

## SECTION XXVI. LOCAL GOVERNMENT.

### 1. Introduction.

**1. Early History of Local Government.**—In the previous issues of this book, a description was given of the systems of Local Government and their development in the several States of the Commonwealth, and at the same time a comparison was made between the Australian and Continental systems. The early history of Local Government in Australia was also dealt with. Owing, however, to considerations of space, these matters have been omitted from the present volume, and the reader is referred to Year Book No. 5, pages 972 to 975.

### § 2. Local Government Systems.

**1. New South Wales.**—(i.) *Development of Local Government.* The history of Local Government in New South Wales has been given in previous issues of this book (see No. 6, page 966). It is not intended to repeat the information in this issue.

(ii.) *Present System of Local Government.* The law relating to local government in New South Wales is now contained in the Acts of 1906, 1907, and 1908. Practically the whole of the State, with the exception of the Western Division, has been brought under the operation of these Acts.

(a) *Areas Incorporated.* Prior to the year 1907 the total area incorporated formed a very small part of the whole area of the State, as may be seen in the following statement:—

#### AREAS INCORPORATED IN NEW SOUTH WALES, 1860 to 1906.

Year	...	...	1860.	1870.	1880.	1890.	1900.	1906.
Area incorporated—sq. miles	...	...	409	649	1,482	2,387	2,763	2,830

*Total area of State (exclusive of Lord Howe Island), 310,367 square miles.*

The areas incorporated in 1906 in each of the three territorial divisions of the State were as follows:—

#### DISTRIBUTION OF INCORPORATED AREAS, 1906.

Division.	Incorporated Area.	Unincorporated Area.	Total Area.
Eastern ... .. Sq. miles	1,977	93,742	95,719
Central ... .. „	571	88,579	89,150
Western ... .. „	282	125,216	125,498
Total ... .. „	2,830	307,537	*310,367

\* Total area of State, exclusive of Lord Howe Island, the area of which is 5 square miles.

The total area incorporated under the Local Government Act 1906, to the end of the year 1913, was 183,569 square miles, of which 180,656 square miles were comprised within shires and 2913 within municipalities. The areas incorporated comprise the whole of the eastern and central divisions of the State, with the exception of Lord Howe Island, the islands in Port Jackson, and the quarantine station at Port Jackson.

(b) *General.* The above Act came into operation on the 1st January, 1907; it provided for the continuation of existing shires and municipalities, for the creation of new ones, and for their reconstitution by uniting, dividing, altering, or converting areas. Each shire is divided into three ridings, and each municipality may be divided into wards by petition of the council or a majority of the ratepayers to the Governor. The councils

consist, in the case of shires, of either six or nine councillors, and in the case of municipalities, of from six to twelve aldermen. A summary of the functions of councils, their powers and duties, together with a detailed statement of rates, ratable property, and endowment, will be found in previous issues of the Year Book. (See Year Book No. 5, pages 977 to 979.)

(iii) *Shires*.—The total area of the 135 shires constituted under the new system is 180,656 square miles, and the population on the 31st December, 1913, was 645,140.

The shires vary in area from 36 square miles in the case of Ku-ring-gai, immediately north of the metropolis, to 5730 square miles in the case of Lachlan in the Condobolin district.

(a) *Valuation and Rates Levied*. The unimproved capital value of the shires in 1913 was £99,452,191, as against £97,461,454 in the preceding year. It is not possible to give the improved capital value or the assessed annual value, as the shires are not compelled to make these valuations, and in many cases do not make them. The total amount of all rates levied was £572,892.

(b) *Revenue*. The principal heads of revenue for the last five years are shewn in the following table:—

NEW SOUTH WALES.—INCOME OF SHIRES, 1909 to 1913.

Particulars.*	1909.	1910.	1911.	1912.	1913.
<i>General Fund—</i>	£	£	£	£	£
General rates ... ..	374,540	421,596	463,501	517,025	561,378
Government endowment...	261,029	277,731	319,593	372,952	134,635
Public works ... ..	57,017	59,527	45,331	45,152	62,453
Health administration ...	3,033	3,746	3,998	4,886	4,864
Public services ... ..	6,691	7,441	8,769	9,292	10,305
Shire property ... ..	1,721	4,229	6,731	8,768	10,159
Miscellaneous ... ..	5,651	5,008	8,594	5,648	6,814
<i>Special and Local Funds</i> ...	7,462	15,095	24,516	35,835	45,903
Total revenue...	717,144	794,373	881,033	999,498	836,511

\* The receipts for Public Works, Health Administration, Public Service, etc., include Government aid grants, total endowments, and special grants during 1913 amounting to £183,315.

(c) *Expenditure*. The following statement shows the expenditure of shires during the years 1909 to 1913 inclusive:—

NEW SOUTH WALES.—EXPENDITURE OF SHIRES, 1909 to 1913.

Particulars.	1909.	1910.	1911.	1912.	1913.
<i>General Fund—</i>	£	£	£	£	£
Administrative expenses ...	117,696	125,669	128,126	*83,721	*91,450
Public works ... ..	529,954	599,945	647,220	773,479	707,923
Health administration ...	4,573	4,840	5,724	7,199	7,699
Public services ... ..	10,290	13,012	15,410	15,809	14,751
Shire property ... ..	1,911	4,561	7,657	10,419	11,251
Miscellaneous ... ..	5,886	5,129	7,120	8,430	9,975
<i>Special and Local Funds</i> ...	6,474	11,976	20,949	34,268	43,041
Total expenditure...	676,784	765,132	832,206	933,325	886,000

\* Exclusive of proportion of Administrative expenses payable from Special and Local Funds previously included under General Fund.

(d) *Assets and Liabilities.* The financial position of the shires at the end of the year 1913 was strong, as there was an excess of assets of £330,799. The following table gives particulars of assets and liabilities as at the 31st December, 1913 :—

NEW SOUTH WALES.—ASSETS AND LIABILITIES OF SHIRES, 1913.

Assets.		Liabilities.	
<i>General Fund—</i>		<i>General Fund—</i>	
Outstanding rates ...	£32,047	Temporary loans ...	£36,783
Stores and materials ...	12,838	Sundry creditors ...	44,116
Bank balance ...	87,519	Due on contracts ...	3,502
Sundry debtors ...	5,919	Due to trust fund ...	968
Land ...	13,776	Other ...	5,466
Buildings ...	67,397	<i>Special and Local Funds</i> ...	18,618
Plant and property*	166,968		
Furniture ...	15,293	Total ...	£109,453
Other ...	7,204	Excess of assets ...	330,799
<i>Special and Local Funds</i> ...	31,291		
Total ...	£440,252	Total ...	£440,252

\* Including saleyards, pounds, baths, public watering-places, ferries, wharves, etc.

(iv.) *Municipalities.* Including the City of Sydney there were 188 municipalities in New South Wales at the end of 1913; of these, forty are in the suburbs of Sydney and twelve in the district of Newcastle and suburbs. Since the 1st January, 1908, under the Local Government Act 1906, municipalities must levy a general rate on the unimproved capital value of all ratable land, and may levy additional general, special, local, or loan rates on either the unimproved or improved capital value. Municipal rates are therefore no longer charged on the annual value except in the City of Sydney, the only rates based on that value being those charged by the Metropolitan and Hunter River Water Supply and Sewerage Boards.

(a) *Capital Value, Area, Population, and Rates Levied.* The following table shews the improved capital value, the area, population, number of buildings, and amount of rates levied in municipalities for the years 1901 and 1909 to 1913 :—

NEW SOUTH WALES.—MUNICIPALITIES, IMPROVED CAPITAL VALUE, AREA, POPULATION, NUMBER OF BUILDINGS AND TOTAL RATES LEVIED, 1901 and 1909-13.

Year ended 31st Dec.*	Sydney and Suburbs.					Country.				
	Improved Capital Value.	Area.	Population.	Number of Dwellings.	Total Rates Levied.	Improved Capital Value.	Area.	Population.	Number of Dwellings.	Total Rates Levied.
	£	Acres.	No.	No.	£	£	Acres.	No.	No.	£
1901 ...	88,118,600	91,220	1,487,900	94,907	277,457	36,429,600	1,732,302	371,330	73,662	127,564
1909 ...	108,120,427	95,319	605,900	123,860	631,589	44,716,888	1,822,821	456,230	85,941	299,306
1910 ...	111,318,074	95,259	1,629,503	126,476	647,762	45,824,099	1,822,821	421,714	69,107	310,849
1911 ...	119,375,694	95,259	641,960	§	726,712	47,484,486	1,822,821	431,500	§	340,075
1912 ...	124,875,964	95,259	683,730	§	770,879	48,514,203	1,826,795	444,190	§	373,765
1913 ...	137,795,263	95,259	713,260	§	880,906	50,451,471	1,769,155	456,050	§	401,594

\* Prior to 1908 the municipal year ended on the first Monday in February, since when the municipal year closes on 31st December.

† Census, March, 1901.

‡ Census, April, 1911.

§ Not available.

The following table gives a comparison of the unimproved and improved values for the years 1909 to 1913 inclusive :—

**NEW SOUTH WALES.— MUNICIPALITIES, UNIMPROVED AND IMPROVED CAPITAL VALUES, 1909 to 1913.**

Year.	Sydney.	Suburbs.	Metropolis.	Country.	Total.
<b>UNIMPROVED VALUE.</b>					
	£	£	£	£	£
1909 ...	19,970,365	23,486,535	43,456,900	19,798,286	63,255,186
1910 ...	19,952,793	23,823,398	43,776,191	19,753,131	63,529,322
1911 ...	23,940,030	25,942,704	49,882,734	19,961,743	69,844,477
1912 ...	23,988,480	27,935,494	51,923,974	20,352,473	72,276,447
1913 ...	23,837,157	28,240,971	52,078,128	20,807,126	72,885,254
<b>IMPROVED VALUE.</b>					
1909 ...	50,948,240	57,172,187	108,120,427	44,716,888	152,837,315
1910 ...	52,142,200	59,175,874	111,318,074	45,824,999	157,143,073
1911 ...	55,520,640	63,855,054	119,375,694	47,484,486	166,860,180
1912 ...	57,395,288	67,480,676	124,875,964	48,814,203	173,690,167
1913 ...	64,080,440	73,714,823	137,795,263	50,451,471	188,246,734

(b) *Revenue.* The Local Government Act 1906 prescribed that there should be a general fund in each local government area (municipality and shire), and also special funds for specified purposes. The regulations under the Act prescribed the system of accounts to be kept. This system differs materially from the old "cash" system of receipts (cash actually received) and disbursements (cash actually expended).

Prior to 1908 the municipal year ended on the first Monday in February; now it ends on the 31st December. In all statements of municipal accounts for the year 1908, therefore, the period referred to is from the 4th February to the 31st December, except in the City of Sydney, which does not come under the provisions of the Act of 1906 and where the accounts are kept for the calendar year. The first complete year for which financial particulars are available for the municipalities is the year 1909. Particulars of revenue for the year 1913 are given in the following table :—

**NEW SOUTH WALES.—MUNICIPALITIES, REVENUE, 1913.**

Particulars.	Sydney.	Suburbs.	Country.	Total.
	£	£	£	£
General fund ... ..	917,149†	573,862	398,707	977,569‡
Trading accounts ... ..		2,227	160,687	162,914‡
Special and local funds ... ..		46,617	271,175	317,792‡
Loan funds ... ..		65,313	46,495	111,808‡
Reservé and Renewals Account ... ..		5,309	17,064	22,373‡
Gross revenue ... ..	917,149†	698,328	894,128	2,509,605
Deduct transfers* ... ..	...	38,730	26,765	65,495
Net revenue ... ..	917,149†	659,598	867,363	2,444,110

\* Transfers from various funds to loan funds for principal, interest, and capital expenditure.  
 † The city of Sydney accounts were formerly kept on a cash basis, i.e., the actual receipts and disbursements were shown; but the figures for 1913 shew total revenue and expenditure for the year. Items of revenue and expenditure for the city of Sydney cannot be allocated to the different headings shewn for municipalities. ‡ Exclusive of Sydney.

(c) *Expenditure.* Reference has already been made to the system of accounts prescribed by the Local Government Act 1906 (see paragraph (b) hereof). The following table gives particulars of expenditure of municipalities for the year 1913:—

**NEW SOUTH WALES.—MUNICIPALITIES, EXPENDITURE, 1913.**

Particulars.	Sydney.	Suburbs.	Country.	Total.
	£	£	£	£
General fund ... ..	865,842†	585,339	400,175	985,514†
Trading accounts ... ..		2,542	118,017	120,559†
Special and local funds ... ..		53,714	245,413	299,127†
Loan funds ... ..		38,164	28,577	66,741†
Reserve and Renewals Account ... ..		325	2,450	2,775†
Gross expenditure ... ..	865,842†	680,084	794,632	2,340,558
Deduct transfers* ... ..		38,730	26,765	65,495
Net expenditure ... ..	865,842†	641,354	767,867	2,275,063

\* Transfers from various funds for principal and interest on loans. † See note † to preceding table. ‡ See note ‡ to preceding table.

(d) *Assets and Liabilities.* The financial position of the municipalities as at the 31st December, 1913, is shown by the following statement of assets and liabilities of the various funds:—

**NEW SOUTH WALES.—MUNICIPALITIES, ASSETS AND LIABILITIES, 1913.**

Particulars.	Sydney.	Suburbs.	Country.	Total.
	£	£	£	£
<i>Assets—</i>				
General fund ... ..	7,456,600†	305,354	454,116	759,470†
Trading accounts ... ..		466	93,333	93,799†
Special and local funds... ..		41,636	1,279,958	1,321,594†
Loan funds ... ..		142,314	516,202	658,516†
Reserves and renewals account ... ..		5,056	14,620	19,676†
Total ... ..	7,456,600†	494,826	2,358,229	10,309,655
<i>Liabilities—</i>				
General fund ... ..	7,195,657†	111,963	77,325	189,288†
Trading accounts ... ..		1,405	47,219	48,624†
Special and local funds... ..		40,373	1,168,582	1,208,955†
Loan funds ... ..		727,319	605,107	1,332,426†
Reserves and renewals account ... ..		5,056	14,620	19,676†
Total ... ..	7,195,657†	886,116	1,912,853	9,994,626

† See note † to last table on previous page. ‡ See note ‡ to last table on previous page.

2. *Victoria.*—(i.) *Development of Local Government.* In Victoria there are now two types of municipal institutions, (a) boroughs, including cities and towns, and (b) shires, and although they are now dealt with by the same Act, their origin was distinct, and in the early days of their development they were provided for by independent enactments. Melbourne and Geelong, the latter of which was for many years the second largest town in the State, having been incorporated under special statutes prior to the establishment of a general system of local government, are not subject to the provisions of the Local Government Acts except in a few comparatively unimportant details. Melbourne was incorporated as a town in 1842, and as a city in 1847; Geelong was incorporated as a town in 1849, and proclaimed a city on 14th December, 1910.

The earlier history of legislation in Victoria relative to Local Government, more especially with reference to the institution of Road Districts, their displacement by Shires, and the constitution of Urban Municipal Districts and Boroughs, has been fully dealt with in previous issues. (See Year Book No. 5, p. 992.)

(ii.) *Present System of Local Government.* Local government is now administered under the Act of 1903 throughout the whole of the State, with the exception of about 6000 square miles in the mountainous parts of the county of Wonnangatta, and the whole of French Island.

(a) *Constitution of Municipalities.* Provision is made for the continuation of municipalities established under previous Acts and for the constitution of new ones.

Definitions of shires, boroughs, and townships have been given in previous issues of this book (see Year Book No. 6, page 978), together with the conditions necessary for their constitution.

(b) *Municipal Councils, etc.* Considerations of space prevent more than a passing reference to the following subjects, which were dealt with in previous issues of this book:—The constitution of municipal councils, their functions and powers, including the power of raising loans, the qualifications necessary for the exercise of the municipal franchise, and the definition of ratable and unratable property. (See Year Book No. 5, pp. 994 to 996.)

