

1909.

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VICTORIA.

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STATE RIVERS AND WATER SUPPLY COMMISSION.

---

FOURTH  
ANNUAL REPORT.  
—  
1908-9.

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PRESENTED TO BOTH HOUSES OF PARLIAMENT PURSUANT TO THE PROVISIONS OF  
SECTION 49 OF THE WATER ACT 1905.

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STATE RIVERS AND WATER SUPPLY COMMISSION.

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ANNUAL REPORT, 1908-9.

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In compliance with the provisions of Section 49 of the *Water Act 1905* the State Rivers and Water Supply Commission submits the following Report and Statement for the Financial Year 1908-9, and Estimates for the ensuing year.

## WORKS UNDER CONTROL OF COMMISSION.

The following tabular statement gives a brief description, summary of cost, and other details relative to the works now controlled by the Commission. Since the last report control of the Birchip, Western Wimmera, Wimmera United, and Wycheproof Waterworks Districts, and of the Deakin Irrigation and Water Supply District, has been transferred to the Commission.

## A.—FREE HEAD-WORKS.

DESCRIPTION OF WORKS.	Capital Debit at 30th June, 1909.
1. <b>Broken River Works</b> :—Casey's Weir and offtake, with about 59 chains of channel to the Broken Creek; Gowangardie Weir with offtake sluice .. .. .	£ 14,853
2. <b>Goulburn River Works</b> :—Weir on the Goulburn River, about 9 miles above Murchison; channel therefrom, about 23½ miles, to Waranga; and the Waranga*Reservoir	740,903
3. <b>Kerang North-West Lakes Works</b> :—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 .. .. .	10,008
4. <b>Kow Swamp Works</b> :—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 ..	188,407
5. <b>Loddon River Works</b> :—Laanecoorie Weir, on the Loddon; Bridgewater Weir, on the Loddon; Kinypanial Weir, on the Loddon .. .. .	156,408
6. <b>Lake Lonsdale Reservoir</b> :—Reservoir at Lake Lonsdale, on the Little Wimmera River, near Ledcourt .. .. .	50,526
7. <b>Lower Wimmera Compensation Works</b> :—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 home-stead; Jeparit Weir, on the Wimmera, near Jeparit township .. .. .	8,753
8. <b>Long Lake Pumping Works</b> :—Regulated intake 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 .. .. .	27,898
Total .. .. .	<b>£1,197,756</b>

\* This work is not yet completed or handed over to the Commission.

## B.—WATERWORKS DISTRICTS.

Distributary Works within Districts under the control of the Commission as follow:

Name of District (Including Urban Districts).	Total Advances by State.	Capital Written Off by Acts 1625 and 1651.	Redemp- tion Paid to Treasury.	Balance at Debit at 1st July, 1908.	Capital Expendi- ture from Loans and Revenue since 1st July, 1908.	Capital Debit at 30th June, 1909.
	£	£	£	£	£	£
1. Birchip .. .. .	6,133	..	210	5,923	3,797	9,720
2. Western Wimmera .. .. .	213,943	132,835	6,160	74,948	3,911	78,859
3. Wimmera United .. .. .	151,178	36,392	5,198	109,588	387	109,975
4. Wycheproof .. .. .	10,481	700	906	8,875	45	8,920
	381,735	169,927	12,474	199,334	8,140	207,474
5. Karkaroc .. .. .	..	..	..	..	1,713	1,713
6. Long Lake (Free Head- works excluded) .. .. .	..	..	..	15,656	7,070	22,726
7. Sea Lake .. .. .	..	..	..	67,803	12,424	80,227
8. Coliban System .. .. .	..	..	..	1,239,524	6,460	1,245,984
<b>Miscellaneous—</b>						
9. Donald Weir .. .. .	..	..	..	1,890	..	1,890
10. Glenorchy Weir .. .. .	..	..	..	10,294	..	10,294
11. Lerderderg River .. .. .	..	..	..	..	193	193
12. Wimmera Main Chan- nels .. .. .	..	..	..	..	5,344	5,344
(9, 10, 11, 12 to be later apportioned to districts)						
				1,534,501	41,344	1,575,845
						<b>£1,575,845</b>

Carried forward .. .. .

**£2,773,601**

Capital Debt  
at 30th June,  
1909.

Brought forward .. .. .

£  
2,773,601

## C.—IRRIGATION AND WATER SUPPLY DISTRICTS.

Distributary Works within Districts under the control of the Commission as follow :—

Name of District.	Total Advances by State.	Capital written off by Acts 1625 and 1651.	Redemption paid to Treasury.	Balance at Debit at 1st May, 1906.	Capital Expenditure from Loans and Revenue since 1st May, 1906.	Capital Debit at 30th June, 1909.
	£	£	£	£	£	£
1. Bacchus Marsh ..	14,406	8,906	243	5,257	759	6,016
2. Campaspe ..	61,700½	52,685	305	8,710	5,881	14,591
3. Deakin ..	70,369	34,748	2,144	33,477	35,410	68,887
4. Rodney ..	223,268	149,949	2,902	70,417	59,168	129,585
5. Swan Hill ..	24,800	19,799	201	4,800	13,771	18,571
Kerang Centre—						
6. Benjeroop and Murrabit	12,936	7,200	64	5,672	715	6,387
7. Cohuna ..	151,213	93,968	512	56,733	10,423	67,156
8. Dry Lake ..	1,704	686	299	719	..	719
9. Gunbower West	5,889	..	..	5,889	127	6,016
10. Kerang East ..	14,025	6,984	18	7,023	560	7,583
11. Koondrook and Myall	15,469	12,080	53	3,336	2,408	5,744
12. Macorna North	18,557	8,082	81	10,394	340	10,734
13. Marquis Hill ..	14,477	9,076	2	5,399	124	5,523
14. South Kerang ..	632	..	14	618	181	799
15. Wandella ..	30,754	20,929	111	9,714	430	10,144
Loddon Centre—						
16. East Boort ..	21,567	14,866	184	6,517	..	6,517
17. Leaghur and Meering	5,043	2,543	78	2,422	..	2,422
18. North Boort ..	6,977	4,867	52	2,058	..	2,058
19. Tragowel Plains	159,848	124,534	444	34,870	..	34,870
20. Twelve Mile ..	5,050	3,250	28	1,772	..	1,772
Totals ..	858,684	575,152	7,735	275,797	130,297	406,094
Irrigation Areas—						
Nyah ..	..	..	..	..	6,688	6,688
White Cliffs ..	..	..	..	..	5,426	5,426
						12,114

406,094

12,114

## D.—WATERWORKS TRUST DISTRICT.

The undermentioned district has been temporarily placed, in accordance with the provisions of Section 278 of the Act, under the control of the Commission, owing to the late Trust making default in its payment of Interest on Loans :—

Name of District.	Total Advances by State.	Capital written off by Acts 1625 and 1651.	Balance at Debit at 1st May, 1906.	Capital Expenditure from Loans and Revenue since 1st May, 1906.	Capital Debit at 30th June, 1909.
	£	£	£	£	£
Loddon United Waterworks Trust	21,334	1,717	19,617	..	19,617

Grand Total .. .. .

£3,191,809

## LANDS UNDER IRRIGATED CULTURE.

The two statements herewith show the extent of Areas under Irrigation for last year in detail, and for the last three years totalled for comparative purposes.

The area irrigated last year (1908-9) shows a decrease of 55,139 acres as against the area watered in the previous year (1907-8).

## STATEMENT OF THE EXTENT OF IRRIGATION AND OF AREAS OF DIFFERENT KINDS OF CROPS WATERED—YEAR 1908-9.

Name of District.	Area under Irrigation (Acres).							Total.
	Cereals.	Lucerne grown for Pasture and Hay.	Sorghum and other Annual Fodder Crops.	Pastures.	Vineyards, Orchards, and Gardens.	Fallowa.	Miscellaneous.	
<i>Supplied from Goulburn State Works.</i>								
Rodney .. .. .	1,350	14,696	612	10,933	3,196	5,292	71	36,150
Echuca and Waranga (Deakin) ..	857	3,232	315	5,753	100	1,321	2	11,580
Totals .. .. .	2,207	17,928	927	16,686	3,296	6,613	73	47,730
<i>Supplied from Kow Swamp State Works.</i>								
Dry Lake .. .. .	30	..	..	450	5	..	..	485
Gunbower West .. .. .	722	346	303	859	33	5	..	2,268
Kerang East .. .. .	1,169	196	534	3,355	15	74	..	5,343
Macorna North .. .. .	1,792	112	1,069	6,407	..	..	..	9,380
Marquis Hill .. .. .	574	43	272	1,749	..	..	..	2,638
South Kerang .. .. .	212	113	64	307	..	..	..	696
Wandella* .. .. .	1,606	111	534	2,443	1	28	45	4,768
Totals .. .. .	6,105	921	2,776	15,570	54	107	45	25,578
<i>Supplied from Loddon State Works.</i>								
Wandella* .. .. .	668	368	87	2,185	..	..	..	3,308
East Boort .. .. .	2,076	..	207	858	40	..	..	3,181
Leagur and Meering .. .. .	724	24	103	807	..	..	..	1,658
North Boort .. .. .	895	..	109	450	9	15	..	1,478
Tragowel Plains .. .. .	10,515	263	604	7,230	96	86	..	18,794
Twelve Mile .. .. .	608	98	144	908	..	..	..	1,758
Totals .. .. .	15,486	753	1,254	12,438	145	101	..	30,177
<i>Supplied from other State Works.</i>								
Bacchus Marsh .. .. .	..	292	11	..	4	..	18	325
Benjeroop and Murrabit .. .. .	1,028	298	153	1,544	36	..	..	3,059
Campaspe .. .. .	330	226	30	428	8	..	..	1,022
Cohuna .. .. .	6,496	2,099	2,428	12,759	167	30	6	23,985
Koondrook and Myall .. .. .	1,361	147	269	3,585	29	..	..	5,391
Swan Hil .. .. .	3,231	2,216	313	1,400	57	7	..	7,224
Western Wimmera .. .. .	1	49	36	60	914	..	1	1,061
Totals .. .. .	12,447	5,327	3,240	19,776	1,215	37	25	42,067
<i>Lands supplied from Kerang North-west Lakes .. .. .</i>								
	1,253	170	512	2,596	..	90	..	4,621
<i>Lands supplied directly from Kow Swamp State Works .. .. .</i>								
	1,275	1,048	486	2,097	9	23	2	4,940
First Mildura .. .. .	300	620	..	..	10,980	..	..	11,900
<i>Supplied from Coliban State Works</i>								
	39	217	447	278	1,944	135	3	3,063
<i>Private Diversions in Kerang Districts .. .. .</i>								
	3,306	270	532	2,679	10	..	..	6,797
Grand Totals, 1908-9 .. .. .	42,418	27,254	10,174	72,120	17,653	7,106	148	176,873
Grand Totals, 1907-8 .. .. .	54,930	32,185	13,896	108,871	15,694	6,250	186	232,012

\* The Wandella District is supplied with water from both the Kow Swamp and Loddon State Works.

## COMPARATIVE STATEMENT OF THE EXTENT OF IRRIGATION 1906-7, 1907-8, 1908-9.

	Area under Irrigation (Acres).		
	1906-7.	1907-8.	1908-9.
Goulburn State Works .. .. .	31,059	83,776	47,730
Kow Swamp State Works .. .. .	22,493	30,217	25,578
Loddon State Works .. .. .	13,056	27,608	30,177
Other State Works .. .. .	22,454	54,628	42,067
Kerang N.W. Lakes .. .. .	5,263	8,838	4,621
Kow Swamp Works (direct) .. .. .	2,415	5,453	4,940
First Mildura Trust Works .. .. .	9,469	10,876	11,900
Coliban State Works .. .. .	1,850	2,191	3,063
Private Works in Kerang District..	..	8,425	6,797
Totals .. .. .	108,059	232,012	176,883

## LANDS, ETC., 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 16,875 square miles, equal to 10,800,000 acres. The extent of land under irrigated culture, for all kinds of crop, is 176,873 acres, a decrease of 55,139 acres compared with the area irrigated last year. Besides which about 40,000 acres have been watered by unauthorized diversions. Considerable progress has been made during the year to record these diversions and bring them under the control of the Commission.

