

1916.
—
VICTORIA.

STATE RIVERS AND WATER SUPPLY COMMISSION.

ELEVENTH
ANNUAL REPORT.
—
1915-16.

PRESENTED TO BOTH HOUSES OF PARLIAMENT PURSUANT TO THE PROVISIONS OF
THE WATER ACT 1915.

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THE GREAT WAR.

ROLL OF HONOUR.

Fifty-nine members of the Commission's Staff volunteered and were accepted for Active Service in defence of the Empire. They have been granted leave of absence till the end of the war, and meanwhile their interests will be safeguarded in every possible way.

One of these, Lieutenant J. G. Burnell, Chief Mechanical Engineer of the Commission, has been awarded the Military Cross for gallantry in France.

As a mark of appreciation, a Roll of Honour has been designed and provided by the Commissioners and the Staff. This was formally established in July 1915, at the Head Office, Melbourne. The following names now appear on the Roll:—

A. R. McCONCHIE.	A. G. LAWSON.
D. T. CURDIE.	J. T. MACAULAY.
C. D. COWAN.	G. D. MURRAY.
C. GALLOP.	R. FARRELL.
A. McCOLL.	B. M. LONG.
C. E. D'ALTON.	E. L. G. CRESWELL.
J. O'BRYAN.	F. J. COOKE.
F. ROGERSON.	K. J. F. COVENTRY.
C. THOMSEN.	M. D. GRACE.
W. LAMBERT.	J. LYONS.
G. MAXFIELD.	H. C. VALENTINE.
R. G. GREIG.	R. J. LONG.
A. CAMERON.	E. THOMPSON.
J. G. BURNELL.	A. P. FLOCKART.
R. B. BENNETT.	W. G. SIDES.
A. F. J. HARRISON.	S. G. MILLER.
V. G. COADY.	A. WATT.
G. E. IREDALE.	F. H. DAVIS.
J. FLEMING.	J. R. MOORE.
W. F. NEVILL.	H. HIRD.
L. V. BROWN.	A. E. SMITH.
F. R. LUCAS.	E. R. H. WONG.
J. F. McKELLAR.	J. CRAWFORD.
W. MURCOTT.	R. COUSTLEY.
L. G. MERKEL.	C. S. MURRAY.
C. F. THOMSEN.	R. A. HUNT.
G. CAMERON.	G. F. PEDLOW.
L. J. SCOTT.	J. A. AIRD.
L. T. KEEP.	V. FOSTER.
G. FOGARTY.	

With deep regret it has to be announced that the undermentioned have been killed in action:—

C. E. D'ALTON.
J. O'BRYAN.
A. CAMERON.
V. G. COADY.

STATE RIVERS AND WATER SUPPLY COMMISSION.

ANNUAL REPORT, 1915-16.

- In compliance with the provisions of the *Water Act* 1915, the State Rivers and Water Supply Commission submits the following Report and Statement for the Financial Year 1915-16, and Estimates for the ensuing year.

WORKS UNDER CONTROL OF COMMISSION.

The following statement gives a brief description, summary of cost, and other particulars relative to the undermentioned works controlled by the Commission.

A.—FREE HEADWORKS.

DESCRIPTION OF WORKS.	Capital Debit at 30th June, 1916. Exclusive of cost of Loan Flotation.
1. Broken River Works :—Casey's Weir and offtake, with about 59 chains of channel to the Broken Creek; Gowangardie Weir with offtake sluice	£ 14,853
2. Goulburn River Works :—Weir on the Goulburn River, about 9 miles above Murchison; channel therefrom, about 23½ miles, to Waranga Reservoir; and that Reservoir	735,682
3. Kerang North-West Lakes Works :—Weir on the Loddon River at its confluence with the Pyramid Creek; regulating weirs at the effluence from the Loddon of the Sheepwash and Washpen Creeks; channel from the Washpen Creek regulator to Reedy Lake, Middle Lake, Third Lake, Lake Charm, Race-course Lake, Cullen's Lake, Kangaroo Lake, and Lake Tutchewop, and to the Little Murray River, with water storage works at these lakes	9,587
4. Kow Swamp Works :—Intake from the Murray River with regulator, at the effluence of the Gunbower Creek; channel thence to the Kow Swamp Reservoir, and that Reservoir; channel along the northern side of the reservoir; channel from the outlet of the reservoir, about 23½ miles, to the left bank of the Loddon River ..	187,084
5. Lake Lonsdale Reservoir :—Reservoir at Lake Lonsdale, on the Little Wimmera River, near Ledcourt	49,054
6. Loddon River Works :—Laanecoorie Weir, on the Loddon; Bridgewater Weir, on the Loddon; Kinypanial Weir, on the Loddon	167,476
7. Long Lake Pumping Works :—Inlet to Lake Baker, from the Little Murray River; water storage works at Lake Baker and Long Lake, with channel connecting these lakes; pumping plant at Long Lake, with rising main thence about 7 miles to allotment 10M, parish of Kooem; system of main distributary channels, about 85 miles in length	27,346
8. Lower Wimmera Compensation Works :—Drung Drung Weir, on the Wimmera, near allotment 29, parish of Longerenong; Dimboola Weir, on the Wimmera, near Dimboola township; Antwerp Weir, on the Wimmera, at Antwerp Station homestead; Jeparit Weir, on the Wimmera, near Jeparit township	8,558
Total	£1,199,640

B.—WATERWORKS DISTRICTS.

Distributary Works within Districts under the control of the Commission.

Name of District (Including Urban Districts).	Total Capital Expenditure.	Capital Written Off by Acts 1625 and 1651.	Redemption Paid to Treasury.	Capital Debit at 30th June, 1916.	
	£	£	£	£	
1. Birchip	226,908	700	2,185	224,023	
2. Sea Lake					
3. Tyrrell					
4. Wycheproof					
5. Carwarp	6,989			6,989	
6. Coliban	1,243,519			1,243,519	
7. Karkaroc	93,252		2,493	90,759	
8. Kerang North-west Lakes (Free Headworks excluded)	2,000			2,000	
9. Long Lake (Free Head- works excluded)	45,708		571	45,137	
10. Ouyen	3,416			3,416	
11. Tyntynder	45,024			45,024	
12. Walpeup East	3,471			3,471	
13. Walpeup West	3,220			3,220	
14. Western Wimmera	249,357	132,835	13,966	102,556	
15. Wimmera United	185,888	36,392	11,064	138,432	
16. Wonthaggi	62,820		1,737	61,083	
Wimmera Main Channels	122,367			122,367	
Wimmera Storages—					
Fyan's Lake	26,244			26,244	
Taylor's Lake	14,279			14,279	
Whitton Swamp	5,717			5,717	
	2,340,179	169,927	32,016	2,138,236	2,138,236
Carried forward					£3,337,876

WORKS UNDER CONTROL OF COMMISSION—*continued.*Capital Debit
at 30th June,
1916.
Exclusive
of Cost of Loan
Flotation.

Brought forward

£
3,337,876

C.—IRRIGATION AND WATER SUPPLY DISTRICTS.

Distributary Works within Districts under the control of the Commission.

Name of District (Including Urban Divisions).	Total Capital Expenditure.	Capital written off by Acts 1825 and 1851.	Redemption paid to Treasury.	Capital Debit at 30th June, 1916.
	£	£	£	£
1. Bacchus Marsh	56,583	8,906	493	47,184
2. Boort	54,818	35,259	394	19,165
3. Campaspe	63,354	52,685	305	10,364
4. Cohuna	125,594	49,197	521	75,876
5. Deakin	93,655	34,748	2,144	56,763
6. Dingee	12,740	..	..	12,740
7. Dry Lake	1,704	686	299	719
8. Gannawarra	81,497	33,179	180	48,138
9. Kerang	84,046	35,338	710	47,998
10. Koondrook	109,562	30,872	1,475	77,215
11. Merbein	72,054	..	..	72,054
12. Nyah	23,361	..	..	23,361
13. Rochester	114,203	..	..	114,203
14. Rodney	363,569	149,949	6,316	207,304
15. Shepparton	47,610	..	..	47,610
16. Swan Hill	53,961	19,799	342	33,820
17. Tongala	60,492	..	..	60,492
18. Tragowel Plains	185,964	124,534	444	60,986
Totals	1,604,767	575,152	13,623	1,015,992

1,015,992D.—IRRIGATION AND WATER SUPPLY DISTRICTS.—
MAIN SUPPLY WORKS.

Cost to be Apportioned to Districts benefited on the Basis of Water Allotment.

1. Goulburn Main Channels (Free Headworks excluded)—	Tentative Debits to Districts, 1915-1916—				
East Goulburn ..	Rodney .. .. .	..	..	£120,000	} 129,623
Waranga Reservoir to Campaspe ..	Tragowel Plains .. .. .	..	..	100,000	
Campaspe to Serpentine ..	Rochester .. .. .	..	..	74,000	
Main Distributary Channels ..	Tongala .. .. .	..	..	67,000	
	Shepparton .. .. .	..	..	57,000	
	Deakin .. .. .	..	..	24,000	
	Dingee .. .. .	..	..	15,000	194,278
				£457,000	25,655
					594,775
2. Goulburn Storages (Free Headworks excluded)—					
Sugarloaf Reservoir					91,547
Waranga Reservoir Enlargement ..					43,488
					135,035
3. Pyke's Creek and Werribee Schemes—					
Ballan Tunnel ..					1,479
Pyke's Creek Reservoir ..	Bacchus Marsh .. .. .	..	..	£55,000	63,218
Diverting Weir and Distributary Works, Werribee					47,783
Melton Reservoir ..					54,547
					167,027
					£5,250,705

Carried forward

£5,250,705

WORKS UNDER CONTROL OF COMMISSION— <i>continued.</i>				Capital Debit at 30th June, 1916. Exclusive of Cost of Loan Flotation.
Brought forward				£ 5,250,705
E.—WATERWORKS TRUSTS DISTRICTS.				
DISTRICTS HELD IN TRUST BY THE COMMISSION.				
Name of Trust.	Total Advances by State.	Capital written off by Acts 1825 and 1951.	Redemption paid to Treasury.	Capital Debit at 30th June, 1916.
	£	£	£	£
1. Avoca Water Trust—				
Rural District	8,709	2,494	859	5,356
Urban District (Quambatook) ..	3,786	..	49	3,737
2. Carrum Waterworks Trust ..	25,732	7,732	1,784	16,216
3. Loddon United Waterworks Trust	21,234	1,717	1,964	17,553
	59,461	11,943	4,656	42,862
Grand Total				£ 5,250,705

LANDS SUPPLIED WITH WATER WITHIN THE STATE.

The area of country lands within the State artificially supplied with water for domestic and ordinary use and for watering stock is, approximately, 20,845 square miles, equal to about 13,341,000 acres. Notwithstanding the copious rains which followed the drought the area irrigated last year was 288,007 acres; and although this is 36,338 acres less than the area irrigated in the previous year, it is fully 33,000 acres more than the average of the five last preceding years. The area irrigated includes about 21,000 acres, watered under yearly permits granting authority to divert water from streams throughout the State. The number of separate towns supplied, exclusive of the city of Melbourne and its suburbs, is 154, as shown in the following statement :—

Controlling Authorities.	Number of Town Supplies.	Estimated Population Served.
Commission	40	70,000
Waterworks Trusts	97	155,000
Local Governing Bodies	17	67,000
Totals	154	292,000

LANDS UNDER IRRIGATED CULTURE.

The two Statements herewith show the extent of Areas Irrigated for last year in detail, and for the last five years totalled for comparative purposes.

STATEMENT OF THE EXTENT OF IRRIGATION AND OF AREAS OF DIFFERENT KINDS OF CROPS WATERED—YEAR 1915-16.

Name of District.	Area Irrigated (Acres).							Total.
	Cereals.	Lucerne grown for Pasture and Hay.	Sorghum and other Annual Fodder Crops.	Pastures.	Vineyards, Orchards, and Gardens.	Fallows.	Miscellaneous.	
<i>Supplied from Goulburn State Works.</i>								
Shepparton	970	5,548	1,030	..	3,026	260	60	10,894
Rodney	219	19,514	1,001	13,003	6,900	898	607	42,262
Deakin	141	2,972	229	1,112	107	284	117	4,962
Tongala	992	7,255	628	1,555	1,266	748	42	12,486
Rochester	2,666	12,308	1,000	2,915	1,166	1,640	50	21,745
Dingee	47	710	20	294	23	106	..	1,200
Tragowel Plains	12,309	1,199	3,743	22,581	61	569	..	40,462
Totals	17,344	49,536	7,651	41,400	12,549	4,505	966	134,011
<i>Supplied from Kow Swamp State Works.</i>								
Kerang	8,790	848	1,651	6,246	4	108	78	17,728
Dry Lake	37	..	..	340	8	..	..	385
Land supplied direct (outside Districts)	1,112	1,765	239	582	13	20	13	3,744
Totals	9,939	2,613	1,893	7,168	25	128	91	21,857
<i>Supplied from Loddon State Works.</i>								
Boort	6,074	253	678	5,934	18	140	..	13,097
Tragowel Plains	3,100	..	..	854	..	..	..	3,954
Totals	9,174	253	678	6,788	18	140	..	17,051
<i>Supplied from other State Works.</i>								
Bacchus Marsh	43	2,161	17	617	131	40	..	3,009
Campaspe .. .. .	..	320	25	10	..	..	..	355
Cohuna	3,527	5,985	1,370	7,010	129	67	..	18,088
Gannawarra	4,818	1,213	1,994	8,374	29	96	..	16,524
Koondrook	5,329	1,308	747	6,714	500	292	..	14,890
Merbein	594	290	..	..	4,310	..	80	5,274
Nyah	320	43	126	..	1,170	19	28	1,706
Swan Hill	4,016	3,559	426	781	231	171	30	9,214
Werribee	400	1,575	31	43	80	..	..	2,129
Western Wimmera .. .. .	..	14	53	8	1,043	..	..	1,118
Totals	19,047	16,468	4,789	23,557	7,623	685	138	72,307
<i>Supplied from other sources.</i>								
Kerang North-West Lakes	1,931	782	247	2,860	18	38	40	5,916
First Mildura	550	365	..	..	10,066	..	1,083	12,064
Coliban	165	315	115	279	2,608	113	81	3,676
Kerang—Outside Districts (Private Diversions)	3,513	40	39	510	11	12	..	4,125
Other Private Diversions throughout the State	Details not available.						17,000	17,000
Grand Totals, 1915-18	61,663	70,372	15,412	82,622	32,918	5,621	19,399	288,007
Grand Totals, 1914-15	74,658	71,217	37,759	81,463	28,666	13,368	17,214	324,345

COMPARATIVE STATEMENT OF THE EXTENT OF IRRIGATION, 1911-12 TO 1915-16.

