Persons on benefit—						
At 30 June no.	150	138	148	172	297	471
Weekly average no.	146	139	136	148	215	359
Benefits paid \$'000	71	79	128	224	421	811
Total benefits—						
Claims granted no.	7 463	12 356	16 290	15 875	27 032	37 708
Persons on benefit—						
At 30 June no.	1 281	2 263	3 061	2 545	4 534	8 763
Weekly average no.	939	1 708	2 708	2 879	5 286	7 433
Benefits paid \$'000	764	1 542	3 015	4 596	9 859	18 476

Family Allowances

Maternity Allowances were introduced by the Fisher Government in 1912. There is no means test and any mother is entitled to a maternity allowance if she gives birth to a child in Australia and if she resides or intends to remain in Australia.

The following table shows payments made in Tasmania during recent years:

Maternity Allowances

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Claims no.	8 594	8 211	7 615	7 296	7 225	7 210
Amount \$'000	274	260	241	230	229	227

Child Endowment was paid to persons or institutions having the care, custody and control of children under 16 years, or student children under 21, up to 30 June 1976 and replaced by 'family allowances' from 1 July 1976. One year's residence in Australia is required if the mother and child were not born here, but this requirement is waived if the Department is satisfied they intend to remain here permanently.

The following table shows child endowment statistics for Tasmania for the years 1970-71 to 1975-76:

**Child Endowment
Endowed Children and Students and Payments**

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Endowed children and students (a)—						
Children in endowed families no.	129 322	128 946	128 297	126 595	126 461	125 391
Children in approved institutions .. no.	429	447	440	388	399	309
Students (a) no.	5 525	6 213	5 834	5 911	5 894	5 911
Total endowed no.	135 276	135 606	134 571	132 894	132 754	131 611
Amount paid during year (b) \$'000	6 686	7 196	8 185	7 212	7 099	(c) 7 766

(a) Number at 30 June. Children, under 16 years; students, 16 but under 21 years, includes students in approved institutions.

(b) In 1972-73 five 12-weekly payments, instead of the usual four, were paid.

(c) Includes some payments of the increased family allowances (see below) made on 29 June.

Family Allowances: With the introduction of personal income tax indexation for the 1976-77 income year, tax rebates in respect of dependent children were abolished but this was offset by significant increases in family allowance (previously called 'child endowment') payments payable to persons (usually the mother) with dependent children. From 1 July 1976, family allowances payable in respect of dependent children under 16 years of age, or over 16 but under 25 years of age and receiving full-time education, were as follows: first such child, \$3.50 per week; second child, \$5; third child, \$6; fourth child, \$6; fifth and later children, \$7.

Orphans' Pension

The 1973 Budget introduced the double orphans' pension which is payable to institutions or persons caring for a child whose parents are both dead or one parent is dead and the other parent cannot be located. At 30 June 1976 there were 86 orphans for whom pensions were being paid. Total payments in 1975-76 were \$47 000.

Handicapped Child's Allowance

The 1974 Budget introduced the handicapped child's allowance which is payable to the parents or guardians of a severely physically or mentally handicapped child who is living in the family home and needs constant care and attention. Total payments in 1975-76 were \$197 000.

Rehabilitation Service

This service aims to fit handicapped people for employment by supplying medical and hospital treatment, surgical aids and appliances and, where necessary, arranging special education and training courses in industry, trade, commerce, public service, etc. Although employment is specifically the responsibility of the Federal Department of Employment and Industrial Relations, vocational counsellors arrange employment with suitable employers and follow up progress.

Rehabilitation training is given if the disability is a substantial handicap to engaging in full employment. Disabled people who do not qualify for free service may pay for rehabilitation themselves or may be sponsored by private or government organisations. In Tasmania the Department's rehabilitation centre is located in Hobart.

The following table shows the numbers accepted for rehabilitation and placed in employment in Tasmania:

Operation of the Rehabilitation Service

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Persons—						
Accepted for rehabilitation .. no.	100	77	82	109	131	134
Placed in employment no.	91	71	45	47	82	74
Expenditure (a) \$'000	108	112	133	176	321	440

(a) Excludes capital expenditure on sites and buildings and administrative costs of the Rehabilitation Service.

Homes for the Aged or Disabled

The *Aged Persons' Homes Act 1954-74* was replaced, on 3 December 1974, by the *Aged or Disabled Persons' Homes Act 1974*. The new Act provides for building subsidies and separate land subsidies on a \$2 for \$1 basis (up to a maximum amount, which is determined from time to time). These subsidies are payable to approved organisations intending to build or acquire homes for aged or disabled persons. It differs from the superseded Act in that organisations are now permitted to accommodate persons who have not reached pensionable age, providing such persons are permanently incapacitated for work or are permanently blind. The aim is to provide homes in which the conditions approach normal domestic life. ('Homes' in this context does not refer to houses built under federal-state Housing Agreements.)

During 1975-76 only one grant was approved under the *Aged Persons' Homes Act*; the amount granted was \$133 427. Cumulative totals for Tasmania since the inception of the scheme, to 30 June 1976 were: number of grants approved, 181; value of approvals, \$8.58m.

Personal Care Subsidy: A subsidy of \$15 per week is payable to eligible organisations in respect of all persons who receive approved personal care in hostel-type accommodation in an aged persons' home eligible under the *Aged Persons' Homes Act 1954-72* and for whom National Health Benefit is not received.

Delivered Meals Subsidy: A subsidy at the rate of 25 cents (plus five cents if vitamin C supplement provided) for each delivered meal is payable to approved organisations providing a 'meals-on-wheels' service. In 1975-76, 24 organisations in Tasmania provided approved meal services, and subsidy payments totalled \$68 742.

Handicapped Persons Welfare

The *Handicapped Persons Assistance Act 1974* provides assistance for the following prescribed services relating to handicapped or disabled persons: (i) training; (ii) activity therapy; (iii) sheltered employment; (iv) residential accommodation; (v) holiday accommodation; (vi) recreational facilities; and (vii) rehabilitation facilities.

Handicapped Persons Assistance Approved Services Throughout Tasmania at 30 June 1976

Type of service	Number approved	Number of handicapped persons
Training centres	9	117
Activity therapy centres	4	147
Sheltered workshops	8	145
Total persons assisted at 30 June 1975 ..	..	409
Residential hostels	13	(a) 266

(a) Provides accommodation for handicapped persons attending training centres, activity therapy centres and sheltered workshops.

Assistance is given to approved organisations under the Act by a \$2 for \$1 subsidy towards: (i) the capital cost of approved projects; (ii) the cost of approved building maintenance; (iii) the rental of approved premises; and (iv) the cost of approved equipment. In addition salary subsidies of up to 100 per cent are payable for the first two years after an organisation has commenced to provide a prescribed service and a 50 per cent subsidy is payable in all other cases. A training fee of \$500 is payable to a sheltered workshop for each disabled person placed in open employment for a period of not less than 12 months.

Federal Government expenditure in Tasmania on assistance to handicapped persons under the *Handicapped Persons Assistance Act* in 1975-76 was \$438 295. Expenditure for 1973-74 and 1974-75 was \$382 969 and \$735 932 respectively (including expenditure under the *Sheltered Employment (Assistance) Act 1967* and the *Handicapped Children (Assistance) Act 1970*, which were both repealed when the current Act was passed).

State Department of Social Welfare

Expenditure

Activities of this State Government Department are grouped under Child Welfare and Relief Divisions. The following table shows expenditure over a five-year period:

Social Welfare and Health Services
Department of Social Welfare: Expenditure
 (\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Administration and general ..	571	653	762	941	1 525
Relief Division	484	653	1 043	826	1 008
Child Welfare Division ..	325	368	408	477	632
Grants to organisations ..	146	127	149	157	174
Total	1 526	1 802	2 363	2 401	3 339

In 1974-75 the major expenses were: under Relief Division, fuel allowances for eligible pensioners, \$178 000 and relief and maintenance, \$774 000; under Child Welfare Division, maintenance of boarded-out children, \$325 000 and contributions towards maintenance of children in approved institutions, \$162 000; and under grants to organisations, Tasmanian Institute for Blind and Deaf, \$125 000.

Relief Division

The functions of this Division are to investigate applications for assistance from needy mothers with dependent children and to give cash relief where necessary; to issue fuel allowances (subject to a means test) to age and invalid pensioners; and to help pay for funerals, transport, furniture removals, artificial limbs, spectacles, etc., for persons in needy circumstances. Special grants are made to deserted wives (and sometimes deserted husbands) left with children, wives with husbands in gaol, to certain persons awaiting receipt of federal benefits or pensions, and to relatives supporting deserted children.

Child Welfare Division

The work of this Division includes the investigation of complaints that children are neglected or inadequately controlled; the supervision of neglected children in their own homes to avert the need for more drastic action; the investigation of cases to appear in Children's Courts; the supervision of children under court order; the placement and supervision of children made wards of the State; the control of the Department's receiving and other homes; the recovering of maintenance costs, where possible, from parents of children who are a charge on the Department; the licensing and supervision of children's boarding homes and day nurseries; the supervision of child migrants; and welfare of children referred by courts in divorce actions.

Where, because of illness, a mother is unable to undertake her normal duties, accommodation may be provided for her children at Rochebank Hostel in Hobart, or at other suitable residences throughout the State.

Adoption of Children: Women child welfare officers investigate applications by prospective adoptive parents and interview mothers wishing to place their children for adoption. Applications for adoption of children are heard by a magistrate. There were 243 orders for adoption made in 1974-75.

Children's Courts Statistics

Children's Courts are established to hear cases involving persons under the age of 17 years. If proceedings are instituted, a child's parent has the right to be heard and to examine and cross examine witnesses or to be represented by counsel; also a parent can be compelled to attend the hearing if this imposes no unreasonable inconvenience. For the powers of Children's Courts see the section under 'The Present Law Court System' in Chapter 16.

Of the 3 690 children who appeared before Children's Courts in 1974-75, 79.5 per cent were boys. The following table shows the number and ages of all children who appeared before Children's Courts in 1974-75:

Children Appearing Before Children's Courts (a), 1974-75
Classified by Age and Sex

Sex	Age (in years)										Total (b)
	Under 8	8	9	10	11	12	13	14	15	16	
Boys	92	13	18	43	75	123	229	326	492	1 316	2 933
Girls	81	8	14	12	18	23	72	117	161	221	757
Total	173	21	32	55	93	146	301	443	653	1 537	3 690

(a) A child appearing twice or more before the Courts will appear twice or more in the table.

(b) Includes 236 children (206 boys and 30 girls) who were 17 years old when appearing before the Courts but 16 at the time the alleged offences were committed.

The next table shows children reported in police reports, and subsequently brought before Children's Courts, classified by alleged offence:

Children Appearing Before Children's Courts (a)
Classified by Offence

Offence alleged	1970-71	1971-72	1972-73	1973-74	1974-75
Damage to property	103	92	114	117	153
Breaking, entering and stealing	320	327	379	355	385
Stealing	326	322	431	433	578
Receiving	24	22	27	16	35
Illegal use of vehicles	133	176	235	209	285
Offences involving fraud	18	17	17	12	8
Sex offences	8	19	24	27	18
Other offences against the person	62	53	43	93	129
Offences against decency	27	34	51	49	6
Relatively serious offences	1 021	1 062	1 321	1 311	1 597
Disorderly conduct	42	40	89	65	126
Traffic offences	229	218	339	481	661
Breaches of—Licensing laws	316	400	440	689	591
By-laws	44	50	12	4	12
Firearms offences	24	42	18	36	19
Gaming (b)	n.a.	n.a.	45	80	49
Trespass (b)	n.a.	n.a.	26	18	57
Other (b)	n.a.	n.a.	10	93	170
Other offences	655	750	979	1 466	1 685
Appearing as—Uncontrolled	36	41	33	122	48
Neglected	61	53	80	196	332
Breaches of supervision	4	19	11	12	28
Complaints under Child Welfare Act	101	113	124	330	408
Total	1 777	1 925	2 424	3 107	3 690

(a) A child reported twice or more will appear twice or more in the table.

(b) For years 1970-71 and 1971-72, these offences are included in other categories.

In the preceding table, the figures relate to actual prosecutions. Where a report concerned multiple offences, the apparently more serious one has been listed. However, a child may be included more than once if more than one report has been made.

The following table shows the number of children found guilty of an offence or against whom a complaint has been proven. The basis for inclusion is different from that in the two earlier tables:

- (i) a child found guilty at two or more appearances is only counted once; and
- (ii) a child found guilty of more than one offence is classified under the more serious.

Individual (a) Children: Findings of Guilty, or Complaint Proven, 1974-75

Sex	Relatively serious offences (b)	Other offences (b)	Complaints under Child Welfare Act (b)	Total
Boys	753	827	71	1 651
Girls	146	197	100	443
Total	899	1 024	171	2 094

(a) See paragraph before table for definition of 'individual'.

(b) See previous table for classification of offences and complaints.

Wards of the State and Supervised Children

Children are made wards of the State either on application of a parent or relative (e.g. in the case of both parents' death or desertion) or by a court order. Children may remain wards until they reach the age of 18. Wards, while under the supervision of a welfare officer, are often returned to their home and in such cases wardship is frequently terminated, as it is with those who successfully take up employment.

At 30 June 1975, there were 1 403 children under State control or supervision. Of these children 467 were under legal supervision of child welfare officers as a result of court-imposed supervision orders and 936 were wards of the State.

Wards are placed in: (i) foster homes (mostly ordinary family homes); and (ii) children's homes (private and departmental). The Department makes payments, based on the child's age, for wards in foster homes and contributes to non-departmental institutions for the maintenance of State wards.

Approved children's homes and foster homes are assisted with major items of clothing. The Department accepts responsibility for hospital expenses and cost of dentistry for wards of the State where this treatment is not available from school dental or hospital services. Optical expenses are also met where necessary. Pocket money, varying from 20 cents to \$1.20 per week is provided for children in foster homes. Assistance at a rate of \$6.50 per week also is available in respect of certain non-wards, who are orphans or abandoned, in the care of the managers of approved children's homes.

The following table gives details relating to the location of wards of the State and the numbers of children made wards and ceasing to be wards, for the last five years:

**Wards of the State: Location, Admissions and Discharges
(Number)**

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Location at 30 June—					
In homes—					
Departmental	110	98	106	105	94
Other children's homes	204	199	202	163	179
Foster	349	374	378	390	390
With parents or relatives	163	177	155	201	201
In private lodgings	55	50	61	39	35
Other (a)	39	39	25	41	37
Total	920	937	927	939	936
Children made wards during the year—					
By courts—Delinquent					
Neglected	70	79	66	42	50
On parents' or guardians' request—	40	36	50	76	90
Neglected (uncontrolled) (b)	2	1	5	7	1
Deserted, or parents unable to provide (c)	58	53	45	59	40
Total	170	169	166	184	181
Children ceasing to be wards during the year—					
Adopted	31	33	21	28	27
Supervision not needed, age, etc.	99	119	155	144	157
Total	130	152	176	172	184

(a) Children in hospitals, other government institutions, missing, etc.

(b) Neglected—unfit for guardianship.

(c) Destitute and/or homeless.

The next table shows Government expenditure on wards of the State:

**Wards of the State: Government Expenditure
(\$'000)**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Expenditure on departmental homes	240	271	341	384	412	703
Maintenance of children—						
In foster homes	134	149	178	179	244	325
In non-departmental homes	97	94	103	120	113	162
Total expenditure	471	515	622	683	769	1 190

Departmental Homes: The State's 12 receiving homes, which provide temporary accommodation for children, are maintained at Hobart, Launceston, Wynyard and Devonport. Also, in Hobart, a hostel provides accommodation for older boys who have left school and need to be established in employment.

Ashley Home for Boys, Deloraine, provides care and training for older wards who, because of maladjustment or delinquency, require special institutional control.

Wybra Hall, Mangalore, provides care and training for younger wards and boys on remand. Ages range from eight to 15 years and those admitted have problems of maladjustment or delinquency.

Westwinds, Woodbridge, is a home for intellectually and educationally retarded boys who range in age between five and 15. Boys of school age attend various schools in the area where there are special facilities recommended by the Educational Guidance Authorities as suitable for meeting their individual needs.

Weeroona Girls' Training Centre, Latrobe, provides for those adolescent girls in the care of the Department who require special institutional supervision and training. Girls of school age receive correspondence school education and older girls are trained in various aspects of domestic work.

Non-departmental Homes: Other children's homes in which wards are placed are: Kennerley Children's Homes at Claremont and Chigwell; Salvation Army Boys' Home, Salvation Army Girls' Home, St Joseph's Child Centre, Bethany Boys' Hostel, Mt St Canice Convent and Hillcrest, all in Hobart; Yalabee Hostel, Glenorchy; Clarendon Home, Kingston; Girls' Home and Glenara Home for Boys, Launceston; and Roland Boys' Home, Sheffield.

REPATRIATION SERVICES AND PENSIONS

General

The Department of Veterans Affairs was originally established as a Commission under federal legislation in 1920. The Department is responsible for: (i) the payment of disability and service pensions to eligible veterans and their dependants; (ii) the provision of medical treatment to veterans for injuries and illnesses caused or aggravated by their war service; (iii) the provision of medical treatment to widows and dependants of deceased veterans whose deaths were due to war service; (iv) the provision of medical treatment in certain circumstances to veterans who are suffering from injuries and illnesses not caused or aggravated by war service; and (v) medical treatment for veterans of the 1914-18 War and the Boer War.

Benefits are provided in respect of service in the 1914-18 and 1939-45 Wars, in the Korea and Malaya operations, with the British Commonwealth Far East Strategic Reserve, and the Special Overseas Forces including veterans from the Vietnam operations and certain members of the defence forces serving on or after 7 December 1972.

Repatriation Pensions—General

Disability pensions are payable, without general application of a means test, for war-caused or war-aggravated disabilities. Service pensions are payable in the main, to certain male veterans 60 years and over (and female veterans 55 years and over) subject to a means test; no disability need be claimed.

Disability and dependant's pensions may be granted to persons, or to dependants of persons, who come within the following categories and who suffered death or disability: (i) arising from any occurrence before discharge, or overseas war service or on service in Australia within certain areas; (ii) attributable directly to service where the member served only in Australia; (iii) from pulmonary tuberculosis where the member served in any theatre of war; and (iv) from aggravation of a condition existing at enlistment where camp service exceeded six months.

Those who receive disability pensions are also eligible for free medical and hospital treatment for their pensionable disabilities. With certain categories of pensioners, the eligibility for free treatment is widened to cover all disabilities. It is also possible for a veteran to qualify for free treatment for a disability without necessarily being granted a pension. Details of selected repatriation benefit rates are shown in the next table.

Service and dependant's pensions may be granted to persons (or to dependants of persons) who come within the following categories and satisfy a means test: (i) men aged 60 or over who served in a theatre of war or women 55 years and over who served abroad; (ii) men and women with similar service particulars who are totally unemployable; (iii) sufferers from pulmonary tuberculosis. The conditions governing the means test are the same as for old age pensions described earlier in this chapter.

Repatriation Benefits (a)
(\$ Per Week)

Benefit	Rate		
	At 8 May 1975	At 6 November 1975	At 6 May 1976
PAYABLE WITHOUT MEANS TEST			
Disability pensions—			
Special rate (T.P.I.) pensions—			
Veteran	68.10	74.10	78.85
Wife	4.05	4.05	4.05
Each child	1.38	1.38	1.38
Intermediate rate pensions—			
Veteran	48.05	51.05	54.30
Wife	4.05	4.05	4.05
Each child	1.38	1.38	1.38
General rate pensions—			
Veteran	28.00	28.00	29.80
Wife	max. 4.05	max. 4.05	max. 4.05
Each child	max. 1.38	max. 1.38	max. 1.38
War widows—			
Pension	36.00	38.75	41.25
Domestic allowance	12.00	12.00	12.00
Orphans' pensions—			
One parent dead—			
Each child	10.45	10.45	10.45
Both parents dead—			
Each child	20.90	20.90	20.90
PAYABLE SUBJECT TO MEANS TEST (MAXIMUM RATES)			
Service pensions—			
Veteran—Standard (single person) ..	36.00	38.75	41.25
Married	30.00	32.25	34.25
Addition for each child	7.00	7.50	7.50
Wife's pension (if she is not a pensioner) ..	30.00	32.25	34.25
Guardian's allowances—			
Where there is a child under six years or an invalid child requiring full-time care ..	6.00	6.00	6.00
Other cases	4.00	4.00	4.00

(a) Details relating to conditions of eligibility for the various pensions are available from the Department of Veterans Affairs.

Disability Pension Payments

The following table shows, for Tasmania, the number of pensions in respect of veterans and their dependants, together with expenditure on disability pensions:

Disability Pensions: Pensioners and Payments

Year	Number of pensions current at 30 June				Expenditure during year (a)
	Incapacitated veterans	Dependants of—		Total (b)	
		Incapacitated veterans	Deceased veterans (c)		
1971-72	8 580	11 874	2 049	22 512	\$'000 9 094
1972-73	8 503	11 360	2 042	21 905	9 857
1973-74	8 358	11 602	2 027	21 987	11 176
1974-75	8 219	11 231	2 015	21 474	13 697
1975-76	8 120	10 670	1 978	20 778	14 827

(a) Includes widows' allowances.

(b) Includes miscellaneous pensions not specified under the 'veteran' details, e.g. seamen's war pensions and allowances.

(c) Includes war widows' pensions.

At 30 June 1976 the proportion of veterans in Tasmania receiving disability pensions in respect of service in the 1914-18 War was 7.2 per cent; the 1939-45 War, 86.7 per cent; the Korea and Malaya operations, 1.8 per cent, and other operations 4.3 per cent.

Service Pension Payments

The following table shows, for Tasmania, the number of service pensions in respect of veterans and their dependants, and expenditure on pension payments:

Service Pensions: Pensioners and Payments

Year	Number of pensions current at 30 June				Expenditure during year
	Veterans	Dependants of—		Total	
		Living pensioners	Deceased pensioners		
1971-72	2 131	1 049	116	(a) 3 298	\$'000 1 841
1972-73	2 638	1 402	122	4 162	2 827
1973-74	3 093	1 541	129	4 763	4 362
1974-75	3 433	1 822	120	5 375	6 668
1975-76	3 843	2 150	112	(a) 6 163	9 313

(a) Includes act of grace pensions and, for 1975-76, British Commonwealth pensions.

Medical Services

To discharge these functions in Tasmania, the Department of Veterans Affairs maintains a branch office, a general hospital and an artificial limb and appliance centre in Hobart. Facilities exist at the Repatriation General Hospital for medical treatment of hospitalised patients and specialist services for out-patients. Generally treatment for out-patients throughout the State is provided by doctors whom the Department has appointed as Local Medical Officers. People entitled to treatment can select a doctor from the panel of L.M.Os. and receive treatment at departmental expense. Payment for treatment in hospitals other than the Repatriation General Hospital is met by the Department only in certain circumstances.

Extensions of benefits announced in the 1973 and 1974 Budgets included: (i) Free treatment for all veterans of the Boer War and the 1914-18 War. This includes medical, hospital, dental, ophthalmological and para-medical treatment and, subject to a contribution of \$41.30 per week, treatment in nursing homes. (ii) Veterans, who are suffering from malignant cancer, are for that condition eligible for free medical and hospital treatment and, subject to a contribution of \$41.30 per week, to nursing home treatment. (iii) Allowing the facilities of the Repatriation Artificial Limb and Appliances Centres to be used to provide free artificial limbs to the general public. A further recent extension is the provision of free treatment, etc., for all ex-prisoners of war.

Soldiers' Children Education Scheme

Eligible Children

Educational assistance is granted to veterans' children in particular circumstances: (i) if the parent has died from causes attributed to war service or was receiving disability pension for specific serious disabilities at the time of death; (ii) if the parent, as a result of war service, is blinded, totally and permanently incapacitated or receiving the special rate pension for pulmonary tuberculosis.

Benefits

For children under 12 years, the scheme pays the cost of school requisites and fares. At secondary level, fortnightly maximum payments are: under 14 years, \$7.40; 14 and under 16, \$11.10; 16 years and over, \$24.30 if both parents are living and \$32.00 if only one parent is living. At tertiary level, those living at home may receive \$38.46 per fortnight and those living away from home, \$61.54.

HEALTH SERVICES

Department of Health Services

Headquarters

Responsibilities of the headquarters of the Department of Health Services include:

- (i) public hospital management advisory services and the licensing of private hospitals and other medical establishments under the *Hospitals Act 1918*;
- (ii) District Medical Service;
- (iii) School Dental Service;
- (iv) Nurses' Registration Board and Dental Mechanics' Registration Board;
- (v) Tourist Nursing Service;
- (vi) legislation concerned with health and allied matters;
- (vii) certain specialist medical services;
- (viii) State Drug Advisory Committee;
- (ix) liaison with the health departments of other states and the Federal Government (the Director-General of the State Department is a member of the National Health and Medical Research Council and the (National) Hospital and Allied Services Advisory Council); and
- (x) liaison with professional, medical, dental and nursing associations.

The Director-General is the controlling authority under the Hospital Employees' Award, the Medical Officers' Award and the Nurses' (Public Hospitals) Award. Headquarters also controls and maintains Crown property occupied by the various sections of the Department and deals with the appointment and salaries of staff who are not officers of the Public Service.

General

The State Department of Health Services is responsible for the maintenance of the health of the community, the prevention of disease and the provision of government hospital and medical services. The Department is under the jurisdiction of the Minister for Health, with the Director-General of Health Services as its permanent head. The headquarters of the Department controls two divisions, each under a director, namely Public Health and Tuberculosis. Three specialised services are also part of the Department: the State Health Laboratory under the direction of the Government Pathologist; the Government Analyst and Chemist Laboratory under the control of the Government Analyst; and Cardio-Vascular Services under the control of a Director.

**Department of Health Services: Expenditure from Consolidated Revenue
(\$'000)**

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Administration, head office	325	348	398	476	665
Hospital and medical services—					
Administration	(a) 235	(a) 295	353	379	518
Grants to hospitals	10 854	12 085	14 387	19 020	32 737
Medical services, country districts	188	198	210	248	342
Dental Health Service	599	698	754	669	1 164
State Laboratory, pathology	4	4	12	14	15
National fitness section	78	87	100	126	(b) ..
Nurses' Registration Board	7	7	7	8	12
Government Analyst and Chemist	110	139	164	188	265
St John's Park Hospital	1 577	1 763	1 925	2 326	3 920
Public Health—					
Administration and inspectors	308	369	403	425	605
School Medical Service	185	197	224	268	365
Child Health Service	218	242	281	311	424
Mothercraft Home	116	127	149	173	294
Road safety (c)	42	94	111	158	201
Tuberculosis Division—					
Administration	203	209	227	343	517
Chest hospitals	244	246	(d) 116	..	..
Miscellaneous grants and expenses	(a) 590	(a) 651	848	861	(e) 1 547
Total	15 884	17 758	20 670	25 993	43 591

(a) Expenditure on the enquiry into the running of the Launceston General Hospital has been included in 'Miscellaneous grants and expenses': 1970-71, \$12 000; 1971-72, \$46 000.

(b) National fitness section transferred to Education Department from 1 July 1974.

(c) Road safety transferred to Police Department from 1 July 1975.

(d) Chest hospitals were closed in 1972-73.

(e) Includes expenditure of \$62 000 on community health services.

School Dental Health Service

This service, available free to children up to school leaving age, aims to examine and treat every child each six months, but continued staff shortages have prevented this from happening. At the end of June 1976, 40 permanent clinics were operating at urban centres throughout the State while 26 mobile units provided services in most country districts. An orthodontic service is based in Hobart and there are permanent clinics in Launceston and Devonport.

Dental Nursing: Adopting the New Zealand system, Tasmania became the first Australian State to develop a School of Dental Nursing. Thirty first-year and 30 second-year students, including several students trained on behalf of the Federal Government and Northern Territory (these are employed in the Australian Capital Territory and Northern Territory after graduation), were being trained in 1976. Nine classes have graduated since January 1968 after two-year courses,

and the graduates have been appointed to clinics. The school is located in Hobart and treats up to 120 patients a day. It has a residential hostel attached providing accommodation for 30 students. It is expected that a total of 100-140 dental nurses will work in rural and metropolitan areas by 1980; a recognised dental nursing certificate is required for a nurse to be appointed to such a field position.

Fluoridation

In 1953 Beaconsfield became the first local government authority to add fluoride to its water supply and Launceston followed in 1961. In 1964 Hobart became the first Australian capital city to add fluoride to its water supply.

A Royal Commission inquired into fluoridation of water supplies in 1968. It reported favourably and recommended its extension throughout the State. The State Government passed the *Fluoridation Act* 1968, setting up a Fluoridation Committee with power to recommend to the Minister for Health the fluoridation of any public water supply and to oversee fluoridation operations. It is required to report annually to the Minister who must lay the report before Parliament.

By July 1974 fluoridation had been extended to the City of Glenorchy, the urban portions of the Clarence and Kingborough Municipalities, the towns of Devonport, Burnie, Bridgewater, Brighton, Kempton, Pontville, New Norfolk, Richmond, Sorell-Midway Point, Campania, Cambridge, Kingston, Blackmans Bay, Huonville, Ranelagh, Margate, Snug, Strathgordon, all towns on the West Tamar and North Esk Regional Water Supplies and Deloraine.

District Medical Service

In 1937 the Government undertook to help the more remote municipalities obtain medical services. Up until June 1975, participating municipalities levied a rate under the *Local Government Act* 1962, as amended, and met between one half and one third of the cost of the scheme. From July 1975, the Federal Government contributed 50 per cent of the operating costs of the scheme by means of a Health Program Grant under the *Health Insurance Act*, the remaining 50 per cent being financed from State funds. Participating municipalities currently contribute only a nominal amount.

The scheme provides a general practitioner service free to all residents of the municipality for consultations and home visits. A surgery is usually attached to the district medical officer's house, and branch surgeries are sometimes located elsewhere within the district. Attention out-of-hours is charged for in accordance with Medi-bank rates, as are insurance medical examinations and compensation treatment.

As well as general practice, activities include the dispensing of drugs if no chemist is available; duties as Medical Officer of Health (under the *Public Health Act*) if a municipal council requests it; in some cases duty as superintendent, if there is a district hospital within the municipality; attention to district nursing hospitals; and post mortem examinations.

Pharmaceutical Services Section

The Pharmaceutical Services Section has numerous advisory, supervisory and regulatory functions under regulations and legislation relating to narcotics, poisons, and dangerous and therapeutic drugs.

Alcohol and Drug Dependency Board

This Board was established under the *Alcohol and Drug Dependency Act* 1969; its members are appointed by the Minister for Health from the medical, pharmaceutical, social service, police and legal professions. Its functions are: (i) to keep

under review all matters relating to the prevention and treatment of alcohol and drug dependency; (ii) to advise in the declaration and control of substances as drugs under the Act; and (iii) to act as a board of appeal for applications by patients for discharge from treatment centres.

The treatment and rehabilitation of sufferers of alcohol and drug dependency is handled by the Mental Health Services Commission; the Commission's acute psychiatric units (at Wynyard, Devonport and Launceston), the Royal Derwent Hospital, the Royal Hobart Hospital and the John Edis Hospital have been declared treatment centres.

State Drug Advisory Committee

This advises on the nature, strength and variety of drugs to be supplied to public hospitals and institutions by the medical store of the Supply and Tender Department. It is not concerned with administration but helps the store to avoid stocking drugs with different names but similar properties, and stocking drugs not likely to be required.

Nursing

Nursing training is under the control of the Nurses' Registration Board. Of the State's nursing training schools, six are general, five midwifery, one child health, one psychiatric and one geriatric. There are eight general, one psychiatric and one geriatric training schools for auxiliary nurses (nursing aides).

Tourist Nursing Service

This service is based on the fact that trained nursing sisters from outside Tasmania like to visit the State and have a working holiday. These 'tourist nurses' are employed for short periods in hospitals or district nursing centres. Not more than two months service at any one time is required of a sister in any one place but she may stay longer.

Division of Public Health

General

The Division of Public Health has responsibility for the preventive medical services of the State. The Director is responsible for the operation of the *Public Health Act* 1962 (as amended) and the control of medical officers of health and other health officers employed by the Department of Health Services and municipalities throughout the State. A major responsibility is public immunisation programs, conducted through the municipalities; preparations distributed include the Sabin anti-poliomyelitis vaccine and the triple antigen vaccine (against whooping cough, tetanus and diphtheria). The Division is responsible for the Nutrition Advisory Service; industrial hygiene; environmental sanitation; pure food and pure drug quality control; and the public health aspects of the building regulations. Other major functions are discussed separately in the following sections.

Notifiable Diseases

Certain diseases, including serum hepatitis, food poisoning in two or more associated cases, ornithosis, salmonella and shigella infections, are notifiable under the *Public Health Act*, the aim being to prevent or check their spread.

Special conditions apply to venereal diseases. Persons suffering from them must not marry until cured, or engage in the manufacture or distribution of food-stuffs, and are liable to arrest and detention if they fail to continue treatment until cured.

Quarantine provisions and tuberculosis are dealt with in later sections.

The following table shows the incidence of notifiable diseases in Tasmania for a five-year period:

Notifiable Diseases Reported to Department of Health Services
Number of Cases

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Amoebiasis .. .. .	..	..	..	..	..
Cholera .. .. .	..	..	1	..	..
Diphtheria .. .. .	..	..	..	..	..
Food poisoning in two or more associated cases	2	5	..	..	..
Gonorrhoea	116	112	162	230	222
Hydatids	8	9	7	9	5
Infectious hepatitis	319	186	55	36	59
Leptospirosis .. .. .	..	12	..	1	..
Malaria	1	1	1	1	2
Salmonella infections	14	12	33	27	53
Serum hepatitis .. .. .	..	..	..	1	..
Shigella infections	1	1	21	14	2
Syphilis	7	9	2	4	4
Tetanus	2	1	1	..	..
Tuberculosis	48	43	54	48	41
Typhoid fever (incl. paratyphoid) .. .. .	..	2	1	..	1
Urethritis	7	2	..	..	..
Total	525	395	338	371	389

Child Health Service

In 1975, there were 101 Child Health Centres and 15 travelling units. Triple Certificated Child Health Sisters attached to these centres advise mothers on all aspects of caring for babies and young children. They advise mothers on infant feeding, child development and other health and social problems that occur in the family. The sisters visit new born babies at home and continue the supervision either at home or more commonly in the Child Health Centre where individual records are maintained. Sisters also arrange for examinations to be carried out by family doctors under the Pre-School Medical Scheme and departmental Medical Officers carry out the examinations in Child Health Centres. Voluntary Child Health Committees working for the centres raise money for furnishing and equipping new centres which are usually built by the Department. They also meet running costs such as heating, lighting, cleaning and telephones.

The Mothercraft Home: This home, located in Hobart, provides training for qualified nursing sisters who want to gain child health nursing certificates and for women who want to become mothercraft nurses. It accommodates children under two years old who need care or who cannot be looked after at home, and mothers learning to look after children or having feeding problems. When space is available, children under two years old can be boarded in the Home for short periods.

School Health Service

This is available free to children attending government and independent schools from kindergarten to matriculation level. Each school is visited annually by school medical officers who fully examine children at entry and in their eleventh and fifteenth years. In addition, children known to have defects are reviewed and special examinations are arranged for children whose physical health, behaviour or educational progress may be causing concern. Every year about 30 000 children

are examined by school doctors. About 20 per cent are found to have some defect, and these are referred to family doctors, specialists and hospital clinics and other appropriate agencies for investigation.

School nursing sisters visit schools regularly to supervise the health and hygiene of pupils. They maintain medical records, perform cleanliness inspections, test sight and hearing, assist at medical examinations and follow-up when defects are diagnosed. They contribute to health education, research projects and may organise immunisation sessions at their schools.

Health Education

The Health Education Council is composed of representatives of the Division of Public Health, the Education Department, the Mental Health Services Commission, the Adult Education Board and other interested persons. The Council's aim is public education by distribution of information on health matters.

Handicap Assessment Centres

Early in 1976, staff (Medical Officer, Nursing Sister, Psychologist, Occupational Therapist and Welfare Officers) were appointed to set up Assessment Centres in Hobart and Launceston. Children referred to these Centres because of a known handicap or only suspected of having a handicap are assessed using a team approach. Specialists in other areas, e.g. education, mental health and specialist clinics in hospitals are consulted and asked to contribute to case conferences.

Mental Health Services Commission

Introduction

Significant advances have been made in the field of clinical psychiatry and in the treatment of mental illness during the past three decades. The development of psychotropic drugs, new therapeutic techniques and improved methods of clinical practice have revolutionised the mental hospital from an institution for the incarceration of lunatics to a modern hospital geared to the care and rehabilitation of the sufferers of psychiatric disorders.

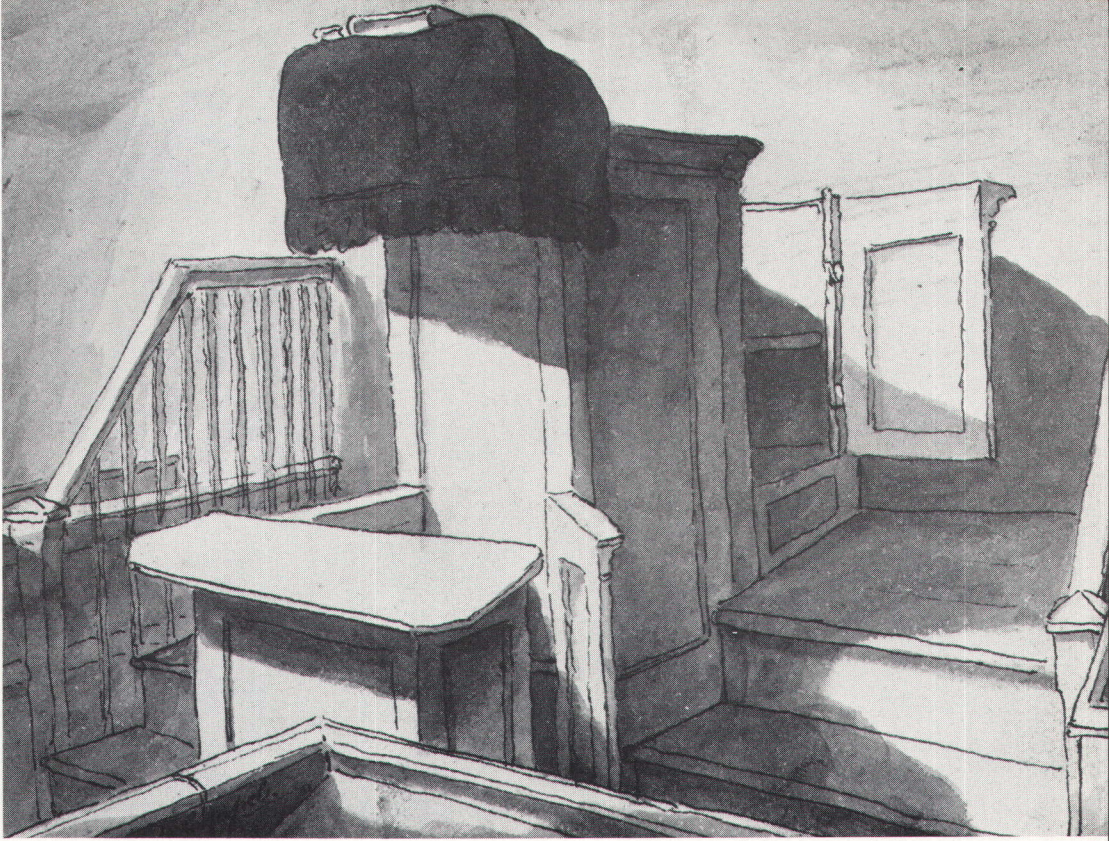
Administration

The Mental Health Services Commission was established under the *Mental Health Services Act 1967*, following an interdepartmental investigation into psychiatric services in Tasmania. The Commission comprises three members: a Medical Commissioner, a Clinical Commissioner (being Professor of Psychiatry at the University of Tasmania) and an Administrative Commissioner. Since 1 July 1968, the Commission has operated as a statutory authority, completely separate from the Department of Health Services.

Ultimately, the Mental Health Services Commission aims to provide integrated community services and to this end has established acute psychiatric units at Launceston, Wynyard and Latrobe. These regional units are closely linked to the public hospital complexes.

In September 1972, the Commission formally took over the Tasmanian Chest Hospital at Creek Road, Hobart and re-named the institution the John Edis Hospital. The facilities at this hospital have enabled the services for alcoholism and psychiatric disorders, formerly carried out at Clare House, New Town, to be expanded.

The principal institution under the control of the Commission is the Royal Derwent Hospital.



'Nile Chapel', the pulpit, wash sketch by John Glover

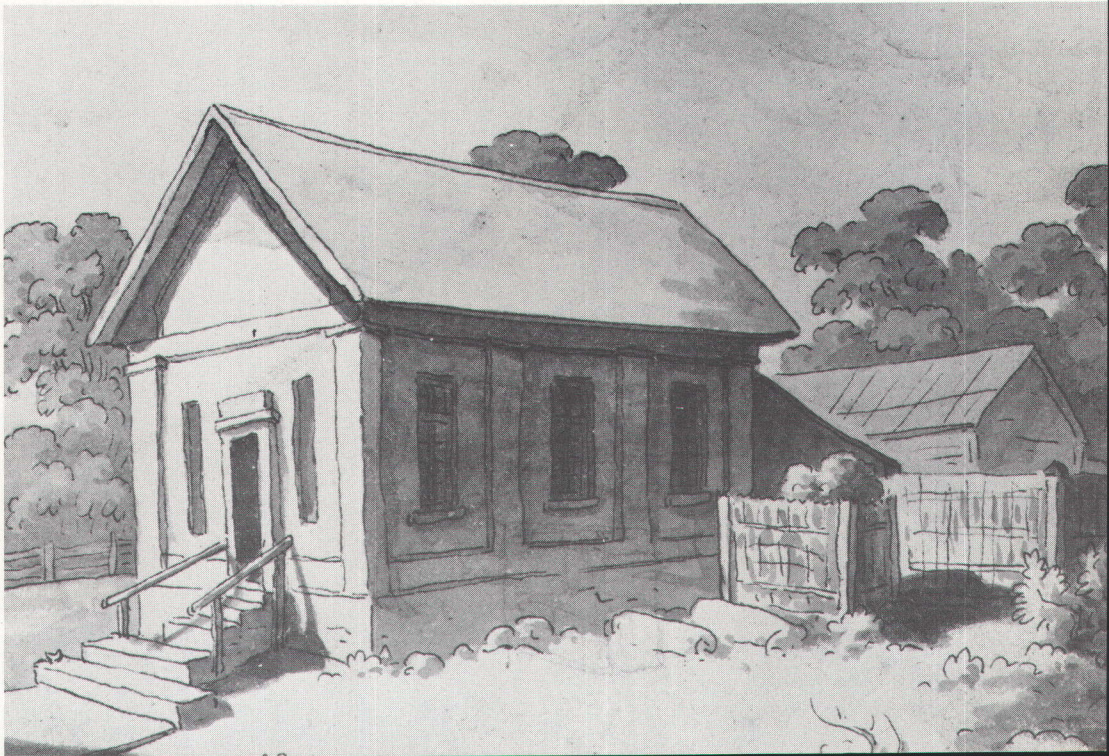
[Dept of Film Production]

(By courtesy of the Allport Library and Museum of Fine Arts, Hobart)

'Nile Chapel', exterior view, wash sketch by John Glover

[Dept of Film Production]

(By courtesy of the Allport Library and Museum of Fine Arts, Hobart)





'Western View of the Mountains', painting by John Glover

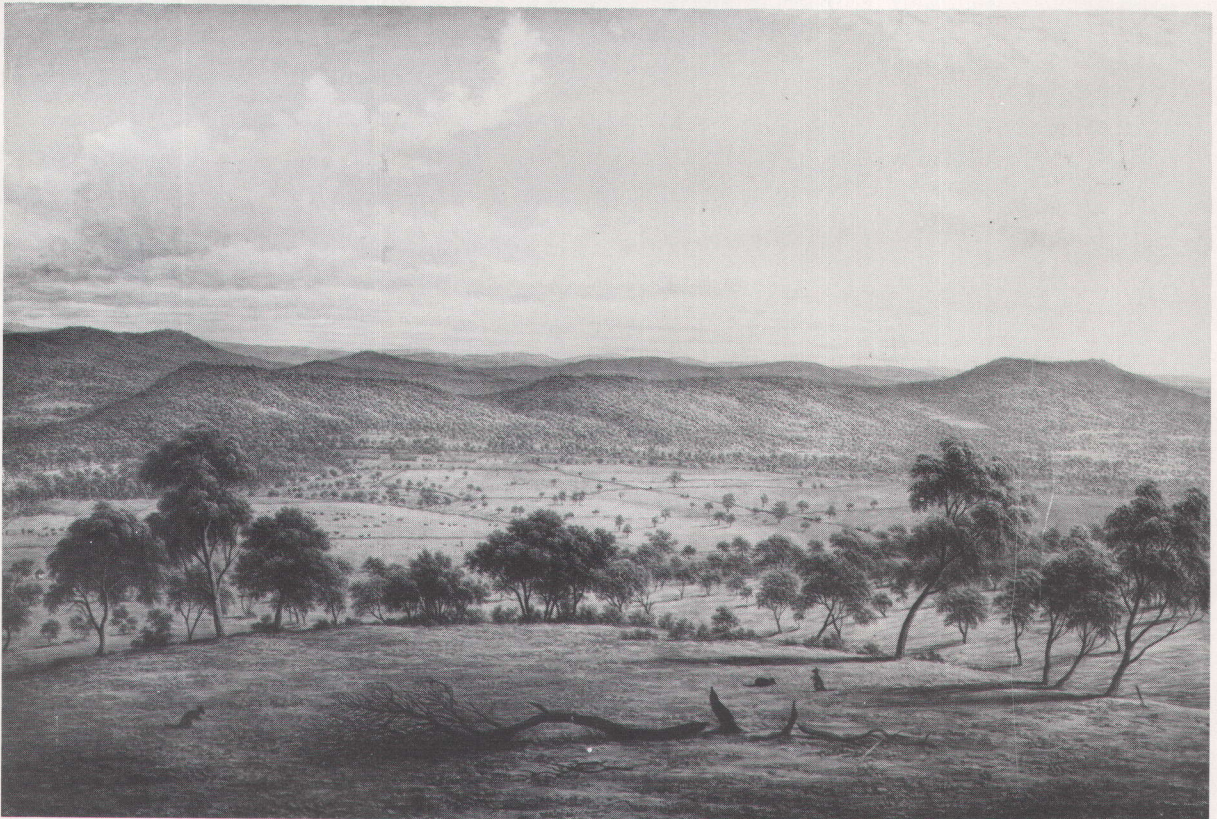
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(By courtesy of the Tasmanian Museum and Art Gallery)

'Cawood on the River Ouse', painting by John Glover

[Dept of Film Production]

(By courtesy of the Tasmanian Museum and Art Gallery)



Royal Derwent Hospital

The following table shows the diagnosis of mental illness of patients in the Royal Derwent Hospital (incorporating Millbrook Rise):

Royal Derwent Hospital (a)
Diagnosis of Mental Disorder of Patients, 1974-75

Mental disorder	Patients admitted (b) 1974-75			Patients at 30 June 1975		
	Males	Females	Total	Males	Females	Total
Senile and pre-senile dementia	17	16	33	18	58	76
Alcoholic psychosis	18	8	26	19	8	27
Psychosis with intracranial infection .. ..	..	..	..	2	..	2
Psychosis with other cerebral condition	2	2	4	7	14	21
Psychosis with other physical condition	1	1	2	1	3	4
Schizophrenia	60	53	113	123	72	195
Affective psychoses	20	53	73	10	24	34
Paranoid states	5	1	6	9	7	16
Other psychoses	1	1	2	1	..	1
Neuroses	15	20	35	3	8	11
Personality disorders	60	43	103	16	9	25
Alcoholism	228	34	262	43	10	53
Drug dependency	10	4	14	2	4	6
Transient situational disturbances	9	7	16	2	1	3
Behaviour disorders of childhood .. ..	..	4	4	2	1	3
Mental disorders not specified as psychotic associated with physical conditions	8	10	18	14	9	23
Mental retardation—						
Borderline	8	4	12	4	7	11
Mild	3	4	7	27	17	44
Moderate	13	6	19	65	58	123
Severe	3	1	4	67	77	144
Profound	3	1	4	21	34	55
Unspecified .. ..	..	..	..	9	4	13
Other	6	4	10	..	2	2
Total	490	277	767	465	427	892

(a) Includes Millbrook Rise Hospital.

(b) Excludes those returned from leave.

Royal Derwent Hospital (a), Patients at 30 June 1975 by Mental Disorder: Summary

Mental Disorder	Number	Per Cent	Mental Disorder	Number	Per Cent
Senile and pre-senile dementia	76	8.5	Alcoholism	53	5.9
Alcoholic psychosis	27	3.0	Mental retardation	390	43.7
Schizophrenia	195	21.9	Other	117	13.1
Affective psychoses	34	3.8	Total	892	100.0

(a) Include Millbrook Rise Hospital.

The Royal Derwent Hospital (at New Norfolk) is the State's principal centre for the treatment of psychiatric disorders and for caring for the mentally retarded. The hospital is divided into six sections and patients are allocated to the sections on the basis of their medical diagnosis. The basic division of patients is into those who are psychiatric patients and those who are suffering from mental sub-normality.

Royal Derwent Hospital (a)

Number of Patients Admitted, Discharged and Deaths, 1974-75

Particulars	Males	Females	Total
Patients at beginning of year	464	441	905
Patients admitted—			
First time	238	100	338
Re-admitted	252	177	429
Returned from leave	48	22	70
Total	538	299	837
Patients discharged, etc.—			
Discharged from hospital	272	213	485
Proceeded on leave	232	68	300
Died	33	32	65
Total	537	313	850
Patients at end of year	465	427	892

(a) Includes Millbrook Rise Hospital.

Other Institutions

Hobart: (i) The Combined Children's Centre was opened in February 1968 for the treatment of psychiatrically disturbed children referred to the Centre by private medical practitioners, the Royal Hobart Hospital, Social Welfare Department, School Medical Service and the Guidance Branch of the Education Department. At 30 June 1975, there were 782 children under treatment.

(ii) The Day Minding Centre was opened in September 1968 to care for severely mentally retarded children, many of whom are also physically retarded. At 30 June 1975, 33 children were enrolled at the Centre.

Launceston: (i) The Lindsay Miller Clinic at the Launceston General Hospital reported the following attendance figures during 1974-75: out-patient visits 4 390; day patient visits, 2 836; in-patients, 576. Psychological consultations totalled 286 and social work consultations 2 341.

(ii) The Children's Centre at Launceston was opened on 23 October 1972 and attendance figures for 1974-75 were: new cases, 114; old cases, 551.

North-West: In-patient facilities are provided at the Mersey General Hospital and the Spencer Division of the North-Western General Hospital.

Various centres provide facilities for out-patient treatment on the north-west coast. During 1974-75, the North-Western General Hospital, Spencer Division, treated 1 235 out-patients; Burnie Division, 1 719; Smithton District Hospital, 205; Devonport and Ulverstone Clinics, 2 067.

Division of Tuberculosis

Activities carried out in this field include the diagnosis, treatment and long-term supervision of tuberculosis cases, the examination of contacts of newly notified cases, and mass B.C.G. vaccination of high school students.

The following table shows the confirmed diagnosis of tuberculosis cases notified in Tasmania over a five-year period:

General Hospitals (Public)

Hospitals providing all facilities and specialised treatment are the Royal Hobart, Launceston General, Mersey General (at Latrobe) and North-Western General (with divisions at Burnie and Wynyard). The Queen Alexandra (Hobart) and the Queen Victoria (Launceston) are maternity hospitals.

Specialist treatment is available at general hospitals in obstetrics, gynaecology, orthopaedics, urogenital surgery, plastic and reconstructural surgery, neuro-surgery and neurology, radiology, pathology, radiotherapy, psychiatry and ophthalmology; skin diseases and venereal diseases are also treated and clinics operate in thoracic medicine and surgery. An emergency obstetrical service, with specialists based in Hobart and Launceston, provides a free service to the smaller public hospitals, district nursing hospitals and district medical officers outside the two cities.