The number of separate towns supplied, exclusive of the city of Melbourne and its suburbs, is 122, as shown in the following statement:—

Controlling Authorities.	Number of Town Supplies.	Estimated Population Served.
Commission ... ..	24	81,500
Waterworks Trusts ... ..	85	113,500
Local Governing bodies ... ..	13	75,000
Totals ... ..	122	270,000

## DISTRICTS SUPPLIED WITH WATER FOR DOMESTIC AND ORDINARY USE AND FOR WATERING STOCK.

### VALUATION AND RATING.

The statement which follows sets 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 made therein. An estimate of the number of persons dwelling in such districts is also appended.

On 1st July, 1908, the Birchip, the Wycheproof, the Western Wimmera, and the Wimmera United Waterworks Districts with all existing Urban Districts therein were placed under the jurisdiction of the Commission, while the United Echuca and Waranga Waterworks District was constituted the Deakin Irrigation and Water Supply District under the control of the Commission. The Murtoa Urban District was excised from the Wimmera United Waterworks District and placed under the management of a local trust.

In seventeen 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 the Western Wimmera and Wimmera United Waterworks Districts, it was found impossible to complete valuations of the districts in time to make rates prior to 30th June last; they will, however, now be made at an early date for the calendar year 1909.

## DISTRICTS—VALUATION AND RATING,

Name of District.	Annual Value of Lands and Tenements.	Rate in the £ made during year ended 30th June, 1909.	Period of Rate.	Estimated Number of Persons dwelling in Districts.
<i>Rates made by State Rivers and Water Supply Commission.</i>				
<i>Other than Urban.</i>	Valuation by Commission. £	s. d.		
Bacchus Marsh .. ..	2,207	.. .. 1 6	1st July, 1908, to 30th June, 1909	70
Benjeroop and Murrabit ..	4,138	1st Division .. 1 6 2nd Division.. 0 9	" " "	170
Birchip .. ..	28,301	1st Division .. 1 0 2nd Division.. 0 6 3rd Division.. 0 3	1st January, 1909, to 30th June, 1909	2,300
Campaspe .. ..	14,129	1st Division .. 1 8 2nd Division.. 0 10 3rd Division.. 0 5	1st July, 1908, to 30th June, 1909	710
Cohuna .. ..	17,835	1st Division .. 4 8 2nd Division.. 2 4	" " "	1,100
Deakin .. ..	82,508	1st Division .. 1 0 2nd Division.. 0 6 3rd Division.. 0 3	1st January, 1909, to 31st December, 1909	3,500
Dry Lake .. ..	250	(No rate made)	.. ..	10
East Boort .. ..	4,429	1st Division .. 2 0 2nd Division.. 1 0	1st July, 1908, to 30th June, 1909	130
Gunbower West .. ..	2,167	.. .. 3 0	" " "	110
Koondrook and Myall .. ..	2,077	.. .. 4 6	" " "	100
Kerang East .. ..	2,791	.. .. 3 0	" " "	200
Leaghur and Meering .. ..	1,461	1st Division .. 2 0 2nd Division.. 1 0	" " "	110
Loddon United Waterworks Trust	75,578 (municipal £61,615)	1st Division .. 1 0 2nd Division.. 0 6 3rd Division.. 0 3	1st January, 1909, to 31st December, 1909	2,300
Long Lake .. ..	26,342	1st Division .. 2 9 2nd Division.. 1 4½ 3rd Division.. 0 8½	1st July, 1908, to 30th June, 1909	1,120
Marquis Hill .. ..	1,662½	1st Division .. 4 0 2nd Division.. 2 0	" " "	100
Macorna North .. ..	3,973	1st Division .. 4 0 2nd Division.. 2 0 3rd Division.. 1 0	" " "	220
North Boort .. ..	1,961	1st Division .. 2 0 2nd Division.. 1 0	" " "	90
Rodney .. ..	109,820	1st Division .. 1 0 2nd Division.. 0 6 3rd Division.. 0 3	" " "	4,250
Sea Lake .. ..	35,735	1st Division .. 2 0 2nd Division.. 1 0 3rd Division.. 0 6	" " "	2,170
South Kerang .. ..	528	.. .. 3 0	" " "	30
Swan Hill .. ..	3,795	1st Division .. 4 0 2nd Division.. 2 0	" " "	230



DISTRICTS—VALUATION AND RATING—*continued.*

Name of District.	Annual Value of Lands and Tenements.	Rate in the £ made during year ended 30th June, 1909.	Period of Rate.	Estimated Number of Persons dwelling in Districts.
<i>Rates made by State Rivers and Water Supply Commission—continued.</i>				
<i>Other than Urban—</i> continued.	Valuation by Commission. £	s. d.		
Tragowel Plains ..	22,702	1st Division .. 2 2 2nd Division .. 1 1	1st July, 1908, to 30th June, 1909	980
Twelve Mile ..	1,146	.. .. 2 0	" " "	90
Wandella ..	3,740	.. .. 2 0	" " "	220
Wycheproof ..	41,397	1st Division .. 1 0 2nd Division .. 0 6 3rd Division .. 0 3	1st January, 1909, to 30th June, 1909	2,050
<i>Urban.</i>	Municipal Valuation.			
Bacchus Marsh ..	5,628	.. .. 1 6	1st July, 1908, to 30th June, 1909	1,050
Lake Boga ..	995½	.. .. 1 6	1st January, 1909, to 30th June, 1909	160
Sea Lake ..	1,169	.. .. 3 0	1st July, 1908, to 30th June, 1909	180
Wycheproof ..	2,839	.. .. 1 0	1st January, 1909, to 30th June, 1909	1,850
<i>Rates made by late Trust—Continued by Commission for unexpired period, 1st July, 1908, to 31st December, 1908.</i>				
<i>Other than Urban.</i>	Municipal Valuation. £	s. d.		
Birchip ..	20,442	.. .. 0 8	1st January, 1908, to 31st December, 1908	(See above)
Deakin ..	49,645	1st Division .. 1 0 2nd Division .. 0 10 3rd Division .. 0 7 4th Division .. 0 3	" " "	(See above)
Western Wimmera ..	137,949	A. Division .. 0 7 B. Division .. 1 3 C. Division .. 0 7 D. Division .. 0 7 E. Division .. 1 9 F. Division .. 1 6	" " "	10,000
Wimmera United ..	160,610	Dunmunkle .. 1 3 Stawell .. 0 5 Kara Kara .. 0 9 Borong .. 1 0 Karkaroc .. 0 3 Birchip .. 0 8 Donald .. 1 6	" " "	8,800
Wycheproof ..	35,229	.. .. 0 2	" " "	(See above)
<i>Urban.</i>				
Minyip ..	2,182	.. .. 3 0	" " "	450
Murtoa ..	3,466	.. .. 2 4	" " "	800
Rupanyup ..	1,326	.. .. 3 0	" " "	450
Wycheproof ..	2,809	.. .. 2 0	" " "	(See above)

## RATES, COLIBAN DISTRICT.

For the Coliban Waterworks District a by-law has been made imposing rates similar in amount to those of the previous year. This has been published in the *Government Gazette* of 29th July, 1908 (page 3705) and in newspapers circulating in the district affected. The Coliban district being an urban district, the rates therein have been based on the municipal valuation as provided by the Act, the population of the district being 64,000.

## CONTRACTS.

STATEMENT OF CONTRACTS ENTERED INTO DURING THE YEAR ENDED 30TH JUNE, 1909.

No.	Name of Contractor.	Work or Supply.	Amount (Loan and Vote).		
			£	s.	d.
188	G. Weymouth Ppy. Ltd.	Pumping Plants at Swan Hill and Koondrook .. ..	13,217	8	0
189	W. W. Johnson ..	Tungie Channel, Thomas' Branch, Sea Lake District ..	150	2	1
190	W. W. Johnson ..	Tungie Channel, Thomas' Branch, Sea Lake District ..	150	6	8
191	K. Hernon ..	Tungie Channel, Sutton's Branch Channel, Sea Lake District ..	126	13	4
192	Harry Stevens ..	Pipe Line, Branch No. 3, Long Lake District .. ..	102	16	3
193	Murray Sims ..	Pipe Line, Branch No. 3, Long Lake District .. ..	129	0	0
194	A. Chandler ..	Pipe Line, Branch No. 3, Long Lake District .. ..	120	4	2
195	W. Chas. A. Mitchell ..	Pipe Line, Branch No. 3, Long Lake District .. ..	115	13	4
196	James Martin ..	Main Swan Hill Channel, Swan Hill District .. ..	353	2	2
197	James Martin ..	Main Swan Hill Channel, Swan Hill District .. ..	285	11	6
198	James Martin ..	Main Swan Hill Channel, Swan Hill District .. ..	305	0	0
199	W. H. Wilson ..	Rainbow Channel (Section No. 1), Wimmera District ..	154	5	0
200	W. H. Wilson ..	Rainbow Channel (Section No. 2), Wimmera District ..	161	2	11
201	W. H. Wilson ..	Rainbow Channel (Section No. 3), Wimmera District ..	172	17	6
202	W. H. Wilson ..	Rainbow Channel (Section No. 4), Wimmera District ..	156	3	4
203	W. H. Wilson ..	Rainbow Channel (Section No. 5), Wimmera District ..	296	0	6
204	A. C. McLean ..	Rainbow Channel (Section No. 6), Wimmera District ..	183	14	5
205	A. C. McLean ..	Rainbow Channel (Section No. 7), Wimmera District ..	188	4	9
206	W. H. Wilson ..	Rainbow Channel (Section No. 8), Wimmera District ..	189	2	7
207	Arthur Donnelly ..	Gnarwee Channel, Long Lake District .. ..	79	12	6
208	H. E. Hickmott ..	Gnarwee Channel, Long Lake District .. ..	95	0	0
209	C. Good ..	Gnarwee Channel, Long Lake District .. ..	85	2	6
210	James Crothers ..	Gnarwee Channel, Long Lake District .. ..	87	14	2
211	H. E. Berry ..	Theobald's Channel, Long Lake District .. ..	34	13	9
212	James Branson ..	Bray-Ryan Loop Channel, Rodney District .. ..	1,410	2	5
213	M. Malone ..	Ryan-Sternberg Loop Channel and Commerford Spur Channel, Rodney District .. ..	1,071	3	0
214	M. Malone ..	McKenzie-Tehan Loop Channel, Rodney District .. ..	521	10	0
215	A. W. R. Sims ..	Wade Spur Channel, Rodney District .. ..	230	19	9
216	A. W. R. Sims ..	R. Trevaskis Spur Channel and Roper-Goddard Spur Channels, Rodney District .. ..	477	15	6
217	M. Malone ..	Halsam Spur Channel, Rodney District .. ..	641	2	1
218	Gordon Castle ..	Main Central Channel and embankments (Section 1), Nyah District .. ..	45	15	0
219	Gordon Castle ..	Main Central Channel and embankments (Section 2), Nyah District .. ..	65	1	3
220	R. J. Dalton ..	Main Central Channel (Section 3), Nyah District .. ..	104	8	8
221	G. Barton ..	Main Central Channel (Section 4), Nyah District .. ..	54	3	9
222	J. H. Dorman ..	Main Central Channel and embankments (Section 5), Nyah District .. ..	50	10	0
223	George Barton ..	Main Central Channel and embankments (Section 6), Nyah District .. ..	48	18	9
224	John Castle ..	Main Southern Channel and embankments (Section 1), Nyah District .. ..	68	13	9
225	John Castle ..	Main Southern Channel and embankments (Section 2), Nyah District .. ..	71	14	2
226	A. E. Chandler ..	Main Southern Channel and embankments (Section 3), Nyah District .. ..	64	6	8
227	Murphy Bros. ..	Cussen-Minter Loop Channel, Rodney District .. ..	1,126	12	0
228	J. Clohesy ..	Durie's Branch Channel, Sea Lake District .. ..	124	3	4
229	Geo. Beasley ..	Durie's Branch Channel, Sea Lake District .. ..	158	7	3
230	Alex. Bankin ..	Gray's Branch Channel, Sea Lake District .. ..	142	15	0
231	William Sands ..	Gray's Branch Channel, Sea Lake District .. ..	166	18	11
232/3	A. C. McLean ..	Rainbow Channel (Sections 9/10), Wimmera District ..	401	10	6
236/7	Matthew Cooke ..	Rainbow Channel (Sections 13/14), Wimmera District ..	393	18	0
238/9	A. C. McLean ..	Rainbow Channel (Sections 15/16), Wimmera District ..	242	11	0
240	John Gaynor ..	Harper Extension Channel, Rodney District .. ..	1,391	9	5
241	W. G. Fitch ..	Anderson Spur Channel, Rodney District .. ..	202	14	9
242	J. Metcalf ..	Nos. 1, 2, and 4 Spurs off Harper Extension Channel, Rodney District .. ..	282	10	7
243	Edwd. J. Keele and I. S. Drape	Contour Survey of about 102 square miles, being portions of Parishes of Benjeroop, Dartagook, Meran, Koorangie and Meering, Kerang District .. ..	584	15	6
244	Mephan Ferguson ..	Supply and delivery of Riveted Steel Pipes, 12" diameter, No. 10 gauge, Orphanage Extension, Bendigo .. ..	510	16	0
245	Joseph Nixon and Sons	Supply of 3", 4", 6" Cast-Iron Pipes, and 1 ton special Castings for Birchip and Boga Town Supplies .. ..	1,190	12	2
Carried forward .. ..			28,785	10	7