	Area under Irrigation (Acres).				
	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.
Goulburn State Works	76,740	66,800	136,303	185,185	134,011
Kow Swamp State Works	17,395	30,454	34,409	11,179	21,857
Loddon State Works	21,483	18,885	14,336	4,298	17,051
Other State Works	67,042	59,374	80,457	81,632	72,307
Kerang North-West Lakes	13,543	4,546	12,020	10,547	5,916
First Mildura Trust Works	11,379	12,209	12,037	12,063	12,064
Coliban State Works	2,937	3,632	3,745	2,425	3,676
Private Works in Kerang District	4,814	5,088	5,980	2,016	4,125
Other Private Works throughout the State	14,500	19,000	18,060	15,000	17,000
Totals	229,833	249,983	317,287	324,345	288,007

VALUATIONS, RATES, AND COMPULSORY IRRIGATION CHARGES.

The statements which follow set forth the whole of the districts supplied by the Commission with water for domestic and ordinary use and for watering cattle or other stock, together with the annual value of the lands and tenements in such districts, and the rates and compulsory irrigation charges made. An estimate of the number of persons dwelling in such districts is also appended.

During the year a rate was, for the first time, made in the newly-constituted Urban District of Lascelles.

In twenty-two districts the lands were, for the purpose of making and levying rates, arranged in divisions (not more than three in number) in accordance with the relative benefits derived by such lands from the works.

In thirteen districts the Commission made and levied compulsory irrigation charges, details of which are set out hereunder.

A.—VALUATIONS AND RATES.

Districts Supplied with Water for Domestic and Ordinary Use and for Watering Cattle or other Stock.	Annual Value of Lands and Tenements.	Rate in the £1 made during year ended 30th June, 1916.	Period of Rate.	Estimated Number of Persons dwelling in District.
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IRRIGATION AND WATER SUPPLY DISTRICTS.

	Valuation by Commission. £		s. d.		
1. BACCHUS MARSH ..	11,111 1 0	1st July, 1915, to 30th June, 1916	625
2. BOORT ..	15,464	1st Division ..	2 0	" " "	756
		2nd Division ..	1 0	" " "	
3. CAMPASPE ..	9,857	1st Division ..	1 8	" " "	470
		2nd Division ..	0 10	" " "	
		3rd Division ..	0 5	" " "	
4. COHUNA ..	16,750	1st Division ..	2 0	" " "	931
		2nd Division ..	1 0	" " "	
5. DEAKIN ..	71,908	1st Division ..	1 6	" " "	3,950
		2nd Division ..	0 9	" " "	
		3rd Division ..	0 4½	" " "	
6. DINGEE ..	2,707	..	.. 1 0	" " "	220
7. DRY LAKE ..	250	(No rate made)		" " "	11
8. GANNAWARRA ..	10,835	1st Division ..	2 0	1st July, 1915, to 30th June, 1916	505
		2nd Division ..	1 0	" " "	
9. KERANG ..	17,637	1st Division ..	2 6	" " "	743
		2nd Division ..	1 3	" " "	
		3rd Division ..	0 7½	" " "	
10. KOONDROOK ..	11,285	1st Division ..	2 0	" " "	580
		2nd Division ..	1 0	" " "	
11. MERBEIN ..	1,657	..	.. 2 0	" " "	1,009
12. NYAH ..	859	..	.. 2 0	" " "	310
13. ROCHESTER ..	42,655	1st Division ..	1 0	" " "	2,650
		2nd Division ..	0 6	" " "	
		3rd Division ..	0 3	" " "	
14. RODNEY ..	142,973	1st Division ..	1 0	" " "	4,550
		2nd Division ..	0 6	" " "	
		3rd Division ..	0 3	" " "	
15. SHEPPARTON ..	14,780	..	.. 1 0	" " "	1,250
16. SWAN HILL ..	8,612	..	.. 2 0	" " "	600
17. TONGALA ..	13,684	..	.. 1 0	" " "	1,260
18. TRAGOWEL PLAINS ..	32,812	1st Division ..	1 0	" " "	1,050
		2nd Division ..	0 6	" " "	

A.—VALUATIONS AND RATES—*continued.*

Districts Supplied with Water for Domestic and Ordinary Use and for Watering Cattle or other Stock.	Annual Value of Lands and Tenements.	Rate in the £1 made during year ended 30th June, 1916.	Period of Rate.	Estimated Number of Persons dwelling in District.
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WATERWORKS DISTRICTS.

	Valuation by Commission. £	s.	d.		
19. AXE CREEK	1,277 2 0	1st July, 1915, to 30th June, 1916	200
20. BIRCHIP	29,616	1st Division ..	2 0	" " "	2,320
		2nd Division ..	1 0	" " "	
		3rd Division ..	0 6	" " "	
21. HARCOURT	5,527	..	.. 1 6	" " "	550
22. KARKAROOC	82,803	1st Division ..	1 6	" " "	3,100
		2nd Division ..	0 9	" " "	
		3rd Division ..	0 4½	" " "	
23. KERANG NORTH-WEST LAKES	6,558	..	.. 1 0	" " "	311
24. LONG LAKE	47,902	1st Division ..	2 6	" " "	1,800
		2nd Division ..	1 3	" " "	
		3rd Division ..	0 7½	" " "	
25. SEA LAKE	44,451	1st Division ..	2 0	" " "	2,000
		2nd Division ..	1 0	" " "	
		3rd Division ..	0 6	" " "	
26. TYNTYNDER	28,148	1st Division ..	2 9	" " "	1,500
		2nd Division ..	1 4½	" " "	
		3rd Division ..	0 8½	" " "	
27. TYRRELL	29,956	1st Division ..	2 6	" " "	2,030
		2nd Division ..	1 3	" " "	
		3rd Division ..	0 7½	" " "	
28. WALPEUP EAST	30,741	1st Division ..	0 5	" " "	1,500
		2nd Division ..	0 2½	" " "	
29. WALPEUP WEST	47,596	1st Division ..	0 4	" " "	2,500
		2nd Division ..	0 2	" " "	
30. WESTERN WIMMERA	247,980	1st Division ..	1 0	" " "	10,200
		2nd Division ..	0 6	" " "	
		3rd Division ..	0 3	" " "	
31. WIMMERA UNITED	267,816	1st Division ..	1 0	" " "	8,600
		2nd Division ..	0 6	" " "	
		3rd Division ..	0 3	" " "	
32. WYCHEPROOF	48,997	1st Division ..	2 0	" " "	2,060
		2nd Division ..	1 0	" " "	
		3rd Division ..	0 6	" " "	

URBAN DIVISIONS AND DISTRICTS.

	Municipal Valuation. £	s.	d.		
33. BACCHUS MARSH	7,618	..	.. 1 6	1st July, 1915, to 30th June, 1916	1,500
34. BERRIWILLOCK	498	..	.. 4 0	" " "	110
35. BEULAH	3,157	..	.. 2 9	" " "	575
36. BIRCHIP	5,386	..	.. 2 6	" " "	860
37. COHUNA	2,056	..	.. 3 0	" " "	362
38. COROP	352	..	.. 2 0	" " "	90
39. DIMBOOLA	6,510	..	.. 1 9	" " "	1,000
40. HOPETOUN	3,056	..	.. 2 9	" " "	450
41. JEPARIT	3,546	..	.. 2 6	" " "	550
42. KANEIRA	528	..	.. 4 0	" " "	130
43. KOONDROOK	2,480	..	.. 3 0	" " "	430
44. LAKE BOGA	1,506	..	.. 3 0	" " "	270
45. LASCELLES	819	..	.. 3 6	" " "	120
46. MINYIP	3,042	..	.. 3 0	" " "	600
47. NATIMUK	2,467	..	.. 1 6	" " "	420
48. NYAH	303	..	.. 2 6	" " "	45
49. RAINBOW	5,474	..	.. 2 3	" " "	850
50. RUPANYUP	2,173	..	.. 3 0	" " "	400
51. SEA LAKE	2,794	..	.. 3 0	" " "	500
52. ULTIMA	1,992	..	.. 3 0	" " "	250
53. WATCHEM	1,190	..	.. 3 6	" " "	170
54. WERRIBEE	6,873	..	.. 2 0	" " "	1,700
55. WONTHAGGI	17,500	..	.. 1 9	" " "	4,900
56. WOOMBLANG	2,276	..	.. 3 0	" " "	400
57. WYCHEPROOF	3,310	..	.. 2 6	" " "	675

A.—VALUATIONS AND RATES—continued.

Districts Supplied with Water for Domestic and Ordinary Use and for Watering Cattle or other Stock.	Annual Value of Lands and Tenements.	Rate in the £1 made during year ended 30th June, 1916.	Period of Rate.	Estimated Number of Persons dwelling in District.																		
COLIBAN SYSTEM.																						
58. COLIBAN	Municipal Valuation. £ 317,390	<table style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: right;">s.</td> <td style="text-align: right;">d.</td> </tr> <tr> <td>On Valuation up to £300 ..</td> <td style="text-align: right;">1</td> <td style="text-align: right;">6</td> </tr> <tr> <td>(Minimum 20s.)</td> <td></td> <td></td> </tr> <tr> <td>From £301 up to £700 ..</td> <td style="text-align: right;">1</td> <td style="text-align: right;">3</td> </tr> <tr> <td>From £701 on</td> <td style="text-align: right;">1</td> <td style="text-align: right;">0</td> </tr> <tr> <td>Vacant lands ..</td> <td style="text-align: right;">1</td> <td style="text-align: right;">6</td> </tr> </table>		s.	d.	On Valuation up to £300 ..	1	6	(Minimum 20s.)			From £301 up to £700 ..	1	3	From £701 on	1	0	Vacant lands ..	1	6	1st July, 1915, to 30th June, 1916	62,500
	s.	d.																				
On Valuation up to £300 ..	1	6																				
(Minimum 20s.)																						
From £301 up to £700 ..	1	3																				
From £701 on	1	0																				
Vacant lands ..	1	6																				
WATERWORKS TRUSTS.																						
59. AVOCA	£ 29,963 0 4½	1st January, 1916, to 31st December, 1916	1,300																		
60. CARRUM	21,942	1st Division .. 4 0 2nd Division .. 1 6 3rd Division .. 0 3 4th Division .. 0 4 5th Division .. 2 0	" " "	875																		
61. QUAMBATOOK (URBAN)	2,350 Valuation by Commission. £ 3 3	" " "	300																		
62. LODDON UNITED ..	93,842	1st Division .. 0 8 2nd Division .. 0 4 3rd Division .. 0 2	" " "	2,750																		

B.—COMPULSORY IRRIGATION CHARGES.

Irrigation and Water Supply District.	Area of District in Acres.	Area at present Irrigable in Acres.	Water Rights apportioned (including extra Rights) in Acre-feet.	Compulsory Charge per Acre-foot of Water Right.	Period of Charge.
1. BACCHUS MARSH ..	6,625	3,304	3,304	20s.	1st October, 1915, to 30th April, 1916
2. COHUNA	34,887	22,539	22,539	5s.	1st September, 1915, to 30th April, 1916
3. DINGEE	5,351	4,979	3,630	6s.	1st September, 1915, to 30th April, 1916
4. GANNAWARRA ..	43,954	16,556	16,556	5s.	1st September, 1915, to 30th April, 1916
5. KOONDRÖÖK ..	52,782	14,302	14,302	5s.	1st September, 1915, to 30th April, 1916.
6. MERBEIN	5,854	5,293	13,187	15s.	1st August, 1915, to 30th April, 1916
7. NYAH	2,885	2,295	5,707	14s.	1st August, 1915, to 30th April, 1916
8. ROCHESTER ..	129,537	32,700	32,700	5s.	1st September, 1915, to 30th April, 1916
9. RODNEY	265,829	184,517	48,488	5s.	1st September, 1915, to 30th April, 1916
10. SHEPPARTON ..	18,771	16,892	16,892	5s.	1st September, 1915, to 30th April, 1916
11. SWAN HILL ..	17,624	12,208	12,208	5s.	1st September, 1915, to 30th April, 1916
12. TONGALA	24,589	17,059	17,059	5s.	1st September, 1915, to 30th April, 1916
13. TRAGOWEL PLAINS	180,293	122,303	24,446	6s.	1st September, 1915, to 30th April, 1916

CONTRACTS.

STATEMENT OF CONTRACTS ENTERED INTO DURING THE YEAR ENDED 30TH JUNE, 1916.

No.	Name of Contractor.	Work or Supply.	Amount (Loan and Vote).		
			£	s.	d.
1475	Concrete Construction Pty. Ltd.	Pipes for Syphons, Diamond Hill Race ..	90	15	0
1476	Australian Portland Cement Coy.	6,000 casks Cement	4,350	0	0
1477	Thos. Malone	Enlargement, Waranga Reservoir Embankment	1,083	15	0
1478	Patrick Coughlan	Firewood, Long Lake	487	10	0
1479	Joseph Nixon and Sons	Cast Iron Pipes, Sugarloaf Reservoir	140	6	0
1480	Zenith Hoist Coy.	Vanes, Axles for Meter Wheels	113	17	6
1481	Albert Henry Coombs	Firewood, Merbein	211	4	6
1482	Geo. Wm. Jones	Firewood, Merbein	402	16	0
1483	J. Spellacy	Firewood, Merbein	412	10	0
1484	Albert De Forest	Firewood, Merbein	213	7	0
1485	Janet Krake	Firewood, Merbein	415	7	9
1486	Mephan Ferguson Pty. Ltd.	Cast Iron Pipes, Sugarloaf Reservoir	4,425	18	0
1487	C. M. Runciman	Enlargement, Waranga Reservoir Embankment	771	5	0
1488	Jos. Nixon and Sons	Cast Iron Pipes, Cohuna	236	9	8
1489	C. M. Runciman	Enlargement, Waranga Reservoir Embankment	861	12	0
1490	John Ketterer	Enlargement, Waranga Reservoir Embankment	1,349	4	0
1491	Australian Portland Cement Coy.	10,000 casks Cement	7,000	0	0
1492	Henry Casey	Rubble and Spalls, Rochester	119	4	10
1493	John Ketterer	Enlargement, Waranga Reservoir Embankment	1,184	16	8
1494	John Wilson	Channel Meter Wheels	329	3	4
1495	Wm. McKay	Drainage Channels, Shepparton	203	10	0
1496	A. De Baere	Storage Tanks, Speed	196	0	0
1497	Australian Portland Cement Coy.	20,000 casks Cement	13,500	0	0
1498	John O'Donnell	Tank, Nyang	182	5	10
1499	W. Mathers	Portion Embankment, Taylor's Lake Storage	1,303	15	2
1500	A. McDonald and Co.	Portion Embankment, Taylor's Lake Storage	1,597	0	0
1501	A. McDonald and Co.	Portion Embankment, Taylor's Lake Storage	1,649	12	6
1502	James Scott	Portion Embankment, Taylor's Lake Storage	1,797	5	10
1503	S. M. Stansmore	Enlargement, Waranga Reservoir Embankment	1,184	16	8
1504	Cassidy and Normoyle Brothers	Storage Tank, Mitiamo	170	0	0
Total			45,983	8	3

PIECE-WORK AND DIRECT LABOUR.

