

1934.  

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VICTORIA.

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STATE RIVERS AND WATER SUPPLY COMMISSION.

TWENTY-NINTH  
ANNUAL REPORT,  
1933-34.

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PRESENTED TO BOTH HOUSES OF PARLIAMENT PURSUANT TO THE PROVISIONS OF THE  
WATER ACT 1928.

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*By Authority*

H. J. GREEN, GOVERNMENT PRINTER, MELBOURNE.



# STATE RIVERS AND WATER SUPPLY COMMISSION.

## ANNUAL REPORT, 1933-34.

In compliance with the provisions of the *Water Act 1928*, the State Rivers and Water Supply Commission submits the following Report and Statement for the Financial Year 1933-34, and Estimates for the ensuing year.

R. H. HORSFIELD, CHAIRMAN.

A. S. KENYON, COMMISSIONER.

W. TREVEAN, COMMISSIONER.

# 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, 1934. Exclusive of cost of Loan Flotation.
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 Reservoir; and that Reservoir (but exclusive of the work of its enlargement) .. .. .	739,552
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, Racecourse Lake, Cullen's Lake, Kangaroo Lake, and Lake Tutchewop, and to the Little Murray River, with water storage works at these lakes .. .. .	26,564
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 .. .. .	187,944
5. <b>Lake Lonsdale Reservoir</b> :—Reservoir at Lake Lonsdale, on the Little Wimmera River, near Ledcourt .. .. .	49,054
6. <b>Loddon River Works</b> :—Laanecoorie Weir, on the Loddon; Bridgewater Weir, on the Loddon; Kinypanial Weir, on the Loddon .. .. .	167,789
7. <b>Long Lake Pumping Works</b> :—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. <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 homestead; Jeparit Weir, on the Wimmera, near Jeparit township .. .. .	8,663
Total .. .. .	<u>1,221,765</u>

## B.—MAIN SUPPLY WORKS.

### IRRIGATION AND WATER SUPPLY DISTRICTS, WATERWORKS DISTRICTS, AND FLOOD PROTECTION DISTRICTS.

Costs Apportioned and to be Apportioned to Districts benefited.

Name of Work.	Capital Debit at 30th June, 1934.	Tentative Debits to Districts, 1933-34.	
Goulburn Main Channels (Free Headworks excluded)—	£	Rodney .. .. . £120,000	} 1,418,293
1. East Goulburn Main .. .. .	359,195	Tragowel Plains .. .. . 100,000	
2. Waranga Reservoir to Campaspe .. .. .	391,503	Rochester .. .. . 74,000	
3. West of Campaspe .. .. .	656,959	Tongala .. .. . 58,000	
4. Goulburn Main Channel Distributaries .. .. .	10,636	Shepparton .. .. . 57,000	
	1,418,293	Deakin .. .. . 24,000	
		Boort .. .. . 20,000	
		Echuca North .. .. . 17,000	
		Dingee .. .. . 15,000	
		Stanhope .. .. . 15,000	
		South Shepparton .. .. . 9,000	
		<u>£509,000</u>	
Goulburn Storages—			2,478,811
5. Eildon Reservoir .. .. .	1,869,932		
6. Waranga Reservoir Enlargement .. .. .	608,879		
	2,478,811		
Bacchus Marsh and Werribee Schemes—			
7. Ballan Tunnel .. .. .	21,678		
8. Pykes Creek Reservoir .. .. .	142,113		
9. Melton Reservoir .. .. .	85,671		
	249,462	Capital allotted .. .. . £200,722	249,462
10. Bellarine Peninsula .. .. .	446,447	Capital allotted .. .. . £184,150	446,447
Maffra-Sale Scheme—			
11. Glenmaggie Reservoir .. .. .	663,646		
12. Main Channels and Distributary Works .. .. .	580,049		
	1,243,695	Capital allotted .. .. . £205,900	1,243,695
Red Cliffs Scheme—			
13. Main and Distributary Channels .. .. .	780,379	Capital allotted .. .. . £481,799	780,379
Millewa District—			
14. Main and Distributary Channels .. .. .	518,605	Capital allotted .. .. . £245,465	518,605
Flood Protection Districts—			
15. Kooweerup and Cardinia .. .. .	381,548		
16. Goulburn Levees .. .. .	60,496		
	442,044	Capital allotted .. .. . £162,432	442,044
Carried forward .. .. .			8,799,501

WORKS UNDER CONTROL OF COMMISSION—*continued.*

Capital Debit  
at 30th June,  
1934,  
Exclusive  
of Cost of Loan  
Flotation.