CONTRACTS ENTERED INTO DURING THE YEAR ENDED 30TH JUNE, 1909—*continued.*

No.	Name of Contractor.	Work or Supply.	Amount (Loan and Vote).		
			£	s.	d.
		Brought forward .. .. .	28,785	10	7
246	James Howe ..	Erection of four-roomed W.B. Cottage, Rodney District..	243	1	1
247	R. L. Crothers ..	Poole Spur Channel, Rodney District .. .. .	206	13	0
248	M. Malone ..	Murray Special Embankment, also remodelling portion of Murray Channel and Kennedy Spur, Rodney District	602	4	9
249	Joseph Fitzpatrick ..	Mulcahy Spur Channel, Rodney District .. .. .	292	11	6
250	Joseph Fitzpatrick ..	Lilford-Hunt Spur Channel, Rodney District .. .. .	359	10	4
251	E. C. Douglas ..	Deviation of Murphy Channel, Rodney District .. .. .	609	8	0
252	John Ahern and W. Mathers	No. 3 Spur off the Harper Extension Channel, Rodney District	649	1	2
253	Stewarts and Loyds Ltd.	Supply and delivery of Galvanized Wrought Iron Screwed Tubes and Fittings, Lake Boga, Birchip, and Wycheproof	428	18	3
254	Geo. Beasley ..	Paterson's Swamp Channel, Wimmera District .. .. .	262	6	7
255	Jas. Whelan ..	Harper's Branch Channel, Sea Lake District .. .. .	80	1	7
256	Jenkins Brothers ..	Harper's Branch Channel, Sea Lake District .. .. .	123	0	0
257	John Irving, junior ..	Harper's Branch Channel, Sea Lake District .. .. .	103	13	9
258	Alex. Bankin ..	Harper's Branch Channel, Sea Lake District .. .. .	60	16	3
259	Jas. Sayers..	Boga Gate Tank Channel, Long Lake District .. .. .	45	14	5
260	Edward H. North ..	Supply and delivery of 2,500 tons of Firewood at the Cohuna Pumping Station, Kerang District	531	5	0
261	T. Moynihan ..	Glass and Winnett Extension Channel, Rodney District ..	1,345	3	3
262	W. Branson ..	Pearce Spur Channel, Rodney District .. .. .	397	19	4
263	A. W. R. Sims ..	Menzies' Spur Channel, Rodney District .. .. .	216	14	3
264	Murphy Brothers ..	Extension Kennedy-Sherry Channel and the Madill Spur Channel, Rodney District	1,799	0	6
265	W. Branson ..	Sleeth Spur Channel, Rodney District .. .. .	347	11	8
266	T. Moynihan ..	No. 1 Spur, off Minter Channel, Rodney District .. .. .	457	5	0
267	James Martin ..	Main Channel, Swan Hill District .. .. .	227	4	6
268	G. Barton ..	Main Central Channel, Section 9, Nyah District .. .. .	91	18	8
269	G. Barton ..	Main Central Channel, Section 7, Nyah District .. .. .	170	3	2
270	W. J. Lee ..	Southern Channel, Branch No. 1, Nyah District .. .. .	60	19	7
271	John Kemp ..	Southern Channel, Branch No. 3, Nyah District .. .. .	36	3	4
272	John Kemp ..	Southern Channel, Branch No. 4, Nyah District .. .. .	49	2	3
273	John Hayes ..	Bourka Channel, Section 106, Sea Lake District .. .. .	144	15	0
274	John Hayes ..	Bourka Channel, Section 107, Sea Lake District .. .. .	138	5	0
275	James McDonald ..	Bourka Channel, Section 108, Sea Lake District .. .. .	141	10	0
276	James McDonald ..	Bourka Channel, Section 109, Sea Lake District .. .. .	150	0	0
277	Andrew Steel ..	Kelly's Channel, Section 110, Sea Lake District .. .. .	139	15	0
278	Jeremiah Hogan ..	Kelly's Channel, Section 111, Sea Lake District .. .. .	93	18	4
279	F. A. Biesse ..	Gorya Channel, Section 1, Wimmera District .. .. .	136	11	8
280	F. A. Biesse and Jos. Belleville	Gorya Channel, Section 2, Wimmera District .. .. .	134	9	6
281	William Sands ..	Gorya Channel, Section 6, Wimmera District .. .. .	168	15	0
282	William Sands ..	Gorya Channel, Section 7, Wimmera District .. .. .	181	5	0
283	M. F. Hogan ..	Gorya Channel, Section 4, Wimmera District .. .. .	116	17	6
284	C. T. Cook ..	Gorya Channel, Section 5, Wimmera District .. .. .	137	10	0
285	Robert Hood and Arthur Bilney	Main Channel, White Cliffs District .. .. .	413	19	3
286	Walter Munn and Ernest Gustave Traeger	Main Channel, White Cliffs District .. .. .	744	12	5
287	Robert Hood and Arthur Bilney	South-East Channel, White Cliffs District .. .. .	313	1	1
288	Gamble Brothers ..	South-East Channel, White Cliffs District .. .. .	231	3	0
289	Gamble Brothers ..	South Channel, White Cliffs District .. .. .	127	6	9
290	Gamble Brothers ..	Western Loop of Main Channel, White Cliffs District ..	215	5	6
291	Gamble Brothers ..	Western Loop of Main Channel, White Cliffs District ..	157	10	0
292	Gamble Brothers ..	Northern Channel, White Cliffs District .. .. .	156	15	7
293	Alex. McDonald ..	Earthen Storage Tank for Lake Boga Town Supply .. .. .	126	15	0
294	Charles Maple ..	Central Channel, Branch No. 6, Nyah District .. .. .	63	1	3
295	Charles Maple ..	Southern Channel, Branch No. 1, Section 2, Nyah District..	60	3	4
296	A. Roberts and Sons..	Manufacture, delivery and erection of 60,000-gallon Steel Tank and Tower, Birchip Town Supply	1,275	10	0
297	James Hasty ..	Central Branch Channel, No. 3, Nyah District .. .. .	26	0	10
298	S. Stevens ..	Toolamba Spur Channel, Rodney District .. .. .	212	2	8
299	S. Stevens ..	Deviation of Kavanagh Channel, Rodney District .. .. .	263	14	4
300	S. Stevens ..	Deviation of Cussen Channel, Rodney District .. .. .	795	13	2
		Carried forward .. .. .	45,449	7	11

CONTRACTS ENTERED INTO DURING THE YEAR ENDED 30TH JUNE, 1909—*continued.*

No.	Name of Contractor.	Work or Supply.	Amount (Loan and Vote).	
			£	s. d.
		Brought forward .. .. .	45,449	7 11
301	Murphy Brothers ..	Remodelling of portion of the Murphy Channel, Rodney District	393	1 6
302	L. Tuana .. ..	McKenzie-Cook Loop Channel, Rodney District .. ..	1,021	2 4
303	L. Tuana .. ..	Hearne Spur and Hooper Spur Channel, Rodney District ..	312	3 2
304	L. Tuana .. ..	J. Hunt Spur and Pitts Spur Channels, Rodney District ..	307	13 5
305	J. S. Dickinson ..	Central Channel, Branch No. 3A, Nyah District .. ..	41	13 4
306	M. Mc. D. Findlay ..	Main Central Channel, Nyah District .. ..	41	9 7
307	A. C. McLean .. ..	Rainbow Channel, Wimmera District .. ..	409	2 5
308	Thompson & Co. ..	Manufacture and Supply of Steel riveted Piping, Koondrook and White Cliffs Districts	714	11 11
309	Walter Winnett ..	Brewer Spur Channel, Rodney District .. ..	260	4 10
310	James Fitzpatrick ..	(1) Ryan-Hunt Spur, and (2) The Haslem No. 2 Spur Channels, Rodney District	141	5 3
311	M. Malone .. ..	Thompson Spur and Fenaughty Spur Channels, Rodney District	311	1 9
312	Walter Winnett ..	Sims Spur Channel, Rodney District .. ..	87	3 0
313	M. Malone .. ..	Morrissey-Bray Loop and Lynch Spur Channels, Rodney District	1,183	10 11
314	James Martin .. ..	Spur No. 1, Western Channel, Swan Hill District .. ..	101	4 3
315	G. Barton .. ..	Main Central Channel, Section 8, Nyah District .. ..	42	12 6
316	James Hasty .. ..	Main Central Channel, Section 10, Nyah District .. ..	50	12 5
317	R. Heath .. ..	Main Central Channel, Section 11, Nyah District .. ..	50	15 8
318	Alfred Castle .. ..	Main Central Channel, Section 12, Nyah District .. ..	38	7 3
319	R. Guilmartin .. ..	Central Channel, Branch No. 2A, Section 1, Nyah District ..	68	17 0
320	R. Guilmartin .. ..	Central Channel, Branch No. 2A, Section No. 2, Nyah District	57	15 3
321	John Clark .. ..	Right Branch Loop Channel, Cohuna District .. ..	336	2 9
322	D. Moriarty and D. McMahon	Right Branch Loop Channel, Cohuna District .. ..	314	9 9
323	James Crothers .. ..	No. 12 Distributary Channel, Cohuna District .. ..	199	7 4
324	John Clark .. ..	No. 7A Distributary Channel and Spur No. 7A1, Cohuna District	421	12 0
325	James Phyland .. ..	No. 7B Distributary Channel, Cohuna District .. ..	171	9 0
326	W. E. Still .. ..	Bitchigal Channel, Sea Lake District .. ..	135	0 0
327	William Sands .. ..	Bitchigal Channel, Section 113, Sea Lake District .. ..	134	0 0
328	Andrew Steel .. ..	Bitchigal Channel, Section 112, Sea Lake District .. ..	138	8 4
329	James Crothers .. ..	Theobald's Channel, Section 95A, Long Lake District .. ..	50	0 0
330	Gordon Stewart .. ..	Central Channel, Branch No. 2, Section 1, Nyah District ..	49	10 10
331	Gordon Stewart .. ..	Central Channel, Branch No. 2, Section 2, Nyah District ..	74	13 4
332	G. Barton .. ..	Central Channel, Branch No. 2, Section 3, Nyah District ..	62	2 1
333	Gordon Stewart .. ..	Central Channel, Branch No. 2, Section 4, Nyah District ..	57	2 11
334	J. Hasty, A. Castle, and M. Findlay	Central Channel, Branches 4 and 9, Nyah District .. ..	41	3 9
335	Gordon Stewart .. ..	Central Channel, Branch No. 7, Section 1, Nyah District ..	65	4 5
336	J. Hasty, A. Castle, and M. Findlay	Central Channel, Branch No. 7, Section 2, Nyah District ..	39	13 4
337	J. Hasty, A. Castle, and M. Findlay	Central Channel, Branch No. 8, Section 1, Nyah District ..	31	10 0
338	Gordon Stewart .. ..	Central Channel, Branch No. 8, Section 2, Nyah District ..	56	3 1
339	G. Barton .. ..	Central Channel, Branch No. 8, Section 3, Nyah District ..	41	16 11
340	G. Barton .. ..	Central Channel, Branch No. 8, Section 4, Nyah District ..	46	18 4
341	Ernest Schultz .. ..	Supply, delivery and erection of Suction Gas Pumping Plant, Birchip Town Supply	326	0 0
342	Gamble Brothers .. ..	South-Eastern Loop Channel, White Cliffs District .. ..	286	8 3
343	Gamble Brothers .. ..	Section 2, South Channel, White Cliffs District .. ..	253	17 6
344	J. Robinson .. ..	North Branch, No. 1 Channel, White Cliffs District .. ..	261	8 6
345	Gamble Brothers .. ..	Main Spurs, Nos. 1 and 2, White Cliffs District .. ..	336	6 6
346	Gamble Brothers .. ..	North Branch, No. 2 Channel, White Cliffs District .. ..	201	0 0
347	Wm. Goldsworthy .. ..	South-Eastern Spur No. 1, South-Eastern Spur No. 2, and Main No. 3 Channels, White Cliffs District	360	2 4
348	Gamble Brothers .. ..	Section 2, Northern Channel, North Spur No. 3, and North Spur No. 4, White Cliffs District	463	0 5
349	Murphy Brothers .. ..	Main Channel, Section 1, Koondrook and Myall District ..	360	1 6
350	S. Weekley .. ..	Main Channel, Section 2, Koondrook and Myall District ..	550	6 0
351	C. E. King and S. M. Doolan	Main Channel, Section 3, Koondrook and Myall District ..	456	8 1
352	S. Weekley .. ..	Main Channel, Section 4, Koondrook and Myall District ..	543	15 6
353	Murphy Brothers .. ..	Connecting Channel, Koondrook and Myall District .. ..	610	19 9
354	Thomas Dagge .. ..	Central Channel, Branch No. 3, Section 2, Nyah District ..	62	5 9
		Carried forward .. .. .	58,622	3 11