The Commission has found it necessary, in view of the nature of several of its large works, to carry out operations by means of "direct labour." This applies particularly to the new storage works at "Sugarloaf" on the Goulburn River, the enlargement of the existing Waranga Reservoir, and the raising of the embankment of the Upper Coliban Storage. The expenditure on these and similar works would amount to £117,418 for the year. In addition, a large extent of channel work was carried out as "piece-work," at current rates, in the Cohuna, Rochester, Shepparton, Stanhope, Swan Hill, Tongala, Tragowel Plains, and Wimmera-Mallee Districts. This expenditure, including some £3,867 on improvement to Crown Lands in the North-West Mallee, amounted to £39,537.

WORKS CARRIED ON OR COMPLETED DURING THE YEAR ENDED 30TH JUNE, 1916.

COLIBAN DISTRICT.

Progress has been made with the work of raising the embankment of the Upper Coliban Reservoir for the purpose of increasing the storage capacity by 2,000 million gallons. The additional reserve of water will add greatly to the security of the irrigation and other interests dependent on the Coliban scheme.

The works for improvement of supply to Maldon, which consist of a pipe-head basin on the Specimen Gully Race, near Harcourt, a line of 8-inch pipes partly of wood and partly of steel to Maldon, and a new service reservoir and reticulation improvements at that place have been completed and are now in operation.

The Upper Grassy Flat Reservoir at Kennington, near Bendigo, has been restored, and now holds a reserve supply for that locality. At Raywood cast-iron pipes from the old pipe line to Maldon were laid in place of the old earthenware pipes of the syphon to the Reservoir, which were rapidly becoming defective.

Minor extensions of reticulation were made throughout the whole Coliban district.

IRRIGATION AND WATER SUPPLY DISTRICTS.

RODNEY DISTRICT.

Works carried out during the year consist of extensions of channels for the purpose of supplying an additional 2,000 acres with water for irrigation, installation of new outlets and renewals of bridges, culverts and other timber structures. It is not proposed to make any considerable extensions of the irrigated area in this district until a further supply of stored water is available.

SHEPPARTON DISTRICT.

Some 17,000 acres of the total area of 18,800 acres in this district can be supplied with water for irrigation by the distributary channels, the aggregate length of which is 68 miles. Trial of cement mortar lining of channels having proved successful in checking seepage, it is proposed from time to time to carry out extensions with this class of lining. Works for a surface drainage scheme for that portion of the district known as No. 2 Estate are now in progress.

SWAN HILL DISTRICT.

The district has been increased by the addition of some 4,000 acres, including the area known as the Burton Estate. This makes the total area of the district 17,700 acres. Of the sixty blocks into which Burton Estate is subdivided, forty-seven have already been taken up.

The new work in the district during the year has consisted of channel work and the installation of outlets and other structures on Burton Estate. Surveys for the channel to supply the district from the Little Murray Weir are in progress. It is expected that the channel when completed will greatly extend the period during which gravitation water is available for the district.

DISTRICTS ADMINISTERED FROM KERANG CENTRE.

In Kerang District arrangements have been made to convert the emergency flume which was erected to supply the district directly from the Murray during the drought of the preceding season into a permanent work for similar service should need arise in the future.

In Koondrook District about 2 miles of channels with necessary structures were added to the system, mainly to serve Closer Settlement blocks.

A hydrographic survey was made to determine the capacity of the Kerang North-West Lakes, and works are now in progress to raise by one foot the level to which water can be stored in Kangaroo Lake, Race-course Lake, and Lake Charm.

DISTRICTS ADMINISTERED FROM COHUNA CENTRE.

In Cohuna District the drainage channel in Leitch's Creek has been extended $1\frac{1}{2}$ miles, and proposals have been prepared for further extensions. Box drain and tile drain work on holdings is being proceeded with as required, and pipe inlets have been installed to discharge surface water into the drains. The total length of drainage channels is now $14\frac{1}{2}$ miles, and they have undoubtedly had a marked effect in lowering the level of the water table in the areas affected by alkali.

The Barr Creek, which had become badly obstructed with growths of bulrushes and accumulations of dead timber, has been cleared to a considerable extent for the purpose of not only improving the supply to the channels fed by the creek but also for facilitating the scouring of the creek from time to time.

In Gannawarra District the Right Branch channel has been remodelled for a distance of 115 chains, while the measuring system has been completed by the installation of 56 additional meters.

DISTRICTS ADMINISTERED FROM LODDON CENTRE.

In Tragowel Plains District a number of timber structures has been renewed and progress has been made with remodelling of channels.

In Boort District works have been constructed at the outlet of Lake Boort which increase its storage capacity by some 560 acre feet. The Twelve-Mile Weir has been rebuilt and a number of structures has been renewed.

In Dingee District the only new works found necessary were some measuring outlets.

DISTRICTS ADMINISTERED FROM ROCHESTER CENTRE.

In Rochester District, as there were indications of seepage in some sandy ground, about 120 chains of channels running through such ground were lined with cement mortar. If found necessary, further lengths of such lining will be laid. Extensions of the concrete aprons of structures have been made in cases where it was found advisable to check any tendency to scour in the channels.

In Campaspe District portions of the timber weir on the Campaspe River have been repacked with stone spalls to take the place of the original filling of earth and clay concrete, which had gradually been carried away. A considerable portion of the western channel running from the weir has also been overhauled and placed in good order.

DISTRICTS ADMINISTERED FROM TONGALA.

In Deakin District new work has been mainly confined to the area known as Stanhope Estate, in which some 25 miles of new channels have been constructed, making the total length on the estate about 75 miles. The necessary structures in connexion with these channels have also been provided, while measuring outlets are being supplied for the blocks as soon as they are occupied.

In Tongala District 5 miles of new channels and one concrete syphon have been constructed for the improvement of supply to certain portions of the area.

BACCHUS MARSH DISTRICT AND WERRIBEE SCHEME.

Works carried out during the year in Bacchus Marsh Irrigation District have consisted principally of concrete lining of channels and improvement of reticulation in the Urban Division. Apart from these, much work has also been done by landholders in grading and otherwise improving their holdings with a view to making full and effective use of the water supplied.

In the Werribee District the channels have been brought into a state of complete efficiency in readiness for the ample supply of water now made available by the Melton Reservoir.

MERBEIN DISTRICT.

The new pumping unit described in previous reports has proved satisfactory during the period of maximum demand. It is now demonstrated that the whole capacity of the Merbein plant is sufficient to permit of the extension of the irrigation area by several hundred acres. This extension will be proceeded with in the immediate future. During the year about 5 miles of channel were lined with concrete, making the total length of such lining some 16 miles.

The season has been a very prosperous one for the district, the returns in many cases being sufficient to recoup settlers for the years when their vines and trees were too young to be productive.

NYAH DISTRICT.

The new works during the year consisted of lining about $1\frac{1}{4}$ miles of channels and of constructing some minor drainage works. Though not so far advanced as Merbein, the district promises to ultimately share in the same prosperity.

WATERWORKS DISTRICTS.

LONG LAKE DISTRICT.

As this district is now well supplied there were only minor extensions of channels during the year. A large expenditure was, as in other similar districts, incurred in cleaning out silted channels.

Surveys are being carried out in connexion with a proposal to serve this district by a gravitation supply from the Wimmera System, instead of by the present Long Lake Pumping Scheme.

TYNTYNDER DISTRICT.

Fully 10 miles of the high-level channel to serve the parishes of Coonimur and Burra have been constructed. Considerable extensions of the channel system of this district will, if funds are available, be made early in the coming year. Surveys have already been completed for some 25 miles of branch channels. The large earthen storage near Waitchie Railway Station, with a capacity of 31,000 cubic yards, has been completed, while a reinforced concrete service basin with a capacity of 50,000 gallons has been commenced, and should be finished early in the coming year. A windmill supply to the township of Waitchie will, later on, be installed.

An earthen storage of 7,100 cubic yards has been constructed near Pira Railway Station for the convenience of the travelling public.

WIMMERA-MALLEE WATER SUPPLY.

An abundant supply of water was available for the supply of this district but, on account of the heavy general silting of a majority of the channels by the dust storms of the 1914-15 drought, watering was unavoidably delayed and was not completed until late in last summer.

Very heavy expenditure had to be incurred in the cleaning out of the silted channels, and this work taxed resources to the utmost. The main channels of the system were all completed during the year, and, as a result, the watering of the whole district should be rapid during the coming season. The completion of this main channel scheme is an important development in the supply system of the whole area as by its means the most remote points are now connected with Lake Lonsdale, Fyans Lake, and the Wimmera River itself. In this way important districts that were previously dependent on intermittent supplies are assured of the use of the storages mentioned whenever necessity arises. As an example, the Donald Main Channel has been completed far enough to enable full connexions to be made with the Sea Lake system of channels, and the large area previously supplied from the Richardson (Avon) River can now be supplied when necessary from the large storages in the south.

Surveys of the extension of this Donald Main Channel to Wycheproof have been completed, and arrangements are being made for its immediate construction. This extension will materially advance the scheme for making surplus waters of the Wimmera, Richardson, Avon, and Avoca Rivers available for a supply by gravitation to Long Lake and Tyntynder districts.

WESTERN WIMMERA AND WIMMERA UNITED DISTRICTS.

In the Western Wimmera District operations were almost necessarily confined to cleaning out the channels silted up during the drought.

In the Wimmera United District the 6 miles of channel necessary to connect and supply the new Whitton swamp storage were completed during the year, and the storage is now full. This storage will afford an ample supply for the township of Warracknabeal and the district adjoining. Arrangements have been made for the Commission to carry out on behalf of the local Trust the new scheme of works recently designed by the Commission for the supply of the township. The estimated cost of this scheme is £8,500.

BIRCHIP, WYCHEPROOF, SEA LAKE, AND TYBRELL DISTRICTS.

Over 35 miles of channels were constructed during the year. These are mainly either connexions between the new Donald main channel and the existing Sea Lake system of channels or branches to serve the newly-settled areas in the Tyrrell district. Surveys of about 20 miles of branch channels, exclusive of a channel for the supply of the township of Ouyen, have been made. The construction of these channels will, if practicable, be commenced early in the coming year.

The survey of the channel, 38 miles in length, for the supply of Ouyen from the existing Tyrrell West channel, has been completed, and arrangements will be made to put in hand the work of construction. A reinforced concrete service basin, with a capacity of 250,000 gallons, has been completed at Ouyen, and the reticulation of the township will be proceeded with as soon as the construction of the Ouyen channel above referred to has been sufficiently advanced.

The construction of a large earthen storage at Speed, capacity 32,000 cubic yards, has been undertaken, and will be completed early next year. This should prove a very useful reserve for the surrounding district.

KARKAROO DISTRICT.

The existing Karkaroo district is now closely reticulated, and comparatively little further work in this direction will be needed.

Surveys have been completed of 6 miles of branch channels, the construction of which will, if practicable, be gone on with early in the coming year.

NORTHERN MALLEE WATER SUPPLY.

Although the rainfall for the year did not reach the average, the Northern Mallee areas had a good harvest, with plentiful supplies of fodder. No greater contrast than that exhibited by the successive seasons of 1914-15 and 1915-16 can be imagined. These improved conditions not only lessened the financial stress, but at the same time provided profitable employment on blocks for settlers, and in this respect it is gratifying to record that the holders in the newer-settled areas have not only maintained last year's record area under crop, but have materially added to it. During the year £5,510 have been expended on making of roads and on works of water supply, including £960 in the Walpeup East and Walpeup West Waterworks Districts and £2,696 in the Carwarup Waterworks District.

TANKS.

Two tanks were completed during the year, making the total number 125, with an aggregate storage capacity of 703,000 cubic yards.

BORES.

During the year two bores were put down in the known fresh-water bearing area in the Walpeup West Waterworks District. In the area classed as doubtful a bore was put down on the Wirrengren Plain, Pine Plains Run, to a depth of 508 feet.

After passing through several salt flows, water which rose to within 2 feet 6 inches of the surface was struck at 500 feet. The quality is poor, the mineral contents being 770 grains per gallon. This is just within the limit for use by grazing stock, but is too high for consumption by working stock or by human beings.

A bore is being sunk in the parish of Mamengoroock, where it was anticipated stock water would be obtained. Two artesian flows, rising to 8 feet above the surface, have been met with, but in each case the water was salt, containing as much as 4 ounces to the gallon. Considerable trouble is being experienced owing to the difficult formations encountered.

The total number of successful bores is now 81, all in the Walpeup West Waterworks District. These bores were put down in the first place to furnish a supply to settlers while engaged in the preliminary operations of clearing and cultivation, and until they were in a position to make provision for water supply on their holdings. The bores have met all requirements up to the present; but with increasing settlement and consequent heavier carrying of stock they are proving insufficient to meet the growing demands in that part of the district east of Cowangie, where the depth of boring and the necessary outlay are too great for the individual farmer. Attempts to provide supplies on the farms by excavated tanks have been unsatisfactory, both catchments and holding ground being poor. It appears probable, therefore, that an increase in the present number of public bores will be necessary to meet the full requirements of the district, with, of course, a corresponding increase in the annual rates now levied.

ROAD CLEARING.

There are over 3,000 miles of roads cleared and grubbed, 181 miles being the total completed for the year. Twenty-four sand hills in the most recently subdivided areas have been scooped or metalled. The metalling, composed of limestone rubble, amounts to two miles in length. A track, connecting Murrayville directly with Mildura, *via* Sunset, about 100 miles in length, has been marked, and three iron roofed sheds, with tanks, erected at intervals.

CARWARP WATERWORKS DISTRICT.

The scheme of reticulation of this district is practically complete. Altogether 79 miles of main and distributary channels and 8 public storage tanks have been constructed. Although the pumping plant was not complete until January, an effort was then made, in view of the great demand from settlers, to supply water, but the Commission found, as in other districts, that this is almost impracticable in mid-summer. Water was actually sent down as far as Yatpool tank, 28 miles by channel; but the strain upon the engine, caused by the exceptionally low state of the river, developed mechanical troubles, and pumping had to be discontinued. Pumping was again resumed in June, when the river just began to rise. Watering is progressing slowly, considerable trouble being experienced with what are known as "runaway" holes. It is found, however, that these gradually disappear.