(c) *Endowment.* The legislation dealing with municipal endowment prior to 1907 is referred to in previous issues. (See Year Book No. 5, p. 996.) In 1907, under the Municipal Endowment and Reclassification of Shires Act of that year, a new classification was adopted under which the amount of the endowment is to be allocated. In addition to the endowment of £75,000 (increased to £100,000 from the 1st July, 1907), the municipalities received from the Government during the financial year 1913-14 a sum of £78,910 out of the Licensing Act Fund as the equivalent for (a) fees for licenses, (b) fees for the registration of brewers and spirit merchants, and (c) fines, penalties, and forfeitures incurred under the Licensing Act 1876. Under the Act of 1907 the endowment of £100,000 is payable in equal moieties in March and September of each year. No city or town is entitled to receive any part of the endowment. The distribution amongst the boroughs and shires is based on the amount of general and extra rates received in the twelve months ending on the preceding 30th September according to the following scale:—

VICTORIA.—ENDOWMENT OF BOROUGHS AND SHIRES, 1913-14.

To every Borough or 1st Class Shire, 3s. in the £	To every 4th Class Shire, 8s. in the £
“ “ 2nd Class Shire 5s. “ “	“ 5th “ 10s. “ “
“ “ 3rd “ “ 6s. “ “	“ 6th “ 12s. “ “

For the three financial years commencing the 1st July, 1907, however, the amounts were definitely fixed by Act No. 2129, and for the four succeeding financial years by Acts No. 2267, 2334, 2404, and 2475 respectively.

(iii.) *Boroughs and Shires.—Number, Population, and Value of Ratable Property.*—The following table shews the number of cities, towns, boroughs, and shires, their estimated population, the number of ratepayers and dwellings, and the value of ratable property for the years 1901 and 1910-14 inclusive:—

## VICTORIA.—PARTICULARS OF MUNICIPALITIES, 1901 and 1910-14.

Year ending 30th June.	Number of Municipalities.	Estimated Population.	Number of Ratepayers (both sexes).	Estimated Number of Dwellings.	Estimated Value of Rateable Property.	
					Total.	Annual.
<b>CITIES, TOWNS, AND BOROUGHES.</b>						
1901	58	627,237	153,783	130,358	£ 67,302,423	£ 4,765,632
1910	60	728,500	183,419	159,478	108,863,963	6,232,091
1911	60	*742,070	187,562	162,489	114,113,507	6,508,544
1912	61	*742,070	194,391	†	119,400,893	6,804,697
1913	61	777,696	200,272	†	127,743,501	7,270,972
1914	61	802,479	203,773	176,541	137,649,219	7,790,654
<b>SHIRES.</b>						
1901	150	571,683	159,128	122,645	£ 106,839,331	£ 5,771,865
1910	146	563,500	159,410	124,739	143,142,655	7,332,397
1911	146	*568,494	163,916	126,951	150,970,220	7,716,815
1912	146	*568,494	168,229	†	155,677,624	7,969,963
1913	147	583,909	173,271	†	160,128,933	8,152,473
1914	147	600,431	175,637	156,402	164,268,467	8,255,505

\* Census figures. † Not available.

(iv.) *Municipal Assets and Liabilities.*—The assets of municipalities may be classified under three heads—(a) the municipal fund, (b) the loan fund, and (c) property; the liabilities under two heads—(a) the municipal fund, and (b) the loan fund. The following table shews the amount of municipal assets and liabilities for the years 1901 and 1909 to 1913:—

## VICTORIA.—MUNICIPAL ASSETS AND LIABILITIES, 1901 and 1909-13.

Items.	1901.	1909.	1910.	1911.	1912.	1913.
<b>ASSETS.</b>						
<b>MUNICIPAL FUND—</b>	£	£	£	£	£	£
Uncollected rates ... ..	187,205	114,598	110,676	105,241	111,405	108,686
Other assets ... ..	122,581	267,944	350,092	473,054	522,911	582,451
<b>LOAN FUND—</b>						
(a) Sinking funds—						
Amount at credit ... ..	675,310	812,920	834,295	893,528	896,185	924,952
Arrears due ... ..	1,391	2,827	3,286	1,182	1,759	438
(b) Unexpended balances ... ..	*394,136	106,852	345,287	264,048	237,202	167,952
<b>PROPERTY—</b>						
Buildings, markets, etc. ... ..	2,507,441	2,992,809	3,149,476	3,246,854	3,365,638	3,534,691
Waterworks ... ..	197,675	207,451	202,210	207,365	182,835	184,842
Gasworks ... ..	63,732	57,399	70,687	72,274	86,872	96,953
<b>Total ... ..</b>	<b>4,149,471</b>	<b>4,562,800</b>	<b>5,066,009</b>	<b>5,263,546</b>	<b>5,404,807</b>	<b>5,600,975</b>
<b>LIABILITIES.</b>						
<b>MUNICIPAL FUND—</b>	£	£	£	£	£	£
Arrears due sinking funds ... ..	1,021	2,827	3,286	1,182	1,759	438
Overdue interest ... ..	9,413	15,639	15,750	11,997	15,619	18,005
Bank overdrafts ... ..	157,046	120,705	133,237	165,275	234,154	201,142
Temporary Government advances ... ..	20,901	...	...	...	...	...
Other liabilities ... ..	91,396	142,446	194,902	257,371	288,368	364,287
<b>LOAN FUNDS—</b>						
Loans outstanding ... ..	4,253,304	4,416,103	4,767,138	4,831,984	5,011,950	5,259,138
Due on loan contracts ... ..	52,826	49,452	45,069	92,363	102,135	123,051
Due on current contracts ... ..	51,134	90,913	98,187	100,351	73,768	74,770
<b>Total ... ..</b>	<b>4,637,041</b>	<b>4,838,085</b>	<b>5,257,589</b>	<b>5,460,523</b>	<b>5,727,753</b>	<b>6,045,831</b>

(v.) *Revenue and Expenditure of Municipalities.*—The following table shows the revenue from various sources, and the expenditure under various heads, of municipalities during the years 1901 and 1909 to 1913 :—

**VICTORIA.—REVENUE AND EXPENDITURE OF MUNICIPALITIES,  
1901 and 1909-13.**

Items.	1901.	1909.	1910.	1911.	1912.	1913.
<b>SOURCES OF REVENUE.</b>						
	£	£	£	£	£	£
Taxation ...	722,346	946,956	999,799	1,046,943	1,103,210	1,199,874
{ Rates ... ..	104,499	101,682	102,066	100,845	102,297	103,528
{ Licenses ... ..	14,965	18,751	19,296	19,833	20,438	21,483
{ Dog fees ... ..	49,623	68,014	65,739	63,071	74,029	71,937
{ Market and weighbridge dues ... ..	175,972	175,601	187,323	157,141	161,513	160,949
Government endowments and grants...	24,999	35,173	47,532	47,342	64,646	59,172
Contributions for streets, etc. ...	48,253	59,966	62,720	66,389	74,058	80,194
Sanitary charges ... ..	54,117	69,842	77,958	79,263	81,725	78,016
Rents ... ..	89,210	195,831	207,181	237,601	263,600	324,496
Other sources ... ..						
Total ... ..	1,283,984	1,671,816	1,769,614	1,818,428	1,945,516	2,099,649

**HEADS OF EXPENDITURE.**

Salaries, etc. ... ..	139,270	158,436	163,435	168,303	176,489	187,180
Sanitary work, street cleaning, etc. ...	132,542	150,964	159,571	178,623	198,006	203,757
Lighting ... ..	86,059	82,354	83,972	87,341	84,410	87,395
Fire brigades' contributions ... ..	16,769	22,051	23,223	23,120	25,946	27,101
Public works { Construction ... ..	244,315	238,869	335,446	311,065	335,717	339,158
{ Maintenance ... ..	345,334	490,841	548,583	571,254	736,457	753,083
Formation of private streets, etc. ...	23,350	37,888	32,163	46,849	66,735	56,600
Redemption of loans ... ..	27,745	58,263	46,439	66,860	61,782	70,506
Interest on loans ... ..	197,810	201,199	206,355	213,752	217,933	224,479
Charities ... ..	13,407	15,241	15,589	15,785	18,441	16,429
Other expenditure ... ..	103,403	173,154	170,840	187,514	129,190	126,376
Total ... ..	1,330,004	1,678,760	1,785,616	1,870,466	2,051,106	2,092,064

3. *Queensland.*—(i.) *Development of Local Government.* The existing scheme of local government in the State of Queensland is regulated by the provisions of the Local Authorities Act 1902, with its amendments in 1903, 1905 and 1910. A summary of these Acts and of the earlier legislation under which the system of local government in Queensland was inaugurated and developed, will be found in previous issues of this book (see Year Book No. 5, p. 1013).

(ii.) *Present System of Local Government.*—The principal features of previous enactments as to the division of the State into local areas are retained in the Acts of 1902 and 1910, but such areas are in future to be of two classes—(a) towns and (b) shires. All municipalities formerly constituted as boroughs become towns, except Brisbane, Rockhampton, and Townsville, which are declared to be cities, and all shires and divisions become shires. The Governor-in-Council may, after giving notice in the *Gazette*, constitute, unite, divide, or abolish areas for the purpose of forming new areas, and may by proclamation constitute a town or city.



*The Municipal Councils.* All local areas are governed by councils, the members of which are called aldermen in the case of cities and towns, and councillors in the case of shires. *City and town councils* are composed of either seven, nine, or eleven members, as declared by Order-in-Council, but if the local authority has wards, three members are assigned to each ward. *Shire councils* are composed of five, seven, or nine members, as declared by Order-in-Council, but if the shire is divided the number cannot be more than three for each division, and need not be the same for every division.

In previous Year Books allusion has been made at some length to the powers and duties of municipal councils, as well as to loans, valuation, rates and franchise. It is not proposed to repeat this information in the present issue.

(iii.) *Area, Population, Number of Dwellings, Rates, Assets and Liabilities of Cities, Towns and Shires.*—The following table gives particulars of the area, population, number of inhabited tenements, assets and liabilities of cities and towns, and of shires, for each year from 1909 to 1913 :—

**QUEENSLAND.—PARTICULARS OF CITIES AND TOWNS AND SHIRES,  
1909 to 1913.**

Year.	Municipality.	Area.	Population.	Number of Inhabited Dwellings.	Capital Value.	Assets.	Liabilities.		
							Government Loans.	Other.	Total.
1909		Square Miles.	No.	No.	£	£	£	£	£
	{ Cities and Towns	384½	241,795	45,365	13,637,273	1,366,435	253,391	815,540	1,068,931
	{ Shires ...	669,870½	344,752	73,480	33,677,538	301,976	111,740	53,643	165,383
	Total	670,255	586,547	118,845	47,314,811	1,668,411	365,131	869,183	1,234,314
1910	{ Cities and Towns	364½	247,435	44,804	13,774,440	1,406,521	242,924	767,481	1,010,405
	{ Shires ...	669,890½	358,085	76,803	36,023,390	331,382	116,456	50,882	167,338
	Total	670,254½	605,520	121,607	49,797,830	1,737,903	359,380	818,363	1,177,743
1911	{ Cities and Towns	364½	232,083	46,310	14,305,268	1,425,403	214,903	794,733	1,009,636
	{ Shires ...	669,890½	368,292	77,731	38,482,811	367,078	127,079	58,741	185,820
	Total	670,255	600,375	124,041	52,788,079	1,792,481	341,982	853,474	1,195,456
1912	{ Cities and Towns	366	250,743	48,932	14,626,306	1,439,226	218,948	850,031	1,068,979
	{ Shires ...	669,528	393,172	83,021	40,365,614	426,694	141,288	84,894	226,182
	Total	669,894	643,915	131,953	54,991,920	1,865,920	360,236	934,925	1,295,161
1913	{ Cities and Towns	404	273,874	56,632	15,708,680	1,515,104	231,458	919,973	1,151,431
	{ Shires ...	669,490	399,305	84,805	41,272,641	467,182	203,109	93,410	296,519
	Total	669,894	673,179	141,437	56,981,321	1,982,286	434,567	1,013,383	1,447,950

(iv.) *Receipts and Expenditure of Cities, Towns, and Shires.*—The following table shews the receipts and expenditure (including loan moneys) of cities and towns and of shires, as well as the total receipts and expenditure of all municipalities, for each year from 1909 to 1913 :—

QUEENSLAND.—REVENUE AND EXPENDITURE OF CITIES, TOWNS AND SHIRES,  
1909 to 1913.

Year.	Municipality.	Receipts.				Expenditure.				
		From Govern- ment.	From Rates.	From other Sources.	Total.	On Public Works.	Loan Redemp- tion.	Office Expenses and Salaries.	Other Ex- penses*.	Total.
		£	£	£	£	£	£	£	£	£
1909	Cities and Towns	6,891	247,433	66,138	320,462	146,721	17,459	24,668	142,249	331,097
	Shires ...	16,648	222,536	32,235	271,419	152,700	13,332	37,585	51,194	254,811
	Total ...	23,539	469,969	98,373	591,881	299,421	30,791	62,253	193,443	585,908
1910	Cities and Towns	16,775	278,300	68,296	363,371	222,203	18,581	25,891	92,188	358,863
	Shires ...	23,285	253,398	37,295	313,978	209,466	12,147	39,092	44,405	305,110
	Total ...	40,060	531,698	105,591	677,349	431,669	30,728	64,983	136,593	663,973
1911	Cities and Towns	27,051	311,022	91,767	429,840	285,096	20,922	31,824	92,808	430,650
	Shires ...	31,138	296,222	64,532	391,892	273,472	11,721	42,561	50,195	377,949
	Total ...	58,189	607,244	156,299	821,732	558,568	32,643	74,385	143,003	808,599
1912	Cities and Towns	32,591	341,469	83,827	458,187	365,439	22,388	50,542	74,447	492,816
	Shires ...	30,969	322,049	54,201	407,219	311,580	12,020	51,612	56,771	431,963
	Total ...	63,560	663,518	138,028	865,406	677,019	34,408	82,154	131,218	924,799
1913	Cities and Towns	20,274	379,865	83,211	483,350	381,100	24,599	36,916	66,377	508,992
	Shires ...	29,717	362,108	66,170	457,995	338,178	14,457	62,676	56,185	471,496
	Total ...	49,991	741,973	149,381	941,345	719,278	39,056	99,592	122,562	980,488

\* Including interest on loans.

4. South Australia.—(i.) *Development of Local Government.* In the latter part of 1839 the first municipal law was passed in South Australia, which was thus the birthplace of municipal government in the Commonwealth. On the 31st October, 1840, the principles of self-government were practically adopted in Adelaide by the election of a mayor and council consisting of nineteen members, and the system has since been extended throughout the settled parts of the State by the formation of district councils and municipal corporations, which are the two types of local authorities now in existence.

(ii.) *District Councils.* The first District Councils Act was passed in 1858, was amended in 1862, and was further amended and consolidated by the District Councils Act of 1876, which provided for the continuation of existing districts and for the establishment of new ones by proclamation on the petition of the ratepayers. The revenue of the councils consisted of rents, profits, and income from lands vested in the councils or over which the councils had the control and management; fines and penalties enforced under the Act; fees for licenses; and general and special rates and loans. Provision was made for the election of councillors, their number, qualification, and retirement; for the election of auditors; the meetings, powers and functions of councils; the appointment of constables; revenue and expenditure; assessment of rates; and for making by-laws for various purposes. The Act of 1876 was amended from time to time, and was finally amended and consolidated by the Act which is now in force, namely, the District Councils Act 1897, which has in turn been amended in the years 1889, 1890, 1897, 1904, and 1905. These Acts were again amended by the Local Government Act 1910.

The powers and duties of district councils, together with the qualification necessary for councillors and electors, have been given *in extenso* in previous issues.

(iii.) *Municipalities.* Municipalities were first established under the Municipal Corporations Act of 1861, which, after providing for the extension of the powers and duties of the Corporation of the City of Adelaide, authorised the Governor, on petition of a majority of not less than two-thirds of the property-owners, to constitute any town, district, or place within the province, as a municipality. This Act and its amendments were consolidated in the Municipal Corporations Act 1880, which was amended from time to time until the year 1890, when it was repealed and its provisions consolidated by the existing Act, the Municipal Corporations Acts of 1890, which was in turn amended in 1893, 1896, and 1903. These Acts were again amended by the Local Government Act 1910.

A brief description of the Municipal Corporations Act of 1890, as well as the functions of municipal councils will be found in previous issues of this book.

(iv.) *Finances of District Councils and Corporations.* The subjoined tables shew the amounts of assessments and the revenue and expenditure of district councils and of corporations for the financial years 1901 and 1909 to 1913; the figures given are exclusive of the Main Roads Funds, particulars as to which may be found in the section of this book on "Roads and Bridges."