CONTRACTS ENTERED INTO DURING THE YEAR ENDED 30TH JUNE, 1909—*continued.*

No.	Name of Contractor.	Work or Supply.	Amount (Loan and Vote).		
			£	s.	d.
		Brought forward .. .. .	58,622	3	11
355	Gamble Brothers ..	Lake Lonsdale-Glenorchy Channel, Section 1, Wimmera District	1,726	0	0
356	Gamble Brothers ..	Lake Lonsdale-Glenorchy Channel, Section 2, Wimmera District	1,842	0	0
357	Joseph Hayward ..	Shirley's Channel, Long Lake District .. .. .	37	18	4
358	D. Moriarty and D. McMahon	Cohuna Irrigation Channels, including Right Branch Loop Channel (Deviation No. 1), No. 7D Distributary Channel, and No. 12A Distributary, Kerang District	257	12	6
359	John McKimmie ..	Brown Spur and Miller Spur Channels, Rodney District ..	309	16	6
360	Murphy Brothers ..	Cussen-Teese Loop Channel, Rodney District .. .. .	682	6	3
361	Murphy Brothers ..	Hector Extension Channel, and No. 1 Spur off same, Rodney District	1,025	18	7
362	Joseph Fitzpatrick ..	J. Sullivan Spur Channel, Rodney District .. .. .	375	7	3
363	Portman Smith ..	Pederick Spur and W. Hunt Spur Channels, Rodney District	565	3	9
364	G. Weymouth Pty. Ltd.	Pumping Plant, Cohuna Headworks, Cohuna District ..	12,794	10	0
365	G. Barton ..	Southern Channel, Section 1, Nyah District .. .. .	197	8	9
366	J. Dalton ..	Southern Channel, Section 2, Nyah District .. .. .	266	1	10
367	M. McInerney ..	Southern Channel, Section 3, Nyah District .. .. .	194	16	3
368	Harry Miller ..	Earthen Storage Tanks, Township of Rainbow, Wimmera District	1,393	8	4
369	F. O. Wallin ..	Supply and delivery of 1,500 tons Firewood at Swan Hill Pumping Station, Swan Hill District	543	15	0
370	W. J. Roberts ..	Supply and delivery of 1,000 tons Firewood at Nyah Pumping Station, Nyah District	220	16	8
371	J. Spellacy ..	Supply and delivery of 1,000 tons Firewood, White Cliffs Pumping Station, White Cliffs District	216	13	4
372	J. W. Baker ..	Supply and delivery of 500 tons Firewood, Nyah Pumping Station, Nyah District	131	5	0
373	Moloney Brothers ..	Perrit Channel, Section 116, Sea Lake District .. .. .	116	5	0
374	Moloney Brothers ..	Perrit Channel, Section 117, Sea Lake District .. .. .	108	12	6
		Total .. .. .	£81,627	19	9

## WORKS CARRIED ON OR COMPLETED DURING THE YEAR ENDED 30TH JUNE, 1909.

## COLIBAN DISTRICT.

Extensions and improvements of pipe reticulation were carried out in Bendigo, Eaglehawk, Castlemaine, and Maldon.

The Sparrow Hawk to Epsom race extension was completed at a cost of £2,500. The Crown lands which are served by this extension have been subdivided into irrigable allotments, but owing to certain mining objections the land has not yet been made available for settlement. These objections can probably be overcome by reserving a strip of land along the various lines of reefs, and, if so, the lands will then be thrown open for settlement.

Branch extensions from the Axe Creek race to Kangaroo Creek, about  $4\frac{1}{2}$  miles long, and from the Spring Gully race past the Orphanage, about 2 miles long, were carried out at a cost of £275 and £800 respectively. The latter commands a considerable area suitable for irrigation within a radius of  $1\frac{1}{2}$  miles of Bendigo. Since its construction, practically the whole of the land served has been fenced, cleared, and put under cultivation.

The Harcourt Gardens race has been extended to the Porcupine ridge, a distance of 13 miles, at a cost of £3,000.

Minor race extensions have also been carried out during the year at Maiden Gully, Goornong, and Epsom.

The Specimen Hill Channel supplying the Marong, Eaglehawk, Myer's Flat, Raywood, and Sebastian Districts, was enlarged at a cost of £750.

Schemes for extending channels in the Bendigo and Castlemaine Districts are under consideration. Extensive improvements to the pipe reticulation of Bendigo, Eaglehawk, and Castlemaine are proposed, and it is expected will be carried out next year.

## IRRIGATION AND WATER SUPPLY DISTRICTS.

## RODNEY DISTRICT.

Surveys of channels required to complete the reticulation of the district have been actively pushed on, and contracts for the construction of 60 miles of channels, amounting in all to £22,680, entered into. This, with the exception of about 20 miles, for which contracts are not yet let, practically completes the whole of the channel system intended to be constructed at present.

The construction of irrigation outlets for measuring the delivery of water to consumers is being proceeded with.

## DISTRICTS ADMINISTERED FROM THE KERANG CENTRE.

These are Cohuna, Koondrook and Myall, Benjeroop and Murrabit, Swan Hill, Gunbower West, Kerang East, Macorna North, South Kerang, Dry Lake, Marquis Hill, and Wandella. Considerable improvements have been made to the works in these districts.

The new pumping plant at Swan Hill, with a capacity of 100 cusec, has been completed, and will be brought into service as early as required next season. The new channel system is complete, with the exception of a few minor channels and the remodelling of portion of the old channels. As the latter work can only be carried out by drying off the channels it will not be attempted until summer. Care will, however, be taken to interfere as little as possible with irrigation.

A pumping plant of like capacity to the Swan Hill Plant has been erected at Koondrook. Both plants consist of triple-expansion steam-engines, with forced lubrication, and direct-driven turbine pumps, and are expected to show great fuel economy in working. The Koondrook plant will supply the Benjeroop and Murrabit district as well as that of Koondrook and Myall. Surveys for the location of the main channel system for the combined districts have been completed and contracts entered into for 8½ miles of main channels. The whole channel system will be completed as early as possible.

A contract has been entered into for a new pumping plant at Cohuna Pumping Station, with a discharging capacity of 200 cusec. This will be in addition to the existing plant of 100 cusec. The new plant will supply No. 1 Riding through the present high-level channel, while the existing plant will supply No. 2 and No. 3 Ridings by the Deep Creek Channel. A general re-instatement and improvement of channels and structures throughout the Cohuna District have been carried out. About 8½ miles of new channels have been constructed, mainly for the supply of the lands purchased by the Government for Closer Settlement.

## DISTRICTS ADMINISTERED FROM THE LODDON CENTRE.

These include Tragowel Plains, North Boort, East Boort, Leaghur and Meering, and Twelve-Mile. All necessary repairs of works were carried out, also as much as possible of the arrears of maintenance mentioned in last Report. There is still, however, a considerable amount of work to be done in these districts. Improvements to Wandella Creek, clearing lignum and other obstructive growths have been carried out with a view to improving its capacity as a channel for supplying Lake Meering Storage. Further necessary work had to be postponed owing to the wet season, but will be carried out and completed before next winter.

## CAMPASPE DISTRICT.

Only ordinary maintenance of works has been undertaken during the year. The works generally are in good order.

## BACCHUS MARSH DISTRICT.

The enlargement of the main diversion channel from the river to Maddingley Service Reservoir has been proceeded with. The timber flumes in this channel, after being in use for more than 30 years, were found to be rotten, and are being replaced by re-inforced concrete structures. This portion of the work will be completed in time for next watering season; while the further portion required to complete the scheme should be ready for use the following season, when water will be available from Pyke's Creek Reservoir. A scheme for improving the water supply to the township of Bacchus Marsh will be carried out before the beginning of next summer. It will insure a continuous supply under a good pressure to the high as well as low levels of the town, instead of the intermittent supply which each year had to be resorted to in the summer months.

## DEAKIN IRRIGATION DISTRICT.

During the year only ordinary maintenance of works has been carried out. Surveys for a system of irrigation channels in the parishes of Tongala, Kyabram, and Girgarre have been made and are well advanced, but pending the decision of Parliament on certain proposals for the alteration of the present Water Act it has been thought advisable to postpone the construction of any new works. It is hoped, however, to proceed with the work at an early date.

## MURRAY RIVER FRONTAGE LANDS.

## WHITE CLIFFS IRRIGATION AREA.

The construction of irrigation channels for this settlement is approaching completion, also the erection of a pumping plant with a discharging capacity of 50 cusec. The whole will be ready to deliver water to the settlers in the beginning of next season. The settlement will contain 134 separate blocks of from 20 acres to 50 acres each, giving a total of about 5,000 acres commanded for irrigation. The land is first-class Mallee, well adapted for irrigation. The construction of domestic and stock supply channels to the back country, comprising an area of about 100 square miles, has been postponed pending the taking up of the lands.