The Lady Clark Hospital, an annexe of the Royal Hobart Hospital, is a rehabilitation and physiotherapy centre with both in-patient and out-patient facilities.

The Peacock Convalescent Hospital in Hobart is run by a committee of management, most of its patients being referred from the Royal Hobart Hospital.

All district nursing hospitals, formerly administered by the Department of Health Services, have been administered as annexes by various general or district hospitals since 1 July 1968, the parent hospital in each case being selected on a geographical basis.

Fees

As from 1 July 1975, the Tasmanian Government entered into an agreement with the Federal Government for the sharing of net operating costs for all recognised hospitals under the *Commonwealth and State Hospital Services Agreement Act 1975*.

A public hospital patient is entitled to comprehensive care, free of charge (after health insurance reimbursements), including all necessary medical, nursing and diagnostic services except in the following cases:

- (a) Hospitals may recover from the insurer, at specified rates, costs in respect of patients who may claim compensation or damages under workers compensation insurance or under the *Motor Accidents (Compensation and Liabilities) Act 1973* or seamen covered by the *Navigation Act 1912-1965*.
- (b) A personal obstetric in-patient is permitted to have a choice of medical practitioner at the Royal Hobart Hospital; the patient pays the medical practitioner on a fee-for-service basis and a charge is payable to the hospital by the patient.
- (c) A patient of the Queen Alexandra Hospital (obstetrics) and Queen Victoria Hospital (obstetrics and gynaecology) may elect to be treated as a private patient and be treated by a medical practitioner of her choice on a fee-for-service basis and be charged by the hospital for accommodation in either a single room or other than a single room.
- (d) As from 1 October 1976, privately insured patients treated by hospital staff have been charged an all-inclusive fee by the hospital.

Hospitals for the Aged and Invalid

The State Government administers three hospitals caring for the aged and for invalids. In the table that follows, the distinction is made between 'general' and 'hospital' beds; 'general' refers to beds available for inmates not receiving treatment in the hospital sections of the institutions.

Government Hospitals for the Aged, 1974-75

Hospital	Average daily number of inmates			Beds available			Total persons accommodated during year	Total bed-days
	General	Hospital	Total	General	Hospital	Total		
Cosgrove Park (a)	107	126	233	141	134	275	373	84 928
St John's Park Spencer Home for the Aged (b) ..	20	432	452	216	315	531	670	165 643
	6	25	30	5	25	30	40	11 157
Total ..	133	583	715	362	474	836	1 083	261 728

(a) Cosgrove Park is administered as part of the Launceston General Hospital.

(b) This is a geriatric wing of the Wynyard Division of the North-Western General Hospital (previously the Spencer Hospital).

A new rehabilitation centre is presently under construction at New Town. This centre will cater for a wide range of services, including in-patient services for children and adults requiring hospitalisation because of all forms of disablement e.g. spastic diseases, mental retardation, crippled children and other handicapped persons and disabled persons generally. Domiciliary and day hospital therapeutic and home help facilities will still be based at St John's Park.

State Controlled Hospitals: Finances, Staff and Patients

The following tables give summaries of the financial operations and staff and patient numbers of State controlled hospitals and hospitals for the aged:

State Controlled Hospitals and Hospitals for the Aged
Receipts and Payments (a), 1974-75
(\$'000)

Particulars	Hospitals (excluding mental)			Mental hospitals	Hospitals for the aged
	Public (b)	Maternity (c)	Total		
Receipts—					
Government aid—					
State	29 785	1 858	31 643	5 884	3 110
Federal	1 101	13	1 114	59	2 178
In-patient fees	7 313	1 227	8 540	648	279
Out-patient fees	256	..	256	..	..
Other	56	3	59	54	40
Total	38 511	3 101	41 612	6 645	5 607
Payments—					
Salaries and wages	31 310	2 594	33 904	5 536	4 563
Provisions	1 128	105	1 233	(d)	366
Domestic supplies	1 388	152	1 540	(d)	227
Dispensary, etc.	2 641	93	2 734	(d)	73
Other	2 092	126	2 218	(d)	295
Total	38 559	3 070	41 629	6 645	5 524

(a) Excludes expenditure from State Loan Fund.

(b) Includes general and district hospitals; includes maternity wards in public hospitals.

(c) Excludes maternity wards in public hospitals.

(d) Not available on a comparable basis; included in 'Total'.

State Controlled Hospitals and Hospitals for the Aged
Staff, Accommodation and In-Patients

Particulars	Hospitals (excluding mental)		Mental hospitals		Hospital for the aged	
	1973-74	1974-75	1973-74	1974-75	1973-74	1974-75
Hospitals and homes no.	22	22	1	1	3	3
Nursing staff .. males	1 943	2 006	194	198	260	265
.. females			190	205		
Beds available .. no.	2 240	2 277	1 030	1 030	799	836
In-patients— Total number treated						
.. males	54 780	55 005	1 021	1 002	1 468	1 083
.. females			744	740		
Daily average number of patients during year						
.. males	<i>n.a.</i>	<i>n.a.</i>	443	454	<i>n.a.</i>	<i>n.a.</i>
.. females	<i>n.a.</i>	<i>n.a.</i>	453	447	<i>n.a.</i>	<i>n.a.</i>
.. persons	1 507	1 510	896	901	662	715
In-patient costs—						
Total \$'000	22 515	35 884	4 440	6 645	3 372	5 524
Daily average per patient \$	46.21	55.43	13.57	20.21	r 13.92	17.56

District Hospitals (Public)

These do not provide the diverse range of services available in the general hospitals, and do not have resident medical officers. They are located at Beaconsfield, Campbell Town, Currie, Franklin, Longford, New Norfolk, Ouse, Queenstown, Rosebery, Scottsdale, Smithton, St Helens, St Marys, Ulverstone, and Whitemark.

Private Medical Establishments

The above establishments, 75 in number, are operated by charitable and church organisations and by private individuals or organisations. Most are concerned with care of the aged but five are hospitals with a more general purpose.

All 75 are registered under Part III of the *State Hospitals Act* but five are also registered under the federal *National Health Act* and *Health Insurance Act* as hospitals. These are Calvary, St John's and St Helen's in Hobart, and St Luke's and St Vincent's in Launceston; all provide medical and surgical services. Of the remaining 70 establishments, 50 are licensed to provide nursing home care; and 20 to provide accommodation for ambulant patients only.

The largest units in the non-hospital group are: Hobart area, A. A. Lord Homes (111 beds), St Ann's Rest Home (110), Freemasons Homes (93), Lillian Martin Home (92), Mary's Grange (91), Strathaven Lodge (89), Queen Victoria Home for the Aged (80); Launceston area, Nazareth House (98 beds), Ainslie House (95); north-western area, Meercroft Home for the Aged (96), Eliza Purton Home for the Aged (80).

State Health Laboratory

The State Health Laboratory is under the control of the Government Pathologist. Apart from providing certain pathological services to the Royal Hobart Hospital, other hospitals and to doctors, the laboratory provides special bacteriological and cytological services.

The Laboratory is located at the Royal Hobart Hospital; prior to 1965 special tests had to be done in Melbourne, but equipment installed in that year now enables all work to be done in Tasmania. Specimens from suspected T.B. sufferers, dis-

covered in the compulsory chest X-ray program (which ended on 31 December 1976) used to be examined at the Laboratory; uterine and other cancers can be discovered by the Papanicolaou smear test. Tasmania was the first Australian State to introduce this test on a large scale; early diagnosis by this simple and effective method, particularly in women who show no symptoms, usually makes possible the cure of this type of cancer.

Mass screening of new-born babies is done to correct errors of inborn metabolism, especially phenylketonuria, at the laboratory. Other work includes analysis of food, water and milk samples.

Government Analyst and Chemist Laboratory

This laboratory analyses a wide variety of foods, drugs and other substances and undertakes work for Government departments and the public. Its work includes food and agricultural chemistry, forensic chemistry and toxicology, analysis for industrial hygiene purposes, water and corrosion problems, and other matters such as blood alcohol examinations for *Road Safety (Alcohol and Drugs) Act* purposes.

Other Health Matters

Child Health Institutions

These are medical institutions run by the State or subsidised by public funds. They provide treatment and supervision along with general education. The Sight Saving School, School for the Blind and Deaf, Talire (for retarded children) and Wingfield (for orthopaedic patients) are government institutions for children with particular defects.

Ambulance Services

The Ambulance Commission of Tasmania co-ordinates services throughout the State and is responsible to the Minister for their effective operation. Ambulance Boards, centred on Hobart, Launceston, Devonport and Burnie, control services in the adjacent local government areas. A few municipalities, however, operate services outside the *Ambulance Act*. The total Government grant to ambulance services, both under Board and independent control, was \$713 341 in 1975-76.

Ambulance services under control of the four Boards provide free transport for ratepayers, occupiers and pensioners. In addition to receiving Government subsidies, their income is derived from fees (payable by visitors) and municipal grants.

The Ambulance Commission has adopted the training standards of the Victorian Ambulance Officer's Training School.

Royal Flying Doctor Service

This was established in Tasmania in 1960 and has as its purpose the provision of medical and dental services to persons in isolated areas. If the illness or injury is serious, a doctor flies to the patient and if necessary brings him back to hospital. The ambulance services receive the calls, make arrangements to charter aircraft and supply medical equipment. The Federal and State Governments make an annual grant towards operational expenses.

Blood Transfusion Service

Prior to 1954, the Australian Red Cross Society, which operates the service, was assisted only by the State Government; now a grant equal to 35 per cent of operating expenses is made by the Federal Government and a grant equal to 60 per cent of operating expenses by the State. The combined grant in 1975-76 was \$233 922.

Municipal Health Functions

Municipal councils and city corporations possess wide powers and responsibilities in public health. They organise triple antigen immunisation campaigns against diphtheria, whooping cough and tetanus, and vaccinations against poliomyelitis and smallpox. (These are available without charge to children under 17 years.) They control the condemnation of sub-standard dwellings, the effective disposal of sewerage and drainage, the provision of garbage and night soil services, the construction of reservoirs and the reticulation of water. A medical officer of health, often appointed by two councils, is responsible, among other things, for: inquiring into the causes, origins and distribution of diseases; investigating influences affecting the public health of the district; directing and supervising the municipal health inspectors in the execution of the *Public Health Act*; inspection of local certificates of notification of infectious disease and direction of control of such disease; reporting the existence of any nuisance; inspection of any animal carcass for sale for human consumption; and inspecting any premises where milk or milk products are produced or stored and for reporting on health of inmates or animals on the premises.

Federal Department of Health

General

The Department is concerned in Tasmania with the administration of the *Quarantine Act*, the *National Health Act*, the *Health Insurance Act* and the *Nursing Homes Assistance Act*; the control and maintenance of Pathology and National Acoustic Laboratories at Hobart and Launceston; and co-operating with the State Department of Health Services in the Community Health Program and related activities.

Quarantine

Quarantine guards against the importation *from overseas* of human, animal and plant infection. By arrangement, plant and animal quarantine is operated by the State Department of Agriculture. In general, *interstate movements* of animals and plants is left to the states, unless federal action is necessary for the protection of a state.

Under arrangements with the states, the Federal Government arranges to reimburse state marine boards the cost of installing incinerators at first ports of entry for overseas ships. The incinerators are used to dispose of overseas ships' garbage, reducing the possibility of introduction of diseases. Incinerators are installed at all Tasmanian first ports of call.

Health Program Grants

These grants, under the *Health Insurance Act*, are generally paid to organisations providing services through medical and para-medical personnel remunerated on a salaried or sessional basis. An approved organisation is entitled to be paid an amount equal to the cost incurred by the organisation in providing the approved health service, including such part of the management expenses of the organisation as the Minister considers attributable to the provision of the health service.

Domiciliary Nursing Care Benefit

This benefit of \$2 per day (\$14 per week) is designed to help meet the cost of home nursing and other professional care for aged people who are chronically ill but being cared for in their own homes. It is payable to any person who provides continuous care for a patient in a private home provided the home is the usual residence of both the person and the patient and provided the patient meets certain medical criteria. The main eligibility rules are: (i) patients must be 65

years of age or more; (ii) patients must have an official certificate from their doctor stating that because of infirmity or illness, disease, incapacity or disability they have a continuing need for nursing care by a registered nurse; and (iii) patients must be receiving care by a registered nurse on a regular basis involving multiple visits each week.

Nursing Home Benefits

The *Nursing Homes Assistance Act* 1974 came into effect from 1 January 1975. Under this Act, religious and charitable type nursing homes can elect to come under the provisions of that legislation which relates to 'deficit financing' of such nursing homes. These nursing homes submit a budget showing estimated operating receipts and payments and the estimated end of year deficit. The Federal Government provides monthly advances against the anticipated deficit and a final settlement based on the actual deficit revealed in the audited end of year accounts. The Act prescribes a fee to be charged to patients (\$41.25 per week as at 4 June 1976) and this may be varied by legislation. Arrangements exist for waiver or part-waiver of the prescribed fee in certain circumstances.

Those religious and charitable nursing homes which have not elected to come under the provisions of the *Nursing Homes Assistance Act*, private gain nursing homes and government nursing homes continue under the provisions of the *National Health Act*.

The benefits and patient contribution to fees in these nursing homes are given in the following table:

Nursing Home Benefit Rates (National Health Act)
(\$ Per Week)

Particulars	Ordinary care patients	Intensive care patients
Benefit prior 1 January 1973	24.50	45.50
Additional benefit from 1 February 1976 (a)	54.25	54.25
Patients share of fees	41.30	41.30
Total fee (b)	120.05	141.05

(a) Payable by the Federal Government for pensioners and by approved hospital benefits organisations for insured non-pensioners.

(b) 'Total fees' are the standard fees as determined by the Government at 4 June 1976. If fees actually charged are: (i) less than the standard fee, the additional benefit, shown above, is reduced by the difference; or (ii) greater than the standard fee, the patient's share, shown above, is increased by the difference.

Private gain nursing homes and those religious and charitable nursing homes, which have not elected to come under the provisions of the *Nursing Homes Assistance Act*, accept a fee control system and require departmental approval to vary their prescribed fees. The prescribed fees may differ between nursing homes because of the 'base' figure accepted for each nursing home when fees control was introduced on 1 January 1973 and because of continuing different costs as between such homes. An independent fees review committee exists in each state to determine any appeals made by nursing homes against departmental decisions on fees.

Pharmaceutical Benefits

Under this scheme, drugs and medicines for patients, who are required to pay a flat charge of \$2, can be prescribed by a medical practitioner or by a hospital. Not all drugs and medicines can be supplied under this scheme, but the Health Department's list of approved pharmaceutical preparations is extensive. Under this scheme basic rate pensioners receive their pharmaceutical requirements free of charge.

Pathology Laboratories

These laboratories, situated in Hobart and Launceston, provide free diagnostic services for medical practitioners and hospitals. A general clinical pathology service is offered, and the laboratories also perform serological services for the Red Cross Blood Transfusion Centre.

National Acoustic Laboratory

The main function of the laboratory is the provision and maintenance of hearing aids, without charge, to deaf school and pre-school children, and to those whose hearing loss was discovered after leaving school, but who are still under 21 years of age. It also provides and maintains hearing aids on behalf of other Federal Government departments and assists the Education Department in measuring deafness by providing and maintaining portable audio-meters. In addition, the laboratory supplies eligible pensioners with hearing aids and provides the necessary maintenance.

HEALTH INSURANCE

Up until 30 June 1975, health insurance in Australia was available only through registered private health insurance funds which provided various medical and hospital benefits schemes. Benefits paid to insured members of funds comprised a fund benefit, together with a Federal Government benefit paid by the private funds on behalf of the Federal Government. A reduced hospital benefit was paid towards uninsured hospital patients' costs (80 cents per bed-day in 1974-75) and the Federal Government also provided benefits to pensioners and certain persons in needy circumstances (e.g. unemployed persons). The next table shows details of health insurance benefits (including benefits payable to uninsured persons) paid in Tasmania in 1974-75:

Health Insurance Benefits, 1974-75

Type of benefit	Fund benefits	Federal Government benefits (a)	Total benefits paid	Federal Government benefits as proportion of total
Medical	\$'000 4 122	\$'000 6 284	\$'000 10 406	per cent 60.4
Hospital	8 605	4 582	13 187	34.7
Total	12 727	10 866	23 593	46.1

(a) Includes pensioner benefits and Subsidised Health Benefits Plan payments.

Introduction of Medibank

On 1 July 1975, 'Medibank', a new medical health insurance program for all Australians, came into operation. On the same date, the Medibank Hospitals Agreement between the Federal and Tasmanian Governments came into effect (similar agreements had been made between the Federal Government and each state government by the end of 1975).

The original Medibank scheme operated for 15 months. It provided automatic cover for everybody in Australia without the necessity to continue paying contributions to private medical and hospital insurance funds in order to qualify for the Medibank benefits. It provided benefits equal to at least 85 per cent of 'scheduled' medical fees, free accommodation and treatment in standard wards

of public hospitals, and a subsidy of \$16 per day to approved private hospitals in respect of each occupied bed. With the introduction of Medibank, private health insurance funds were permitted to continue to operate subject to approval under provisions of the *National Health Act*. Benefits offered were 'gap' insurance (the difference between the 85 per cent of scheduled fees paid by Medibank and 100 per cent of the scheduled fees) for medical, optometrical and hospital fees; a varied range of ancillary benefits not provided by Medibank; and supplementary hospital benefits to provide additional cover in respect of intermediate and private ward patients in public hospitals, and patients in private hospitals.

Changes to the Medibank Scheme

On 1 October 1976, new health insurance arrangements came into operation when the previous Medibank scheme was revised as a result of the recommendations of the Medibank Review Committee. Under the new arrangements all persons were required to make direct contributions for their health insurance cover, with special arrangements made to exempt most pensioners and low income earners from payment.

Method of Payment

Every person had the choice of paying : (i) a levy of 2.5 per cent on taxable income, known as the health insurance levy (imposed from 1 October 1976), up to a ceiling amount set as \$300 per annum for families or \$150 per annum for single people, which provided 'basic' Medibank cover; or (ii) to opt out of Medibank and the income tax levy and pay contributions to 'Medibank Private' or to a registered private health insurance organisation which provided benefits that were at least equivalent to those of 'basic' Medibank. Thus, the principle of universal health insurance coverage was retained.

Certain Defence Force personnel and Repatriation beneficiaries, those with a family income of less than \$4 300 per annum and persons without dependants on an income of less than \$2 605 per annum are covered by 'basic' Medibank but exempted from paying the levy.

Medibank Private

For those people wishing to opt out of the levy payment and 'basic' Medibank, the functions of Medibank were extended to include Medibank Private. This branch of Medibank conducts registered medical and hospital insurance funds in direct competition with the existing private organisations.

Health Insurance Commission

Medibank is operated by the Health Insurance Commission which was established by the Federal Government to pay medical benefits, hospital subsidies, optometrical benefits and health program grants available under the *Health Insurance Act 1973-1976*. The Commission also operates the Medibank Private medical and hospital insurance funds.

Medical Benefits

Medibank (basic) covers at least 85 per cent of the approved Schedule fee for each service listed in the Medical Benefits Schedule with a proviso that the maximum payment by the patient (where the schedule fee is charged) is limited to \$5. The Schedule fee is the fee agreed on in negotiations between the Federal Government and the Australian Medical Association, or determined by an independent inquiry, as being the fair and reasonable fee for any particular service

for medical benefits purposes, or determined by the Medical Benefits Advisory Committee which the Minister for Health may appoint under provisions relating to health insurance.

Optometrical Benefits

Medibank covers at least 85 per cent of the schedule fee. The schedule consists of four items all of which are related to consultations given by participating optometrists. All participating optometrists have given an undertaking that the fee charged for the specified consultations will not exceed the schedule fee for that specified service. Medibank does not provide benefits for the cost of spectacles or contact lenses. Pensioners, in possession of a Pensioner Medical Service entitlement card, are not required to pay the 'gap' i.e. the difference between the Medibank payment (85 per cent) and the schedule fee (100 per cent).

Hospital Benefits

By arrangement between the Federal and Tasmanian Governments, all persons paying the health insurance levy (and their dependants) are entitled to accommodation and treatment in public hospitals free of charge. Persons entering public hospitals as private patients are charged and the additional charges are only recoverable if supplementary or private hospital insurance has been taken out.

Those persons who remain with basic Medibank and pay the levy (or, who by virtue of their income are deemed to be levy payers without need to make actual contributions) may take out additional hospital insurance if they wish.

All persons entering private hospitals receive a subsidy from Medibank of \$16 per day (payable direct to the hospital only) and may insure themselves for additional costs.

Benefits Additional to Basic Medibank

Additional health insurance is optional and may be obtained from 'Medibank Private' Insurance or any other registered health fund ('Medibank Private' is a registered 'private' health fund).

It is a condition of registration for private health funds that they offer 'Basic Private Health Insurance', providing the same benefits as 'basic' Medibank, as a separate identifiable package. The optional additional health insurance available may vary as between different organisations but generally consists of 'Gap' Medical and 'Gap' Hospital. The former meets the difference between the 85 per cent of the Schedule fee payable under 'Standard Medibank' and the full Schedule fee i.e. the 'gap' of 15 per cent. 'Gap' Hospital provides additional benefit to cover the cost difference between shared room accommodation in a public hospital (i.e. 'Intermediate Ward') and private ward accommodation in public hospitals or accommodation in private hospitals. The Medibank deduction of \$16 per day from private hospital accounts has continued under the new arrangements. Private health funds also offer a varying range of ancillary benefits—e.g. dental benefits, physiotherapy, spectacles and home nursing.

Health Program Grants

These grants, under the *Health Insurance Act*, are generally paid to organisations providing services through medical and paramedical personnel remunerated on a salaried or sessional basis. An approved organisation is entitled to be paid an amount equal to the cost incurred by the organisation in providing the approved health service, including such part of the management expenses of the organisation as the Minister considers attributable to the provision of the health service.

HOSPITAL MORBIDITY

In the following tables particulars are given of all in-patients treated in Tasmanian public hospitals, who left hospital during 1975. Patients still in hospital at the end of 1975 will be included in figures for the year in which they leave hospital. Normal maternity patients are included, but babies born in hospital are included only if they receive treatment in excess of that routinely provided for the new-born.

Treatment Statistics

The following table analyses patients by age group and length of stay in hospital:

Patients Treated in Public Hospitals: By Age Group and Average Length of Stay, 1975

Age group	Males			Females		
	Number	Per cent of total	Average length of stay (days)	Number	Per cent of total	Average length of stay (days)
Days—						
Under 28	259	1.18	11	214	0.75	10
28-365	711	3.25	7	554	1.93	9
Years—						
1- 4	1 824	8.32	5	1 174	4.09	5
5- 9	1 342	6.12	5	989	3.45	4
10-14	1 141	5.21	6	872	3.04	5
15-19	1 480	6.75	7	2 794	9.74	7
20-24	1 284	5.86	7	4 488	15.65	7
25-29	1 058	4.83	7	3 924	13.68	7
30-34	925	4.22	7	2 127	7.41	7
35-39	853	3.89	8	1 482	5.17	8
40-44	895	4.08	10	1 115	3.89	8
45-49	1 073	4.91	12	1 174	4.09	10
50-54	1 372	6.26	12	1 173	4.09	10
55-59	1 477	6.74	12	1 116	3.89	13
60-64	1 694	7.73	15	1 190	4.15	14
65-69	1 514	6.91	14	1 147	4.00	16
70-74	1 266	5.78	17	1 154	4.02	18
75 and over	1 744	7.96	25	1 996	6.96	36
Total	21 912	100.00	11	28 683	100.00	10

Comparable treatment statistics (in total only) for 1974 were: (i) number of in-patients treated in public hospitals—males 22 650 and females, 29 854; and (ii) average stay in hospital—males 11 days and females, 10 days.

Children aged up to nine years comprised 18.9 per cent of males and 10.2 per cent of females discharged. The high numbers in this age group were due principally to children receiving treatment for diseases of the respiratory system; this disease group accounted for 1 927 cases, or about one-quarter, of discharges of children under 10 years.

Accidents were the main cause of hospitalisation of males in the 15-34 years age group. Injuries caused by accidents, poisoning and violence accounted for 1 944 cases or 41 per cent of male patients in the age group 15-34 years but accounted for only 682 cases or five per cent of female patients in this age group.

The next table analyses the patients, shown in the previous table, by condition treated and by length of stay:

Patients Treated in Public Hospitals: By Condition Treated and Average Length of Stay, 1975

Principal condition treated	Males			Females		
	Number of patients	Total days in hospital	Average stay (days)	Number of patients	Total days in hospital	Average stay (days)
Infective and parasitic diseases	712	7 417	10	690	5 048	7
Neoplasms	1 279	18 561	15	1 331	19 664	15
Endocrine, nutritional and metabolic diseases	341	5 311	16	365	5 055	14
Mental disorders	1 125	16 495	15	1 259	26 690	21
Diseases of the—						
Blood and blood forming organs	151	1 630	11	171	1 608	9
Nervous system and sense organs	1 002	11 697	12	885	13 643	15
Circulatory system	2 568	45 239	18	2 178	49 028	23
Respiratory system	2 667	21 078	8	1 861	12 861	7
Digestive system	2 406	20 818	9	2 031	17 389	9
Genito-urinary system	1 055	9 823	9	2 554	15 457	6
Skin and subcutaneous tissue	476	4 897	10	384	4 592	12
Musculoskeletal system and connective tissue	1 096	14 769	13	910	12 523	14
Congenital anomalies	334	2 927	9	280	2 925	10
Childbirth, complications of pregnancy and the puerperium .. .. .	..	..	..	8 196	62 071	8
Certain causes (a) of perinatal morbidity and mortality	188	3 126	17	166	2 426	15
Symptoms and ill-defined conditions	1 822	14 924	8	1 804	11 978	7
Accidents, poisoning and violence	4 242	37 887	9	2 389	28 309	12
Other special admissions or consultations	448	3 725	8	1 229	8 395	7
Total	21 912	240 324	11	28 683	299 662	10

(a) Includes toxæmia of pregnancy, conditions of placenta, birth injury, etc.

Total days in hospital for 1974 were: males, 240 926 and females, 310 643.

Examination of the above table reveals that the seeming imbalance between total male and total female patients is largely accounted for by one classification: 'childbirth, complications of pregnancy and the puerperium'. If data under this classification were eliminated, then male patients would be nearly equal to female patients; the most significant classification affecting males is 'accidents, poisoning and violence' where males outnumbered females nearly two to one. One underlying cause is the greater exposure of males to industrial and road traffic accidents.

Chapter 16

LAW, ORDER AND PUBLIC SAFETY

LAW IN TASMANIA

Following British colonisation of Van Diemen's Land from 1803, a system of law and courts based on the Imperial system was established in the Colony. A description of the origin and evolution of Tasmanian law is included in the 1976 and earlier editions of the *Year Book*. This section describes the present system of law operating in the State.

The Criminal Law of Tasmania

In 1924 the *Criminal Code Act*, which codified and brought together the criminal law of Tasmania, was passed. This Act embodied the State's criminal law in the form of a code which was made a schedule to the 1924 legislation.

As a result of a review of the State's criminal law the *Criminal Code Act* 1973 was passed by Parliament. This statute embodied many important amendments to the Criminal Code; most of the changes stemmed from recommendations made by the Law Reform Committee of Tasmania. Among the more important changes were:

- (i) Repeal of the distinction between burglary and housebreaking. Prior to the 1973 Act the Criminal Code had perpetuated an archaic distinction between burglary which was committed at night and housebreaking which was committed by day.
- (ii) The more serious offence of aggravated burglary (i.e. where a person uses or carries a firearm or offensive weapon or uses force in the commission of a burglary) was incorporated in the code.
- (iii) A new offence of kidnapping was included.
- (iv) A section covering bomb threats was written into the legislation.
- (v) The infanticide provisions were extended to cover mothers of children up to 12 months of age.

Since passage of the *Criminal Code Act* 1973 further amendments have been made. The more important follow:

- (i) The provisions of the code relating to nuisance were revised and expanded to complement the *Environment Protection Act* 1973.
- (ii) The power of a judge to order whipping as a punishment for violent crimes was abolished.
- (iii) Section 124 was amended to make it a crime to have unlawful carnal knowledge of a girl under 17 years of age, i.e. the 'age of consent' was lowered from 18 years to 17 years. Consequently, amendments were also made to a number of other sections of the Code.

Juries

Tasmanian legislation regulating juries seems to have been first passed in 1830 although, for many years before that date, the introduction of the British system of trial by jury in civil and criminal cases had been persistently urged in the Colony. The *Hobart Town Gazette* shows that juries had been employed in the Colony for the trial of criminal cases from the establishment of the Supreme Court in 1824. Juries remain as the tribunal for trying indictable criminal cases and there is a limited right to a jury in civil actions, although in 1935 they were abolished for the purpose of trying motor accident cases.

Although the Tasmanian jury system was based on the English system it has, since 1934, embodied the principle of allowing *majority* decisions in certain circumstances instead of requiring the *unanimous* decisions once characteristic of jury usage in England and most other countries.

Civil cases have a seven-member jury and, if after three hours deliberation a seven-nil decision cannot be reached, a five-two decision is accepted. If the minimum five-two decision cannot be reached after four hours, the jury may be discharged.

In criminal cases, similar principles apply except that a 10-2 decision is accepted in lieu of 12-nil after stipulated periods of deliberation. In the case of murder, 12-nil is necessary to convict, but 10-2 can bring in a verdict of not guilty, or not guilty of murder but guilty of a lesser crime.

The Present Law Court System

Courts of Petty Sessions

For particular municipalities in the State, there is a Court of Petty Sessions. The Court is constituted by a magistrate (who must have been a legal practitioner or barrister for not less than five years) or by two or more lay justices. In major centres of population, a Court sits regularly and, in smaller centres, a Court sits less frequently or is convened as occasion requires.

A Court of Petty Sessions has jurisdiction over all summary offences and also over certain indictable offences at the option of the defendant. Under the *Justices Act 1959*, a defendant may choose summary trial in the Court of Petty Sessions when charged with the following crimes: (i) Escape or rescue; facilitating escape of a prisoner or harbouring an offender; assisting escape of a criminal lunatic; rescuing goods legally seized; making a false declaration (or statement). (ii) Stealing; killing an animal with intent to steal; unlawfully branding an animal; obtaining goods by false pretence; cheating; fraud in respect of payment for work; receiving stolen property. (In all these cases the value of the property concerned must exceed \$100 but not \$1 000. If the value does not exceed \$100 the defendant will be tried summarily. If it exceeds \$1 000 he will be committed for trial in the Supreme Court.) (iii) Breaking a building other than a dwelling-house. (It is necessary for the defendant to be committed to the Supreme Court for trial where it is alleged that in the commission of the offence: property to the value of more than \$1 000 has been stolen; violence has been used or offered to any person in or about the building; the person had in his possession a gun, pistol, dagger, cosh, or other offensive weapon; explosives were used; or the defendant intended to commit a crime other than stealing.) (iv) Forgery; uttering. (The complaint must be for an offence in respect of a cheque for not more than \$1 000.)

The following tables show the number of cases tried in the lower courts. (Minor traffic offences settled without court appearance are excluded.)

Courts of Request

These are constituted as courts with civil jurisdiction for particular municipalities in accordance with the authority given by the *Local Courts Act 1896*. Courts are held before a commissioner who is usually a magistrate. The Attorney-General fixes the dates on which these courts sit.

Every Court has jurisdiction throughout the State but a plaintiff may lose costs if he brings his action in a Court other than the Court nearest to which the cause of action arose.

The jurisdiction of a Court of Requests, which is a court of record, covers all personal actions where the debt or damage claimed does not exceed the maximum amount fixed under the Act. Since 1 November 1966, the sum of \$1 500 has been fixed as the maximum jurisdiction for a Court of Requests in respect of a debt or liquidated sum, and \$1 000 in any other case.

The Commissioner alone determines all questions of fact as well as of law and his decision is the judgment of the Court, unless a jury is required. In any action either party may require a jury as of right and there is power for the Commissioner to order that an action be tried by a jury, even though neither party has required it.

Law and equity are administered concurrently in the Court and the general principles of practice in the Supreme Court are adopted and applied in cases not expressly provided for in the Act or Rules.

Courts of General Sessions

A Court of General Sessions with civil jurisdiction is constituted under the *Local Courts Act 1896* for particular municipalities of the State. The cities are excluded, civil actions there being dealt with by Courts of Requests. A Court of General Sessions is constituted by a chairman (elected by the justices for the municipality) and at least one other justice. All questions are decided by a majority of the justices present and, if they are equally divided in opinion, the chairman has both a deliberative and a casting vote. If there is business requiring its attention, the Court sits at times fixed by the Attorney-General.

A Court of General Sessions has jurisdiction to deal with civil proceedings of a minor nature and the limit of the Court's jurisdiction has been fixed at the sum of \$100.

The Supreme Court of Tasmania

The Supreme Court of Tasmania is constituted by the Chief Justice, four Puisne Judges and one acting Puisne Judge. Regular sittings of the court are held at Hobart, Launceston and Burnie, although the Court is empowered to sit and act at any time and at any place for the exercise of any part of the jurisdiction and business of the Court.

The Court has jurisdiction over all causes, both civil and criminal, except those reserved for the High Court of Australia under the Australian Constitution. It also exercises federal jurisdiction in matters such as bankruptcy, etc. Its civil jurisdiction extends to all causes of action, whatever the amount involved may be, and its criminal jurisdiction includes the trial of all indictable offences. In civil cases, the Court has power to call in the aid of one or more assessors specially qualified to assist in the trial of the actions, but it is not bound by the opinion or advice of any such assessor.

The following table shows the number of convictions in the Supreme Court:

Supreme Court Convictions

Offences	1974		1975	
	Males	Females	Males	Females
Offences against the person—				
Murder	1	..	1	..
Attempted murder .. .. .	..	..	2	..
Manslaughter—Other than while driving	4	..	1	..
While driving	4	..	2	..
Dangerous or negligent driving	19	..	23	1
Rape	6	..	13	..
Other unlawful carnal knowledge	31	..	13	1
Incest	1	..	1	..
Other offences against females	3	..	11	..
Indecent practices between males	10	..	6	..
Unnatural carnal knowledge	2	..	5	..
Robbery	19	2	14	1
Malicious wounding	5	..	5	..
Aggravated assault	2	..	1	..
Common assault	12	..	8	..
Other offences against the person	2	..	3	..
Offences against property—				
Burglary; break and enter; break, enter and steal ..	95	2	119	2
Receiving, including possession of stolen goods ..	5	..	15	1
Fraud and false pretences	15	2	15	1
Arson, n.e.i.	6	..	..	..
Stealing	33	4	46	4
Other offences against property	2	..	8	..
Forgery and offences against the currency	6	3	12	2
All other offences	16	..	9	1
Total (a)	299	13	333	14

(a) There are fewer Supreme Court Cases tried than the number committed from the lower courts would lead one to expect. This is because: (i) *complaints* often embrace several *offences* in the lower courts; (ii) some cases are not proceeded with. Higher court cases often proceed under different offences titles from those under which the lower court committals were made.

The following table shows the number of convictions in the higher courts over a five-year period:

Supreme Court Cases: Convictions

Offences	1971	1972	1973	1974	1975
Offences against—The person	90	105	134	123	112
Property	290	210	188	164	211
Forgery and offences against the currency	6	5	3	9	14
All other offences	17	4	15	16	10
Total	403	324	340	312	347

There is an appeal to the Supreme Court of Tasmania from all inferior courts and from many statutory tribunals.

Law and equity are administered concurrently in the Court which is enjoined to grant, either absolutely or on such terms and conditions as seem just, all such remedies to which any of the parties may be entitled so that, as far as possible, all

matters in controversy between the parties may be completely and finally determined, and a multiplicity of legal proceedings avoided. The judges, on the recommendation of the Rules Committee, are empowered to make rules regulating the practice and procedure of all proceedings in the Court.

The jurisdiction of the Court is usually exercised by a judge of the Court and from his decision there is an appeal to the Full Court of the Supreme Court of Tasmania. A Full Court consists of three or more Judges of the Court. The Full Court is also a Court of Criminal Appeal under the Criminal Code. The latter is a Court to which appeals may be brought by the Crown or by an accused person where an indictable offence is involved. In some cases, there is an appeal as of right but, in other cases, special leave is required.

The High Court of Australia

This Court was created by the Constitution of the Commonwealth of Australia and it has both original and appellate jurisdiction. It is constituted by the Chief Justice of Australia and eight other Justices.

There is an appeal as of right to the High Court from the Supreme Court of the State in any civil matter where the sum involved amounts to at least \$3 000 or where the decision under appeal affects the status of any person under the laws relating to aliens, marriage, divorce, bankruptcy or insolvency. In other cases (including criminal cases) there is an appeal to the High Court if leave or special leave is granted.

Sittings of the High Court of Australia are held in each capital city and one sitting is held in Hobart each year if the volume of business warrants it. Otherwise, Tasmanian cases are usually heard either in Melbourne or Sydney.

Tribunals

There are many tribunals which are not true courts and the powers and functions of these depend upon the detailed provisions of the particular statute under which they operate. Certain specialised courts have been created by statute. For example there is the Wardens' Court constituted under the *Mining Act* 1929 and the Licensing Court under the *Licensing Act* 1932.

Coroners' Courts

Coroners are appointed by the Governor and have jurisdiction throughout the State. Under the *Coroners Act* 1957, a coroner may hold an inquest: (i) Concerning the manner of death of any person who has died a violent or unnatural death, who died suddenly without the cause being known, or who died in a prison, or mental institution; at the direction of the Attorney-General, he may also be required to hold an inquest concerning any death. (ii) Concerning the cause of any fire if the Attorney-General has directed, or has approved a request by the owner or insurer of the property; or at the request of the Fire Brigades Commission or the Rural Fires Board.

The coroner usually acts alone in holding an inquest, but either the Attorney-General or the relatives of the deceased may request that a four or six-man jury be empanelled. 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.

The duty of the Court is to determine who the deceased was, and the circumstances by which he came to his death. Medical practitioners and other persons may be summoned to give evidence. In the case of the death of an infant in a

nursing home, 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.

Children's Courts

A 'child' in this jurisdiction is one under the age of 17 years. The Court, before finally disposing of the case, must receive a report from a child welfare officer (the representative of the Director of Social Welfare), unless the Court considers the offence trivial or the Director decides not to provide one. A child's parent has the right to be heard and to examine and cross-examine witnesses, or to be represented by counsel; also a parent can be compelled to attend the hearing if this imposes no unreasonable inconvenience.

In summary proceedings, the Court is compelled not to enter a conviction against a child unless it imposes a sentence of imprisonment or there are special circumstances which indicate that a conviction should be recorded.

Children under 16 years cannot be sentenced to imprisonment and children of 16 years cannot be sentenced for more than two years, in aggregate. Minimum penalties imposed by statute do not apply to children; for those under 14 years the maximum fine is \$20, and for those over 14 years, \$50. The Court may impose a supervision order to bring the child under the guidance of a child welfare officer or, if over 15 years, of a probation officer. Alternatively, the Court may declare the child a ward of the State, placing him under the control of the Director of Social Welfare until his eighteenth birthday, unless released sooner; it may also direct that a ward be committed to an institution. In cases where further investigation appears necessary the Court may issue a remand for an observation order before it makes a final decision. Remands for observation orders are for short periods and usually provide for intensive supervision. (In the case of delinquency the maximum period for such an order is three months.)

Neglected or uncontrolled children are in the Court's jurisdiction; it may make a supervision order; an interim order (similar to a remand for observation order, the effect being to defer the transfer of guardianship until it is apparent that there is no suitable alternative); or impose wardship or bind the parents over to provide proper care and control, and comply with other directions. If parents have contributed to a child's offence, by failing to control the child, they may also be charged, convicted, fined, ordered to pay for damage and obliged to enter into a recognizance for the good behaviour of the child for up to 12 months.

Unlike a Children's Court, the Supreme Court is in no way inhibited in imposing a penalty on a child. In addition to its ordinary sentencing powers, it may make supervision or wardship orders, and commit a child to an institution. If a child is sentenced to imprisonment, the responsible Minister may direct that the sentence be served in a place other than a gaol.

Statistics of offences for which children were reported appear in Chapter 15 under 'Department of Social Welfare'.

Bankruptcy

On 4 March 1968, the Federal *Bankruptcy Act* 1966 (repealing the Act of 1924-1965) came into operation. The Federal Court of Bankruptcy generally exercises jurisdiction in N.S.W., A.C.T. and Victoria while the Supreme Court of Tasmania exercises federal jurisdiction in Tasmania.

Under the 1968 legislation, a person unable to meet his debts may voluntarily present to the Registrar in Bankruptcy a petition against himself and become a bankrupt under section 55; if the Registrar does not accept the petition and refers it to the Court, he may be directed to accept it. A creditor may apply to the Court for compulsory sequestration of a debtor's estate where the debt is not less than \$500. Where a debtor becomes bankrupt:

- (i) his property, not being after-acquired property, vests immediately in The Official Receiver in Bankruptcy; and
- (ii) his after-acquired property vests in The Official Receiver in Bankruptcy, or if a private trustee has subsequently been appointed, then in that trustee.

A debtor may avoid sequestration, in some circumstances, by authorising a registered trustee to call a meeting of his creditors and take over control of his property; or by authorising a solicitor to call a meeting of his creditors (Part X). The debtor's property is controlled by the trustee until the creditors resolve otherwise, or the Court orders otherwise, or a deed of assignment or arrangement is executed, or a composition is accepted, or the debtor dies or becomes bankrupt.

A person becoming bankrupt under the Act may be automatically discharged from bankruptcy after the expiration of five years (section 149) unless discharged earlier by the Court. Undischarged bankrupts at 4 March 1968 were discharged three years later (4 March 1971) or five years from the date of the sequestration order, whichever was the later (unless discharged earlier by the Court). The Registrar, trustee or a creditor may lodge an objection to this type of discharge, and if it is not withdrawn the debtor must apply to the Court under section 150 if he desires to be discharged.

The following table shows the number of bankruptcies and private arrangements together with the assets and liabilities of debtors:

Tasmania: Bankruptcy Proceedings

Particulars	1971-72	1972-73	1973-74	1974-75	1975-76
Bankruptcies and orders for administration of deceased debtors' estates—					
Number	156	151	69	75	94
Liabilities \$'000	1 090	470	660	636	1 158
Assets \$'000	438	189	154	280	451
Deeds of assignment, arrangement, compositions and schemes—					
Number	12	12	12	6	4
Liabilities \$'000	47	416	311	129	171
Assets \$'000	42	574	315	176	132
Total—					
Number	168	163	81	81	98
Liabilities \$'000	1 137	886	971	765	1 329
Assets \$'000	480	763	469	456	583

The Licensing Court

The State Licensing Court was set up under the *Licensing Act* 1932 and consists of a magistrate (who is the chairman) and two Government nominees. The Court is empowered to hear and determine: (i) applications for the granting of hotel and other liquor licences; (ii) applications for the registration or renewal of registration of clubs; and (iii) objections to (i) and (ii).

Since 1952 the *Licensing Act* has empowered the Court to determine the minimum standards of service, management, accommodation, structure and equipment which should apply to hotels and licensed restaurants, and also the qualifications required by persons holding or applying for licences.

The following table shows the total hotel bedroom accommodation available to the public during recent years:

Standard of Accommodation: Hotels

At 30 June	Total number of bedrooms	Number of bedrooms furnished with—	
		Private bath, shower, toilet and hand-basin	Handbasin with hot and cold running water
1971	3 566	1 228	1 950
1972	3 640	1 333	1 924
1973	3 928	1 751	1 797
1974	4 089	1 899	1 812
1975	3 836	1 899	1 450
1976	3 962	2 082	1 606

The Court's inspectors and the public health inspector make a thorough examination of each hotel prior to the annual sittings at which renewals of licences are considered. Reports are furnished for the information of the Court and the Tourist Department. An officer of the Fire Brigades Commission also carries out an annual inspection to ensure that each hotel complies with the requirements of the Commission.

The following table shows the number of operative licences and club registrations:

Licensed Hotels, Restaurants, Clubs and Wholesale Licences

At 30 June	Hotels (a)	Restaurants (b)	Registered clubs	Wholesale licences	Total
1970	264	16	146	30	456
1971	269	23	153	29	474
1972	269	22	156	29	476
1973	269	27	162	31	489
1974	274	42	164	45	525
1975	273	52	167	45	537

(a) Includes a small number of premises not providing accommodation and known as 'taverns'.

(b) Includes motels which have a licence for dining rooms only.

The Ogilvie ministry introduced 10 a.m. to 10 p.m. bar trading hours before World War II and, in the post-war period, Tasmania's 10 p.m. closing contrasted with 6 p.m. closing in S.A., Victoria and N.S.W. However, these States progressively liberalised their drinking laws, and by 1967 all had adopted late closing.

In 1967 the Tasmanian *Licensing Act* 1932 was amended to allow 11.30 p.m. closing on Friday and Saturday nights for those hotels which desired to observe these hours and which obtained the necessary permits; 10 p.m. closing was made the rule for other nights (excluding Sunday) with provision nevertheless to obtain extension permits for special functions. The permitted age for drinking on licensed premises was lowered from 21 to 20 years and lowered further to 18 years in 1973. Restaurants complying with defined conditions can obtain licences to sell

liquor and licensed restaurants can open until 11.30 p.m. six nights a week. Dining accommodation, kitchen specifications, etc., for licensed restaurants are strictly supervised.

The Wrest Point Casino Licence (granted by the Treasurer) permits certain categories of gaming until 3 a.m. seven days per week. As long as entertainment and dining facilities are provided the sale of liquor is allowed on the same basis under an *entertainment permit*. The entertainment permits are, in fact, available to any hotel or licensed restaurant which is able to provide the required entertainment. Other permits are: (i) *occasional permits*—for clubs or societies which are not registered; and (ii) *motel permits* which allow the extension of liquor services to lodgers' rooms if the motel has a restaurant licence.

The *Licensing (Trading Hours) Act 1975* amended the *Licensing Act 1932* and allowed all hotels and licensed clubs to set their own trading hours provided they traded for at least eight hours a day on five days of the week with Sunday trade limited to between noon and 8 p.m. The legislation, which adopted most of the Savas Committee of Inquiry recommendations on liquor licensing, came into operation at the same time as revised drink-driving laws. Sunday trading under the new law commenced on 21 December 1975.

PRISONS

General

The establishment, regulation and conduct of prisons and the custody of prisoners in Tasmania are provided for under the *Prison Act 1868* and 1908. Provision is made for the appointment, by the Governor, of a Controller of Prisons who is responsible for the supervision of gaols, including the initiation and implementation of correctional programs for prisoners and staff training schemes.

Two Justices of the Peace are appointed for each institution each year to act as Visiting Justices. They visit the prison at least once per month to examine the treatment, behaviour and condition of prisoners, and the condition of the prison. They hear complaints with regard to offences committed in the gaol, and have power to punish offenders by extending the term of imprisonment.

The main prison in Tasmania is at Risdon near Hobart, which has, as an outstation, the Farm Gaol at Hayes in the Derwent Valley. The Launceston Prison functions as a holding centre for prisoners from the northern districts of the State prior to their transfer to Risdon.

The following table shows Prisons Department expenditure from Consolidated Revenue:

Prisons Department: Expenditure From Consolidated Revenue
(\$'000)

Particulars	1971-72	1972-73	1973-74	1974-75	1975-76
Total expenditure	1 096	1 216	1 481	2 089	2 326
Net receipts (a)	33	75	84	70	85
Net expenditure ..	1 063	1 141	1 397	2 019	2 240

(a) From prison industry and gaol farm activities described later in the text.

Capital Punishment

The death sentence has not been carried out in Tasmania since 1946, but judges pronounced the sentence from time to time until 1968; in October 1968, the Attorney-General introduced a bill to abolish capital punishment and this was passed by the Parliament in December of that year.

Prisoners Received and Discharged

In the following table giving details of prisoners received into and discharged from Tasmanian prisons, no distinction is made between those on remand and those convicted and sentenced to imprisonment. (Figures for H.M. Prison, Risdon, include those held in custody at the Hayes Farm Gaol.)

Prisoners Received and Discharged (a), 1974-75

Particulars	Risdon Gaol		Launceston Gaol		Total	
	Males	Females	Males	Females	Males	Females
In custody at 30/6/1974 ..	337	9	3	..	340	9
1974-75—						
Received	725	51	530	18	1 255	69
Transferred (b)	+345	+10	-345	-10	..	..
Discharged	1 053	68	183	8	1 236	76
In custody at 30/6/1975 ..	354	2	5	..	359	2

(a) Includes persons on remand.

(b) Transfers from Launceston to Risdon.

Prisoners' Offences

The following table shows the offences for which convicted prisoners were received:

Offences for Which Convicted Prisoners Were Received in the State During 1974-75

Offence for which convicted	Males	Females	Persons	
			Number	Proportion of total
Stealing	485	6	491	per cent 21.31
Burglary	332	..	332	14.41
Drive whilst licence suspended	180	..	180	7.81
Stealing of motor vehicle	166	..	166	7.20
False pretences	162	1	163	7.07
Failure to pay fines and costs	147	..	147	6.38
Injury to property	51	..	51	2.21
Exceed .08%	47	..	47	2.04
Assault	44	..	44	1.91
Dangerous driving	43	..	43	1.87
Drunk and incapable	36	3	39	1.69
Forgery	35	3	38	1.65
Uttering	30	3	33	1.43
Assault police	33	..	33	1.43
Escape from custody	28	..	28	1.22
Robbery with violence	26	1	27	1.17
Drunk and disorderly	26	1	27	1.17
Indecent language	21	..	21	0.91
Indecent assault	20	..	20	0.87
Drunken driving	18	..	18	0.78
Destroy property	17	1	18	0.78
Resist arrest	17	..	17	0.74
Other	311	10	321	13.93
Total (a)	2 275	29	2 304	100.00

(a) The number of offences exceeds the number of prisoners received since some prisoners were convicted of multiple offences.

The next table classifies convicted prisoners according to the number of their previous convictions:

Convicted Prisoners Received in the State During 1974-75, According to Number of Previous Convictions (a)

Prisoners	Number of previous convictions				Total
	Nil	One	Two	Three or more	
Number received	73	30	33	565	701
Percentage of total	10.4	4.3	4.7	80.6	100.0

(a) Previous convictions may not necessarily have involved imprisonment.

Age of Prisoners

Young offenders account for a high proportion of receptions. The proportion of convicted male prisoners under 25 years was: 62 per cent in 1970-71; 60 per cent in 1971-72; 61 per cent in 1972-73; 61 per cent in 1973-74; and 58 per cent in 1974-75. The following table shows the age of convicted prisoners admitted to gaol.

Ages of Convicted Prisoners Received in the State, 1974-75

Sex	Age group (in years)								Total
	16-17	18-19	20-24	25-29	30-39	40-49	50-59	60 and over	
Males ..	61	137	210	88	91	47	28	12	674
Females ..	5	6	6	2	2	2	4	..	27
Total ..	66	143	216	90	93	49	32	12	701

Parole and Remission of Sentences

Good conduct remissions of up to one-third of sentence for prisoners sentenced to over three months may be granted by the Governor of the State on the Controller's recommendation. Prisoners may also be paroled on licence for the balance of their sentences.

On 31 March 1976, the *Parole Act 1975* was brought into effect by proclamation. This Act repealed the *Inderterminate Sentences Act* and provided machinery for the appointment of a three-member board to deal with the granting of parole. This function was previously carried out by the State Governor on recommendations made by the Controller of Prisons.

Risdon Gaol

The Risdon Gaol, with provision for 333 prisoners, was opened in November 1960. Male prisoners were then transferred from the old Hobart Gaol and in June 1963, the Female Prison, the first entirely separate gaol for women to be built in the State, was opened on the Risdon site. The following table shows the daily average and highest number of prisoners at Risdon Gaol over a five-year period:

Number of Prisoners, Risdon Gaol (a)

Prisoners	1970-71	1971-72	1972-73	1973-74	1974-75
Maximum number	414	406	398	388	366
Daily average	386	373	371	344	342

(a) Includes Hayes Farm Gaol.