**SOUTH AUSTRALIA.—ASSESSMENT, REVENUE, AND EXPENDITURE OF LOCAL AUTHORITIES, 1901 AND 1909-13 (EXCLUSIVE OF MAIN ROADS FUNDS).**

Year.*	Amount of Assessment (Annual Value).	Revenue.				Expenditure.	
		From Rates.	From Subsidies.	Other Sources.	Total.	On Public Works.	Total.
<b>DISTRICT COUNCILS.</b>							
	£	£	£	£	£	£	£
1901	1,412,507	63,321	15,225	51,919	130,465	65,406	128,499
1909	1,849,286	89,051	20,718	30,783	140,552	104,834	146,468
1910	2,098,282	96,550	25,483	30,058	152,091	101,979	146,593
1911	2,146,530	106,968	28,017	29,195	164,175	120,369	161,125
1912	2,145,091	115,427	28,848	34,974	179,249	140,225	182,610
1913	2,295,546	123,317	29,589	36,000	188,906	150,997	196,190
<b>CORPORATIONS.</b>							
	£	£	£	£	£	£	£
1901	1,177,850	87,289	9,733	49,342	146,364	55,533	146,091
1909	1,340,755	108,480	15,828	57,837	182,145	97,118	177,897
1910	1,385,752	112,896	16,589	57,494	186,979	104,586	198,875
1911	1,499,012	133,550	16,420	62,536	212,506	105,738	217,313
1912	1,605,095	142,032	18,544	73,604	234,180	140,059	233,720
1913	1,777,623	157,014	19,948	64,701	241,663	186,246	264,528

\* Up to and including the year 1903, the financial year for Corporations ended on the 31st December, but after that date ends on the 30th November. The financial year for district councils ends on the 30th June.

5. *Western Australia.*—(i.) *Types of Local Authorities.* In this State there are three forms of local authorities, namely :—(i.) Municipalities, (ii.) Road Districts, and (iii.) Local Boards of Health. The first Municipalities Act was passed in 1871, but only a few districts were incorporated under it. In 1895 a more comprehensive measure, the Municipal Institutions Act, was passed, and after being amended from time to time was consolidated by the Municipal Institutions Acts 1902 and 1904. In 1906 the most recent enactment, the Municipal Corporations Act, was passed, repealing and consolidating previous enactments. The whole area of the State outside incorporated municipalities is divided into road districts, which are administered under the Roads Act 1911. In municipalities the councils act as Health Boards for the purpose of administering the Public Health Act, while outside municipalities local Boards of Health may

be formed. In 1904, another local government measure, the Water Boards Act, was passed, under which Boards may be appointed for the control of waterworks, and rates may be levied for the purpose, the maximum being fixed at two shillings in the pound of ratable value.

(ii.) *Municipalities.* These are now regulated by the Municipal Corporations Act, which came into force on the 1st January, 1907. Provision is made for the continuation of existing municipalities, and the Governor is authorised to constitute new municipalities on petition signed by at least fifty property-holders of the district proposed to be incorporated; to unite adjoining municipalities on petition under their common seals; to sever any portion from a municipality on petition signed by a majority of the ratepayers, and to annex such portion to a contiguous municipality or road district.

(a) *Municipal Councils* consist of a mayor and councillors, the number of which depends upon the population of the municipality; if the population is less than 1000 there are six councillors, if from 1000 to 5000 there are nine councillors, and if the population is over 5000 there are twelve councillors, or three for each ward. Any male ratepayer of the age of twenty-one years, if a natural born or naturalised subject, is eligible for election as mayor or councillor, except ministers of religion, uncertificated bankrupts, prisoners, and certain other persons who may be disqualified on the ground of interest.

The duties and powers of municipal councils, the levying of rates, the qualification of voters and the classification of municipalities in Western Australia are fully referred to in previous issues. (Year Book No. 5, p. 1025.) Consideration of space prevents their inclusion in this edition.

(b) *Government Subsidies.* Amounts are granted annually to municipalities by way of subsidies on the amounts of rates collected. To entitle any council to participate in the allocation of the annual Parliamentary vote the council must have levied a minimum general rate of one shilling in the pound. The maximum subsidy payable to any one municipality is £3000, and the minimum is £75. Apart from the above, amounts voted by Parliament for special works in municipal districts are often entrusted to the councils for expenditure under approved conditions.

(iii.) *Area, Population, etc. of Municipalities.* Returns regarding the area, population, and valuation of municipalities are defective. They are shewn in the table hereunder:—

**WESTERN AUSTRALIA.—NUMBER, AREA, POPULATION, NUMBER OF DWELLINGS,  
AND VALUATION OF MUNICIPALITIES, 1901 and 1909-13.**

Year ended the 31st October.	Number of Munic- ipalities.	Area.	Population.	Dwellings.			Amount Payable in respect of Rates.
				Occupied.	Unoc- cupied.	Total.	
	No.	Acres.	No.	No.	No.	No.	£
1901 ... ..	42	71,721	*96,807†	†20,989	†967	†21,956	‡
1909 ... ..	46	88,833	141,543	30,535	1,263	31,798	138,869
1910 ... ..	42	75,716	\$143,808	\$31,064	\$1,652	\$32,716	139,835
1911 ... ..	42	75,430	\$143,808	\$31,064	\$1,652	\$32,716	144,745
1912 ... ..	38	71,203	154,005	32,727	1,613	34,340	152,143
1913 ... ..	33	76,290	153,673	32,082	1,609	33,691	156,537

\* Census figures, 1901. † Returns for thirty-nine municipalities only. ‡ Not available.  
‡ Census figures, 1911.

Complete particulars of improved or unimproved capital values are not available. In the year 1913 the capital value of ratable property in municipalities was £22,999,089.

(iv.) *Revenue and Expenditure of Municipalities.* The following table gives particulars as to the revenue and expenditure of municipalities during the years 1901 and 1909 to 1913 :—

**WESTERN AUSTRALIA.—REVENUE AND EXPENDITURE OF MUNICIPALITIES,  
1901 and 1909-13.**

Year ended the 31st October	Revenue.				Expenditure.			
	From Rates.	From Govt. Grants.	From other Sources.	Total.	Works and Improvements.	Disbursements in respect of Loans.	Other Expenses	Total.
	£	£	£	£	£	£	£	£
1901*	78,021	66,860	82,228	227,109	111,241	23,809	79,365	214,415
1909 ...	138,445	37,301	207,982	383,728	83,283	61,137	225,645	370,065
1910 ...	138,719	13,337	230,407	382,463	87,998	67,168	244,650	399,816
1911 ...	144,993	27,944	252,743	425,680	75,697	69,896	283,402	428,995
1912 ...	148,538	25,902	†834,991	1,009,431	78,576	104,475	735,907	918,958
1913 ...	153,966	19,382	347,323	520,671	159,445	104,091	286,619	550,155

\* Incomplete. † Including £525,000 loan, raised for purchase of electric light and gasworks.

(v.) *Assets and Liabilities of Municipalities.* The following table gives particulars respecting the assets and liabilities of municipalities at the end of each financial year 1901 and 1909 to 1913 :—

**WESTERN AUSTRALIA.—ASSETS AND LIABILITIES OF MUNICIPALITIES,  
1901 and 1909-13.**

Year ended the 31st October	Assets.					Liabilities.		
	Balance in Hand.*	Value of Property owned by Municipalities.	Accrued Sinking Funds for Redemption of Loans.	Other Assets.	Total.	Outstanding Debts and Bonds.	Other Liabilities.	Total.
	£	£	£	£	£	£	£	£
1901† ...	37,259	214,984	42,311	13,432	307,986	321,000	19,763	340,762
1909 ...	41,216	628,205	152,416	56,705	875,542	795,108	36,352	831,460
1910 ...	24,603	669,490	174,119	53,548	926,769	844,844	53,304	898,148
1911 ...	19 5 0	703,044	195,892	43,884	967,390	893,064	55,615	948,679
1912 ...	108,162	1,154,568	221,477	53,032	1,537,239	1,459,282	50,814	1,510,096
1913 ...	75,066	1,188,068	249,376	66,271	1,581,781	1,468,780	55,887	1,524,667

\* Including bank balance, cash in hand, and fixed deposit. † Incomplete.

(vi.) *Road Districts.* The whole area of the State, outside incorporated municipalities, is divided into districts, the executive powers being vested in elective boards. These districts were originally formed solely for the purpose of controlling roads and bridges, but their powers and duties have been extended, so that at the present time they correspond closely to the shires of the other States of the Commonwealth. The enactments at present governing the administration of the Road Boards are the Roads Act 1911, the Parks and Reserves Act, the Cattle Trespassing Act, the Width of Tyres Act, the Cart and Carriage Licenses Act, and the Dog Act. The general powers and duties of the Boards are described in previous issues of this book.

(vii.) *Boards of Health.* These may be established under the Public Health Act 1911, which came into force on the 1st June, 1911, either within or outside of municipal boundaries. In the former case the Act is administered by the municipal councils, while in the latter case districts whose borders are conterminous with road districts are administered by the local authorities. Those not conterminous with road districts are administered by special Boards. The revenue of these Boards consists chiefly of moneys received

from health rates and sanitary fees, and the largest item of expenditure is directly connected with the sanitary service. The following table shews particulars of the receipts and expenditure of the various Boards—both municipal and extra-municipal—during the years 1901 and 1909 to 1913 :—

**WESTERN AUSTRALIA.—RECEIPTS AND EXPENDITURE OF LOCAL HEALTH BOARDS, 1901 and 1909-13.**

Year ended the 31st October.	Revenue.			Expenditure.		
	From Public Health Rate.	From other Sources.	Total.	On Sanitary Services.	Other Expenses.	Total.
	£	£	£	£	£	£
1901 ... ..	15,230	17,477	32,707	18,787	12,992	31,779
1909 ... ..	539,447	50,688	90,135	749,502	738,465	787,967
1910 <sup>1</sup> ... ..	538,741	52,095	90,836	56,278	34,144	90,442
1911 <sup>2</sup> ... ..	538,398	56,807	95,205	59,639	32,919	92,558
1912 <sup>3</sup> ... ..	547,354	60,525	107,879	69,703	40,552	110,255
1913 <sup>4</sup> ... ..	555,637	62,931	118,568	72,286	41,874	114,160

1. Exclusive of 10 boards which did not furnish returns, and 14 boards which were inactive. 2. Exclusive of 1 board which furnished no returns and 22 boards which were inactive. 3. Exclusive of 15 inactive boards and 1 that sent in no return. 4. Exclusive of 2 boards which did not furnish returns and 14 boards which were inactive. 5. Including sanitary rates. 6. Including sanitary fees and charges. 7. Exclusive of expenditure of one extra-municipal board.

On the 31st October, 1913, there were thirty-three Local Boards of Health within municipalities, and on the 30th June, 1913, eighty-five extra-municipal Boards. In and after 1911, the financial year of Municipal Local Health Boards ended 31st October, and that of extra-municipal Boards, 30th June.

6. *Tasmania.*—(i.) *Development of Local Areas.* In this State the city of Hobart was incorporated by special Act in the year 1852, but it was not until 1858, when the Rural Municipalities Act was passed, that a general scheme for the establishment of municipalities was extended throughout the State. This Act was amended from time to time without, however, altering its chief characteristics. In 1869 a Roads Act was passed, and after being amended at various times was consolidated in 1884. Under the provisions of these Acts parts of the State were placed under the control of Town Boards and Road Trusts. The general rate under the Municipalities Act was limited to one shilling and sixpence in the pound of annual value, while special rates could be levied in rural districts, provided that the general and special rates together did not exceed one shilling and sixpence in the pound.

(ii.) *Acts now in Force.* In 1906 the whole of the Acts dealing with local authorities were amended and consolidated by the Local Government Act of that year. The whole State, with the exception of the urban municipalities of Hobart and Launceston, is divided into municipal districts, and every Rural Municipality, Town Board, Main Road District, Road District, Local Health District, Fruit District, Rabbit District, School District, and Public Recreation Ground District included in any municipality established by the Act is abolished. Each district is incorporated and is under the control of a warden and councillors, who, in addition to the specific duties and powers imposed and conferred by the Act of 1906, are vested with powers and authorities under the following Acts :—The Codlin Moth Act 1888, the Rabbits Destruction Act 1889, the Public Health Act 1903, the Education Act 1885, the Roads Act 1884, the Rural Municipalities Act 1865, the Police Act 1905, the Town Boards Act 1896, the Public Recreation Grounds Act 1888, the Cemeteries Act 1865, and the Californian Thistle Act 1883. The Governor is authorised to unite, subdivide, or abolish municipalities or wards on petition, and may

do so without petition if in any municipality there is at any time no council or an insufficient number of councillors to form a quorum. The Act of 1906 was amended in 1908, and again in 1911.

(a) *Formation of Councils.* In the case of municipalities not divided into wards the council is to consist of the number of members, being a multiple of three, assigned to it by the Governor, while the councils of municipalities which are subdivided consist of three councillors for each ward. Any resident elector is eligible to act as a councillor unless he is disqualified as being an interested person, a bankrupt or convict, or as undergoing a sentence of imprisonment, or as insane. The warden is elected by the councillors from their own body.

The functions of councils, their borrowing powers, the levying of rates, and the constitution of local and water districts have been referred to in detail in previous issues.

(b) *Qualification of Electors.* Both owners and occupiers of property within a municipality are allowed plurality of votes according to the following scale:—

Annual Value of Property	} Under £30.	£30 to £80.	£80 to £160.	£160 to £240.	£240 to £360.	£360 and upwards.
Number of Votes						

In the case of joint owners or occupiers the number of votes according to the above scale is equally divided as far as possible, and the vote or votes which cannot be so divided may be given by such one of the joint owners or occupiers as may be appointed by the others. The provisions of the Acts relating to voting by post at parliamentary elections may be made applicable to any municipal election on the petition of the council to the Governor.

(iii.) *Annual Value, Revenue, and Expenditure of Municipalities.*—The following table shews the annual value, total receipts, and expenditure of municipalities for the years 1909 to 1913 inclusive:—

**TASMANIA.—ANNUAL VALUE, REVENUE, AND EXPENDITURE OF MUNICIPALITIES, 1909 to 1913.**

Year.	Number of Municipalities.	Annual Value of Ratable Property.	Revenue.				Expenditure.†
			From Rates.	From Govt.	From other Sources.*	Total.	
1909	...	£ 1,404,328	£ 173,453	£ 44,293	£ 92,244	£ 309,990	£ 318,501
1910	...	1,459,917	147,750	35,616	87,994	271,360	266,108
1911	...	1,492,533	150,233	35,215	88,365	280,165	307,334
1912	...	1,524,789	159,290	26,051	107,935	293,276	276,794
1913	...	1,583,739	178,749	17,510	114,046	310,205	336,509

\* Including sums derived from loans. † Including repayments of loans.

According to the latest estimate made by the Commissioner of Taxes the capital value of ratable property in 1911 was £30,924,993.

(iv.) *Total Revenue and Expenditure of Local Bodies.*—Particulars as to Road Boards and Road Trusts are given in the chapter of this book on "Roads and Bridges." In addition to the local authorities already mentioned, Marine Boards have been established at seven ports in Tasmania for the purposes of constructing and maintaining wharves and jetties and of controlling all matters relating to the shipping in the respective ports. Twenty water trusts and forty cemetery trusts have also been established in connection with municipal bodies. The subjoined statement shews the total revenue and expenditure for all local bodies, exclusive of all amounts contributed by the General Government, during each financial year from 1910 to 1914 inclusive:—

**TASMANIA.—REVENUE AND EXPENDITURE OF ALL LOCAL BODIES, EXCLUSIVE OF AMOUNTS CONTRIBUTED BY THE GENERAL GOVERNMENT, 1910 to 1914.**

Particulars.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
*REVENUE.					
	£	£	£	£	
Marine Boards and Lighthouses ...	74,723	72,507	72,676	72,671	73,805
Municipalities† ...	309,990	271,360	280,165	267,225	292,795
Cemetery Trusts ...	†	894	918	1,147	1,149
Water Trusts ...	2,325	2,267	2,272	2,805	2,934
Total ...	387,038	347,028	356,031	343,848	370,683
†EXPENDITURE.					
	£	£	£	£	
Marine Boards and Lighthouses ...	82,627	68,894	68,529	78,322	63,304
Municipalities‡ ...	318,501	266,108	307,334	270,743	318,999
Cemetery Trusts ...	†	769	902	856	963
Water Trusts ...	1,923	4,138	1,834	2,065	2,228
Total ...	403,051	339,909	378,599	351,986	385,494

\* Exclusive of amounts contributed by the general Government. † Exclusive of expenditure from Government contributions. ‡ Including Road and Bridge Trusts, and Town Boards. § Exclusive of a number of cemetery trusts incorporated in the newly organised municipalities.