NEW TERRITORY FOR SETTLEMENT.

A survey party has been engaged for some months taking levels of the country between the Mildura railway line and the South Australian boundary, with a view of ascertaining the possibilities of supplying water to an area of about 1,000,000 acres of exceptionally good mallee country.

GOULBURN HEADWORKS AND MAIN CHANNELS.

These works comprise the Goulburn Weir, the Goulburn-Waranga Channel, extending from the weir to Waranga Reservoir, a distance of 23½ miles; the Waranga Reservoir; the main channel extending westerly from the Waranga Reservoir to the Serpentine Creek, a distance of 92 miles; and the main eastern channel, which extends from the Goulburn Weir to the Shepparton district, a distance of 31½ miles. The total length of main channels is 147 miles, the total storage provided by the Reservoir and the Weir being 218,000 acre-feet. The irrigation districts supplied are Shepparton, Rodney, Deakin, Tongala, Rochester, Dingee, and Tragowel Plains, to which will be added the new Stanhope Closer Settlement Area.

The rainfall for the year 1915 having been rather above the average on the catchment of the Goulburn River the supply from the headworks was maintained without difficulty and some 70,000 acre-feet of water remained in the Waranga Reservoir at the end of the irrigation season.

A new measuring weir was formed in the Main Western Channel at about one mile below the Main Outlet ; and the regulator on the same channel near the fifty-six mile point has been converted into a measuring weir. At both of these automatic recorders have been provided. With the aid of these an improved regulation of supply to the Dingee and Tragowel Plains Districts will be secured.

WEIR—LITTLE MURRAY RIVER.

This was constructed during the drought period of 1914-15 by the conversion of the temporary dam (which was at that time placed in the Little Murray River) into a permanent work with concrete escape weir, as described in the Report for last year. It successfully withstood the heavy flows of the winter of 1915, but in December of that year the downstream apron of reinforced concrete was found to have been badly damaged. The necessary repairs were effected in the autumn of the current year, and, as far as can be judged, all work has since been standing well.

DRAINAGE AND FLOOD PROTECTION SCHEMES.

KOOWEERUP.—As the settlers generally had not agreed to the carrying out of the scheme for protective works for the whole swamp, a proposal was made by some of the settlers for the carrying out of a portion of the complete scheme, the object being the prevention of flooding in the south-eastern, or Yallock, portion. As the works proposed can be carried out independently and would provide efficient protection for the part named, the proposal has been favorably considered by the Commission, and, if the settlers agree to the financial obligation involved, the scheme will be recommended to the Government. The settlers, however, have been advised that it is believed it would be better if a complete instead of a part scheme were carried out.

CARDINIA.—The scheme prepared for the protection of the lands west of Kooweerup, flooded by the Cardinia-Toomuc and Deep Creeks, was submitted to the settlers at a public meeting, and was received with general approval. Suggestions were made for an extension to cover the lands affected by the Clyde Creek. Surveys have been made of this area, and a scheme is being prepared.

RIVER GAUGING.

As provided by section 32 of the *Water Act* 1915, the work of gauging and recording the flows of the principal rivers and streams of the State has been continued. The returns of volumes stored in reservoirs have been made available for weekly publication by the press. The field observations and office work are being kept up to date, and in due course the results of all gaugings since the last publication in 1912 will be made available in book form.

DIVERSION OF WATER.

In the exercise of the right of the State to the use and flow and to the control of water in rivers, creeks, streams, or water courses, lakes, lagoons, swamps, or marshes, sanction to divert has been given in a large number of cases, 149 new permits having been issued during the year, in addition to renewals of those granted in former years.

The year having been one of normal rainfall conditions, the number of yearly permits was, as might be expected, less than that of the drought year preceding it. As compared with years before the drought there is, however, a well-marked tendency to increase.

The number of authorized diversions in force is now—

Yearly permits	...	...	...	...	865
Flood permits	...	...	...	...	14
Licences	...	...	...	...	20
					<hr/>
					899
					<hr/>

NEW STORAGES.

MELTON RESERVOIR.

The new reservoir, formed by an embankment of earth and rock with diaphragm of reinforced concrete, in the Werribee River 3 miles below Melton Railway Station, is at the point of completion. The embankment is about 100 feet high. It impounds 17,000 acre feet of water which extends over 10 miles upstream from the dam, with an average width of 8 chains. The reservoir is already filled, and as it has the valleys of both the Werribee and Lerderberg Rivers for its catchment, it is practically certain that it will fill every year and provide an assured and easily regulated supply for the Werribee Irrigation District.

SUGARLOAF RESERVOIR.

This work is situated on the Goulburn River about 18 miles above Alexandra. The first stage of the work which is now under construction will in itself have a capacity of between 240,000 and 300,000 acre feet. It will also permit of a greater direct diversion from the river to the extent of at least an additional 80,000 acre feet. The whole of the Goulburn Irrigation Areas will be commanded by this storage.

On an average 200 men were employed on this work throughout the year. The portions of the work that have received most attention are the concrete diaphragm below the surface of the ground, and the outlet works; but, in addition, 30,000 cubic yards of rock from the spillway, and 10,000 cubic yards of clayey material have been placed in position. The plant now in operation on the ground comprises air compressors, stone crusher, steam winches, cranes, and concrete mixers.

All the field work of the permanent survey to determine the capacity of the basin and the lands to be resumed is now complete.

WARANGA RESERVOIR ENLARGEMENT.

The work of increasing the capacity of the Waranga Reservoir from 197,000 acre feet to 330,000 acre feet has proceeded steadily throughout the year. Some 600,000 cubic yards of formation have been carried out by contract, a considerable portion of the remodelling of the clay core wall has been done by direct labour, the necessary additions to the northern outlet works are well advanced, and surveys have also been made for the deviations of railway and roads that will be submerged. Recent progress has, however, been retarded by an exceptionally wet winter.

UPPER COLIBAN RESERVOIR.

As explained in last year's report, the increase in capacity of the Upper Coliban Reservoir by 2,000 million gallons was undertaken early in 1915 to guard against repetition of the serious shortage experienced throughout the Coliban district during the drought of 1914-15. The additional earthwork on the embankment is now approaching completion, and the concrete work of the new wall to raise the height of the waste weir by 11 feet is so far advanced that no difficulty is anticipated in having everything finished in time for the rains of next winter.

TUNNEL TO AUGMENT SUPPLY TO PYKE'S CREEK RESERVOIR.

Experience during the last three years has shown that Pyke's Creek Reservoir, which is the main source of supply for the Bacchus Marsh district, may not fill in years when the rainfall in the district is below the average. As these are the times when water would have exceptionally high value, it has been decided, with a view of augmenting the supply, to drive a tunnel 70 chains long through the ridge separating the reservoir basin from the Werribee River. By this means the flow of that river, as well as Pyke's Creek, can be utilized for the filling of the reservoir.

At the date of the compilation of this Report, however, it is gratifying to note that the urgency of this work has been removed by the complete filling of Pyke's Creek Reservoir.

WIMMERA STORAGES.

The new storage at Black Swamp, now known as Fyans Lake, is practically completed and is being filled. Its capacity of 17,200 acre-feet can all be used as an adjunct to the supply from Lake Lonsdale Storage for the service of the Wimmera-Mallee Districts.

Operations at the proposed storage in Taylor's Lake, near Horsham, are also well advanced, the main banking being carried well on towards completion. This storage will, when finished, hold at least 30,000 acre-feet, and will, with the supply

provided by Fyans Lake, increase the total available storage for the Wimmera-Mallee system from 45,480 to some 92,000 acre-feet. In addition to this, as previously pointed out, the construction of the works to supply Taylor's Lake will enable the valuable depressions lying immediately to the west of Taylor's Lake, known as Pine Lake, Green Lake, and Duck Lake, to be brought into use at a comparatively small cost, and by means of these subsidiary storages probably a supply of at least a further 30,000 acre-feet could be made available.

The smaller but important storages at Batyo Catyo Swamp, near Donald, and Whitton's Swamp, near Warracknabeal, are now completed and filled. Their combined capacity is about 6,000 acre-feet.

STORAGE DIAGRAM.

The diagram which appeared in last year's Report showing the rate at which storages for water in Victoria are being provided by the Government, has, with the necessary alterations, been reproduced in this Report. The diagram shows that while in 1902 the storage capacity was only 172,000 acre-feet, it is now in 1916 548,000 acre-feet (including several natural basins more or less improved, not included in last year's total), and will, when the works in hand are completed, be 960,000 acre-feet.

MURRAY RIVER WATERS.

The Acts to ratify the Agreement between the Prime Minister of the Commonwealth and the Premiers of the States of New South Wales, Victoria, and South Australia have been passed by each of the Parliaments concerned and will come into force, as provided by the Acts, on dates to be fixed by proclamation. The Agreement provides that on its ratification a Commission to be called "The River Murray Commission" shall be appointed, and that such Commission shall consist of four members, of whom one shall be appointed by the Governor-General of the Commonwealth, and one by each of the Governors of the interested States. The Agreement further provides that the Governments of the three States shall each as soon as practicable cause to be prepared and submitted to the "River Murray Commission" for its approval a general scheme of the Works to be constructed by them respectively under the Agreement.

Under a provisional arrangement between New South Wales and Victoria the testing of sites for the storage of the Upper Murray proposed in the Agreement has been proceeded with. In all some fourteen sites have now been tested. At most of these the depth to a suitable foundation is so great that they may be discarded as impracticable. Those that seem most favorable as regards foundations are one near Jingellie Bridge and one immediately below the Junction of the Mitta River and the Murray. In respect to the former, a survey is now in progress to determine the extent of land that would be submerged by a reservoir of the desired capacity. Further tests are proposed between the Mitta Junction site above mentioned and Cumberoona for the purpose of ascertaining if a site is obtainable that would not involve submergence of the valley of the Lower Mitta.

The diagram which appeared in last year's Report illustrative of the volume of flow of the Murray River at Mikhura since 1865 has been re-published in this Report with last year's flow added.

GOULBURN RIVER FLOOD PROTECTION.

In August, 1915, a moderate flood occurred in the Goulburn River, and some breaching of levees in the parishes of Udera and Kotupna resulted. The damage to crops was comparatively slight.

Cause for reconsideration of the whole situation has, however, been furnished by the occurrence at the end of last month (September, 1916) of a flood of such magnitude that all previous records—including the historic one of 1870—have been eclipsed. Particulars of the effects of this flood cannot yet be detailed, because much of the country is still under water; but generally it may be stated that the waters spread over the land much as they would have done under the natural conditions that existed before the construction of the levee banks.

The whole question of the possibility of protecting the areas liable to flooding from this river must be reconsidered as soon as full details of this last abnormal flood are obtained.

INVESTIGATIONS OF PROPOSALS FOR NEW SCHEMES.

BOISDALE ESTATE.

The scheme prepared last year for the irrigation of some 2,000 acres of land recently settled under the Closer Settlement Act at Boisdale has been submitted to the settlers for consideration. The present understanding between the settlers, the Closer Settlement Board and the Commission is that no further action shall be taken until representatives of the settlers have had an opportunity during the coming season of observing the practice of irrigation at Bacchus Marsh, where the conditions are similar to those at Boisdale.

KILMANY PARK ESTATE.

A scheme has also been prepared for irrigation of some 2,000 acres of the richer portion of the Kilmany Estate by pumping from the Latrobe River. As in the case of Boisdale, action is suspended pending investigation and observations by the settlers' own representatives during the coming season. Moreover, in this case the Commission feels that the scheme would not be financially sound unless some considerable portion of its first cost were contributed, free of interest and other charges, by the Closer Settlement Board, which has control of the Estate. The Board and the Commission have this aspect of the Kilmany problem under consideration.

EPPALOCK SCHEME.

The natural flow of the Campaspe River was fairly ample for existing requirements throughout the year, and no strong representations were made in favour of the Eppalock Scheme by the landowners interested therein. Investigations have been proceeded with, and the area that could be commanded at least cost can now be defined, while estimates of probable cost of water can also be submitted when required.

KERANG NORTH-WEST LAKES.

A proposal for raising the surface level of Lake Charm, Racecourse Lake, and Kangaroo Lake by four feet was fully investigated, but, as the prospect of obtaining sufficient revenue to defray the considerable expense that would have been involved is not yet assured, operations have in the meantime been confined to raising the level by one foot only. The larger scheme can, however, be considered as soon as the financial arrangements would warrant its being undertaken.

BOGA IRRIGATION AND WATER SUPPLY SCHEME.

The scheme for the irrigation of about 10,000 acres extending north-west from the channel that now supplies Lake Boga to Swan Hill, and including the portion of Pental Island between these places, has been submitted for consideration of the landholders interested, but, so far, no intimation as to their views has been received. Irrespective of the question of forming a district embracing the above area, the Commission is of opinion that early construction of the main channel from the Little Murray Weir to the Swan Hill district, as set out in the scheme, is warranted, as it would enable the period of gravitation supply to Swan Hill to be greatly prolonged, and the Commission is therefore preparing to commence that work.

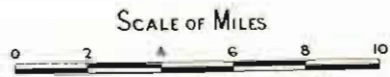
MARIBYRNONG RIVER SCHEME.

The investigation of the proposal for storage on the Deep Creek at Konagarderr—about 18 miles from Melbourne—has shown that in respect to suitability of foundations and capacity a very favorable site for storage exists; but so far it has not been found practicable to formulate a scheme for distribution of the water that could be stored with reasonable prospect of a satisfactory financial return. The matter is, however, still the subject of investigation and of conference between representatives of the local municipalities and the Commission.