The Risdon Gaol incorporates workshops which serve as a basis for vocational and trade training in such subjects as woodworking, tailoring, sheet metal working, laundry and breadmaking. Educational services include instruction during working hours for illiterate and semi-literate prisoners; private study during evenings in general academic subjects to Secondary Schools Certificate standard; correspondence courses in University, School Certificate, Higher School Certificate and various technical and commercial subjects; tuition in English for migrants; and training in art and allied subjects. A classification committee interviews all prisoners on admission and decides on each individual's training program.

Groups meet regularly for wood carving, art, pottery, toy making, chess and dramatics. Feature and documentary films are screened fortnightly. The Prison Debating Society has been re-organised and, apart from weekly meetings, debates regularly against outside teams. The Education Section publishes the prison magazine 'Verbal' each month. A comprehensive sports program is conducted, including athletics, gymnastics and competitions in cricket, volley ball, basketball and football.

The State Library of Tasmania helps with the prison library, providing a generous supply of books on a rotational basis, to supplement the stock of books owned by the Department. Over 5 000 volumes are immediately available for selection and prisoners may order books of special interest from the State Library System. The prison library has recently been re-located to develop the library atmosphere. Some 1 100 books are borrowed weekly from the library, all records being kept by prisoner librarians who receive advice from State Library officers.

Prison industries produce articles for government departments and institutions. The following table shows the receipts for prison industries over a five-year period. A laundry installed in 1963 contributes to receipts from sales and services but the amounts are not a true indication of value to the Government, as laundry and other services are provided at a nominal figure for hospitals and other government institutions.

Gaol Suspense Account (Prison Industries)
(\$)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Receipts (a)	101 895	134 000	143 783	145 045	184 672	192 132
Paid to Consolidated Revenue	9 309	28 415	50 209	40 850	35 329	27 834

(a) Maintenance and material charges are met from receipts, the balance being paid to Consolidated Revenue in the following year.

Hayes Farm Gaol

The Farm Gaol at Hayes ('Kilderry') is an outstation of the Risdon Prison. It is used to prepare men for a normal way of life through operation of the honour system. Up to 90 prisoners who are regarded as being worthy of trust, regardless of their age, length of sentence or type of offence, are held there.

The following table shows the receipts from sale of farm produce and the amounts paid to Consolidated Revenue over a five-year period:

Gaol Farm Suspense Account
(**\$**)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Receipts (a)	84 016	109 398	131 440	170 302	174 506	197 173
Paid to Consolidated Revenue	15 825	4 734	24 612	42 671	34 504	57 623

(a) Maintenance and material charges are met from receipts, the balance being paid to Consolidated Revenue in the following year.

The 567-hectare property has been developed into a model farm with a great diversity of farming activities. These include approximately 26 hectares for vegetables; a registered stud of friesian cattle and herefords; about 2 000 sheep for wool and fat lambs; a registered herd of berkshire pigs; poultry; cropping of wheat, oats, lucerne and hay; breeding of children's ponies; hot house cultivation; and an experimental shrub and tree nursery, etc. In May 1969, 125 hectares of land was purchased near New Norfolk. This property, about two kilometres north of the Hayes prison farm functions as an annexe to the Hayes property. During 1970-71 a sawmill was established on the property. A further 100 hectares adjacent to this property was purchased during 1974-75. The Royal Derwent Hospital farm of 297 hectares, including the dairy herd and poultry section, was transferred to the Prisons Department during 1971. Whole milk is produced and sold in bulk for general use. Building construction activities and machinery maintenance workshops also provide employment, but this range of prison industries is more limited than at Risdon. Similar educational and recreational facilities to those at Risdon are provided.

The Probation and Parole Service

The service is a division of the Attorney-General's Department and comprises a total of 41 Probation and Parole Officers, including the Principal Probation and Parole Officer. The Service's head office is located in Hobart and there are district offices at Launceston and Burnie with branch offices at New Norfolk, Bellerive, Launceston, Devonport and Queenstown.

The main function of the Service is to provide supervision of persons released from the courts on probation and those released from prison on probation or parole. Counselling in respect of personal and family matters is offered, as is practical assistance aimed at providing suitable employment and accommodation. Social re-orientation discussion groups for those under supervision are held regularly, and remedial teaching classes are also a feature of the Service. The Service also administers the community Work Order Scheme which is designed to provide a method of treatment of offenders as an alternative to imprisonment.

THE TASMANIA POLICE

Historical

Earliest attempts in Van Diemen's Land to preserve a semblance of law and order differed markedly in effect and success. In 1804 Hobart Town and Port Dalrymple (now Launceston), were separately administered, the former under Lieutenant-Governor Collins, and the latter by Lieutenant-Governor Paterson. Collins brought from the Port Phillip Bay settlement a civilian 'Night Watch'

whose ineptitude led to disbandment in 1806. Law enforcement then became a provisional task for the military. At Port Dalrymple, Paterson formed a small but effective police nucleus by appointing Thomas Massey as Chief Constable in charge of three subordinate constables.

Financial strictures inhibited police affairs until 1810 when Governor Lachlan Macquarie ordered the establishment of a Police Fund. Progress was made thereafter and by 1820 a Superintendent had been appointed and the first police regulations published. First police headquarters were housed in 1826 on the Corner of Bathurst and Elizabeth Streets, in the former 'Waterloo Store'. Growth necessitated more ample space and in 1841 a larger station was built in Murray Street; this is now the Treasury Building.

Governor Arthur exercised shrewd foresight in 1828 by dividing the Colony into nine districts, each with a police magistrate responsible to a chief police magistrate in Hobart Town. The system proved to be a good and highly adaptable one, lasting until the era of responsible government begun in 1856. During the 1860's municipalities were empowered to appoint their own police, supported by local revenues. Hobart, Launceston and 19 municipalities were soon maintaining their own forces, while in electoral areas lacking municipal status 'Territorial Police' preserved order. Until 1898 29 'Forces' operated within a confused pattern of varying administrative efficiency with overall poor communications and liaison.

Finally, in 1898, a parliamentary majority instituted a more logical system. All police forces were amalgamated and municipal control was placed under the provisions in *Act 62 Victoria*, No. 48. This passed in October 1898 as *An Act to Make Better Provision for the Appointment and Regulation of the Police Force in Tasmania*. In the same year the first Commissioner was appointed and the same basic system has continued to the present, its inherent flexibility permitting frequent inclusion of needed modernising requirements.

The Present Force

Organisation

The Police Department is headed by the Commissioner who is responsible to the Minister for Police. The highest uniform rank is Chief Superintendent; this position controls and co-ordinates all police administrative functions. There are four districts with headquarters in Hobart, Glenorchy, Launceston and Burnie—each has a superintendent in charge. The Police Force has four branches (Uniform, Criminal Investigation, Training and Traffic) each under the control of a superintendent.

Recruitment and Training

Two schemes operate, one for adults, and another for Police Cadets: (i) Adult intakes comprise males from 19 years and females from 22 years. Each course runs for approximately 20 weeks. (ii) Cadet courses are drawn from youths aged 16 to 18 years with appropriate qualifications. Cadets are resident at the new Police Academy at Rokeby for a (minimum) two years course. Up to 120 cadets can be accommodated and trained at one time and there are full training and in-service course facilities for adults. The Academy has residential blocks, a shooting range, parade ground, armoury, library and lecture hall-theatre. Class-rooms are equipped with audio-visual educational devices, including closed-circuit television. A driving training complex is nearing completion.

Criminal Investigation

Within the Criminal Investigation Branch are the following sub-sections: (i) *Communications* which operates interstate and intrastate radio and telex systems. Radio is installed in all police vehicles, boats and most motor cycles. Personal 'walky-talky' units have been issued to beat police in Hobart and Launceston since 1971. (ii) *Fingerprinting* has on file nearly 100 000 fingerprint sets. These include sets of prints from all fingers and thumbs of each hand, and 'Singles Crime Scene' files of individual prints. Interstate and overseas sources supply many thousands of sets yearly. All prints are checked with the Central Fingerprint Bureau in Sydney and classified. (iii) *Information Bureau* maintains modern equipment for ballistic examination, detection of forged documents and a complete photographic section. It also compiles and provides data on criminals and missing persons.

Traffic Branch

This branch is responsible for enforcing regulations for the Transport Commission and deploys some 400 vehicles, including motorcycles. It makes use of sophisticated mechanical, electronic and 'Breathalyser' devices.

Uniform Branch

This branch maintains beat patrols on foot and in conjunction with vehicle patrols. Beat police are equipped with 'walky-talky' radios and are in constant touch with their bases.

Other Sections

Task Force: This was created in 1974 and operates only at night. It is highly mobile and has proved to be a highly effective deterrent.

Search and Rescue: A well equipped volunteer search and rescue squad is based at Hobart. Training for squad members includes techniques of resuscitation, rescue in bush, mountains, cliffs, and at sea, or underwater. The squad receives active support from walking, climbing and sailing clubs. A powerful 15.8 metre motor launch *Vigilant*, suitable for shallow or deep water work and with a sea range of 1 300 kilometres is kept on standby. Smaller police craft are stationed at points around the State coastline.

Licensing and Gaming: The section is responsible for inspection of licensed premises, supervision of gaming and enforcement of regulations.

Prosecution Section: Is responsible for preparation of briefs and promotes prosecutions on behalf of all police branches.

Strength of Force

The following table shows the number of police and expenditure:

Tasmania Police: Number and Cost

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Police officers (a) no.	796	879	892	940	976
Persons per police officer (a) .. no.	490	446	444	426	416
Cost (total expenditure of Police Department) \$'000	4 869	6 220	7 954	9 118	13 738
Cost per head of mean population \$	r 12.49	15.85	20.14	r 22.85	33.99

(a) At 30 June.

EMERGENCY SERVICES**State Emergency Service***Introduction*

Following a series of discussions at federal and state level the Tasmanian Government, in 1962, decided, in common with other states, to establish a Civil Defence and Emergency Services Organisation for Tasmania. The Government considered that in addition to its intended role in time of war the organisation should be organised and trained to assist in combating natural emergency situations. A Director of Civil Defence and Emergency Services was appointed to plan the new organisation and exercise overall control of volunteer units. In April 1975 the title was changed to State Emergency Service in common with other states.

Emergency Services Act

On 1 July 1976, the *Emergency Services Act* came into force. This legislation formally established the State Emergency Service, and set up a counter-disaster control structure for dealing with any major emergency or disaster that might affect the State. Under this legislation the State Emergency Service was given wider functions and responsibilities, and the responsibilities of municipalities and other bodies were also spelled out. Under the Act, when a state of disaster is declared, command is vested in a State Disaster Executive, consisting of the Commissioner of Police, the Director of Emergency Services, and the Ministerial Liaison Officer (Emergency Services).

State Organisation

Ministerial responsibility for Civil Defence and Emergency Services in Tasmania is now vested in the Minister for Police and Emergency Services. Local government authorities have the responsibility of sponsoring a volunteer unit for their municipality and appointing a local controller to raise, train and control it. Until 30 June 1976, participation by councils was voluntary and as at 1 July 1976, 45 municipalities had joined the organisation.

Functions

The State Emergency Service has the responsibility for ensuring that the community is adequately prepared to meet any disaster situation that may arise. To this end the Service has the roles of co-ordinating emergency planning, provision of and co-ordination of emergency training, and co-ordinating all supporting and ancillary emergency organisations in support of police and other authorities in time of emergency or disaster.

The Service's training wing is responsible for general oversight of all training within voluntary municipal Emergency Service Units. It provides instruction to sections of the community on matters relating to emergency planning and operations in hospitals, schools, and high-rise buildings.

Administrative Structure

State Emergency Service administration in Tasmania is organised on a three-level basis; municipal, regional, and State. The State is divided into three regions, centred on Hobart, Launceston and Burnie. Each region is administered by a full-time regional officer assisted by a staff officer, and operations within regions are co-ordinated from regional headquarters within the relevant town.

State headquarters (Hobart) is also responsible for maintaining and operating the State Disaster Headquarters. The centre is put into action in event of any major emergency.

Recruitment and Training

By July 1976, some 2 300 persons had volunteered for service at the municipal and regional level. Training is undertaken at State and Regional Headquarters and at the municipal level, while advanced training is provided at the National Emergency Services College at Mount Macedon, Victoria.

Equipment and Finance

Protective clothing and operational equipment for the units of the various services are provided annually by the Federal Government through the Natural Disaster Organisation. All other funding is by the State Government—appropriation for 1975-76 was \$163 930.

Fire Prevention and Fire Fighting*Fire Brigades Commission of Tasmania*

The *Fire Brigades Act* 1945 provided for the creation of the Fire Brigades Commission of Tasmania to co-ordinate the activities of existing fire brigade boards, while leaving the responsibility for individual control and management with the boards. The Commission comprises the following: two persons nominated by the Minister; one person representing the City and Municipal Councils; one person nominated by the Chairman of the Rural Fires Board; three persons representing the insurance companies and one employees' representative.

There were, at 30 June 1975, 23 boards controlling 40 stations, and their aggregate staffs numbered 756 (officers and firemen), comprising 265 permanent personnel, 451 part-time firemen and 40 volunteers. The volunteers all operate under the Hobart Board in the forested and mountainous Fern Tree area. Contributions towards the cost of operations are on the basis of 22.5 per cent each from the Treasury and the municipalities and 55 per cent from the insurance companies concerned. Details of finances for 1975-76 are shown below:

Fire Brigades: Principal Sources of Revenue, 1975-76
(\$'000)

Contributions received by Fire Brigades Commission	Receipts	Distribution made by Fire Brigades Commission	Payments
From—		To—	
State Government	893	Fire brigade boards	3 978
City and municipal councils	901		
Insurance companies	2 184		
Total	3 978	Total	3 978

Rural Fires Board

Following the fire disaster of February 1967, the Rural Fires Board was reorganised under the *Rural Fires Act* 1967 and became fully operative in July 1968.

The Rural Fires Board operates under a chairman appointed by the Governor and consists of 16 members representing: Forestry Commission (two members); Police; Fire Brigades Commission; pulp and paper making industry management; sawmilling industry management; Hydro-Electric Commission; Fire and Accident Underwriters' Association; Tasmanian Farmers' Federation; Tasmanian Farmers', Stockowners' and Orchardists' Association; Australian Workers' Union; Timber Workers' Union; Rural Fires Brigade and State Emergency Service.

Under the Act, the municipal councils, through fire permit officers approved by the Board, are made responsible for the control and issue of permits for fire used for clearing vegetation during restricted periods. Fire use is controlled during only two periods, that is, during *fire danger periods*, when permits are required, and on days of *total fire ban* when no fires are permitted. These periods are introduced and removed as the seasonal conditions dictate in various parts of the State. The Act requires each municipal council to form a municipal fire committee for the purpose of promoting the formation of rural fire brigades and advising the Board and the Council on matters of fire restriction, hazard reduction, the provision of funds for purchase of equipment to be used by rural fire brigades and any other fire control matters. Areas with particular fire problems and sparse population may be declared as *special fire areas* and be the subject of separate schemes sponsored entirely from Government finance.

The Board's paid staff is headed by the State Fire Control Officer and includes six Regional Fire Control Officers. There were approximately 330 rural fire brigades at 30 June 1976. These brigades are composed entirely of registered volunteers, involving approximately 8 150 people. The Board's budget in 1975-76 was \$1 015 860 comprising: \$577 720 for Board Administration Expenditure; \$265 140 for the development of Special Fire Areas (includes capital items); \$148 000 for the development of Hobart Special Fire Area (includes capital items); \$22 000 for subsidy grants to municipal councils; and \$3 000 for workers' Compensation cover for brigade members. Half the administrative expenditure of the Board is met by insurance companies insuring rural properties, and half by the Government. Special Fire Area grants to councils and workers' compensation expenditure is borne by the Government. Hobart Special Fire Area expenditure is borne by the Government and the Hobart, Glenorchy and Kingborough Councils.

Forestry Commission

The Commission is responsible for the protection of the State forests (1.4 m hectares) and of other forested Crown land. Close liaison is maintained with the Rural Fires Board as two members of the 16-man Board are representatives from the Forestry Commission. The following table gives details relating to fire damage for the last 10 years:

Comparisons of Seasonal Fire Damage

Year	Area burnt (a)	Fires	Suppression cost	Year	Area burnt (a)	Fires	Suppression cost
	hectares	no.	\$		hectares	no.	\$
1965-66 ..	52 264	317	54 968	1970-71 ..	8 663	114	22 493
1966-67 ..	172 485	264	108 018	1971-72 ..	1 826	95	13 841
1967-68 ..	38 730	230	61 032	1972-73 ..	140 900	305	262 531
1968-69 ..	4 535	87	18 722	1973-74 ..	6 054	62	23 688
1969-70 ..	6 221	118	21 963	1974-75 ..	2 300	48	18 205

(a) Includes private property inside the perimeter of fires on which suppressive action was taken.

During 1974-75, 1 217 hectares of State forest and Crown land were burnt including 387 hectares of scrub wasteland and 830 hectares of forested land.

Chapter 17

LABOUR, PRICES AND WAGES

EMPLOYMENT

Historical

Tasmanian records for the first 90 years give no dissection of the population such that the total number of wage and salary earners can be accurately ascertained. The first census to provide the necessary analysis was that of 1891, the categories used on that occasion and in subsequent censuses being broadly comparable. The composition of the labour force is shown in the following table for each census from 1901 to 1961:

Elements of Labour Force: Censuses of 1901-1961

Year and sex	Employer	Self-employed	Employee	Helper not receiving wage or salary	'Not at work' (a)	Total in labour force	Total population
1901—Males	6 213	9 100	36 063	4 098	1 810	57 284	89 624
Females	462	2 434	10 229	2 071	356	15 552	82 851
Persons	6 675	11 534	46 292	6 169	2 166	72 836	172 475
1911—Males	8 477	6 742	40 555	3 916	1 492	61 182	97 591
Females	642	1 249	10 715	411	326	13 343	93 620
Persons	9 119	7 991	51 270	4 327	1 818	74 525	191 211
1921—Males	4 445	13 309	42 763	1 875	3 606	65 998	107 743
Females	347	1 593	11 484	67	510	14 001	106 037
Persons	4 792	14 902	54 247	1 942	4 116	79 999	213 780
1933—Males	7 277	11 887	38 084	1 752	10 226	69 226	115 097
Females	798	1 423	13 082	116	1 442	16 861	112 502
Persons	8 075	13 310	51 166	1 868	11 668	86 087	227 599
1947—Males	6 718	12 522	58 097	997	1 867	80 201	129 244
Females	659	1 198	17 693	86	481	20 117	127 834
Persons	7 377	13 720	75 790	1 083	2 348	100 318	257 078
1954—Males	6 886	12 616	72 481	778	1 215	93 976	157 129
Females	788	1 329	21 590	246	279	24 232	151 623
Persons	7 674	13 945	94 071	1 024	1 494	118 208	308 752
1961—Males	7 108	11 619	78 863	505	3 194	101 289	177 628
Females	1 113	1 572	25 853	194	896	29 628	172 712
Persons	8 221	13 191	104 716	699	4 090	130 917	350 340

(a) Includes those who stated they were usually engaged in work, but were not actively seeking a job at the time of the census by reason of sickness, accident, etc., or because they were on strike, changing jobs, temporarily laid off, etc. It also includes persons able and willing to work, but unable to secure employment, as well as casual and seasonal workers not actively engaged in a job at the time of a census.

Labour Force and Employment

It is essential to distinguish between 'labour force' and 'employees' since *employment* statistics in this chapter relate mainly to wage and salary earners, who are, however, *only one component of the labour force* which also comprises employers, self-employed persons, unpaid helpers and unemployed persons. The category 'not at work' shown in the preceding table was first established in the 1947 Census and the comparison with earlier years is only approximate. For further details, see subsequent section headed 'Unemployment'. Data from the 1966 and 1971 Censuses (shown in the next section) could not be included in the previous table because of a changed method of collecting information.

Labour Force

From the 1966 Census, a new set of questions (based on activity in the week before the Census) was asked to establish who should be included in the labour force. The composition was as follows:

Elements of Labour Force: Censuses, 1966 and 1971 (a)

Year and sex	Employer	Self-employed	Employee	Unpaid helper	Unemployed	Total in labour force	Total population
1966—Males	8 245	9 162	87 572	432	1 146	106 557	187 390
Females	1 759	1 644	35 451	940	971	40 765	184 045
Persons	10 004	10 806	123 023	1 372	2 117	147 322	371 435
1971—Males	6 841	8 442	90 627	277	1 786	107 973	196 442
Females	1 727	1 892	39 649	760	1 261	45 289	193 971
Persons	8 568	10 334	130 276	1 037	3 047	153 262	390 413

(a) See chapter 6 for a dissection of employed population by industry group.

The new approach to labour force classification was as follows: in pre-1966 censuses people had been invited to classify themselves (e.g. as unemployed, employee, etc.) but in 1966 and 1971, people were invited to describe their *activity* in a specific week and the Statistician, using pre-determined definitions, classified them on the basis of their answers.

Briefly, the new questions asked whether the person: (i) had a job or business of any kind last week (even if temporarily absent from it); (ii) did any work at all last week for payment or profit (unpaid helpers who worked were to answer *yes*); (iii) was temporarily laid off by his employer without pay for the whole of last week; and (iv) looked for work last week (ways of 'looking for work' were specified on the Census form).

The 1966 and 1971 labour force included all persons answering *yes* to any one of these four questions. The effect of the new definition was to include additional persons in the labour force. This applied particularly to those working part-time (sometimes for only a few hours a week), some of whom in 1961 may not have considered themselves as '... engaged in an industry, business, profession, trade or service'. The main difference in classification between the 1901-1961 table and the 1966-1971 table is the substitution of the category 'unemployed' for the former category 'not at work'.

The total of persons recorded as unemployed in 1966 and 1971 was compiled from persons answering *no* to questions (i), (ii) and (iii) and *yes* to question (iv).

Intercensal Labour Force Estimates

Labour Force Survey

Population censuses tend to be expensive undertakings and are therefore held only at five-yearly intervals. However the demand for regular *census-type* information exists right through the intercensal periods; the most sought data are those describing the labour force.

To meet this demand, the Bureau designed in 1960 a special sample of private households and non-private dwellings under the title 'population survey'; and it trained teams of interviewers to contact the selected sample units by personal visit with the aim of filling in questionnaires on the spot.

The population survey can be used to collect an extremely wide range of data but the main routine application has been the quarterly labour force enquiry, conducted in February, May, August and November of each year. The questionnaire is filled in for persons 15 years and over within each sampled unit and the definitions of employment, unemployment, etc. are basically the same in concept as those used in population censuses.

Naturally the estimates are subject to sampling error. The specialist reader is referred to the Bureau's federal publication *The Labour Force* where tables appear stating the standard error associated with the estimates in specific size ranges.

The following table gives details of elements of the civilian labour force based on estimates derived from recent quarterly population surveys. Figures for May 1975 and earlier periods have been revised on the basis of results of the 1971 Population Census. Previously published figures were based on 1966 Census data.

Civilian Population 15 Years of Age and Over, by Employment Status (a)—Revised Series

Month	Employed (b)			Unemployed (c)		Total labour force (d)		Not in labour force ('000)	Civilian population aged 15 and over ('000)
	Agri-culture ('000)	Other industries ('000)	Total ('000)	Number ('000)	Per cent of labour force	Number ('000)	Per cent of population		
MALES									
1974—									
February	12.0	99.5	111.5	2.7	2.4	114.2	82.2	24.7	138.9
May ..	11.9	99.0	110.9	2.0	1.8	113.0	81.0	26.5	139.5
August ..	12.6	98.3	110.8	2.3	2.0	113.1	81.0	26.6	139.7
November	11.4	98.6	110.1	2.9	2.6	113.0	80.3	27.7	140.6
1975—									
February	11.4	99.6	110.9	3.1	2.7	114.1	80.8	27.2	141.2
May ..	10.4	99.6	110.0	3.3	2.9	113.3	79.9	28.5	141.8
August ..	10.3	100.6	111.0	3.8	3.3	114.8	80.4	27.9	142.7
November	10.3	99.2	109.5	3.9	3.5	113.4	79.1	29.9	143.3
1976—									
February	9.7	100.3	110.1	4.8	4.2	114.9	79.7	29.2	144.1
May p ..	9.3	102.2	111.5	3.7	3.2	115.1	79.6	29.5	144.6

Civilian Population 15 Years of Age and Over, By Employment Status (a)

Revised Series—continued

Month	Employed (b)			Unemployed (c)		Total labour force (d)		Not in labour force ('000)	Civilian population aged 15 and over ('000)
	Agriculture ('000)	Other industries ('000)	Total ('000)	Number ('000)	Per cent of labour force	Number ('000)	Per cent of population		
FEMALES									
1974—									
February	1.9	48.0	49.9	2.6	5.0	52.5	37.3	88.3	140.8
May ..	1.9	48.6	50.5	2.1	4.0	52.6	37.1	89.0	141.6
August ..	2.5	49.9	52.4	(e)	2.6	53.8	37.9	88.2	142.1
November	2.9	50.8	53.7	2.5	4.4	56.2	39.1	87.4	143.6
1975—									
February	2.4	50.1	52.5	4.2	7.4	56.7	39.3	87.5	144.2
May ..	2.8	49.7	52.4	3.4	6.1	55.8	38.4	89.5	145.3
August ..	3.1	49.8	52.9	3.0	5.4	56.0	38.4	89.8	145.8
November	2.9	52.4	55.2	4.1	6.9	59.3	40.5	87.2	146.6
1976—									
February	2.4	52.5	55.0	5.1	8.6	60.1	40.8	87.2	147.3
May p ..	3.1	51.7	54.8	4.7	7.9	59.5	40.4	87.7	147.2
PERSONS									
1974—									
February	13.8	147.5	161.4	5.3	3.2	166.7	59.6	113.0	279.7
May ..	13.8	147.6	161.4	4.1	2.5	165.5	59.0	115.5	281.0
August ..	15.0	148.2	163.2	3.6	2.2	166.9	59.3	114.8	281.7
November	14.3	149.5	163.8	5.3	3.2	169.1	59.5	115.1	284.2
1975—									
February	13.8	149.7	163.4	7.3	4.3	170.7	59.8	114.7	285.4
May ..	13.1	149.3	162.5	6.6	3.9	169.1	58.9	118.0	287.1
August ..	13.4	150.5	163.9	6.8	4.0	170.7	59.2	117.7	288.5
November	13.2	151.5	164.7	8.1	4.7	172.8	59.6	117.2	289.9
1976—									
February	12.2	152.9	165.0	9.9	5.7	175.0	60.0	116.4	291.4
May p ..	12.3	153.9	166.3	8.3	4.8	174.6	59.8	117.2	291.8

(a) This series is based on a quarterly survey of a sample of the population. The estimates relate to all persons aged 15 years and over with the exception of members of the permanent armed forces and certain diplomatic staff.

(b) Includes all those who, during the survey week: (i) did any work for pay or profit, or (ii) worked 15 hours or more without pay in a family business (or farm), or (iii) had a job, business or farm but were not at work because of illness, holidays, etc. Included in this category are employers, self employed persons and employees in agriculture and private domestic service.

(c) Includes all those who, during the survey week, did no work at all and who: (i) did not have a job and were actively seeking work, or (ii) who were laid off without pay for the whole week.

(d) Includes all those classified as employed or unemployed during the survey week.

(e) Subject to sampling variability too high for most practical uses.

Definitional Differences

Later sections of this chapter give details of the monthly employment series which excludes: (i) employers; (ii) the self-employed; (iii) unpaid helpers; and (iv) employees in agriculture, private domestic service and defence forces. However the labour force series (above) covers all these classes of persons with one exception, the defence forces.

Later in this chapter is an unemployment series based on persons registered with the Commonwealth Employment Service. Since registration is a voluntary act, the unemployment figures appearing in the labour force series will differ from the registration series (in the former series 'actively looking for work' is the basis of the unemployment classification).

Monthly Series of Employment Statistics

The employment series in this section and the later section 'Industrial Classification of Employees' are based on data (referred to as *bench-marks*) derived from the Population Census of 1971. Previously published figures were based on 1966 census data and have therefore been revised.

Estimates for the period subsequent to the 1971 census have been derived from three main sources: (i) current pay-roll tax returns; (ii) current returns from government bodies; and (iii) some other direct records of current employment. The figures are supplemented by estimates of the change in employment in areas not covered by these direct collections.

The Australian Standard Industrial Classification is the industry classification now used throughout the series. The industry dissection of the bench-mark has been adjusted, as far as possible, to an enterprise or establishment basis which is the basis for classification of subsequent estimates.

Prior to January 1976, all employers (other than certain exempt organisations) paying more than \$400 a week in wages were required to lodge pay-roll tax returns. The exemption level was raised to \$800 from January 1976 but the change had little effect on employment estimates.

It should be noted that employees in rural industry and in private domestic service are not included in the estimates because of the inadequacy of current data. The terms 'employment', 'number employed', 'employees' and 'wage earners' used throughout are synonymous with, and relate to, 'wage and salary earners' on pay-rolls or in employment in the latter part of each month, as distinct from numbers of employees actually working on a specific date. They include some persons working part-time.

Figures for recent periods are subject to revision. As they become available, particulars of employment obtained from other Bureau collections are used to check and, where necessary, to revise estimates in relevant sections.

The table below gives estimated totals for employees in Tasmania at June and December of each year:

Wage and Salary Earners in Civilian Employment, June and December (Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces)—Revised Series
(*000)

Year	June			December		
	Males	Females	Persons	Males	Females	Persons
1971	86.7	38.9	125.5	86.6	39.8	126.4
1972	87.2	39.6	126.8	88.2	41.0	129.2
1973	87.9	41.3	129.2	89.8	43.3	133.1
1974	89.6	44.1	133.7	90.5	44.7	135.2
1975	90.7	46.6	137.3	89.3	46.4	135.7
1976	88.2	46.8	135.0			

The detailed study of employment trends requires examination of monthly figures, so the next table has been compiled to show totals of employees for each month:

Wage and Salary Earners in Civilian Employment, Monthly Estimates (Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces)—Revised Series
(*000)

Month	1974			1975			1976		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
January ..	90.0	42.5	132.4	90.1	44.1	134.2	88.9	45.2	134.1
February ..	89.9	43.2	133.1	90.6	44.4	135.0	88.9	46.2	135.1
March ..	90.1	44.0	134.2	90.4	44.8	135.3	89.1	47.1	136.2
April ..	90.0	44.2	134.2	91.1	45.8	136.9	89.0	46.9	135.9
May ..	90.1	43.7	133.9	91.0	46.4	137.4	88.5	47.0	135.5
June ..	89.6	44.1	133.7	90.7	46.6	137.3	88.2	46.8	135.0
July ..	89.3	43.6	132.8	90.4	46.8	137.3	88.5	47.1	135.6
August ..	89.0	43.8	132.9	89.9	46.6	136.6	88.3	47.2	135.5
September ..	88.6	43.7	132.4	89.7	46.5	136.3	88.1	47.3	135.4
October ..	88.8	43.7	132.5	89.6	46.3	135.9	88.2	47.7	135.9
November ..	89.5	44.2	133.7	89.1	46.1	135.3	88.6	47.9	136.5
December ..	90.5	44.7	135.2	89.3	46.4	135.7	89.2	48.3	137.5

Civilian Employees of Government Bodies

In Tasmania, as in other Australian states, a relatively high proportion of wage and salary earners is employed by government bodies operating at four levels: Federal, State, local and semi-government (with the complication that semi-government authorities may have been created by either Federal or State legislation). For the purpose of these statistics, government employees include persons working on government services such as railways, bus services, banks, post offices, power and light, air transport, education (including universities), radio, television, police, public works, government factories, departmental hospitals and institutions, etc., as well as those engaged in administrative services.

The following table shows the number of government employees in Tasmania according to the level of government:

Civilian Employees of Government Bodies at 30 June—Revised Series
(*000)

Year and sex	Level of government			Total
	Federal (a)	State (a)	Local	
1974—Males	5.8	18.8	2.5	27.1
Females	1.9	7.4	0.4	9.7
Persons	7.7	26.2	2.9	36.8
1975—Males	6.0	19.7	3.4	29.1
Females	2.1	9.5	0.5	12.0
Persons	8.1	29.2	3.9	41.1
1976—Males	5.9	19.7	2.5	28.1
Females	2.1	10.0	0.4	12.5
Persons	8.0	29.7	2.9	40.6

(a) Includes semi-government authorities.

The next table shows employees according to private and government sectors:

Total Civilian Employees of Private Employers and Government Authorities at 30 June—Revised Series ('000)

Year	Private employers			Government authorities		
	Males	Females	Persons	Males	Females	Persons
1971	60.6	30.3	90.9	26.0	8.5	34.6
1972	60.2	30.9	91.0	27.1	8.7	35.8
1973	61.1	32.1	93.2	26.8	9.2	36.0
1974	62.5	34.4	96.8	27.1	9.7	36.8
1975	61.6	34.5	96.2	29.1	12.0	41.1
1976	60.1	34.3	94.4	28.1	12.5	40.6

Industrial Classification of Employees

The Census of 30 June 1971 provides an analysis of the total labour force (including those engaged in rural industry); the percentage in each broad category was as follows: *primary production* (fishing, hunting, rural industries, forestry), 9.17; *mining and quarrying*, 3.05; *manufacturing*, 20.99; *electricity, gas, water and sanitary services*, 2.45; *building and construction*, 8.60; *transport and storage*, 5.06; *communication*, 2.15; *finance and property*, 5.21; *commerce* (wholesale and retail), 18.05; *public authority (n.e.i.) and defence services*, 4.80; *community and business services (including professional)* (e.g. schools, hospitals, etc.), 11.82; *amusement, hotels and other accommodation, cafes, personal service, etc.*, 5.07; and *industry not stated*, 3.58.

If the primary group is combined with *mining and quarrying*, only 12 per cent of the labour force was engaged in taking food and other materials direct from the land and the sea; a further 21 per cent was engaged in manufacturing. In other words only 33 per cent of the labour force was engaged in primary and manufacturing industries as defined for statistical purposes.

The next table specifies the main industrial groups and shows the industrial classification of *civilian employees only*:

Wage and Salary Earners in Civilian Employment at 30 June: Main Industry Groups (Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces) ('000)

A.S.I.C. Division and title (a)	Year				
	1972	1973	1974	1975	1976
MALES					
A. (Part) Forestry, fishing and hunting ..	1.1	1.1	1.1	1.3	1.2
B. Mining	4.5	4.3	4.1	4.3	3.9
C. Manufacturing	24.9	25.1	25.4	24.1	23.8
D. Electricity, gas and water	3.6	3.3	3.3	3.3	3.3
E. Construction	12.3	12.0	11.8	12.6	11.7
F. Wholesale and retail trade	14.1	14.4	14.6	14.5	14.8
G. Transport and storage	6.4	6.6	7.0	7.0	6.1
H. Communication	2.1	2.0	2.1	2.1	2.1
I. Finance, insurance, real estate, etc. ..	4.2	4.4	4.6	4.5	4.6
J. Public administration and defence ..	4.5	4.5	4.7	5.0	5.1
K. Community services	6.9	7.2	7.5	8.1	8.2
L. Entertainment, recreation, etc. ..	2.7	3.1	3.3	4.0	3.3
Total	87.2	87.9	89.6	90.7	88.2

Wage and Salary Earners in Civilian Employment at 30 June: Main Industry Groups
(Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces)—*cont.*

('000)

A.S.I.C. Division and title (a)	Year				
	1972	1973	1974	1975	1976

FEMALES

A. (Part) Forestry, fishing and hunting..	..	..	..	..	0.1
B. Mining	0.2	0.2	0.2	0.2	0.2
C. Manufacturing	6.0	6.2	6.1	5.1	4.7
D. Electricity, gas and water	0.3	0.3	0.3	0.3	0.3
E. Construction	0.3	0.3	0.3	0.3	0.3
F. Wholesale and retail trade	9.7	9.9	10.6	10.4	10.4
G. Transport and storage.. .. .	0.6	0.6	0.6	0.7	0.7
H. Communication	0.8	0.8	0.8	0.8	0.8
I. Finance, insurance, real estate, etc. ..	3.5	3.5	3.7	3.9	3.9
J. Public administration and defence ..	2.1	2.3	2.5	2.9	3.0
K. Community services	12.1	12.6	13.3	15.1	16.2
L. Entertainment, recreation, etc. ..	4.0	4.6	5.6	6.7	6.3
Total	39.6	41.3	44.1	46.6	46.8

PERSONS

A. (Part) Forestry, fishing and hunting..	1.1	1.1	1.1	1.3	1.3
B. Mining	4.7	4.5	4.3	4.5	4.1
C. Manufacturing	30.9	31.3	31.5	29.2	28.5
D. Electricity, gas and water	3.9	3.6	3.6	3.6	3.6
E. Construction	12.6	12.3	12.1	12.9	12.0
F. Wholesale and retail trade	23.8	24.3	25.2	24.9	25.2
G. Transport and storage.. .. .	7.0	7.2	7.6	7.7	6.8
H. Communication	2.9	2.8	2.9	2.9	2.9
I. Finance, insurance, real estate, etc. ..	7.7	7.9	8.3	8.4	8.5
J. Public administration and defence ..	6.6	6.8	7.2	7.9	8.1
K. Community services	19.0	19.8	20.8	23.2	24.4
L. Entertainment, recreation, etc. ..	6.7	7.7	8.9	10.7	9.6
Total	126.8	129.2	133.7	137.3	135.0

(a) Australian Standard Industrial Classification.

The analysis of wage and salary earners by industry groups clearly indicates 'manufacturing' as the predominant activity. As employees in agriculture are excluded from the series, it is not possible to compare employment in primary, secondary and tertiary industries on the basis of the data appearing in the table. ('Employment on Agricultural Holdings' is described in chapter 7 but the seasonal character of this work makes it difficult to estimate the level of rural employment in any given month.) Attention is drawn to the relatively minor level of employment in 'public administration and defence': the civilian employees of government bodies shown in a previous table have been classified according to their appropriate industry group (e.g. transport, communication, health, education, etc.) and only those not included in a specified group appear in this item.

UNEMPLOYMENT

Historical

General

The total of persons 'unemployed' has been recorded by the Australian Bureau of Statistics at the dates of successive population censuses. The measurement of unemployment is complicated by definitional problems since persons normally in the labour force, but not having a job at the time of a census, may be in this position for reasons other than those associated with scarcity of employment. The classifications used in the 1921 and 1933 population censuses are shown in the *Year Book* 1972. At the 1933 Census, the unemployed were recorded as constituting 13.6 per cent of the labour force.

At the censuses of 1947, 1954 and 1961, the category 'not at work' was adopted. The interpretation of 'not at work' is made clear by an analysis of the 1961 figures: temporarily laid off, 457 persons; illness, 554; accident, 116; industrial dispute, 5; other causes, 366; *unable to secure employment*, 2 592; total not at work, 4 090 (as shown in table). Obviously this last category, *unable to secure employment*, is the key to measuring unemployment. Further details of persons 'not at work' at these censuses are contained in the 1976 and earlier *Year Books*.

'Unemployed'

In the 1966 Census, the following new question was asked: 'Did the person look for work last week?' Answer *yes* or *no*. (Note: 'Looking for work' means: (i) being registered with the Commonwealth Employment Service; or (ii) approaching prospective employers; or (iii) placing or answering advertisements; or (iv) writing letters of application; or (v) awaiting the results of recent applications.) In the 1971 Census this question was asked again with one refinement: was the person seeking a job for the first time or had the person had other jobs before?

After the exclusion of persons who were already employed, but who were seeking alternative employment, the following data were obtained from this approach:

Labour Force and Unemployed Persons, 1966 and 1971 Censuses

Year and sex	Labour force	Unemployed	
		Number	Proportion of labour force (per cent)
1966—Males	106 557	1 146	1.1
Females	40 765	971	2.4
Persons	147 322	2 117	1.4
1971—Males	107 973	1 786	1.7
Females	45 289	1 261	2.8
Persons	153 262	(a) 3 047	2.0

(a) Includes 226 males and 277 females 'looking for first job'.

It should be noted that 'not at work' in the 1947-1961 table is different in concept from the 'unemployed' category in the 1966-1971 table (see previous section).

Registrations With Commonwealth Employment Service

The Commonwealth Employment Service (C.E.S.) was established by federal legislation under Section 47 of the *Re-establishment and Employment Act 1945*, and under the *Social Services Legislation Declaratory Act 1947*. The principal function of this service is to provide facilities in relation to employment for the benefit of persons seeking to change or obtain employment, or seeking to engage labour, and to provide facilities to assist in bringing about a high and stable level of employment throughout Australia.

The C.E.S. functions within the Employment Division of the Department of Employment and Industrial Relations on a decentralised basis. The central office is in Melbourne; there is a regional office in Hobart with district employment offices in central Hobart, Glenorchy, Bellerive, Burnie, Devonport and Launceston, and a branch office in Mowbray. There are also agencies at Smithton, George Town and Huonville.

All applicants for unemployment benefits provided under the federal *Social Services Act 1947*, as amended, must register at a district employment office or agency of the C.E.S. which is responsible for certifying whether or not suitable employment is available. Claims for unemployment benefits are paid by the Department of Social Security; country residents remote from a Social Security employment office or agency may claim by mail.

The establishment of the C.E.S. created two new methods of measuring fluctuations in unemployment: (i) the number of persons registered for employment with the C.E.S. at the end of each month; and (ii) the number of persons receiving unemployment benefit from the Department of Social Security at the end of each month.

'Registered for Employment'

In the following table the persons shown are those who claimed, when registering with the C.E.S., *that they were not employed* and who were recorded on the Friday nearest the last day of the month as unplaced. The count includes those referred to employers and those who may have obtained employment without notifying the C.E.S.; persons receiving unemployment benefit are included.

Persons Registered for Employment With Commonwealth Employment Service
At June and December of Each Year (a)

Year	June			December		
	Males	Females	Persons	Males	Females	Persons
1966	849	846	1 695	1 447	1 260	2 707
1967	1 157	959	2 116	1 716	1 348	3 064
1968	1 145	943	2 088	1 786	1 314	3 100
1969	1 305	815	2 120	1 863	1 612	3 475
1970	1 160	728	1 888	1 791	1 376	3 167
1971	1 726	956	2 682	2 786	1 746	4 532
1972	2 113	1 385	3 498	3 349	2 304	5 653
1973	2 201	1 517	3 718	2 560	1 911	4 471
1974	1 968	1 342	3 310	4 089	3 251	7 340
1975	3 648	2 542	6 190	6 950	3 791	10 741
1976	5 840	3 146	8 986	6 464	3 734	10 198

(a) Recorded as unplaced on the Friday nearest the last day of the month.

In interpreting the level of registration, account should be taken of the fact that registration is a *voluntary act*. Thus, while an increase in registrations may normally be taken to indicate an increase in unemployment, theoretically at least, it could merely indicate wider use of the facilities offered by the Commonwealth Employment Service. (There is an alternative source of data on unemployment which does not suffer from this disability; the section 'Intercensal Labour Force Estimates' earlier in this chapter includes a series showing the number of persons unemployed as one element of the labour force. 'Actively looking for work' is the basis of classification in the labour force series.)

The table that follows has been compiled to show the number registered for employment at the end of each month. The monthly figures are subject to pronounced seasonal influences, the most obvious being the effect of school-leavers on registrations in December and January.

**Persons Registered for Employment With Commonwealth Employment Service
At End of Each Month (a)**

Month	1974			1975			1976		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
January ..	2 827	1 955	4 782	4 781	3 495	8 276	7 775	4 071	11 846
February ..	2 237	1 790	4 027	4 667	3 335	8 002	6 426	3 857	10 283
March ..	1 759	1 502	3 261	3 815	2 869	6 684	5 448	3 399	8 847
April ..	1 586	1 451	3 037	3 460	2 674	6 134	5 063	3 376	8 439
May ..	1 715	1 408	3 123	3 295	2 631	5 926	5 484	3 167	8 651
June ..	1 968	1 342	3 310	3 648	2 542	6 190	5 840	3 146	8 986
July ..	2 454	1 744	4 198	3 825	2 379	6 204	6 098	3 145	9 243
August ..	2 732	1 785	4 517	4 196	2 305	6 501	6 182	3 025	9 207
September ..	2 957	1 980	4 937	4 631	2 504	7 135	6 217	2 910	9 127
October ..	3 098	2 083	5 181	4 678	2 593	7 271	5 994	2 907	8 901
November ..	2 638	2 170	4 808	4 747	2 749	7 496	5 739	2 803	8 542
December ..	4 089	3 251	7 340	r 6 450	3 791	r 10 241	6 464	3 734	10 198

(a) At Friday nearest last day of month.

Persons Receiving Unemployment Benefit

It is possible for a person to register as unemployed but make no claim for unemployment benefit. On the other hand, a person claiming unemployment benefit *is required* to register for employment. The next table gives details of persons receiving unemployment benefit each month.

Number of Persons Receiving Unemployment Benefit (a)

Month	1970	1971	1972	1973	1974	1975	1976
January ..	634	518	1 125	2 572	2 706	4 687	8 516
February ..	568	502	1 144	2 439	2 538	5 413	7 169
March ..	404	347	1 113	1 881	1 630	4 938	6 438
April ..	349	405	1 191	1 862	1 748	3 664	6 425
May ..	348	574	1 278	2 242	1 655	3 835	6 611
June ..	437	782	1 697	2 330	1 769	4 439	7 228
July ..	544	957	1 922	2 279	2 325	4 787	7 603
August ..	561	1 062	1 854	2 200	2 615	5 223	7 609
September ..	540	1 165	1 813	2 067	3 139	5 378	7 511
October ..	473	1 215	1 698	1 692	3 166	5 369	7 210
November ..	410	1 148	1 879	1 782	2 650	5 634	7 053
December ..	517	1 399	2 214	2 029	4 210	8 096	7 009

(a) Compiled from information furnished by the Department of Social Security. From March 1976 monthly figures are not directly comparable because of differences in accounting periods. Some monthly figures cover a four week period whilst others cover a six week period. Prior to March 1976 the figures relate to the Saturday nearest the end of the month.

The number of males and females in receipt of unemployment benefit is shown for June of each year in the following table:

Persons Receiving Unemployment Benefit at June (a)

Particulars	1970	1971	1972	1973	1974	1975	1976
Males	290	531	1 087	1 306	1 034	2 717	4 927
Females	147	251	610	1 024	735	1 722	2 301
Persons	437	782	1 697	2 330	1 769	4 439	7 228

(a) See footnote to previous table.

Comparison of Unemployment Data

The following table shows unemployment recorded at the 1961, 1966 and 1971 Censuses and also other measures of unemployment covering approximately the same points in time. In 1966 and 1971 more persons were recorded as unemployed in the census than the number registered with the Department of Employment and Industrial Relations; however, in 1961 the position was reversed.

Unemployed Persons, Persons Registered for Employment and Persons Receiving Unemployment Benefit at 30 June

Particulars	1961	1966			1971		
	Persons	Males	Females	Persons	Males	Females	Persons
CENSUS OF 30 JUNE							
Unable to secure employment (a)	2 592	1 146	971	2 117	1 786	1 261	3 047
Temporarily laid off	457	} <i>n.a.</i>	} <i>n.a.</i>	} <i>n.a.</i>	} <i>n.a.</i>	} <i>n.a.</i>	} <i>n.a.</i>
Illness	554						
Accident	116						
Industrial dispute	5						
Other	366						
Total 'not at work'	4 090	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
DEPARTMENT OF EMPLOYMENT AND INDUSTRIAL RELATIONS							
Registered for employment (b) ..	3 213	849	846	1 695	1 726	956	2 682
DEPARTMENT OF SOCIAL SECURITY							
Receiving unemployment benefit(c)	1 336	224	209	433	531	251	782

(a) Figures for 1966 and 1971 are for category 'unemployed'.

(b) At Friday nearest last day of June.

(c) At Saturday nearest last day of June.

DEPARTMENT OF EMPLOYMENT AND INDUSTRIAL RELATIONS

In addition to its function of operating the Commonwealth Employment Service, the Employment Division of the Department of Employment and Industrial Relations has controlled schemes aimed at reducing the recent high level of unemployment. A brief description of these schemes follows.

Regional Employment Development Scheme

The Regional Employment Development Scheme (R.E.D.S.) was established in September 1974 to improve employment opportunities in areas of excessively high unemployment by encouraging local initiatives in these areas to develop suitable work programs. The projects were to be labour intensive and socially useful or economically viable.

State and local government instrumentalities, service clubs and sporting bodies were among those who submitted applications for projects. They included such varied projects as: (i) extension of tourist facilities; (ii) forestry work; (iii) extension and development of cultural, social and recreational facilities and services such as library work and provision of sporting facilities; and (iv) a limited amount of public works such as kerbing, street construction and sewerage schemes.

Following a review of the scheme in July 1975, it was announced that the scheme would be phased out. The majority of approved projects were completed by early 1976, but a few people were employed under the scheme until mid-1976.

Whilst the scheme was in existence, approximately \$15m was spent on Tasmanian projects and employment reached a peak of over 2 000 in July 1975.

National Employment and Training System

In October 1974 the employment training schemes administered by the then Department of Labour and Immigration, together with the Training Scheme for Widow Pensioners, were superseded by the National Employment and Training System.

The National Employment and Training (N.E.A.T.) System provides a comprehensive system of labour market training designed to remedy labour imbalances by:

- (i) Alleviating unemployment where it occurs and overcoming skills in short supply.
- (ii) Assisting in the long-term restructuring of the work force by promoting regional development and bringing about overall increases in the general level of skills. Training arrangements cover the full range of occupational skills and, as necessary, provide preliminary and preparatory instruction needed to assist entry into normal training programs and to meet the needs of particular individuals such as the handicapped.

Facilities approved for training include those provided by public and private education institutions but of growing importance is the training provided by industry and commerce by arrangement with employers and with employer industry and trade associations. Trainees are approved primarily on the basis of labour market demand for their existing and proposed skills. Subject to a means test, trainees attending educational institutions receive training allowances. Employers who provide approved programs of in-industry training and meet the wage costs of trainees are paid a subsidy for the duration of approved training periods.

All applications for employment training through N.E.A.T. are made with the Commonwealth Employment Service which, in its capacity as an employment referral centre, is able to test the labour market and determine an individual's need for training as a means of obtaining satisfactory employment.

INDUSTRIAL LEGISLATION AND CONDITIONS**Apprenticeship***Apprenticeship Commission*

The Apprenticeship Commission was set up under the *Apprentices Act 1942* to: (i) encourage, regulate and control training in proclaimed trades; (ii) assist youths towards successful trade courses; and (iii) provide properly trained craftsmen for industry. The Commission, which meets each month, consists of three representatives of trade unions, three of employers' organisations, a nominee of the Minister for Education and the President, all members being appointed for a three-year term. To keep the Commission up-to-date with the latest developments, Trade Committees have been formed for particular industries, with both employers and employees represented.

Apprentices are trained at work and at technical classes, and supervisors report on the effectiveness of the training; supervisors also give on-the-spot advice to employers and apprentices where their mutual obligations are concerned and refer matters that cannot be settled in this way to the Commission for decision.

Apprenticeships

An apprenticeship may not be commenced without the consent of the Commission which determines the suitability of employers for training apprentices and the educational qualifications required for entry to a particular trade.

The apprentice serves a probationary period before a contract (indentures) is made with the employer and registered with the Commission. The Commission determines disputes about the contracting parties' rights, duties and liabilities and no apprenticeship may be terminated, suspended or assigned other than by its authority; when an apprenticeship has been completed, the employer and the Commission certify to this effect. Where apprentices are required to undertake technical training, either at technical classes or by correspondence, instruction is mandatory. Apprentices attend technical classes for eight hours per week during working hours without loss of pay. (Country apprentices in remote areas attend three fortnightly training periods each year.) The progress apprentices make is reported to the Commission and unsatisfactory reports are investigated.

Apprentices are encouraged in the following ways: (i) by payment of *efficiency allowances* for annual examinations passed successfully in the allotted time; (ii) by *certificates of proficiency* for apprentices successfully completing the mandatory trade course of technical instruction; (iii) by reducing the apprenticeship term by one year in some cases, where the qualifying trade course is completed in the allotted time; and (iv) by the award of bursaries.

Four bursaries (two of \$500 and two of \$300) are awarded each year to outstanding apprentices, and a fifth bursary (\$800) is awarded to 'The Apprentice of the Year'. These bursaries are given to assist the most promising apprentices to secure wider trade experience with another employer as part of the apprenticeship training, either in Tasmania or another state. Arrangements are made by the Commission to suit the bursary holders' wishes.