### § 3. Water Supply, Sewerage and Drainage.

#### 1. New South Wales.—(i.) *Sydney Metropolitan Board of Water Supply and Sewerage.*

Prior to the year 1888 the main water supply and sewerage systems of Sydney and suburbs were under the control of the City Corporation, while several of the suburban councils had constructed local systems, but in that year the Government, with the object of placing the administration of both water supply and sewerage systems throughout the County of Cumberland under the control of an independent body, passed an Act authorising the establishment of the Metropolitan Board of Water Supply and Sewerage. This Board consists of seven members, three of whom are appointed by the Government, two by the City Council, and two by the suburban and country municipalities in the County of Cumberland. The Board is under the general supervision of the Minister for Works—a provision considered necessary since the loan expenditure of the Board forms part of the public debt of the State.

(a) *Present System.* In the year 1850 authority was given by the Legislative Council to the City Corporation to construct water and sewerage works. Under this authority a water supply scheme was adopted and carried out, at a cost of nearly £1,750,000, by which the waters of the streams draining into Botany Bay were intercepted and pumped into three reservoirs. This system has now been superseded, the metropolitan water supply being at present obtained from the watersheds of the Nepean, Cataract, and Cordeaux Rivers. The principal reservoirs in connection with the scheme are the "Cataract" and "Prospect" dams. A fuller description of these dams will be found in previous issues of this book (see Year Book No. 5, p. 984), but their dimensions are here given :—



## SYDNEY WATER SUPPLY.—CATARACT AND PROSPECT DAMS.

Dam.	Height above Foundation.	Width at Top.	Thickness at Bottom.	Length.	Area of Reservoir	Capacity of Reservoir.
	Feet.	Feet.	Feet.	Feet.	Acres.	Gallons.
Cataract ...	192	16½	150	811	2,104	20,743,200,000
Prospect ...	85½	30	523	7,300	1,266½	11,029,200,000*

\* Of which 5,527,000,000 gallons are available by gravitation.

(b) *Aqueducts and Mains.* The water is drawn off from the Prospect reservoir by a canal, five miles in length, to the Pipe Head Basin, situated 16½ miles from Sydney. It is then conveyed for a further distance of five miles to Potts' Hill reservoir, which has a capacity of 100,000,000 gallons, covers twenty-four and a half acres, and is designed to tide the city over any interruption of supply from Prospect, and to prevent fluctuation of pressure. Thence the water passes through a screening tank, and proceeds towards the city in two 48-inch cast-iron mains. A fuller description of the system of reticulation adopted will be found in previous issues.

(c) *Storage Reservoirs.* In connection with the water supply there are in all thirty-five service reservoirs, with a total maximum capacity of 55,693,000 gallons.

(d) *Revenue, Expenditure, and Capital Cost of Sydney Waterworks.* The following table gives particulars as to the revenue, expenditure, and capital cost of the metropolitan waterworks for 1901 and 1910-14.

## SYDNEY WATERWORKS.—REVENUE, EXPENDITURE, AND CAPITAL COST, 1901 and 1910-14.

Year Ended 30th June.	Revenue.	Working Expenses.	Capital Cost exclusive of Items on which Interest is not charged.	Percentage of Working Expenses to Revenue.	Percentage of Revenue to Capital Cost.	Interest Payable on Capital Cost.	Net Profit after paying Working Expenses and Interest.
			£	%	%		
1901 ...	203,348	49,270	4,300,552	24.22	4.72	152,333	1,745
1910 ...	284,943	93,027	5,286,917	32.64	5.98	184,486	7,430
1911 ...	299,442	99,355	5,420,813	33.18	5.52	192,486	7,601
1912 ...	329,605	112,958	5,606,268	34.27	5.87	198,443	18,204
1913 ...	361,187	126,795	5,907,125	35.11	6.11	200,918	33,474
1914 ...	410,823	145,948	6,257,976	35.52	6.56	223,144	41,730

(e) *Quantity of Water, Number of Houses, and Population Supplied.* The following table gives various particulars for the years 1901 and 1910-14, shewing the increase in the supply of water in Sydney and suburbs:—

## SYDNEY WATERWORKS.—NUMBER OF GALLONS, HOUSES, AND POPULATION SUPPLIED, 1901 and 1910-14.

Year Ended 30th June.	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Supply.	Total Supply for the Year.	Aver. Daily Supply.		Mains Laid.
					Per House.	Per Head of Estimated Population	
	No.	No.	1000 Gallons.	1000 Gallons.	Gallons.	Gallons.	Miles.
1901	98,298	491,000	21,583	7,877,677	219	43.95	40
1910	133,788	668,940	26,903	9,819,657	201	40.21	100
1911	139,237	696,185	29,006	10,587,433	208	41.55	102
1912	146,236	731,180	30,522	11,141,700	208	41.74	74
1913	155,213	776,065	32,594	11,896,810	210	41.99	100
1914	166,112	830,560	36,540	13,337,000	220	44.00	102

(f) *Other Water Supply Systems under the Metropolitan Board.* In addition to the main metropolitan water supply system there are certain other systems within the County of Cumberland managed by the Metropolitan Board. (a) The Richmond waterworks are entirely unconnected with the Sydney supply. Water is supplied to the town by a small pumping station on the left bank of the Hawkesbury River, just below the confluence of the Grose and Nepean. (b) The Wollongong waterworks are also unconnected with the Sydney supply. The source of supply is the Cordeaux River and the catchment area is 2400 acres in extent. The total capacity of the reservoir is 173,000,000 gallons and the total length of the main about nineteen miles, exclusive of the extension to Port Kembla and Unanderra. (c) The Manly waterworks are supplied by a special catchment area of about 1300 acres, and are also connected with the metropolitan system by a 10-inch main from Mosman. (d) The water-supply for the districts of Campbelltown, Camden and Narellan, and Liverpool is not drawn from the main Sydney supply through Potts' Hill, but is received by gravitation from the upper canal at Prospect. For further details of these water-supply systems see previous issues.

(ii.) *Metropolitan Sewerage System.* The system which is now under the control of the Metropolitan Board of Water Supply and Sewerage will be found fully described in previous issues. (See Year Book No. 5, p. 986.)

(a) *Revenue, Expenditure, and Capital Cost of Sydney Sewerage Systems.* The following table gives particulars as to the revenue, expenditure, and capital cost of the metropolitan sewerage systems for 1901 and 1910-14:—

**SYDNEY SEWERAGE SYSTEMS.—REVENUE, EXPENDITURE, AND CAPITAL COST, 1901 and 1910-14.**

Year ended the 30th June.	Revenue.	Working Expenses.	Capital Cost, exclusive of items on which interest is not charged.	Percentage of Expenditure to Revenue.	Percentage of Revenue on Capital Cost.	Interest Payable on Capital Cost.	Profit or Loss after Payment of Working Expenses and Interest.
	£	£	£	%	%	£	£
1901 ...	125,290	45,395	3,066,147	36.23	4.05	106,475	*—26,580
1910 ...	223,131†	70,851	4,351,381	31.75	5.12	151,943	337
1911 ...	234,208	79,636	4,496,290	34.00	5.20	159,070	— 4,498
1912 ...	250,826	82,246	4,769,449	32.78	5.25	166,771	1,809
1913 ...	266,292	91,094	5,083,263	33.95	5.27	171,957	3,241
1914 ...	297,840	104,543	5,448,968	35.10	5.46	193,389	— 92

\* Represents a loss. † Rate reduced from 10d. to 9½d. from 1st July, 1908.

(b) *Number of Houses Drained, Population, and Length of Sewers in Sydney Metropolitan Sewerage Systems.* The following table gives particulars as to the number of houses drained, the population, and the length of sewers within the Sydney metropolitan area for 1901 and 1910 to 1914:—

**SYDNEY SEWERAGE SYSTEMS.—NUMBER OF HOUSES DRAINED, POPULATION, AND LENGTH OF SEWERS, 1901 and 1910-14.**

Year ended the 30th June.	Number of Houses Drained.	Estimated Population Served.	Total Length of Sewers.	Total Length of Storm-water Drains.	Ventilating Shafts Erected.	Sewers Ventilated.
	No.	No.	Miles.	Miles.	Feet.	Miles.
1901 ...	75,416	370,000	515.62	25.91	194,667	450
1910 ...	102,896	514,480	793.55	47.82	344,820	756
1911 ...	108,012	540,060	825.20	48.85	376,900	795
1912 ...	110,737	553,685	863.29	49.63	382,654	809
1913 ...	114,690	573,450	890.53	52.24	401,344	853
1914 ...	119,550	527,750	930.06	53.15	408,778	871

(iii.) *The Hunter District Water Supply and Sewerage Board.* The waterworks of the Lower Hunter were constructed by the Government under the provisions of the Country Towns Water Supply and Sewerage Act of 1880. In 1892 a special Act was passed establishing an independent Board to control the water-supply works. Fuller reference is made to the constitution of this Board and to the municipalities and incorporated areas under its jurisdiction in previous issues of the Year Book. (See Year Book No. 5, p. 988.)

(a) *Description of Waterworks.* The water supply is pumped from the Hunter River about a mile and a half up stream from West Maitland into a settling-tank of 1,390,500 gallons capacity, and thence flows through filter beds into a clear water tank holding 589,500 gallons. It is then pumped from the clear water tank into two summit reservoirs, one of which supplies East and West Maitland, and Morpeth, while the other supplies Newcastle and suburbs, and the townships of South Maitland and Cessnock. There is also a storage reservoir of 172,403,100 gallons capacity, which is resorted to when the river water is too turbid. In these districts there are eleven service reservoirs, having a total capacity of nearly 4,852,000 gallons supplied by gravitation. On the hill at Newcastle there is also a high-level iron tank with a capacity of 20,000 gallons, which is supplied by a small pumping engine on the roof of the Newcastle reservoir. The total length of water mains is 368 miles.

(b) *Water Supply, Capital Cost, Revenue, and Expenditure.* By the Act of 1892 referred to above and an Amending Act of 1894 the capital debt of the Board was to be liquidated by annual instalments distributed over 100 years with interest at 3½ per cent. By a further amending Act of 1897 the repayment of expenditure on permanent works was abrogated, and the annual instalments were to be paid in liquidation of the cost of renewable works to be fixed by the Government from year to year. The capital debt of the Board to the Government at 30th June, 1914, was in respect of water supply £534,514, and £322,276 in respect of sewerage. In the subjoined table particulars are given as to the revenue and expenditure, and also as to the number of houses and population supplied in 1901 and 1910 to 1914:—

**PARTICULARS OF THE HUNTER DISTRICT WATER SUPPLY, 1901 and 1910 to 1914.**

Year ended 30th June.	Revenue.	Working Expenses (including Interest).	Houses Supplied.	Estimated Population Served.	Supply.	
					Daily Average.	Total.
	£	£	No.	No.	1000 Gallons.	1000 Gallons.
1901 ... ..	27,405	30,948	9,086	45,400	1,005	366,889
1910 ... ..	46,767	43,126	16,446	82,230	1,650	602,497
1911 ... ..	45,711	45,420	17,164	85,820	1,850	675,214
1912 ... ..	47,788	47,920	17,796	88,980	2,026	739,539
1913 ... ..	53,673	49,043	18,405	92,025	2,366	863,692
1914 ... ..	66,323	52,994	19,575	97,875	2,791	1,018,810

The average daily consumption of water for all purposes per inhabitant was 28.52 gallons during the year 1914, as against 25.71 gallons during the previous year.

(c) *Sewerage Works.*—Considerable progress has been made by the Department of Public Works with the construction of the sewerage works for Newcastle and suburbs. The scheme is designed on the separate system, and will deal with the sewage partly by gravitation and partly by pumping. Up to the 30th June, 1914, about 57 miles of sewers,

connecting with 4890 separate properties, were under the control of the Board. For the financial year 1913-14 the revenue was £14,622 and the expenditure £20,017, the latter amount including a £2131 instalment to the sinking fund for the reconstruction of renewable works.

(iv.) *Water Supply and Sewerage in Country Towns.* With the object of assisting municipalities to construct systems of water supply and sewerage, the Country Towns Water Supply and Sewerage Act of 1880 was passed, but has since been amended by the Acts of 1887, 1894 and 1905. The principal provisions of these Acts are more fully dealt with in previous issues of this book. (See Year Book No. 5, p. 989.)

(a) *Waterworks.* Up to the 30th June, 1914, fifty country municipalities had availed themselves of the privileges of the Acts as regards waterworks, all of which at that date had been completed and handed over by the Government. The capital debt of these works was £924,805, and the total of the sums payable annually for a period of 100 years was £35,340, including interest at the rate of  $3\frac{1}{2}$  per cent., the first repayments having become due at various dates, starting from the end of the year 1893. In the calculation of these repayments the interest on the sums actually expended has been added, and any payments by the councils, as well as sums remitted under the authority of the Act, have been deducted. Other schemes of water supply and extensions of existing works are in course of construction. A number of other municipalities have constructed works out of their own resources.

(b) *Sewerage Works.* Only thirteen municipal councils have taken advantage of the Act providing for the construction of sewerage and storm water drainage works in country towns. On the 30th June, 1914, the capital debt of these systems was £173,761, the amount payable annually to the Government being £6665. Other sewerage systems, as well as extensions to existing systems, are in course of construction.

2. *Victoria.*—(i.) *The Melbourne and Metropolitan Board of Works.* This Board was established by an Act of 1890, and entered upon its duties in March, 1891. The Board consists of forty members, one of whom is a chairman elected every four years by the other members. Nine members are elected by the Melbourne City Council, four by the South Melbourne Council, three by the Prahran, two each by the Fitzroy, Richmond, St. Kilda, and Collingwood, and one each by the other suburban municipal councils returning a representative. The district over which the Board exercises control consists of fifteen cities, five towns, two shires, and parts of three others, or twenty-five municipalities in all, comprising a total area of 109,009 acres, and containing an estimated population on the 31st December, 1914, of 662,500 (including those supplied with water outside the Board's area). The waterworks for the supply of Melbourne and suburbs were originally carried out by the Government, which had for that purpose contracted loans amounting to £2,389,934; these works were vested in the Board in 1891. The primary object of the creation of the Board was not, however, to take over these works, but was to supply the long called for and pressing want of a sewerage system for the metropolis. To carry out its work the Board is authorised to borrow £9,750,000, exclusive of the loans contracted by the Government for the purpose of waterworks and taken over by the Board. The liability on Government loans on the 30th June, 1914, was £1,559,786, and for loans raised by the Board was £10,175,160. The Board is still empowered to borrow £404,988 before reaching the limit of its borrowing powers.

(a) *Total Cost of Water Supply and Sewerage.* The subjoined table shows the total cost of construction and maintenance of water supply and sewerage from 1853 to 1914.