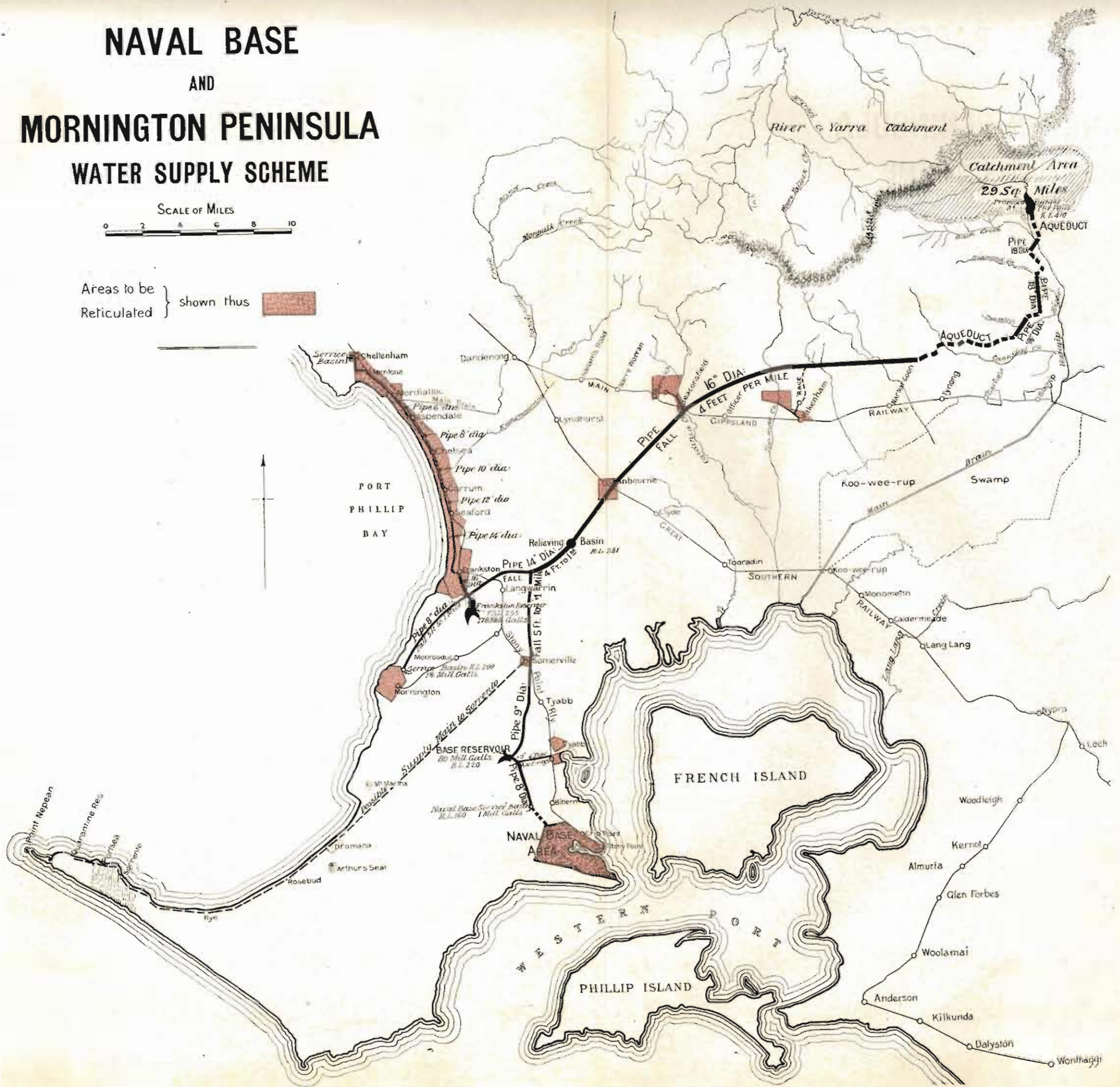
NAVAL BASE AND MORNINGTON PENINSULA WATER SUPPLY SCHEME.

At the request of the Federal Authorities the Commission, with the concurrence of the Government, prepared a scheme for the supply of water to the Naval Base now being established on Mornington Peninsula, near Crib Point, Western Port. It was found the most effective and economical scheme would be one which, while providing

NAVAL BASE AND MORNINGTON PENINSULA WATER SUPPLY SCHEME



Areas to be Reticulated } shown thus



for the Naval Base, would also provide a number of popular seaside resorts and other townships on the Peninsula with a supply of water that had long been asked for, and the scheme prepared embraces both these important services. On account of the nature of this work and the wide National and State interests involved therein, the Commission made a close and careful investigation into the matter. It was found that the only really satisfactory source of supply was from the head-waters of the Bunyip River where a practically virgin catchment of ample size with good rainfall was available. Under the proposal the head-waters of the Bunyip River will be tapped at a point near "The Falls" at an elevation of about 410 R.L., and water will be conveyed by open cement lined races and piping of suitable sizes to a main local reservoir near Frankston, and to a further local reservoir about $2\frac{1}{2}$ miles north of the Naval Base area. The Frankston reservoir will have a capacity of about 180 million gallons, and will supply the important seaside towns of Mornington, Frankston, Seaford, Carrum, Chelsea, and Aspendale, while the Base reservoir, which will hold about 80 million gallons, will supply the Naval Base and the towns of Hastings, Tyabb, and Crib Point. The rising country towns of Berwick, Beaconsfield, Pakenham, Cranbourne, and Somerville will be served almost directly from the main supply pipe lines. The scheme as at present outlined is intended to meet the full demands of at least 45,000 people—15,000 permanent residents and 30,000 temporary—and it is also laid down on lines which readily allow of large extensions.

On account of favorable natural surroundings, the scope of the scheme can, without material alteration, be extended so as to give full reticulated supplies to Mordialloc and Mentone upon favorable terms, and it is expected* that these important towns, whose natural expansion is now very much retarded owing to the want of such a supply, will eventually join in the scheme. It is also quite feasible to extend the benefits of the scheme to all the bayside towns lying between Dromana and Sorrento and Portsea. Provision for such extension has been made when drawing up the main lines of the scheme.

The estimated cost of the initial scheme is £156,000, and the proposed rating will range in the townships from 1s. 6d. to 2s. 6d. in the £1. In order to distribute the benefits of the scheme as widely as possible, excess water will at all points be sold at the same rate as that of the Melbourne supply, viz., 1s. per 1,000 gallons. Supply will be given to the Naval Base at this rate subject to a minimum payment of £4,000 per annum for the first three years, £3,500 per annum for the succeeding three years, and thereafter £3,000 per annum.

In designing the open race provision will be made, at a low extra cost, to meet a certain and probably steadily-growing demand for irrigated supplies to orchards along the route of the race on lines similar to those used for the supply of Harcourt orchards from Coliban races. As there will be an ample supply of water, it is believed much benefit will eventually arise from its use in this respect.

The scheme, a general outline of which is shown on the map inserted in this Report, has been approved by the Federal authorities and by practically all the other authorities interested. It is proposed to commence the work forthwith.

WORKS CONTROLLED BY OTHER AUTHORITIES.

During the year, a number of works was, with the approval of the Commission, carried out by Waterworks Trusts and other Authorities.

Newly installed services were given at Winchelsea and Yackandandah; a pipe supply by gravitation from the Tarra River to Yarram was substituted for a low pressure pump delivery service; and a further storage was built at Bright. Pipe extensions, or other additions, were made by the local Authorities at Alexandra, Ararat, Dandenong, Donald, Dunolly, Echuca, Euroa, Healesville, Kerang, Kilmore, Korumburra, Kyneton, Leongatha, Lorne, Murchison, Murtoa, Nhill, Pyramid Hill, Rochester, Seymour, Stawell, Swan Hill, Tungamah Shire, Warrnambool, Wedderburn, and Yarrawonga.

Over 1,000 million gallons of water were impounded by the new reservoir constructed on the Moorabool River by the Ballarat Water Commissioners; there is now a fine reserve of 800 million gallons available for use in droughts.

Proposals for improvement of the supplies at Beechworth, Benalla, Boort, Bright, Clunes, Colac, Maryborough, Omeo, and Sunbury, together with new schemes for Apollo Bay, Marysville, Rosedale, and Toora are in course of examination.

GENERAL.

DROUGHT AND FLOOD.

In 1914 the rainfall was so deficient (being at many river controlling centres as much as 10 to 16 inches below the average annual fall) that Victoria, particularly in the Northern areas, was visited by a drought of the severest and most devastating nature. Now, in 1916, at the time of compilation of this Report, there is just passing a flood which it is believed will in many parts far exceed the records of the historic flood of 1870.

In last year's Report there was set out a list of some fourteen well known centres where, in 1914, the rainfall was deficient when compared with the average annual rainfall by from 6 to 16 inches; in less than two years later the whole position is reversed, and not only is the average annual rainfall exceeded by many inches, but the fall in the one month of September of this year exceeds in many localities an average September fall by some 4 to 10 inches. While, of course, these fluctuations must be provided for, it is undoubted that they add very materially to the difficulty of control and present problems which need their own special treatment.

Following on the abnormally high September rainfall referred to, the Goulburn, Campaspe, Broken and Loddon Rivers in the Northern watershed, with their contributing creeks, reached flood levels that were previously almost unknown, the Goulburn for instance being ganged as high as 36 feet at Shepparton, or over 2 feet above the flood level of 1870, and these flood conditions were later transferred to the Murray, which itself reached a very high flood level and is now only slowly falling. On the Southern watershed, especially in the Central area, similar floodings took place, the flow in the Werribee River reaching a tremendous volume, probably exceeding at its maximum 25,000 cubic feet per second.

In view of the extent and widespread effect of the flooding the Commission arranged that its various works should be specially watched during the critical periods, which extended over several days. So far as can be ascertained no serious damage has, notwithstanding the most crucial tests, occurred to any of the principal works. As was, however, to be expected, the height of the flood was such that the levees along the Goulburn River were both overtopped and breached. In view of the new records that this flood now supplies, it will be a matter of most serious consideration as to what scheme, if any, can or should be introduced to control flooding from the Goulburn.

An extensive overflow took place at the lower end of the Loddon, but this periodically occurs when the waters of that river, augmented by the abnormally high flows of the Pyramid and Barr Creeks, are impeded by the flooded state of the Murray; although much ground was covered the loss in stock was fortunately light. The overflow from the Murray itself has so far not seriously injured any of the irrigation settlements, but, as might have been anticipated with such abnormal conditions, Pental Island, at the junction of the Murray and Little Murray, suffered considerably.

In the various districts affected special precautions were taken to either prevent the spread of flood waters or to at least minimize their injurious effect, and it was most gratifying to find that as usual the residents themselves took a very active part in this work, in many cases initiating operations and in all cases co-operating with the Commission and its officers in their efforts. The flood was so severe in the Goulburn River area that the Government, at the suggestion of the Commission, forwarded by special train boats for rescue work, and in this respect, Mr. George Kermodé, Engineer for Ports and Harbors, who assembled the boats and personally took charge of these operations, rendered most valuable assistance.

PROGRESS OF CLOSER SETTLEMENT.

War conditions have undoubtedly had a retarding influence on applications for closer settlement blocks in the irrigation districts. Notwithstanding this there has been a fair demand, particularly for the small fruit areas in Burton's Estate, Swan Hill, and for a number of the blocks made available in the Stanhope Estate.

The districts already settled are showing marked improvement. For instance, in the Cohuna District, with some 92 settlers, it has been found from a recent census that there are over 2,500 cows, including dry and young stock, while in the same area there are fully 1,000 pigs, in addition, of course, to large numbers of sheep and horses.

In Shepparton, where the settlers have developed more on fruit producing lines, out of an area of 9,200 acres there are fully 2,300 acres devoted to orchards. At Merbein and Nyah large returns were last year obtained by very many of the settlers, while in other districts considerable improvement and increase have been shown in both cultivation and the number of live stock.

In the Irrigation Closer Settlement Districts as a whole there are now 79,000 acres settled; of this fully 20,000 acres are under lucerne, 18,000 acres under other crops, with over 4,000 acres under fruit. In view of the fact that the earliest established district is only some six years old, while some districts are just being opened up, this result must be considered very encouraging.

The subjoined table shows the areas already subdivided, the families residing on such lands when purchased, and the number now occupying blocks under the State's Closer Settlement Scheme. As pointed out in a previous report, there are now twelve times as many families on these areas as there were prior to their purchase and subdivision by the State.

CLOSER SETTLEMENT IN IRRIGATION DISTRICTS.

Settlement.	Lands purchased by the State.		Unsubdivided. Area.	Subdivided.		No. of families on subdivided areas when purchased.	No. of Closer Settlement Blocks occupied and families thereon.
	No. of Properties.	Area		Total Area.	No. of Blocks.		
Shepparton	21	9,244	157	9,087	249	19	245
Kyabram	7	3,049	2,058	991	31	3	25
Tongala	31	15,228	..	15,228	247	30	196
Bamawm	28	13,364	..	13,364	172	21	152
Nanneella	16	8,565	..	8,565	110	6	92
Koyuga and Cornelia Creek	1	6,680	..	6,680	76	..	62
Cohuna	27	11,531	..	11,531	133	8	92
Swan Hill	19	6,878	..	6,878	138	10	100
Werribee	1	7,996	1,265	6,731	145	6	98
Koondrook	5	3,423	..	3,423	38	3	23
Echuca	6	3,234	322	2,912	25	4	25
Dingee	3	471	..	471	17	1	15
Stanhope	6	20,889	12,877	8,012	157	7	31
Nyah } Merbein }	1	3,000	..	3,000	137	..	117
	..	6,000	..	6,000	206	..	204
Totals	172	119,552	16,679	102,873	1,881	118	1,477

LANDS AVAILABLE FOR CLOSER SETTLEMENT IN IRRIGATION DISTRICTS.

The lands made available during the year were :—McDonald's Estate (Stanhope) which provided 84 allotments, totalling 2,476 acres; the remainder of Lauderdale Estate (Stanhope) 1,673 acres, subdivided into 54 blocks; and Watson's (Myall) Estate, in the Koondrook District, which comprises 8 allotments, totalling 1,043 acres, making a grand total (including two homestead areas at Stanhope sold by public competition) of 5,500 acres in 148 holdings. The total area now subdivided is 102,873 acres, which, after making the necessary deductions for roads, channels and township reserves, has been made available to settlers in 1881 blocks, of an aggregate area of 98,000 acres—an average of 52 acres per block. Of this, as previously stated, 79,000 acres have been settled.

There are now available 360 allotments, in sizes varying from 2 to 100 acres each, which, with a small estate known as Dudley's, adjoining the town of Shepparton—about to be thrown open in 20 blocks—will bring the total available to 380 allotments, of a total area of about 19,000 acres.

In addition, there is, in reserve, an area of 16,679 acres, mainly at Stanhope, which will be subdivided and made available as required.

AREA UNDER IRRIGATED CULTURE.

Although the copious rains which followed the breakup of the drought ensured an abundance of green feed, and obviated the necessity for the artificial watering of early crops, and notwithstanding the fact also that the serious shortage of live-stock, caused by the drought, made it unnecessary in many cases to sow the usual summer fodder crops, there was still a good demand for irrigation water, and a total area of 288,000 acres was under irrigated culture during the season 1915-16. The area under what might be termed casual irrigation was naturally less than in the previous year, but it is satisfactory to note that the total area irrigated was some 33,000 acres more than the average of the last preceding five years.

NEW LEGISLATION.