## NYAH IRRIGATION AREA.

The scheme for an irrigation supply to 2,500 acres of irrigable land, immediately around Nyah, in blocks of 20 to 45 acres each, is approaching completion. A pumping plant, with a capacity of 25 cusec, has been installed, and the area has been completely reticulated by channels totalling 16 miles in length, with necessary fluming, syphons, and other structures. The Nyah pumping plant, besides supplying water to the irrigation area, is intended to give a domestic and stock supply to a large area of back country, and the first section of the main channel for this purpose is in process of construction. It is anticipated this work will be sufficiently advanced to enable that portion of the Long Lake Waterworks District north of the parishes of Nowie and Woorinen which can be more expeditiously and economically served from the Nyah plant to be so supplied next watering season. The channel system will also be extended with a view of supplying the whole of the settled country that can be commanded with an ample domestic and stock supply.

## LONG LAKE WATERWORKS DISTRICT.

The work of construction in this district has been mainly confined to the completion of channels in progress. Tenders for the construction of some 25 miles of new work have been accepted. In view of the proposed extensions of the district, surveys have been made for channels to serve that area south-west and west to Lalbert Creek, which it is proposed to include. Surveys for channels to serve some 40 square miles of the high country known as the Cannie Ridge, and for which a second "lift" will be necessary, have also been made. These projects are now well forward, and the works will shortly be put in hand.

The works for the supply of Lake Boga township which has been made an Urban District have been completed, and the township is now supplied with water. The total cost has been £1,900.

A proposal to give a pipe supply to the township of Ultima is now being investigated.

## WIMMERA WATER SUPPLY.

## 1. WESTERN WIMMERA AND WIMMERA UNITED WATERWORKS DISTRICTS.

The Western Wimmera and Wimmera United Waterworks Districts came under the control of the Commission on 1st July, 1908.

An extensive scheme of main supply works for the diversion northwards of the Lake Lonsdale storage water and as much of the Wimmera River flow as practicable, was commenced by the Commission during the year. The scheme, when completed, will provide an ample domestic and stock supply to the large area comprising the Wimmera United Waterworks District, the northern portion of the Western Wimmera Waterworks District, and the southern portion of the Karkaroc Shire, and also, if required, a supplementary supply to the area commanded by the Sea Lake Channel

system. The leading features of this scheme of main supply channels, which is estimated to cost £49,000, are as follow :—

Main central channel from Lake Lonsdale to Dunmunkle Creek—the head of the Wimmera United Channel System—with a diversion weir on the Wimmera River at Glenorchy.

Main western channel across Yarriambiack Creek to Rainbow.

Main eastern channel tapping the Sea Lake System.

East Karkaroc main channel.

West Karkaroc main channel.

These main channels will link up all existing channels, and will be of capacities capable of supplying simultaneously many branches in each district.

The surveys for the main channels, totalling about 275 miles in length, are so well advanced that the works can be carried on vigorously in the ensuing year.

A contract has been let for the first portion of the main central channel, some 15 miles in length, from Lake Lonsdale to the Wimmera River at Glenorchy, and the new weir and the succeeding sections of this channel will be carried out during the ensuing spring. The extension of the existing Dimboola channel to Rainbow, 38 miles in length, which will ultimately form part of the main western channel, has, together with its connexion, 4 miles long, to the existing Dooen-Kalkee System, been completed.

Surveys for branch channels on the western side of the Yarriambiack Creek, totalling some 40 miles, have also been made, and their construction will shortly be put in hand.

A contract has been let for the construction of storage tanks for the Rainbow Town supply, and the work of reticulating the town is being simultaneously carried out. The works are estimated to cost about £3,700, and will be completed in time to supply water early next summer.

Surveys have been made in connexion with the proposal to provide the township of Jeparit with a suitable reticulation scheme. Surveys have also been carried out for the purpose of making necessary improvements to the supplies to the townships of Rupanyup, Watchem, and Minyip.

Steps are being taken to improve the supply to the Dimboola Urban District. The existing pumping plant is practically worn out, and is exceedingly costly in operation. It will be superseded by a new suction-gas plant ; and considerable improvements will be made to the pipe reticulation. The whole work should be completed and in operation in January next. The estimated cost of this work is £2,700.

## 2. BIRCHIP, SEA LAKE, AND WYCHEPROOF WATERWORKS DISTRICTS.

The Birchip and Wycheproof Waterworks Districts came under the control of the Commission on 1st July, 1908.

During the year good progress has been made with the extension of the channel system which provides a supply to the above three districts. Contracts have been let for the construction of 88 miles of distributary channels, and surveys have been carried out for some 60 miles of further proposed extensions.

An examination is proceeding of an important project which aims at the regulation of the Avon and Richardson Rivers. At present only a small percentage of the flows of these rivers, owing to their intermittent character, can be utilized to feed the existing Sea Lake Channel System. So far as the investigations have proceeded, it seems likely that Batyo Catyo Swamp, situated below the junction of the two rivers, could, at a moderate cost, be converted into a regulating storage, with a capacity of 4,600 acre feet.

The works for supplying Birchip township, which has been proclaimed an Urban District, are approaching completion, and water will be available early in spring. The works consist of two earthen storage tanks to contain 16,000,000 gallons ; an elevated iron tank of 60,000 gallons ; a suction-gas pumping plant, and pipe reticulation. The cost of the work will be £5,500.

A scheme for improving the water supply to the Wycheproof Urban District has been prepared, and will be carried out as early as possible. It consists of increased storage, a new suction-gas pumping plant, enlarging service tank, and improvements to reticulation. The whole is estimated to cost £2,000.



## LERDERBERG RIVER WORKS.

The construction of Simmons' Reef Reservoir, with a capacity of 1,600 acre feet, will be proceeded with next summer, and simultaneously the construction of diversion works from the river and channels for the irrigation of the rich alluvial flats near Bacchus Marsh. It is intended to complete the whole of the works during next year, and to bring them into use in the spring of 1910.

## SWIFT'S CREEK IRRIGATION SCHEME.

Preliminary surveys and investigations have been carried out in connexion with a proposal to irrigate the alluvial flats on the Tambo River, near Swift's Creek, and a scheme has been prepared for irrigating 750 acres. The estimated cost of the works is £6,250, and an annual charge of 20s. per acre would be required to meet interest and working expenses. The scheme has been submitted to the land-owners for their consideration.

## DENISON-COWARR IRRIGATION SCHEME.

Preliminary surveys and investigations have been made in connexion with a proposal to irrigate a considerable area lying between the Thomson and Latrobe Rivers, in the vicinity of Denison and Nambrok, and a scheme has been prepared for irrigating 35,000 acres. The estimated cost of the scheme is £204,000, and an annual charge of 12s. per acre would be required to meet interest and working expenses. The scheme has been submitted to the land-owners interested for their consideration.

## SALTWATER RIVER—STORAGES.

An inspection has been made of the valley of the Saltwater River and its tributaries, and a preliminary examination of sites suitable for storage. Several sites of moderate capacity, from 10,000 to 12,000 acre feet, have been found, and will be further investigated.

## WATER SUPPLY TO COUNTRY WEST OF LODDON RIVER.

Surveys will be carried out early next year with the object of determining whether the high lands between the Loddon and Avoca Rivers to the east and north-east of Boort can be given a domestic and stock supply by gravitation from the Loddon. The probable point of diversion from the Loddon would be at Bridgewater Weir.

## RIVER GAUGING.

As provided by Section 38 of the Water Act, the work of gauging and recording the volume from day to day of the flow of rivers and streams, and the volume of lakes and lagoons, has been continued.

During this and portion of the previous year additional gauging stations on the Murray, Goulburn, Moorabool, Saltwater, Werribee, and Yarra Rivers were established. Observations of the daily heights of the Murray River at Albury and Echuca have been discontinued, in view of the reciprocal arrangement entered into with the States of New South Wales and South Australia, under which the keeping of gauging records of the Murray River will be divided between the three States.

A reduction in the total number of the original gauging stations has been effected, and a selection of 45 fairly distributed over the country was made for the purpose of re-gauging the principal streams of this State, and the Murray River. Since the abandonment of the Trawool storage project, gauging has been discontinued there.

The field work in connexion with most of these was carried out a number of years ago, and in many instances present conditions governing or affecting the rate of stream flow will probably differ from those obtaining at the time the original observations were made. Hence the advisability of re-gauging these streams now.

A commencement with this work was made early in March last year, and, in addition to the river and stream gaugings, measurements have also been made of the flow in the main diversion channels from the Goulburn, Broken, and Campaspe Rivers, and in the Rodney District Irrigation channels, and of discharges at Cohuna, Koondrook, Swan Hill, and Nyah pumping stations.

## GENERAL.

## COMPULSORY CHARGE FOR WATER.

Although few irrigated districts have natural advantages equal to those of Northern Victoria, nearly all surpass these districts in financial and agricultural return. Both should be increased. The financial situation should certainly be improved.

The present public benefits of irrigation in this State do not approach their cost. But the benefits which favored individuals are receiving are far more than their cost. What is needed is a fairer adjustment of burdens and benefits. The first step towards this is a revision of existing charges for irrigation water. The prices now paid in some districts are below the cost of delivery. Where this is true, these prices instead of being solely a charge are in part a subsidy. So far as the Commission can learn, they are the lowest in the world.

In effect, they are unjust to the State and an injury to every district where they exist. Below a certain point, cheap water leads to badly-prepared fields, wasteful methods of use, and consequent small agricultural returns. A fair and just charge would cause water to be used with more economy and skill, and would benefit both land-owner and State.

There is no provision in the existing Act authorizing the Commission to revise the charges that existed when the Trust districts were taken over by the Commission except by bringing these districts under the compulsory charge provisions. The Act requires that this be done within two years, or as soon thereafter as possible. Experience showed, however, that this time was too brief. The irrigation charge could be imposed only on land commanded by gravity. A contour survey of each district had to be made to locate the areas not so commanded. These surveys in Swan Hill, Cohuna, Koondrook, and Rodney, required more than two years to complete. The needed preliminary work for imposing the compulsory charge in the Swan Hill, Koondrook, Cohuna, and Rodney districts, is now nearing completion, but increases in the volume of water allotted, or which should be allotted, to the districts over those given in the Fourth Schedule of the *Water Act* 1905 render an amendment of that Act in regard to the charge desirable. The summer allotment for Rodney has been doubled, and pumps to lift four times the allotted volumes have been, or are being, installed at Swan Hill, Koondrook, and Cohuna. It is obvious that it will cost more to lift four acre feet of water than it will to lift one acre foot, but under the Act no more can be charged for the increased supply.

## PROPOSED AMENDMENT OF COMPULSORY CHARGE PROVISIONS OF WATER ACT.

An Amendment which will give flexibility to the compulsory charge and authorize a revision of charges in districts where the water supply does not warrant such charge, is recommended; it is also believed that the basis of this compulsory charge should be changed from a tax on land values, as at present, to one based on the cost of supplying water, this to include 4 per cent. interest on the reduced indebtedness, operating expenses and a reasonable Redemption Fund. If such an amendment of the Act is secured, every irrigation district having a definite water supply can be made self-supporting without retarding development or imposing any unjust burden on the land-owners.

That no uniform or reliable revenue can be anticipated from the present method of charging for water for irrigation is shown by the fluctuations in revenue of the districts.

## NEED FOR CLOSER SETTLEMENT IN IRRIGATION DISTRICTS.

The failure of irrigation in districts having an adequate water supply, is due to lack of people. There is not, so far as the Commission can learn, a single successful irrigation district in any country which has an average population of less than 50 to the square mile, and the best districts have from 100 to 800 people to the square mile. The State irrigated districts of Northern Victoria will not average 15 people to the square mile and, excluding townships, they will not average 10 people to the square mile, and thus not having enough people the increased water supply is not being utilized, hence the poorly supplied districts are paying their way better than the well supplied districts. In order to change this there must be an increase in population, and the readiest

way to secure this is to subdivide existing holdings. There can be no question that this is needed. The average size of the irrigated farm in Victoria is about six times the average size of the irrigated farm in California; the average in California being 70 acres, while in the irrigated districts of Northern Victoria the average is over 400 acres.