**MELBOURNE AND METROPOLITAN BOARD OF WORKS.—TOTAL COST OF CONSTRUCTION AND MAINTENANCE OF WATER SUPPLY AND SEWERAGE, 1853 to 1914.**

Period ending 30th June.	Water Supply.			Sewerage.			Grand Total.
	Capital Cost.	Working Expenses.	Interest.	Capital Cost.	Working Expenses.	Interest.	
	£	£	£	£	£	£	
1853 to 1891	3,378,246	420,833	1,021,676	...	...	...	4,820,755
1891 to 1901	336,957	367,506	1,021,181	3,307,764	114,268	919,017	6,066,693
1901 to 1911	299,303	384,871	1,026,362	2,981,666	461,706	2,333,348	7,487,256
1911 to 1914	600,222	159,903	354,665	614,401	199,214	902,310	2,830,715
Total ...	4,614,728	1,333,113	3,423,884	6,903,831	775,188	4,154,675	21,205,419

(b) *Revenue and Expenditure of Melbourne and Metropolitan Board of Works.* The following table shews the actual receipts and expenditure, and also the loan receipts and expenditure of the Board during 1901-2 and 1909 to 1914 :—

**MELBOURNE AND METROPOLITAN BOARD OF WORKS.—REVENUE AND EXPENDITURE DURING EACH YEAR, 1901-2 and 1909 to 1914.**

Particulars.	1901-2.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.
<b>ORDINARY RECEIPTS.</b>						
	£	£	£	£	£	£
Water supply ... ..	171,956	248,356	253,002	267,917	295,963	322,762
Sewerage, etc. ... ..	124,696	253,756	267,444	272,365	287,507	320,931
Live stock—Metropolitan farm ... ..	19,929	31,289	35,016	63,225	57,787	62,064
Interest { Water supply ... ..	...	138	830	953	2,277	1,890
{ Sewerage ... ..	17,448	10,229	8,995	8,885	8,695	9,125
Total ... ..	334,029	543,768	565,267	613,345	652,229	716,772
<b>ORDINARY EXPENDITURE.</b>						
	£	£	£	£	£	£
General management ... ..	33,621	34,863	35,779	40,104	41,007	44,668
Live stock, etc.—Metropolitan farm ... ..	16,703	17,900	19,336	46,283	44,130	55,570
Maintenance { Water supply ... ..	22,205	24,944	25,016	30,234	34,508	34,125
{ Sewerage ... ..	24,396	42,921	45,665	47,797	50,433	49,198
Interest { Water supply ... ..	102,670	101,578	105,760	112,886	116,716	130,182
{ Sewerage ... ..	192,952	286,655	293,608	297,962	307,630	323,149
Total ... ..	392,546	508,861	525,164	575,266	594,424	636,892
<b>LOAN RECEIPTS.</b>						
	£	£	£	£	£	£
Water supply ... ..	1,636	5,272	4,788	5,982	12,315	10,803
Sewerage ... ..	88,425	61,509	56,313	59,907	61,315	46,620
Proceeds of loans ... ..	396,238	257,853	291,310	322,223	307,952	796,841
Miscellaneous ... ..	...	9,104	9,238	12,399	28,355	17,375
Total ... ..	486,299	333,738	361,649	400,511	409,937	871,639
<b>LOAN EXPENDITURE.</b>						
	£	£	£	£	£	£
Water supply construction ... ..	17,058	35,984	98,145	133,149	339,753	160,107
Sewerage construction ... ..	410,760	331,214	286,035	245,911	259,461	242,849
Expenses in floating and redemption of loans ... ..	5,200	2,677	2,936	5,393	130,159	253,426
Miscellaneous ... ..	4,293	18,002	26,288	35,638	47,474	30,004
Total ... ..	428,725	387,877	413,404	420,091	776,847	686,386

\* Excess of stock distribution (£7020) over purchases (£2727).

(ii.) *Melbourne Metropolitan Water Supply*.—In December, 1857, the construction of the Yan Yean Reservoir system was completed. A description of the conditions that prevailed in Melbourne prior to that date is given in previous issues of the Year Book.

(a) *Development of System*. The following statement shows the development which has taken place in the water supply system of Melbourne during the fifty-seven years since its inception:—

#### MELBOURNE WATER SUPPLY SYSTEM, 1857 to 1914.

Year.	Population* Served.	Capital Cost. £	Charge per 1000 Gallons.	Rate in £	Reticulation, Mains, &c., Mileage.	Supply in Gallons, Average daily.
1857 ...	95,442	748,974	10/- and 6/-	1/-	104	3,250,000
1914 ...	662,500	4,614,728	1/-	7d.	1,585½	43,644,121

\* On the 31st December.

(b) *Description of Water Supply Systems*. The water supply of Melbourne consists of three main systems—the Yan Yean (including the high level main), the Maroondah, and the O'Shanassy systems.

A full description of the two former systems has been given in previous issues of this book (see No. 6, p. 983).

The three reservoirs at Preston, which are the main distributors of the central city supply, contain 13,500,000, 24,500,000, and 26,300,000 gallons respectively.

The work has been completed of diverting the waters of the O'Shanassy River, a tributary of the Yarra, by an open aqueduct and pipe line of an aggregate length of 48½ miles, delivering water to the eastern portion of the metropolis by way of Mitcham and Surrey Hills. The total capacity of the scheme is 20,000,000 gallons per day, but capable of enlargement to 60,000,000 gallons. The scheme was estimated to cost £450,000, and up to 30th June, 1914, the date of the practical completion of the scheme, £399,296 had been expended. The watershed of the O'Shanassy River, containing 33,000 acres, has been excised from the permanent forests area, and a Crown grant was issued to the Board on the 28th January, 1910.

(c) *Catchment Areas, Reservoirs, and Aqueducts*. (i.) *Drainage Areas*. The whole of the catchment areas are absolutely free from population, cultivation, or stock grazing, and are under the complete control of the Metropolitan Board of Works. The present drainage areas from which the water is delivered are as follows:—

#### MELBOURNE WATER SUPPLY.—CATCHMENT AREA IN ACRES, 1914.

Silver and Wallaby Creeks.	Plenty River and Jack's Ck.	Yan Yean Reservoir Catchment.	Maroondah Catchment.	O'Shanassy Catchment.	Total.
12,000	12,000	5,000	40,000	33,000	102,000

All the water is delivered by gravitation, no pumping being required in any portion of the area supplied.

(d) *Storage Reservoirs*. In connection with distribution there are thirteen service reservoirs having a total capacity of 131,300,000 gallons. The total daily quantity of water which can be sent into Melbourne is as follows:—

System ...	Yan Yean.	High Level Main.	Maroondah.	O'Shanassy.	Total Supply.
Gallons per day ...	33,000,000	9,000,000	28,000,000	20,000,000	90,000,000

(e) *Quantity of Water, Number of Houses, and Population Supplied*. The following table gives various particulars for the years 1901 and 1910-14, shewing the increase in the supply of water in Melbourne and suburbs:—

**MELBOURNE WATERWORKS.—NUMBER OF HOUSES, POPULATION, AND WATER SUPPLIED, 1901 and 1910-14.**

Year Ended 30th June.	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Supply.	Total Supply for the Year ended 30th June.	Average Daily Supply.		Rate Levied.	Assessments of Tenements Served by Metropolitan Water Supply.
					Per House.	Per Head of Estimated Population.		
	No.	No.	,000 Gallons.	,000 Gallons.	Gallons.	Gallons.	6d. in the £	£
1901 ...	104,548	491,780	26,732	10,487,007	274.8	58.4	} 7d. in the £	3,479,721
1910 ...	123,227	565,010	34,508	12,595,501	280.0	61.1		4,789,265
1911 ...	128,036	581,500	32,840	11,986,503	256.5	56.5		5,045,848
1912 ...	133,122	594,250	36,507	14,093,509	289.3	64.8		5,332,101
1913 ...	140,351	614,300	39,380	14,373,761	280.6	64.1		5,670,801
1914 ...	147,442	639,700	43,644	15,930,104	296.0	68.2		6,217,841

(f) *Total Cost of Construction, Revenue, Expenditure and Net Profits, 1853 to 1914.* The following table shows the total cost of construction, the revenue, expenditure, and net profits for various periods up to 30th June, 1914:—

**MELBOURNE WATERWORKS.—CONSTRUCTION, COST, REVENUE, EXPENDITURE, AND NET PROFITS, 1853 to 1914.**

Period.	Capital Cost.*	Revenue.†	Working Expenses.‡	Percentage of Working Expenses to Revenue.	Interest.§	Surplus.
	£	£	£	%	£	£
Total to 1890-1	3,378,246	3,150,055	420,833	...	1,021,676	1,707,546
1891-2 to 1900-1	336,957	1,686,025	367,506	21.80	1,021,181	297,338
1901-2 to 1910-11	299,303	2,054,355	384,871	18.73	1,026,362	643,122
1911-12 to 1913-14	600,222	897,577	159,903	17.81	354,665	383,009
Total ...	£4,614,728	7,788,012	1,333,113	...	3,423,884	3,031,015

\* Works commenced in 1853. † Revenue commenced in 1854. ‡ Returns for expenditure commenced in 1859. § First interest paid in 1856. ¶ Excluding depreciation.

(iii.) *Melbourne Sewerage.*—As stated above, the chief object of the creation of the Melbourne and Metropolitan Board was to carry out an efficient system of sewerage. The cost of removal of the sewerage in 1894 was about £90,000, equal to a capital expenditure of £1,750,000. This movable pan system has been displaced by the water carriage system throughout the greater portion of the metropolis, and in other parts the work of reticulation is now proceeding.

(a) *Description of Sewerage Systems.* The whole of the sewage of the metropolis is being gradually collected by means of two principal main sewers and a subsidiary main leading to the pumping station at Spotswood. A description of the scheme may be found in previous issues. (See Year Book No. 5, p. 1007.)

(b) *Metropolitan Sewage Farm.* The farm originally contained 8847 acres, situated on the western side of the Werribee River. The price paid for the land was £17 10s. per acre (including compensation for severance), which in its virgin unimproved state cost the Board in 1892, £159,873. This sum included the purchase of a strip of land 11½ miles long (168½ acres) on which the greater portion of the outfall sewer is constructed. Since 1911, 2306 acres have been purchased, making the total area of the farm 11,153 acres at 30th June, 1914, its total cost to that date being £510,485. About 31,851,181 gallons of sewage had to be disposed of every twenty-four hours during the year in irrigating the fields. It is spread over properly-prepared and sown blocks of land by a series of

mains and lateral carriers. The blocks are laid down with grass and lucerne, on which sheep and cattle are depastured. During the financial year 1913-14, 37,779 sheep were bought, the profit from that source being £8595. Cattle to the number of 4140 were purchased, the profit for the year on cattle being £6199.

(c) *Number of Houses Connected, Capital Cost, Revenue and Expenditure.* The following table gives particulars as to the number of houses connected to the sewerage system, the total capital cost, and the receipts and disbursements during 1901 and 1909-14 :—

**MELBOURNE SEWERAGE WORKS.—TENEMENTS CONNECTED, CAPITAL COST, REVENUE, MAINTENANCE AND WORKING EXPENSES, 1901-2 and 1909-14.**

Year.	Number of Houses Connected.	Capital Cost.	Revenue.			Maintenance, Repairs and Renewals.
			From Rates.	From other Sources.	Total.	
	No.	£	£	£	£	£
1901-2 ...	47,172	3,610,225	126,725	10,968	137,693	24,336
1909-10 ...	105,993	6,044,139	247,632	12,843	260,475	38,085
1910-11 ...	112,293	6,289,430	260,528	15,200	275,728	46,904
1911-12 ...	118,350	6,487,517	271,682	18,042	289,724	47,381
1912-13 ...	125,103	6,695,534	285,721	17,655	303,376	51,804
1913-14 ...	131,168	6,903,831	319,817	18,642	338,459	49,615

(iv.) *Water Supply in Country Towns and Districts.* By the Water Act 1905, which came into operation on the 1st May, 1906, the control and management of all Irrigation Trusts, with one exception, and of a number of waterworks and water supply districts were centralised, and their works and property vested in the State Rivers and Water Supply Commission. The powers and duties of this Commission were extended by the Water Act 1909, the whole of the Water Supply Department being now merged in the Commission. Further information with regard to this Commission and to the works and districts under its control are given in the section in this book dealing with Water Conservation and Irrigation. There are, however, in different parts of Victoria a number of other waterworks which are concerned chiefly with domestic supply, and which are controlled by local authorities, i.e., by Waterworks Trusts or by municipal corporations. These works are constructed out of moneys either granted or lent by the State Government. The following table gives particulars as to the waterworks under the control of Trusts and municipal corporations for the years 1901 and 1910-14 :—

**VICTORIA—COUNTRY WATERWORKS UNDER TRUSTS AND MUNICIPAL CORPORATIONS, 1901 and 1910-14.**

Year.	Waterworks Trusts.				Municipal Corporations.			
	Number of Trusts.	Capital Cost.	Capital Indebtedness.	Interest Outstanding.	Number of Corporations.	Capital Cost.	Capital Indebtedness.	Interest Outstanding.
	No.	£	£	£	No.	£	£	£
1901 ...	76	823,418	748,089	*	24	*	470,041	*
1910 ...	86	960,719	769,442	14,727	25	686,356	457,951	10,718
1911 ...	87	1,017,396	819,638	15,047	21	651,459	421,273	2,662
1912 ...	88	1,046,394	843,506	15,970	22	653,510	418,673	9,349
1913 ...	89	1,083,390	866,594	12,461	22	655,702	415,678	6,635
1914 ...	90	1,114,727	889,905	10,858	22	656,200	417,937	1,213

\* Returns not available.



Under the provisions of the Local Government Act 1903, municipal councils are authorised to construct and maintain tanks, dams, and reservoirs, and must maintain existing works for the gratuitous supply of water. They are also empowered to accept the management and control of new waterworks within their respective localities, and may, with the consent of the Governor, construct or purchase new works within or without their locality. Councils are also authorised to enter into contracts for the supply of water for any period not exceeding ten years with the owner of any waterworks. Every municipality may levy a special water rate for water supplied, or for the purpose of constructing waterworks or paying the interest on any loan contracted by the council for such purpose, but the amount of the rate must not exceed in any year the sum of two shillings in the pound, provided that a minimum sum of ten shillings may be fixed by the council to be paid in respect of any property at which water is supplied.

(v.) *Geelong Waterworks Trust.* This trust was constituted under The Geelong Municipal Waterworks Act 1907, with borrowing power up to £300,000, afterwards increased by Act No. 2322, 1911, to £350,000, and by Act No. 2486 to £425,000. It was reconstituted under the Geelong Waterworks and Sewerage Act 1910, with power to borrow an additional £250,000 for the purpose of installing a sewerage system for Geelong and suburbs. The available storage capacity of the reservoirs is 1655 million gallons, and the Trust is authorised to supply water to (a) City of Geelong; (b) the suburbs thereof, and all places within a radius of five miles of the Geelong Post Office; and (c) any place within ten miles on either side of the main pipe from Stoney Creek to Geelong. The cost of the works (water and sewerage) to 30th June, 1914, was £510,806; the estimated population served is 33,500, and the number of assessments 10,602. The receipts for the year amounted to £36,316. The sewerage scheme provides for a main outfall sewer 4 ft. 3 in. x 3 ft. 3 in. to the ocean at Black Rock—a distance of about nine miles. The scheme will embrace an area of 8081 acres, including the City of Geelong, Boroughs of Newton and Chilwell, and Geelong West, and the suburban areas situated in Corio and South Barwon Shires.

3. **Queensland.**—(i.) *The Metropolitan Water and Sewerage Board.* This Board was constituted by the Metropolitan Water and Sewerage Act 1909, which divested the then existing Water Board of its powers and duties and vested them in an extended form in the new Board. The Act further empowers the Board to carry out a sewerage and drainage system, and relieves the Local Authorities of their responsibilities in that matter. The district of the new Board comprises the cities of Brisbane and South Brisbane, the towns of Hamilton, Ithaca, Toowong, and Windsor, and the shires of Balmoral (except division 3), Coorparoo, Enoggera (except division 3), Sherwood (except division 1), Stephens, Taringa, Toombul, and a portion of Kedron.

The Board consists of nine members, viz., the president and eight elected colleagues.

(a) *Brisbane Water Supply.* The supply is derived from the upper reaches of the Brisbane River, and from two storage reservoirs, known respectively as the Enoggera and the Gold Creek reservoirs.

- (1) *The Brisbane River Supply.* The principal source of water supply is the Brisbane River, about 75 per cent. of the water used being taken from it. The catchment area above the pumping station is about 4000 square miles. The Mount Crosby service reservoir, into which the water is pumped from the river, is built in cement concrete, and is 267 feet long, 100 feet wide, and 15 feet deep from high-water line, which is 455 feet above high-water mark at Brisbane. The capacity is about 2,500,000 gallons. New reservoirs and sedimentation basins are in course of construction.
- (2) *The Enoggera Reservoir.* The Enoggera works are distant from Brisbane about eight miles by road. The catchment area is nearly thirteen square miles in extent, and the reservoir, which is formed by an earthen dam,

holds 1,000,000,000 gallons, of which 600,000,000 are available by gravitation. The greatest length of the reservoir is 2600 yards, and its greatest breadth 700 yards. The supply from Enoggera is filtered through an intermittent sand filtration plant, comprising half an acre of sand beds, and a pure water reservoir with a capacity of 750,000 gallons.

- (3) *The Gold Creek Reservoir.* This reservoir is situated in the upper waters of Gold Creek, a branch of Moggil Creek, distant from Brisbane by road about thirteen miles. The supply is drawn from a catchment area adjoining that of Enoggera, and comprising an area of nearly four square miles. The total capacity is about 406,000,000 gallons, of which 400,000,000 gallons are available.
- (4) *Service Reservoirs.* Certain portions of the metropolitan area are supplied with water from service reservoirs, which are connected with one or other of the main reservoirs alluded to above. These service reservoirs are constructed at Highgate Hill, Wickham Terrace, and Bartley's Hill, and have a total capacity of over 4,000,000 gallons. A fuller description of the Brisbane water supply scheme may be found in previous issues.