Number of Apprentices

The following table shows the number of apprentices in Tasmania and also details of apprenticeships registered and completed:

Number of Apprentices; Apprenticeships Registered and Completed

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Number at 30 June (a)—					
Indentured apprentices	3 592	3 583	3 281	4 035	4 265
Apprentices on probation	320	235	322	180	218
Total	3 912	3 818	3 603	4 215	4 483
During year—					
New apprenticeships registered ..	990	998	1 117	1 404	1 312
Apprenticeships completed	763	778	882	750	771

(a) Distributed in proclaimed trades.

Industrial Accidents

Industrial accident statistics in Tasmania are compiled from returns of workers' compensation claims submitted by insurance companies, self-insurers and State Government departments. The returns are submitted for cases finalised and the statistics do not represent the number of accidents occurring in a particular year. The statistics first published by the Bureau for 1969-70 replaced those formerly published by the Department of Labour and Industry. Because of the number of minor definitional, conceptual and classification changes adopted for the new series, the statistics shown in the following tables are not strictly comparable with those published for 1968-69 and earlier years.

The collection is limited to those employees covered by the Tasmanian *Workers' Compensation Act* and therefore excludes self-employed persons, Federal Government employees and the police. Exclusion of self-employed persons is likely to reduce coverage in industries where self-employment is prevalent (e.g. retail trade, rural industries, etc.). Because of the exclusion of Federal Government employees, some industries are not covered at all, while coverage is considerably reduced in other industries (e.g. communications).

In compiling the statistics the following definitions have been adopted:

Industrial Accident: A compensated work injury causing death or absence of the injured person from work for one day or more. Disease cases and accidents occurring during journeys or recess periods are included. The number of accidents is based on claims finalised during each year ended 30 June. The accidents to which the claims refer may have occurred in the year the claim was finalised or during any earlier year.

Time Lost: The actual time lost from work of persons reported to be temporarily incapacitated or permanently partially-incapacitated as a result of a compensated work injury.

Cost of Claims: Includes compensation for wages lost, hospital and medical expenses and lump sum settlements of cases finalised during the year ended 30 June.

Industry Groups: Classified in accordance with the Australian Standard Industrial Classification.

The table that follows shows the number of industrial accidents reported during 1974-75 and the time lost through those accidents which caused temporary and permanent partial-disability.

Fatal and Non-fatal Industrial Accidents: Industry Group and Time Lost, 1974-75

Industry group	Accidents		Time lost	
	Fatal	Non-fatal	Total	Average per accident
	no.	no.	weeks	weeks
Primary, mining, etc.—				
Primary production	5	659	2 129	3.2
Mining	2	551	1 841	3.3
Total	7	1 210	3 970	3.3
Manufacturing—				
Food, drink, etc. .. .. .	..	887	1 310	1.5
Wood and wood products, etc.	2	1 096	2 324	2.1
Glass and clay products, etc. .. .. .	..	137	199	1.5
Metal and metal products, etc.	1	750	1 082	1.4
Transport equipment .. .. .	..	178	419	2.4
Other manufacturing .. .. .	..	763	1 579	2.1
Total	3	3 811	6 913	1.8
Other industries—				
Electricity, gas, etc. .. .. .	..	148	266	1.8
Construction	4	1 974	3 899	2.0
Wholesale and retail trade	3	792	1 557	2.0
Transport, storage, etc. .. .. .	..	572	1 824	3.2
Finance and property .. .. .	..	27	45	1.7
Public administration .. .. .	..	47	115	2.5
Community services .. .. .	..	127	255	2.0
Amusements, hotels, etc. .. .. .	..	111	298	2.7
Total	7	3 798	8 258	2.2
Grand total	17	8 819	19 142	2.2

The cost of claims arising out of industrial accidents, as applicable to each industry group, is shown in the next table:

Industrial Accidents: Industry Group and Cost of Claims, 1974-75
(\$)

Industry group	Cost of claims			
	Fatal accidents	Non-fatal accidents	Total accidents	Average per non-fatal accident
Primary, mining, etc.—				
Primary production	105 182	285 538	390 720	433
Mining	21 137	439 254	460 391	797
Total	126 319	724 792	851 111	599
Manufacturing—				
Food, drink, etc. .. .. .	..	162 692	162 692	183
Wood and wood products, etc.	40 589	299 154	339 743	273
Glass and clay products, etc. .. .. .	..	26 528	26 528	194
Metal and metal products, etc.	1 180	181 475	182 655	242
Transport equipment .. .. .	..	49 075	49 075	276
Other manufacturing .. .. .	..	257 270	257 270	337
Total	41 769	976 194	1 017 963	256

Industrial Accidents: Industry Group and Cost of Claims, 1974-75—continued
($\$$)

Industry group	Cost of claims			
	Fatal accidents	Non-fatal accidents	Total accidents	Average per non-fatal accident
Other industries—				
Electricity, gas, etc. . . . .	..	47 430	47 430	320
Construction	22 109	652 484	674 593	331
Wholesale and retail trade	17 648	231 067	248 715	292
Transport, storage, etc. . . . .	..	260 101	260 101	455
Finance and property . . . . .	..	12 988	12 988	481
Public administration . . . . .	..	18 231	18 231	388
Community services . . . . .	..	34 614	34 614	273
Amusements, hotels, etc. . . . .	..	38 167	38 167	344
Total	39 757	1 295 082	1 334 839	341
Grand total	207 845	2 996 068	3 203 913	340

Industrial Safety and Accident Prevention

Responsibility: The Department of Labour and Industry is concerned with industrial safety and accident prevention and discharges this function with the knowledge that there are approximately 10 000 accidents each year involving lost time (of more than one day), among the population covered by the *Workers' Compensation Act*.

Prevention: Prevention obviously has a two-fold aspect: (i) inspection programs aimed at pin-pointing unsafe working conditions; and (ii) education and training designed to eliminate unsafe actions.

Training: The problem of training is basically one of educating supervisors and foremen, since an attitude of 'safety consciousness' has to start with management. Formal training in industrial safety and accident prevention is available at Hobart and Launceston Technical Colleges in two-year courses. Informal training is arranged by the Department of Labour and Industry, the two-day courses being based on the concept of 'training within industry'. Single lectures on industrial and farm safety are also available and the Department makes arrangements to provide lecturers on request.

Safety Officers: It is expected that large undertakings will have their own specialists concerned with safety matters. However, government safety officers are available to industries which may use their services for short periods. Their function is purely advisory and they assist organisations which wish to stress safety or to reduce their accident rates.

Research Facilities: The Department carries out a safety research program. A comprehensive classification of safety data and information is maintained from local, interstate and overseas sources.

Workers' Compensation

Legislation: Workers' compensation legislation in Tasmania was first introduced in 1910 but it was not until 1927 that the principle of compulsory insurance was embodied in the *Workers' Compensation Act 1927*, as amended.

Purpose and Limitations: The principle of the Act is provision for compensation on the death or disablement of a worker, if occasioned by personal injury arising out of and during the course of employment. In 1970 the Act was amended to extend compensation cover for injuries sustained by a worker travelling in either direction between his residence and place of employment. The Act provides that this cover to and from work applies only for reasonably direct journeys, except for breaks or deviations connected with the worker's employment. Amendments in 1970 extended coverage to workers who are temporarily absent from work during meal breaks. Self-inflicted injuries are excluded and certain limitations are applied where serious or wilful misconduct is involved. Monetary benefits have fixed limits. All reasonable costs of medical, hospital, nursing and ambulance services, and in the event of death, the reasonable costs of burial or cremation are paid. In addition weekly payments are made during incapacity and there is a lump sum entitlement for scheduled injuries.

Non-contributory Basis: The Act is non-contributory, i.e. the worker does not pay into any fund for the provision of benefits. The employer is obliged to insure with an approved insurance company against the liability to compensation, except in certain cases where he is allowed to carry his own risk.

In any case where an employer has no paid-up insurance policy, where the employer cannot be found or where the employer or his insurance company has become insolvent, the worker may claim against a 'nominal insurer', as if he were the employer.

Amounts paid by the 'nominal insurer' are provided by all insurance companies carrying on workers' compensation business. Each company is required to contribute to these types of claims in proportion to the premium income derived from policies issued during the preceding year.

Compensation on Death: Where death results from an injury, the compensation payable to dependants wholly dependent on the worker's earnings is 284 times the current Hobart base rate, plus seven times the current Hobart base rate for each worker's child under sixteen years at the date of injury. Partial dependants are entitled to proportionate amounts.

Base Rate means the minimum weekly wage payable to the lowest paid adult male employed at Hobart under the federal Metal Trades Award (in October 1975 the minimum was \$90.40 per week).

Weekly Payments During Incapacity: When the worker is *totally incapacitated* he is entitled to receive weekly compensation payments at whichever of the following alternatives is greater: (i) the rate of his average weekly earnings over the period of twelve months immediately preceding the period of incapacity; or (ii) the ordinary time rate of pay for the work on which he was engaged immediately prior to the period of incapacity. When the worker is *partially incapacitated* the weekly payments are reduced by any amount that he is able to earn in some other suitable employment.

Maximum Limit of Weekly Payments: In cases of partial or total incapacity of any worker, the total liability of an employer in making weekly compensation payments is limited to 284 times the current Hobart base rate.

Lump Sum Payments: In addition to weekly incapacity payments, lump sum payments are made in respect of the loss of members of the body or of bodily powers of function. In the Act, specific injuries are listed and the single amount payable is related to the current Hobart base rate (specified as B in the following

examples): (i) loss of both feet, B \times 284; (ii) loss of leg, B \times 138; (iii) loss of thumb, B \times 51; and (iv) loss of great toe, B \times 35, etc. Where more than one of these injuries are suffered in the same accident, a maximum payment equal to B \times 532 may be paid.

Factory Legislation and Inspection

Legislation: Working conditions in factories in Tasmania are covered under the *Factories, Shops and Offices Act* 1965, as amended, which makes provisions with respect to the health, welfare, safety, and working conditions of persons employed in factories, shops and offices and the sanitation of factories, shops and offices.

Registration Fees: All factories are required to register with the Department of Labour and Industry; fees date from 1 January each year. Fees for registration range from \$3 for small factories (where less than four persons are employed), up to \$345 for factories employing more than 800 persons.

New Factories: The *Local Government Act* 1962 requires that plans and specifications for proposed new factory buildings be submitted to the Department of Labour and Industry before being approved by the local government authority. This ensures compliance of the proposed factory buildings with regulations in regard to natural lighting, ventilation, fire exits, fire protection, stairs, access ladders, platforms, change and meal rooms, etc.

Application for Registration: Following application for registration of premises to be used as a factory, an inspection is made. If the premises are suitable without alteration, a certificate of registration is issued. If alterations are required, a permit to occupy may be issued for a limited time while renovations, to comply with the Act's requirements, are made. Once the factory is operating, a further inspection is made to study processes and working conditions. Any unsafe situations and practices are drawn to the attention of management.

Inspection: After the initial registration, routine inspections are made by officers of the Department to remedy or prevent unsafe conditions or unsafe practices which may have developed. Particular attention is given to overcrowding, ventilation, natural and artificial lighting, conditions of floors, etc. Access ladders and platforms are checked for compliance with prescribed standards. If contamination of the atmosphere by dust or toxic fumes is present, means of removal are studied. Safe handling and storage of dangerous substances; the provision of fire protection, fire exits and escapes; adequacy of sanitary conveniences, washing, change and meal rooms; and the provision of safety equipment, etc., are periodically checked.

Accident Reports: Factory management is required to notify the Department of Labour and Industry when an accident occurs which results in death, permanent disability, or the inability of an employee to work where the period of inability is in excess of one full day or shift. These accidents are investigated in an endeavour to eliminate recurrences. See 'Industrial Safety and Accident Prevention' in this chapter.

Construction Sites: Regulations also apply to working conditions on construction works and provide for suitable sanitary, washing and general amenities, in addition to general safety precautions. Where persons are required to work on any construction works at a height of not less than 6.096 metres (20 feet) above the ground or at a depth of not less than 1.524 metres (five feet) below ground level, the provision of safety helmets is compulsory.

The Inspection of Machinery

Legislation: Generally, the *Inspection of Machinery Act 1960*, as amended, applies to all machinery of one or more horsepower used in manufacturing or industrial processes and specifically includes boilers, pressure vessels, lifts and cranes. By proclamation, machines not ordinarily covered by the Act may be made subject to its provisions. The Department of Labour and Industry is responsible for application of the Act which is administered by a chief inspector and district inspectors at Hobart, Launceston, Burnie and Devonport.

Machinery Inspection: An owner (defined as a person who has the control of or is in charge of machinery) acquiring machinery as defined in the Act is required to notify the nearest district inspector to obtain a certificate of safety. Inspection may reveal the need for additional safeguards before permission can be given to operate the machine; alternatively the owner may be given a set period in which to comply.

Certificates of safety are renewed annually providing the machinery satisfies current efficiency and safety standards.

Lifts Inspection: Lifts, cranes and hoists are subject to the same inspections as other machinery. In addition, design approval must be obtained before construction; tests, including beam deflections under load, are made on completion.

Boiler Inspection: Before boilers or pressure vessels are installed, the design must be approved by the Chief Inspector and conform with Australian or specified overseas standards. Inspections are made on installation and thereafter annually unless a special investigation is required arising from plant modification, accidents or from employers' or employees' requests.

Long Service Leave for Casual Employees

Coverage

The *Long Service Leave (Casual Employment) Act 1971*, which came into force on 23 March 1972, extended long service leave entitlements to casual workers in the building and construction industry. Building and construction, for purposes of the Act, embraces a wide range of activities: construction, reconstruction, alteration, demolition, maintenance or repair of: (i) buildings; (ii) roads, bridges and railways; (iii) port, harbour and navigation facilities; (iv) water, irrigation and sewerage works; (v) pipelines; (vi) drilling rigs; (vii) structures (e.g. scaffolding or cranes) and site preparation associated with any of the aforementioned purposes; and (viii) work on ships, boats or other vessels. Dunning of ships' holds also comes within the Act's ambit.

Calculation of Reckonable Service

Reckonable service is employment which counts towards the calculation of long service leave entitlements. The qualifying units to be accrued are periods of at least one full day's employment with each employer. If a person ceases work after at least seven days or more the employer is required to furnish a certificate, showing duration of employment of the employee, to the Secretary for Labour and Industry and is also required to make a payment into the Long Service Leave (Casual Employment) Fund.

Certain interruptions to employment are counted as a part of the working period for calculation of reckonable service. Included are: (i) annual leave; (ii) leave from work caused by illness or injury and certified by a medical practitioner; (iii) leave, with consent of the employer, to attend a meeting of the

Apprenticeship Commission of Tasmania or any committee appointed under the *Apprentices Act 1942*; (iv) leave resulting from on-the-job injury; (v) absence from work resulting from a summons to serve as a juror or give evidence before a court; (vi) leave to attend to his duties as a member of a Wages Board; and (vii) absence from work on a public holiday in accordance with the terms and conditions of employment. Absences from work caused by industrial disputes are not counted as part of service for purposes of calculating reckonable service.

When an employee has accumulated the equivalent of 15 years service he becomes entitled to a long service leave payment. In certain circumstances (e.g. employment terminated through incapacity of the employee to continue work or at any time after retiring age has been reached) long service leave may be paid after seven years work on a pro-rata basis.

Administration

The Secretary for Labour and Industry is required to maintain records showing service of each employee covered by the Act. These records are the basis for paying long service leave entitlements. Departmental inspectors are responsible for policing provisions of the Act and regulations made under it. It is the inspectors' responsibility to ensure that employers maintain the necessary employment records and furnish correct certificates to the Secretary for Labour and Industry. They are permitted to carry out enquiries to ascertain whether an employee is working on a job deemed as counting towards the calculation of reckonable service. To assist inspectors carry out these duties, the Act gives them the right of access to employers' premises.

The legislation established a special trust fund, the Long Service Leave (Casual Employment) Fund, which is administered by Treasury Department officials. The main receipts into the fund are long service leave contributions paid by employers. The fund is also credited with any other receipts which may be required under the Act. From the fund are paid long service leave entitlements, costs incurred by Treasury in administering the fund and any other amount as required by the Act.

Shop Trading Hours

Legislation: Before 1967 shop trading hours were regulated by the *Factories, Shops, and Offices Act 1958*, as amended. A deadlock between the two houses of the Tasmanian Parliament in 1967 resulted in the removal of all legislative restrictions on shop trading hours as from 1 January 1968. However, a limiting factor was introduced with the adoption by Wages Boards of increased penalty rates for retail trade employees. As a result few shopkeepers have varied their trading hours from those which applied under the relevant section of the *Factories, Shops, and Offices Act*.

Service Stations (Trading Hours) Act 1975

This Act provides that, in declared roster areas, only those service stations actually on roster may open outside the following hours: (i) Monday to Thursday, 6.30 a.m. to 6.30 p.m.; (ii) Fridays, 6.30 a.m. to 8.30 p.m.; (iii) Saturdays, 6.30 a.m. to 12 noon; and (iv) Sundays and Public Holidays, closed all day. Stations 'on roster' may remain open on these days for hours which are specified in a permit granted by the Minister. The permits are granted on the basis that 'roster' stations must provide a specified minimum range of services, supplies and facilities.

The Act is designed to ensure the availability of service to the motoring public and, at the same time, eliminate excessive and uneconomic competition between service stations. Coin-operated self-service pumps are not affected by the legislation.

TRADE UNIONS

The following table shows details of the number of unions and the number of union members in Tasmania:

Trade Unions: Numbers and Membership

Year ended 31 December	Number of separate unions	Number of members (^{'000})	Annual increase in membership (a) (per cent)
1939	79	22.1	..
1972	112	80.5	7.1
1973	118	84.1	4.5
1974	121	89.1	5.9
1975	117	87.4	-1.9

(a) On preceding year.

PRICES

Retail Prices and Price Indexes

General

The description of price indexes that follows is mainly an abridgement of the text appearing in the *Labour Report* of the Australian Bureau of Statistics; this report is a basic document in any serious study of official price indexes. For a description of price indexes in relation to the measurement of the rate of inflation, refer to the 1976 edition of this *Year Book* (pages 665-668).

Retail Price Index Numbers from 1901

Retail prices of food and groceries and average rentals of houses for periods extending back to the year 1901 were collected by the Australian Statistician. A continuous price series from 1901 to the present day (shown in part below) has been constructed from the various indexes in use during this period to provide a broad indication of long-term trends in retail price levels. The index numbers are derived by linking a number of indexes that differ greatly in scope. The successive indexes used are: 1901-1914, the 'A' Series; from 1914 to 1946-47, the 'C' Series; from 1946-47 to 1948-49, a composite of Consumer Price Index Housing Group (partly estimated) and 'C' Series excluding rent; and from 1948-49, the Consumer Price Index. It should be noted that this long-term series is for the six capital cities combined, *not for Hobart alone*.

Retail Price Index Numbers from 1901

Six State Capital Cities Combined

(Base: Year 1911 = 100)

Year	Index number	Percent- age change (a)	Year	Index number	Percent- age change (a)	Year	Index number	Percent- age change (a)
1901	88	..	1946	190	1.6	1971	621	6.0
1911	100	3.1	1951	313	19.5	1972	658	6.0
1921 (b) .. .	168	-13.0	1956	419	6.3	1973	720	9.4
1926	168	1.8	1961	471	2.6	1974	829	15.1
1931	145	-10.5	1966	517	3.0	1975	954	15.1
1936	141	2.2	1969	564	2.9	1976	1 083	13.5
1941	167	5.0	1970	586	3.9			

(a) Over previous year (previous year's figures not necessarily shown in table).

(b) November; remaining figures are averages for the respective years.

Consumer Price Index

The index currently in use is the Consumer Price Index. A comprehensive view of the present composition and weighting of the Consumer Price Index is given in the following table:

Consumer Price Index
Composition and Weighting Pattern at December Quarter 1973 (a):
Six State Capital Cities Combined

Group, section, etc.	Percentage weight		
	Section, etc.	Group	
Food—			
Cereal products	3.0	} 28.3	
Dairy produce	4.6		
Potatoes, onions, preserved fruit and vegetables	2.7		
Soft drink, ice cream and confectionery	4.0		
Meat—Butchers'	7.7		
Processed	3.0		
Snacks, take-away food	0.9		
Other food	2.4		
Clothing and drapery—			
Men's clothing	3.2	} 12.1	
Women's clothing	4.0		
Boys' clothing	0.5		
Girls' clothing	0.4		
Piecegoods, etc.	0.8		
Footwear	2.3		
Household drapery	0.9		
Housing—			
Rent—Privately owned houses	2.8	} 14.4	
Government-owned houses	0.6		
Privately-owned flats	3.4		
Home ownership—House price	3.6		
Rates	2.3		
Repairs and maintenance	1.7		
Household supplies and equipment—			
Fuel and light—Electricity	1.9	} 11.3	
Gas	0.7		
Other (firewood, heating oil, briquettes and kerosene)	0.3		
Household appliances	2.2		
Furniture and floor coverings	2.0		
Household utensils	0.7		
Household sundries	1.2		
Personal requisites	1.3		
Proprietary medicines	1.0		
Miscellaneous—			
Fares—Train	0.7	} 33.9	
Tram and bus	1.0		
Private motoring—Car purchase	4.4		
Car operation	8.6		
Tobacco and cigarettes	3.6		
Beer	4.5		
Wine and spirits	1.2		
Postal and telephone services	1.3		
Recreational goods and services	2.0		
Newspapers and magazines	1.1		
Health services	4.0		
Other services (hairdressing, dry cleaning, shoe repairs)	1.5		
Total	100.0		100.0

(a) A minor change in this weighting pattern (from September 1974) was necessitated by the deletion of the item 'radio and television licences' from the index.

The weights shown in the previous table are those comprising the index for the six state capital cities combined. Broadly they are based on the estimated pattern of consumption at or about 1971-72 valued at relevant prices of the December quarter 1973. The weighting indicates the relative influence given to the various components in measuring the degree of price change in the index from the December quarter 1973 (i.e. from the beginning of the seventh linked series).

Comparison of the Linked Series: The Consumer Price Index is a chain of 'fixed weight aggregative' indexes, with significant changes in composition and weighting made at the linking dates; the principal changes were:

- (i) June quarter 1952—introduction of private motoring; changed proportions for modes of house occupancy; change in weights of fuel and fares.
- (ii) June quarter 1956—changed proportions for modes of house occupancy; changed weights for fuel, fares and private motoring.
- (iii) March quarter 1960—introduction of television.
- (iv) December quarter 1963—changed weights for fuel, light, fares and motoring; revised housing weights.
- (v) December quarter 1968—changed weights for all items; introduction of poultry, rented privately-owned flats, heating oil, briquettes and health services (by dentists, doctors, hospitals and health insurance funds).
- (vi) December quarter 1973—changed weights for all items; new items fried chicken, meat pies, hamburgers and sandwiches added to the 'Food group' forming a new sub-group ('Snacks, take away food'). A new sub-group added to the 'Miscellaneous group' ('Recreational goods and services') which, in addition to including radio and television operation and cinema admission, also covered new items: camera, film, film processing and phonograph records. Weights for the motoring section took account of data from the 1971 Survey of Motor Vehicle Usage and local weights for individual cities were used for hairdressing, dry cleaning, cinema admission and health services.

The next table has been compiled to show the percentage contribution to the total index of each of the major groups, first at the beginning of each series, and then at the quarter in which the linking transition was made.

Consumer Price Index: Analysis of Weighting in Seven Linked Series

Linked series	Percentage contribution to total index (weighted average, six capital cities)					
	Food group	Clothing and drapery group	Housing group	Household supplies and equipment group	Miscellaneous group	Total
First—						
June quarter 1949 ..	31.3	22.8	11.4	13.1	21.4	100.0
June quarter 1952 (a) ..	35.7	23.0	9.2	12.2	19.9	100.0
Second—						
June quarter 1952 (b) ..	33.6	21.6	9.4	11.7	23.7	100.0
June quarter 1956 (a) ..	34.3	20.0	10.5	10.9	24.3	100.0
Third—						
June quarter 1956 (b) ..	33.7	19.7	10.5	11.6	24.5	100.0
March quarter 1960 (a) ..	33.0	19.5	11.0	11.5	25.0	100.0

Consumer Price Index: Analysis of Weighting in Seven Linked Series—*continued*

Linked series	Percentage contribution to total index (weighted average, six capital cities)					
	Food group	Clothing and drapery group	Housing group	Household supplies and equipment group	Miscellaneous group	Total
Fourth—						
March quarter 1960 (b) ..	32.1	19.0	10.7	13.2	25.0	100.0
Dec. quarter 1963 (a) ..	31.6	18.8	12.0	12.6	25.0	100.0
Fifth—						
Dec. quarter 1963 (b) ..	32.1	16.9	12.6	14.5	23.9	100.0
Dec. quarter 1968 (a) ..	32.8	15.8	13.2	13.1	25.1	100.0
Sixth—						
Dec. quarter 1968 (b) ..	31.3	14.1	14.2	12.5	27.9	100.0
Seventh—						
Dec. quarter 1973 (b) ..	28.3	12.1	14.4	11.3	33.9	100.0

(a) Change in proportions due to disparate price movements during short period shown.

(b) Change in proportions due to deliberate changes in composition or weighting.

Consumer Price Index, Hobart

The Consumer Price Index for Hobart is compiled to the base 1966-67=100.0, the number 100.0 being the base value for each of the five major groups and also for the 'All groups' index.

The following table has been compiled to show group index movements for Hobart on a quarterly basis:

Consumer Price Index: Quarterly Group Index Numbers, Hobart (a)
(Base of Each Index: Year 1966-67 = 100.0)

Quarter	Food	Clothing and drapery	Housing	Household supplies and equipment	Miscellaneous	All groups	
						Index	Percentage change (b)
1971-72—							
September ..	111.3	115.9	120.4	112.4	123.8	116.5	1.7
December ..	113.0	118.2	124.1	117.4	130.3	120.3	3.3
March... ..	113.5	118.7	125.3	117.7	130.8	120.9	0.5
June	113.9	121.1	126.8	118.1	132.1	122.0	0.9
1972-73—							
September ..	115.9	121.8	128.3	118.9	133.5	123.4	1.1
December ..	117.9	124.6	131.6	119.6	134.0	125.1	1.4
March... ..	121.4	125.5	132.7	120.3	137.7	127.5	1.9
June	124.9	130.4	134.4	122.5	141.0	130.8	2.6
1973-74—							
September ..	131.9	134.2	137.1	125.5	144.2	135.2	3.4
December ..	139.7	139.8	146.8	126.7	148.6	141.1	4.4
March... ..	144.2	142.7	149.8	128.4	150.7	144.0	2.1
June	149.7	152.9	153.9	132.5	156.6	149.9	4.1
1974-75—							
September ..	155.1	160.3	163.6	139.1	165.8	157.4	5.0
December ..	158.0	171.6	179.8	148.3	174.2	165.5	5.1
March... ..	158.1	174.0	186.0	153.2	180.4	169.3	2.3
June	163.1	181.3	194.2	156.0	185.2	174.6	3.1

Consumer Price Index: Quarterly Group Index Numbers, Hobart (a)—continued
 (Base of Each Index: Year 1966-67= 100.0)

Quarter	Food	Clothing and drapery	Housing	Household supplies and equipment	Miscellaneous	All groups	
						Index	Percentage change (b)
1975-76—							
September ..	168.8	186.1	199.7	160.1	178.3	175.9	0.7
December ..	174.8	199.7	214.5	171.8	198.1	189.1	7.5
March ..	181.6	202.4	221.4	174.1	203.2	194.2	2.7
June ..	184.7	215.2	230.1	177.5	210.5	200.6	3.3

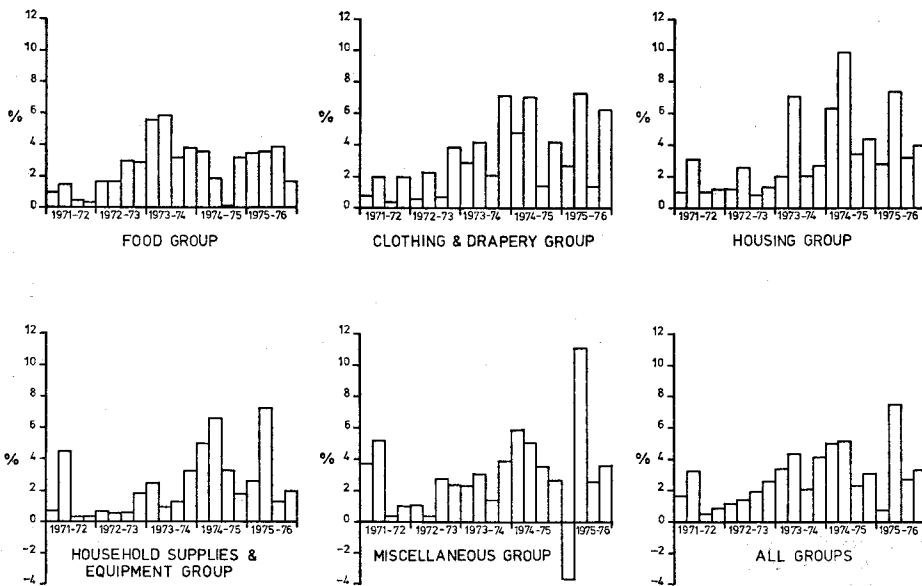
PERCENTAGE CHANGE: JUNE QUARTER 1976 OVER JUNE QUARTER 1975

	13.2	18.7	18.5	13.8	13.7	14.9	..
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(a) Figures after decimal point have limited significance. They are inserted to avoid the distortions that would occur in rounding.

(b) Over preceding quarter.

Consumer Price Index Hobart
Group Index Numbers: Percentage Change Over Preceding Quarter



The following table shows the 'All groups' index numbers for Hobart, quarter by quarter, and also as averages for financial years:

Consumer Price Index: All Groups Index Numbers, Hobart (a)
(Base of Index: Year 1966-67 = 100.0)

Year	Quarter ending—				Average for year	
	September	December	March	June	Index	Percentage change (b)
1965-66 ..	97.0	98.3	97.8	98.7	98.0	3.6
1966-67 ..	98.6	99.2	100.6	101.5	100.0	2.0
1967-68 ..	104.3	105.0	104.6	104.6	104.6	4.6
1968-69 ..	105.0	105.8	106.5	107.0	106.1	1.4
1969-70 ..	107.4	108.1	108.9	109.6	108.5	2.3
1970-71 ..	110.2	112.4	113.2	114.6	112.6	3.8
1971-72 ..	116.5	120.3	120.9	122.0	119.9	6.5
1972-73 ..	123.4	125.1	127.5	130.8	126.7	5.7
1973-74 ..	135.2	141.1	144.0	149.9	142.6	12.5
1974-75 ..	157.4	165.5	169.3	174.6	166.7	16.9
1975-76 ..	175.9	189.1	194.2	200.6	190.0	14.0

PERCENTAGE CHANGE: 1975-76 QUARTER OVER CORRESPONDING 1974-75 QUARTER

	11.8	14.3	14.7	14.9
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(a) Figures after decimal point have limited significance. They are inserted to avoid the distortions that would occur in rounding.

(b) Over preceding year.

The next table shows, as averages for financial years, the group indexes for Hobart:

Consumer Price Index: Annual Group Index Numbers, Hobart (a)
(Base of Each Index: Year 1966-67 = 100.0)

Year	Food	Clothing and drapery	Housing	Household supplies and equipment	Miscellaneous	All groups	
						Index	Percentage change (b)
1965-66 ..	98.9	98.0	97.1	98.6	96.7	98.0	3.6
1966-67 ..	100.0	100.0	100.0	100.0	100.0	100.0	2.0
1967-68 ..	106.8	102.4	103.6	102.9	104.5	104.6	4.6
1968-69 ..	105.3	104.5	108.4	104.5	108.0	106.1	1.4
1969-70 ..	106.4	107.9	112.6	106.1	111.0	108.5	2.3
1970-71 ..	109.6	111.9	117.4	109.2	116.6	112.6	3.8
1971-72 ..	112.9	118.5	124.2	116.4	129.3	119.9	6.5
1972-73 ..	120.0	125.6	131.8	120.3	136.6	126.7	5.7
1973-74 ..	141.4	142.4	146.9	128.3	150.0	142.6	12.5
1974-75 ..	158.6	171.8	180.9	149.2	176.4	166.7	16.9
1975-76 ..	177.5	200.9	216.4	170.9	197.5	190.0	14.0

PERCENTAGE CHANGE: 1975-76 OVER 1974-75

	11.9	16.9	19.6	14.5	12.0	14.0	..
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(a) Figures after decimal point have limited significance. They are inserted to avoid the distortions that would occur in rounding.

(b) Over preceding year.

Consumer Price Indexes: Capital Cities

Six Capital Cities: A consumer price index series is constructed for each state capital city. These indexes measure price movements in each city individually (but do not provide a basis for the comparison of the retail price level in one city with

that in any other city). The six capital cities Consumer Price Index is derived as the weighted average of the indexes for the individual cities, the basis of weighting being their populations as recorded at successive censuses.

The next table summarises index numbers and percentage changes for the 'All groups' consumer price index for the six state capital cities combined.

Consumer Price Index: All Groups
Australia—Six State Capital Cities (a): Summary
 (Base of Index: Year 1966-67 = 100.0)

Quarter	Quarter		Percentage change from same quarter of preceding year	Calendar year (b)		Fiscal year (b)	
	Index number	Percentage change (c)		Index number	Percentage change (c)	Index number	Percentage change (c)
1971—							
September ..	119.4	+1.9	+ 6.7	118.5		122.4 (1971-72)	+ 6.8
December ..	122.2	+2.3	+ 7.2	(1971)	+ 6.1		
1972—							
March.. ..	123.4	+1.0	+ 7.1	125.5 (1972)	+ 5.9	129.8 (1972-73)	+ 6.0
June	124.5	+0.9	+ 6.2				
September ..	126.2	+1.4	+ 5.7				
December ..	127.7	+1.2	+ 4.5				
1973—							
March.. ..	130.4	+2.1	+ 5.7	137.3 (1973)	+ 9.4	146.6 (1973-74)	+12.9
June	134.7	+3.3	+ 8.2				
September ..	139.6	+3.6	+10.6				
December ..	144.6	+3.6	+13.2				
1974—							
March.. ..	148.1	+2.4	+13.6	158.1 (1974)	+15.1	171.1 (1974-75)	+16.7
June	154.1	+4.1	+14.4				
September ..	162.0	+5.1	+16.0				
December ..	168.1	+3.8	+16.3				
1975—							
March.. ..	174.1	+3.6	+17.6	181.9 (1975)	+15.1	193.3 (1975-76)	+13.0
June	180.2	+3.5	+16.9				
September (d)	181.6	+0.8	+12.1				
December (d)	191.7	+5.6	+14.0				
1976—							
March.. ..	197.4	+3.0	+13.4				
June	202.4	+2.5	+12.3				

(a) Weighted average of six state capital cities combined.

(b) Calendar year and fiscal year index numbers are averages of the four respective quarterly index numbers.

(c) Over preceding period (year or quarter).

(d) Affected by the introduction of Medibank and consequent reduction in the cost of medical services.

The following table shows consumer price index figures for recent years for each state capital city and for the six state capitals combined. It should be noted that the rate of increase in prices can be compared for each city, however, the indexes do not provide a basis for the comparison of actual *price levels* between cities.

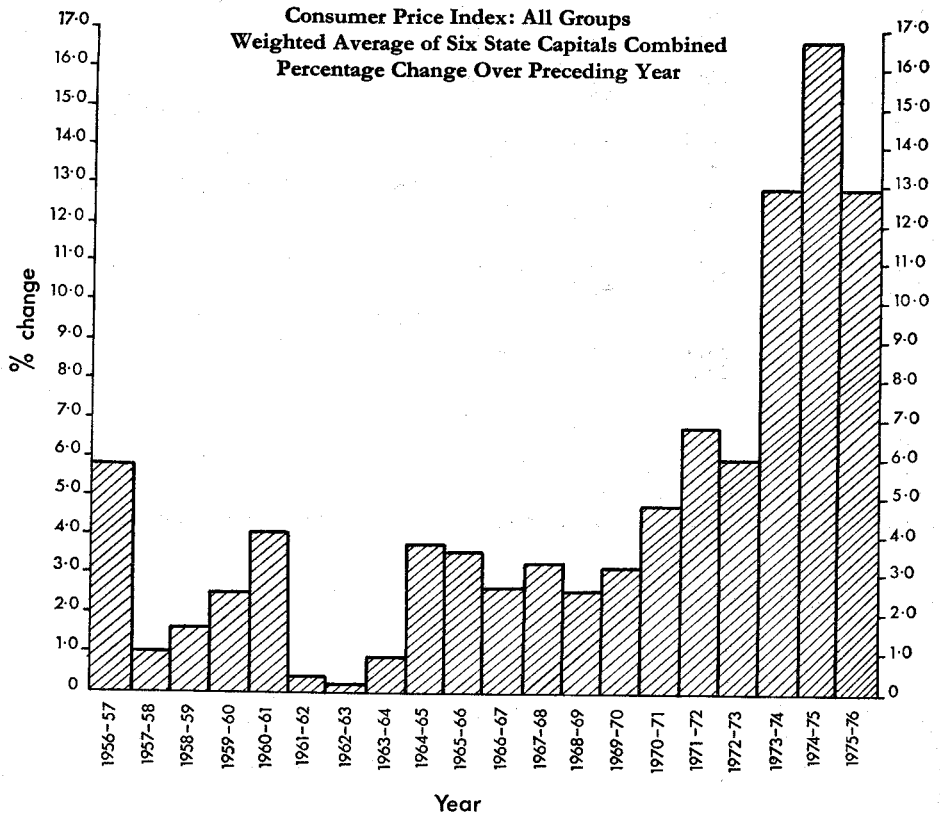
Consumer Price Index
All Groups—Six State Capital Cities and Weighted Average
 (Base of Index for Each City and for Six State Capital Cities Combined: Year 1966-67 = 100.0) (a)

Year	Sydney	Mel- bourne	Brisbane	Adelaide	Perth	Hobart	Six capitals (b)	
							Index	Per- centage change (c)
1965-66 ..	97.7	97.5	97.5	97.0	96.1	98.0	97.4	3.6
1966-67 ..	100.0	100.0	100.0	100.0	100.0	100.0	100.0	2.7
1967-68 ..	103.2	103.7	103.3	102.9	102.9	104.6	103.3	3.3
1968-69 ..	106.2	106.2	105.5	105.3	105.5	106.1	106.0	2.6
1969-70 ..	110.6	108.7	108.4	108.2	109.4	108.5	109.4	3.2
1970-71 ..	116.8	113.1	114.2	112.5	114.1	112.6	114.6	4.8
1971-72 ..	126.3	119.7	121.6	119.2	120.7	119.9	122.4	6.8
1972-73 ..	133.9	127.2	128.6	126.5	127.3	126.7	129.8	6.0
1973-74 ..	151.3	144.0	146.1	143.9	140.6	142.6	146.6	12.9
1974-75 ..	176.1	167.9	168.7	169.7	166.1	166.7	171.1	16.7
1975-76 ..	199.0	189.5	190.9	190.5	189.6	190.0	193.3	13.0
PERCENTAGE CHANGE: 1975-76 OVER 1974-75								
	13.0	12.9	13.2	12.3	14.1	14.0	13.0	..

(a) Figures after the decimal point have limited significance. They are inserted to avoid the distortions that would occur in rounding.

(b) Weighted average of six state capital cities.

(c) Over preceding year.



Average Prices of Foodstuffs, Hobart

The average retail prices of selected foodstuffs in Hobart since 1955 are shown in the next table. The list, while representative of foodstuffs commonly consumed, is not exhaustive; for a description of foodstuffs in the Consumer Price Index regimen, see the earlier table 'Consumer Price Index, Composition and Weighting Pattern'.

Average Retail Prices (a): Hobart
Selected Items of Foodstuffs
(Cents)

Article	Unit (a)	1955	1960	1965	1970	1974	1975
Bread (delivered)	900 g	12.0	14.2	15.8	21.3	31.2	39.2
Flour (plain)	1 kg	10.4	13.0	15.1	19.2	27.3	32.6
Tea	$\frac{1}{2}$ lb	36.6	34.2	32.9	30.7	33.6	45.1
Sugar	2 kg	33.0	41.0	41.8	49.0	48.0	52.4
Potatoes	7 lb	41.2	34.5	69.2	44.9	96.8	62.0
Butter (factory)	454 g	43.4	46.9	49.6	55.0	61.3	69.9
Eggs	doz.	55.8	56.7	61.0	67.7	94.2	98.5
Bacon (rashers)	250 g	31.6	37.6	49.1	55.6	75.6	91.9
Milk, bottled, delivered ..	2 x 600 ml	17.4	18.3	18.8	21.3	28.3	34.0
Beef—							
Rump steak	1 lb	47.4	65.9	79.4	93.9	145.0	130.2
Corned silverside	"	34.0	44.2	51.6	63.0	91.3	82.0
Mutton—							
Leg	"	23.8	24.9	29.8	26.9	n.a.	n.a.
Loin chops	"	18.9	19.0	25.2	23.8	n.a.	n.a.
Pork, leg	"	41.8	53.9	61.8	66.8	99.8	116.4

(a) The units shown are not necessarily those for which the original price data were obtained. Where the unit size has changed (e.g. in the case of a change to metric sizes) the prices shown have been calculated from the original unit data.

Consumer Retail Price Indexes: Various Countries (a)

(Source: Monthly Bulletin of Statistics of the Statistical Office of the United Nations)

Year	Australia (b)	France	Federal Repub. of Germany	Italy	Japan	New Zealand	Switz- erland	United King- dom	U.S.A.
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INDEX NUMBERS (Base of each index: Year 1970 = 100.0)

1971	106.1	105.5	105.3	104.8	106.1	110.4	106.6	109.4	104.3
1972	112.3	112.0	111.1	110.8	110.9	118.0	113.7	117.2	107.7
1973	122.9	120.2	118.8	122.8	123.9	127.7	123.6	128.0	114.4
1974	141.5	136.3	127.1	146.3	154.2	141.9	135.7	148.4	127.0
1975	162.8	152.2	134.7	171.1	172.4	162.7	144.8	184.4	138.6

PERCENTAGE INCREASE OVER PREVIOUS YEAR

1971	6.1	5.5	5.3	4.8	6.1	10.4	6.6	9.4	4.3
1972	5.9	6.2	5.5	5.7	4.5	6.9	6.7	7.1	3.3
1973	9.4	7.3	6.9	10.8	11.7	8.2	8.7	9.2	6.2
1974	15.1	13.4	7.0	19.1	24.5	11.1	9.8	15.9	11.0
1975	15.1	11.7	6.0	17.0	11.8	14.7	6.7	24.3	9.1

(a) The items priced and the levels at which they are priced in these indexes vary widely from country to country.

(b) Consumer Price Index converted to base: Year 1970=100.0.

Wholesale Price Indexes

General

The Bureau compiles several wholesale price indexes of basic materials. These include the 'Wholesale Price Index of Materials used in House Building' and the 'Wholesale Price Index of Materials used in Building other than House Building'. Two other indexes, the 'Melbourne Wholesale Price Index' and the 'Wholesale Prices (Basic Materials and Foodstuffs) Index', were compiled for a number of years but have been discontinued. A new index, the 'Wholesale Price Index of Materials used in the Manufacturing Industry' was first published by the Bureau in July 1975.

Wholesale Price Index of Materials Used in House Building

General: This index is complementary to the 'Other than House Building' index and measures the change in prices of selected materials used in house construction.

Scope and Composition: The materials selected and weights given to the items were in accordance with the usage of materials in a sample of representative house types constructed in or about 1968-69. The house types included in the sample were those using brick, brick veneer, timber or asbestos-cement sheeting for the outer-walls. Within the four major construction types account was taken of a range of characteristics, e.g. material used for internal partitions, window frames, roofs, etc. The number of items included in the index range from 49 (Brisbane) to 51 (Perth). The items are combined into 11 groups; an 'All groups' index is also published. Standards are fixed and price movements are for items of a constant quality.

Derivation of Items and Weights: The index is a fixed weight index and is calculated by the method known as the 'weighted arithmetic mean of price relatives'. The items and weights used are based on the reported values of materials used in the selected houses in each state capital city urban area. Information about materials used and their value was obtained for a total of 114 houses. The material values derived for each state capital city were then used to develop weighting patterns for the individual cities and aggregated to give a weighting pattern for the six state capital cities combined. The next table gives the weighting pattern for the Hobart index.

Wholesale Price Index of Materials Used in House Building
Composition and Weighting Pattern: Hobart

Group	Percentage weight of group
Concrete mix, cement and sand	7.25
Cement products	7.01
Clay bricks, tiles, etc.	10.14
Timber, board and joinery	38.15
Steel products	7.49
Other metal products	7.93
Plumbing fixtures, etc.	2.74
Electrical installation materials	1.61
Installed appliances	6.98
Plaster and plaster products	4.99
Miscellaneous materials	5.71
Total	100.00

Base Period: The index has a base year 1966-67=100.0 but the weighting pattern is more appropriate to material usage during 1968-69.

Prices: Prices relate to specified standards for each commodity and are obtained in all state capital city urban areas from representative suppliers of materials used in house building. The prices are collected as at the mid-point of the month to which the index refers.

Index Numbers: The index has been compiled for each month from July 1966 and for financial years from 1966-67. Index numbers are published for each group and combined into an all groups number for each state capital city and the six state capital cities combined.

The following table compares movements in the index numbers for each of the six capital cities and six capitals combined for recent years. (The separate city indexes allow comparisons to be drawn between capital city areas as to differences in the degree of price movement from period to period, but not as to differences in price levels.)

Wholesale Price Index of Materials Used in House Building
All Groups Index Numbers: Six State Capital Cities
(Base of Each Index: Year 1966-67 = 100.0)

Year or month	State capital cities						Six capitals (a)	
	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Index number	Percentage change (b)
1971-72	126.1	118.9	124.8	124.8	121.1	120.7	122.7	6.1
1972-73	135.6	126.5	133.8	134.8	126.9	130.8	131.1	6.8
1973-74	158.0	147.8	152.2	157.2	141.8	145.5	151.3	15.4
1974-75	189.4	178.4	187.0	195.4	172.4	179.1	183.4	21.2
1975-76	211.1	200.1	218.5	222.5	201.9	209.2	208.1	13.5
1975-76—								
September	204.4	193.6	207.0	213.9	193.2	201.1	200.4	2.7
December	208.8	197.6	217.5	220.9	199.9	207.8	206.0	2.8
March	215.3	204.2	225.2	225.8	206.0	216.1	212.5	3.2
June	224.2	212.6	233.6	238.3	217.0	223.4	221.9	4.4
PERCENTAGE CHANGE: JUNE 1976 OVER JUNE 1975								
	12.3	12.4	15.6	14.1	17.1	15.7	13.7	..

(a) Weighted average of six state capital cities.

(b) Over preceding year or preceding month shown.

Index numbers for the Hobart capital city urban area for each group of items are given in the next table:

Wholesale Price Index of Materials Used in House Building
Group Index Numbers: Hobart
(Base of Each Index: Year 1966-67 = 100.0)

Year or month	Concrete mix, cement and sand	Cement products	Clay bricks, tiles, etc.	Timber, board and joinery	Steel products	Other metal products
1971-72	123.6	124.2	123.8	120.3	129.2	117.1
1972-73	130.7	137.2	140.2	134.6	135.9	118.1
1973-74	139.8	147.3	159.2	154.2	150.8	130.9
1974-75	157.6	178.6	201.0	192.5	188.7	160.2
1975-76	184.9	205.9	244.0	226.6	224.2	181.8

Wholesale Price Index of Materials Used in House Building
Group Index Numbers: Hobart—continued
 (Base of Each Index: Year 1966-67 = 100.0)

Year or month	Concrete mix, cement and sand	Cement products	Clay bricks, tiles, etc.	Timber, board and joinery	Steel products	Other metal products
1974-75—						
September	146.7	172.7	188.4	180.9	178.9	149.0
December	156.0	177.7	200.5	193.0	186.0	163.7
March	164.1	179.3	212.7	195.5	200.0	168.5
June	173.1	196.4	218.1	208.7	202.8	r 171.6
1975-76—						
September	181.2	202.2	234.7	215.9	215.5	174.9
December	181.4	203.4	241.9	225.2	221.5	180.2
March	192.2	208.4	254.7	235.7	231.4	187.0
June	194.8	225.8	258.7	241.9	242.5	195.3

PERCENTAGE CHANGE: JUNE 1976 OVER JUNE 1975

	12.5	15.0	18.6	15.9	19.3	13.8
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Wholesale Price Index of Materials Used in House Building
Group Index Numbers: Hobart—continued
 (Base of Each Index: Year 1966-67 = 100.0)

Year or month	Plumbing fixtures, etc.	Electrical installation materials	Installed appliances	Plaster and plaster products	Miscellaneous materials	All groups	
						Index number	Percentage change (a)
1971-72	132.8	120.9	105.8	113.5	123.3	120.7	5.6
1972-73	136.8	126.0	107.6	114.2	132.5	130.8	8.4
1973-74	145.5	146.8	115.3	119.2	141.9	145.5	11.2
1974-75	173.2	162.4	130.3	157.0	178.6	179.1	23.1
1975-76	202.2	174.6	136.9	188.3	204.8	209.2	16.8
1974-75—							
September	167.1	161.4	132.1	148.6	171.4	169.7	5.9
December	173.0	162.1	133.3	158.7	178.8	179.4	5.7
March	177.5	160.0	128.1	163.6	190.0	184.3	2.7
June	182.7	162.4	128.3	175.2	190.9	193.1	4.8
1975-76—							
September	195.9	170.6	131.9	177.2	200.0	201.1	4.1
December	201.4	171.2	139.3	191.7	202.1	207.8	3.3
March	205.4	173.7	138.7	195.1	206.2	216.1	4.0
June	215.7	191.6	141.6	197.1	221.1	223.4	3.4

PERCENTAGE CHANGE: JUNE 1976 OVER JUNE 1975

	18.1	18.0	10.4	12.5	15.8	15.7	..
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(a) Over preceding year or preceding month shown.

Wholesale Price Index of Materials Used in Building Other than House Building

General: This was the first of a series of indexes designed to replace the obsolete Wholesale Price (Basic Materials and Foodstuffs) Index. The index measures changes in the prices of selected materials used in the construction of buildings other than houses and 'low-rise' flats (in general, those up to three storeys).

Scope and Composition: Composition of the index is in accordance with actual material usage in building projects which were selected as being representative for purposes of determining weighting patterns. Completed values of the types of buildings selected constituted 86 per cent of all completed new buildings other than houses and low-rise flats in the period 1964-65 to 1966-67. Buildings for entertainment, recreation and religious purposes together with buildings in the building statistics category 'miscellaneous buildings' are not directly represented.

The index comprises 72 items combined into 11 groups. Items are described in terms of fixed specifications with the aim of recording price changes for representative materials of constant quality. The group weighting pattern is given in the next table:

**Wholesale Price Index of Materials Used in Building Other Than House Building
Composition and Weighting Pattern**

Group	Percentage weight of group
Concrete mix, cement, sand, etc.	10.41
Cement products	3.64
Bricks, stone, etc.	5.28
Timber, board and joinery	11.90
Steel and iron products	30.58
Aluminium products	6.01
Other metal products	2.59
Plumbing fixtures	1.19
Miscellaneous materials	7.09
Electrical installation materials	8.61
Mechanical services components	12.70
Total	100.00

Base Period: The reference base of the index is the year 1966-67=100.0. The index is a fixed-weights index and is calculated by the method known as the 'weighted arithmetic mean of price relatives'.

Prices: Price series used relate to specified standards of each commodity and are obtained in all state capital city urban areas from representative suppliers of materials used in building. In the main they are collected as at the mid-point of the month to which the index refers, or as near thereto as practicable. There are some exceptions to the use of local prices in the indexes for each capital city area. In a few cases where suitable price series are not currently available for an item in a given city, imputation is necessary. For each capital city area, the whole of the group 'electrical installation materials' and the majority of the items in the group 'mechanical services components' are based on Sydney and Melbourne price series.