Large areas of unpeopled land are as bad as long stretches of empty channels. Provision has now been made for filling channels in some of the districts, but the benefit of this expenditure will not be realized until enough labour has been provided to properly cultivate the land. Subdivision and closer settlement of these districts are the next steps to be taken. To this end the Commission recommends wherever suitable land can be acquired at reasonable price by the State that this be done; already about 5,000 acres have been so purchased and subdivided in the Coluna district. Provision must be made, however, for the closer settlement of 200,000 acres under existing works if their full irrigation possibilities are to be developed. Thus far the purchases of land by the State for this purpose have been limited. But subdivision, either by private owners or through purchases by the State, is a fundamental requirement of success, and should be made the next step in development.

The proposals to introduce a compulsory charge for water and to promote closer settlement of land awakened keen anxiety, and some apprehension on the part of land-owners in existing districts. But opposition to these measures has, as a rule, been temperate, and where the situation has been fully understood both reforms have been accepted as necessary to agricultural development and the financial success of these districts. It is beginning to be understood that no arbitrary or unreasonable conditions are to be imposed, but only those which a justice to all interests requires.

The Commission is confident that a patient but firm adherence to these reforms will, in a few years, completely transform every Northern district. Already there are significant and gratifying evidences of improvement. This is shown in the purchase of tools for the grading and cultivation of land; the beginning of subdivision of holdings; and the extension of the areas devoted to hay and fodder crops. There is already a well defined movement for the extension of dairying; of more diversified farming, and, in fact, the beginning in a natural way of the development of real irrigated agriculture.

#### UTILIZATION OF GOULBURN SCHEME.

There is urgent need in the interest of the general taxpayer that the water which can be diverted by the Goulburn works be put to use. About one-fifth of the water which can be diverted can now be used in the Rodney district, another fifth will be utilized to fill the heretofore empty channels of the Tragowel district, leaving three-fifths, or water enough to irrigate 150,000 acres of land yet to be disposed of.

Before this is done the place where this water is to be used and the manner of its use must be determined. The original plan was to build distributary channels and scatter the water over the area which was commanded, or about 900,000 acres of land. Distributary channels for this area would cost not less than £1,000,000. But owing to the excessive losses which would result from this wide scattering of water, the actual area which could be irrigated under this plan would be far less than 150,000 acres. What it would be no one could predict, but it is certain that in hot weather nearly all the water would be frittered away in the channels. To build channels over this great area for the use of so little water would not be development; it would be a disaster.

Furthermore, these new areas even more than the existing districts lack people. It includes parishes with only three or four people to the square mile. Irrigated agriculture in such parishes would be impossible. The Commission has, therefore, recommended that no distributaries be built in new districts under this scheme until satisfactory arrangements for the subdivision and closer settlement of the land to be irrigated have been made. In view of the heavy financial loss the State must continue to sustain until these works are utilized, and the equally great loss in production, it is imperative that arrangements should be made for the early establishment of compact irrigation areas in portion of the lands commanded by the works.

#### SUPPLY FROM GOULBURN SCHEME TO LANDS NOT IN ANY DISTRICT.

In order to hasten the utilization of the water of the Goulburn Scheme, the Commission is willing to provide water for irrigation and furnish it at outlets on the main channels at a low wholesale rate, under long time contracts. Such contracts to be subject to the following conditions:—

1. The areas to be supplied to be outside the areas selected by the Commission for subdivision and closer settlement, and outside of existing reticulated districts.
2. The plans for distributaries and for closer settlement in the areas to be supplied to be submitted to and approved by the Commission.
3. No contract for water to be for less than 1,000 cubic feet per minute for an irrigation period of eight months.
4. The volume contracted for must not be less than 1 cubic foot per minute for 8 acres of land, which is equivalent to 1 acre foot per acre.
5. The price of water to be based on the cost of the main works, and computed to return 8 % on such cost.

The Commission would see that there was such subdivision of holdings as would ensure enough people on the land to cultivate it properly, thus removing the chief cause of failure in the past. But, if this alternative plan of development is adopted on any considerable scale, it only intensifies the need of purchase and subdivision by the State of enough land to meet the home demands for small farms by men who wish to own and improve the soil they cultivate.

#### NEED FOR MORE FARMERS.

The increased water supply at Swan Hill, Cohuna, and Koondrook, and the amount which will soon be available under the Goulburn Scheme, make it both possible and desirable to settle 30,000 more people in the Northern irrigable areas than now live there. This increased number of people is needed to cultivate the soil as irrigated agriculture requires. Where these people are to be secured is a question requiring early consideration. While the Commission believes in providing first for the State's own people, it does not believe that anything like the number required can be obtained in this State. Furthermore, there is a special need of a few farmers in each of these districts who understand and believe in intensive methods of cultivation. While there are farmers in each of these districts who are skilful and successful irrigators, and who are obtaining returns from irrigation and intensive cultivation which are equalled by few irrigated districts elsewhere, yet their number is altogether too few. What is needed in every Northern district is a larger number of settlers who know how to farm land so as to make the most out of irrigation. These districts need not only more people, but new people, who will bring with them the ideas and experiences of countries which have already the kind of agriculture it is sought to extend here. No industry or calling is likely to succeed unless those who follow it believe in it, and do their work with enthusiasm and confidence. Irrigated agriculture is no exception to this rule.

#### POSTPONEMENT OF NEW PROJECTS RECOMMENDED.

The large volume of water which awaits utilization from the Goulburn Scheme, the lack of population of the areas commanded, and the almost equal lack of labour and people in a number of existing districts, make their proper settlement and cultivation a matter of first importance. Until this has been done nothing will be gained by undertaking new projects; on the contrary, it will, through interfering with the proper utilization of existing schemes, tend to retard rather than advance the development of irrigated agriculture. Until it has been ascertained where and how settlers are to be secured, the Commission recommends that no new extensive irrigation projects be taken up, but that the means and efforts of the State be concentrated on securing adequate results from the areas already provided with water.

### NEW POLICY.

The foregoing recommendations have been termed a new policy. It is not a new policy either here or in other irrigated countries; on the contrary, there is not a country where experience has not shown that small farms and closer settlement are essential to the success of irrigation. Closer settlement of irrigation areas is not an experiment in Victoria; it has been successfully tested in Mildura, Bacchus Marsh, and Bendigo.

To select 150,000 acres of good soil out of a total area of 900,000 acres commanded by the Goulburn scheme and arrange for its subdivision and closer settlement ought not be difficult; and it would not be if the value of irrigation was better understood, or the passion for broad acres less keen. The same is true of the closer settlement and utilization of the water in the Swan Hill and Cohuna districts, and other districts with a reliable water supply. Progress is hampered by the reluctance of land-owners to adopt intensive methods of cultivation. One thing, however, is certain, the kind of agriculture suited to irrigation must be adopted if the heavy loss which the State is now sustaining is to be lessened.

### EXPERIMENTAL FARM AT TATURA.

The Act requires the Commission to "instruct occupiers of land in irrigation and water supply districts in the best methods of irrigated culture, and the utilization of water as applied to agriculture." In order to carry out this requirement, experimental work was undertaken on two small plots at Tatura and Kerang last year, but to enable the work to be carried on in a more comprehensive manner, the two plots were superseded by the purchase and equipment of a farm at Tatura. On this farm experiments are being made to ascertain the effect of subsoiling, application of lime, and the ploughing under of green leguminous crops in overcoming the tendency of clay soils to bake when irrigated. The demonstration and experimental work at Tatura include the use and testing of tools for grading land, and the laying out of plots to show different methods of applying water for irrigation. A complete equipment of modern hay-making tools was imported from America, and demonstration of their use made at Tatura and in the Cohuna district. The use of these tools will reduce the cost of harvesting hay one-half. One of the leading implement makers in Melbourne has begun their manufacture, while several implement makers in the Rodney district have also begun the manufacture of tools for grading land. Different varieties of lucerne have been planted in order that their suitability and yields might be tested. At the request of the Agricultural Department, certain places have been set aside for testing the growth of maize, sugar beet, and vines.

### DIVERSIONS FROM STREAMS.

The Commission has during the year collected a considerable amount of additional information relating to unauthorized diversions from streams, and it is proposed during the ensuing year to place this branch of the Commission's work on a sound basis. For this purpose Mr. G. Laing, C.E., has been placed in charge of the work, and that officer is now arranging for inspections with a view to all diversions being regulated and recorded.

### URBAN DISTRICTS.

During the year the townships of Birchip, Dimboola, Lake Boga, and Natimuk have been proclaimed Urban Districts, while arrangements have also been made to similarly proclaim the township of Rainbow during the ensuing year.

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## ADMINISTRATION.

## APPOINTMENT OF SECRETARY.

Mr. M. Nally, who had been Acting Secretary since the constitution of the Commission, was, on 1st July, 1908, appointed Secretary.

## DEAKIN DISTRICT.

The United Echuca and Waranga Waterworks Trust District was constituted the Deakin Irrigation and Water Supply District and placed, on 1st July, 1908, under the control of the Commission. Pending the completion of a scheme for the administration of the district an arrangement has been made whereby Mr. A. E. Castles, C.E., will continue to act as District Engineer, Mr. W. H. Geyle as District Secretary, and Mr. A. Roberts as District Collector, the local office being situated at Rushworth.

## WIMMERA DISTRICTS.

On 1st July, 1908, the Birchip, Western Wimmera, Wimmera United, and Wycheproof Waterworks Districts were placed under the control of the Commission, and the following staff appointments were made—

District.	Officer appointed.	Situation of Local Office.
Western Wimmera	Mr. P. Learmonth, C.E., District Engineer Mr. J. A. Teague, District Secretary ..	Horsham
Wimmera United	Mr. J. Southern, C.E., District Engineer Mr. A. B. Cledes, District Secretary ..	Murtoa
Birchip and Wycheproof (to which is added Sea Lake)	Mr. D. B. Scott, Inspector of Works .. Mr. N. Chalk, District Secretary ..	Birchip

## SWAN HILL CENTRE.

With a view of securing a more direct administration of the Swan Hill Irrigation and Water Supply District, the Long Lake Waterworks District and the proposed Nyah Irrigation Area, an office has been opened at Swan Hill, where all business relating to the districts and area named can be transacted. Mr. J. M. Skene, C.E., has been appointed Acting District Secretary and District Engineer for this new centre.

## RECEIPTS, DISBURSEMENTS, AND ESTIMATES.

The statements following show that the total revenue of the Commission for the year was £100,397; an increase of £12,287 on the amount for 1907-8. This latter year also included a sum of £8,632 from the Geelong works, which have been sold to the local Trust, and from which no revenue was consequently received during 1908-9. The principal factor in the above increase is the new revenue received from the Waterworks Districts recently transferred to the Commission.

The Coliban system shows the slight decrease of £56 in receipts as against last year; the net return to the State on capital cost is now 2½ per cent., as against 1½ per cent. in the year 1905-6.

In the Irrigation and Water Supply Districts the revenue has increased by £1,809 over the previous year, but as a sum of £3,681 was collected in Deakin District, which was only transferred to the Commission since the last Annual Report, the revenue in the districts mentioned in that report has really decreased by £1,872. The revenue deficit of the districts, *i.e.*, the excess of disbursements and interest over receipts, is now £11,748, as against £5,876 for the previous year. In arriving at this result, no charge has been made against the districts served by the Goulburn Main Channel scheme (which is shortly to be transferred to the Commission) for the maintenance of such works or for interest on their cost. With these added, the deficit would be increased by some £30,000. Until the revenue from sales of water is placed on a proper basis by means of the proposed compulsory charge hereinbefore mentioned, fluctuations in receipts will not only recur, but it will be impossible in most districts to meet expenditure and interest.

The expenditure for the year from Annual Votes excluding Capital expenditure was £67,236; an increase of £18,007 over that of previous year, after deducting outlay on Geelong works. This increase is largely due to the new expenditure in the districts transferred to the Commission during the year. The expenditure of Loan moneys amounted to £97,857 for the year. The districts in which the works were constructed are set out in detail.