(b) *Brisbane Waterworks : Cost, Revenue, Expenditure, and Interest.* The subjoined table gives particulars as to the cost, the revenue and expenditure, and the amount of interest and loan redemption during 1901 and each of the years 1910 to 1914 :—

**BRISBANE WATERWORKS.—COST, REVENUE, EXPENDITURE, INTEREST, AND REDEMPTION OF LOANS, 1901 and 1910-14.**

Year.	Capital Cost.	Revenue from Rates and Sales of Water.	Working Expenses.	New Work Construction.	Interest and Redemption of Loans.
	£	£	£	£	£
1901 ... ..	694,973	60,120	17,462	7,535	42,426
1910 ... ..	867,837	72,006	26,097	42,025	27,754
1911 ... ..	1,015,276	67,730	30,105	147,438	20,670
1912 ... ..	1,134,815	64,367	39,124	119,539	26,780
1913 ... ..	1,255,898	76,922	43,135	121,083	31,498
1914 ... ..	1,489,720	97,366	44,549	233,822	39,194

(c) *Brisbane Waterworks : Length of Mains, Tenements and Population Served, and Water Consumption.* The following table shews the length of mains, the number of tenements connected, the population supplied, the total quantity of water supplied, the average daily supply, and the average daily supply per head of population supplied during 1901 and each year from 1910 to 1914 :—

**BRISBANE WATERWORKS—PARTICULARS, 1901 and 1910-14.**

Year.	Length of Reticulation Mains.	Number of Tenements Connected.	Estimated Population Supplied.	Quantity Supplied.	Average Daily Supply.	Average Daily Supply per Head of Estimated Population.
	Miles.	No.	No.	,000 Gallons.	Gallons.	Gallons.
1901 ... ..	198	15,652	78,260	1,536,260	4,208,931	55
1910 ... ..	317	22,830	114,150	1,776,734	4,867,766	42½
1911 ... ..	333½	24,153	120,765	1,870,767	5,125,390	42.44
1912 ... ..	347	27,678	129,575	2,020,404	5,520,231	42.60
1913 ... ..	370½	28,301	139,925	2,099,590	7,752,302	41.05
1914 ... ..	389	29,612	148,060	2,293,920	6,284,712	42.44

The total length of the trunk mains is 82 miles.

A scheme of sewerage has been devised for Brisbane and its suburbs. It is intended to construct works for the provision of a population of 275,000, and tenders have been invited for the construction of the first three sections of the main sewer.

(ii.) *Country Towns Water Supply.*—In addition to the city of Brisbane there were at the end of the year 1913 twenty-eight towns in Queensland provided with water supply systems, constructed by municipalities chiefly from Government loans. The sub-joined statement gives particulars of all the water supply systems—exclusive of Brisbane—for the year 1913 :—

**QUEENSLAND.—PARTICULARS OF COUNTRY WATER SUPPLY SYSTEMS, 1913.**

			£				£
Receipts	Cost of construction to 31/12/13 ...		760,857	Expenditure	Office and salaries ...		10,638
	{ Rates and sales of water		83,954		Construction ...		8,831
	{ Other ...		7,091*		Maintenance ...		24,988
	Total Receipts ...		91,045		Interest & redemption ...		30,104
					Other expenses ...		10,482
Assets	...		599,810	Liabilities	...		437,690
					Total ...		85,048

\* Including £4436 from Government loans.

4. *South Australia.*—(i.) *Adelaide Water Supply System.* The water supply system of Adelaide is under the control of the Public-Works Department. The supply is obtained partly from the catchment areas of the rivers Onkaparinga, Torrens, and Sixth Creek, and partly from springs and pumping stations. There are three storage reservoirs, situated at Happy Valley, Hope Valley, and Thorndon Park, having an aggregate capacity of 3,895,000,000 gallons, while the tanks used in connection with the springs and pumping stations have a further capacity of 4,824,000 gallons. The total capital cost up to the 30th June, 1914, was £1,923,798, the total revenue being £2,325,906 and the area served approximately 106,000 acres.

The following table gives various particulars relating to the water supply of Adelaide for the years 1909 to 1914 inclusive:—

**ADELAIDE WATER SUPPLY.—LENGTH OF MAINS, REVENUE, EXPENDITURE, AND CONSUMPTION OF WATER, 1909 to 1914.**

Year Ended 30th June.	Length of Mains.	Gross Revenue.	Working Expenses.	Net Revenue.	Percentage of Net Revenue on Capital Cost.	Total Consumption of Water.*
	Miles.	£	£	£	%	Million of Gals.
1909 ...	684	81,412	20,762	60,650	3.53	4,000
1910 ...	704	82,290	22,709	59,581	3.31	4,000
1911 ...	732	89,902	28,032	61,870	3.40	4,000
1912 ...	763½	94,280	26,384	67,896	3.68	4,600
1913 ...	802½	105,590	27,982	77,608	4.12	4,700
1914 ...	886	113,156	30,106	83,050	4.32	5,150

\* In the Adelaide Water District there are no governing meters. The quantities shown above are as recorded by gaugings taken at the reservoirs, and include evaporation and absorption.

(ii.) *Adelaide Sewerage System.* In connection with the sewerage system of Adelaide, which is also under the control of the Public Works Department, about 337 miles of sewers had been laid in the city and suburbs up to the 30th June, 1914. The sewage is

disposed of on a farm and filter-beds, the latter being used only during the winter months. A scheme of sewerage extension which includes a pumping station to deliver the sewage to the existing sewage farm is now nearing completion.

The following table gives particulars relating to the Adelaide sewerage system for the years 1909 to 1914 inclusive:—

**ADELAIDE SEWERAGE SYSTEM.—REVENUE AND EXPENDITURE, 1909 to 1914.**

Year Ended the 30th June.	Revenue.			Expenditure.			Net Revenue.	
	Rates and Interest.	Sewage Farm. Sales of Produce, etc.	Total.	Mainten-ance.	Sewage Farm. Working Expenses.	Total.	Total.	Per-centage on Capital Cost.
	£	£	£	£	£	£	£	%
1909 ...	34,701	8,284	42,985	7,161	5,917	13,078	29,907	4.56
1910 ...	36,322	7,213	43,535	7,184	6,088	13,272	30,263	4.41
1911 ...	37,938	7,189	45,127	8,462	7,681	16,143	28,984	4.26
1912 ...	41,449	6,934	48,383	9,376	5,039	14,415	33,968	4.88
1913 ...	45,373	8,392	53,765	9,803	6,392	16,195	37,570	5.01
1914 ...	49,507	9,588	59,095	10,242	5,629	15,871	43,224	5.55

The seaside town of Glenelg is served by a separate sewerage disposal works, including a pumping station, septic tank, lucerne plots, and filter beds. The net revenue for the year ended 30th June, 1914, was £1881, being 4.35 per cent. on the capital cost. Up to the same date 15 miles of sewers had been laid.

(iii.) *Water Supply in Country Towns.* In South Australia there is a number of country waterworks under the control of the Public Works Department. There are three large reservoirs at Barossa, Beetaloo, and Bundaleer, which supply fifty-three townships with water for domestic and stock purposes. The principal towns thus supplied are Gawler, Wallaroo, Moonta, Kadina, Port Pirie, Port Wakefield, and Balaklava. The following table shews the capacity of these reservoirs, together with particulars as to the townships supplied and the country lands reticulated:—

**PRINCIPAL COUNTRY WATERWORKS, SOUTH AUSTRALIA, 1914.**

Reservoirs.	Townships Supplied.			Country Lands Reticulated.		Capacity in Million Gallons.	
	Number.	Square Miles.	Miles of Main.	Square Miles.	Miles of Main.	Head-works.	Service Reserv'rs.
Barossa ...	23	40	65	1,006	507	993½	10
Beetaloo ...	19	43	141	1,766	821	800	100
Bundaleer ...	13	8	31	1,087	474	1,319	16

Fifteen township districts are supplied from smaller local reservoirs, the most important town served being Port Augusta. New water supply schemes are in course of construction for the supply of townships and farming lands on Eyre Peninsula (near Cowell, Arno Bay, and Cleve), and for the new agricultural area east of the River Murray.

5. *Western Australia.*—(i.) *Water Supply, Sewerage and Drainage Department.*—Prior to 1912, water supply, sewerage and drainage, in Western Australia, although under Governmental control, were nevertheless under the management of several distinct departments. In that year, however, the Government decided that this divided control should

be concentrated in one department with the Minister of Works as administrator, and on the 1st August, 1912, a new department with the above title assumed the management of the undermentioned water supplies:—(a) The Metropolitan Water Supply Sewerage and Drainage Department. (b) The Goldfields Water Supply Administration. (c) The branch of the Mines Department dealing with the Mines Water Supply, boring and well-sinking in mining districts, the North-west, etc. (d) The branch of the Public Works Department dealing with water supply, sewerage, drainage, well-sinking, boring, etc., in agricultural districts, the North-west, etc. The total capital expenditure on works controlled by the Department was, at 30th June, 1914, £6,901,736.

The Acts of Parliament administered by the new department are:—“The Metropolitan Water Supply, Sewerage and Drainage Act 1909;” “The Goldfields Water Supply Act 1902” and amendment; “The Water Boards Act 1904;” “The Lands Drainage Act 1900” and amendment, and “The Water Supply Act 1893.”

(ii.) *The Perth Metropolitan Water Supply, Sewerage, and Drainage.* The Perth Metropolitan Water Supply Works were first opened by a private company in October, 1890. Under the provisions of the Metropolitan Waterworks Act 1896, however, the works were purchased by the Government at a cost of £220,000, and were placed under the control of a Board, the functions of which have been exercised since the year 1904 by the Minister for Works. By the Metropolitan Water Supply, Sewerage, and Drainage Act 1909, all water and sewerage works formerly vested in the Metropolitan Board were transferred to a Minister of Water Supply, Sewerage, and Drainage. In August, 1912, the administration was transferred to the new Water Supply Department.

(a) *Water Supply.* The supply of water is derived from four sources—(i.) the Victoria reservoir, (ii.) Bickley Brook reservoir, (iii.) the Mundaring reservoir, and (iv.) from artesian bores. A description of these four schemes is given in previous year books (see Year Book No. 7, page 887). For the year ending 30th June, 1914, the total consumption of water was 1,630 million gallons, an increase of 255 millions over the previous year. The number of services at that date was 28,391, and the length of mains was 530 miles.

(b) *Financial Operations of Water Supply Department.* The following table gives particulars of the financial operations of the Metropolitan Water Supply Branch for each year ending the 30th June from 1910 to 1914 inclusive:—

**PERTH METROPOLITAN WATER SUPPLY BRANCH.\*—PARTICULARS OF FINANCIAL OPERATIONS, 1910 to 1914.**

Year ended the 30th June.	Capital Cost of Works.	Depreciation.	Net Capital Cost.	Gross Revenue.	Cost of Maintenance and Management.	Ratio of Working Expenses to Revenue.
	£	£	£	£	£	Per cent.
1910 ... ..	628,757	44,415	584,342	60,249	20,862	34.62
1911 ... ..	645,023	92,351†	552,672	61,723	22,081	35.77
1912 ... ..	701,852	107,388	594,464	66,892	25,082	37.49
1913 ... ..	768,068	135,912	632,156	74,600	25,479	34.14
1914 ... ..	892,434	167,326	725,108	89,115	31,483	35.38

\* Perth, Fremantle, and Claremont combined. † £39,724 transferred from reserve account to depreciation to provide for estimated overvaluation made at time of purchase of Perth Water Supply.

(c) *Consumption of Water.* The following table shews the total annual supply, the average daily supply, and the average daily supply per house and per head of population during each financial year from 1910 to 1914 inclusive:—

**PERTH METROPOLITAN WATER SUPPLY BRANCH.—CONSUMPTION OF WATER, 1910 to 1914.**

Year ended the 30th June.	Total Annual Supply in ,000 Gallons.			Average Daily Supply in 1000 Gals.	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Supply in Gals.	
	From Reservoir.	From Bores.	Total.				Per House.	Per Head of Population.
PERTH DISTRICT.								
1910 ...	392,715	281,104	673,819	1,846	14,512	56,000	127	33.0
1911 ...	414,512	355,810	770,322	2,110	15,075	59,000	131	35.7
1912 ...	364,428	420,914	785,342	2,441	16,055	62,250	152	39.4
1913 ...	424,682	484,796	909,478	2,492	17,000	68,000	146	36.6
1914 ...	435,596	540,109	975,705	2,673	18,125	75,000	147	35.6
FREMANTLE DISTRICT.								
1910 ...	...	278,179	278,179	762	4,042	19,500	188	39.0
1911 ...	...	286,461	286,461	782	4,150	20,000	188	39.1
1912 ...	...	313,405	313,405	856	4,280	20,500	200	41.7
1913 ...	44,529	295,993	340,522	933	4,500	22,000	207	42.4
1914 ...	67,256	359,192	426,448	1,168	4,789	23,000	243	50.8
CLAREMONT DISTRICT.								
1910 ...	...	101,240	101,240	277	1,783	7,500	156	37.0
1911 ...	...	110,275	110,275	302	2,042	8,000	148	37.7
1912 ...	...	118,399	118,399	329	2,320	8,750	141	37.6
1913 ...	...	125,171	125,171	343	2,650	10,000	139	34.3
1914 ...	4,517	124,425	128,942	353	3,094	12,000	114	29.4

(d) *Sewerage and Drainage in Perth and Fremantle.* The work of providing a sewerage system for Perth and Fremantle was commenced in 1906, and has proceeded without interruption up to the present time. Up to 30th June, 1913, 7912 houses had been connected to the sewers. The revenue of the Sewerage and Drainage undertaking for 1913-14 was £29,512, as against £18,266 for the preceding year. The expenditure amounted to £7029, and interest and sinking fund charges to £35,837. A description of the method of sewage disposal adopted may be found in previous issues. (See Year Book No. 5, p. 1031.)

(iii.) *The Goldfields Water Supply Branch.*—This scheme by which the Government of Western Australia undertook to provide a permanent supply of water for the population of the eastern goldfields of that State has already been described in previous issues of the Year Book (see No. 5, page 582). The main source of supply is the Helena River in the Darling Ranges, whence by a system of reservoirs, the water is conveyed to Kalgoorlie and the surrounding district. Up to the 30th June, 1914, the total cost of construction was £3,368,071. The total consumption for the financial year 1913-14 was 1,194,000,000 gallons, a decrease on the previous year of 10,000,000 gallons. At the same date the length of water mains was 1175 miles. The gross revenue for the year was £255,076, and the working expenses £102,333. The increase in the latter item is due to the expenditure of £26,000 on service main renewals, and to the construction of a new 10-million gallon reservoir at Kalgoorlie at a cost of £23,095. The outlay for interest and sinking fund charges in respect of supplementary capital borrowed on

debentures absorbed £30,885. During the financial year the State Treasury paid £168,813 interest and sinking fund on State loans in respect of these works, leaving a net deficiency of £46,955. This deficiency, while much larger than that of any of the past five years, is still much smaller than that of 1909, viz., £81,244. From that year, however, an increase in the price of water supplied has reduced the deficit very considerably.

(iv.) *Mines Water Supply Branch.*—On the 1st of August, 1912, the administration of this branch was transferred to the new Water Supply, Sewerage and Drainage Department. While the statistics of this branch of the Department do not properly belong to the section dealing with "Local Government," nevertheless, as the functions exercised by the Department are similar to those delegated to local authorities in most of the other States of the Commonwealth, it is considered advisable to include them in the section under review.

At the present time the water stations under the control of the engineer number about 1400, and are spread over an area of nearly 500,000 square miles, extending from the Phillips River in the south to the Kimberley district in the far north. The principal works carried out by the branch are as follows:—(a) Domestic supplies for mining towns and the supply of water for battery and general mining purposes. (b) Opening up the very remote portions of the State by means of tracks, of which there are about 4000 miles. (c) The sinking of wells and bore-wells, also testing the country by means of boring to locate water, and thus enabling the mineral resources of the State to be systematically prospected. (d) Diamond drilling has also been carried out for the purpose of testing the country for minerals at depths unattainable with the ordinary boring plants. (e) Nearly 2000 miles of stock routes have been opened up, and wells have been sunk at easy stages, capable of watering mobs of 400 head of cattle. In addition to these works the Wiluna-East Kimberley route (890 miles) has been constructed. Tanks, dams, and reservoirs have been made on the goldfields for the conservation of surface water, their total storage capacity being over 200,000,000 gallons, and their cost over £400,000.