Index Numbers: The index has been compiled for each month from July 1966, and for financial years from 1966-67.

The separate city indexes measure price movements within each metropolitan area individually. They enable comparisons to be drawn between metropolitan areas as to differences in degree of price movement from period to period, but not as to differences in price level. The six state capitals combined index is a weighted average of the individual indexes for each city, weighted on the basis of estimated value on completion of building other than house building in the separate states over a fixed period.

The following table compares movements in the index numbers for each of the six capital cities and the six capitals combined:

Wholesale Price Index of Materials Used in Building Other Than House Building
All Groups Index Numbers: Six State Capital Cities
(Base of Each Index: Year 1966-67 = 100.0)

Year or month	State capital cities						Six capitals (a)	
	Sydney	Mel-bourne	Brisbane	Adelaide	Perth	Hobart	Index number	Percentage change (b)
1971-72	122.4	123.9	124.4	122.7	121.3	122.6	123.0	6.5
1972-73	127.2	131.2	130.4	129.8	126.3	129.7	128.9	4.8
1973-74	144.1	148.0	149.0	145.8	142.9	143.8	145.8	13.1
1974-75	176.0	r 180.6	186.6	181.0	176.7	r 179.3	179.2	22.9
1975-76	199.0	209.4	216.3	210.4	208.3	210.4	206.2	15.1
1974-75—								
September	168.2	172.2	177.7	171.6	167.4	169.3	170.8	5.4
December	175.1	179.2	184.9	179.9	174.6	177.7	177.9	4.2
March	182.9	186.6	193.6	188.2	184.7	187.3	186.1	4.6
June	185.5	r 192.6	r 199.6	r 193.0	r 188.7	192.7	190.4	2.3
1975-76—								
September	109.3	201.0	205.9	201.1	198.6	202.7	197.2	3.6
December	197.1	207.2	214.5	208.9	206.8	208.8	204.3	3.6
March	204.4	215.8	223.4	217.3	214.5	217.8	212.3	3.9
June	212.2	224.3	231.0	225.3	223.9	223.9	220.4	3.8
PERCENTAGE CHANGE: JUNE 1976 OVER JUNE 1975								
	14.4	16.5	15.7	16.7	18.7	16.2	15.8	..

(a) Weighted average of six state capital cities.

(b) Over preceding year or preceding month shown.

Index numbers for the Hobart urban area for each group of items are given in the following table:

Wholesale Price Index of Materials Used in Building Other Than House Building
Group Index Numbers: Hobart
(Base of Each Index: Year 1966-67 = 100.0)

Year or month	Concrete mix, cement, sand, etc.	Cement products	Bricks, stone, etc.	Timber, board and joinery	Steel and iron products	Aluminium products
1971-72	123.4	123.7	118.3	122.2	126.4	110.8
1972-73	130.3	138.4	130.1	134.3	133.6	111.8
1973-74	139.3	149.3	150.0	154.6	148.7	117.3
1974-75	157.5	179.5	197.6	191.2	195.0	149.1
1975-76	185.3	207.8	238.1	222.4	236.9	176.2
1974-75—						
September	146.5	174.3	189.4	183.3	183.5	137.0
December	155.6	180.7	198.1	190.5	188.9	151.3
March	163.9	183.0	203.4	193.8	207.6	159.2
June	173.3	191.2	209.3	206.4	211.6	164.8
1975-76—						
September	181.1	202.3	227.7	213.1	227.5	168.2
December	181.6	205.4	238.2	221.1	235.7	172.7
March	192.9	215.0	245.5	231.6	247.7	183.6
June	195.9	226.6	252.0	234.5	252.9	189.6

Wholesale Price Index of Materials Used in Building Other Than House Building
Group Index Numbers: Hobart—*continued*
(Base of Each Index: Year 1966-67 = 100.0)

Year or month	Concrete mix, cement, sand, etc.	Cement products	Bricks, stone, etc.	Timber, board and joinery	Steel and iron products	Aluminium products
PERCENTAGE CHANGE: JUNE 1976 OVER JUNE 1975						
	13.0	18.5	20.7	13.6	19.5	15.0

Wholesale Price Index of Materials Used in Building Other Than House Building
Group Index Numbers: Hobart—*continued*
(Base of Each Index: Year 1966-67 = 100.0)

Year or month	Other metal products	Plumbing fixtures	Miscellaneous materials	Electrical installation materials (a)	Mechanical services components (a)	All groups	
						Index number	Percentage change (b)
1971-72	126.0	135.1	115.8	114.7	127.5	122.6	6.6
1972-73	126.7	142.9	120.2	120.5	132.1	129.7	5.8
1973-74	150.1	154.0	129.1	138.3	143.5	143.8	10.9
1974-75	r 168.8	189.4	161.1	157.4	181.3	r 179.3	24.8
1975-76	176.5	221.6	188.1	177.4	201.7	210.4	17.3
1974-75—							
September ..	161.8	178.3	147.3	150.5	171.7	169.3	6.6
December ..	171.2	191.4	162.0	157.2	182.6	177.7	5.0
March	173.2	195.0	172.8	160.1	187.8	187.3	5.4
June	r 169.9	200.6	176.2	162.9	190.1	192.7	2.9
1975-76—							
September ..	173.7	217.7	183.6	169.1	194.9	202.7	5.2
December ..	174.7	222.4	187.2	176.2	200.6	208.8	3.0
March	177.1	226.0	190.8	181.5	205.7	217.8	4.3
June	188.7	232.0	199.3	192.4	212.6	223.9	2.8
PERCENTAGE CHANGE: JUNE 1976 OVER JUNE 1975							
	11.1	15.7	13.1	18.1	11.8	16.2	..

(a) The whole of the group 'Electrical installation materials' and the majority of items in the group 'Mechanical services components' are based on Melbourne and Sydney price series.

(b) Over preceding year or preceding month shown.

Australian Export Price Index

This index has fixed weights, its purpose being to provide monthly comparisons over a limited number of years of the level of export prices of the selected items, making no allowance for variations in quantities exported. The index numbers are thus measures of price change only. The price series used in the index relate to specific standards for each commodity and in most cases are combinations of prices for a number of representative grades, types, etc. For some commodities, price movements in the predominant market, or markets, are used, while for other commodities average realisations in all export markets are used. As nearly as possible, prices used are on the basis of f.o.b. at the main Australian ports of export.

Export Price Index Numbers: Australia
(Base of Each Index: Year 1959-60 = 100)

Year or month	Wool	Meats	Dairy produce	Cereals	Dried and canned fruits
1971-72	72	147	135	99	103
1972-73	179	178	119	102	106
1973-74	172	201	109	184	152
1974-75	121	132	127	256	r 176
1975-76	127	150	122	240	162
1974-75—					
September	114	148	122	252	171
December	120	135	129	262	183
March	118	113	132	270	181
June	119	126	130	236	165
1975-76—					
September	117	134	126	235	166
December	126	150	122	252	169
March	134	162	123	250	157
June	140	169	116	243	151

PERCENTAGE CHANGE: JUNE 1976 OVER JUNE 1975

	17.6	34.1	-10.8	3.0	-8.5
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Export Price Index Numbers: Australia—continued
(Base of Each Index: Year 1959-60 = 100)

Year or month	Sugar	Hides and tallow	Metals and coal (a)	Gold	All groups (b)	
					Index	Percentage change (c)
1971-72 ..	127	96	138	126	104	3.0
1972-73 ..	136	139	142	180	134	28.8
1973-74 ..	176	161	196	289	160	19.4
1974-75 ..	378	141	263	391	181	13.1
1975-76 ..	335	151	286	359	187	3.3
1974-75—						
September ..	429	168	249	347	178	4.1
December ..	528	138	262	446	188	5.6
March ..	421	115	265	436	185	-1.6
June ..	301	118	276	407	178	-3.8
1975-76—						
September ..	347	135	274	378	180	1.1
December ..	324	152	283	358	187	3.9
March ..	337	160	286	341	192	2.7
June ..	333	176	307	331	197	2.6

PERCENTAGE CHANGE: JUNE 1976 OVER JUNE 1975

	10.6	49.2	11.2	-18.7	10.7	..
--	------	------	------	-------	------	----

(a) Does not include iron ore, bauxite, alumina and mineral sands.

(b) In addition to the specified groups, 'All groups index' includes iron ore, bauxite, alumina and mineral sands.

(c) Over preceding year or preceding month shown.

The index numbers shown in the preceding table are based on the value of exports in 1969-70 and form part of an interim series which has been published since June 1969. The interim series will be published until a comprehensive review and rebasing of the index is completed. The 'All groups' index in the interim series includes the items iron ore, bauxite, alumina and mineral sands (these items were excluded from the index prior to June 1969) which are not included in the relevant sub-group, 'Metals and coal'.

Calculation of Price Index Series for Particular Purposes

Special purpose index series are often useful. For example, an index of average weekly earnings for Tasmania, base year 1971-72 = 100.0, may be useful in relation to the costs of a large construction program commenced in that year; an office rental rate may be adjusted regularly according to movements in the consumer price index from the date of commencement of the leasing agreement.

Calculation of a special purpose price index series based on values (or index numbers) available for a series of years is easily carried out as follows: Choose the base year and let the index number for that year equal 100.0; then the index number for any other year equals—

$$\frac{\text{value for that year}}{\text{value for the base year}} \times \frac{100.0}{1}$$

As examples, price index series with base year 1971-72 = 100.0 have been calculated from the following series: (i) average weekly earnings per employed male unit, Tasmania; and (ii) the consumer price index, all groups, for Hobart. The results are set out below:

Average Weekly Earnings Index and Consumer Price Index

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Average weekly earnings, Tas.—						
Amount \$	78.50	86.80	94.40	110.20	135.90	<i>p</i> 157.90
Index of, base year 1971-72=						
100.0	90.4	100.0	108.8	127.0	156.6	181.9
Percentage increase (a) ..	10.7	10.6	8.8	16.7	23.3	16.2
Consumer price index (b)—						
Base year 1966-67=100.0 ..	112.6	119.9	126.7	142.6	166.7	190.0
Base year 1971-72=100.0 ..	93.9	100.0	105.7	118.9	139.0	158.5
Percentage increase (a) ..	3.8	6.5	5.7	12.5	16.9	14.0

(a) Over preceding year.

(b) All groups, Hobart.

Using a Price Index Series

If a *relevant* price index is available, a *current value* series may be readily adjusted to values at *constant prices* relative to any base year desired, in order to allow a more realistic assessment of trends over time.

For example, the year *n* value, at year *m* constant prices

$$= \frac{\text{current value for year } n}{1} \times \frac{\text{price index for year } m}{\text{price index for year } n}$$

If it was desired to convert a current value of \$100m in 1974-75 to constant 1971-72 values based on the Hobart all groups consumer price index (see the last table for index numbers), the calculations would be as follows:

$$\begin{aligned} \text{Value at 1971-72 prices} &= \$100 \times \frac{119.9\text{m}}{166.7} \\ &= \underline{\underline{\$71.9\text{m}}} \end{aligned}$$

$$\begin{aligned} \text{(Or, alternatively, } \$100 \times \frac{100.0\text{m}}{139} &= \underline{\underline{\$71.9\text{m}}}) \end{aligned}$$

WAGES

Basic Wage in Tasmania

General

The present position is as follows: wages fixed by Tasmanian State Industrial Boards still consist of two parts, namely a *basic wage* and a *margin*; wages fixed by the Federal Conciliation and Arbitration Commission are expressed as a *total wage*, the basic wage concept having been abolished in federal awards in 1967. All state industrial authorities with the exception of Victoria's have also retained the basic wage concept. A more detailed history of the basic wage can be found in the 1970 *Year Book*.

Male Basic Wage Rates from 1953

The following table has been compiled to show the federal basic wage rate operating in Australian capital cities before the decision of 5 June 1967 (when the basic wage concept was eliminated from federal awards):

Federal Basic Wage: Weekly Rates, Adult Males
(\$)

Date operative (a)	Sydney	Mel- bourne	Brisbane	Adelaide	Perth	Hobart	Six capital cities
August 1953 ..	24.30	23.50	21.80	23.10	23.60	24.20	23.60
June 1956 ..	25.30	24.50	22.80	24.10	24.60	25.20	24.60
15 May 1957 ..	26.30	25.50	23.80	25.10	25.60	26.20	25.60
21 May 1958 ..	26.80	26.00	24.30	25.60	26.10	26.70	26.10
11 June 1959 ..	28.30	27.50	25.80	27.10	27.60	28.20	27.60
7 July 1961 ..	29.50	28.70	27.00	28.30	28.80	29.40	28.80
19 June 1964 ..	31.50	30.70	29.00	30.30	30.80	31.40	30.80
11 July 1966 ..	33.50	32.70	31.00	32.30	32.80	33.40	32.80

(a) Rates operative from the beginning of the first pay-period commencing in the month shown or commencing on or after the date shown.

Female Basic Wage Rates from 1953

The following table summarises the federal basic wage applicable to females from 1953. Prior to 1950, female basic wage rates had been approximately 54 to 56 per cent of male rates but the Court of Conciliation and Arbitration in its judgment in December of that year fixed the relativity at 75 per cent which was maintained until the elimination of the federal basic wage in 1967.

Federal Basic Wage Rate, Hobart: Adult Females
(**\$**)

Date operative (a)	Weekly rate	Date operative (a)	Weekly rate	Date operative (a)	Weekly rate
August 1953 ..	18.15	21 May 1958 ..	20.00	19 June 1964 ..	23.55
June 1956 ..	18.90	11 June 1959 ..	21.15	11 July 1966 ..	25.05
15 May 1957 ..	19.65	7 July 1961 ..	22.05	5 June 1967 ..	(b)

(a) Rates operative from the beginning of the first pay-period commencing in the month shown or commencing on or after the date shown.

(b) Abolition of federal basic wage; see later section headed 'Equal Pay Legislation'.

State Basic Wage Rates

The following table shows the awards and determinations made by state industrial authorities after the basic wage was abolished in federal awards in June 1967:

State Basic Wage Rates Prior To and After Abolition of Federal Basic Wage
(**\$**)

Date of operation (a)	Adult males	Adult females	Date of operation (a)	Adult males	Adult females
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TASMANIAN BASIC WAGE: HOBART

1966 11 July ..	33.40	25.05	1974 23 May ..	46.00	36.90
1967 1 July ..	34.40	26.05	1975 15 May ..	47.70	38.20
1968 25 October ..	35.70	27.40	1975 18 September ..	50.00	50.00
1969 19 December ..	36.80	28.20	1976 15 February ..	54.40	54.40
1971 1 January ..	39.00	29.90	1976 15 May ..	58.20	58.20
1972 19 May ..	41.00	31.90			
1973 29 May ..	43.50	34.40			

NEW SOUTH WALES BASIC WAGE: SYDNEY

1966 11 July ..	33.50	25.10	1973 29 May ..	44.40	35.10
1967 1 July ..	(b)	(b)	1974 23 May ..	47.80	38.50
1968 1 January ..	34.50	26.10	1975 15 May ..	49.50	40.20
1968 25 October ..	35.85	27.45	1975 18 September ..	51.20	41.90
1969 19 December ..	36.90	28.30	1976 15 February ..	54.50	45.20
1971 1 January ..	39.10	30.00	1976 15 May ..	56.10	48.80
1972 19 May ..	41.10	32.00			

QUEENSLAND BASIC WAGE: BRISBANE

1966 23 May ..	32.70	24.55	1973 27 August ..	44.80	35.35
1967 10 April ..	33.20	24.90	1973 26 November ..	46.60	36.70
1967 3 July ..	(b)	(b)	1974 11 March ..	48.20	37.90
1968 28 October ..	35.55	27.25	1974 27 May ..	49.40	38.80
1969 22 December ..	36.65	28.05	1974 2 September ..	51.20	40.15
1971 4 January ..	38.85	29.75	1975 26 May ..	54.40	42.55
1972 29 May ..	41.00	31.85	1975 22 September ..	56.30	44.05
1973 19 February ..	42.30	32.85	1976 16 February ..	59.90	46.75
1973 29 May ..	44.20	34.90	1976 17 May ..	61.70	48.10

State Basic Wage Rates Prior To and After Abolition of Federal Basic Wage—*continued*

(\$)

Date of operation (a)	Adult males	Adult females	Date of operation (a)	Adult males	Adult females
SOUTH AUSTRALIAN LIVING WAGE: ADELAIDE					
1966 11 July ..	32.30	24.20	1972 19 May ..	39.85	31.00
1967 3 July ..	33.30	25.20	1973 29 May ..	43.15	34.10
1968 28 October ..	34.65	26.55	1974 23 May ..	46.50	37.30
1969 22 December ..	(b)	(b)	1975 15 May ..	48.20	38.60
1971 4 January ..	37.85	29.00	1975 4 September ..	(c)	(c)
WESTERN AUSTRALIAN BASIC WAGE: PERTH					
1966 2 August ..	33.26	24.95	1970 26 October ..	38.45	29.40
1966 24 October ..	33.50	25.13	1972 26 June ..	40.45	32.40
1967 1 July ..	(b)	(b)	1973 8 June ..	44.00	36.00
1968 25 October ..	(b)	(b)	1973 17 September	44.00	39.00
1968 22 November..	35.45	27.08	1974 31 May ..	48.50	43.50
1969 24 November..	36.45	27.88			
VICTORIAN BASIC WAGE: MELBOURNE					
1966 11 July ..	32.70	24.50	1967 1 July.. ..	(c)	(c)

(a) Rates operative from the first pay-period commencing on or after the date shown.

(b) Special loadings (N.S.W., \$1; Qld, \$1; S.A., 3 per cent; W.A., \$0.60 from 1.7.67 and a further \$1.35 from 25.10.68) were added to award rates but later absorbed into the basic wage.

(c) Basic wage and margins deleted from determinations; subsequently rates expressed as total wages.

Minimum Wages

The Federal Conciliation and Arbitration Commission announced in its decision of 8 July 1966 that it intended to grant relief to low wage earners by inserting a provision prescribing a minimum wage. It ordered that the minimum male wage paid under the Metal Trades Award should be the appropriate basic wage plus \$3.75 a week (e.g. in Tasmania a basic wage of \$33.40 plus \$3.75 giving a minimum wage of \$37.15).

Tasmanian Industrial Boards introduced the concept of the minimum wage into their determinations in June 1967. Weekly minimum wage rates prescribed in federal and State awards for recent years are shown in the following table:

Minimum Wages, Adult Males: Federal and State Awards

(\$)

Date operative (a)	Federal awards	Tasmanian State Industrial Boards determinations
19 May 1972	51.70	51.70
29 May 1973	60.70	60.70
23 May 1974	68.70	68.70
1 January 1975	76.70	76.70
15 May 1975	80.70	80.70
18 September 1975	83.50	83.50
15 February 1976	88.80	88.80
1 April 1976	93.80	93.80
15 May 1976	96.60	97.60

(a) Rates operative from the first pay-period commencing on or after the date shown.

Recent State Industrial Boards Margins Reviews

Review of Margins 1974

In the 1974 'test case' the employee representatives based their claims for increased margins on a deterioration in relativities between tradesmen and builders labourers. The employers opposed increased margins because of the high level of industrial disputes and the fact that it was less than 12 months since the last adjustment of tradesmen's margins.

The Chairman based his decision on the award handed down earlier in the year by the Arbitration Commission to the Metal Industries. An increase of 3.6 per cent was awarded to all tradesmen engaged in trades which came under the jurisdiction of the State Industrial Boards. The increase became effective from the first pay period commencing on or after 8 May 1974.

Review of Margins 1975

Test Case: Representatives of both employers and employees appeared before the Chairman of the State Industrial Boards to argue for and against an increase in tradesmen's margins. Tradesmen's representatives claimed a 40 per cent increase in margins and an additional \$20 per week for employees engaged on maintenance work.

Argument: The Chairman, in his decision, indicated that the submissions put forward by both employer and employee representatives presented very little fresh evidence from that which had been produced in previous cases regarding tradesmen's wage rates.

Determination: In his decision the Chairman indicated that he considered tradesmen's basic rates in Tasmania compared very favourably with those in other states but referred also to 'The National Building Trades Construction Award 1975' which absorbed some classifications in the State Building Trades determination and left others as they were. The deterioration of relative wages through a new award being made by a different Authority (and without regard to work values or changing circumstances within the industry), resulted in some discontent which spread beyond the building industry.

As a result of the low incidence of over-award payments and the effects of 'The National Building Trades Construction Award', together with other undisclosed reasons, the Chairman decided to increase all margins for tradesmen by 10 per cent. The increased rates applied from the first pay period commencing on or after 5 January 1976.

Total Wage Concept

For a full account of events leading to the adoption of a 'total wage' concept see the 1970 *Year Book*. The decision, abolishing the basic wage in awards of the Federal Conciliation and Arbitration Commission, was handed down in June 1967 when a \$1.00 increase was awarded, to be added to the *total wage*. Results of recent national wage cases follow:

- 1973 The total wage was increased by a combination of a two per cent increase plus a flat increase of \$2.50. The minimum wage was increased by \$9.00 per week.
- 1974 The Arbitration Commission again increased total award rates by a combination of a two per cent increase plus a flat rate increase of \$2.50. The minimum wage was increased by \$8.00 per week.

- 1975 Total wages were increased by 3.6 per cent in line with the movement of the Consumer Price Index during the March quarter 1975. The minimum wage was increased by \$8.00 per week, effective from 1 January 1975, and by a further \$4.00 when trial indexation was introduced.
- 1976 The 1976 national wage case is outlined in a later section.

Total Wage Concept in Tasmania

The federal award of June 1967 was followed by a test case argued before the Chairman of the State Industrial Boards. The employers asked for adoption of the total wage concept. The unions opposed this and argued for a \$7.30 increase in the basic wage; if a lesser amount was determined, then a *minimum total wage* of \$40.70 should nevertheless be fixed.

The decision in the test case (Electrical Trades) was that both male and female rates should be increased by \$1; the increase, however, should be regarded as *raising the basic wage* which would be retained for the present in State determinations. The State Industrial Boards have retained the basic wage and margins concepts in awards handed down following subsequent national wage case determinations of the Federal Conciliation and Arbitration Commission.

State Industrial Boards Decisions, 1976: Meetings of all industrial boards were convened to determine variations to the State basic wage and minimum wage following National Wage Case hearings during 1975 and 1976. Representatives from the Tasmanian Employers' Federation and the Tasmanian Trades and Labour Council appeared at the hearings which were held under the 'common rule' provisions of the *Industrial Boards Act*. Determinations were increased as follows:

- September 1975—The basic wage was increased to \$50.00 for both males and females and the minimum wage by \$2.80 to \$83.50.
- February 1976—The basic wage was increased to \$54.40 and the minimum wage by \$5.30 to \$88.80.
- April 1976—The minimum wage was increased to \$93.80 but no adjustment was made to the basic wage.
- May 1976—The basic wage was increased by \$3.80 to \$58.20 and the minimum wage by \$3.80 to \$97.60.

National Wage Case 1975-76

The Conciliation and Arbitration Commission began hearing submissions regarding wage indexation subsequent to the publication of the June Quarter 1975 Consumer Price Index. Submissions were made by the Federal Government, state governments, tribunals, private employers and trade unions. The Commission also sat to consider whether subsequent increases should be awarded, in line with the principles of wage indexation, following publication of the Consumer Price Index for the September and December 1975 quarters and the March 1976 quarter.

June Quarter 1975

The Commission stated, at the hearing following publication of the June quarter Consumer Price Index, that when awards and determinations were adjusted in April it was not prepared to introduce wage indexation in principle. This view was still maintained by the Arbitration Commission and was strengthened by the fact that a number of wage claims, some of which were accompanied by strike action, had been instigated by several trade unions. These were inconsistent with the guidelines previously set down by the Commission.

However, rather than abandon the new method of wage fixation, the Commission decided to continue with the experiment in the hope that all parties would abide by the conditions and interpretations. This would hopefully have a beneficial effect on industrial relations, employment and prices.

In its decision, the Arbitration Commission stated that the economic outlook for the immediate future appeared uncertain, unemployment had risen during the quarter and that the safest course from an economic point of view would be not to add to wage costs; particularly as during the preceding twelve months the average increase in federal award rates had by far outstripped the increase in the Consumer Price Index. The Commission considered, however, that real wages should not be allowed to fall as it could be reasonably expected that in the long term maintenance of industrial accord, and economic benefits, would be accomplished by a system of orderly wage fixation.

Accordingly, all awards and determinations were increased by 3.5 per cent and the minimum wage was increased by \$2.80 per week. Increased payments became effective from the beginning of the first pay period commencing on or after 18 September 1975.

September Quarter 1975

In the hearing following publication of the September quarter Consumer Price Index the Arbitration Commission refused to grant any increase in awards and determinations. This decision was in keeping with the original decision of the Commission not to make adjustments where the quarterly movement in the Consumer Price Index was less than one per cent. In the September quarter 1975 the movement was 0.8 per cent.

December Quarter 1975

The Commission began hearing evidence in February 1976 following the increase of 5.6 per cent in the December quarter Consumer Price Index together with the 0.8 per cent increase in the September quarter.

Full adjustment of 6.4 per cent was supported by the trade unions and the state governments of Victoria, South Australia and Tasmania. Private employers, the Federal Government and the state governments of New South Wales, Western Australia and Queensland maintained that some form of discounting should take place but differed as to the extent. Opponents of the full adjustment claimed that the granting of 6.4 per cent would ' . . . revive inflationary expectations, discourage consumption and investment and increase unemployment '.

The Commission considered, however, that ' . . . the contribution of wage adjustments to the abatement of inflation and the promotion of economic recovery is necessarily a gradual process . . . ' and went on to point out that average weekly earnings had increased by a far lesser extent in the twelve months ended December 1975 than in the corresponding period during the previous year.

The Commission decided, after consideration of all submissions, that there was no valid reason to depart from its earlier decisions to maintain real wages and consequently increased all wages and salaries prescribed in the awards and determinations by 6.4 per cent as from the beginning of the first pay period commencing on or after 15 February 1976.

March Quarter 1976

In its decision handed down in respect of the Consumer Price Index movement during the March quarter 1976 the Commission indicated its support of the system of wage fixing by measuring the effects of short-term advantages or disadvantages against long-term costs or gains.

The Commission went on to say that ' . . . we have taken this approach in the light of the experience of self-defeating sectional wage settlements of the last few years culminating in the wage explosion of 1974'. The Commission also said that because of the state of the economy, and of union action attempting to obtain benefits outside those allowed by the principles of indexation, it was not prepared to make decisions in respect of indexation other than by a quarter to quarter review.

Evidence was submitted by private employers, the Federal Government and some states pointing out that the Consumer Price Index was not suitable for determining wage adjustments because of fluctuations due to seasonal conditions, changes in import prices and increases in indirect taxes or government charges. The Commission's attitude on this matter was that its role was merely to observe that the option exists for any party in the future ' . . . to explain and justify the degree of adjusting it proposes'.

The Commission held the view that to grant full indexation would maintain the rate of inflation at around 13 per cent and aggravate unemployment. It decided to award the full three per cent on a restricted basis. The three per cent was applied to the minimum wage and all award wage and salary earners up to \$125.00 per week. Above that level a flat rate of \$3.80 per week was awarded.

At the time of handing down the decision the Commission emphasised that this particular procedure was adopted for only the current quarter. All future adjustments would be determined with regard to evidence submitted and prevailing economic circumstances at the time.

The increased awards and determinations operated from the beginning of the first pay period commencing on or after 15 May 1976.

Equal Pay Legislation

Introduction

The concept of 'equal pay' has achieved partial recognition in some Australian states because occupations exist in which men and women perform work which is identical (e.g. teaching, medical practice, etc.); such identity has given rise to industrial claims based on the principle of 'equal pay for equal work'. The logic of such occupational situations was ignored in the past and it was not until 1950 that the Federal Court of Conciliation and Arbitration fixed the female basic wage at 75 per cent of the male rate (it had previously been as low as 54 or 56 per cent). With regard to margins, there was no universal rule but, in the Federal Government Public Service, for example, certain female employees received the same margin as males, but only the female basic rate.

Tasmanian Legislation (1966)

In Tasmania the approach to the problem was different in that the Parliament in 1966 passed legislation affecting only employees in the public sector. The *Public Service (Equal Pay) Act 1966* applied to those employed by the State Government or employed by state authorities, e.g. the teaching service, the police force, the railway service, etc. The Act required that wage-fixing authorities had to be satisfied in any application that certain female employees were performing 'work of the same or a like nature and of equal value'. If this was established, then the authority was required to fix the same margins for all employees, irrespective of sex. This still did not give equal pay, due to the lower female basic wage. Accordingly the Act provided for annual five per cent increments in the female basic wage until equality with the male rate was reached in 1972.

National Wage Cases

In awarding the \$1 increase to both males and females in 1967, the Federal Conciliation and Arbitration Commission departed from the principle of maintaining a 75 per cent ratio between the male and female basic wage. This was done deliberately and the Commission's pronouncement in June 1967 referred to the eventual possibility of equal pay for equal work. In all subsequent national wage cases the Commission has granted uniform quantum or percentage increases to males and females. Subsequently, in the National Equal Pay Case of 1969, the Conciliation and Arbitration Commission accepted in principle the concept of 'equal pay for equal work', however, equality of work had to be proved before an increase was granted to female workers. Where an Arbitrator or Commissioner was satisfied that equal pay should be awarded, the increase was introduced progressively until, on 1 January 1972, equality with the male rate was achieved.

In the National Wage and Equal Pay Case 1972, the Commission accepted the principle of 'equal pay for work of equal value'. The principle requires that female rates be determined by work value comparisons without regard to the sex of the employees concerned. In the National Wage Case 1974, the Commission extended the minimum wage provisions to females, awarding them 85 per cent of the minimum male rate and progressively increasing it to 100 per cent by 30 June 1975.

Equal pay legislation is described in greater detail in the 1976 and earlier editions of the *Year Book*.

Weekly Wage Rates in Tasmania

Definitions

In this section, 'weekly wage rates' is used as a short title for '*weighted average minimum weekly wage rates*'. The rates are those applicable to adult males and adult females, and are those fixed in *awards*.

The minimum wage is the lowest rate payable for a particular occupation. This minimum rate may be expressed as: (i) a total wage (e.g. in awards of the Federal Conciliation and Arbitration Commission); (ii) a basic wage plus secondary wage payments, i.e. additional amounts for skills, loadings, etc. (e.g. in awards of state wage-fixing authorities except Victoria); or (iii) in agreements registered with federal or state wage-fixing authorities. The introduction of varying federal and state practices relating to 'total' and 'basic' wages from time to time has not affected the continuity of the statistical series.

Weighting: To arrive at a weighted average rate for a particular field (e.g. a rate for occupations in Tasmania covered by federal awards) certain data are required. The basic initial information is the award rate applying to each occupation and its relative significance (broadly, the numbers in each occupation). The calculation of average minimum rates is based on the occupational structure existing in 1954.

The individual minimum wage rates, combined to give the averages shown in the tables, are those for representative occupations within each industry. Since the aim is to measure movements in prescribed minimum rates of 'wages' as distinct from 'salaries', those awards, etc., which relate solely or mainly to salary-earners are excluded. Weighted averages of the components of the total minimum weekly wage rate (i.e. basic wage, margin and loading) are calculated separately for adult male employees covered by federal awards, etc., and for those covered by state awards, etc.

'*Federal Awards, etc.*': These include awards of, or agreements registered with, the Federal Conciliation and Arbitration Commission, and determinations of the Federal Government Public Service Arbitrator.

'*State Awards, etc.*': These include awards or determinations of, or agreements registered with state industrial tribunals, together with certain unregistered agreements, where these are dominant in the particular industries to which they refer. (In Tasmania the principal tribunals are the State Industrial Boards.)

'*Basic Wage Rates*': These are weighted averages of the weekly rates prescribed in awards, etc., for the occupations included in the calculation. For industries other than mining, metropolitan basic wage rates have generally been used. However, there are a number of occupations for which basic wage rates other than the metropolitan rate are prescribed. In all such cases, the basic wage rate actually paid is used in the tables. As a result, the weighted average basic wage shown in this section differs from the Hobart basic wage appearing elsewhere.

'*Margins*': These are minimum amounts, in addition to the basic wage, awarded to particular classifications of employees for special features such as skill, experience, arduousness or other like factors.

'*Loadings*': These include industry loadings and other general loadings prescribed in awards, etc., for the occupations included in the calculation. Loadings that are not applicable to all workers in a specified award occupation (for example, those payable because of length of service; working in wet, dirty or confined spaces, etc.) are not included in the calculation.

Male and Female Rates

The following table summarises weekly wage rates for adult males and adult females in Tasmania from 1960 onwards. The averages include federal and State awards, etc., and are for all industry groups combined.

Weighted Average Minimum Weekly Wage Rates (a)
Adult Males and Adult Females: All Groups
(\$)

End of December—	Adult rate		End of December—	Adult rate	
	Male	Female		Male	Female
1960	35.15	23.88	1968.. .. .	48.98	33.46
1961	36.27	24.82	1969.. .. .	52.00	36.94
1962	36.48	24.83	1970.. .. .	54.49	38.17
1963	37.29	25.21	1971.. .. .	60.86	44.35
1964	39.69	27.04	1972.. .. .	67.18	49.07
1965	40.73	27.94	1973.. .. .	76.80	61.16
1966	43.27	29.80	1974.. .. .	r 106.02	r 92.47
1967	45.31	31.62	1975.. .. .	117.06	105.56

(a) Weighted average minimum weekly rates payable for a full week's work (excluding overtime) as prescribed in awards, determinations, etc.

Limitation: The wage rates shown in the tables in this section should not be regarded as actual current averages, but rather as indexes expressed in money terms, indicative of trends. The wage rates do not measure the relative level of minimum wages as between states.

Minimum weekly wage rates for adult males are not comparable with 'average weekly earnings per employed male unit' appearing in a later section of this chapter; the latter includes not only the earnings of adult wage-earners but also those of salaried employees, junior wage-earners and part-time and casual employees; included also are over-award payments and overtime earnings.

Rates in Industry Groups

Tasmanian details by industry group are given in the next table:

**Weighted Average Minimum Weekly Wage Rates and Index Numbers
Adult Males and Adult Females: Industry Groups, 31 December 1975**

Industry group	Adult males		Adult females	
	Rates of wage (\$)	Index numbers (a)	Rates of wage (\$)	Index numbers (a)
Mining and quarrying	129.14	457.3	..	..
Manufacturing—				
Engineering, metals, vehicles, etc. ..	111.09	393.3	107.05	537.7
Textiles, clothing and footwear	104.86	371.3	95.67	480.6
Food, drink and tobacco	109.90	389.1	105.07	527.8
Sawmilling, furniture, etc.	106.46	377.0	93.38	469.1
Paper, printing, etc.	115.62	409.4	106.32	534.1
Other manufacturing	107.97	382.3	..	..
All manufacturing groups	110.06	389.7	100.93	517.8
Building and construction	119.26	422.3	..	..
Railway services	107.98	382.3	116.50	585.2
Road and air transport	115.81	410.1	..	..
Shipping and stevedoring	143.42	507.8	..	..
Communication	137.88	488.2	118.21	593.8
Wholesale and retail trade	118.85	420.8	109.91	552.1
Public authority (n.e.i.) and community and business services	128.12	453.7	113.32	569.2
Amusement, hotels, personal service, etc. ..	103.52	366.5	99.79	501.2
All industry groups	117.06	414.5	105.56	530.2

(a) Base of index numbers: weighted average minimum weekly wage rate, Australia, 1954 = 100.0.

Index Numbers

The following table shows, in summary form, the index numbers for adult male and adult female weighted average minimum weekly wage rates in Tasmania from 1969:

**Weighted Average Minimum Weekly Wage Rates: Index Numbers, All Groups
Adult Males and Adult Females**

End of December—	Index numbers (a)		End of—	Index numbers (a)	
	Male	Female		Male	Female
1969	184.1	185.6	December 1974 ..	r 375.4	r 464.5
1970	192.9	191.7	March 1975	380.7	482.2
1971	215.5	222.8	June 1975	398.7	507.5
1972	237.9	246.5	September 1975 ..	413.5	528.8
1973	271.9	307.2	December 1975 ..	414.5	530.2

(a) Base of index numbers: weighted average minimum weekly wage rate, Australia, 1954 = 100.0

Components of Weekly Wage Rates (Male)

The next table shows the adult male weighted average minimum weekly rate, according to its federal and State award elements, for Tasmania. The State award element is shown in its component parts (basic wage, margin and loading). However, adoption of the total wage concept in June 1967 precludes a similar dissection of federal awards.

Weighted Average Minimum Weekly Wage Rates, End of December (a)
Components of Wage Rates, All Groups: Adult Males
(\$)

Particulars	1970	1971	1972	1973	1974	1975
Federal awards	r 53.78	60.46	67.06	r 77.30	105.09	117.92
State awards, etc.—						
Basic wage	39.98	39.00	41.00	43.50	46.00	49.89
Margin	13.17	19.74	23.46	r 30.22	59.36	62.73
Loading	1.50	2.75	2.90	1.92	2.35	2.47
Total	54.65	61.49	67.36	r 75.64	r 107.71	115.09
All awards	r 54.20	60.86	67.18	76.80	r 106.02	117.06

(a) For a full week's work (excluding overtime) as prescribed in awards, determinations, etc.

Australian Rates

In the next table, rates and index numbers are shown for each Australian state:

Australia: Weighted Average Minimum Weekly Wage Rates (a): All Groups, Adult Males

End of December—	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia
RATES OF WAGES (\$)							
1970	54.40	53.68	55.07	52.12	55.99	r 54.20	54.20
1971	61.70	61.40	62.90	59.38	61.98	60.86	61.56
1972	68.11	67.86	68.42	65.82	66.15	67.18	67.71
1973	78.13	77.42	79.82	75.20	75.66	76.80	77.69
1974 r	105.86	105.15	108.95	103.32	101.02	106.02	105.53
1975	118.66	117.15	121.47	115.12	113.30	117.06	117.88
INDEX NUMBERS (b)							
1970	192.6	190.1	195.0	184.6	198.2	192.9	191.9
1971	218.5	217.4	222.8	210.3	219.5	215.5	218.0
1972	241.2	240.3	242.3	233.1	234.2	237.9	239.8
1973	276.7	274.1	282.6	266.3	267.9	271.9	275.1
1974 r	374.8	372.3	385.8	365.8	357.7	375.4	373.7
1975	420.2	414.8	430.1	407.6	401.2	414.5	417.4

(a) For a full week's work (excluding overtime), as prescribed in awards, determinations, etc.

(b) Base of index numbers: weighted average minimum weekly wage rate, Australia, 1954 = 100.0.

*Hourly Wage Rates in Tasmania**General*

Hourly wage rates is the short title for 'weighted average minimum hourly rates payable'. The concept is completely analogous to that embodied in weighted average minimum weekly wage rates and the calculation is similarly based on rates prescribed in awards or determinations of federal and state industrial authorities or in agreements registered with them.

Definitions

Hours of Work: In the fixation of weekly wage rates, most industrial tribunals prescribe the number of hours constituting a full week's work for the wage rates specified. The hours of work so prescribed form the basis of the compilation of the weighted averages of hourly rates.

Rural industry is excluded from the calculation of weighted average minimum weekly wage rates and also from the calculation of weighted average minimum hourly wage rates. In addition, the shipping and stevedoring group is also excluded from the latter calculation since definite particulars for the computation of hourly wage rates are not available.

The 40-hour week has operated in Australia generally from 1 January 1948 (N.S.W., from 1 July 1947). Nevertheless the number of hours constituting a full week's work (excluding overtime) differs between occupations and/or states. The weighted average standard hours of work (excluding overtime) prescribed in awards, determinations and agreements for a full working week, in respect of adult male workers in all industry groups except rural, and shipping and stevedoring, at 30 June 1975, were: N.S.W., 39.77; Victoria, 39.96; Queensland, 39.88; S.A., 39.95; W.A., 39.83; Tasmania, 39.91; Australia, 39.86. Corresponding figures for adult female workers at 30 June 1974, were: N.S.W., 39.53; Victoria, 39.81; Queensland, 39.70; S.A., 39.77; W.A., 39.78; Tasmania, 39.63; Australia, 39.67.

Weekly Wage Rate Definitions: Apart from exclusion of the shipping and stevedoring industry, the definitions in the section headed 'weekly wage rates' apply with equal force to the calculation of hourly wage rates.

Summary of Details

The following table shows, for Tasmania, weighted average minimum hourly wage rates for adult male and adult female workers in all industries (except rural, and shipping and stevedoring) since 1939:

**Weighted Average Minimum Hourly Wage Rates, All Groups
Adult Males and Adult Females**

End of—	Rates of wage		Index numbers (a)	
	Males (b)	Females (c)	Males (b)	Females (c)
	\$	\$		
December—1939	0.2095	n.a.	29.6	n.a.
1945	0.2642	n.a.	37.3	n.a.
1950	0.4952	n.a.	70.0	n.a.
1955	0.7371	0.5056	104.2	100.8
1960	0.8808	0.6037	124.5	120.3
1965	1.0211	0.7052	144.3	140.6
1969	1.2955	0.9323	183.1	185.8
1970	1.3550	0.9632	191.5	192.0
1971	1.5192	1.1191	214.7	223.1
1972	1.6591	1.2385	234.5	246.9
1973	1.9010	1.5435	268.7	307.6
September—1974 r	2.5117	2.1102	355.0	420.6
December—1974 r	2.6396	2.3336	373.1	465.1
March—1975	2.6791	2.4226	378.7	482.9
June—1975	2.7819	2.5499	393.2	508.3
September—1975	2.8855	2.6567	407.8	529.5
December—1975	2.8932	2.6639	408.9	531.0

(a) Base of index numbers: weighted average hourly wage rate, Australia, 1954 = 100.0.

(b) All industry groups except rural, and shipping and stevedoring.

(c) All industry groups except rural, mining and quarrying, and building and construction.

Average Weekly Earnings in Tasmania*Source of Data*

The figures in the following section are derived from particulars of employment and of wages and salaries recorded on pay-roll tax returns, from other direct collections and from estimates of the unrecorded balance. (In general, businesses with pay-rolls of less than \$3 467 per month are exempt from pay-roll tax and do not need to supply monthly details of employment and of wages and salaries. Prior to 1 January 1975 the exemption limit was \$1 734 per month.) Pay of members of the defence forces is not included.

Definitions

'*Employed Male Unit*': This is a special unit devised to overcome the difficulty that particulars of wages and salaries are not available separately for males and females. (The basic data available are the number of males, the number of females and the total pay-roll only.) The number of females is converted to a *lesser equivalent number* of males by taking into account the approximate ratio of female to male earnings; a divisor for deriving average 'male' earnings is then obtained by adding the actual number of males to the calculated number of 'male equivalents'. The divisor so obtained is called 'employed male units'.

From 1 September 1966, the series has been revised using separate ratios of male to female earnings for each state. (The ratio used for Tasmania is 65 per cent; for calculating Australian figures a weighted average of the six states of approximately 64 per cent is used.)

Components of Pay-roll: Pay-roll includes, in addition to wages at award rates, the earnings of salaried employees, overtime earnings, over-award and bonus payments, allowances, commissions, directors' fees, and payments made in advance or retrospectively (e.g. advances of annual leave pay). Included also are the wages and salaries, not only of adults, but also of juniors; the earnings may relate to full-time, part-time or casual workers.

Invalid Comparison: Average earnings per employed male unit cannot be compared with male weighted average minimum weekly wage rates shown in the previous section. Weighted average minimum weekly wage rates relate to award rates for adult male wage earners in non-rural industry for a full week's work, at the end of each month or year; the average weekly earnings per employed male unit are derived from the pay-roll concept outlined in the previous paragraph, and obviously cover a wider field of earnings and of wage and salary earners.

Seasonal Influence: Quarterly figures are affected by seasonal influences. Comparisons as to trends are generally best made by relating complete years or corresponding periods of incomplete years. Alternatively, a 'seasonally adjusted' series may be used. Seasonally adjusted estimates (i.e. original data subjected to seasonal adjustment factors to remove the sudden influence of major changes in awards and determinations and of the effects of pay-day variations) are shown in the graph which follows the next table.

Annual and Quarterly Details

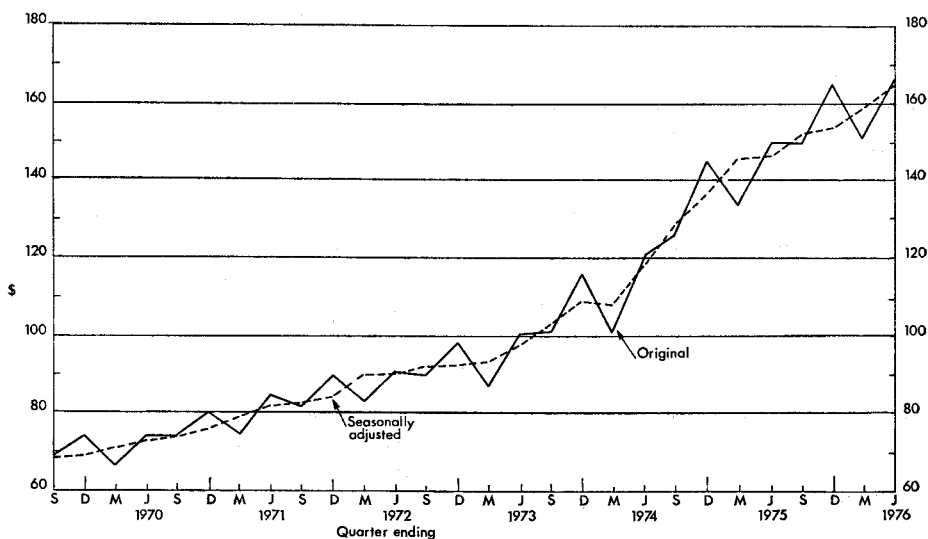
The following tables show, for Tasmania and Australia, average weekly earnings per employed male unit; the figures are arranged both as quarterly and annual averages:

Average Weekly Earnings Per Employed Male Unit (a)

Year	Average for quarter ending— (\$)				Average for year	
	September	December	March	June	Amount (\$)	Percentage change (b)
1970-71 ..	74.40	80.40	74.60	84.70	78.50	10.7
1971-72 ..	82.10	90.00	83.70	91.30	86.80	10.6
1972-73 ..	90.30	98.80	87.60	100.90	94.40	8.8
1973-74 ..	101.70	116.10	101.50	120.40	110.20	16.7
1974-75 ..	126.40	145.30	134.00	r 150.00	r 138.90	r 26.0
1975-76 ..	149.90	164.80	151.00	p 165.70	p 157.90	13.7

(a) For definitions, see earlier section headed 'Definitions'.

(b) Over preceding year.

Average Weekly Earnings Per Employed Male Unit
Quarterly Averages, Tasmania

Australia: Average Weekly Earnings Per Employed Male Unit (a)

(\$)

Year or quarter	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia (b)	
							Amount	Percent- age change (c)
1970-71	87.30	86.40	78.00	77.20	84.90	78.50	84.80	11.1
1971-72	95.90	93.60	87.00	85.30	93.70	86.80	93.00	9.7
1972-73	104.30	102.50	97.00	93.00	99.00	94.40	101.50	9.1
1973-74	121.00	118.40	112.60	110.60	115.50	110.20	118.00	16.3
1974-75 r	151.90	148.30	141.80	139.80	146.00	138.90	148.20	25.6
1975-76	172.10	170.70	162.90	158.40	168.60	157.60	169.30	14.2

Australia: Average Weekly Earnings Per Employed Male Unit (a)—continued
(\$)

Year or quarter	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia (b)	
							Amount	Percentage change (c)
1972—June	99.70	97.40	91.40	88.20	94.40	91.30	96.70	0.7
December	107.40	105.50	98.70	94.70	99.30	98.80	104.10	7.7
1973—June	110.90	107.90	103.50	99.10	104.90	100.90	107.80	3.6
December	123.00	120.90	114.10	110.90	115.00	116.10	119.90	11.2
1974—June	131.60	127.80	123.70	121.90	126.10	120.40	128.50	7.2
December	158.20	155.30	148.60	143.80	147.90	145.30	154.20	20.0
1975—June r	161.10	155.70	151.00	146.70	156.40	150.00	157.00	1.8
December	177.40	177.90	169.40	163.30	171.40	164.80	175.10	11.5
1976—June	183.00	180.30	174.10	167.00	179.10	164.80	179.30	2.4
PERCENTAGE CHANGE: JUNE QUARTER 1976 OVER JUNE QUARTER 1975								
	13.6	15.8	15.3	13.8	14.5	9.9	14.2	..

(a) For definitions, see section headed 'Definitions'.

(b) Includes the Northern Territory and the Australian Capital Territory.

(c) Over the preceding year or quarter shown.

Survey of Weekly Earnings, May 1971

For the results of this survey see the 1973 edition of the *Year Book*.

Surveys of Weekly Earnings and Hours

General

Sample surveys in respect of most employers in the private sector subject to pay-roll tax have been conducted annually during recent years by the Bureau as at the last pay-period in October. In 1972, for the first time, government employees were included in the survey. The results of the surveys are based on returns from stratified random samples of private employers subject to pay-roll tax; non-government hospitals not subject to pay-roll tax; local government authorities; and for all federal and state government departments, authorities and semi-government bodies. For Australia as a whole the 1974 survey covered approximately 2 767 000 male and 1 396 000 female wage and salary earners, comprising 1 887 000 males and 1 042 000 females in private employment and 879 000 males and 354 000 females in government employment.

Definitions

Weekly Earnings: Gross earnings before taxation and other deductions have been made; includes overtime earnings, ordinary time earnings, shift allowances, penalty rates, commission and similar payments; and that part of paid annual leave, paid sick leave, long service leave and paid holidays taken during the specified pay-period. It includes one week's proportion of payments made other than on a weekly basis, e.g. salary paid fortnightly or monthly. Retrospective payments are excluded.

Juniors: Those under 21 years of age not paid adult rates (but 'adults' may include those under 21 years receiving adult rates).

Full-time Employees: Employees who ordinarily work 30 hours or more a week and who received pay for the last pay-period in October.

Results of Surveys

The next table shows for the private and government sectors in Tasmania: (i) average weekly earnings; (ii) average weekly hours paid for; and (iii) average hourly earnings.

Average Earnings and Hours: All Industries (a)

Particulars	October 1974 (b)	
	Private employment (c)	Government employment (c)
AVERAGE WEEKLY EARNINGS (\$)		
Adult males	136.40	147.50
Junior males	70.80	79.10
Adult females	96.00	146.90
Junior females	59.00	76.70
AVERAGE WEEKLY HOURS PAID FOR		
Adult males	41.7	39.8
Junior males	40.2	38.9
Adult females	39.1	37.2
Junior females	39.7	38.0
AVERAGE HOURLY EARNINGS (\$)		
Adult males	3.27	3.69
Junior males	1.75	2.03
Adult females	2.52	3.77
Junior females	1.50	2.01

(a) Excludes rural industry and private domestic services.

(b) Last pay-period in October.

(c) Excludes managerial, executive, professional and higher supervisory staff. Full-time employees only included.

Average Weekly Overtime and Ordinary Time Earnings, Private and
Government Employment, (a) October 1974
(\$)

Particulars	Average weekly overtime earnings		Average weekly ordinary-time earnings		Average weekly total earnings	
	Private	Government	Private	Government	Private	Government
Adult males—						
Manufacturing—						
Metal products, machinery and equipment ..	18.60	n.a.	138.70	n.a.	157.30	n.a.
Other	13.70	n.a.	119.20	n.a.	132.90	n.a.
Total manufacturing ..	15.30	3.80	125.70	122.00	141.10	125.90
Non-manufacturing ..	13.30	7.60	118.10	140.90	131.40	148.40
All industries ..	14.30	7.40	122.10	140.10	136.40	147.50
Junior males, all industries ..	3.80	1.80	67.10	77.30	70.80	79.10
Females, all industries—						
Adult	2.20	1.50	93.80	145.40	96.00	146.90
Junior	1.50	0.90	57.50	75.80	59.00	76.70

(a) Average for all employees represented in industries but excluding managerial, executive, professional and higher supervisory staff. Full-time employees only included.

Minimum Wage Rates, Selected Occupations, Hobart

The following table shows minimum wage rates for selected occupations as prescribed by Federal and State awards, agreements and various determinations (both registered and un-registered) operative at 31 December in recent years. Unless specified, rates shown in the following table are for a 40-hour week. Increases reflect various margin adjustments.