In view of the proposal to make the cost of supplying water for irrigation the basis of the compulsory charge therefor, it is intended to publish, in future Reports, particulars showing the cost of supplying water in each district. This information, while perhaps exceeding the requirements of the present Act, will enable each irrigator to ascertain how the compulsory charge for water is arrived at.

During the year, that part of the Rodney District known as the Wyuna Settlement was placed under the Irrigation Charge provisions of the Act, and a charge was levied upon the occupiers or owners of all lands therein equal in amount to one-tenth of their annual value. In view of the proposal to alter the basis of this compulsory charge, it is not intended to continue it, pending the decision of Parliament on the proposal.

In view also of the necessity of obtaining Parliamentary authority for the establishment of the Depreciation Fund mentioned in the last Report, the initiation of that Fund has been deferred pending the securing of the necessary legislation. A Bill to include this provision and a further provision for the establishment of a Redemption Fund for the gradual extinction of the capital indebtedness of each district is now being prepared.

The Estimates of both Receipts and Disbursements for 1909-10 show increases over those of the previous year. The increase in Receipts is, however, estimated at £14,500, while that for Disbursements is only £3,225. The estimated available sum to apply towards meeting the interest to be paid by the State on its loan expenditure for works of water supply is £21,400, to which should be added £47,000 estimated to be received by the State from other authorities, making a total of £68,400. The total interest charges on loans for the year amount to £233,156, leaving a balance of £164,756 to be provided by the State.

The Loan liability of the State for works of water supply at the close of the year was £6,868,616. Of this total, £1,197,756 is for free headworks; £1,296,934 has been written off; £142,506 was advanced as free grants to some early-formed local authorities; £297,919 has not been expended; and £167,330 has been paid off by Trusts and other bodies. The balance, £3,766,171, which includes the amount debited to the Board of Land and Works, is the sum on which interest should be paid by the occupiers or owners of the properties benefited by the various works.

In the accompanying loan statement, the cost of loan flotation has been apportioned to the various works at the average rate; an average rate has also been adopted in apportioning the interest. The amounts of Capital shown as written off have now been allocated to the various works in accordance with their classification in the Water Supply Advances Relief Act No. 1625.



## RECEIPTS AND DISBURSEMENTS.

STATEMENT of Moneys received and disbursed during the year ended 30th June, 1909.

Works.	REVENUE.	EXPENDITURE.			EXCESS.	
		From Annual Votes.	Deduct Expenditure on Capital Works.	Net Expenditure on Maintenance and Management.	Revenue over Net Expenditure.	Expenditure over Revenue.
	£	£	£	£	£	£
<b>Coliban</b> .. .. .	38,864	14,956	3,728	11,228	27,636	
<b>Other State Works—</b>						
Goulburn .. .. .	142	2,006	..	2,006	..	1,864
Loddon River .. .. .	7	169	..	169	..	162
Kow Swamp .. .. .	338	1,368	..	1,368	..	1,030
Broken River .. .. .	7	209	..	209	..	202
North-West Lakes .. .. .	184	352	..	352	..	168
Lake Lonsdale .. .. .	141	167	..	167	..	26
Lower Wimmera .. .. .	..	120	..	120	..	120
<b>Irrigation Districts</b> .. .. .	35,906	26,401	865	25,536	10,370	
<b>Waterworks Districts</b> .. .. .	24,020	18,134	545	17,589	6,431	
Licences, Diversions, Pumping .. .. .	760	400	..	400	360	
Demonstration Plots .. .. .	28	1,034	..	1,034	..	1,006
	<b>100,397</b>	<b>65,316</b>	<b>5,138</b>	<b>60,178</b>	<b>44,797</b>	<b>4,578</b>
<i>Not Revenue Producing—</i>						
Nyah and White Cliffs Irrigation Areas .. .. .	..	321	..	321	..	321
Pyramid Creek .. .. .	..	457	..	457	..	457
River Gaugings and Surveys .. .. .	..	3,405	..	3,405	..	3,405
New Projects .. .. .	..	828	..	828	..	828
Loan Works—						
Services on account of, defrayed from Votes .. .. .	..	2,047	..	2,047	..	2,047
<b>Totals</b> .. .. .	<b>100,397</b>	<b>72,374</b>	<b>5,138</b>	<b>67,236</b>	<b>44,797</b>	<b>11,636</b>

## COLIBAN SYSTEM.

STATEMENT of Moneys received and disbursed during the year ended 30th June, 1909.

Works.	CAPITAL DEBIT at 30th June, 1909.	Disbursements from Consolidated Revenue.		ACTUAL RECEIPTS for year 1908-9. (Receipts for 1907-8 shown in brackets.)	Receipts over Net Expenditure on Maintenance and Management, showing rate per cent. on total cost. (Same for preceding year in brackets.)
		INTEREST on Capital.	Net MAINTENANCE and MANAGEMENT.		
	£	£	£	£	£
<b>Coliban System</b> .. .. .	1,245,984	41,590	11,228	38,864	27,636 =
Consisting of Upper Coliban and Malmsbury storage reservoirs, on the Coliban River; main channel from Malmsbury, with branches, about 43 miles in length; distributary channels from the main channel and branches, about 290 miles in length; twenty-six minor reservoirs and service basins; about 284 miles of main and reticulation pipes				(38,920)	2½ per cent. (29,155 = 2 <sup>7</sup> / <sub>10</sub> per cent.)

## IRRIGATION AND WATER SUPPLY DISTRICTS.

STATEMENT of Moneys received and disbursed from 1st May, 1906, to 30th June, 1909; and of Interest, due at the rate of 4 per cent on Capital Debts, as at 30th June, 1909. (Free Head-works excluded.)

## RECEIPTS.

District.	1st May to 30th June, 1906.	1st July, 1906, to 30th June, 1907.	1st July 1907, to 30th June, 1908.	1st JULY, 1908, TO 30th JUNE, 1909.				Grand Total at 30th June, 1909.
				Rates.	Sales of Water.	Interest, Miscellaneous.	Total.	
1. Bacchus Marsh ..	£ 312	£ 663	£ 1,057	£ 612	£ 240	£ 1	£ 853	£ 2,885
2. Campaspe ..	301	448	752	890	75	5	970	2,471
3. Deakin, (*including Bank Balance) ..	..	..	..	1,313*	2,352	16	3,681	3,681
4. Rodney ..	1,605	9,180	10,583	5,233	3,542	20	8,795	30,163
Kerang Centre—								
5. Benjeroop and Murrabit ..	146	588	431	263	189	4	456	1,621
6. Cohuna ..	1,992	7,166	7,313	3,759	3,647	88	7,494	23,965
7. Dry Lake ..	..	43	43	..	..	29	29	115
8. Gunbower West ..	70	534	663	303	243	..	546	1,813
9. Kerang East ..	82	1,000	681	397	351	6	754	2,517
10. Koondrook and Myall ..	233	549	1,163	413	507	8	928	2,873
11. Macorna North ..	54	1,525	1,536	748	644	2	1,394	4,509
12. Marquis Hill ..	171	699	588	327	279	5	611	2,069
13. South Kerang ..	52	137	133	82	64	..	146	468
14. Swan Hill ..	97	1,229	2,598	667	1,916	11	2,594	6,518
15. Wandella ..	352	1,129	1,062	353	588	5	946	3,489
Loddon Centre—								
16. East Boort ..	90	693	691	417	281	..	698	2,172
17. Leaghur and Meering ..	45	204	286	148	139	..	287	822
18. North Boort ..	41	266	274	172	118	..	290	871
19. Tragowel Plains ..	385	3,918	3,977	2,526	1,682	13	4,221	12,501
20. Twelve Mile ..	47	200	266	119	92	2	213	726
Miscellaneous ..	..	4	..	..	..	..	..	4
Totals ..	6,075	30,175	34,097	18,742	16,949	215	35,906	106,253

## DISBURSEMENTS AND INTEREST DUE

(Exclusive of any Charges on Account of the Goulburn Main Channel Works).

District.	DISBURSEMENTS.					INTEREST DUE.					Grand Total at 30th June, 1909.	
	1st May, 1906, to 30th June, 1906.	1st July, 1906, to 30th June, 1907.	1st July, 1907, to 30th June, 1908.	1st July, 1908, to 30th June, 1909.	Total at 30th June, 1909.	Arrears 1st May, 1906.	1st May, 1906, to 30th June, 1906.	1st July, 1906, to 30th June, 1907.	1st July, 1907, to 30th June, 1908.	1st July, 1908, to 30th June, 1909.		Total at 30th June, 1909.
1. Bacchus Marsh ..	£ 68	£ 707	£ 708	£ 423	£ 1,906	£ 70	£ 35	£ 211	£ 210	£ 240	£ 766	£ 2,672
2. Campaspe ..	35	1,207	472	406	2,120	115	58	348	584	584	1,689	3,809
3. Deakin ..	..	..	..	2,074	2,074	..	..	..	..	2,755	2,755	4,829
4. Rodney ..	694	5,387	4,737	6,619	17,437	926	469	2,817	3,641	5,183	13,036	30,473
Kerang Centre—												
5. Benjeroop and Murrabit ..	181	206	120	120	627	221	38	227	237	255	978	1,600
6. Cohuna ..	816	6,241	5,932	5,594	18,583	2,534	378	2,269	2,540	2,686	10,407	28,995
7. Dry Lake ..	1	..	..	..	1	24	5	29	29	29	116	117
8. Gunbower West ..	122	135	193	201	651	305	39	236	240	240	1,060	1,711
9. Kerang East ..	224	468	353	335	1,380	273	47	281	286	303	1,190	2,570
10. Koondrook and Myall ..	159	549	1,271	1,304	3,283	108	22	133	153	230	646	3,929
11. Macorna North ..	456	905	538	402	2,301	348	69	416	427	429	1,689	3,990
12. Marquis Hill ..	239	486	381	235	1,341	496	36	216	216	221	1,185	2,526
13. South Kerang ..	19	42	63	34	158	21	4	25	25	32	107	265
14. Swan Hill ..	223	1,387	2,421	3,752	7,782	64	32	193	272	743	1,304	9,087
15. Wandella ..	197	384	491	437	1,509	128	65	388	389	406	1,376	2,885
Loddon Centre—												
16. East Boort ..	34	492	605	364	1,495	167	44	261	261	261	994	2,489
17. Leaghur and Meering ..	22	278	113	80	493	81	16	97	97	97	388	881
18. North Boort ..	15	393	338	254	1,000	58	13	82	82	82	317	1,317
19. Tragowel Plains ..	256	2,286	2,578	2,773	7,893	858	232	1,395	1,395	1,395	5,275	13,168
20. Twelve Mile ..	16	163	132	129	440	23	12	71	71	71	248	688
Totals ..	3,777	21,716	21,446	25,536	72,475	6,820	1,614	9,695	11,155	16,242	45,526	118,001

For Summary see next page.

IRRIGATION AND WATER SUPPLY DISTRICTS—*continued.*

## SUMMARY OF RECEIPTS AND DISBURSEMENTS AND INTEREST DUE.

*(See preceding page).*

Total Disbursements and Interest due ..	£118,001	Balance Disbursements and Interest over Receipts at 30th June, 1908 ..	£5,876
Total Receipts .. .. .	106,253	Excess of Disbursements and Interest over Receipts for 1908-9 .. ..	5,872
Balance Disbursements and Interest over Receipts at 30th June, 1909	£11,748	Revenue Deficit at 30th June, 1909	£11,748

## WATERWORKS DISTRICTS.

STATEMENT of Moneys received and disbursed from 1st July, 1906, to 30th June, 1909; and of Interest, due at the rate of 4 per cent. on Capital Debts, as at 30th June, 1909. (Free Headworks excluded.)