A very important adjunct of the Branch is the camel farm established at Coolgardie, where the breeding of camels is undertaken, the number at present being about 350. These camels are used by parties from the Water Supply Branch in the arid regions of the interior, where water is scarce and the stages are long, and occasionally they are used by the other Government Departments engaged on such works as the Rabbit Proof Fence and the Transcontinental Railway Survey.

(v.) *Water Supplies in Agricultural Areas.*—Owing to the rapid development in agricultural districts in what a few years ago was practically unexplored country, and the consequent necessity for providing water for settlers, a large number of tanks were excavated, and wells sunk where suitable water had been proved by boring. Of 2174 shallow bores put down, fresh water was obtained in 370, stock water in 191, the others being salt or dry. The number of tanks excavated to 30th June, 1914, was 272, with an approximate capacity of 100,000,000 gallons, and the number of wells 237, the estimated capacity of which is 45,000,000 gallons. The capital expenditure for the financial year ending June, 1914, was £17,673.

6. *Tasmania.*—(i.) *Hobart Water Supply.*—The original water supply of Hobart was obtained from a stream known as the Hobart Rivulet, flowing from Mount Wellington, the works being carried out in 1831 by the Imperial Government. These works consisted of an aqueduct and a line of cast-iron pipes, the water being distributed to several points known as "wells." By an Act of the State Parliament passed in 1860 the works were transferred to the municipality. Under this Act certain additional streams flowing from Mount Wellington were acquired as sources of supply, and a storage reservoir containing 45,000,000 gallons was constructed. The catchment area on Mount Wellington

at present comprises an area of 4200 acres, the sources of supply having been extended at various times as far as the North West Bay River, fifteen miles from Hobart.

(a) *Storage Reservoirs.* There are two storage reservoirs about 2½ miles from the city. One contains 68,000,000 gallons and is 502 feet above sea-level, while the other contains 45,000,000 gallons and is 447 feet above sea-level. The whole of the supply is by gravitation. The water is brought from the various streams by means of stone aqueducts and cast-iron pipes to the reservoirs, and thence by four 10-inch cast-iron mains, of which three lead to the distributing reservoirs and one direct to the shipping and southern portion of the city.

(b) *Capital Cost, Tenements Connected, Length of Mains, Revenue and Expenditure.* The total capital cost to the end of 1914 was £243,926, but a considerable amount of reticulation work has been done out of revenue and not charged to capital account. The outstanding loans at the end of 1914 amounted to £203,175. At the same date the number of tenements supplied in the city and suburbs was 8400, the population 39,948, and the length of reticulation mains 88½ miles. The revenue and expenditure for the last six years were as follows:—

#### HOBART WATERWORKS.—REVENUE AND EXPENDITURE, 1909 to 1914.

Particulars.	1909.	1910.	1911.	1912.	1913.	1914.
	£	£	£	£	£	£
Revenue ... ..	20,091	20,643	31,207	23,858	21,982	22,191
Expenditure ... ..	23,729	22,238	20,381	20,584	21,336	24,550

(c) *Proposed Extensions.* Parliamentary sanction to borrow £93,000 has been obtained for the purpose of improving the water supply of the city and suburbs of Hobart; £75,000 of this amount is to be spent on a new storage reservoir, and the construction of the dam is in hand.

(ii.) *Hobart Sewerage System.*—A scheme for the construction of a sewerage system in Hobart was adopted in 1903. The sewage is discharged into the estuary of the River Derwent. Up to the end of the year 1914 about 71 miles of sewers had been laid at a cost of about £190,000, and 6865 tenements (out of a total of 6973) had been connected. The revenue for the year was £11,395. The scheme, which is intended to sewer over 2000 acres so as to serve an estimated population of about 80,000 people, is almost completed. The suburb of Queenborough has recently become incorporated with the city, and arrangements are now being made to extend the system to this district.

## § 4. Harbour Trusts.

1. *Introduction.*—In the chief ports and harbours of the Commonwealth, administrative bodies have been created, in whom is vested the control and management of the port with respect to dredging, wharf and harbour accommodation, pilotage, harbour dues, etc.

Of these Trusts or Boards some are purely departmental, some are nominated by Government, while others are comprised of members appointed by the municipal and other associations connected with the port. In the latter case, the Government is usually represented on the Board by one or more nominated members. The Boards and Trusts mentioned hereunder are the only ones for which information is at present available.



2. **Sydney Harbour Trust.**—The Trust was established by an Act which came into force on the 11th February, 1901. Its powers and duties have been dealt with in previous issues of this book, together with some of the more important improvements carried out by the Commissioners. (See Year Book No. 5, p. 990.)

(i.) *Revenue, Expenditure, and Capital Cost.* The subjoined table gives particulars of the revenue and expenditure of the Trust, and also shows the total capital debt for properties, etc., vested in the Commissioners, the amount of interest payable on the debt, and the balance of revenue after deducting expenditure, interest, and the amount of the Commissioners' salaries:—

**SYDNEY HARBOUR TRUST.—REVENUE, EXPENDITURE, CAPITAL DEBT, INTEREST AND BALANCE, 1901 and 1910-14.**

Year ended the 30th June—	Revenue.				Expenditure.	Total Capital Debt.	Interest.†	Balance.
	Wharfage & Harbour Rates.	Tonn'ge Rates & Berthg. Charges	From Other Sources.	Total.				
	£	£	£	£	£	£	£	£
1901* ...	42,784	3,208	12,324	58,316	11,275	4,692,782	55,554	— 8,513.
1910 ...	183,094	11,563	142,390	337,047	142,763†	5,482,060	191,246	3,038.
1911 ...	212,061	15,586	146,158	373,755	143,181†	5,697,756	200,845	29,729.
1912 ...	234,731	18,163	158,755	411,649	143,170†	6,136,671	212,842	\$56,398.
1913 ...	258,703	18,417	173,162	450,282	154,540†	6,535,853	221,049	74,692.
1914 ...	260,761	19,867	188,901	469,529	161,479	6,992,932	248,088	59,962

\* For the period from 11th February to the 30th June, 1901. † The rate of interest charged each year is the average rate on the total capital debt of the State, which varies. ‡ Including expenditure for the renewal, replacement or reconstruction of wharves or buildings. § Including £761 repaid to previous revenue votes.

— Represents a loss.

(ii.) *Dredging and Towing.* The subjoined statement gives particulars of the dredging and towing done by the dredges and tug-boats owned by the Trust:—

**SYDNEY HARBOUR TRUST.—PARTICULARS OF DREDGING AND TOWING, 1901 and 1910-14.**

Year.	Dredging.			Towing Dredged Material.		
	Tons Dredged.	Total Expenditure.	Expenditure per Ton.	Miles run Towing.	Total Expenditure in Towing.	Expenditure per Mile Towing.
	Tons.	£	Pence.	Miles.	£	Pence.
1901 ...	317,500	3,696	2.79	29,277	2,849	23.35
1910 ...	448,650	11,495	6.15	33,048	5,519	40.08
1911 ...	1,675,945	19,058	2.72	38,372	5,442	34.04
1912 ...	1,671,540	24,036	3.45	30,163	6,636	52.80
1913 ...	1,875,925	28,104	3.59	28,317	5,976	48.22
1914 ...	1,852,500	29,079	3.77	45,724	8,271	43.41

3. **The Melbourne Harbour Trust.**—This Trust was constituted under an Act passed in 1876, as a result of public agitation and demands extending over a period of thirty-four years, to the effect that the cost of landing goods should be reduced, and the-

delays in receiving goods should be abolished. Both demands arose from the fact that vessels of a draught greater than twelve feet had to discharge in the bay into lighters.

(i.) *Constitution of the Trust.* The Harbour Trust Act was originally drafted on the lines of similar institutions in Great Britain, such as the Thames Conservancy, the Mersey Harbour Board, and the Clyde Trust. Under the Act of 1876, as amended in 1883, the number of Commissioners was fixed at seventeen.

(ii.) *Works Undertaken by Trust in the River and in the Port.* In 1890 a Consolidating Act was passed, and the borrowing powers of the Trust were increased to £2,000,000, and subsequently by the Act of 1913 to £3,000,000. The river was widened from Queen's Bridge to the bay to about 300 feet, while the depth has been gradually increased until at the present time it is twenty-six feet at low water. Five and three-quarter miles of wharves carrying sheds which measure a total length of 14,515 feet, and cover an area of 705,780 square feet, have been constructed along the river and at the Victoria Dock, Melbourne.

(a) *The Coode Canal.* In 1886 the canal across the flats below Fishermen's Bend was completed at a cost of £96,000. The length of the canal is 2002 yards, the distance from Queen's Bridge to the river entrance being thereby reduced from seven miles to five and three-quarter miles, and the navigation being greatly facilitated. This channel, which is called the Coode Canal, has been widened 164 feet, thus making its total width 487 feet, and its width at low water 430 feet. At the present time there is a depth of 26 feet at low water for a width of 250 feet.

(b) *The Victoria Dock.* This dock, four miles up the river and opened in 1892, has an area of ninety-one acres and a depth of twenty-six feet at low water. The entrance to the dock is 160 feet wide. There are 8750 feet of wharfage, and the total cost, including wharves, sheds, and approaches thereto, was, to 31st December, 1913, £522,100. The sheds have a total length of 4868 feet, and cover an area of 265,600 square feet.

(iii.) *Works in the Bay.* Prior to 1889 all the mail steamers and vessels of heavy draught had to lie at anchor in the bay, and there discharge into lighters. One of the first works undertaken by the Commissioners was to make the railway piers at Williamstown available to these vessels. This work was completed at a cost of £256,160. In 1893 a channel over 8000 feet long and 600 feet wide was constructed, running in a southerly direction from Port Melbourne Railway Pier and having a navigable depth of thirty feet o.l.w. The cost of this work was £218,379.

(iv.) *Dredging.* The total quantity of material raised by the dredging and excavation done in the improvement of the river and bay amounts to nearly 46 million cubic yards.

During the ten years ending 31st December, 1913, the average cost of dredging per cubic yard was 2.86 pence and the cost of towing and depositing 6.29 pence, not allowing for depreciation of plant. The Trust has expended £225,458 in reclaiming land within its jurisdiction. The amount of material raised annually is now about 2,500,000 cubic yards.

(v.) *Financial Operations.* The revenue of the Trust is obtained from wharfages, and quayage rates, rents and license fees from lands and ferries, and other license fees. One-fifth\* of the revenue of the Trust is paid to the consolidated revenue of Victoria. The following table gives particulars of the revenue and expenditure of the Trust from 1908 to 1913 inclusive:—

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\* Limited by Act 2449 to £60,000 per annum for five years from 1st January, 1913.

## MELBOURNE HARBOUR TRUST.—REVENUE AND EXPENDITURE, 1908 to 1913.

Particulars.	1908.	1909.	1910.	1911.	1912.	1913.
REVENUE.						
Rates and rents ... ..	£ 272,409	£ 259,641	£ 316,787	£ 332,732	£ 337,626	£ 337,562
Interest ... ..	3,662	90	410	2,039	2,375	665
Recoups ... ..	1,068	3,082	2,138	4,654	7,297	544
Total ... ..	277,139	262,813	319,335	339,425	347,298	338,771
EXPENDITURE.						
Wharfage refunds ... ..	£ 1,161	£ 997	£ 1,618	£ 1,097	£ 1,457	£ 1,112
Consolidated revenue of Victoria	53,869	51,612	62,604	65,413	68,344	60,960
Maintenance and management	70,224	54,962	56,794	58,987	86,486	94,621
Interest on loans ... ..	81,413	72,517	69,409	69,366	69,264	71,081
Dredging (construction) ...	9,162	16,368	25,200	31,932	26,244	37,602
Wharf ... ..	4,942	5,146	6,308	22,656	108,346	176,286
Other Harbour improvements ...	4,522	7,724	9,880	787	3,777	7,760
Plant account ... ..	13,753	11,887	860	21,935	72,078	52,741
Redemption of loans expenses ...	603	1,794	...	...	...	...
Total ... ..	239,649	223,007	232,673	272,173	435,996	502,163
SURPLUS.						
Surplus ... ..	£ 37,490	£ 39,806	£ 86,662	£ 67,252	£ 188,698	£ 163,392

† Signifies a deficit.

4. **Fremantle Harbour Trust.**—Under the provisions of an Act passed in 1902, a Harbour Trust was constituted for the general administration of Fremantle harbour, and since January, 1903, the Trust has had full control of all the affairs of the harbour, and undertakes the duties of wharfingers, and the receiving, sorting, storing, delivering, and handling of all cargo between vessels and the owners of the goods. The works, which were commenced in 1892, were designed with the object of forming a safe and commodious harbour within the mouth of the Swan River, so as to admit vessels at all states of the tide, and thus enable cargo to be loaded and discharged at the quays and goods-sheds on the river banks. Two ocean moles have been thrown out from the north and south heads, the former being 3450 feet and the latter 2040 feet long. A channel, 450 feet wide and 30 feet deep at low water, has been blasted and dredged through the rock which formerly crossed the estuary to the river to give access to the harbour basin, which has a width of 1400 feet and a depth of 30 feet at low water, and wharves and goods-sheds have been constructed along the reclaimed foreshore on both sides of the harbour. At the present time all the European mail boats and equally large vessels which make Fremantle the first and last port of call in Australia, are able to enter and leave the harbour in all weather and at all tides. For the year ended 30th June, 1914, the total revenue of the Trust was £203,767, and the expenditure £82,895. The gross amount paid to the Treasury for the year was £120,872, being interest £54,844, sinking fund £15,669, and surplus revenue account £50,395.

5. **Hobart Marine Board.**—The Hobart Marine Board was established in 1858, and consists of nine wardens, elected by the shipowners, importers and exporters of the port. To meet the requirements of the large steamers now visiting the Commonwealth, extensive harbour improvements have been completed. The ocean wharf and pier has now a length of 1150 feet, with a depth of water from 36 feet at the inner to 60 feet at the outer end.

The total capital debt on properties in connection with the Harbour Trust vested in the Board is £107,000. The interest paid thereon in 1914 amounted to £3949. The Marine Board also guarantees the interest on the cost of Tasman Island Lighthouse, £22,202. The revenue and expenditure of the Board for the last three years were as follows :—

**HOBART MARINE BOARD.—REVENUE AND EXPENDITURE, 1912-14.**

Year.	REVENUE.				EXPENDITURE.			
	General.	Harbour Improvements.	Lighthouse Fund.	Total.	General.	Harbour Improvements.	Lighthouse Fund.	Total.
	£	£	£	£	£	£	£	£
1912 ..	19,281	35,000	10,804	65,085	20,293	32,490	11,590	64,373
1913 ..	21,343	*38,000	10,634	69,977	*20,453	35,917	11,948	68,318
1914 ..	24,772	26,000	11,481	62,253	†24,956	29,241	13,047	67,244

\* Including £4000 voluntary contribution to Sinking Fund.

† Including £3000 transferred from the General account to the Harbour Improvements account.

6. **Launceston Marine Board.**—The Board was formed in 1858 and consists of thirteen members, elected on the Municipal franchise, with special residential conditions. The principal work of the Board is in connection with the straightening, deepening, and widening of the River Tamar, the distance from the wharves to the open sea being 40 miles.

Wharves to the length of 5578 feet have been constructed, the depth at some of them being 40 feet S.L.W., while a further 1000 feet are under construction. The total capital debt on 31st December, 1914, was £108,660, of which £61,421 was incurred on the Tamar Improvements Scheme. The revenue for 1914 was £17,328 and the expenditure £20,559.

7. **Geelong Harbour Trust.**—This Trust was appointed in 1905, and consists of three Commissioners appointed by the Government of Victoria. To the 31st December, 1913, the Trust had borrowed £493,600. The sinking fund at the same date stood at £3892. The revenue for the year 1913 was £30,811 and the expenditure £35,088. Under the Act appointing the Trust, one-fifth of a certain portion of the revenue is paid into the Consolidated Revenue of Victoria, but by Parliamentary sanction this ceased after 31st March, 1913. From the inception of the Trust to this date, £18,693 had accrued to the Consolidated Revenue, and was paid by the Trust.

8. **Rockhampton Harbour Board.**—This Board consists of nine members, four being elected by the ratepayers and five by payers of harbour dues. The principal items of export are wool and hides. For the year 1913 the receipts amounted to £43,043, of which £5642 represented Government loans for various purposes, while the expenditure totalled £40,322, including £16,548 for redemption and interest. The total net registered tonnage entering the port in 1913 was 1,027,264.