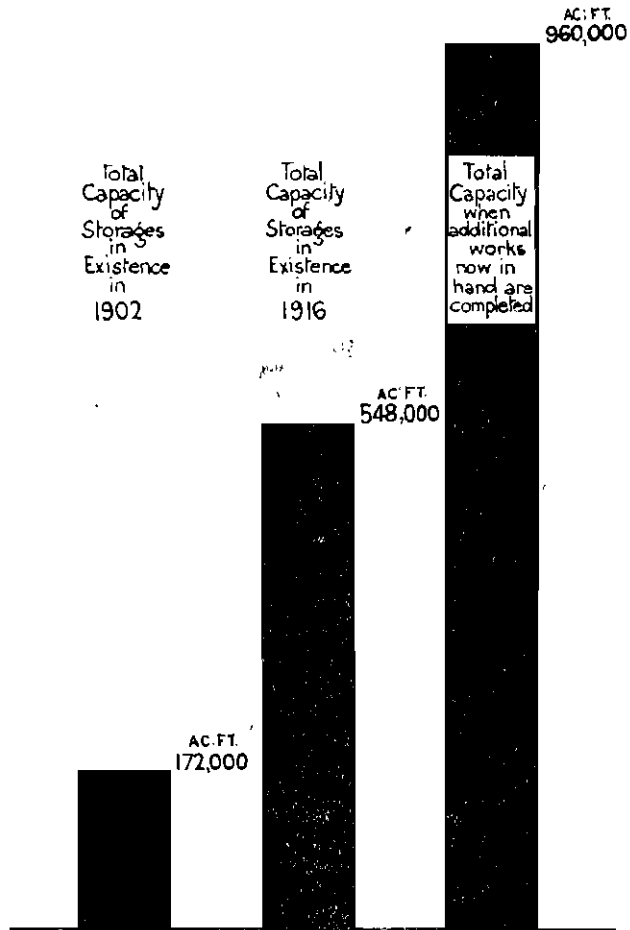
The Commission has prepared a short Bill to provide for certain alterations of and additions to, the *Water Act* 1915, which the Commission believes would lead to more effective administration of the State's water policy. The proposed measure is a short one, consisting of only some fifteen clauses.

The main provision is one whereby rates for the supply of water for domestic and stock purposes can be levied on the "unimproved" capital value of land instead of the net annual "improved" value as at present; it is believed that the introduction of this system will tend to remove a number of inequalities that at present are unavoidable under the existing law.

Another provision is one requiring landowners subdividing land in irrigation districts to first obtain the approval of the Commission so that the subdivisions will not be carried out in a haphazard way and without consideration as to whether water can be supplied. Clauses have also been drawn up to give Authorities power to fix minimum charges for houses and lands supplied with water in urban districts, and also for large holdings supplied with water in rural districts.

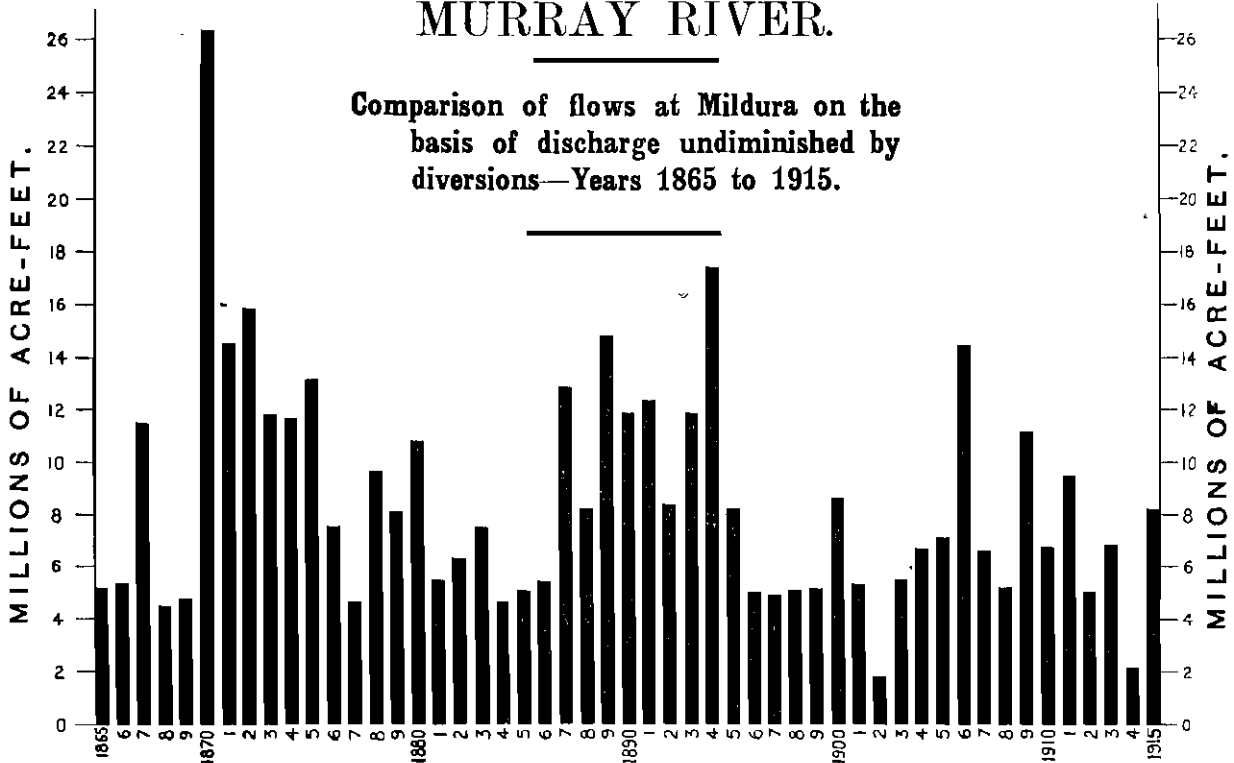
Other clauses provide for, regulating the fallowing of land near water channels, increasing water rights to new orchards and lands under intensive cultivation, purchasing and selling of electricity where a plant could in this respect be jointly serviceable to more than one Authority, making clear the Commission's responsibility in regard to flooding, delimiting the extent of free headworks, conducting elections of Commissioners of Waterworks Trusts, and generally improving the machinery sections of the Principal Act. The Bill has already been introduced into Parliament and should be dealt with at an early date.

STORAGE DIAGRAM.



MURRAY RIVER.

Comparison of flows at Mildura on the basis of discharge undiminished by diversions—Years 1865 to 1915.



ADMINISTRATION.

EXTENSIONS AND EXCISIONS.

The Rochester Irrigation District has been extended, by the inclusion of some 10,000 acres, at Tennyson, for which irrigation channels had previously been constructed, while the Swan Hill Irrigation District had added to it 4,000 acres, which includes the area of 1,350 acres known as Burton's Closer Settlement Estate.

Minor extensions were also made to the Koondrook, Rodney, and Dingee Irrigation Districts, involving corresponding excisions from the Gannawarra and Deakin Irrigation Districts, and the Waterworks District of the Loddon United Waterworks Trust.

With a view to more efficient administration of the Wimmera-Mallee Waterworks Districts, the boundaries of these Districts have been re-adjusted. This necessitated the excision of an area of 64 square miles from the Waterworks District of the Shire of Donald Waterworks Trust, 6 square miles from that of the Kerang Shire Waterworks Trust, and, from the Long Lake, Sea Lake, Tyntynder and Tyrrell Waterworks Districts, 6 square miles, 158 square miles, 2 square miles, and 76 square miles respectively. The Waterworks Districts consequently extended, and the areas added to them, were:—Birchip, 8 square miles; Long Lake, 79 square miles; Tyntynder, 163 square miles; Wimmera United, 28 square miles; and Wycheproof, 56 square miles.

The Karkaroc and Tyntynder Districts were further extended by the addition of 68 square miles and 110 square miles respectively of lands not previously within any Waterworks District; and a small portion of the Wimmera United Waterworks District, now supplied by the Warracknabeal Urban Waterworks Trust, was excised from the Wimmera United District and added to the District of the Trust.

The Kerang North-West Lakes Waterworks District was also extended by the addition of about 3,500 acres previously within the Waterworks District of the Kerang Shire-Waterworks Trust.

PROCLAMATION OF URBAN DISTRICT.

The Township of Lascelles, having been provided with a pipe supply, was proclaimed an Urban District and was rated during the year.

NEW DISTRICT.

The scheme of works for the domestic and stock supply of the proposed Carwarp Waterworks District having been practically completed, arrangements will shortly be made to have the District constituted.

NEW APPOINTMENTS AND TRANSFERS.

Mr. J. M. Southern, hitherto District Engineer at Murtoa, was appointed District Engineer at Rochester Centre in place of Mr. G. C. Kreutzer, who resigned to take up a position in the United States of America.

Mr. R. F. McNab, Resident Engineer at Hopetoun, was appointed District Engineer at Murtoa in place of Mr. Southern, arrangements having been made to enable Mr. McNab to take up the added duties.

Mr. G. Laing, previously Engineer in Charge of River Diversions, has been relieved of that position and is now engaged solely on duties in connexion with Irrigated Closer Settlement, and Mr. O. J. Collis, who was previously engaged on construction work, has taken up the control of River Diversions.

As stated in the Annual Report for 1914-15, vacancies caused by officers enlisting have been filled as far as practicable without resort to fresh appointments. It was necessary, however, to make one fresh appointment to fill the vacancy in the position of District Secretary at Wontlaggi, where, owing to the enlistment of Mr. G. D. Murray, the Commission has appointed Mr. H. J. Evans.

FIRE INSURANCE.

The Commission has continued its policy, initiated in July, 1909, of carrying the fire risks on its own buildings. The premiums thus saved now amount to £1,480. No losses have occurred since the date named.

RECEIPTS, DISBURSEMENTS, AND ESTIMATES.

The total receipts of the Commission for the past year were £230,253, which is the highest amount yet collected in any year by the Commission. It represents an increase of no less than £58,216 over the previous year, and although it includes the collection of a substantial amount of arrears carried over from the drought period the result must be considered highly satisfactory.

The Coliban District shows an increase in receipts of £762 as compared with the preceding year, while the net disbursements were £1,948 less. The deficit for last year of £22,790, though £1,903 less than for the previous year can, as already pointed out, be only overtaken slowly as the amount of rating is specially limited by the Water Act.

The receipts from the Irrigation and Water Supply Districts show the gratifying increase of £26,548 over those of 1914-15. After debiting them with their full proportion of the cost of the Supply Works chargeable, the aggregate revenue deficit of all the Irrigation and Water Supply Districts, which up to the previous year had accumulated to £120,520, is now £124,694, an increase of only £4,174 for the past year. This represents the smallest loss sustained on account of these districts in any year since the Commission assumed control.

The Commission has, exclusive of the Coliban District, the direct control of thirty-seven waterworks districts, and while in these the loss for 1914-15 was £25,461, for last year it was only £6,533. The increase in the aggregate revenue deficit which now stands in these districts at £43,488 has been mainly due to the effects of the drought which necessitated a heavy additional expenditure during the last two years in removing sand drift from channels. The Commission has already arranged for a reasonable increase in the rating of the districts affected so as to recoup such expenditure, and as a result it is anticipated that the financial position of the districts will be restored to the satisfactory state of two years ago.

The net disbursements for the past year from annual votes were £121,415, which shows the saving of £9,093 as compared with the disbursements for the previous year. The expenditure of loan moneys amounted to £305,484, details of which are set out in this Report.

The Estimates for 1916-17 show a decrease in disbursements of £3,400 as compared with the Estimates for 1915-16, while the estimated receipts show, notwithstanding the high estimate for last year, an increase for 1916-17 of £2,000.

The loan liability of the State for Works of Water Supply at the close of the year was £8,741,123. Of this total £1,235,206 is for Free Headworks; £1,263,228 has been written off; £147,046 was advanced to some early-formed local Authorities; £119,018 has not been expended, and £246,493 has been paid off by Authorities. The balance, £5,730,132, is the sum in respect of which those benefited by the various works are liable for payment of interest.

The present interest charges on loans amount to £298,438. Of this amount £97,117 is not chargeable to any districts, being debitable against Free Headworks, Amounts Written Off, and Unexpended Balances, leaving £201,321 as debitable against the Commission and other Authorities. The amount available last year from the Revenues of the Commission and other Authorities to meet such interest was, as set out in the statement on page 38 of this Report, £167,775 as against £91,208 for the previous year.

IRRIGATION AND WATER SUPPLY DISTRICTS.

STATEMENT of Moneys received and disbursed from 1st May, 1906, to 30th June, 1916; and of Interest, charged at the rate of 4 per cent. on Capital Debts; and also of Depreciation and Redemption charged, as at 30th June, 1916. (Free Head-works excluded.)

RECEIPTS.

District.	1st May, 1906, to 30th June, 1915.	1915-16.					Grand Total at 30th June, 1916.
		Rates.	Compulsory Irrigation Charge.	Water Sales.	Interest, Miscellaneous.	Total.	
	£	£	£	£	£	£	£
1. Bacchus Marsh	15,512	543	2,028	399	33	3,003	18,515
2. Boort	18,167	1,600	..	785	38	2,423	20,590
3. Campaspe	5,485	626	..	63	1	690	6,175
4. Cohuna	48,673	1,775	4,947	1,032	175	7,929	56,602
5. Deakin	26,790	4,532	..	1,743	85	6,360	33,150
6. Dingee	907	152	976	66	13	1,207	2,114
7. Dry Lake	289	..	..	..	29	29	318
8. Gannawarra	33,708	1,240	4,379	812	162	6,593	40,301
9. Kerang	35,728	2,125	..	2,879	18	5,022	40,750
10. Koondrook	30,552	1,116	3,242	665	58	5,081	35,633
11. Merbein	23,660	178	11,339	172	519	12,208	35,868
12. Nyah	8,653	71	2,389	34	84	2,578	11,231
13. Rochester	20,542	1,692	5,815	794	233	8,534	29,076
14. Rodney	132,117	7,039	11,931	3,938	293	23,201	155,318
15. Shepparton	8,132	694	4,463	428	38	5,623	13,755
16. Swan Hill	25,590	873	2,687	1,022	101	4,683	30,273
17. Tongala	8,442	598	3,384	536	45	4,563	13,005
18. Tragowel Plains	48,805	1,813	7,419	964	129	10,325	59,130
	491,752	26,667	64,999	16,332	2,054	110,052	601,804

DISBURSEMENTS, AND INTEREST DEPRECIATION AND REDEMPTION CHARGED.