Selected Minimum Wage Rates, Adult Males and Females: Hobart
(\$)

Industry and occupation	31 December		
	1973	1974	1975
ADULT MALES			
Primary production—			
Farming (general), general hand (a)	60.70	80.70	98.30
Grazing, shearer (per 100 flock sheep) (b)	31.36	45.00	48.20
Mining and quarrying—			
Coal mining (c), miner (machine) (d)	78.60	113.55	132.30
Quarrying, labourer	66.50	93.00	106.10
Engineering, metals, vehicles, etc.—			
Engineering—Fitter or turner	78.40	106.80	114.50
Toolmaker	83.90	112.40	120.50
Textiles, clothing and footwear—			
Clothing trades (readymade), tailor	75.30	93.40	109.80
Footwear, maker	66.60	85.40	101.20
Textiles—Knitting, knitter	67.10	83.10	101.90
Woollen, weaver	63.80	79.70	98.30
Food, drink and tobacco—			
Aerated waters and cordials, general hand	63.30	86.30	97.90
Bacon curing, boner	89.20	120.60	137.30
Bread baking, doughmaker	91.00	123.50	140.80
Brewing, general hand	63.25	88.37	94.69
Butter, cheese and milk processing, butter maker	73.20	106.20	114.00
Confectionery, confectioner (group 1)	75.60	103.70	111.20
Jam, fruit and vegetable preserving, general hand	66.80	95.70	105.30
Meat industry—Labourer (beef, mutton)	71.10	99.30	106.50
Slaughterman (mutton)	93.80	127.90	137.10
Sawmilling, furniture, etc.—			
Sawmilling and timber yards—Machinist (A grade)	79.60	110.90	118.90
Sawyer (circular)	67.90	97.40	104.40
Paper, printing, etc.—			
Printing (general)—Bookbinder	82.50	106.70	119.70
Machine compositor	88.00	112.30	125.80
Printing (newspapers)—Machine compositor (day work)	104.90	145.80	156.30
Machine compositor (night work)			
(e)	113.90	154.80	165.30
Other manufacturing—			
Brickmaking, drawer	61.80	95.80	113.30
Electricity generation and supply, electrical fitter	83.30	111.70	118.40
Building and construction—			
Building (f)—Bricklayer	106.53	137.90	159.15
Builder's labourer, skilled	89.10	119.30	142.40
Builder's labourer, unskilled	79.90	110.10	132.08
Carpenter	107.66	139.05	159.88
Electrician (installation) (g)	90.10	119.30	129.20
Plasterer	106.53	137.90	159.46
Painter	106.37	137.75	158.17
Plumber (g)	92.10	127.80	136.60
Railway services—			
Traffic—Locomotive engine driver	90.65	123.65	132.25
Porter	63.85	91.85	98.25

Selected Minimum Wage Rates, Adult Males and Females: Hobart—continued

(\$)

Industry and occupation	31 December		
	1973	1974	1975
<i>ADULT MALES—continued</i>			
Road and air transport—			
Road transport, motor truck driver (over 1.2 tonnes to 3.0 tonnes)	78.40	107.90	115.70
Tramways and buses, bus driver (one-man operator) ..	82.50	111.00	118.00
Shipping and stevedoring—			
Shipping (cargo vessels), able seaman (b) (i)	153.37	163.52	175.30
Stevedoring, wharf labourer (per hour) (j)	2.51	3.40	4.54
Communication—			
Post Office, postman (k)	81.66	111.16	122.00
Wholesale and retail trade—			
Butchers, general butcher	85.60	105.30	130.50
Petrol service stations, attendant	60.70	80.00	97.60
Retail stores, shop assistant (grocery)	62.20	85.90	92.10
Wool stores, wool classer	87.20	91.40	98.00
Public authority (n.e.c.), community and business services—			
Hospitals, orderly	68.06	102.48	118.50
Other services—Graduate engineer	104.15	140.13	150.30
Graduate scientist	103.65	129.44	138.80
Amusement, hotels, personal services, etc.—			
Hairdressing, hairdresser (men's)	82.20	109.40	117.50
Hotels (l), barman	71.50	98.70	105.90
Restaurants (l), cook (one cook only employed) ..	71.70	93.00	106.20
Watchmen, cleaners, etc., office cleaner (day) ..	60.70	103.20	110.70
<i>ADULT FEMALES</i>			
Textiles, clothing and footwear—			
Dry cleaning, presser	72.00	90.10	106.30
Order dressmaking, machinist	60.00	82.40	102.40
Readymade dressmaking, table hand or coat machinist ..	58.90	81.30	102.40
Textiles—Knitting, machinist	57.50	77.60	101.90
Woolen, weaver	58.00	78.10	101.70
Food, drink and tobacco—			
Confectionery, general hand	54.30	82.40	88.40
Jam, fruit and vegetable preserving, general hand ..	57.90	95.70	105.30
Transport and communication—			
Post office, telephonist (m)	79.92	104.88	112.50
Wholesale and retail trade—			
Retail stores—Shop assistant (confectionery)	53.10	82.70	92.10
Shop assistant (drapery)	62.20	85.90	91.10
Public administration and community and business services—			
Federal Public Service, typist (n)	80.99	105.99	113.60
Hospital nurses (qualified), first year	77.40	117.80	126.40
Amusement, hotels, personal service, etc.—			
Cleaners, office cleaner (day)	51.40	100.20	110.70
Hairdressing, hairdresser	70.05	102.05	117.25
Hotels (l), barmaid	70.40	97.60	104.60
Restaurants (l), waitress	55.60	79.40	100.60
Theatres, usherette, ticket-taker, etc. (m)	52.50	93.90	100.70

(a) 44-hour week. (b) Rates shown are 'not found rates'. Shearers' hours of work are 40 per week. (c) In addition to the rate shown, an attendance allowance is payable for each full fortnightly pay-period worked. (d) 35-hour week. (e) 38-hour week. (f) Rates shown are weekly equivalents of hourly rates. They include allowances for excess fares, travelling time, sick leave, statutory holidays, following the job, etc. (g) Weekly rates prescribed for a full week's work (excluding overtime). (h) Includes an allowance valued at \$7.24 per week for keep and accommodation. (i) Rates shown are for 40 hours of work; seamen are required to work eight hours per day. (j) Rates shown are for casual wharf labourers on other than special cargo work. (k) 36½-hour week. (l) Weekly cash payments where board and lodging are not provided. (m) 36-hour week. (n) 36½-hour week.

WAGE-FIXING AUTHORITIES**Tasmanian Industrial Boards***History and Recent Changes*

The evolution of the Tasmanian Wages Boards system is described in the 1968 *Year Book*. On 22 December 1975, Royal Assent was given to the *Industrial Relations Act 1975*. The new Act supercedes the *Wages Boards Act 1920* and incorporates a number of changes, the more important of which are outlined below:

- (i) The Authority is now referred to as the 'Office of the Chairman of Industrial Boards' and previous 'determinations of Wages Boards' are now 'Awards of Industrial Boards'.
- (ii) Meetings of Industrial Boards are now normally convened by the Chairman of Industrial Boards, rather than by the responsible Minister (the Minister for Industrial Relations). However, the Minister is responsible for convening meetings to settle or prevent industrial disputes, and applications for Common Rule hearings and Compulsory Conferences are still required to be made to the Minister. All meetings (other than those convened by the Minister) and Common Rule hearings are now advertised in the daily press. The period of notice for such meetings has been increased from seven to 10 days.
- (iii) Organisations which have no direct representation on Industrial Boards may now attend Board meetings that involve matters affecting those organisations, subject to approval of the Chairman, under the provisions of section 26 of the Act.
- (iv) Industrial agreements, to cover single employers in multi-employer industries, are provided for under section 32 of the Act. Such agreements, once certified by the Chairman, have the same effect as an award.
- (v) Industrial Boards are now free to determine the period for which an award is to remain in force, which means, in effect, that awards can now be subject to a 'General Review' more than once every two years (previous limit). Limitations on award retrospectivity have been removed and Boards are now free to determine the date from which an award will have effect.
- (vi) The provisions for the making of a Common Rule Award (section 31) have been altered as follows:
 - (a) The minimum number of awards required to be affected has been reduced from 10 to five.
 - (b) Individual organisations may apply for a Common Rule hearing on matters where these organisations have a sole and specific concern, whereas previously Common Rule Applications could only be made by an 'organisation of employers', or by the Tasmanian Trades and Labour Council.
 - (c) Where a joint application is made by the appropriate employer organisation and the Tasmanian Trades and Labour Council, a Common Rule Award can be made on any matter within the general powers of Boards.
 - (d) Common Rule hearings are now advised in the press, with 10 days being allowed for the receipt, by the Chairman, of submissions from organisations intending to attend the hearing.

- (vii) An Industrial Appeals Tribunal is provided for under the new Act. The Tribunal, appointed by the Governor, consists of a President (a person who holds office, or is eligible to hold office, as a judge of the Supreme Court), an employer representative, and an employee representative. Its function is to provide an avenue of appeal, for affected parties, against awards of Industrial Boards.
- (viii) Penalty provisions in the Act have been updated to take into account changed monetary values.
- (ix) Important changes have been made to the 'Records and Inspection' section of the Act, especially in relation to the keeping of employment records by employers and to secrecy provisions covering inspectors.
- (x) Restrictions on 'Right of Entry' provisions for officials of employee organisations have been removed, such that the organisations do not have to be specified in the award. The Act instead provides a general 'Right of Entry' for officials of organisations representing employees in an industry covered by an award.
- (xi) It is no longer necessary for awards to be published in the *Government Gazette*. Instead, awards are printed separately, with only a notification of the making of an award appearing in the *Gazette*.

The Office of the Chairman of Industrial Boards is the wage-fixing Authority for all employers whose employees are not covered by a Federal or Public Service Board award (approximately 70 000 employees in this State). The Authority comprises the Chairman and Deputy Chairman of Industrial Boards, who are Government-appointed and who act as Chairmen on approximately 70 Industrial Boards that are covered by the Authority. Supporting staff are officers of the Department of Labour and Industry.

Establishment and Constitution of Industrial Boards

Boards are established, by order of the Governor, for particular industries. The constitutional nexus of a Board is the industry of the employer, not the common occupation of the employees, as is the case under other authorities.

Each Board, of which there are about 70 in active existence, consists of an equal number of employer and employee representatives, and a Chairman. The Chairman is the Chairman of Industrial Boards, or at his direction, the Deputy Chairman of Industrial Boards. Board members are appointed by the responsible Minister; at least one-half (on either side) of the representatives must be employed in the industry within the Board's jurisdiction.

Qualifications for Board membership are as follows:

Employer Representative: A person is qualified to be a member of a Board as an employer representative if he resides in the State and:

- (i) Is an employer or a managing expert in an industry in which the Board has jurisdiction, who has had at least 12 months actual experience in that industry acquired within the past five years; and either
- (ii) Has had at least 12 months actual experience in the management of the affairs of a body corporate engaged in such an industry, acquired within the past five years; or
- (iii) Is an officer of an organisation of employers the membership of which consists of or includes employers engaged in such an industry.

Employee Representative: A person is qualified to be a member of a Board as an employee representative if he resides in the State and:

- (i) Is an employee in an industry in which the Board has jurisdiction who has had at least 12 months actual experience in that industry, acquired within the past five years; and either
- (ii) Is an officer of an organisation of employees, being an organisation the membership of which consists of or includes persons employed in such an industry; or
- (iii) Is an officer of the body known as the Tasmanian Trades and Labour Council.

Legal practitioners are not qualified to be Board members (except for the Barristers' and Solicitors' Industrial Board) and the Crown is not regarded as an employer. Board members are appointed to a three year term of office.

Function of Boards

The function of Industrial Boards is to make awards prescribing minimum wage rates and conditions of employment that must be observed by all employers in the industries within the particular Board's jurisdiction. (An 'Industry' being defined in the Act as any trade, business, undertaking, profession, calling, function, process or work performed, carried on, or engaged in by an employer.) Examples are the Mining (Lead-Zinc) Industrial Board, which is established in respect of the industry of mining and processing of silver-lead-zinc ore; the Dentists' Industrial Board, established in respect of dentists and dental mechanics, and hence covering persons employed in those industries, and the Shipbuilders' Industrial Board, established in respect of the industry of constructing, altering, or repairing ships or boats, and dunnaging of ships holds.

Mode of Operation of Boards

Meetings of Boards are convened by the Chairman of Industrial Boards, with the Act now requiring that, in addition to written notification to all Board members, the meeting be advertised in the daily press with at least 10 days advance notice. The responsible Minister (The Minister for Industrial Relations) may convene a Board meeting for the purpose of settling or preventing an industrial dispute; the notice required for such a meeting is 48 hours, and the advertising requirement is waived.

An award cannot contain any matter relating to: (i) the opening or closing hours of an employer's business premises; (ii) the granting of long service leave; (iii) a bonus payment made at the discretion of an employer; or (iv) a superannuation scheme.

Awards may be made to have retrospective effect, and may be made to remain in force for a specified period. Awards may replace, rescind or amend an existing award, and are subject to the *Apprentices Act* 1942, the *Long Service Leave Act* 1956, the *Public Health Act* 1962, the *Factories, Shops and Offices Act* 1965, and the *Mines Inspection Act* 1968.

Variations to Awards Without a Meeting of a Board

Under section 30 of the Act, the Chairman may make an award amending a previous award, without the convening of a meeting of the Board, upon written application from all representative members of the Board, for the particular amendment. This provision obviates the need for a meeting when all Board members are in agreement with a proposed award variation, and is used quite often in practice.

Under section 31 the Chairman can make a Common Rule Award, where the provisions of at least five awards are affected.

An application for such an award may be made to the Minister by an appropriate employer organisation, the Tasmanian Trades and Labour Council or an appropriate employee organisation.

On receipt of an application, a notice is published in the daily press. A hearing is then conducted, at which the submissions of employer and employee organisations are considered by the Chairman. Following the hearing, the Chairman may make a Common Rule Award.

This award may only relate to the following matters: (i) a basic wage; (ii) a minimum wage; (iii) standard hours of work; (iv) paid leave of absence; and (v) any matter that is determined in an award made under the *Commonwealth Conciliation and Arbitration Act* that affects or relates to industries in which at least five Boards have jurisdiction. However, this restriction is removed if the award is made on joint application from the Tasmanian Trades and Labour Council and an appropriate employer organisation (usually the Tasmanian Chamber of Industries).

One example of a Common Rule Award is an award made following a 'National Wage' decision of the Federal Conciliation and Arbitration Commission.

Industrial Agreements

Under section 32 of the Act, an industrial agreement may be made, for the purpose of resolving an industrial matter that does not extend to the whole of an industry within the jurisdiction of a Board. When the Chairman satisfies himself that the agreement has been executed by, or on behalf of, all parties involved in the matter, and that the provisions of the agreement are in line with appropriate award provisions, the Chairman 'shall certify that agreement as an award having like effect under this Act'.

Industrial Appeals Tribunal

As mentioned above, this Tribunal has been set up to provide for appeals against awards made by Industrial Boards. Appeals to the Tribunal may be made by:

- (i) any organisation of employers, the membership of which includes or comprises employers engaged in any of the industries to which the award relates;
- (ii) the body known as the Tasmanian Trades and Labour Council; or
- (iii) any organisation of employees, the membership of which includes or comprises persons engaged in any of the industries to which the award relates.

Appeals may be made to the Tribunal against an award other than on a matter of law. Such appeals must be made within 21 days of the making of an award. After hearing the Appeal, the Tribunal may confirm the award with or without amendment, quash the award and make another award in its place, or quash the award without making any further award.

A decision of the Tribunal can be challenged only on the grounds of illegality, by application to the Supreme Court.

Compulsory Conferences

Under section 50 of the Act, the Minister may call a compulsory conference for the purpose of settling or preventing an industrial dispute, where an industrial dispute is defined as: 'a dispute in relation to any matter for which provision has

been or could be made in an award under this Act (notwithstanding that there is not presently existing a board by which such an award could be made), and includes a dispute relating to:

- (i) the engagement, dismissal, or reinstatement of any particular employee or class of employees; or
- (ii) the entering into, execution, or termination of any contract for services in circumstances that affect, or may affect, an employee in, or in relation to, his work.

The Minister may summons not only the direct participants in the particular industrial dispute, but also any other persons connected with any industrial matter that relates in any way to the dispute, or even more broadly, any persons whose presence may help prevent or settle the dispute. Any person not attending the conference once summonsed is liable to a penalty of \$5 000.

The compulsory conference is presided over by a person directed by the Minister to undertake such duty; in practice this person is usually the Chairman or Deputy Chairman of Industrial Boards.

If after considering the views expressed at the conference the President is of the opinion that certain action should be taken to effect the aim of the conference, *viz* to settle or prevent an industrial dispute, then he may, by written order, direct such action to be taken. Contravention of such an order carries a penalty of \$1 000.

Tasmanian Public Service Board

General

Legislation passed in 1973 established two new industrial authorities, the Public Service Board and Public Service Arbitrator (for details see the next section) to deal with awards, working conditions, etc., for employees of the State Government and certain State authorities. The Public Service Board comprises three Commissioners appointed by the Governor for terms not exceeding five years. One of the three Commissioners is appointed Chairman of the Board. In addition to members of the State Public Service the Board's jurisdiction includes persons employed in the teaching service, police force, parliamentary staff positions, public hospitals, non-academic staff of the College of Advanced Education and various State authorities.

Industrial Functions

The Public Service Board may make awards covering wages, salaries and conditions of work for employees falling within its jurisdiction. A main function of the Board is determining 'principal awards', i.e. an award which covers all employees within the scope of a particular group such as administrative and clerical officers. The determining of a principal award involves a complete review of the wages and salaries and other work conditions of all positions within the scope of the particular award. The Board, under the *Public Service Act 1973*, when determining a principal award may cover any or all of the following:

- (a) Determining the scales of salaries for grades, divisions, and occupational groups of employees, and for sub-divisions of those grades, divisions, and occupational groups;
- (b) Determining the ordinary hours of work, and the period to be worked before overtime rates become payable, and the rates of remuneration and conditions in respect of minimum earnings, overtime, travelling time, shiftwork, night-work, and special duty, and in respect of work on Saturdays, Sundays and holidays and at any other time outside the ordinary hours of duty;

- (c) Determining minimum rates of pay for adult employees and for married employees;
- (d) Determining the rates of relieving, travelling, mileage, proficiency, lodging, and meal allowances and expenses and the terms and conditions on which they may be granted and paid;
- (e) Determining tool allowances, clothing allowances, and other allowances in the nature of additional pay for classes or conditions of work warranting the payment thereof;
- (f) Determining the terms and conditions on which industrial clothing shall or may be issued;
- (g) Determining the basis and method of adjustment of salaries in order to meet variations in the cost of living, and prescribing the tables, scales or figures with reference to which those adjustments shall be made;
- (h) Determining the cases in which and conditions on which deductions shall be made from salaries on account of quarters, fuel, light, power, board, and other facilities and amenities provided for employees and the rates of those deductions and the basis on which they shall be calculated; and
- (i) Determining and regulating the qualifications (including educational qualifications) required for advancement from a grade or division to a higher grade or division.

Unless revoked, a principal award is effective for three years, however, during the currency of the principal award it may be amended by the Board to eliminate anomalies, errors or defects contained in the award, or to incorporate determinations of the Federal Conciliation and Arbitration Commission (e.g. national wage case decisions, etc.).

The Tasmanian Public Service Arbitrator

The *Public Service Act 1973*, in addition to creating the Public Service Board, also established the position of Public Service Arbitrator. The Public Service Arbitrator, appointed by the Governor for a term not exceeding five years, has the same area of jurisdiction as the Public Service Board. Applications to the Arbitrator for arbitration on awards may be made where the Public Service Board has: (i) refused an application for an award; (ii) made an award (including an award to supplement a consent award); or (iii) allowed three months or longer to elapse after an application has been made for an award without (a) refusing the application or (b) making an award (including a consent award). Such applications are lodged with the registrar and the Arbitrator, after he has been satisfied that the applicant is entitled to apply for arbitration, arranges to hear the applicant and others affected by the award. After hearing and considering an application the Arbitrator may: (i) refuse the application; (ii) confirm the award or any of its provisions; (iii) direct the Board to vary the award by omitting, altering or adding to the award's provisions; or (iv) where it has refused or failed to make an award, to make an award in specified terms.

The Public Service Arbitrator has an additional function of reviewing individual salary classifications made by any controlling authority following the handing down of any new principal award. Applications for consideration of particular salary classifications may be made by any registered employee organisation in respect of any office or position held by any of its members. In addition,

the *State Employees (Long-Service Leave) Act 1950* was amended on 19 September 1974, to provide a new section for the settlement of any dispute as to whether or when an employee is or has become entitled to leave of absence or an allowance in lieu, or whether a deceased employee's personal representative is or has become entitled to payment of an allowance. The section stipulates that the Public Service Arbitrator shall hear and determine all such disputes.

INDUSTRIAL DISPUTES

Statistics of industrial disputes refer only to those involving a stoppage of work of 10 man-days or more. The information is compiled from the following sources: (i) direct from employers and trade unions; (ii) reports from government departments and authorities; (iii) reports from state and federal industrial authorities; and (iv) information contained in trade journals, newspapers, etc. Particulars of some stoppages are estimated and the following statistics should be regarded as giving only a broad measure of industrial stoppages.

Industrial Disputes (a)

Year	Disputes	Workers involved	Working days lost	Estimated loss in wages
	no.	'000	'000	\$'000
1968	28	7.8	13.0	149.0
1969	44	8.7	9.9	115.3
1970	66	14.8	32.2	451.1
1971	46	14.7	20.6	317.3
1972	48	15.2	19.2	305.1
1973	63	17.5	140.1	2 322.4
1974	79	33.6	88.5	1 800.9
1975	57	20.1	40.6	(b) 1 007.5

(a) Involving a stoppage of 10 man-days or more.

(b) The estimated Tasmanian loss was 1.1 per cent of the Australian total in 1975.

The record estimated loss in wages due to industrial disputes (involving stoppages of 10 days or more) in 1973 (\$2 322 400) represented an average loss of \$133 per worker for the 17 500 workers involved. The average loss per worker involved in 1975 was \$50. Details relating to the value of production lost as a direct result of industrial disputes are not available.

The next table summarises statistics relating to industrial disputes in Australia for the last five years:

Industrial Disputes (a): Australia

Year	Disputes	Workers involved	Working pays lost	Estimated loss in wages
	no.	'000	'000	\$'000
1971	2 404	1 326.5	3 068.6	45 241.3
1972	2 298	1 113.8	2 010.3	32 074.4
1973	2 538	803.0	2 634.7	45 206.5
1974	2 809	2 004.8	6 292.5	128 301.8
1975	2 432	1 398.0	3 509.9	95 760.7

(a) The statistics relate to stoppages involving 10 man days or more in the establishments where the stoppages occurred only.

The following table analyses industrial disputes according to the industry of the labour force involved:

Industrial Disputes by Industries

Period	Mining	Manufacturing						Total manufacturing	Construction
		Metal products, machinery and equipment	Textiles, clothing, footwear	Food, beverages, tobacco	Paper and paper products, printing and publishing	Other			
NUMBER OF DISPUTES									
1972	6	7	3	2	6	3	21	7	
1973	16	6	2	7	2	2	19	3	
1974	10	6	5	7	7	5	30	8	
1975	8	6	..	6	5	5	22	9	
1975—									
March qtr	..	1	..	1	1	..	3	1	
June qtr ..	3	3	..	1	2	2	8	4	
Sept. qtr ..	3	1	..	2	1	2	6	2	
Dec. qtr ..	2	1	..	2	1	1	5	2	
WORKERS INVOLVED (DIRECTLY AND INDIRECTLY) ('000)									
1972	2.2	7.8	0.8	0.2	1.1	0.1	10.0	0.5	
1973	2.8	1.8	1.4	4.2	2.7	..	10.1	0.2	
1974	0.8	5.7	4.2	4.5	3.9	0.1	18.5	6.7	
1975	2.4	3.4	0.7	1.2	3.2	0.3	8.6	6.9	
1975—									
March qtr	..	0.5	..	0.1	1.8	..	2.4	..	
June qtr ..	1.7	2.6	0.7	0.9	0.6	0.1	4.8	1.8	
Sept. qtr ..	0.3	0.3	..	0.1	..	0.1	0.5	1.0	
Dec. qtr ..	0.4	..	..	0.1	0.7	0.1	0.9	4.0
WORKING DAYS LOST ('000)									
1972	4.0	5.9	1.9	0.8	1.5	0.3	10.4	2.0	
1973	35.4	20.1	16.4	5.5	39.7	0.3	81.9	0.7	
1974	4.0	45.5	3.7	6.1	12.8	2.6	70.6	7.5	
1975	8.9	14.4	1.6	3.5	2.7	1.1	23.3	5.9	
1975—									
March qtr	..	0.1	..	0.3	0.2	..	0.6	0.2	
June qtr ..	1.3	2.2	0.9	1.9	0.6	0.1	5.7	4.1	
Sept. qtr ..	7.3	12.0	0.8	1.1	..	0.1	14.1	0.4	
Dec. qtr ..	0.3	0.1	..	0.1	1.8	0.8	2.8	1.2	
ESTIMATED LOSS IN WAGES (\$'000)									
1972	72.9	88.0	24.8	11.2	24.3	3.1	151.4	39.5	
1973	726.7	357.8	174.0	69.3	640.7	3.4	1 245.1	12.2	
1974	97.1	927.4	60.8	106.2	281.2	59.1	1 434.7	164.1	
1975	281.1	279.7	34.2	81.1	77.4	30.2	502.6	157.6	
1975—									
March qtr	..	1.8	..	9.0	5.2	..	16.0	4.7	
June qtr ..	39.8	42.4	18.0	43.1	17.4	3.9	124.9	106.9	
Sept. qtr ..	234.2	233.8	16.2	26.2	1.1	3.4	280.7	11.3	
Dec. qtr ..	7.0	1.6	..	2.8	53.7	22.9	81.0	34.7	

Industrial Disputes by Industries—continued

Period	Railway transport, air transport	Road transport, other transport and storage, communication	Water transport		Entertainment, recreation, hotels, personal service, etc.	Other industries (a)	Total all industries
			Stevedoring services	Other water transport			
NUMBER OF DISPUTES							
1972	3	4	3	1	..	3	48
1973	3	4	2	3	1	12	63
1974	3	4	8	2	3	11	79
1975	2	1	5	5	2	3	57
1975—							
March qtr .. ..	..	..	1	1	1	1	8
June qtr	1	..	..	2	..	1	19
Sept. qtr .. ..	..	1	1	..	..	..	13
Dec. qtr	1	..	3	2	1	1	17
WORKERS INVOLVED (DIRECTLY AND INDIRECTLY) ('000)							
1972	0.4	0.4	1.3	0.1	..	0.2	15.2
1973	0.3	0.2	0.2	0.2	0.1	3.5	17.5
1974	0.4	0.4	1.6	..	0.9	4.2	33.6
1975	0.5	..	0.7	0.4	0.2	0.5	20.1
1975—							
March qtr .. ..	..	..	0.1	0.1	0.1	0.3	2.9
June qtr	0.5	..	..	..	..	0.1	9.0
Sept. qtr .. ..	..	..	0.2	..	..	..	2.1
Dec. qtr .. ..	..	..	0.4	0.3	0.1	..	6.1
WORKING DAYS LOST ('000)							
1972	1.0	0.5	0.9	0.1	..	0.4	19.2
1973	0.3	0.1	..	0.5	..	21.1	140.1
1974	0.4	0.7	3.4	0.1	0.2	1.6	88.5
1975	1.1	0.1	0.6	0.5	..	0.2	40.6
1975—							
March qtr .. ..	..	..	..	0.1	..	..	0.9
June qtr	1.0	..	..	0.2	..	0.1	12.4
Sept. qtr .. ..	..	0.1	0.2	..	..	..	22.2
Dec. qtr .. ..	..	..	0.3	0.3	..	0.1	5.0
ESTIMATED LOSS IN WAGES (\$'000)							
1972	15.9	6.2	12.7	1.1	..	5.4	305.1
1973	5.1	1.5	0.5	9.4	..	321.8	2 322.4
1974	1.6	14.0	54.1	2.3	2.6	30.3	1 800.9
1975	26.1	3.7	16.8	15.4	0.9	3.3	1 007.5
1975—							
March qtr .. ..	..	..	0.8	1.3	..	0.9	23.7
June qtr	24.5	..	..	5.7	..	..	301.8
Sept. qtr	0.8	3.7	7.0	..	..	..	537.8
Dec. qtr	0.8	..	9.1	8.4	0.9	2.4	144.2

(a) Includes: agriculture, grazing, etc.; finance and insurance; wholesale and retail trade; real estate and business services; electricity, gas and water; public administration and defence; and community services.

Chapter 18

MISCELLANEOUS

INTEGRATED ECONOMIC CENSUSES

Introduction

In the 1972 *Year Book*, Appendix A gave a detailed description of the first Australian Integrated Economic Censuses, conducted by the Australian Bureau of Statistics for the 1968-69 financial year. The various industry sectors covered by integrated economic censuses are each featured in this book; references are:

- (i) *Census of Manufacturing Establishments*, Chapter 9;
- (ii) *Census of Mining Establishments*, Chapter 8;
- (iii) *Census of Wholesale Establishments*, Chapter 10;
- (iv) *Census of Retail Establishments and Selected Service Establishments*, Chapter 10; and
- (v) *Census of Electricity and Gas Establishments*, Chapter 9.

The purpose of this section is to bring together the results of the five 1968-69 censuses, and those for later years when a less comprehensive coverage of Australian Standard Industrial Classification (ASIC) Divisions was attempted. Comparison and combination is possible since common definitions and concepts were employed in each. Definitions of terms and concepts used in the economic censuses are given in Appendix B 'Economic Censuses' of this Year Book.

Value Added, Employment, etc.

The following table shows value added in Tasmania as recorded for each sector covered by integrated economic censuses for 1968-69:

Integrated Economic Censuses, 1968-69: Value Added

Classification of establishments (a)	Amount	Proportion of total	Per head of mean population
	\$'000	per cent	\$
Mining	44 286	10.1	115.71
Manufacturing	197 464	45.1	515.96
Electricity and gas	33 437	7.6	87.37
Wholesaling	61 210	14.0	159.94
Retailing	79 380	18.1	207.42
Selected services (b)	21 717	5.0	56.75
Total	437 494	100.0	1 143.15

(a) As defined in the Australian Standard Industrial Classification.

(b) Comprises: picture theatres, restaurants, licensed hotels and clubs, laundries, dry cleaners, hair-dressing and beauty salons.

'Value added' is a concept allied to 'net value of production'; the former is a new value concept employed in the integrated censuses just specified while the latter was employed in series related to primary production (excluding mining) up to 1973-74. Although broadly analogous, the two concepts are differently defined and direct comparisons are therefore not made.

Comparison with Primary Industry Series

As previously explained, it is not possible to make a direct comparison between net value of production in the primary industry series (available up to 1973-74, only) and value added in the integrated census series. The net value of production series are included in Chapter 8 in the special Appendix, 'Value of Production', in the 1976 Year Book (only 'gross' and 'local' values of production series are included in this *Year Book* in respect of primary industries). Net value of production for the agricultural group of primary industries in 1973-74 was \$121.6m (1968-69, \$74.1m); for the non-agricultural group (excluding mining) \$43.3m (1968-69, \$18.0m); and for both groups \$164.9m (1968-69, \$92.1m).

Although direct comparisons between the manufacturing and mining value added series on the one hand, and the primary (excluding mining) net value of production series on the other cannot be made, it is nevertheless possible to draw *very broad* conclusions about the relative economic significance of the various types of activity for the years 1968-69 to 1973-74 by comparing these series. In 1968-69 the net value of production for the rural group of primary industries was \$74.1m, while the value added in the manufacturing sector was \$197.5m, the figures for 1973-74 were \$164.4m and \$340.3m, respectively.

Other Comparisons

The next table combines the results of the five simultaneous censuses to show the derivation of value added:

Integrated Economic Censuses, 1968-69: Derivation of Value Added
(\$ million)

Classification of establishments (a)	Turnover	Stocks at 30 June		Purchases, transfers in and selected expenses	Value added (b)
		1968	1969		
	(1)	(2)	(3)	(4)	(5)
Mining	63.1	8.1	9.5	20.1	44.3
Manufacturing	487.1	94.6	104.7	299.7	197.5
Electricity and gas	34.8	5.1	4.7	0.9	33.4
Wholesaling	308.6	39.1	42.4	250.7	61.2
Retailing	340.4	38.8	42.3	264.5	79.4
Selected services (c)	48.8	1.3	1.4	27.1	21.7
Total	1 282.7	187.0	204.9	863.1	437.5

(a) As defined in the Australian Standard Industrial Classification.

(b) (5) = (1) minus (2) plus (3) minus (4).

(c) Comprises: picture theatres, restaurants, licensed hotels and clubs, laundries, dry cleaners, hair-dressing and beauty salons.

The following table shows the number of establishments, persons employed and wages and salaries:

Integrated Economic Censuses, 1968-69: Number of Establishments, Persons Employed and Wages and Salaries

Classification of establishments (a)	Number of establishments at 30 June	Persons employed (b)			Wages and salaries
		Males	Females	Persons	
		no.	no.	no.	\$m
Mining	75	3 932	145	4 077	17.2
Manufacturing	951	25 340	6 729	32 069	95.1
Electricity and gas	5	2 432	194	2 626	10.6
Wholesaling	920	6 826	1 949	8 775	23.6
Retailing	4 007	10 871	10 004	20 875	31.5
Selected services (c)	850	2 567	3 488	6 055	9.2
Total	6 808	51 968	22 509	74 477	187.1

(a) As defined in the Australian Standard Industrial Classification.

(b) At last pay day in June; includes working proprietors and unpaid helpers.

(c) Comprises: picture theatres, restaurants, licensed hotels and clubs, laundries, dry cleaners, hair-dressing and beauty salons.

Developments After the 1968-69 Censuses

Principal items from economic censuses conducted after 1968-69 follow:

Mining, Manufacturing, Electricity and Gas Censuses, 1969-70 to 1974-75: Number of Establishments, Employment, Wages and Salaries and Value Added

ASIC classification of establishments and year		Number of establishments at 30 June	Persons employed at 30 June	Wages and salaries	Value added
			no.	\$'000	\$'000
Mining—	1969-70	78	4 312	18 544	44 286
	1970-71	59	4 660	22 641	58 096
	1971-72 (a)	53	4 640	25 521	59 317
	1972-73	48	4 326	28 091	62 186
	1973-74	56	4 317	30 623	85 321
	1974-75	56	4 450	43 026	72 903
Manufacturing (b)—	1969-70	945	32 414	102 104	226 083
	1971-72	933	31 144	119 411	245 068
	1972-73	912	31 504	130 703	283 420
	1973-74 r	935	32 359	161 386	340 250
	1974-75 p	896	n.a.	196 502	406 983
Electricity and gas (b)—	1969-70	6	2 754	11 965	38 722
	1971-72	5	2 971	14 658	45 749

(a) From 1971-72 the Census results excluded 'small' tin miners whose sales were less than \$20 000.

(b) No economic census for 1970-71.

Attention is called to the 1973-74 Retail Census described in Chapter 10. Persons employed numbered 27 957 and wages and salaries amounted to \$72.3m. However, insufficient data were collected to allow calculation of 'value added'.

AUSTRALIAN NATIONAL ACCOUNTS

Introduction

National accounting aims at providing a systematic summary of the transactions taking place in the economy, especially of those that relate to the production and use of goods and services, and to transfers of income or capital between sectors of the economy. National accounts statistics therefore provide a medium for describing or analysing the forces that drive and shape the economy.

Estimates of national income and expenditure are compiled by the Bureau and presented in a regular sequence of national accounts publications, in which the first estimates for the year just completed are successively revised and additional detailed tables are issued as further information becomes available. The cycle begins in August with the Budget White Paper *National Income and Expenditure* which gives preliminary estimates for the year just completed and later estimates for the previous four years. The June quarter issue of *Quarterly Estimates of National Income and Expenditure* follows shortly after this with estimates for quarters of the year just completed and for the previous two years. Issues for subsequent quarters may revise the past quarterly estimates as they add additional quarters and may revise annual estimates for some items for the most recent years. *Australian National Accounts, National Income and Expenditure* is the most comprehensive national accounts publication; after estimates for this publication are finalised about February and sent for printing, mimeographed *Preliminary Statements* are issued which make available selected tables in advance.

Description of National Income and Expenditure Accounts

A brief description of the conceptual basis of national accounts is given in this section, but for a more detailed treatment of the concepts and structure of the Australian National Accounts reference should be made to *Australian National Accounts, National Income and Expenditure* (ref. no. 7.1).

The Concepts of Product, Income and Expenditure

The main concepts of product, income and expenditure in the Australian National Accounts are defined and expressed in equivalents as follows:

Gross Domestic Product is the total market value of goods and services produced in Australia within a given period, after deducting the cost of goods and services (other than capital equipment) used up in the process of production. Thus gross domestic product, as here defined, is 'at market prices'. *Gross Farm Product* is that part of gross domestic product which derives from production in rural industries. *Gross Non-Farm Product* arises from production in all other industries.

Gross Domestic Product at Factor Cost is that part of the cost of producing the gross domestic product which consists of gross payments to factors of production (labour, land, capital and enterprise). It represents the value added by these factors in the process of production and is equivalent to gross domestic product less indirect taxes plus subsidies.

Domestic Factor Incomes is that part of the value added within a given period by factors of production (labour, land, capital and enterprise) which accrues as income to their suppliers after allowing for the depreciation of fixed capital. It is equivalent to gross domestic product at factor cost less depreciation allowances.

National Income is the net income accruing within a given period to Australian residents from their services in supplying factors of production (labour, land, capital and enterprise) in Australia or overseas plus indirect taxes less subsidies. It is equivalent to domestic factor incomes plus indirect taxes less subsidies and net income paid overseas.

National Disposable Income is the net income accruing within a given period to Australian residents from their services in supplying factors of production, from net indirect taxes and from re-distributive transfers. It is equivalent to national income less net transfers overseas.

National Turnover of Goods and Services is the total flow within a given period of final goods and services (i.e. excluding any goods and services used up during

the period in the process of production) entering the Australian economy from production and imports. This value is equivalent to gross domestic product plus imports of goods and services or, alternatively, to gross national expenditure plus exports of goods and services.

Gross National Expenditure is the total expenditure within a given period on final goods and services bought by Australian residents. It is equivalent to gross domestic product plus imports of goods and services less exports of goods and services.

The relationship of these aggregates may be illustrated diagrammatically as follows:

National Turnover of Goods and Services

Imports of goods and services	Imports of goods and services	Imports of goods and services	Imports of goods and services	Imports of goods and services	Imports of goods and services	
			Net income paid overseas	Net income paid overseas	Net income paid overseas	Exports of goods and services
		Domestic factor incomes		Net transfers overseas	Net transfers overseas	
Gross domestic product	Gross domestic product at factor cost		National income	National disposable income	Net lending to overseas	
		Indirect taxes less subsidies				Gross national expenditure
	Indirect taxes less subsidies	Depreciation allowances	Depreciation allowances	Depreciation allowances		Gross national expenditure

Framework of Accounts and Sectors

Sectors: For the purposes of national accounting, the economy is divided into the following sectors:

- (i) *The Corporate Trading Enterprises Sector* includes companies, and public enterprises, other than financial enterprises. It therefore includes all trading enterprises other than unincorporated enterprises and dwellings owned by persons.
- (ii) *The Financial Enterprises Sector* includes both private and public financial enterprises which are regarded as providing the financial mechanism for the functioning of the economy. In one way or another they are engaged mainly in the borrowing and lending of money. Examples of the enterprises included in this sector are banks, life insurance companies, building societies, credit unions, government insurance offices and superannuation funds.
- (iii) *The Household Sector* includes all resident persons, their unincorporated enterprises located in Australia and dwellings owned by persons, and private non-profit organisations serving households, other than non-profit organisations included in the financial enterprises sector.
- (iv) *The General Government Sector* excludes public financial and trading enterprises, but otherwise includes the whole of the activities of

the Federal Government, state governments, local authorities and public corporations. *Public Corporations* are bodies created by or under legislation to carry out activities on behalf of a government, or incorporated organisations in which a government has a controlling interest.

- (v) *The Overseas Sector* includes all transactions between Australian persons, businesses and governments and overseas residents.

Accounts: The Consolidated accounts of the nation are represented by a minimum system of four accounts. Without distinguishing between the four internal sectors outlined above, their transactions are summarised in the following accounts:

- (i) *The Domestic Production Account* is a consolidation of the production accounts of all producers. Credited to the account is the revenue from sale of goods and services to final buyers; all intermediate goods and services are cancelled out, since they represent a cost to one producer to offset the revenue of the other. On the payments side are shown the payments of indirect taxes less subsidies, and, since the account is presented from the point of view of the producing unit, the wages and salaries paid to employees. The balance is the gross operating surplus which may be divided into depreciation allowances and net operating surplus. Depreciation allowances are carried to the national capital account (or the sector capital accounts) and net operating surplus, together with wages and salaries and indirect taxes less subsidies, is carried to the national income and outlay account (or sector income and outlay accounts).
- (ii) *The National Income and Outlay Account* is shown as receiving wages, salaries and supplements, net operating surplus and indirect taxes less subsidies from the domestic production account. From this income are deducted net payments of income and miscellaneous transfers to overseas, and the remainder is the national disposable income. The outlay side of the account shows this disposable income is largely used for final consumption expenditure and the balance is the nation's saving.
- (iii) *The National Capital Account* shows on the receipts side depreciation allowances transferred from the domestic production account and saving transferred from the national income and outlay account (or from the sector income and outlay accounts). On the payments side are shown purchases by all sectors of new buildings and capital equipment, the increase in stocks of all sectors and a balance described as net lending to overseas. This latter concept includes the movement in Australia's overseas monetary reserves.
- (iv) *The Overseas Transactions Account* records all transactions of a current nature between Australian and overseas residents (the items being named from the Australian viewpoint). Receipts consist of the value of exports of goods and services, property income received from overseas, and transfers from overseas. These receipts are used for imports of goods and services, payments of property income and transfers to overseas; the balance of the current account represents net lending to overseas.

The framework of sectors and accounts underlying the form of social accounts shown in the Bureau's publications is set out in the following diagram:

Articulation of Australian National Accounts

IV OVERSEAS
TRANSACTIONS
ACCOUNT

I DOMESTIC PRODUCTION ACCOUNT

Industry (Establishments by kind of economic activity)							
Primary	Mining	Manufacturing	Building	Transport	Commerce	Finance	etc.

II NATIONAL INCOME AND OUTLAY ACCOUNT

Corporate trading enterprises (including public trading enterprises)	Financial enterprises (including the nominal industry)	Households (including unincorporated enterprises)	General government
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III NATIONAL CAPITAL ACCOUNT

Corporate trading enterprises (including public trading enterprises)	Financial enterprises (including the nominal industry)	Households (including unincorporated enterprises)	General government
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The heavy rectangles depict the minimum system of four accounts described above. The light rectangles represent the accounts for institutional sectors. The sub-division of the domestic production account represents production accounts for establishments classified according to industry. Selected transactions from such production accounts are shown in the publication, *Australian National Accounts, National Income and Expenditure* (ref. no. 7.1). Such production accounts can be developed in detail to produce input-output accounts.

Australian National Accounts Statistics

Below are set out details of the four consolidated accounts of the nation which summarise the transactions which took place in the Australian economy in 1974-75:

Consolidated Accounts of the Nation, 1974-75 p
(\$ Million)

DOMESTIC PRODUCTION ACCOUNT			
Wages, salaries and supplements ..	35 190	Final consumption expenditure—	
Gross operating surplus—		Private	34 541
Trading enterprises—		Government	9 092
Companies	6 201	Gross fixed capital expenditure—	
Unincorporated enterprises ..	7 005	Private	8 788
Dwellings owned by persons ..	3 478	Public enterprises	2 654
Public enterprises	1 146	General government	2 710
Financial enterprises	937	Increase in stocks	836
Less Imputed bank service charge	1 625	Statistical discrepancy	547
Gross domestic product at factor cost	52 332	Gross national expenditure ..	59 168
Indirect taxes less subsidies	6 671	Exports of goods and services ..	9 782
Gross domestic product	59 003	National turnover of goods and services	68 950
		Less Imports of goods and services	9 947
		Expenditure on gross domestic product	59 003

Consolidated Accounts of the Nation, 1974-75 p—continued
(\$ Million)

NATIONAL INCOME AND OUTLAY ACCOUNT			
Final consumption expenditure—			
Private	34 541	Wages, salaries and supplements ..	35 190
Government	9 092	Net operating surplus	13 151
Saving	10 657	Domestic factor incomes	48 341
		Less Net income paid overseas	457
		Indirect taxes	6 999
		Less subsidies	328
		National income	54 555
		Less Net transfers to overseas	265
Disposal of income	54 290	National disposable income	54 290

NATIONAL CAPITAL ACCOUNT			
Gross fixed capital expenditure—		Depreciation allowances	3 991
Private—		Saving—	
Dwellings	2 501	Increase in income tax provisions	—452
Other building and construction	1 978	Undistributed (company) income	—179
All other	4 309	Retained income of public financial	
Public enterprises	2 654	enterprises	209
General government	2 710	Household saving	7 728
Increase in stocks—		General government surplus on	
Farm and miscellaneous	359	current transactions	3 000
Private non-farm	477	General government grants for	
Statistical discrepancy	547	private capital purposes	133
Net lending to overseas	—887	Extraordinary insurance claims paid	218
Gross accumulation	14 648	Finance of gross accumulation	14 648

OVERSEAS TRANSACTIONS ACCOUNT			
Exports of goods and services	9 782	Imports of goods and services	9 947
Property income from overseas	370	Property income to overseas	827
Transfers from overseas—		Transfers to overseas—	
Personal	245	Personal	235
Extraordinary insurance claims	75	General government	350
		Net lending to overseas	—887
Current receipts from overseas	10 472	Use of current receipts	10 472

The next table gives details of the items on the receipts side of the domestic production account for recent years. Estimates of gross domestic product at average 1966-67 prices are also included. Such estimates are described as *estimates at constant prices* and are designed to remove the direct effect of price changes from the original (*current prices*) estimates. Estimates at constant prices are largely based on the application of specially constructed price indexes. All estimates shown below are expressed in current prices unless otherwise stated.

From 1969-70 to 1974-75 the item 'Wages, salaries and supplements' increased from 52.3 per cent of Gross Domestic Product to 59.6 per cent, while the 'Gross operating surplus' (before deduction of direct taxes payable, dividends, depreciation provisions, interest, royalties and land rent) for companies *plus* financial enterprises declined from 17.0 per cent to 12.1 per cent of gross domestic product.

Gross Domestic Product, Australia

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75 <i>p</i>
Wages, salaries and supplements .. \$m	15 654	17 936	20 068	22 417	27 518	35 190
Gross operating surplus—						
Trading enterprises—						
Companies \$m	4 609	4 719	5 098	5 984	6 690	6 201
Unincorporated enterprises .. \$m	4 200	4 223	4 731	5 796	7 499	7 005
Dwellings owned by persons \$m	1 542	1 828	2 100	2 410	2 847	3 478
Public enterprises \$m	1 090	1 077	1 218	1 270	1 244	1 146
Financial enterprises \$m	482	591	676	792	852	937
Less Imputed bank service charge \$m	655	744	853	1 068	1 331	1 625
Gross domestic product at factor cost \$m	26 922	29 630	33 038	37 601	45 319	52 332
Indirect taxes less subsidies .. \$m	3 019	3 298	3 691	4 229	5 350	6 671
Gross domestic product \$m	29 941	32 928	36 729	41 830	50 669	59 003
Percentage increase in G.D.P. (a) ..	10.6	10.0	11.5	13.9	21.13	16.4
G.D.P. at average 1966-67 prices—						
Value \$m	26 963	28 160	29 384	30 731	32 482	32 165
Percentage increase (a)	5.8	4.4	4.3	4.6	5.7	-1.0
Implicit rate of price increase (per cent) (b)	4.5	5.3	6.9	8.9	14.6	17.6
Gross farm product \$m	2 188	2 004	2 237	3 052	4 478	3 623
Gross non-farm product \$m	27 753	30 924	34 492	38 778	46 191	55 380

(a) Over previous year (current prices).

(b) Percentage increase in weighted average of prices of all items contributing to the G.D.P., above the average for previous year, implied by the figures given for G.D.P. at current and constant prices.

General Government Income and Outlay Account: Receipts

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75 <i>p</i>
AMOUNT (\$ million)						
Income from public enterprises	691	687	793	777	691	567
Interest, etc., received	229	278	298	340	414	524
Indirect taxes	3 291	3 587	4 079	4 552	5 629	6 999
Direct taxes on income—						
Companies, etc.	1 187	1 427	1 519	1 617	2 013	2 431
Households	2 855	3 175	3 765	4 084	5 485	7 709
Other direct taxes, fees, fines, etc. ..	391	408	440	488	559	580
Total receipts	8 644	9 562	10 894	11 858	14 791	18 810

PERCENTAGE INCREASE OVER PREVIOUS YEAR

Indirect taxes	10.8	9.0	13.7	11.6	23.7	24.3
Direct taxes on income—						
Companies, etc.	15.1	20.2	6.4	6.5	24.5	20.8
Households	20.1	11.2	18.6	8.5	34.3	40.5
Total receipts	14.3	10.6	13.9	8.8	24.7	27.2
Consumer price index (a)	3.2	4.8	6.8	6.0	12.9	16.7

(a) Weighted average for the six state capital cities (all groups).

The previous table shows details for items making up the receipts side of the general government income and outlay account. Percentage increases are also shown for major items and for the consumer price index (six state capitals combined). The latter give some perspective to the monetary values (current prices) which are subject to growth due to price increases as well as being subject to *real* growth (see also the item 'Implicit rate of price increase' in the preceding table). In 1974-75 total 'General government receipts' as a proportion of gross domestic product was 31.9 per cent compared to 28.9 per cent in 1969-70.

National Accounts Statistics Relating to Tasmania

The following tables are included to provide information relating to household income and private final consumption expenditure within Tasmania during the last five years, together with an analysis of Tasmanian farm income during the same period. Two tables which show Tasmanian figures relative to those of the other Australian states are also included.

Household Income is the total income, whether in cash or kind, received by persons normally resident in Australia. It includes both income received in return for productive activity (such as wages, salaries and supplements, incomes of unincorporated enterprises, etc.) and transfer incomes (such as cash social service benefits, interest, etc.). Household income also includes any property income received by non-profit organisations such as private schools, churches, charitable organisations, etc. That part of farm income accruing to unincorporated enterprises is included under household income.

Farm Income is the difference between the gross value of farm production (after stock valuation adjustment) and total costs (i.e. production costs plus net rent and interest paid and third party insurance transfers) incurred.

Private Final Consumption Expenditure covers the expenditure on goods and services by persons and expenditure of a current nature by non-profit organisations serving households. Goods and services purchased by businesses or general government are excluded. It excludes the purchase of dwellings and capital expenditure by non-profit organisations.

Household Income: Tasmania

Particulars		1969-70	1970-71	1971-72	1972-73	1973-74	1974-75 <i>p</i>
Wages, salaries and supplements ..	\$m	431	484	535	595	728	952
Income of farm unincorporated enterprises	\$m	32	27	32	51	63	25
Income of other unincorporated enterprises	\$m	52	53	61	71	81	89
Income from dwellings	\$m	13	17	19	21	28	31
Transfers from general government	\$m	54	59	71	87	103	145
All other income	\$m	50	55	63	73	88	105
Total household income ..	\$m	632	695	781	898	1 091	1 347
<i>Less</i> Income tax payable ..	\$m	71	79	94	101	147	<i>n.a.</i>
Other direct taxes, fees, fines, etc.	\$m	10	10	10	10	12	<i>n.a.</i>
Consumer debt interest ..	\$m	8	9	10	12	16	<i>n.a.</i>
Transfers overseas	\$m						
Household disposable income—							
Amount	\$m	543	597	667	775	916	<i>n.a.</i>
Percentage increase (a) ..		8.8	9.9	11.7	16.2	18.2	<i>n.a.</i>

(a) Over previous year.