9. **Bundaberg Harbour Board.**—The principal port in Queensland for the shipment of sugar is Bundaberg, more than 55,000 tons of that commodity having been shipped from the port during 1913. The Harbour Board consists of nine members, representing the district shire councils and the shipowners and exporters, with one Government nominee.

The revenue for the year amounted to £8963 and the expenditure to £8067. The total Port Improvements Loans and Government Endowment amounted on the 31st December, 1913, to £31,147. During the year 1913, 256,850 tons were dredged at a cost of £3047.

10. **Bunbury (Western Australia) Harbour Board.**—The Bunbury Harbour Board was constituted in 1909, and consists of five members appointed by the Government.

The capital expenditure for the year ending 30th June, 1914, was £2330, making the total capital expenditure to that date £229,462. The revenue for the year was £32,303 and the expenditure £10,209, the balance being paid into Consolidated Revenue. The timber trade is the principal industry of the port, the shipments of timber for the year ending 30th June, 1914, amounting to 245,088 loads. Other chief exports comprised coal, 32,700 tons; wool, 2670 bales; and wheat, 2000 bushels. The total export value of the above was £1,055,000.

11. **Burnie and Table Cape (Tasmania) Marine Board.**—While the existing works accommodate steamers of 4000 to 5000 tons, which visit the port regularly, they are insufficient for the rapidly increasing traffic in produce and ores from the north-west and west coast districts of Tasmania. A scheme is, therefore, being carried out by which the port will eventually be capable of taking any shipping trade in the Commonwealth. A breakwater is being constructed 1200 feet in length and with a depth of 40 feet at low water. It is intended later on to increase the length to 4000 feet and to enclose 300 acres of deep water space, of which 100 acres will have a depth of nearly 45 feet. The expenditure on that portion of the scheme at present under construction will be £150,000. The revenue for the year 1914 was £7714, and the expenditure £6955.

## § 5. Fire Brigades.\*

1. **New South Wales.**—Reference has been made in the section of this book dealing with the subject of *Private Finance* (see page 756) to the constitution of the Board of Fire Commissioners of New South Wales, which has now superseded the Metropolitan and all other Fire Brigade Boards in that State.

(i.) *Receipts and Disbursements of Board of Fire Commissioners of New South Wales.* The subjoined table shews the actual receipts and disbursements of the Board for the past four years:—

### NEW SOUTH WALES BOARD OF FIRE COMMISSIONERS.—RECEIPTS AND DISBURSEMENTS FOR SYDNEY FIRE DISTRICT, 1911-14.

Year.	Receipts.						Disbursements.
	From Government.	From Municipalities.	From Fire Insurance Companies.	From Firms.	From other Sources.	Total.	
	£	£	£	£	£	£	
1911 ...	21,643	21,643	21,198	444	1,145	66,073	60,667
1912 ...	20,100	20,100	19,896	204	1,874	62,174	65,713
1913 ...	25,586	25,586	25,404	182	2,270	79,028	76,853
1914 ...	29,200	29,200	28,966	234	1,773	89,373	88,208

With reference to the preceding table, under the "Fire Brigades Act 1909," by which the New South Wales Board of Fire Commissioners was constituted and which came into operation on 1st January, 1910, insurance companies do not now, as formerly, return the amount of their risks, but give in lieu thereof the amount of premiums received, which

\* See § 7. Fire Insurance, p 756.

forms the basis of their contribution towards the revenue of the Board. By this Act also, firms which effect insurances with companies not registered in New South Wales are likewise required to make contributions on account of the premiums paid to such companies, which is the first instance of this class of insurer being compelled to share the expense of local advantages, which had hitherto been available free of cost. A fuller description of the principal provisions of this Act will be found in previous issues of this book (see Year Book No. 5, page 990). The Sydney fire district includes the City of Sydney and suburbs, comprising a total area of 220 square miles. On the 31st December, 1914, the Board had under its control 55 stations, 291 permanent men, 144 auxiliary firemen, 14 steam and 15 motor fire engines, 92 horses, 122,700 feet of hose, and 431 telephone fire-alarms. The length of wire used for telephones and fire alarms was 842 miles.

2. **Victoria.**—Under the Fire Brigades Act of 1890 a metropolitan fire district and nine country fire districts were established, the former being placed under the control of a Metropolitan Fire Brigades Board, and the latter under the control of a Country Fire Brigades Board.

(i.) *Metropolitan Fire Brigades Board.* The metropolitan fire district originally comprised the area included in the several municipalities within a radius of ten miles from the Melbourne General Post Office, but this area has since being extended in certain directions so as to include the greater part of the Shire of Moorabbin and also the township of Mordialloc. The Board is composed of nine members, of whom three are appointed by the Governor-in-Council, three by the municipal councils, and three by the insurance companies. On the 31st December, 1914, the Board had under its control 47 stations, 241 permanent men, 130 auxiliary firemen, 34 special service firemen, 10 steam fire engines, 5 gasolene engines, 2 chemical engines (1 motor), 3 petrol motor fire engines, 69 horses, 104,127 feet of hose, and 271 fire-alarm circuits having 852 street fire-alarms, of which 784 contained telephones. The total length of wire in use outside stations for fire alarms and telephones is about 600 miles. The Government, the insurance companies and the municipalities in which the Board operates contribute equally to the cost and maintenance of the brigade. The following table gives particulars as to the financial operations of the Board during each year from 1910 to 1914 inclusive:—

**VICTORIA.—REVENUE AND EXPENDITURE OF METROPOLITAN FIRE BRIGADES BOARD, 1910 to 1914.**

Particulars.	1910.	1911.	1912.	1913.	1914.
<b>ORDINARY RECEIPTS.</b>					
	£	£	£	£	£
Contributions ... ..	56,497	56,993	63,775	66,238	66,954
Receipts for services ... ..	3,990	3,719	6,011	5,941	8,241
Interest and sundries ... ..	2,451	3,420	6,965	3,669	3,234
<b>Total ... ..</b>	<b>62,938</b>	<b>64,132</b>	<b>76,751</b>	<b>75,848</b>	<b>78,429</b>
<b>ORDINARY EXPENDITURE.</b>					
Salaries ... ..	33,742	37,913	45,613	47,210	50,966
Interest and sinking fund ... ..	11,009	9,588	9,681	8,357	9,432
Other expenditure ... ..	18,187	16,631	21,457	20,281	18,031
<b>Total ... ..</b>	<b>62,938</b>	<b>64,132</b>	<b>76,751</b>	<b>75,848</b>	<b>78,429</b>

(ii.) *The Country Fire Brigades Board.* This Board consists of nine members, of whom three are appointed by the Governor-in-Council, two are elected by the municipal councils of the districts where there are brigades registered under the Board, two by the fire insurance companies, and two by the registered fire brigades. At the end of the year 1914 there were 104 municipal councils, and sixty-five insurance companies included in the operations of the Act. All the brigades are volunteer brigades, but in the large towns permanent station-keepers and watchmen are employed. There were 124 registered brigades and 2444 registered firemen at the end of the year 1914.

For the year 1914 the receipts of the Country Fire Brigades Board amounted to £16,700, and the expenditure to £16,327.

3. **Queensland.**—In the year 1913 there were twenty-seven fire brigades organised in various towns in Queensland. The revenue of these brigades is derived chiefly from grants from the Government, from municipalities, and from the insurance companies, generally in equal proportions, and the following table gives these particulars for the year 1913:—

#### QUEENSLAND.—FIRE BRIGADES, 1913.

Receipts.		Amount.	Expenditure.		Amount.
		£			£
From Government	...	5,947	Salaries and wages	...	10,765
„ Local authorities	...	6,050	Building, repairs, etc....	...	2,517
„ Insurance companies	...	5,954	Plant, stores, clothing, etc.	...	2,700
„ Other sources	...	1,113	Other	...	3,630
Total	...	19,064	Total	...	19,612

At the end of the year 1913 the fire brigades staffs comprised 85 permanent men, 283 partly paid, and 84 volunteers. The Metropolitan brigade at Brisbane and the South Brisbane brigade protect an area of 9½ square miles; their joint staffs comprise 65 men. They have three steam engines, two motor turbines, one chemical motor, nine hose reels, and 17,919 feet of hose. There are 52 telephone fire alarms and 78 call points.

4. **South Australia.**—The fire brigades of South Australia are managed by a Board consisting of five members, one being nominated by the Government, one by the Adelaide city council, one by the other metropolitan and country municipalities, and the other two by the contributing insurance companies. The Board is incorporated under the Fire Brigades Act 1913. The revenue of the Board is derived by contributions of three-ninths by the Government, four-ninths by the insurance companies, and two-ninths by the city of Adelaide and the other municipalities subject to the Act, the contribution for 1914 amounting to £22,989. Brigades are established in the following municipalities, viz., Adelaide, Kensington and Norwood, including St. Peter's, Unley, Port Adelaide, Glenelg, Gawler, Kapunda, Moonta, Kadina, Port Pirie and Port Augusta. The strength of the brigades consists of 87 permanent firemen and 28 auxiliary firemen. The plant consists of five steam fire engines, one motor engine, three motor hose carriages, one floating fire engine, 13 hose reels, and 22 horses. The number of calls received during the year 1914 was 326, of which 29 were to fires of a serious nature. Of the total calls, 189 were in the metropolitan district.

5. **Western Australia.**—Under the Fire Brigades Act 1898, fire brigades were established in a number of the more important centres of population in the State. These brigades were under the control of local boards, and were in some cases municipal and in others volunteer.

An Act to make further provision for the protection of life and property from fire was passed in 1909 and came into operation on the 1st January, 1910. It is called the District Fire Brigades Act, and divides Western Australia into two fire districts under the control of the Western Australian Fire Brigades Board. The Board is constituted as follows:—Two members nominated by the Government; one member nominated by the Perth City Council; one member elected by the Municipalities of Kalgoorlie, Boulder, Coolgardie, and the Kalgoorlie Road Board; one member elected by the Municipalities and Road Boards other than those above-mentioned; three members elected by the Insurance Companies; and one member elected by the Volunteer Fire Brigades. The election of the Board takes place bi-annually, and its income is provided as follows:—Two-eighths by the Government, three-eighths by the Municipalities and Road Boards, and three-eighths by the Insurance Companies. The receipts for the year 1914 amounted to £29,280, and the expenditure to £29,971. The value of buildings and plant belonging to the Board is £57,055.

The whole of the Brigades throughout the State are now controlled by this Board, and number three purely permanent, thirteen permanent and partially paid, three partly permanent and partly volunteer, two purely partially paid, and twenty-two purely volunteer brigades; making a total of forty-three. The staff includes a chief officer, deputy-chief officer, third officer, 16 other officers, 88 permanent firemen, 110 partially-paid firemen, and 494 volunteer firemen.

6. **Tasmania.**—Under the present system, the Government, the City Council, and the Fire Insurance Companies contribute equally to the annual expenditure of the Hobart Fire Brigade. It is intended to increase the scope of operations so as to include in the metropolitan district the suburbs of Queenborough, New Town and Glenorchy. Under the new scheme, the estimated annual cost is £2700. There are volunteer brigades under the control of local boards in most of the larger centres of population.

## § 6. Local Government Finance.

1. **Introduction.**—In the preceding parts of this section certain particulars have been given regarding local authorities in each individual State. It is proposed to give here in a comparable form for each State particulars regarding the financial operations of local governing bodies. The areas controlled by these bodies are variously known in the several States as cities, towns, boroughs, shires, municipalities, municipal districts, and road districts. The particulars given in the tables in the two next paragraphs relate to financial years ending as follow:—New South Wales: for the calendar year 1913. Victoria: 30th September, 1913, except Melbourne, 31st December, and Geelong, 31st August, 1913. Queensland: Calendar year 1913. South Australia: Corporations, 30th November, and district councils, 30th June, 1913. Western Australia: 31st October, 1911, except road districts, 30th June, 1912. Tasmania: Calendar year 1913.

2. **Number, Revenue, Expenditure, and Valuation of Local Authorities.**—The following table gives particulars of the number, revenue, expenditure, and valuation of local authorities in each State and in the Commonwealth during the year 1913. It may be noted that, excepting in Tasmania, the metropolitan water supply systems are not under municipal control; the particulars given of revenue and expenditure for the five States other than Tasmania do not, therefore, include revenue and expenditure on account of these systems.



**NUMBER, REVENUE, EXPENDITURE, AND VALUATION OF LOCAL AUTHORITIES (a)  
IN EACH STATE, 1913.**

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'with.
No. of local authorities(a)	323	208	177	179	148	51	1,086
<b>RECEIPTS.</b>							
Rates—	£	£	£	£	£	£	£
General ... ..	1,577,713	1,199,874	534,982	202,234	170,202	39,976	3,724,981
Other (b) ... ..	278,079	268,040	206,991	78,097	48,733	138,773	1,018,713
Government grants ... ..	207,517	160,949	13,089	49,537	90,676	17,510	539,278
Loans(c) & other sources ... ..	915,675	470,786	186,283	100,701	871,488	114,046	2,658,979
Total ... ..	2,978,984	2,099,649	941,345	430,569	1,181,099	310,305	7,941,951
<b>EXPENDITURE.</b>							
Works, services, etc. ... ..	2,276,160	1,439,993	719,278	337,243	364,672	197,057	5,334,403
Interest on loans and overdrafts ... ..	259,673	224,479	20,292	10,426	51,575	41,568	608,013
Redemptions, sinking funds, etc. ... ..	(d)41,031	70,506	39,056	12,225	55,016	7,288	225,122
Administration ... ..	244,675	187,180	99,593	44,745	47,099	45,499	668,791
Other ... ..	95,323	169,906	102,269	56,079	597,172	45,097	1,065,846
Total ... ..	(e)2,916,862	2,092,064	980,488	460,718	1,115,534	336,509	7,902,175
<b>VALUATIONS.</b>							
Capital value of property	172,337,445	301,917,686	56,981,321	85,128,982	31,339,483	31,906,239	669,611,156
Annual value of property	2,753,408	16,046,159	641,672	4,074,169	1,381,751	1,583,739	26,480,898

\* For 1912; later figures not available.

(a) Including particulars for all areas controlled by local governing bodies responsible for the construction and maintenance of roads and streets, such areas being variously known in the several States as cities, towns, boroughs, shires, municipalities, road districts, etc. (b) Exclusive of rates for water-supply and sewerage in metropolitan and most other principal towns, such rates being collected by special boards or general Government. (c) Exclusive of loans in connection with extraordinary works of construction. (d) City of Sydney only. (e) Excluding redemptions, sinking funds, etc., for municipalities other than Sydney. (f) Unimproved capital value. (g) Exclusive of district roads board.

**3. Local Government Loans, 1913.**—The following table gives particulars for each State of loans raised by local authorities during the year 1913, of loans current at the end of that year, of liability on account of interest and sinking fund, and of loans maturing during 1913 :—

**PARTICULARS OF LOANS RAISED BY LOCAL AUTHORITIES, 1913.**

Particulars.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.*	Tas.	C'wealth..
	£	£	£	£	£	£	£
Loans from general Government—							
Raised during year ... ..	...	...	36,902	...	6,700	235,249	278,851
Current at end of year ... ..	...	175,975	434,568	...	92,005	537,185	1,239,733
Loans from other sources—							
Raised during year ... ..	1,153,277	276,544	(a)	32,055	589,050	16,416	(a)
Current at end of year ... ..	7,125,545	5,083,163	(a)	243,576	1,385,777	931,545	(a)
Total—							
Raised during year ... ..	1,153,277	276,544	(a)	32,055	595,750	251,665	(a)
Current at end of year ... ..	7,125,547	5,259,138	1,447,950	243,576	1,477,782	1,468,730	17,022,723
Current loans, exclusive of those obtained from general Government, raised within the C'wealth	6,237,348	5,083,163	(a)	243,576	861,044	1,200	(a)
Annual liability on account interest	278,591	227,526	20,151	10,485	65,365	53,358	655,486
Total sinking fund at end of year	429,336	925,390	54,796	20,651	220,867	138,701	1,789,741
Amount loans maturing during year							
Redeemed ... ..	...	(a)	(a)	9,144	12,632	72,418	(a)
Renewed ... ..	490,047	(a)	(a)	2,700	...	72,290	(a)

\* For 1912; later figures not available.

(a) Not available. (c) Excluding £841 credited to three municipalities, but which was not in the hands of the Sinking Fund Trustees on 31st October, 1913.