District.	DISBURSEMENTS.					INTEREST CHARGED.			(A) DEPRECIATION. (B) REDEMPTION.	Grand Total at 30th June, 1916.	
	1st May, 1906, to 30th June, 1915.	1915-16.				Total at 30th June, 1916.	1st May, 1906, to 30th June, 1915.	1st July, 1915, to 30th June, 1916.			Total at 30th June, 1916.
		Repairs and Maintenance.	Distribution of Water.	Management.	Total.						
	£	£	£	£	£	£	£	£	£		
1. Bacchus Marsh	3,705	274	343	115	732	4,437	12,098	3,406	15,504	..	19,941
2. Boort	11,151	682	622	132	1,436	12,587	6,906	767	7,673	..	20,260
3. Campaspe	3,211	94	178	82	354	3,565	3,522	415	3,937	..	7,502
4. Cohuna	37,950	1,055	3,695	457	5,207	43,157	19,131	2,885	22,016	(A)5,614	70,787
5. Deakin	13,525	934	974	279	2,187	15,712	19,771	3,221	22,992	..	38,704
6. Dingee	458	216	295	61	572	1,030	1,581	1,110	2,691	..	3,721
7. Dry Lake	1	..	..	..	..	1	288	29	317	..	318
8. Gannawarra	22,690	834	2,378	366	3,578	26,268	13,099	1,926	15,025	(A)2,830	44,123
9. Kerang	20,563	899	865	359	2,123	22,686	15,445	1,920	17,365	{(A) 75 {(B) 500	40,626
10. Koondrook	21,137	535	1,480	365	2,380	23,517	17,089	2,939	20,028	(A)2,626	46,171
11. Merbein	21,189	68	5,337	520	5,925	27,114	8,748	2,814	11,562	(A)4,316	42,992
12. Nyah	8,994	250	1,484	198	1,932	10,926	3,929	929	4,858	(A)2,002	17,786
13. Rochester	16,202	1,150	2,875	585	4,610	20,812	25,726	7,528	33,254	..	54,066
14. Rodney	62,678	2,671	4,268	870	7,809	70,487	80,497	13,082	93,579	..	164,066
15. Shepparton	6,971	1,353	672	355	2,380	9,351	9,751	4,184	13,935	..	23,286
16. Swan Hill	21,456	797	2,523	348	3,668	25,124	7,307	1,353	8,660	(A)2,768	36,552
17. Tongala	9,160	1,048	1,087	289	2,424	11,584	13,838	5,100	18,938	..	30,522
18. Tragowel Plains	27,362	1,230	2,005	255	3,490	30,852	27,784	6,439	34,223	..	65,075
	308,403	14,090	31,081	5,636	50,807	359,210	286,510	60,047	346,557	20,731	726,498

WATERWORKS DISTRICTS.

RURAL DISTRICTS.

STATEMENT of Moneys received and disbursed from 1st July, 1906, to 30th June, 1916; and of Interest charged, at the rate of 4 per cent. on Capital Debts; and also of Depreciation and Redemption charged, as at 30th June, 1916. (Free Head-works excluded.)

RECEIPTS.

District.	1st May, 1906, to 30th June, 1915.	1915-16.				Grand Total at 30th June, 1916.
		Rate.	Water Sales.	Interest and Miscellaneous.	Total.	
	£	£	£	£	£	£
1. Birchip	64,975	3,310	50	95	3,455	81,112
2. Sea Lake		5,481	129	134	5,744	
3. Tyrrell		2,863	..	89	2,952	
4. Wycheproof	23,258	3,848	79	50	3,986	29,341
5. Karkarooe		5,907	..	176	6,083	
6. Kerang North-west Lakes	41	10	..	10	51	51
7. Long Lake	32,812	6,921	58	294	7,273	40,085
8. Tyntynder	5,595	2,868	94	100	3,062	8,657
9. Walpeup East	240	692	..	29	721	961
10. Walpeup West	301	1,181	..	61	1,242	1,543
11. Western Wimmera	64,492	9,421	1,257	114	10,792	75,284
12. Wimmera United	77,996	13,184	74	235	13,493	91,489
	269,710	55,686	1,741	1,386	58,813	328,523

DISBURSEMENTS, AND INTEREST DEPRECIATION AND REDEMPTION CHARGED.

District.	DISBURSEMENTS.					INTEREST CHARGED.			(A) DEPRECIATION. (B) REDEMPTION.	Grand Total at 30th June, 1916.	
	1st May, 1906, to 30th June, 1915.	1915-16.				Total at 30th June, 1916.	1st May, 1906, to 30th June, 1915.	1st July, 1915, to 30th June, 1916.			Total at 30th June, 1916.
		Repairs and Maintenance.	Distribution of Water.	Management.	Total.						
	£	£	£	£	£	£	£	£	£	£	
1. Birchip	41,317	5,003	1,994	801	7,798	49,115	43,120	8,687	51,817	..	100,932
2. Sea Lake											
3. Tyrrell											
4. Wycheproof	9,849	2,525	1,034	407	3,966	13,815	15,861	4,190	10,051	..	33,866
5. Karkarooe											
6. Kerang North-west Lakes	228	12	40	20	72	298	151	80	231	..	529
7. Long Lake	26,288	2,144	2,164	466	4,774	31,062	7,969	1,473	9,442	(a) 5,707	46,211
8. Tyntynder	6,528	748	1,359	156	2,263	8,791	2,547	1,861	4,348	..	13,139
9. Walpeup East	517	229	..	62	291	808	256	159	395	..	1,203
10. Walpeup West	1,163	183	326	88	607	1,770	153	129	282	(a) 450	2,502
11. Western Wimmera	36,844	1,134	2,696	752	7,582	44,426	23,063	3,984	26,987	(a) 1,783 (b) 5,500	78,696
12. Wimmera United	41,063	6,066	1,558	909	8,533	49,596	34,798	7,794	42,592	(b) 5,000	97,188
	163,795	21,044	11,181	3,661	35,886	199,681	127,868	28,277	156,145	18,440	374,266

WATERWORKS DISTRICTS.
URBAN DISTRICTS.

STATEMENT of Moneys received and disbursed from 1st July, 1906, to 30th June, 1916; and of Interest charged, at the rate of 4 per cent. on Capital Debts; and also of Depreciation and Redemption charged, as at 30th June, 1916. (Free Head-works excluded.)

RECEIPTS.

District.	1st May, 1906, to 30th June, 1915.	1915-16.				Grand Total at 30th June, 1916.
		Rate.	Water Sales.	Interest and Miscellaneous.	Total.	
1. Bacchus Marsh	£ 6,604	£ 579	£ 338	£ 6	£ 923	£ 7,527
2. Berriwillock	124	110	1	1	112	236
3. Beulah	1,035	521	63	25	609	1,694
4. Birchip	4,697	683	246	27	961	5,658
5. Cohuna	683	342	17	1	360	1,043
6. Corop	92	34	..	..	34	126
7. Dimboola	9,453	627	738	35	1,400	10,853
8. Hopctoun	1,243	412	72	13	497	1,740
9. Jeparit	1,340	581	80	18	679	2,019
10. Kaneira	89	97	33	2	132	221
11. Koondrook	873	303	2	2	312	1,185
12. Lake Boga	1,097	193	85	5	283	1,380
13. Lascelles .. .. .	..	122	..	1	123	123
14. Minyip	2,586	536	38	31	605	3,191
15. Natimuk	2,980	197	209	3	409	3,389
16. Nyah	26	25	..	..	26	52
17. Rainbow	3,837	797	99	20	916	4,753
18. Rupanyup	2,406	384	81	23	488	2,894
19. Sea Lake	2,231	352	13	14	379	2,610
20. Ultima	388	257	15	18	290	678
21. Watchem	234	222	33	7	262	496
22. Werribee	156	762	167	7	936	1,092
23. Wonthaggi	15,117	2,042	1,623	103	3,768	18,885
24. Woomelang	1,181	394	117	13	524	1,705
25. Wycheproof	2,765	400	34	18	452	3,217
	61,287	10,983	4,104	393	15,480	76,767

DISBURSEMENTS, AND INTEREST DEPRECIATION AND REDEMPTION CHARGED.

District.	DISBURSEMENTS.					INTEREST CHARGED.				(A) DEPRECIATION. (B) REDEMPTION.	Grand Total at 30th June, 1916.
	1st May, 1906, to 30th June, 1915.	Repairs and Maintenance.	1915-16.			Total at 30th June, 1916.	1st May, 1906, to 30th June, 1915.	1st July, 1915, to 30th June, 1916.	Total at 30th June, 1916.		
			Distribution of Water.	Management.	Total.						
1. Bacchus Marsh	£ 2,208	£ 45	£ 148	£ 78	£ 271	£ 2,479	£ 3,417	£ 681	£ 4,098	(a) 196 (b) 250	£ 7,023
2. Berriwillock	56	11	41	10	62	118	135	62	197	(a) 6 (b) 12	321
3. Beulah	344	8	94	35	137	481	782	299	1,081	(a) 196 (b) 300	1,574
4. Birchip	1,809	9	255	61	325	2,134	2,294	452	2,746	(a) 196 (b) 150	5,376
5. Cohuna	172	4	70	15	89	261	279	157	436	(a) 63 (b) 3	910
6. Corop	30	..	10	5	15	45	57	9	66	(a) 150 (b) 160	114
7. Dimboola	5,599	204	373	104	681	6,280	2,149	482	2,631	(a) 620 (b) 830	10,661
8. Hopctoun	604	12	13	35	140	744	549	206	755	(a) 150 (b) 160	1,649
9. Jeparit	238	4	64	29	97	335	1,053	416	1,469	(a) 6 (b) 160	1,904
10. Kaneira	45	6	36	11	53	98	90	75	165	(a) 60 (b) 42	269
11. Koondrook	415	21	120	36	177	592	442	149	591	(a) 42 (b) 150	1,243
12. Lake Boga	136	4	9	14	27	163	769	171	940	(a) 8 (b) 188	1,295
13. Lascelles .. .. .	..	2	17	20	39	39	..	72	72	(a) 750 (b) 700	119
14. Minyip	1,206	18	71	32	121	1,327	1,754	311	2,065	(a) 8 (b) 400	3,580
15. Natimuk	442	..	45	27	72	514	1,698	356	2,054	(a) 147 (b) 189	3,318
16. Nyah	10	..	5	5	10	20	5	5	10	(a) 60 (b) 42	38
17. Rainbow	818	4	87	38	129	947	2,486	465	2,951	(a) 280 (b) 400	4,578
18. Rupanyup	951	27	65	31	123	1,074	1,300	258	1,558	(a) 147 (b) 189	2,779
19. Sea Lake	1,581	3	139	43	185	1,766	643	199	842	(a) 30 (b) 10	2,797
20. Ultima	101	21	49	15	85	186	314	167	481	(a) 63 (b) 114	697
21. Watchem	70	20	20	18	58	128	256	151	407	(a) 60 (b) 17,011	545
22. Werribee	93	17	148	81	246	339	321	391	712	(a) 60 (b) 1,917	1,114
23. Wonthaggi	1,790	28	182	192	402	2,192	10,648	2,471	13,119	(a) 182 (b) 225	17,011
24. Woomelang	424	61	60	40	161	585	924	348	1,272	(a) 60 (b) 1,917	1,917
25. Wycheproof	1,874	5	93	30	137	2,011	1,262	225	1,487	(a) 182 (b) 225	3,680
	21,016	534	2,294	1,014	3,842	24,858	33,627	8,578	42,205	7,449	74,512

DISTRICTS HELD IN TRUST BY THE COMMISSION.

AVOCA WATER TRUST.—BALANCE-SHEET.

STATEMENT OF RECEIPTS AND DISBURSEMENTS FOR THE YEAR ENDED 31ST DECEMBER, 1915.

Revenue Account.

RECEIPTS.				DISBURSEMENTS.			
		£	s. d.			£	s. d.
Bank Balance from 1914	.. ..	461	11 1	Interest on Loan	.. ..	216	14 5
Quambatook District—				Redemption of Loan	.. ..	48	11 1
Repayment of Advance	.. ..	110	4 11	Maintenance and Repairs	.. ..	306	0 0
Arrears of Rates	.. ..	100	19 8	Management	.. ..	30	9 5
Current Rate	.. ..	399	13 10	Rate Collector	.. ..	52	0 0
Interest on Rates	.. ..	12	19 5	Bank Charges	.. ..	2	8 9
Rates Overpaid	.. ..	0	10 5	Bank Balances, 31/12/15	.. ..	519	15 8
Sales of Water	.. ..	90	0 0				
Total	.. ..	£1,175	19 4	Total	.. ..	£1,175	19 4

Statement of Assets and Liabilities.

LIABILITIES.				ASSETS.						
		£	s. d.		£	s. d.	£	s. d.	£	s. d.
Treasurer of Victoria—Loan	.. ..	5,381	15 3	Works at Cost	.. ..	8,709	5 0			
Rates Overpaid	.. ..	0	14 4	Less Amount						
Sundry Creditors	.. ..	1	18 5	Written Off,						
Balance—General Account	.. ..	1,631	2 3	Act No.						
				1625	.. ..	2,494	0 0			
				Repayment of						
				Loan	.. ..	124	5 6			
								2,618	5 6	
										6,090 19 6
				Arrears of Rates	.. ..					404 15 1
				Bank Balances, 31/12/15	.. ..					519 15 8
Total	.. ..	£7,015	10 3	Total	.. ..					£7,015 10 3

Statement of Rates.

				£	s. d.					£	s. d.
Current Rate	.. ..	563	17 1	Current Rates Collected	.. ..	399	13 10				
Arrears from 1914	.. ..	346	3 1	Arrears of Rates Collected	.. ..	100	19 8				
				Rates Abandoned	.. ..	4	11 7				
				Arrears carried forward to 1916	.. ..	404	15 1				
Total	.. ..	£910	0 2	Total	.. ..	£910	0 2				

DISTRICTS HELD IN TRUST BY THE COMMISSION—*continued.*

AVOCA WATER TRUST.—QUAMBATOOK URBAN DISTRICT.—BALANCE-SHEET.

STATEMENT OF RECEIPTS AND DISBURSEMENTS FOR THE YEAR ENDED 31ST DECEMBER, 1915.

Revenue Account.

RECEIPTS.			DISBURSEMENTS.		
	£	s. d.		£	s. d.
Bank Balance from 1914	31	1 0	Interest on Loan	74	6 10
Arrears of Rates	128	11 0	Redemption of Loan	8	18 9
Current Rate	213	3 9	Avoca District—Repayment of Advance	110	4 11
Interest on Rates	9	9 3	Pumping Expenses	98	2 4
Miscellaneous	1	13 0	Maintenance and Repairs	3	16 9
			Rate Collector	26	0 0
			Management	11	11 11
			Bank Charges	1	2 0
			Bank Balance, 31/12/15	49	14 6
Total	£383	18 0	Total	£383	18 0

Loan Account

RECEIPTS.			DISBURSEMENTS.		
	£	s. d.		£	s. d.
Treasurer of Victoria	60	17 1	Concrete Standpipe	1	13 0
			Reticulation	44	11 1
			Windmills	14	13 0
Total	£60	17 1	Total	£60	17 1

Statement of Assets and Liabilities.