## RECEIPTS.

District.	1st July, 1906, to 30th June, 1907.	1st July, 1907, to 30th June, 1908.	1st JULY, 1908, to 30th JUNE, 1909.						Grand Total at 30th June, 1909.
			Bank Balances.	Arrears of Rates.	Current Rates.	Sales of Water.	Interest.	Total.	
	£	£	£	£	£	£	£	£	£
1. Birchip ..	..	..	13	31	795	..	..	839	} 7,823
2. Sea Lake ..	1,312	1,516	..	368	2,327	14	38	2,747	
3. Wycheproof ..	..	..	338	21	1,005	41	4	1,409	
4. Karkaroc ..	..	..	..	..	..	..	..	..	..
5. Long Lake ..	1,809	2,978	..	1,129	2,950	65	114	4,258	9,045
6. Western Wimmera ..	..	..	1,980	268	3,302	3,234	56	8,840	8,840
7. Wimmera United ..	..	..	2,881	105	1,011	1,442	85	5,524	5,524
	3,121	4,494	5,212	1,922	11,390	4,796	297	23,617	31,232

## DISBURSEMENTS AND INTEREST DUE.

District.	DISBURSEMENTS.				INTEREST DUE.				Grand Total at 30th June, 1909.
	1st July, 1906, to 30th June, 1907.	1st July, 1907, to 30th June, 1908.	1st July, 1908, to 30th June, 1909.	Total at 30th June, 1909.	1st July, 1906, to 30th June, 1907.	1st July, 1907, to 30th June, 1908.	1st July, 1908, to 30th June, 1909.	Total at 30th June, 1909.	
	£	£	£	£	£	£	£	£	£
1. Birchip ..	} 3,999	4,204	4,150	12,353	2,138	2,827	3,955	8,920	21,273
2. Sea Lake ..									
3. Wycheproof ..									
4. Karkaroc ..	..	..	79	79	..	..	68	68	147
5. Long Lake ..	1,863	2,730	2,544	7,137	413	626	909	1,948	9,085
6. Western Wimmera ..	..	..	4,437	4,437	..	1,537	3,232	4,769	9,206
7. Wimmera United ..	..	..	6,379	6,379	..	..	4,416	4,416	10,795
	5,862	6,934	17,589	30,385	2,551	4,990	12,580	20,121	50,506

*Long Lake District.*—In addition to the amount of £4,258 received during the year, a sum of £403 was collected on account of rates made by the Victorian Water Supply Department. The total collected by the Commission on account of rates made by the latter Department now amounts to £3,021.

WORKS TAKEN OVER BY THE AUDITOR-GENERAL AND TRANSFERRED TO THE  
COMMISSION AS PROVIDED BY SECTION 278 OF ACT.

LODDON UNITED WATERWORKS TRUST.—BALANCE-SHEET.

STATEMENT OF RECEIPTS AND EXPENDITURE FOR THE YEAR ENDED 31ST DECEMBER, 1908.

*Revenue Account.*

RECEIPTS.				DISBURSEMENTS.								
		£	s.	d.			£	s.	d.			
1908.					1908.							
Jan. 1	Balance from 1907	..	..	455	13	7	Jan. 1	Interest on Loan	..	1,500	0	0
	to Rates Arrears	..	..	143	5	5	to	Wages, Forage	..	179	18	0
Dec. 31.	Rates Current	..	..	1,455	15	9	Dec. 31	Stores, Incidentals	..	45	17	11
	Sales of Water	..	..	155	10	6		Maintenance and Repairs	..	246	6	9
	Interest on Arrears	..	..	21	4	6		Overpaid Rate	..	0	3	0
	Overpaid Rates	..	..	0	13	7		Valuation of Trust Dis-				
	Tragowel Plains District							trict	..	115	0	0
	(paid in error)	..	..	13	6	6		Gordon Shire Refund	..	34	11	5
								Bank Balance	..	123	12	9
	Total..	..	..	2,245	9	10		Total..	..	2,245	9	10

*Statement of Assets and Liabilities.*

LIABILITIES.				ASSETS.								
		£	s.	d.			£	s.	d.			
	Loan Indebtedness	19,617	4	9		Works at Cost	..	19,617	4	9		
	Less Redemption					Rates Unpaid	..	1,068	0	2		
	due	..	..	946	9	1		Sales of Water, Unpaid	..	30	2	6
						Bank Balance Credit	..	123	12	9		
				18,670	15	8		Balance, General Ac-				
	Interest due to	£	s.	d.		count	..	180	18	9		
	Treasurer	..	..	1,388	5	1		Total..	..	21,019	18	11
	Loan Redemption											
	due to Treasurer	..	..	946	9	1						
				2,334	14	2						
	Tragowel Plains											
	District	..	..	..	13	6	6					
	Rates Overpaid	..	..	..	1	2	7					
	Total..	..	..	21,019	18	11						

*Statement of Rates.*

				£	s.	d.						
	Current Rate	..	..	2,437	11	9		Current Rates Paid	..	1,456	9	4
	Arrears from 1907	241	19	1				Arrear Rates Paid	..	143	5	5
	Less amount							Arrears Carried Forward	..	1,068	0	2
	written off	..	..	12	9	6						
				229	9	7						
	Rate Overpaid	..	..	0	13	7						
	Total..	..	..	2,667	14	11		Total..	..	2,667	14	11

## TATURA EXPERIMENTAL FARM.

The following is a statement of the moneys disbursed in connexion with the Tatura Experimental Farm during the year ended 30th June, 1909:—

## DISBURSEMENTS.

Salary (part) Manager .. ..	£117	0	0
Wages, Casual Labor .. ..	194	9	6
Seed, Manures, Timber and Waterings	252	2	1
Farm Machinery .. ..	125	16	8
Purchase of Horses .. ..	240	5	11
	<hr/>		
	£929	14	2
	<hr/>		

Area of Farm, 265 acres; Purchase cost. £4,776.

It is proposed to reduce the size of the farm to about 140 acres; the balance of the land will be sold during the coming year.

## LOAN EXPENDITURE.

STATEMENT OF EXPENDITURE BY THE COMMISSION FOR THE YEAR ENDED 30TH JUNE, 1909.

Name.	Loans Application Act, No. 2118.	Loans Application Act, No. 2170.	Total.
<i>Irrigation and Water Supply Districts.</i>	£ s. d.	£ s. d.	£ s. d.
1. Bacchus Marsh .. ..	.. ..	758 11 10	758 11 10
2. Benjeroop and Murrabit .. ..	101 4 10	211 5 6	312 10 4
3. Cohuna .. ..	2,119 3 0	1,431 13 3	3,550 16 3
4. Deakin .. ..	.. ..	409 13 7	409 13 7
5. Gunbower West .. ..	.. ..	0 18 0	0 18 0
6. Kerang East .. ..	331 15 4	.. ..	331 15 4
7. Koondrook and Myall .. ..	174 5 3	1,738 5 6	1,912 10 9
8. Macorna North .. ..	19 5 9	.. ..	19 5 9
9. Rodney .. ..	7,348 13 2	23,404 15 11	30,753 9 1
10. South Kerang .. ..	118 14 0	3 6 7	122 0 7
11. Swan Hill .. ..	2,654 13 7	9,161 3 10	11,815 17 5
12. Wandella .. ..	.. ..	114 15 2	114 15 2
<i>Irrigation Areas.</i>			
13. Nyah .. ..	495 4 4	5,772 8 11	6,267 13 3
14. White Cliffs .. ..	99 17 6	4,396 13 7	4,496 11 1
<i>Waterworks Districts.</i>			
15. Birchip .. ..	1,296 0 8	2,501 6 1	3,797 6 9
16. Coliban .. ..	217 3 10	2,498 9 10	2,715 13 8
17. Karkarooc (including Rainbow) .. ..	.. ..	1,210 19 7	1,210 19 7
18. Long Lake .. ..	3,203 15 6	3,792 5 11	6,996 1 5
19. Sea Lake .. ..	4,850 19 0	7,423 1 7	12,274 0 7
20. Western Wimmera .. ..	.. ..	3,911 5 2	3,911 5 2
21. Wimmera United .. ..	.. ..	387 5 4	387 5 4
22. Wycheproof .. ..	.. ..	44 9 5	44 9 5
<i>Miscellaneous.</i>			
23. Lake Lonsdale .. ..	200 0 0	.. ..	200 0 0
24. Lerderderg River .. ..	.. ..	192 1 11	192 1 11
25. Wimmera Main Channels .. ..	248 0 6	5,013 13 5	5,261 13 11
Totals .. ..	23,478 16 3	74,378 9 11	97,857 6 2

## 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, 1910.

## ESTIMATED DISBURSEMENTS.

Salaries over £250 (to be apportioned to works at end of year)	...	...	...	£5,380
Coliban Works	...	...	...	13,600
Other State Works—				
Goulburn-Waranga	...	...	£2,000	
Kow Swamp	...	...	2,300	
Loddon River...	...	...	500	
North-West Lakes	...	...	400	
Broken River	...	...	400	
Lake Lonsdale	...	...	250	
Lower Wimmera	...	...	300	
			—————	6,150
Irrigation and Water Supply Districts, including Irrigation Areas	...	...	...	31,700
Waterworks Districts	...	...	...	18,600
General Expenditure (to be apportioned to works at end of year)	...	...	...	4,870
River Gaugings, Diversions from Streams, Surveys	...	...	...	2,800
			—————	£83,100

## ESTIMATED RECEIPTS.

District or Works—				
Coliban	...	...	...	£39,000
Irrigation and Water Supply Districts and Areas	...	...	...	31,000
Waterworks Districts	...	...	...	32,500
Other State Works	...	...	...	1,000
Miscellaneous	...	...	...	1,000
			—————	£104,500

ESTIMATE of the sums to be 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 Board of Land and Works or the Commission; and of the sums available from the revenues of the Commission, and from the moneys receivable from such Authorities, to provide such Interest for the year ending 30th June, 1910:—

LOAN LIABILITY OF STATE FOR WORKS OF WATER SUPPLY AT 30TH JUNE, 1909, EXCLUSIVE OF MELBOURNE WATER SUPPLY.

Works.	LOAN EXPENDITURE.		INTEREST PAYABLE.				Estimated Interest receivable from Commission or other Authority. Year ending 30th June, 1910.	Deficiency to be met by State.
	Total.	Amount Debited to Commission or other Authority.	Amount Debited to State.	On Amount Debited to Commission or other Authority. (See Column 2.)	On Amount Debited to State. (See Column 3.)	Total Interest Payable.		
1.	2.	3.	4.	5.	6.	7.	8.	
Free Headworks .. .. .	£ 1,197,756	£ 1,197,756	£ ..	£ 40,657	£ 40,657	£ ..	£ 40,657	
Free Grants to Local Authorities .. .. .	142,506	142,506	..	4,837	4,837	..	4,837	
Irrigation and Water Supply Districts .. .. .	1,141,726	389,270	752,456 (Capital written off)	13,213	25,543	38,756	71,927	
Other Works of Commission .. .. .	1,607,612	1,607,612	..	54,571	..	21,400	..	
Waterworks Trusts and Local Governing Bodies .. .. .	1,932,402	1,387,924	544,478 (Capital written off)	47,114	18,482	65,596	18,596	
Board of Land and Works—Works in progress to be shortly transferred to Commission .. .. .	548,695	..	548,695	..	18,626	..	18,626	
Loan Moneys raised but not expended .. .. .	297,919	..	297,919	..	10,113	..	10,113	
Less Payments by Authorities to Treasury Redemption Fund .. .. .	6,868,616	3,384,806	3,483,810	114,898	118,258	233,156	164,756	
	167,330	167,330						
	6,701,286	3,217,476	3,483,810	Balance of Interest to be provided by State (No allowance for Redemption Payments) ..			£164,756	

Dated at the Office of the State Rivers and Water Supply Commission,  
Treasury Gardens, Melbourne, the 29th day of September, 1909.

ELWOOD MEAD, Chairman.

G. GARSON, Commissioner.

WM. CATTANACH, Commissioner.

M. NALLY, Secretary.