Household Income by States, 1974-75 p

N.S.W. and A.C.T.	Vic.	Qld.	S.A. and N.T.	W.A.	Tas.	Australia
TOTAL INCOME (\$ million)						
19 348	14 230	7 092	4 802	3 947	1 347	50 766
INCOME PER HEAD OF MEAN POPULATION (\$)						
3 892	3 881	3 571	3 619	3 543	3 334	3 769

Private Final Consumption Expenditure: Tasmania (\$ million)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75 p	
						Amount	Per cent
Food	102	109	116	126	148	171	18.3
Cigarettes and tobacco	16	17	18	21	23	27	2.9
Alcoholic drinks	34	38	41	43	49	60	6.4
Clothing, etc.	53	56	62	65	81	99	10.6
Health	28	32	37	41	47	57	6.1
Rent	55	61	68	75	90	110	11.8
Gas, electricity, fuel	16	18	20	21	22	27	2.9
Household durables	36	38	43	45	58	75	8.0
Newspapers, books, etc.	10	10	11	12	14	14	1.5
All other goods, n.e.i.	20	22	24	26	31	37	4.0
Travel and communication	77	86	95	103	121	150	16.1
All other services	51	56	65	75	88	107	11.5
Total	498	543	600	653	772	934	100.0

PERCENTAGE INCREASE (OF TOTAL) OVER PREVIOUS YEAR

8.0	9.0	10.5	8.8	18.2	21.0	..
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Private Final Consumption Expenditure: States, 1974-75 p (\$ million)

Particulars	N.S.W. and A.C.T.	Vic.	Qld.	S.A. and N.T.	W.A.	Tas.	Australia	
							Amount	Per cent
Food	2 180	1 762	854	585	501	171	6 053	17.5
Cigarettes and tobacco	359	245	126	91	75	27	923	2.7
Alcoholic drinks	821	500	311	172	175	60	2 039	5.9
Clothing, etc.	1 156	831	402	287	235	99	3 010	8.7
Health	977	612	244	209	167	57	2 266	6.6
Rent	1 879	1 551	630	366	350	110	4 886	14.1
Gas, electricity, fuel	293	245	87	60	55	27	767	2.2
Household durables	1 077	777	394	294	243	75	2 860	8.3
Newspapers, books, etc.	209	167	77	46	37	14	550	1.6
All other goods, n.e.i.	563	420	201	140	111	37	1 472	4.3
Travel and communication	2 093	1 417	742	498	437	150	5 337	15.5
All other services	1 837	1 175	578	356	325	107	4 378	12.7
Total	13 444	9 702	4 646	3 104	2 711	934	34 541	100.0

Private Final Consumption Expenditure: States, 1974-75 *p*—continued
(\$ Million)

Particulars	N.S.W. and A.C.T.	Vic.	Qld	S.A. and N.T.	W.A.	Tas.	Australia	
							Amount	Per cent
PERCENTAGE INCREASE (OF TOTAL) OVER 1973-74								
	17.9	19.5	18.4	20.4	19.2	21.0	(a) 18.8	..

(a) At average 1966-67 prices, the total for Australia for 1974-75 was \$20 348m, an increase of only 1.7 per cent over 1973-74.

Farm Income: Tasmania
(\$ million)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75 <i>p</i>
Gross value of farm production—						
Wool (including skin wool)	18	15	18	37	32	24
Livestock slaughtering	29	28	31	44	58	31
Grain crops	2	2	2	2	3	3
Fruit	18	17	14	18	15	16
Other crops	18	18	18	20	29	31
Other livestock products	26	27	29	27	28	34
Total	111	107	112	148	165	139
<i>Less</i> Stock valuation adjustment .. ..	..	..	1	3	-2	} 71
<i>Less</i> Production costs other than wages and depreciation—						
Marketing costs	15	16	14	18	18	
Seed and fodder	8	9	10	13	15	
Other costs	25	25	25	28	32	
Gross farm product at factor cost ..	63	57	62	86	102	68
<i>Less</i> Depreciation	11	10	10	10	10	} 41
Wages, net rent and interest paid and third party insurance transfers	19	20	20	23	26	
Farm income	33	27	32	53	66	27
<i>Less</i> Farm income of companies	1	..	..	2	3	2
Income of farm unincorporated enterprises	32	27	32	51	63	25

TOURIST ACCOMMODATION STATISTICS

The 'Tourist Industry'

The first thing a statistician has to say about the tourist industry is that, for all practical purposes, it does not exist as a clearly defined sector of the economy. The difficulty here is that tourist expenditure is extremely hard to measure or to distinguish from expenditure by residents. The tourist dollar is no different from anybody else's dollar so that all sorts of receipts comprise a mixed bag representing largely the purchase of goods and services by residents but including some similar purchases by tourists.

A better phrase than 'tourist industry' is 'tourist impact'. Tourist impact can be defined as those extra purchases of goods and services which are brought into being by travel.

Probably the most effective way of measuring tourist impact is to interview suitable samples of tourists and ascertain the pattern and scale of their expenditures while on tour. From these data estimates can be made of total tourist impact on the purchases of goods and services.

A major part of tourist expenditure is on accommodation. Hence information obtained from establishments which provide accommodation for tourists will reflect tourist impact. It will, of course, also include expenditure by residents (e.g. public bar trade of licensed hotels).

Census, 1973-74

Covering operations in the year 1973-74, the Bureau conducted its first census of tourist accommodation establishments which were defined as those which catered predominantly for short-term guests. The aim was to obtain a broad picture of this accommodation sector in the census year and also to provide the framework for subsequent occupancy surveys. In the tables that follow the establishments are classified in accordance with the following definitions:

Licensed Hotel: Any hotel or motel which has a public bar licence.

Licensed Motel: A motel with a licence to serve drinks but without a public bar licence.

Unlicensed Motel: A motel without any liquor licence. A licensed resaurant, leased to or operated by a separate enterprise, may be located at the establishment.

Private Hotel or Guest House: An establishment which does not provide facilities in most guest rooms and has no liquor licence.

'With Facilities': Establishments consisting predominantly of rooms which incorporate a bath or shower and a toilet.

'Without Facilities': Establishments consisting predominantly of rooms which require guests to use a common bathroom and/or toilet.

**Census of Tourist Accommodation Establishments, 1973-74:
Capacity and Takings by Type of Establishment**

Type of establishment	Number of establishments operating at 30 June	Capacity at 30 June (Number of guest rooms)			Gross takings (\$'000)	
		With all facilities	Other	Total	Accommodation	Total (a)
Licensed hotels	195	1 791	1 550	3 341	6 440	46 636
Licensed motels	22	706	..	706	1 921	4 169
Unlicensed motels	36	705	..	705	1 828	2 501
Private hotels and guest houses	29	29	284	313	258	437
Total	282	3 231	1 834	5 065	10 446	53 745

(a) Includes accommodation, meals and beer, wine and spirit takings.

**Census of Tourist Accommodation Establishments, 1973-74:
Employment (a) and Wages and Salaries by Type of Establishment**

Type of establishment	Working proprietors		Employees		Total		Wages and salaries paid (\$'000)
	Full-time	Other	Full-time	Other	Full-time	Other	
Licensed hotels ..	276	12	1 440	1 770	1 716	1 782	11 425
Licensed motels	19	3	158	258	177	261	1 271
Unlicensed motels	42	10	119	155	161	165	702
Private hotels and guest houses ..	31	10	14	37	45	47	107
Total ..	368	35	1 731	2 220	2 099	2 255	13 504

(a) At 30 June 1974.

The last two tables summarise the main results of the census for Tasmania. The next table analyses the same data on a different basis: in terms of establishments with rooms predominantly equipped 'with facilities'; and those 'without facilities'.

**Hotels, Motels, Guest Houses, etc., 1973-74:
Capacity, Takings, Employment and Wages and Salaries of Establishments by Type of Rooms Offered and by Size of Establishment**

Size of Establishment (guest rooms)	Number of Establishments at 30 June	Number of guest rooms at 30 June	Accommodation takings (\$'000)	Persons employed at 30 June		Wages and salaries paid (\$'000)
				Full-time	Other	
ESTABLISHMENTS WITH FACILITIES (a)						
1- 15 ..	45	413	695	225	385	1 811
16- 25 ..	33	685	1 515	235	308	1 571
26- 50 ..	38	} 2 150	6 802	950	889	6 395
51-100 ..	5					
101 and over ..	3					
Total ..	124	3 248	9 013	1 410	1 582	9 777
ESTABLISHMENTS WITHOUT FACILITIES (a)						
1- 15 ..	122	971	638	477	404	2 347
16- 25 ..	27	522	385	145	147	836
26- 50 ..	8	} 324	410	67	122	546
51-100 ..	1					
101 and over ..	..				
Total ..	158	1 817	1 434	689	673	3 729
TOTAL, ALL ESTABLISHMENTS						
1- 15 ..	167	1 384	1 333	702	789	4 158
16- 25 ..	60	1 207	1 899	380	455	2 406
26- 50 ..	46	1 565	3 705	438	634	3 076
51-100 ..	6	} 909	3 509	579	377	3 864
101 and over ..	3					
Total ..	282	5 065	10 446	2 099	2 255	13 504

(a) See definitions under 'Census, 1973-74' preceding this table.

Distribution of Accommodation Establishments at 30 June 1974
(Number)

Statistical division or sub-division	Licensed hotels	Licensed motels	Unlicensed motels	Private hotels and guest houses	Total	Caravan parks
Hobart	59	5	10	7	81	5
Southern	20	2	4	5	31	14
Northern—						
Tamar	53	5	8	3	69	10
North-Eastern	18	1	3	5	27	10
Total	71	6	11	8	96	20
Mersey-Lyell—						
North-Western	29	6	11	8	54	19
Western	16	3	..	1	20	2
Total	45	9	11	9	74	21
Tasmania	195	22	36	29	282	60

The above table shows the regional distribution of accommodation establishments included in the census. An extra column gives details for caravan parks which have been excluded from the previous tables.

Caravan Parks: Accommodation takings of caravan parks for 1973-74 were \$368 000. Tasmania's island status probably inhibits rapid growth in this particular accommodation field.

Occupancy Survey

Accommodation Establishments with Facilities (a): Details by Statistical Division, Twelve Months Ended June 1976

Period	Hobart	Southern	Northern			Mersey-Lyell			Total Tasmania
			Tamar	North Eastern	Total	North Western	Western	Total	
1976, June qr—	No.	No.	No.	No.	No.	No.	No.	No.	No.
Establishments	40	11	26	7	33	29	6	35	119
Guest rooms	1 458	261	631	158	789	696	196	892	3 400
Bed spaces	3 451	758	1 556	414	1 970	1 834	525	2 359	8 538

PROPORTION OF ROOMS OCCUPIED TO ROOMS AVAILABLE (per cent)

1975—July ..	42.0	24.2	40.6	31.3	38.7	38.1	42.4	39.1	39.1
Aug. ..	55.8	41.5	50.8	41.3	48.9	43.4	54.6	46.0	50.3
Sept. ..	57.6	45.5	52.9	44.1	51.1	46.5	51.8	47.7	52.3
Oct. ...	70.1	54.2	61.9	47.9	59.0	52.5	63.9	53.4	62.2
Nov. ...	71.0	57.8	62.6	53.5	60.7	46.9	69.4	59.0	64.2
Dec. ...	51.7	47.2	53.3	46.3	51.8	51.6	55.6	49.0	50.7
1976—Jan. ...	73.0	80.8	68.7	77.5	70.5	68.5	85.1	72.2	72.8
Feb. ...	63.2	71.6	67.4	66.6	67.2	59.5	79.4	64.0	65.0
March ..	76.6	66.7	72.0	67.3	71.0	63.7	86.7	68.9	72.6
April. ...	67.1	58.6	66.1	59.2	64.7	53.8	81.1	59.8	63.9
May ..	58.3	44.6	62.7	49.2	60.0	49.2	65.0	52.6	56.2
June ..	41.9	31.0	48.0	30.6	44.5	36.0	37.0	36.0	40.2
1975-76	60.8	51.8	58.8	51.0	57.2	51.0	64.0	54.0	57.5

Accommodation Establishments with Facilities (a): Details by Statistical Division,
Twelve Months Ended June 1976—continued

Period	Hobart	Southern	Northern			Mersey-Lyell			Total Tasmania
			Tamar	North Eastern	Total	North Western	Western	Total	
PROPORTION OF BEDS OCCUPIED TO BEDS AVAILABLE (per cent)									
1975—July ..	29.2	15.8	25.2	18.4	23.7	21.3	24.8	22.1	24.6
Aug. ...	42.6	30.3	35.0	27.4	33.3	28.0	39.5	30.8	35.8
Sept. ...	43.6	34.4	36.1	28.9	34.5	29.8	36.0	31.3	37.0
Oct. ...	49.0	34.3	42.6	32.8	40.5	33.3	43.2	35.8	41.8
Nov. ...	52.2	38.2	40.7	35.6	39.6	35.0	47.7	38.2	43.8
Dec. ...	38.1	32.4	33.8	31.7	33.4	30.6	38.5	32.6	34.9
1976—Jan. ...	54.2	67.8	54.0	60.8	55.5	51.3	65.9	54.6	55.8
Feb. ...	43.5	54.4	46.5	47.8	46.8	39.4	57.0	43.4	45.2
March	53.9	47.4	49.0	45.8	48.3	40.5	61.3	45.2	49.7
April ..	49.6	40.6	46.7	39.9	45.2	34.6	57.0	39.6	45.0
May ..	42.2	32.2	42.7	33.5	40.7	30.3	47.3	34.1	38.7
June ..	27.8	23.8	31.6	22.2	29.6	20.7	24.2	21.5	26.1
1975-76	43.9	37.5	40.2	35.2	39.2	32.8	44.9	35.6	39.9

TAKINGS FROM ACCOMMODATION (\$'000)									
1975—July ..	293	27	120	18	138	115	38	153	610
Aug. ...	414	49	164	25	189	140	57	197	849
Sept. ...	425	60	167	29	196	150	53	203	884
Oct. ...	554	67	215	36	251	169	68	237	1 109
Nov. ...	544	70	208	36	244	172	72	245	1 102
Dec. ...	460	64	185	35	220	150	63	213	958
1976—Jan. ...	762	119	250	62	312	249	94	343	1 536
Feb. ...	594	94	223	48	271	194	81	274	1 233
March	809	95	265	53	318	219	95	314	1 536
Apr. ...	647	82	241	43	284	194	87	281	1 295
May ..	572	66	229	36	265	179	73	251	1 155
June ..	388	47	176	23	199	130	40	170	804
1975-76	6 462	840	2 443	444	2 887	2 061	821	2 881	13 071

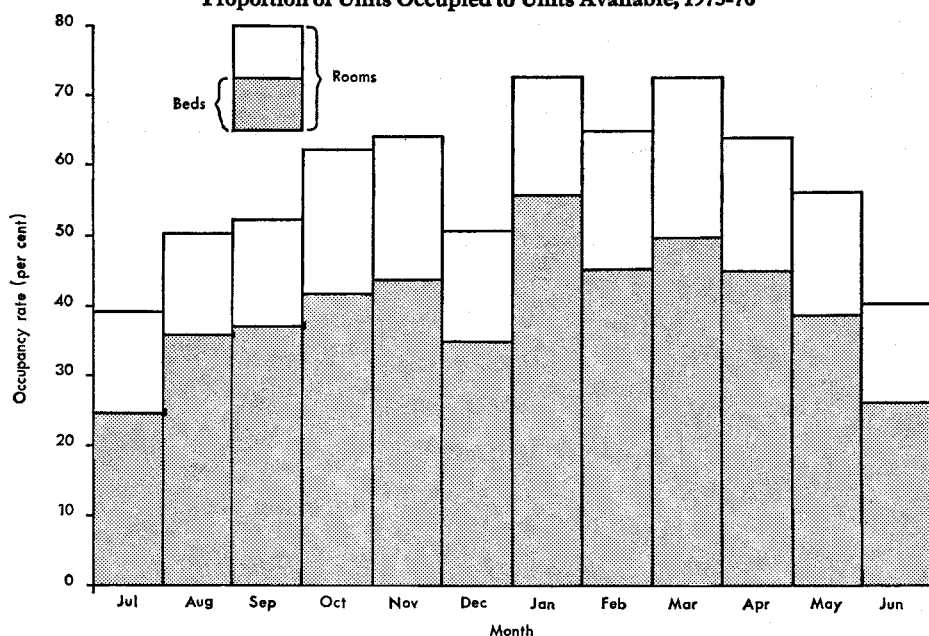
EMPLOYMENT AT 30 JUNE 1976 (persons)									
Full time— ..									
Males ..	467	37	83	22	105	92	13	105	714
Females ..	274	30	105	16	121	83	17	100	525
Part time— ..									
Males ..	225	18	51	22	73	83	6	89	405
Females ..	699	71	260	51	311	290	118	408	1 489
Total	1 665	156	499	111	610	548	154	702	3 133

(a) Establishments consisting predominantly of rooms which incorporate a bath or a shower and a toilet.

Finding the extent to which rooms are used became the subject of an occupancy survey initiated by the Tasmanian office of the Bureau of Statistics, starting with the December quarter of 1974. (It was impossible to start earlier because the base for the survey had to be the results of the 1973-74 tourist accommodation census.) Details of the results of this survey (for the nine months ended June 1975) may be found in the 1976 edition of the *Year Book*.

The following column graph shows, for establishments with facilities, the percentage of available beds and rooms occupied for each month of 1975-76:

Tourist Accommodation Survey, Tasmania: Establishments with Facilities—
Proportion of Units Occupied to Units Available, 1975-76



The next table enables comparisons to be made between occupancy rates for Tasmania and those for Queensland and the local government areas of Gold Coast and Albert combined, and Brisbane City:

Accommodation Establishments (a): Occupancy Rates (b), Twelve Months Ended June 1976, Queensland-Tasmania Comparison (per cent)

Period	Room occupancy rate				Bed occupancy rate			
	Gold Coast and Albert	Brisbane City	Qld	Tas.	Gold Coast and Albert	Brisbane City	Qld	Tas.
1975—								
July	65.4	65.9	57.7	33.6	42.7	41.6	40.4	22.3
August	72.7	72.3	61.3	42.5	51.9	49.4	46.7	31.7
September	64.5	61.2	55.1	44.5	46.6	38.5	39.8	33.1
October	61.5	56.1	49.5	51.6	41.7	33.9	34.3	36.8
November	56.2	53.1	45.4	53.4	37.9	32.5	31.0	38.7
December	54.1	46.7	41.4	43.6	38.4	30.3	30.8	31.6
1976—								
January	68.6	56.0	47.3	63.1	54.2	37.1	37.5	50.9
February	43.7	54.2	38.5	56.5	30.2	32.1	25.5	41.6
March	37.7	54.3	39.4	62.0	25.3	31.9	25.4	45.2
April	47.8	51.1	44.3	55.0	34.2	31.2	31.1	40.8
May	56.0	62.8	52.2	49.1	43.3	39.6	38.5	35.6
June	49.0	61.8	50.0	35.7	33.5	36.4	33.8	24.3

(a) Licensed hotels, licensed and unlicensed motels, private hotels and guest houses 'with and without facilities'.

(b) Proportion of units occupied to units available.

The Tasmanian occupancy survey was superseded by an Australia-wide survey which commenced with the September quarter 1975. The scope of the survey is identical to that of the 1973-74 Tourist Accommodation Census (except for the omission of caravan parks) and the same definitions apply (these are given near the beginning of the previous section). An earlier table sets out the results of the survey for Tasmania for the year ended 30 June 1976. Establishments without facilities have been omitted from the table which includes licensed hotels, licensed and unlicensed motels, private hotels and guest houses, which provide short-term (i.e. for periods of less than two months) accommodation to the general public and which provide breakfast.

HOUSEHOLD EXPENDITURE SURVEY 1974-75

The Collection

During 1974-75 the Bureau conducted a survey based on a sample of private dwellings in the six state capital cities and Canberra. Trained interviewers were used to collect details of expenditure on major items such as the purchase of vehicles and property and the payment of household accounts (electricity and gas, municipal rates, etc.), and to collect details of income. For other expenditure items, all household members over 15 years of age were asked to record all payments they made over a two-week period (the actual dates varied to give an even spread over the 12-month survey period) in a specially designed diary.

The selected private dwellings included houses, flats, home units, caravans and any other structures used as private residences. Hotels, boarding houses, institutions, etc. were specifically excluded, being outside the scope of the survey. Information was collected on a household basis because many items of expenditure are related to the household rather than to an individual. Such items include food, electricity, household equipment, etc.

Certain categories of households were excluded from the survey. These included foreign diplomats and their staff, overseas servicemen, overseas visitors, visitors staying in the household for less than four weeks after the initial interview and certain residents who were absent at the time of the initial interview or who were leaving within seven days of it. Children under 15 years of age who were away at boarding school or away for less than four weeks were included as members of a household. An estimation procedure was used for households which did not respond.

Definitions

The following definitions apply with respect to the survey:

Expenditure: was defined as all payments for goods and services for private use, made by all members of the selected household aged 15 years and over. In general, expenditure was collected on the basis of payments made during the reference period rather than on the basis of goods and services 'acquired' or 'consumed' during the period.

Other Payments: included payments such as income tax, land tax, life insurance premiums, superannuation contributions, purchases of and deposits on land and dwellings, and gambling payments. Receipts from sales of land and dwellings and gambling winnings are offset against payments. As a result 'other payments' may appear as a negative value.

Household Income: was defined as gross income from all sources before taxation and other deductions were made, and was collected from all members of the selected household aged 15 years and over. The main components of household income are:

- (i) wages and salaries (including income-in-kind received from an employer);
- (ii) income derived from self-employment (including wages and income-in-kind taken from the business);
- (iii) government social service benefits;
- (iv) income from investments (including interest, dividends, royalties and rent); and
- (v) other regular income (including educational grants and scholarships received in cash, benefits received from an overseas government, income received for professional advice outside the normal job situation, superannuation, workers' compensation, alimony or maintenance, and any other allowances regularly received).

Although information about most types of income was obtained on a current basis, some data, principally incomes from investment and from self-employment, were obtained in respect of the previous 12 months or financial year.

A Household: was defined as a group of people, who live together as a single unit in the sense that they have common housekeeping arrangements; that is they have some common provision for food and other essentials of living. A person, or persons, living in the same dwelling but having separate catering arrangements, constituted a separate household.

Adults/Children: Adults are persons aged 18 years and over. Children are persons under 18 years of age.

Persons Working: are those persons aged 15 years and over who reported any 'earned' income (i.e. income from self-employment or from part-time or full-time wage and salary employment). In general, persons who were asked to report 'earned' income were those who worked in a job or business, or received income from a job or business, at any time during the four weeks prior to the interview.

Retired Persons: are those persons who reported no 'earned' income and who described themselves as being retired (e.g. having retired from work for reasons of age or sickness).

Employment Status: All persons aged 15 years and over were classified either as workers or as non-employed persons (e.g. housewife, retired, unemployed, full-time student) on the basis of whether or not they reported 'earned' income.

Limitations

Since the estimates are based on a sample they are subject to sampling variability. In addition to sampling errors, the estimates are also subject to errors in reporting, estimating and processing. Considerable effort was made to minimise such errors and the reliability of the results can be gauged by comparing them with other statistics such as production and retail sales data. From this type of comparison it appears that expenditure was understated, on some items, particularly alcohol and tobacco. This is in line with experience in other countries where similar surveys have been carried out.

Because of the extended collection period there may be some distortion as a result of changing money values and relative prices of goods and services.

Preliminary Results

In the lower household income ranges *expenditure and other payments* exceeded *income* as defined. Some households will have financed purchases out of savings or other sources (such as loans and receipts from the sale of assets) which are not included in the definition of income. In the higher income ranges, income exceeded expenditure and other payments.

The following table shows average weekly household income and expenditure by income group for each of the capital cities:

Average Weekly Household Income and Expenditure, 1974-75
(\$)

Capital city	Weekly household income group						
	Under \$80	\$80 and under \$140	\$140 and under \$200	\$200 and under \$260	\$260 and under \$340	\$340 and over	All households
AVERAGE WEEKLY HOUSEHOLD INCOME							
Sydney	46.16	114.21	168.12	228.74	293.49	468.04	208.14
Melbourne	46.72	113.94	169.66	228.62	293.92	459.48	212.19
Brisbane	49.03	114.06	168.76	228.55	293.05	473.67	197.91
Adelaide	48.67	116.14	167.98	225.52	293.26	434.12	189.49
Perth	48.75	113.83	167.94	227.65	296.59	454.60	192.70
Hobart	50.54	111.46	171.03	231.51	290.07	496.26	187.21
Canberra	55.00	121.90	170.11	229.81	293.49	451.79	277.37
All capitals	47.37	114.30	168.73	228.32	293.75	461.71	205.94
AVERAGE WEEKLY HOUSEHOLD EXPENDITURE (a)							
Sydney	59.70	136.65	178.02	217.92	273.32	385.08	200.58
Melbourne	63.32	139.36	175.66	215.38	260.40	407.91	205.44
Brisbane	54.54	123.61	167.28	211.66	246.54	368.37	179.90
Adelaide	68.18	142.29	178.24	207.67	244.84	361.74	183.93
Perth	69.40	120.79	167.56	215.35	255.31	403.00	184.92
Hobart	57.37	110.66	165.16	236.66	268.30	430.47	180.12
Canberra	74.82	157.76	197.61	220.06	283.57	398.87	266.95
All capitals	62.02	134.24	175.11	215.55	262.72	391.53	197.57

(a) Includes 'other payments'.

Number of Households by Nature of Occupancy, Hobart 1974-75
('000)

Nature of Occupancy	Weekly household income group						
	Under \$80	\$80 and under \$140	\$140 and under \$200	\$200 and under \$260	\$260 and under \$340	\$340 and over	All households
Rented (including rent free) ..	2.9	4.0	2.6	1.9	1.4	0.7	13.5
In process of purchase	1.4	3.3	4.5	5.4	3.8	2.1	20.5
Owned outright	4.6	3.0	2.4	1.2	1.4	0.8	13.4
Total	8.9	10.3	9.5	8.5	6.6	3.6	47.3

Average Number of Persons Per Household Hobart 1974-75

Occupants	Weekly household income group						
	Under \$80	\$80 and under \$140	\$140 and under \$200	\$200 and under \$260	\$260 and under \$340	\$340 and over	All households
All persons—	1.64	2.56	3.45	3.37	3.95	4.13	3.02
Males	0.59	1.21	1.64	1.80	2.05	2.07	1.47
Females	1.05	1.35	1.81	1.56	1.90	2.07	1.55
Children—	0.24	0.85	1.51	1.24	1.59	1.26	1.07
Under 2 years	0.04	0.15	0.17	0.13	0.07	0.17	0.12
2 and under 5 years	0.02	0.22	0.28	0.23	0.18	0.13	0.18
5 and under 18 years	0.17	0.48	1.06	0.88	1.35	0.95	0.76
Adults—	1.40	1.72	1.94	2.13	2.36	2.88	1.95
18 and under 65 years	0.62	1.51	1.83	2.03	2.32	2.76	1.70
65 years and over	0.78	0.21	0.11	0.10	0.04	0.12	0.25
Persons working	0.24	0.79	1.38	1.74	2.16	2.66	1.31
Retired persons	0.42	0.16	0.04	0.07	0.03	0.07	0.14

Average Weekly Household Income and Expenditure, Hobart, 1974-75
(\$)

Item	Weekly household income group						
	Under \$80	\$80 and under \$140	\$140 and under \$200	\$200 and under \$260	\$260 and under \$340	\$340 and over	All households

INCOME AND EXPENDITURE (\$)

Average weekly household expenditure—							
Food—							
Bread, cakes and cereals	1.89	2.67	3.77	3.69	3.97	3.75	3.19
Meat and fish	4.38	6.35	7.95	8.24	9.79	10.34	7.42
Dairy products, oils and fats	2.63	3.36	4.33	5.66	5.68	5.43	4.31
Fruit and vegetables	1.99	3.16	4.32	4.53	5.50	5.63	3.93
Other food	3.75	7.37	9.66	13.46	17.78	22.89	10.85
Total food	14.63	22.91	30.05	35.59	42.71	48.03	29.70
Current housing costs (a)	9.32	16.82	20.24	27.93	23.09	24.90	19.57
Fuel and power	2.69	3.26	3.39	5.39	5.13	5.04	3.96
Alcohol and tobacco	3.24	6.25	6.97	10.94	13.07	17.80	8.48
Clothing and footwear	4.79	9.27	10.67	14.98	23.01	32.89	13.42
Household equipment and operation	7.54	12.16	10.90	17.92	24.32	44.94	16.22
Medical care and health expenses	1.65	3.74	4.43	5.34	6.67	6.13	4.35
Transport and communication	8.04	15.42	22.39	27.75	38.54	56.27	23.93
Recreation and education	4.58	6.17	10.50	12.32	17.45	22.22	10.62
Miscellaneous goods & services	4.50	8.34	9.21	21.40	27.82	49.27	15.92
Total expenditure (b)	60.97	104.33	128.73	179.55	221.80	307.48	146.16
Other payments	(c) - 3.60	6.33	36.43	57.11	46.50	122.99	33.96
Total payments	57.37	110.66	165.16	236.66	268.30	430.47	180.12
Average weekly household income	50.54	111.46	171.03	231.51	290.07	496.26	187.21

Average Weekly Household Income and Expenditure, Hobart, 1974-75—*continued*
(\$)

Item	Weekly household income group						
	Under \$80	\$80 and under \$140	\$140 and under \$200	\$200 and under \$260	\$260 and under \$340	\$340 and over	All households

PROPORTION OF AVERAGE WEEKLY HOUSEHOLD INCOME (per cent)

Average weekly household expenditure—							
Food—							
Bread, cakes and cereals ..	3.7	2.4	2.2	1.6	1.4	0.8	1.7
Meat and fish ..	8.7	5.7	4.6	3.6	3.4	2.1	4.0
Dairy products, oils and fats ..	5.2	3.0	2.5	2.4	2.0	1.1	2.3
Fruit and vegetables ..	3.9	2.8	2.5	2.0	1.9	1.1	2.1
Other food ..	7.4	6.6	5.6	5.8	6.1	4.6	5.8
Total food ..	28.9	20.6	17.6	15.4	14.7	9.7	15.9
Current housing costs (a) ..	18.4	15.1	11.8	12.1	8.0	5.0	10.5
Fuel and power ..	5.3	2.9	2.0	2.3	1.8	1.0	2.1
Alcohol and tobacco ..	6.4	5.6	4.1	4.7	4.5	3.6	4.5
Clothing and footwear ..	9.5	8.3	6.2	6.5	7.9	6.6	7.2
Household equipment and operation ..	14.9	10.9	6.4	7.7	8.4	9.1	8.7
Medical care and health expenses ..	3.3	3.4	2.6	2.3	2.3	1.2	2.3
Transport and communication ..	15.9	13.8	13.1	12.0	13.3	11.3	12.8
Recreation and education ..	9.1	5.5	6.1	5.3	6.0	4.5	5.7
Miscellaneous goods and services ..	8.9	7.5	5.4	9.2	9.6	9.9	8.5
Total expenditure (b) ..	120.6	93.6	75.3	77.6	76.5	62.0	78.1
Other payments ..	(c) -7.1	5.7	21.3	24.7	16.0	24.8	18.1
Total payments ..	113.5	99.3	96.6	102.2	92.5	86.7	96.2
Average weekly household income	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Excludes capital items which are included in 'Other payments'.

(b) Excludes 'Other payments'.

(c) See earlier section, 'Definitions', for explanation of negative values.

PERSONAL INCOME TAXATION IN AUSTRALIA

Introduction

As noted in Chapter 5, income tax was first introduced in Australia in the colony of South Australia in 1884 and by 1915 had been adopted by all state governments and the Federal Government. Uniform personal income taxation throughout Australia was first adopted in 1942 when the Federal Government became the sole authority levying this tax.

This section outlines: (i) personal income tax scales from 1954-55 to 1974-75 (during which time only relatively minor changes were made to the personal income tax system); (ii) the 1975-76 personal income tax system introduced by the Labor Government (which involved major changes from the previous system); and (iii) the introduction of personal income tax indexation for the 1976-77 income year, and the 1976-77 income tax scheme.

Personal Income Tax to 1974-75

From 1942-43 until 1954-55 a number of changes to the scales of income tax levied on individuals were made. However, for income years 1954-55 to 1964-65 the basic scale remained the same except that general five per cent rebates were allowed in 1959-60, 1961-62, 1962-63 and 1963-64. A new basic scale introduced in 1965-66 involved only small changes compared with the 1964-65 scale but was subject to a 2.5 per cent levy. This new scale plus the 2.5 per cent levy remained unchanged from 1965-66 to 1969-70. For 1970-71 the basic scale was revised as follows: (i) on incomes up to \$10 000 a reduction of 10 per cent; (ii) on incomes from \$10 000 to \$32 000 a lesser reduction tapering to zero (the reduction at \$20 000 was 4.4 per cent). The revised 1970-71 basic scale was still subject to a 2.5 per cent levy. The levy for 1971-72 was 4.375 per cent.

The 1972 budget introduced major changes to personal income taxation rates. The changes were: (i) a relaxation of the minimum taxable income from \$417 to \$1 041; (ii) a sliding scale reduction to give greater reduction to lower income levels; and (iii) an increase in the level above which the maximum marginal rate of tax applied from \$20 000 to \$40 000.

Personal income tax rates were not changed for 1973-74. For 1974-75 the basic principal of: (i) the minimum taxable income on which tax is payable being \$1 041; and (ii) the maximum marginal rate of tax applying to taxable incomes in excess of \$40 000 was continued unchanged. However, changes were made to the taxation rates for 1974-75 with emphasis on reducing the severity of taxation on lower income levels.

Tax Payable on Selected Incomes

Australia: Personal Income Tax Payable on Selected Taxable Incomes, 1954-55 to 1974-75
(**\$**)

Taxable income	1954-55 to 1964-65 (a)	1965-66 to 1969-70 (b)	1970-71 and 1971-72 (c)	1972-73 and 1973-74	1974-75
	Tax payable				
600	15.83	15.88	14.10	.. ..	.. ..
1 200	79.17	80.46	70.90	61.30	24.00
1 600	139.17	142.16	125.10	109.30	52.00
2 000	212.50	217.18	191.30	168.30	80.00
2 400	299.17	306.37	269.30	237.10	136.00
2 800	397.50	407.23	357.70	315.50	192.00
3 200	505.83	518.34	455.30	403.50	260.00
3 600	624.17	639.70	562.10	501.10	340.00
4 000	752.50	771.31	677.30	608.30	420.00
4 800	1 035.83	1 061.59	932.50	850.70	628.00
5 600	1 342.50	1 375.65	1 208.50	1 117.10	872.00
6 400	1 672.50	1 713.49	1 504.50	1 402.70	1 152.00
7 200	2 022.50	2 072.65	1 819.70	1 705.90	1 468.00
8 000	2 392.50	2 452.31	2 153.30	2 025.10	1 820.00
8 800	2 782.50	2 851.65	2 504.50	2 359.50	2 204.00
10 000	3 402.50	3 487.56	3 062.50	2 888.70	2 780.00
12 000	4 502.50	4 615.06	4 074.50	3 852.70	3 820.00
16 000	6 819.17	6 988.96	6 330.50	6 036.70	6 020.00
20 000	9 235.83	9 465.36	8 826.50	8 448.70	8 420.00
25 000	12 402.33	12 709.49	12 161.50	11 648.70	11 620.00
30 000	15 568.83	15 953.61	15 496.50	14 848.70	14 820.00
40 000	22 169.43	22 720.66	22 166.50	21 248.70	21 220.00

(a) For the income years 1959-60 and 1961-62 to 1963-64, a rebate of five per cent was allowable on the amounts of tax shown.
 (b) Includes a 2.5 per cent levy on the basic scale.
 (c) Tax surcharges of 2.5 per cent and 4.375 per cent of the amounts of tax shown were payable for 1970-71 and 1971-72 respectively.

The previous table shows the federal personal income tax payable on selected taxable incomes from 1954-55 to 1974-75.

Growth of the Tax Burden

The next table relates personal income tax to average weekly earnings and to consumer price index movements from 1964-65 to 1974-75. (It should be noted that, because allowable tax deductions vary widely, amounts of tax payable are in respect of individuals having *taxable* incomes equal to average weekly earnings and not on *gross* income (before allowable deductions) equal to average weekly earnings. Such persons would have gross incomes in excess of average weekly earnings.)

Personal Income Tax, Average Weekly Earnings and the Consumer Price Index

Year	Average weekly earnings per employed male unit (a)			Individual with <i>taxable</i> income equal to average weekly earnings					Increase in consumer price index (c) from 1964-65
	Earnings	Equivalent annual salary	Increase from 1964-65	Tax payable (on amount in col. (2))			Net income after tax ((2)-(4))	Marginal tax rate (b)	
				Amount	Increase from 1964-65	As a proportion of taxable income			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
	\$	nearest \$	per cent	\$	per cent	per cent	nearest \$	cents per \$1	per cent
1964-65 ..	55.50	2 886	..	420.79	..	14.6	2 465	27.08	..
1965-66 ..	58.00	3 016	4.5	467.23	11.0	15.5	2 549	27.78	3.6
1966-67 ..	61.90	3 219	11.5	524.11	24.6	16.3	2 695	30.34	6.4
1967-68 ..	65.50	3 406	18.0	580.84	38.0	17.1	2 825	30.34	9.9
1968-69 ..	70.40	3 661	26.8	659.77	56.8	18.0	3 001	32.90	12.8
1969-70 ..	76.30	3 968	37.5	760.78	80.8	19.2	3 207	32.90	16.4
1970-71 ..	84.80	4 410	52.8	828.29	96.8	18.8	3 582	32.70	21.9
1971-72 ..	93.00	4 836	67.6	982.26	133.4	20.3	3 854	36.01	30.2
1972-73 ..	101.50	5 278	82.9	1 009.87	140.0	19.1	4 268	33.30	38.1
1973-74 ..	118.00	6 136	112.6	1 308.45	211.0	21.3	4 828	35.70	56.0
1974-75 ..	148.40	7 717	167.4	1 695.48	302.9	22.0	(d) 6 022	44.00	82.0

(a) Average weekly earnings per employed male unit, Australia.

(b) Initial tax per \$1 for taxable income in excess of the amount shown in column (2).

(c) Weighted average consumer price index for the six state capitals.

(d) Increase in net income after tax from 1964-65 to 1974-75 was 144.3 per cent.

The semi-logarithmic (ratio) scale graph on p. 657 enables comparison of annual growth rates of personal income tax receipts by the Federal Government, wages and salaries paid and the Consumer Price Index. The semi-logarithmic scale means that if the annual (compound) growth rate remains constant, then the slope of the graph will also remain constant. For example, in this particular graph, growth rates of 10, 25 and 50 per cent per annum produce graph slopes (to the horizontal) of $10\frac{1}{2}^\circ$, 25° and $38\frac{1}{2}^\circ$, respectively.

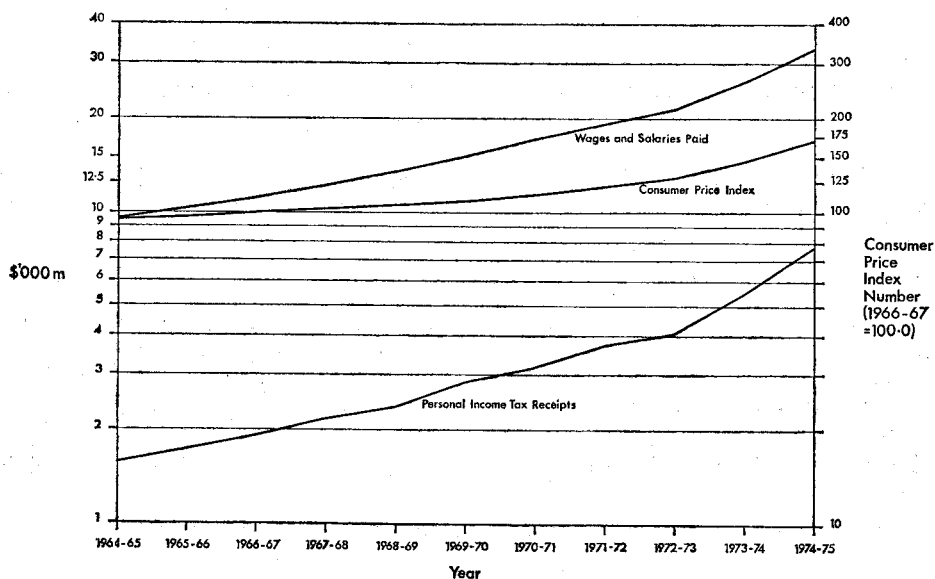
The next table highlights the effect of inflation in Australia in recent years on the non-indexed, progressive, personal income tax system:

Australia: Personal Income Tax Receipts, the C.P.I. and Wages and Salaries

Year	Personal income tax receipts		Consumer Price Index (a)		Wages and salaries paid (b)		Civilian employees and defence forces (c)	Index of tax receipts to wages and salaries paid (d)
	Amount	Change over previous year shown	Index number	Change over previous year shown	Amount	Change over previous year shown		
	\$ million	per cent		per cent	\$ million	per cent	'000	
1954-55 ..	720	..	74.0	..	4 806	..	2 854	15.0
1964-65 ..	1 569	+117.9	94.0	+27.0	9 585	+99.4	3 659	16.4
1965-66 ..	1 729	+10.2	97.4	+3.6	10 328	+7.8	3 870	16.7
1966-67 ..	1 921	+11.1	100.0	+2.7	11 252	+8.9	3 980	17.1
1967-68 ..	2 175	+13.2	103.3	+3.3	12 214	+8.5	4 111	17.8
1968-69 ..	2 377	+9.3	106.0	+2.6	13 497	+10.5	4 255	17.6
1969-70 ..	2 855	+20.1	109.4	+3.2	15 119	+12.0	4 425	18.9
1970-71 ..	3 175	+11.2	114.6	+4.8	17 331	+14.6	4 561	18.3
1971-72 ..	3 765	+18.6	122.4	+6.8	19 336	+11.6	4 588	19.5
1972-73 ..	4 084	+8.5	129.8	+6.0	21 572	+11.6	4 728	18.9
1973-74 ..	5 485	+34.3	146.6	+12.9	26 345	+22.1	4 941	20.8
1974-75 ..	p 7 709	+40.5	171.1	+16.7	p 33 619	+27.6	4 878	22.9

- (a) Weighted average of six state capital cities; base of index: year 1966-67=100.0.
- (b) Item 10 in the Australian National Accounts less supplements.
- (c) Wage and salary earners in civilian employment and defence forces for June. Excludes employees in agriculture and private domestic service as well as employers and self-employed persons. A new definition was adopted for 1965-66 and subsequent years; trainee teachers were excluded from 1971-72.
- (d) Personal income tax receipts as a percentage of wages and salaries paid. Note that 'tax receipts' includes tax paid by employers and self employed (not covered by 'Wages and Salaries paid' or 'Civilian employees').

Australia: Personal Income Tax Receipts, Wages and Salaries, and the C.P.I. (Semi-Logarithmic (Ratio) Scale Graph).



The 1975-76 Personal Income Tax System

The amendments to the income tax law which followed the 1975-76 Federal Budget resulted in considerable changes in the personal income tax system. The features of this new system are outlined below and a table is included which allows comparisons to be made between amounts of tax payable in 1975-76 under the new system with the tax on comparable amounts of income in 1974-75. The new Pay as You Earn (P.A.Y.E.) tax scales which came into effect on 1 January 1976 incorporated the general concessional rebate of \$540 to which all resident taxpayers were entitled as well as rebates of tax for the maintenance of dependants, etc. The new rates of tax instalments resulted in P.A.Y.E. deductions that more closely matched the tax payable on end-of-year tax assessments.

Dependant Rebates: Under the new system concessional allowances in respect of the maintenance of dependants were provided by means of further rebates against gross tax assessed.

The following table sets out the maximum rebates allowable for each type of dependant:

Dependant	Maximum tax rebate (a)
	\$
Spouse	400
Daughter-housekeeper	400
Child under 16 years and not a student—	
One child	200
Each other child	150
Student (b)	200
Invalid relative	200
Parent or parent-in-law	400

(a) If a person in one or other of these dependant categories was a dependant during part only of the year of income (such a person residing with the taxpayer is ordinarily regarded as a dependant throughout the period of residence) the maximum rebate is proportionately reduced.

(b) Under 25 years of age and receiving full-time education at a school, college or university.

In addition, a concessional tax rebate of \$400 was allowable to a resident taxpayer in respect of a full-time housekeeper (if no daughter-housekeeper rebate claimed) subject to certain conditions. Also, a concessional rebate of \$200 was allowable to a sole parent (i.e. a resident single, widowed or divorced person who has the sole care of a child under 16 years of age or a student (up to 25 years of age) in respect of whom a rebate is allowable) who was not entitled to a rebate for a housekeeper or daughter-housekeeper. A further rebate was allowable to residents of prescribed zones.

Taxable Income, Gross Tax and the Tax Scale: The starting point for calculating tax under the new system was to calculate 'taxable' income. This is gross income excluding income which is specifically exempt, less: (i) expenses incurred in earning that income; (ii) subscriptions to any trade, business or professional association or union; (iii) deductions for gifts to approved funds or institutions; and (iv) deductions for housing loan interest (the latter deduction calculated in the same way as for the 1974-75 income year).

Once the taxable income has been determined, gross tax is calculated according to the tax rates as shown in the following table, column (2):

Rates of Tax: Individuals, 1975-76 Income Year

Taxable income bracket (1)	Marginal tax rate (a) (2)	Gross tax payable		Net tax after deduction of \$540 minimum rebate	
		On income in bracket specified in column (1) (3)	Cumulative (i.e. payable on income shown in column (5)) (4)	On total taxable income of— (5)	Net tax payable ((4)—\$540) (6)
\$ 1 — 2 000 ..	cents per \$ 20	\$ 400	\$ 400	\$ 2 000	\$..
2 001 — 5 000 ..	27	810	1 210	5 000	670
5 001 — 10 000 ..	35	1 750	2 960	10 000	2 420
10 001 — 15 000 ..	45	2 250	5 210	15 000	4 670
15 001 — 20 000 ..	55	2 750	7 960	20 000	7 420
20 001 — 25 000 ..	60	3 000	10 960	25 000	10 420
Over 25 000	65	..	..	..	..

(a) Marginal rate payable in respect of each dollar in the range specified.

Rebatable Expenditure: The previous table shows (column (6)) the tax payable by residents whose circumstances were such that their only tax rebate was the general concessional rebate of \$540. For taxpayers whose rebatable expenditure exceeded \$1 350, the net tax payable is obtained by deducting from the gross tax 40 per cent of the rebatable expenditure.

The various items of expenditure subject to rebate are shown in the next table:

Personal Income Tax: Rebatable Expenditure Deductions, 1975-76

Particulars	Maximum rebatable expenditure
Rates and land taxes on principal residence	\$ 300
Medical, dental, optical, etc. expenses (a)	no limit
Funeral expenses (a)	100
Life insurance premiums and superannuation contributions (b) ..	1 200
Education expenses (c)	250 (per student)
Self-education expenses	250
Adoption expenses	no limit
Calls paid on shares in afforestation companies	1/3 amount paid

(a) In respect of a resident taxpayer and/or his 'dependants' who are residents.

(b) For benefit of the taxpayer, or the spouse or child of the taxpayer.

(c) In respect of taxpayer's child or other dependant under 25.

Where the rebatable amounts, as shown in the last table, total \$1 350 or less, details of the claims do not have to be submitted and the general rebate of \$540 (equal to 40 per cent of \$1 350) applies. During the first year of operation of this scheme approximately five per cent of normal wage and salary earners claimed more than \$1 350 in rebatable expenditure (other than dependant rebates, etc.).

Tax Payable Comparisons: The next table shows the gross tax and the maximum tax payable by residents on selected net incomes under the 1975-76 tax system. It also enables tax payable under the 1974-75 system to be compared with that payable under the 1975-76 system for taxpayers with selected concessional allowances (i.e. deductions or rebatable expenditure).

Comparison of Tax Payable at 1974-75 Rates with 1975-76 Rates (a)

Net income (b)	1975-76 tax system		1974-75 tax schedule			Tax payable with following rebates/deductions			
	Gross tax	Maximum tax payable (i.e. no dependants and rebatable expenditure of \$1 350 or less) (a)	Tax payable if no deductions	Taxable income if concessional deductions (not including dependants) of \$1 350	Tax payable after concessional deductions of \$1 350 (c)	Dependent wife and one child under 16 years plus concessional allowances of—			
						\$1 350		\$2 500	
						1975-76	1974-75	1975-76	1974-75
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
\$	\$	\$	\$	\$	nearest \$	\$	nearest \$	\$	nearest \$
2 000	400	..	80	650	..	..	..	..	..
3 000	670	130	220	1 650	56	..	..	..	..
4 000	940	400	420	2 650	171	..	(d) ..	..	..
5 000	1 210	670	680	3 650	350	70	(d) 100	..	(d) ..
6 000	1 560	1 020	1 000	4 650	589	420	(d) 339	..	(d) 70
7 000	1 910	1 370	1 380	5 650	888	770	(d) 638	310	(d) 300
8 000	2 260	1 720	1 820	6 650	1 247	1 120	(d) 997	660	(d) 590
9 000	2 610	2 070	2 300	7 650	1 666	1 470	1 391	1 010	(d) 940
10 000	2 960	2 420	2 780	8 650	2 132	1 820	1 832	1 360	1 333
11 000	3 410	2 870	3 300	9 650	2 612	2 270	2 312	1 810	1 765
12 000	3 860	3 320	3 820	10 650	3 118	2 720	2 794	2 260	2 240
13 000	4 310	3 770	4 370	11 650	3 638	3 170	3 314	2 710	2 720
14 000	4 760	4 220	4 920	12 650	4 178	3 620	3 834	3 160	3 236
15 000	5 210	4 670	5 470	13 650	4 728	4 070	4 384	3 610	3 756
16 000	5 760	5 220	6 020	14 650	5 278	4 620	4 934	4 160	4 302
17 000	6 310	5 770	6 620	15 650	5 828	5 170	5 484	4 710	4 852
18 000	6 860	6 320	7 220	16 650	6 410	5 720	6 036	5 260	5 402
19 000	7 410	6 870	7 820	17 650	7 010	6 270	6 636	5 810	5 952
20 000	7 960	7 420	8 420	18 650	7 610	6 820	7 236	6 360	6 546
25 000	10 960	10 420	11 620	23 650	10 756	9 820	10 357	9 360	9 621
30 000	14 210	13 670	14 820	28 650	13 956	13 070	13 557	12 610	12 821
35 000	17 460	16 920	18 020	33 650	17 156	16 320	16 757	15 860	16 021
40 000	20 710	20 170	21 220	38 650	20 356	19 570	19 957	19 110	19 221
45 000	23 960	23 420	24 570	43 650	23 666	22 820	23 247	22 360	22 477
50 000	27 210	26 670	27 920	48 650	27 016	26 070	26 597	25 610	25 827

(a) A \$540 tax rebate from 'gross tax' (or a reduction of tax to nil if gross tax is \$540 or less) applied for the 1975-76 income year (in respect of rebatable allowances for medical and education expenses, rates on private homes, life insurance premiums and superannuation contributions, etc.). If the sum of these rebatable amounts (other than dependant rebates, etc.) was greater than \$1 350 a larger rebate from gross tax equivalent to 40 per cent of the sum of these allowances applied. Concessional deductions of \$1 350 are assumed in column (6) in order to allow a true comparison with the 1974-75 scheme for a person with exactly \$1 350 in expenditure subject to rebate under the 1975-76 scheme (column (3)).

(b) Net income is total income (other than exempt income) reduced only by deductions allowed for the amount expended in earning the income. For this table, in order to avoid unnecessary complications, it is assumed that there are no allowable deductions for amounts expended in earning the income for union dues, for housing loan interest or for gifts to approved funds and institutions. Under the 1975-76 system, these deductions are subtracted from total income to give 'taxable income' before gross tax (as in column (2)) is calculated.

(c) Comparable with column (3) (tax payable under 1975-76 system with rebatable expenditure of \$1 350 or less).