LIABILITIES.			ASSETS.		
	£	s. d.		£	s. d.
Treasurer of Victoria—Loan ..	3,757	3 5	Works at Cost—		
Treasurer of Victoria—Interest ..	148	11 2	Earthen Storage .. £1,003	1	10
Sundry Creditors	1	13 0	Concrete Standpipe ..	754	1 4
Balance—General Account	266	11 11	Reticulation ..	1,434	1 2
			Windmills ..	337	17 6
			Pumping Plant ..	212	15 0
			Contingencies ..	44	7 11
				3,786	4 9
			Arrears of Rates	338	0 3
			Bank Balance, 31/12/15	49	14 6
Total	£4,173	19 6	Total	£4,173	19 6

Statement of Rates.

	£	s. d.		£	s. d.
Current Rate	382	0 2	Current Rate Collected	213	3 9
Arrears from 1914	305	8 2	Arrears of Rates Collected	128	11 0
			Rates Abandoned	7	13 4
			Arrears carried forward to 1916	338	0 3
Total	£687	8 4	Total	£687	8 4

DISTRICTS HELD IN TRUST BY THE COMMISSION—*continued.*

LODDON UNITED WATERWORKS TRUST.—BALANCE-SHEET.

STATEMENT OF RECEIPTS AND DISBURSEMENTS FOR THE YEAR ENDED 31ST DECEMBER, 1915.

Revenue Account.

RECEIPTS.				DISBURSEMENTS.			
		£	s. d.			£	s. d.
Bank Balance from 1914	.. ..	834	2 4	Interest on Loan	.. ..	711	12 6
Arrears of Rates	.. ..	181	8 6	Redemption of Loan	.. ..	166	12 10
Current Rate	.. ..	1,673	2 8	Maintenance and Repairs	.. ..	1,441	9 2
Interest on Rates	.. ..	16	13 6	Water Distribution	.. ..	198	0 11
Sales of Water	.. ..	15	14 0	Management	.. ..	102	6 3
Rates Overpaid	.. ..	1	8 6	Bank Balance, 31/12/15	.. ..	103	7 10
Miscellaneous	.. ..	1	0 0				
Total	.. ..	£2,723	9 6	Total	.. ..	£2,723	9 6

Statement of Assets and Liabilities.

LIABILITIES.				ASSETS.				
		£	s. d.		£	s. d.	£	s. d.
Treasurer of Victoria—Loan	.. ..	17,553	5 10	Works at Cost	.. ..	19,617	4 9	
Overpaid Rates	.. ..	15	16 5	Less transferred to				
Balance—General Account	.. ..	2,697	8 0	Dingee I. & W. S. Dist.	100	0 0		
							19,517	4 0
				Arrears of Rates	.. ..		642	10 8
				Sales of Water	.. ..		3	7 9
				Bank Balance, 31/12/15	.. ..		103	7 10
Total	.. ..	£20,266	10 3	Total	.. ..	£20,266	10 3	

Statement of Rate.

		£	s. d.		£	s. d.	
Current Rate	.. ..	2,008	16 2	Current Rate Collected	.. ..	1,673	2 8
Arrears from 1914	.. ..	488	5 8	Arrears of Rates Collected	.. ..	181	8 6
				Arrears carried forward to 1916	.. ..	642	10 8
Total	.. ..	£2,497	1 10	Total	.. ..	£2,497	1 10

LOAN EXPENDITURE.

STATEMENT OF LOAN EXPENDITURE DURING THE YEAR ENDED 30TH JUNE, 1916.

Name.	Loans Application Act No. 2534.		Loans Application Act No. 2804 and other Sources.		Total.	
	£	s. d.	£	s. d.	£	s. d.
<i>Free Headworks.</i>						
1. Loddon River (Laanecoorie) .. .. .	..	..	96	16 0	96	16 0
<i>Reservoirs and Storages.</i>						
2. Goulburn Storages—						
Sugarloaf Reservoir	5,078	12 7	58,060	13 4	63,139	5 11
Waranga Reservoir .. .. .	..	..	35,621	11 3	35,621	11 3
3. Melton Reservoir	4,843	9 10	24,262	16 11	29,106	6 9
4. Upper Coliban Reservoir	852	0 10	9,109	4 9	9,961	5 7
5. Upper Murray Storage Sites Surveys	232	10 6	1,990	19 6	2,223	10 0
6. Wimmera Mallee Storages—						
Fyan's Lake .. .. .	..	..	11,855	2 10	11,855	2 10
Taylor's Lake .. .. .	..	..	11,619	0 1	11,619	0 1
Whitton Swamp .. .. .	..	..	2,432	14 11	2,432	14 11
<i>Waterworks Districts.</i>						
7. Birchip, Sea Lake, Tyrrell, and Wycheproof .. .. .	..	..	20,865	18 2	20,865	18 2
8. Carwarp	495	0 11	2,200	11 3	2,695	12 2
9. Karkarooc .. .. .	..	..	8,166	10 2	8,166	10 2
10. Kerang North-West Lakes	3	12 0	66	5 0	69	17 0
11. Long Lake	5	0 0	1,604	15 6	1,609	15 6
12. Tyntynder .. .. .	..	..	6,872	1 3	6,872	1 3
13. Walpeup East	3	13 6	77	15 3	81	8 9
14. Walpeup West .. .. .	..	..	898	17 8	898	17 8
15. Western Wimmera .. .. .	..	..	2,451	17 1	2,451	17 1
16. Wimmera United .. .. .	..	..	2,169	5 4	2,169	5 4
17. Wimmera Main Channels .. .. .	..	..	27,998	5 11	27,998	5 11
18. Yelta .. .. .	..	..	46	11 10	46	11 10
<i>Towns.</i>						
19. Bacchus Marsh	86	9 4	63	16 9	150	6 1
20. Berrivillock .. .. .	..	..	21	0 0	21	0 0
21. Beulah .. .. .	..	..	15	13 4	15	13 4
22. Boga	0	5 10	..	..	0	5 10
23. Cohuna	1	11 0	369	17 1	371	8 1
24. Coliban	2,927	10 3	7,296	19 8	10,224	9 11
25. Hopetoun .. .. .	..	..	6	11 9	6	11 9
26. Jeparit .. .. .	..	..	26	11 6	26	11 6
27. Kaneira .. .. .	..	..	4	18 11	4	18 11
28. Koondrook	0	19 0	..	..	0	19 0
29. Lascelles .. .. .	..	..	76	16 7	76	16 7
30. Miuyip .. .. .	..	..	2	10 3	2	10 3
31. Ouyen .. .. .	..	..	2,354	6 8	2,354	6 8
32. Rainbow .. .. .	..	..	2	14 7	2	14 7
33. Rupanyup .. .. .	..	..	16	8 6	16	8 6
34. Sea Lake .. .. .	..	..	62	0 2	62	0 2
35. Watchem .. .. .	..	..	8	1 5	8	1 5
36. Werribee	92	4 0	164	1 0	256	5 9
37. Wonthaggi	111	18 0	146	10 6	258	8 6
38. Woomelang .. .. .	..	..	51	13 9	51	13 9
39. Wycheproof .. .. .	..	..	33	7 7	33	7 7
<i>Irrigation and Water Supply Districts.</i>						
40. Bacchus Marsh and Werribee	362	3 1	3,576	14 8	3,938	17 9
41. Boga	9	1 9	3,999	8 2	4,008	9 11
42. Boort .. .. .	..	..	79	1 0	79	1 0
43. Campaspe .. .. .	..	..	638	16 9	638	16 9
44. Cohuna	333	5 1	3,891	18 11	4,225	4 0
45. Deakin .. .. .	..	..	9	7 6	9	7 6
46. Dingee	114	13 0	353	5 6	467	18 6
47. Gannawarra	123	15 3	1,402	2 9	1,525	18 0
48. Kerang	98	0 9	39	6 11	137	7 8
49. Koondrook	78	5 1	1,085	19 1	1,164	4 2
50. Merbeiu	534	7 1	5,508	9 10	6,042	16 11
51. Nyah	22	2 6	872	19 8	895	2 2
52. Rochester	928	17 2	4,153	5 5	5,082	2 7
53. Rodney	175	19 1	2,790	5 2	2,966	4 3
54. Shepparton	246	12 4	2,445	6 6	2,691	18 10
55. Swan Hill	90	6 0	957	19 9	1,048	5 9
56. Tragowel Plains	171	16 2	1,281	6 6	1,453	2 8
57. Tongala	115	0 6	1,347	10 1	1,462	10 7
58. Goulburn Main Channels and Distributaries	1,026	1 8	10,776	15 6	11,802	17 2
<i>Miscellaneous.</i>						
59. Avon, Latrobe, and Macalister Rivers .. .. .	..	..	9	2 7	9	2 7
60. Goulburn Levees .. .. .	..	..	546	1 8	546	1 8
61. Kooweerup and Cardinia Creek .. .. .	..	..	151	1 3	151	1 3
62. Maribyrnong River Storages Surveys .. .. .	..	..	203	4 3	203	4 3
63. Mornington Peninsula Scheme .. .. .	..	..	385	10 3	385	10 3
64. Murray River—Surveys, Narrung, Millewa, &c.	2	10 0	619	3 0	621	13 0
Total	19,167	14 1	286,315	17 5	305,483	11 6

STATEMENT OF EXPENDITURE DURING THE YEAR ENDED 30TH JUNE, 1916,

IN CONNEXION WITH

BORING FOR WATER, CONSTRUCTION OF TANKS, FORMING ROADS, AND ROLLING MALLEE SCRUB.

This Expenditure was met either by the Lands Department or the Public Works Department.

	£	s. d.
1. Boring for Water	767	13 11
2. Mallee Tanks (Public Tanks)	1,777	6 0
3. Forming Roads	3,209	5 0
4. Rolling Mallee in Disputed Territory	32	0 6
Total	£5,786	5 5

ESTIMATES.

Anticipated requirements to meet Disbursements by the Commission and Estimate of the moneys available from its Revenues to provide the same for the year ending 30th June, 1917, and Estimate of the total amount available from the Revenues of all Authorities to meet interest payable by the State for the year ending 30th June, 1917.

ESTIMATED DISBURSEMENTS.

A.		
Revenue Producing Works—		
Coliban District	£10,500	
Irrigation and Water Supply Districts	48,250	
Waterworks Districts	29,850	
Drainage and Flood Protection Districts	100	
General Expenditure and Salaries (proportion) over £250 to be apportioned to above Districts	14,500	
	£103,200	
B.		
Non-Revenue Producing Works—		
General Services—		
River Gaugings, Diversions from Streams, Surveys, New Projects, Boring for Water, Land Settlement, General Expenditure and Salaries (proportion) over £250	7,000	
Irrigation Engineering Scholarships	150	
Loan Works, Services on Account defrayed from Votes	4,000	
Waterworks Trusts Administration	1,675	
	£12,825	
C.		
Non-Revenue Producing Works—		
Free Headworks—		
Broken River	£250	
Goulburn-Waranga	1,650	
Kow Swamp	1,400	
Lake Lonsdale	400	
Loddon River	275	
Lower Wimmera	125	
North-west Lakes	275	
	£4,375	
	£120,400	
ESTIMATED RECEIPTS.		
Coliban District	£37,000	
Irrigation and Water Supply Districts	99,000	
Waterworks Districts	65,000	
Miscellaneous	6,000	
	£207,000	
Estimated amount available from Revenue Producing Works to meet interest	£103,800	
Less expenditure as per “B” and “C” above on Non-revenue Producing Works	17,200	
	£86,600	
To which add Estimated Revenues from other Authorities—		
Waterworks Trusts	£38,000	
Local Bodies	22,000	
	£60,000	
Total Estimated amount available from Revenues of all Authorities to meet Interest	£146,600	

STATEMENT OF LOAN LIABILITY.

STATEMENT of the amount provided by the State to meet Interest on its Loan Expenditure for Works of Water Supply, both State Works of Water Supply and Works vested in Authorities other than the Commission; and of the sums paid from the revenues of the Commission, and from the moneys received from such other Authorities, to provide such Interest for the year ended 30th June, 1916:—

Works.	Loan Liability of State for Works of Water Supply at 30th June, 1916, exclusive of Melbourne Water Supply.					Total Interest of £298,438 debitable to—			Amount received from Revenues of all Authorities to meet Interest.
	Total Advances, including Cost of Loan Flotation.	Deduct Redemption Paid.	Net Advances.	(A.) Amounts Written Off. (B.) Free Head-works. (C.) Loans Unexpended.	Balance at Debit of Authorities.	Interest payable by State on Net Advances.	(A.) Written Off. (B.) Free Head-works. (C.) Loans Unexpended.	Commission and Other Authorities.	
	£	£	£	£	£	£	£	£	£
Waterworks Districts	2,354,309	32,016	2,322,293	(A.) 169,927	2,152,366	81,588	(A.) 5,970	75,618	£105,838 (after deducting £15,676 for non-revenue producing works, including other State works).
Irrigation and Water Supply Districts	1,664,422	13,623	1,650,799	(A.) 575,152	1,075,647	57,997	(A.) 20,202	37,795	
Goulburn Works (exclusive of Districts supplied are being debited with their pro- portion of Interest on this Expenditure)	736,663	39	736,624	..	736,624	25,879	..	25,879	
Pyke's Creek and Werribee	171,340	..	171,340	..	171,340	6,019	..	6,019	
Waterworks Trusts (including First Mildura)	1,448,031	111,262	1,336,769	(A.) 321,665	1,015,104	46,964	(A.) 11,298	35,666	£61,937 (after deducting £3,166 for Capitalized Interest)
Local Bodies (Municipalities)	715,495	89,103	626,392	(A.) 163,760	462,632	22,006	(A.) 5,752	16,254	
Irrigation Trusts Abolished	32,754	30	32,724	(A.) 32,724	..	1,150	(A.) 1,150	..	
Free Headworks	1,235,626	420	1,235,206	(B.) 1,235,206	..	43,396	(B.) 43,396	..	
Free Grants to Local Authorities	147,046	..	147,046	(B.) 147,046	..	5,167	(B.) 5,167	..	
Surveys, Exploratory, and Preliminary Works, including Purchase of Land reserved for Reservoirs	116,419	..	116,419	..	116,419	4,090	..	4,090	
Loan Moneys unexpended	119,018	..	119,018	(C.) 119,018	..	4,182	(C.) 4,182	..	
Totals	8,741,123	246,493	8,494,630	2,764,498	5,730,132	298,438	97,117	201,321	167,775

Dated at the Office of the State Rivers and Water Supply Commission, Treasury
Gardens, Melbourne, the 25th day of October, 1916.

WM. CATTANACH, Chairman.

J. S. DETHRIDGE, Commissioner.

E. SHAW, Commissioner.

M. NALLY, Secretary.