(d) After allowance of low income family rebate which applied where the tax saving resulting from the allowance of the dependants deduction was less than 40 per cent of the amount of the deductions.

Introduction of Personal Tax Indexation

In a statement read to the House of Representatives on 20 May 1976, the Federal Treasurer announced the introduction of full personal income tax indexation from 1 July 1976. Tax indexation was to be applied for income years ending on 30 June on the basis of the percentage change in the consumer price index (for the six state capitals) for the latest year ended 31 March over the preceding year ended 31 March, adjusted to offset the effect of changes in indirect taxes on the index. (The consumer price index number for a year ending 31 March is the average of the four quarterly C.P.I. numbers for that year.) Indexation changes were to be applied in respect of the tax scale (taxable income brackets), the general (minimum) concessional tax rebate and dependant rebates.

Personal Income Tax, 1976-77

The basic features of the 1975-76 personal income tax system were retained with the introduction of tax indexation in 1976-77, the only major change being the abolition of tax rebates in respect of dependant children (offset by significant increases in child endowment payments from 1 July 1976). The change in the consumer price index for the year ended 31 March 1976 over that for the year ended 31 March 1975, adjusted to discount the effect of changes in indirect taxes, was calculated as +13.0 per cent and this figure was used for tax indexation adjustments. (The (original) consumer price index numbers for the years ending 31 March 1975 and 1976 were 164.6 and 187.7, respectively, giving an increase of 14.0 per cent.)

Indexation raised the general (minimum) tax rebate from \$540 to \$610 (equivalent to rebatable expenditure of \$1 525). The maximum amounts of rebatable expenditure allowed for residential rates, life assurance, etc. were not indexed (see table in the preceding section for details). For taxpayers having rebatable expenditure in excess of \$1 525, the tax rebate in respect of such expenditure was still to be calculated as being 40 per cent of their total rebatable expenditure.

The new tax scale derived by indexing the 1975-76 tax brackets is shown below:

Rates of Tax: Individuals, 1976-77 Income Year

Taxable income (a) bracket (1)	Marginal tax rate (b) (2)	Gross tax payable		Net tax after deduction of \$610 minimum rebate	
		On income in bracket specified in column (1) (3)	Cumulative (i.e. payable on income shown in column (5)) (4)	On total taxable income of— (5)	Net tax payable ((4)—\$610) (6)
	cents per \$	\$	\$	\$	\$
1— 2 260	20	452.00	452.00	2 260	..
2 261— 5 650	27	915.30	1 367.30	5 650	757.30
5 651—11 300	35	1 977.50	3 348.80	11 300	2 738.80
11 301—16 950	45	2 542.50	5 891.30	16 950	5 281.30
16 951—22 600	55	3 107.50	8 998.80	22 600	8 388.80
22 601—28 250	60	3 390.00	12 388.80	28 250	11 778.80
Over 28 250	65	..	..	..	..

(a) Gross income less: expenses incurred in earning that income; subscriptions to trade, business or professional association or union; gifts to approved funds or institutions; and deduction (if allowable) in respect of housing loan interest.

(b) Marginal rate payable in respect of each dollar in the range specified.

Dependant Rebates for 1976-77 are set out in the next table. As a special Government measure, spouse, daughter-housekeeper, housekeeper and sole parent tax rebates were increased to a higher level than would have been the case under normal tax indexation.

Dependant Rebates, 1976-77

Dependant	Maximum tax rebate (a)
Spouse (b)	\$ 500
Daughter-housekeeper (b)	500
Housekeeper (b) (c)	500
Invalid relative	226
Parent-in-law	452
Sole parent (b) (d)	350

(a) Reduced proportionately if dependant was only dependent upon the taxpayer for part of the year.

(b) Increase on previous level in excess of 13 per cent.

(c) Allowable, subject to certain conditions, only if no daughter-housekeeper rebate claimed.

(d) Allowable to a sole parent if neither a daughter-housekeeper nor housekeeper rebate claimed.

Medibank: Under changes in the funding of Medibank introduced from October 1976, one option open to taxpayers for meeting their Medibank contribution was to pay a 2.5 per cent levy on their gross taxable income.

The Rationale for Tax Indexation

Personal tax indexation aims to ensure that income tax, as a proportion of salary, remains unchanged from one year to the next for a person whose salary keeps pace exactly with price rises as measured by the consumer price index (adjusted to offset the effect of changes in indirect taxes). It therefore ensures that tax remains constant in *real* terms for a salary that remains constant in *real* terms.

For example, take a taxpayer whose 1975-76 taxable income was \$10 000, which attracted gross tax of \$2 960 and net tax, after deduction of the \$540 minimum rebate, of \$2 420. If his/her taxable income was to increase by 13.0 per cent for 1976-77 it would be \$11 300, attracting gross tax of \$3 348.80 and net tax, after deduction of the \$610 minimum rebate, of \$2 738.80. In each case, gross tax is 29.6 per cent of taxable income, net tax is 24.2 per cent of taxable income and the marginal tax rate is 45 cents in the dollar.

Two tables and a graph in the earlier section 'Personal Income Tax to 1974-75', demonstrate the effect of inflation on Australia's *non-indexed*, progressive, personal income tax scale in recent years up to 1974-75.

Appendix A

CHRONOLOGY AND LATER INFORMATION

CHRONOLOGY: THE YEAR 1976

Hobart recorded its highest ever maximum temperature of 40.9°C. Bushfires reported in the South-West and Central Highlands. Family Law Courts established in Tasmania to handle divorces under the Federal *Family Law Act*. Australia defeated Indonesia in the Eastern Zone semi-final of the Davis Cup held in Hobart. Australian unemployment reached 5.6 per cent of the work force in December 1975, the highest since the 1930's Depression; Tasmania recorded 10 241 persons out of work. 900 employees stood down at A.P.P.M.'s Burnie mills due to a strike by maintenance workers; the plant was shut down for two weeks by the dispute. Plans announced for a \$1m iron ore mining venture at Comstock near Strahan. Consumer Price Index for Hobart rose by 7.5 per cent during the December quarter. State Housing Department joinery gutted by fire. Approval given for a \$5.5m water scheme for George Town-Bell Bay area. Federal Government announced a proposal to allow the states to collect an income tax levy. Unemployment in Tasmania rose to 6.9 per cent of the work force in January (11 846 persons). Government to pay contractors a \$30 000 per week bonus for early completion of the Tasman Bridge restoration. A.P.P.M. Longreach woodchip plant resumed operations after a two-month shutdown. Arbitration Commission granted a 6.4 per cent National Wage Increase in line with indexation guidelines. Mt Lyell Co. reported record losses. Federal Transport Department called tenders for the removal of fuel oil from the sunken *Lake Illawarra*. 29 workers retrenched at Mt Lyell. Administration of Ambulance Board of Southern Tasmania investigated following allegations of mis-management. Investigation of a site for a second Derwent crossing began. A government-commissioned inquiry recommended the abolition of the T.C.A.E. in Hobart and expansion of the northern campus. Opening of the Tasmanian Military Tattoo attended by 4 500 spectators. *Seaway Prince* towed to Hobart following an engine room fire. Bailey bridge (Derwent crossing) closed because of strong winds. A \$3.5m contract let for the provision of a fifth lane on the Tasman Bridge. Completion of Pieman River H.E.C. scheme postponed for five years. Major train derailment at York Plains. A Tasmanian consortium investigated the modernisation of the Electrona carbide works, preventing an imminent shutdown. Reports of mercenaries training in the Woodbridge area were investigated by police. Wool storemen returned to work following a two-month strike. The bones of Tasmania's last full-blood Aboriginal, Truganini, were cremated on the 100th anniversary of her death. Tender accepted for an \$11m extension to the Royal Hobart Hospital. 47th ANZAAS Conference held in Hobart. An estimated 5 000 sheep shot and buried as a result of low sheep prices. Mass tuberculosis X-rays phased out. Waldheim Chalet at Cradle Mountain demolished. Sea cargo to and from Tasmania to be subject to a freight-equalisation scheme; A.N.L. freight rates increased by 24 per cent following introduction of the direct subsidy scheme. King Island Scheelite Ltd began a \$5.5m expansion project. Tasmania's budget surplus a record \$4.1m for 1975-76. State's rail freight rates increased by 15 per cent. June quarter Consumer Price Index rose 3.3 per cent in Hobart. New terminal

costing \$1.6m opened at Hobart Airport. Fuel oil successfully removed from the sunken *Lake Illawarra*. \$23.7m spent on work associated with Tasman Bridge disaster in 1975-76 and \$16m allocated for 1976-77. Unions tied up the roll-on roll-off vessel *Australian Trader* at Bell Bay following a decision to withdraw it from the Tasmanian run. Government proposed a scheme to introduce private patients to the Royal Hobart Hospital. Heavy snowfalls isolated parts of the State for several days. National Wage Case resulted in a 1.5 per cent wage increase with a minimum increase of \$2.50, only half the full indexation claimed by unions. Cormo sheep, a new breed developed in Tasmania, exported to the U.S.A. A new method of allocating Federal funds to the states in the form of a 33.6 per cent return of personal income tax collections, yielded Tasmania \$189m for 1976-77. South-West National Park doubled in size in line with South-West Management Plan proposals. State Budget reduced land tax, probate duties, pay-roll tax, and H.E.C. charges for certain industries; abolished entertainment tax; and increased spending on hospitals by 35 per cent. 60 textile workers retrenched by Coats Patons in Launceston. State Government announced stamp duty exemptions of up to \$500 to apply to the purchase of a first home. State Government grant of \$56 000 prevented retrenchment of 120 abattoir workers at Smithton following the loss of orders for export meat. A proposed \$5.7m expansion project at Electrona carbide works dependent upon continued tariff protection. British importers called for changes in the fruit marketing system following the arrival of poor quality apples from Tasmania. *Australian Trader* sailed on last voyage from Bell Bay. Land tax rates reduced; abolished completely on private forests. Transport Commission announced a loss of \$529 000 on Derwent ferry services in 1975-76. \$30m allocated for upgrading technical education facilities in Launceston. Precipitous Bluff to be included in South-West National Park following an agreement by A.P.M. to relinquish timber concessions in the area. A.P.M. announced plans for a \$185m expansion project at Wesley Vale but meanwhile the plant was to operate on a five-day working week. Comalco Ltd began a \$10m expansion project to increase output by 19 000 tonnes per year. Government abandoned plans to restrict sales of liquor to the public by wholesale merchants. Government commissioned a feasibility study on the establishment of a sugar beet industry. Bill introduced to require political parties and members of State Parliament to declare outside financial interests and donations in excess of \$1 000. Export meat industry suffered a further set-back with the suspension of a \$2m plan to upgrade the Derwent Park abattoirs. Tasmania experienced an 85 per cent eclipse of the sun but heavy cloud reduced its effect. Tas. Meats Ltd at Camdale gave notice to 50 meat workers; this followed earlier retrenchments in this and other meat export firms. Francene Maras of W.A. was crowned Miss Australia 1977 in Hobart. Constitutional Convention held at Wrest Point in Hobart. Fox Commission recommended that uranium mining in Australia be allowed to proceed subject to strict controls. U.S. nuclear aircraft carrier *Enterprise* visited Hobart for eight days. Mt Lyell Mining and Railway Co. announced plans to retrench 400 employees—about 40 per cent of its workforce. State Government announced plans to provide jobs for 150 retrenched copper miners on the west coast. First stage of the Don College at Devonport officially opened. Arbitration Commission granted a 2.2 per cent National Wage increase in line with the Sept. C.P.I. increase. Tasman Bridge restoration timetable set back six weeks due to piling difficulties at pier 17; completion expected by mid-September 1977. Federal Government announced introduction of a south-bound freight subsidy scheme which would apply retrospectively to cargo shipped from 1 July 1976. A 17½ per cent devaluation of the Australian dollar announced on 28 November. E.Z. Co. announced that planned expenditure to complete its pollution control program would exceed \$12m. Total decline in jobs in the textile industry in Launceston over 2½ years reached almost 1 500 following retrench-

ment of 35 employees by Waverly Woollen Mills at Christmas. Announced that the Australian Maritime College would be built in Launceston. The Neilson Labor Government returned to power with a reduced majority: A.L.P., 18 seats; Liberals, 17 seats (H. of A.). Tanker carrying 20 000 tonnes of petrol ran aground at George Town; state of emergency declared and 800 residents evacuated overnight. Resignations from the Council of Advanced Education totalled three for the year following resignation of Mr J. Owen from the Council and T.C.A.E.; the Principal of the T.C.A.E., Dr P. Wisch, and Prof. G. Newstead resigned earlier in the year. A.N.M. Ltd announced new plant developments which would cost approximately \$13m. Yacht race line honours winners: Sydney-Hobart, *Ballyhoo*; Melbourne-Hobart ('Westcoaster'), *Helsal* (set new record); Queenscliff-Devonport, *Gretel* (set new record).

LATER INFORMATION

Chapter 3

House of Assembly Elections, 11 December 1976

The House of Assembly elections held on 11 December 1976 resulted in the re-election of the Neilson-led Labor Government but with a majority of only one (its previous majority was seven). The state of the parties after the election was: A.L.P., 18 seats; and Liberal Party, 17 seats. For the whole State, first preference votes cast by party were as follows: A.L.P., 123 386 (50.48%); Liberal Party, 104 613 (42.80%); U.T.G., 5 183 (2.12%); Workers Party, 524 (0.21%); Socialist Workers Party, 123 (0.05%); ungrouped, 1 301 (0.53%); informal, 9 294 (3.80%); total, 244 424 (100.00%).

Amendments to the *Electoral Act* since the previous election led to several changes to conditions under which the elections were held. Voters were required to mark at least seven candidates in the order of their preference to record a valid vote (previously, a minimum of only three candidates had to be marked in order). Another change was that groups on the ballot papers were listed under the names of the parties for which they were standing or as ungrouped (previously, groups were listed as group A, B, C, etc.). Also, candidates' positions within their group on the ballot paper were decided by a draw instead of being listed in alphabetic order within their group, as in the past.

At the elections, two ministers in the previous administration, Mr Farquhar and Mr Frost, lost their seats and there was a total of 13 new members in the new House. The following table shows the members of the new House of Assembly and their party allegiance:

Members of the House of Assembly Elected on 11 December 1976

Electoral Division	Member's name	Party affiliation
Bass	Barnard, The Hon. Michael Thomas Claude	A.L.P.
	Beattie, Eric William	Liberal
	Bushby, Maxwell Holmes	Liberal
	Holgate, The Hon. Harold Norman	A.L.P.
	James, Gillian Hilma	A.L.P.
	Mooney, Laurence James	Liberal
	Robson, Neil Maxwell	Liberal
Braddon	Bonney, Raymond Claude	Liberal
	Chisholm, The Hon. Geoffrey Donald	A.L.P.
	Cornish, Ronald	Liberal
	Coughlan, John Anthony (a)	A.L.P.
	Davies, The Hon. Ronald Glen (b)	A.L.P.
	Field, Michael Walter	A.L.P.
	Groom, Francis Roger	Liberal

Members of the House of Assembly Elected on 11 December 1976—continued

Electoral Division	Member's name	Party affiliation
Denison	Amos, Dr Julian John Baker, Robert Wilfred Batt, The Hon. Neil Leonard Charles Bingham, The Hon. Eardley Max (c) Green, John Edward Mather, Robert Robinson, Maxwell Keith	A.L.P. Liberal A.L.P. Liberal A.L.P. Liberal Liberal
Franklin	Barnard, The Hon. Eric Walter Beattie, John Maxwell Gilmore, Stephen Bernard Lowe, The Hon. Douglas Ackley (d) Neilson, The Hon. William Arthur (e) Pearsall, Geoffrey Allan Sherry, Raymond Henry	A.L.P. Liberal Liberal A.L.P. A.L.P. Liberal A.L.P.
Wilmot	Aulich, Terrance Gordon Baldock, The Hon. Darrel John Braid, Ian Maxwell Gray, Robin Trevor Lohrey, Andrew Barnard Page, Graeme Reginald Polley, The Hon. Michael Ronald	A.L.P. A.L.P. Liberal Liberal A.L.P. Liberal A.L.P.

(a) Chairman of Committees.

(b) Speaker.

(c) Leader of the Opposition.

(d) Deputy Premier.

(e) Premier.

The new State Cabinet was announced on 22 December 1976. The only significant change to departmental structures involved the division of the Public Works Department into two. That section which designs and builds roads and bridges became the Department of Main Roads under the Minister for Transport's responsibility, while that section of the former P.W.D. responsible for designing and organising construction of Government buildings was incorporated with the former Housing Department to become the Department of Housing and Construction. Members of the new Cabinet and their portfolios are listed below:

- (i) The Hon. W. A. Neilson—*Premier, Treasurer, and Minister for Planning and Development;*
- (ii) The Hon. D. A. Lowe—*Deputy Premier and Minister for Industrial Relations and Health;*
- (iii) The Hon. B. K. Miller—*Attorney-General and Minister for Police and Emergency Services* (also Leader for the Government in the Legislative Council);
- (iv) The Hon. N. L. C. Batt—*Minister for Education, Recreation and the Arts;*
- (v) The Hon. M. T. C. Barnard—*Minister for Tourism and the Environment* (also responsible for Racing and Gaming and Licensing);
- (vi) The Hon. G. D. Chisholm—*Minister for Resources and Energy* (responsible for the Mines Dept, Lands Dept, Metropolitan Water Board, Rivers and Water Supply Commission and the H.E.C.);
- (vii) The Hon. D. J. Baldock—*Minister for Main Roads, Transport and Local Government;*
- (viii) The Hon. E. W. Barnard—*Minister for Primary Industry;*
- (ix) The Hon. H. N. Holgate—*Minister for Housing and Construction and Minister Assisting the Deputy Premier;* and
- (x) The Hon. M. R. Polley—*Minister for Social Welfare and Child Care and Minister Assisting the Premier.*

Chapter 4

Operations of State Grants Commission, 1976-77

Background

In recent years, major developments have occurred in relation to the finances of local government in Australia. Because of the nature of their operations, rates are the major source of revenue to local government. However, the combination of rate structures reaching 'saturation' levels and rising costs of operation, together with increased responsibilities for facilities in areas such as recreation, health, roads, water and sewerage, etc., has led to local government throughout Australia pressing for general revenue grants from governments to supplement revenue raised from rates. This demand has arisen despite the increasing assistance given in the form of specific purpose grants from both state and Federal Governments. Local government has viewed the latter type of grant as inadequate for its needs, and it has not been in the desired unconditional form.

The initial major change in local government financial operations came in 1973, when the Federal Government amended the *Commonwealth Grants Commission Act* to enable the Commission to recommend equalisation grants to local government. Procedures were therefore created which provided direct access by local government to the financial resources of the Federal Government. For 1974-75 and 1975-76, the amounts recommended by the Grants Commission for Tasmanian authorities were \$1 669 000 and \$2 292 000 respectively; these were general purpose grants to which no conditions were attached.

Following the election of the present Federal Government in December 1975, a round of Premiers' Conferences was held early in the following year, at which details were announced for a revised scheme of assistance to local government. Under this scheme, a fixed percentage of federal personal income tax is set aside for distribution through the state governments to local government. The money is to be allocated according to two distinct assessments:

- (i) a per capita grant to each local government body; and
- (ii) an equalisation grant to be distributed to municipalities through State Grants Commissions.

With the establishment of this scheme, the responsibility for recommendation of equalisation grants to local government was transferred from the Commonwealth Grants Commission to the control of State Grants Commissions, which were to be established by legislation. In Tasmania, the *State Grants Commission Act* received Royal Assent in June 1976, and a Commission comprising three members was established. This Commission's initial annual report to the Treasurer (as required under the Act) was tabled in the latter part of 1976.

Conditions of Operation

For 1976-77, the Federal Government allocated \$140m to the states for distribution to local government. This figure was related to personal income tax collections in 1975-76 to derive a percentage figure of 1.52 per cent. In future years this percentage figure will be applied to the amount of personal income tax collected in the immediately preceding year in order to determine the amount of general purpose assistance to be allocated for distribution to local government.

The distribution of the amount of \$140m between the states was made on a percentage basis recommended by the Commonwealth Grants Commission. The following state percentages and amounts were derived under the formula determined by that Commission:

Federal Grants to Local Government, 1976-77

State	Percentage of total	Amount of grant (\$'000)
New South Wales	36.6345	51 289
Victoria	25.2845	35 398
Queensland	17.3016	24 222
South Australia	8.5178	11 925
Western Australia	9.4015	13 162
Tasmania	2.8601	4 004
Total	100.0000	140 000

In its initial report, the State Grants Commission of Tasmania considered that the State's share of the funds made available for local government financial assistance was inadequate. It criticised the method used by the Commonwealth Grants Commission in determining the state by state distribution, the proportions of which were intended to remain unaltered for a period of five years. The State body expressed the hope of a full scale review of the percentage distribution before the next financial year.

A condition under the new scheme is that each state distribute not less than 30 per cent of their annual allocation to all local governments on primarily a population basis, but account may also be taken of the area of the authority, population density or any similar factor approved by the Federal Government. The remainder of a state's grant is placed under the control of the State Grants Commission for distribution to local government authorities according to the principle of relative financial need.

For 1976-77, the Tasmanian Government determined that, of its total allocation of \$4.0m, the proportion to be distributed on a per capita basis would be 30 per cent, or \$1.2m, and the balance (\$2.8m) would be placed under the control of the State Grants Commission for the making of equalisation grants to municipalities.

Principles for Determining Equalisation Grants

The functions of the State Grants Commission are largely covered by Section 9 of the Act, which sets down certain broad principles to be followed. The fundamental guideline for the determination of grants is set out in Section 9 (2) (d) of the Act, which requires the Commission to ensure that, as far as possible, the grant recommended for a municipality will be an amount which, providing it makes a reasonable rating effort, will enable it to provide services at about the same standard as other municipalities of a similar type. This is viewed as the principle of relative financial need. In determining the grants necessary to equalise the fiscal capacity of municipalities, the Commission has adopted the principle that a grant must basically reflect differences between:

- (i) the revenue-raising capacity of municipalities; and
- (ii) the relative cost of providing services (expenditure differentials).

The Commission has adopted methods to identify and measure those factors which affect relative rateable capacity and the cost of functioning at a given standard. To the extent to which a municipality is below the standard or faced with higher costs, a prima facie case exists for an equalisation component.

The two components of a grant, namely, the revenue and expenditure differentials, are regarded by the Commission as having equal weights. The allocation of grants for 1976-77 was decided upon the following basis: if the total

funds of \$4m were considered to be a part of the distribution, the Commission would allocate \$2m each for revenue and expenditure disability distributions, however, the per capita amount of \$1.2m is excluded from the amount to be distributed by the Commission, and this component is regarded as being of a revenue nature; this meant that the allocation of grants would be as follows:

	\$
(i) revenue disabilities	800 000
(ii) expenditure disabilities	2 002 000
	2 802 000
Total	2 802 000

Differences Between the Tasks of the Commonwealth and State Grants Commissions

Two important differences occur between the functions of the Commonwealth and State Grants Commissions. Under the 1974-75 and 1975-76 distributions, the Commonwealth Grants Commission considered local government in all states to have marked differences in functions, and did not work to any specific limit of funds. Under the new scheme, the State Grants Commissions deal only with local authorities in their respective states, having mainly homogenous functions; furthermore, the amount of money to be distributed is fixed in advance.

The Commonwealth Grants Commission's only role under the new scheme is to advise of the appropriate percentage distribution of federal personal income tax between the states, and, in the initial period, to provide advice to the state bodies on methods for calculating grants to municipalities.

Specific Purpose Grants

The following table provides details of total government grants to Tasmanian municipalities in 1974-75, including specific purpose grants distributed by the State Government and general purpose grants allocated by the Commonwealth Grants Commission under the previous federal scheme;

Total Government Grants to Tasmanian Municipalities 1974-75
Classified by Primary Source and Purpose (a)
(\$'000)

FEDERAL GOVERNMENT GRANTS							Total government grants (c)
Regional Employment Development Scheme	Grants Commission	Other	Total				
1 866.0	1669.0	153.6	3 688.6				
STATE AND TOTAL GOVERNMENT GRANTS							Total government grants (c)
State Government grants							
State unemployment	Roads	Recreation	Water	Sewerage (b)	Other	Total	12 103.1
440.8	3 280.2	412.0	2 844.9	806.2	630.4	8 414.5	

a) Some grants shown are financed by the Federal Government, the State Government determining distribution.
 (b) Includes grants under the National Sewerage Program of \$477 200.
 (c) Includes grants received into Revenue (\$10.64m) and Loan Accounts (\$1.46m).

The State Grants Commission does not impose conditions as to the manner in which the municipalities expend the recommended grants. The funds may be applied in whatever direction a council considers best for its municipality.

The Commission has made it very clear that the granting of funds for particular purposes falls beyond the provisions of the Act, at the same time pointing out that legislation already exists providing for the payment of specific purpose grants, for example, grants for such responsibilities as water and sewerage, rural roads, recreation facilities, etc.

Total Receipts

The following table shows the total receipts of Tasmanian municipalities for recent years:

Composition of Total Receipts of Tasmanian Municipalities
(\$'000)

Source	1972-73		1973-74		1974-75	
	Amount	Per cent of total	Amount	Per cent of total	Amount	Per cent of total
Rates and licences—						
Ordinary services ..	15 702	33.8	16 980	34.0	22 331	33.0
Business undertakings	7 669	16.5	8 632	17.3	10 197	15.0
Total	23 371	50.3	25 612	51.3	32 527	48.0
Grants (a)—						
General purpose ..	..	..	..	..	1 669	2.5
Specific purpose—						
Ordinary services ..	5 593	12.0	3 407	6.8	6 784	10.0
Business undertakings	2 255	4.9	2 656	5.3	3 651	5.4
Total specific purpose	7 848	16.9	6 063	12.2	10 435	15.4
Total all grants ..	7 848	16.9	6 063	12.2	12 104	17.9
Revenue Fund receipts (b)—						
Ordinary services ..	4 586	9.9	7 007	14.0	8 160	12.0
Business undertakings	2 112	4.5	2 357	4.7	2 435	3.6
Total	6 698	14.4	9 364	18.8	10 595	15.6
Loan Fund receipts—						
Loans	8 151	17.5	8 574	17.2	12 260	18.1
Other receipts (c) ..	405	0.9	279	0.6	274	0.4
Total	8 556	18.4	8 853	17.7	12 534	18.5
Total receipts..	46 473	100.0	49 892	100.0	67 760	100.0

(a) Comprises all grants; i.e. grants for recurrent and capital purposes.

(b) Excludes rates and grants which are shown separately.

(c) Comprises sales of materials credited to loan funds, recoveries of capital expenditure, etc., but excludes capital grants which are included in the total grants figures.

Financial Assistance by Grants Commissions

The following table provides details of financial assistance to Tasmanian municipalities from distributions under the Commonwealth Grants Commission for 1974-75 and 1975-76, and those under the new scheme for 1976-77:

Federal Government Financial Assistance to Local Government in Tasmania (a)

Local government area	Commonwealth Grants Commission (b)				Revised scheme (c)			
	1974-75		1975-76		1976-77			
	Amount	Per head of population (d)	Amount	Per head of population (d)	Per capita grant	Equalisation grant	Total grant	Per head of population (d)
	(\$'000)	(\$)	(\$'000)	(\$)	(\$'000)	(\$'000)	(\$'000)	(\$)
Hobart .. .. .	..	..	105	2.00	156	108	264	5.24
Glenorchy	106	2.41	200	4.51	131	199	330	7.78
Clarence	220	5.39	262	6.25	124	308	432	10.24
Brighton	15	4.97	28	7.78	11	40	51	10.35
Kingborough	46	3.72	76	5.86	38	91	129	9.31
New Norfolk	66	6.20	66	6.20	32	69	101	9.97
Sorell	26	6.65	50	12.47	12	63	75	17.44
Bothwell	4	5.48	9	12.33	2	16	18	21.92
Bruny	4	14.29	5	17.86	1	10	11	35.26
Esperance	17	5.38	22	6.98	9	28	37	11.93
Glamorgan .. .. .	..	..	11	9.32	3	17	20	15.44
Green Ponds	6	7.23	7	8.43	2	17	19	22.38
Hamilton	13	3.23	34	8.90	11	49	60	17.35
Huon	24	5.58	32	7.46	13	50	63	13.27
Oatlands	10	5.10	13	6.63	6	24	30	13.95
Port Cygnet	12	6.63	15	8.24	5	26	31	15.42
Richmond	13	8.33	17	10.90	5	25	30	18.24
Spring Bay .. .. .	..	..	18	10.29	5	28	33	19.09
Tasman	5	5.00	8	8.16	3	18	21	22.63
Launceston	130	3.81	138	4.04	101	110	211	6.40
Beaconsfield	50	4.26	70	5.79	36	75	111	8.99
Deloraine	30	6.36	37	7.81	14	43	57	12.14
Evandale	11	7.69	13	8.97	4	22	26	16.74
George Town	50	7.90	42	6.46	19	51	70	10.55
Lilydale	42	4.86	64	7.25	26	77	103	11.79
Longford	18	3.67	23	4.65	15	26	41	7.73
St Leonards	87	5.08	94	5.24	53	114	167	9.12
Westbury	19	3.88	30	6.07	15	33	48	8.87
Campbell Town	9	5.73	14	8.97	5	19	24	15.17
Fingal	27	8.41	32	10.03	9	39	48	16.84
Flinders	7	7.29	17	17.71	3	30	33	34.48
Portland	11	7.28	16	10.67	4	22	26	16.15
Ringarooma	22	9.32	30	12.77	7	35	42	19.11
Ross .. .. .	..	..	5	10.00	1	12	13	24.21
Scottsdale	24	6.70	26	7.12	11	27	38	9.78
Burnie	94	4.59	100	4.82	61	139	200	10.27
Circular Head	56	6.97	80	9.93	24	95	119	15.69
Devonport	95	4.42	100	4.55	65	136	201	9.38
Kentish	23	5.32	30	6.98	13	41	54	13.48
King Island	30	10.31	32	11.00	9	43	52	19.40
Latrobe	22	4.23	28	5.33	16	33	49	9.01
Penguin	13	2.65	22	4.45	15	36	51	10.43
Ulverstone	56	4.84	63	5.36	35	84	119	9.99
Wynyard	54	4.90	60	5.35	33	82	115	10.04
Gormanston	4	10.53	5	13.16	1	10	11	28.50
Queenstown	45	8.77	63	12.28	15	74	89	19.26
Strahan	4	9.52	5	11.90	1	14	15	34.89
Waratah	11	5.45	20	9.22	6	31	37	18.24
Zeehan	38	8.17	55	11.65	14	63	77	15.10
Tasmania	1 669	4.17	2 292	5.64	1 202	2 802	4 004	9.94

(a) Excludes grants under the Regional Employment Development scheme and grants for specific purposes.

(b) Comprises equalisation grants as determined by the Commonwealth Grants Commission.

(c) Comprises: (i) grants to municipalities on a proportion of population basis; and (ii) equalisation grants as determined by the State Grants Commission.

(d) Figures are based on the populations of the municipalities at the beginning of each year. The 1976-77 per capita grants under the revised scheme were calculated according to population as at 30 June 1975.

Chapter 6

Census of Population and Housing, 30 June 1976

Processing of information collected from the Australian Census of Population and Housing of 30 June 1976 was divided into two phases. The first phase involved processing to produce preliminary population and dwelling figures (down to local government area level) for each state as soon as possible after the Census. Preliminary processing was undertaken in each state capital city and in Darwin. Preliminary data relating to population by sex and to occupied and unoccupied dwellings for Tasmania was released on 1 October 1976. Final details relating to population dissected by age, sex, marital status and birthplace, and population figures down to Collection District level and for urban centres, etc., were also processed during the first phase and were expected to be released during the first half of 1977.

The second phase was scheduled to commence during July 1977 in a single processing centre located in Sydney. This phase was to involve the processing of all other information collected at the Census and the first results were expected to be released during the first half of 1978.

Final 'as recorded' population figures from the 1976 Census for all states, territories and Australia, together with 1971 Census figures and the annual average rate of increase are: Tasmania 402 866 (1971 population, 390 413; annual average rate of increase, 0.63 per cent); New South Wales 4 777 103 (4 601 180; 0.75 per cent); Victoria 3 646 981 (3 502 351; 0.81 per cent); Queensland 2 037 197 (1 827 065; 2.20 per cent); South Australia 1 244 756 (1 173 707; 1.18 per cent); Western Australia 1 144 857 (1 036 469; 2.13 per cent); Northern Territory 97 090 (86 390; 2.36 per cent); Australian Capital Territory 197 622 (144 063; 6.53 per cent); and Australia 13 548 472 (12 755 638; 1.21 per cent).

The following table shows preliminary 'as recorded' 1976 Census results of population dissected by sex down to local government area level for Tasmania:

Population in Local Government Areas and Statistical Divisions

Local government area (statistical divisions and sub-divisions in bold type)	Census, 30 June 1971	Census, 30 June 1976 (preliminary 'as counted') (a)			Average annual rate of increase, persons 1971-1976 (per cent)
	Persons	Males	Females	Persons	
Hobart (H)	52 426	24 177	26 204	50 381	-0.79
Glenorchy (H)	42 651	21 147	21 290	42 437	-0.10
Clarence (H)	37 104	21 028	21 173	42 201	2.61
Brighton (H) (S)	2 333	2 509	2 418	4 927	16.13
Kingborough (H) (S)	10 815	6 936	6 927	13 863	5.09
New Norfolk (H) (S)	10 613	5 193	4 942	10 135	-0.92
Sorell (H) (S)	3 636	2 213	2 088	4 301	3.42
Bothwell (S)	813	431	390	821	0.20
Bruny (S)	311	164	148	312	0.06
Esperance (S)	3 508	1 622	1 480	3 102	-2.43
Glamorgan (S)	1 120	665	630	1 295	2.95
Green Ponds (S)	881	437	412	849	-0.72
Hamilton (S)	4 060	1 998	1 461	3 459	-3.15
Huon (S)	4 756	2 395	2 352	4 747	-0.04
Oatlands (S)	2 132	1 158	993	2 151	0.18
Port Cygnet (S)	2 070	1 038	972	2 010	-0.59
Richmond (S)	1 579	861	784	1 645	0.82
Spring Bay (S)	1 413	882	847	1 729	4.12
Tasman (S)	1 035	474	454	928	-2.16
HOBART	153 216	79 954	82 105	162 059	1.13
SOUTHERN	30 040	15 374	13 860	29 234	-0.54

Population in Local Government Areas and Statistical Divisions—continued

Local government area (statistical divisions and sub-divisions in bold type)	Census, 30 June 1971	Census, 30 June 1976 (preliminary 'as counted') (a)			Average annual rate of increase, persons 1971-1976 (per cent)
	Persons	Males	Females	Persons	
Launceston	35 107	15 642	17 305	32 947	-1.26
Beaconsfield	10 970	6 195	6 152	12 347	2.39
Deloraine	4 807	2 387	2 310	4 697	-0.46
Evandale	1 462	804	749	1 553	1.22
George Town	6 029	3 433	3 200	6 633	1.93
Lilydale	8 308	4 459	4 280	8 739	1.02
Longford	5 145	2 662	2 644	5 306	0.62
St Leonards	16 093	9 039	9 268	18 307	2.61
Westbury	4 863	2 684	2 728	5 412	2.10
Tamar	92 784	47 305	48 636	95 941	0.67
Campbell Town	1 641	788	794	1 582	-0.73
Fingal	3 441	1 456	1 395	2 851	-3.69
Flinders	968	509	448	957	-0.23
Portland	1 497	803	807	1 610	1.47
Ringarooma	2 474	1 142	1 056	2 198	-2.34
Ross	541	272	265	537	-0.15
Scottsdale	3 615	1 975	1 909	3 884	1.45
North Eastern	14 177	6 945	6 674	13 619	-0.80
NORTHERN	106 961	54 250	55 310	109 560	0.48
Burnie	19 954	9 761	9 704	19 465	-0.50
Circular Head	7 981	3 919	3 666	7 585	-1.01
Devonport	19 802	10 459	10 961	21 420	1.58
Kentish	5 325	2 044	1 963	4 007	-5.53
King Island	2 793	1 469	1 211	2 680	-0.82
Latrobe	5 115	2 710	2 726	5 436	1.22
Penguin	4 791	2 496	2 395	4 891	0.41
Ulverstone	11 052	5 812	6 098	11 910	1.51
Wynyard	10 600	5 789	5 669	11 458	1.57
North Western	87 413	44 459	44 393	88 852	0.33
Gormanston	489	214	172	386	-4.62
Queenstown	5 123	2 424	2 198	4 622	-2.04
Strahan	447	219	211	430	-0.77
Waratah	1 940	1 160	868	2 028	0.89
Zeehan	4 369	2 933	2 165	5 098	3.13
Western	12 368	6 950	5 614	12 564	0.31
MERSEY-LYELL	99 781	51 409	50 007	101 416	0.33
Migratory	415	516	59	575	6.74
TASMANIA	390 413	201 503	201 341	402 844	0.63
Launceston Statistical District	<i>n.a.</i>	39 944	41 686	81 630	<i>n.a.</i>

(a) Preliminary Census count as recorded; not adjusted for under-enumeration. The final 'as recorded' population at 30 June 1976 was 402 866, while the population adjusted for under-enumeration (as measured by a post-enumeration survey) was 407 400

Appendix B

ECONOMIC CENSUSES

CONCEPTS AND DEFINITIONS

Commencing with the year 1968-69 integrated economic censuses were introduced for the following sectors of the economy: mining; manufacturing; electricity and gas; retail trade; and wholesale trade. For the 1968-69 and subsequent economic censuses uniform definitions and concepts have been used. This allows inter-sector comparisons and increases the usefulness of the data derived from censuses for economic analysis and market research. Definitions and concepts used in these censuses are summarised below. (A section in Chapter 18 brings together results from the various censuses to allow comparisons between, and combinations of, the sectors covered to be made.)

Establishment: Generally the establishment is the whole of each physical location operated by one enterprise, given that the main activity of the establishment is within scope of the census. Usually only one return is submitted for each establishment *classified to the industry of its main activity*. The principal exception to the 'one return one establishment' rule is where a secondary activity at a location creates gross receipts of \$1m or more. In such cases the secondary activity may have to be reported on a second return appropriate to its industry or its sector. Details for *administrative offices and ancillary units* (such as head offices, storage depots, garages, laboratories, etc.) which serve or administer establishments within the same enterprise but which are located away from them are treated as follows: (i) if only one establishment is served or administered then details are included in the establishment return; or (ii) if more than one establishment is served or administered details are included on the enterprise return. *Manufacturers' sales branches* located away from the parent manufacturing establishment are treated as ancillary units provided they do not distribute goods to customers from their own holdings of stocks. If the unit does distribute from stocks in this manner then it is treated as an establishment and included in the wholesale sector.

Electricity and Gas Industries—the Exception: The single operating location is not suitable as a basis for enterprises engaged in producing or distributing electricity or gas. Therefore for electricity and gas industries, a special treatment was devised—the establishment unit for these industries consists of all locations operated by the enterprise in the one state.

Enterprise: This is broadly the operating legal entity and is the key unit for the collection of information. Where a number of legal entities operate as a group, owned or controlled by a single company, the enterprise is not the group as a whole, but each individual operating legal entity in the group.

Enterprise Group: Comprises a group of operating legal entities owned or controlled by a single company.

Value Added: Common to all sectors covered by integrated economic censuses is the following definition: value added *equals* turnover *plus* increase in stocks *minus* purchases, transfers in and selected expenses. The value added measure can then be aggregated for all establishments and sectors covered by the censuses *without duplication*. In broad terms value added is the surplus from which establishments pay wages and salaries, interest, depreciation, rents and overheads. The remainder is available for appropriation as profits.

Turnover: The definition of turnover is as follows: (a) In manufacturing and mining censuses: (i) sales of goods produced by the establishment; (ii) sales of goods not produced by the establishment; (iii) transfers out of goods to other establishments of the same enterprise; (iv) bounties and subsidies on production; (v) all other operating income but excluding revenue from rent and leasing, interest other than hire purchase interest, dividends and sales of fixed tangible assets; and (vi) capital work done for own use or for rental or lease. (b) In retail and wholesale trade censuses: (i) sales of goods (owned by the enterprise); (ii) transfers out of goods to other establishments of the same enterprise (applies only to wholesale); (iii) selling and purchasing commissions received (applies only to wholesale); (iv) all other operating income but excluding items specified in (a) (v) above; and (v) goods withdrawn from stock for own use (as fixed tangible assets, or for rental or lease).

Purchases and Selected Expenses: Are defined as follows: (a) In manufacturing and mining censuses: (i) the value of purchases of materials, fuels, electricity and gas, and wrapping and packaging materials is supplemented by the value of transfers in from other establishments of the enterprise; (ii) purchases of goods for resale are included as well as purchases for own use in production; and (iii) selected expenses comprise repair and maintenance expenses, charges for sub-contract and commission work, outward freight and cartage, motor vehicle running expenses and sales commission payments. (b) In retail and wholesale trade censuses: (i) the value of purchases of goods for resale is widened to include purchases for both wholesale and retail trade, no matter whether the establishment is primarily a retailer or a wholesaler; (ii) the value of purchases also includes purchases of materials for manufacturing to cover cases where the retail or wholesale establishment has this secondary activity; and (iii) selected expenses comprise those specified in (a) (iii) above *plus* purchases of wrapping and packaging materials, and electricity and gas (see item (a) (i) in preceding manufacturing and mining group for the reason for this addition).

Stocks: Are the total held by the establishment and may therefore include some stocks held for secondary activities, e.g. a manufacturing establishment may have, in its stocks figure, merchanted goods held or a retail establishment may include in its return, stocks held for wholesaling and manufacturing.

Transfer Values: Transfers, both in and out are confined to transfers of goods; the term is further narrowed to mean transfers between establishments of the same enterprise. Provision exists for recording transfers in all census sectors except retail trade and here the instruction requires purchases to be reported inclusive of transfers in, but net of transfers out. Thus, transfers are taken into account in arriving at value added since transfers out, as just defined, are a part of turnover and transfers in are a part of purchases and selected expenses.

Employment, Salaries and Wages: In accordance with the new concept of treating the establishment as a whole, all employees are entered, including those working in administrative offices and ancillary units which serve only the one associated establishment.

Fixed Capital Expenditure: The general basis for collection is: purchases of new and second-hand assets *less* sales of second-hand assets. (For establishments of multi-establishment enterprises, transfers from other establishments of the enterprise are treated as purchases, and transfers to such establishments are treated as sales.) The dissection of fixed capital expenditure comprises expenditure on: (i) motor vehicles; (ii) land and buildings; and (iii) plant and machinery. A further distinction is made between new assets and secondhand assets.

Industrial Classification

The Australian Standard Industrial Classification (ASIC) was adopted for use in the 1968-69 and subsequent economic censuses. ASIC defines the industries for which statistics are collected in the censuses and allows the scope of the individual censuses to be marked out without gaps or duplications between them. It also identifies the statistical units (establishments, enterprises, etc.) and lays down standard rules for identifying and coding them to industries of the classification. A detailed description of ASIC may be found in the Bureau publication 'Australian Standard Industrial Classification (Preliminary Edition) 1969, Vol 1'.

PUBLICATION OF TASMANIAN STATISTICS HOW TO OBTAIN CURRENT PUBLICATIONS

General

The Tasmanian Office of the Australian Bureau of Statistics is located in the *Australian Government Centre* at 188 Collins St, Hobart. Requests for statistical publications can be made by calling at this address; by phoning, Hobart 20 5011; or by writing to the *Deputy Commonwealth Statistician, G.P.O. Box 66A, Hobart, 7001.*

Service to the public is not restricted to the distribution of publications. If no publication adequately covers the subject matter of the inquiry, then a special extraction of the data required may be undertaken if they are readily available from the basic records held in the office.

Historical

Before the appointment of the first Government Statistician in Tasmania in 1867, statistics had been published in the official 'Blue Books' compiled by the Colonial Secretary during the period 1822-1855, and in volumes entitled *Statistics of Tasmania* after self-government was granted.

By the *Commonwealth and State Statistical Agreement Act 1924*, the Tasmanian Parliament ratified an agreement for the establishment of an office in Tasmania of the Australian Bureau of Statistics, such office to meet the statistical needs of the State Government; provision was made for the Deputy Commonwealth Statistician, a Federal Government officer, to hold, at the discretion of the State Government, the title of (State) Government Statistician. The first officer appointed in this way was L. F. Giblin, M.C., D.S.O., who had previously been the State Government Statistician. (It was not until the late 1950s that similar arrangements were made in the other Australian states.)

Statistics from 1804

In the Archives Office of Tasmania, the following series are available:

- (i) *Statistical Account of Van Diemen's Land or Tasmania, 1804 to 1854* compiled by Hugh M. Hull (Office of the Colonial Secretary).
- (ii) Official 'Blue Books' for period 1822-1855.
- (iii) *Statistics of Tasmania*—annual publications from 1856 to 1922-23.
- (iv) *Statistics of the State of Tasmania*—annual publications commencing 1923-24 and continuing to 1967-68. (Copies of these volumes are held at the University Library, the State Library in Hobart, the Public Library in Launceston and the Tasmanian Office of the Australian Bureau of Statistics.) Although the bound volume entitled *Statistics of the State of Tasmania* has been discontinued as from the 1967-68 issue, the component parts are still published as separate bulletins.

Copies of publications listed under (i), (iii) and (iv) above, are available for inspection at the Tasmanian Office of the Bureau.

Current Publications of the Tasmanian Office

The Tasmanian Office of the Australian Bureau of Statistics is engaged in a continuous publication program, the statistics appearing in either 'for sale' or 'not for sale' publications.

The 'not for sale' publications (publications available free of charge) can be further dissected into annual bulletins and press releases. The press releases are issued with a view to making the statistical information available as soon as possible after compilation. Bulletins contain greater detail than press releases, but because of time taken to compile and print are issued some time after the period to which they refer. The two principal 'for sale' publications issued by the Tasmanian Office of the Bureau are the *Tasmanian Year Book* and *Pocket Year Book of Tasmania*.

Each issue of the *Monthly Summary of Statistics* includes a table listing all publications produced by the Tasmanian Office, together with details relating to the latest available issues and their dates of publication. The following table lists the 'for sale' and 'not for sale' publications issued by the Tasmanian Office:

Publications of the Tasmanian Office of the Australian Bureau of Statistics (a)

Ref. no.		Publication
New	Old	
GENERAL PUBLICATIONS		
1 304.6	G 13	Compendium of Municipal Statistics irr
1 303.6	G 32	Monthly Summary of Statistics m
1 302.6	G 02	Pocket Year Book of Tasmania (\$1.00, plus postage, 1976 issue) a
1 305.6	G 06	Statistical Summary of Tasmania (\$0.40, plus postage) irr
1 301.6	G 01	Tasmanian Year Book (\$5.00 plus postage, 1977 issue) a
1 101.6	I 22	Index of Towns, Localities and Standard Area Codes irr
STATISTICAL BULLETINS (generally at least 20 pages)		
7 101.6	P 05	Agricultural Industry a
8 701.6	P 12	Building Industry a
3 301.6	D 48	Death, Causes of a
3 101.6	D 03	Demography a
4 201.6	D 58	Education a
4 301.6	D 21	Hospital Morbidity a
6 301.6	D 23	Industrial Accident Statistics a
6 101.6	F 04	Labour, Wages and Prices a
5 501.6	F 27	Local Government Finance a
8 202.6	M 29	Manufacturing Establishments, Details of Operations and Small Area Statistics a
4 302.6	D 49	Mental Health Statistics a
8 401.6	P 31	Mining Industry a
5 601.6	F 39	Private Finance a
4 501.6	D 59	Public Justice a
8 601.6	R 41	Retail and Selected Service Establishments irr
5 401.6	T 51	Trade and Shipping a
8 602.6	R 54	Wholesale Establishments irr
PRESS RELEASES		
8 603.6	I 57	Accommodation Establishments (occupancy survey) q
7 102.6	P 07	Agricultural Statistics (preliminary) a
7 302.6	P 08	Apples and Pears Held in Cool Stores m (seasonal)
7 206.6	P 09	Bee Farming Statistics a
8 702.6	P 10	Building Approvals, Monthly Bulletin of m
8 703.6	P 11	Building Statistics, Quarterly Bulletin of q
7 301.6	P 14	Crop Statistics a
7 203.6	P 15	Dairy Industry, Statistics of the a
7 401.6	P 34	Farms, Number of, Employment, Machinery, Irrigation and Fertiliser Usage a
5 603.6	F 61	Friendly Societies, Report on a
7 303.6	P 19	Fruit Production a
7 305.6	P 20	Hop Production a
6 302.6	F 24	Industrial Disputes a
7 201.6	P 25	Livestock Statistics (preliminary) a
7 201.6	P 26	Livestock Statistics (final) a

Publications of the Tasmanian Office of the Australian Bureau of Statistics (a)—*continued*

Ref. no.		Publication
New	Old	
PRESS RELEASES—<i>continued</i>		
8 201.6	M 28	Manufacturing Census, Preliminary Results Analysed by Stat. Divs a
7 202.6	P 30	Meat, Production of a
9 201.6	T 33	Motor Vehicle Registrations m
3 202.6	D 35	Population and Vital Statistics q
3 201.6	D 36	Population of Local Government Areas a
7 304.6	P 37	Potato Statistics a
7 204.6	P 38	Poultry Statistics a
7 501.6	P 53	Primary Production (excluding mining), Value of a
8 301.6	M 40	Productive Activity, Miscellaneous Indicators of m
9 401.6	T 45	Road Traffic Accidents Involving Casualties q
9 402.6	T 46	Road Traffic Accidents Involving Casualties a
8 203.6	M 47	Sawmilling, Woodchipping, etc. Statistics m
8 604.6	I 57	Tourist Accommodation Establishments, Census of irr
5 402.6	T 50	Trade, Overseas a
7 205.6	P 56	Wool Production Statistics a

(a) Unless a price (excluding postage) is also given, the publication is available free of charge (in limited numbers). The symbols used indicate the frequency of publication as follows: m—monthly, q—quarterly, a—annual and irr—irregular.

TASMANIAN STATISTICS IN CENTRAL OFFICE PUBLICATIONS

General

Although publications of the Tasmanian Office of the Australian Bureau of Statistics make available statistics on many aspects of the State, there are some fields in which additional or more frequent information is available in publications of the Central Office.

How to Obtain Central Office Publications

Central Office printed publications may be *bought* direct from the Australian Government Publications and Inquiry Centres at 113 London Circuit, Canberra or 162 Macquarie St, Hobart, or from the Tasmanian Office of the Australian Bureau of Statistics; they may also be ordered from leading booksellers in the principal centres. A standing order may be placed with the Australian Government Publishing Service P.O. Box 84, Canberra, A.C.T., 2600, with whom a credit account may be arranged.

In addition to printed publications for which a charge is made, there are other Central Office publications (mimeographed, etc.) which may be obtained free of charge from the Australian Statistician, Canberra.

Subject Matter of Central Office Publications

The fields of statistical inquiry covered in Central Office publications are very wide and the best way to obtain a guide to the material available is to write to: *The Australian Statistician*, P.O. Box 10, Belconnen, A.C.T. 2616 and ask for the booklet *Publications of the Australian Bureau of Statistics*. Copies of this guide are also available at the Tasmanian Office of the Bureau. This free, comprehensive guide lists the publications of the Central Office and of the state offices; in addition, it contains a subject index to information covered by Central Office publications.

Readers with interest in a particular field are invited to call at, or write to, the Tasmanian Office which is in a position to give advice on what publications are available.

INDEX OF SPECIAL ARTICLES

Special articles are indexed to broad subject areas rather than to detailed items; e.g. those of an historical nature are indexed under the entry 'Historical Articles'. Articles which appear in several editions have been indexed to the year, edition number and pages on which the main articles were first published. This index includes special articles appearing in the 1973 to 1977 issues of the *Tasmanian Year Book*. The Index of Special Articles in the 1976 edition included those appearing in the first 10 issues (1967 to 1976).

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Errata

Population densities given on page 40 should read 390, 297 and 229 persons per square kilometre for the Netherlands, Japan and the United Kingdom, respectively.

On page 352, the fifth line of the second paragraph should begin 'the remaining states correspondingly . . . '.