Brought forward .. ..

£  
8,799,501

## 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 1625 and 1651.	Redemption Paid to Treasury.	Capital Debit at 30th June, 1934.
	£	£	£	£
1. Bacchus Marsh .. ..	114,166	8,906	493	104,767
2. Boort .. ..	116,086	35,259	1,794	79,033
3. Calivil .. ..	109,725	..	..	109,725
4. Campaspe .. ..	65,253	52,685	305	12,263
5. Cohuna and Gannawarra .. ..	406,222	82,376	1,386	322,460
6. Deakin .. ..	95,829	34,748	2,144	58,937
7. Dingee .. ..	17,197	..	..	17,197
8. Dry Lake .. ..	1,704	686	299	719
9. Echuca North .. ..	23,895	..	..	23,895
10. Fish Point .. ..	15,504	..	..	15,504
11. Katandra .. ..	105,097	..	..	105,097
12. Kerang .. ..	153,429	35,338	2,334	115,757
13. Koondrook .. ..	221,169	30,872	1,562	188,735
14. Leitchville .. ..	44,226	..	..	44,226
15. Merbein .. ..	228,005	..	133	227,872
16. Mystic Park .. ..	17,243	..	..	17,243
17. North Shepparton .. ..	189,533	..	..	189,533
18. Nyah .. ..	111,195	..	..	111,195
19. Rochester .. ..	332,135	..	..	332,135
20. Rodney .. ..	725,207	149,949	8,967	566,291
21. Shepparton .. ..	191,112	..	784	190,328
22. South Shepparton .. ..	59,311	..	..	59,311
23. Stanhope .. ..	115,182	..	53	115,129
24. Swan Hill .. ..	187,606	19,799	371	167,436
25. Third Lake .. ..	24,987	..	..	24,987
26. Tongala .. ..	154,260	..	..	154,260
27. Tragowel Plains .. ..	380,636	124,534	527	255,575
28. Tresco .. ..	91,280	..	..	91,280
29. Werribee .. ..	124,064	..	10,242	113,822
	4,421,258	575,152	31,394	3,814,712

3,814,712

## D.—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, 1934.
	£	£	£	£
1. Birchip .. ..	914,475	700	2,473	911,302
2. Sea Lake .. ..				
3. Tyrrell .. ..				
4. Wycheproof .. ..				
5. Carwarp .. ..	43,542	..	..	43,542
6. Coliban .. ..	1,638,799	..	..	1,638,799
7. Coreena .. ..	45,780	..	..	45,780
8. Dandenong .. ..	39,728	5,128	1,506	33,094
9. Dering .. ..	11,761	..	..	11,761
10. Eureka .. ..	4,091	..	..	4,091
11. Hindmarsh .. ..	27,758	..	..	27,758
12. Karkarooc .. ..	288,991	..	2,893	286,098
13. Kerang North-West Lakes .. ..	2,036	..	..	2,036
14. Kia .. ..	7,133	..	..	7,133
15. Long Lake .. ..	133,430	..	1,081	132,349
16. Mornington Peninsula .. ..	904,192	..	..	904,192
17. Newstead .. ..	11,840	..	..	11,840
18. Pyramid Hill .. ..	6,215	..	1,300	4,915
19. Tyntynder .. ..	275,578	..	60	275,518
20. Upper Western Wimmera .. ..	112,196	26,567	3,450	82,179
21. Upper Wimmera United .. ..	137,523	10,918	4,499	122,106
22. Walpeup Central .. ..	25,294	..	..	25,294
23. Walpeup West .. ..	35,993	..	..	35,993
24. Werribee .. ..	11,636	..	..	11,636
25. Western Wimmera .. ..	418,503	106,268	13,198	299,037
26. Wimmera United .. ..	291,581	25,474	10,231	255,876
27. Wonthaggi .. ..	77,240	..	9,071	68,169
28. Yelta .. ..	6,138	..	..	6,138
29. Wimmera Main Channels .. ..	113,554	..	..	113,554
30. Wimmera Storages— Fyans Lake .. .. Taylor's Lake .. .. Pine Lake .. .. Lake Whitton .. ..	Amounts being debited to Districts benefited 43,685 204,966 178,588 10,336	.. .. .. ..	.. .. .. ..	43,685 204,966 178,588 10,336
	6,022,582	175,055	49,762	5,797,765

5,797,765

Carried forward .. ..

18,411,978

WORKS UNDER CONTROL OF COMMISSION—*continued.*

**Capital Debit  
at 30th June,  
1934.**  
Exclusive of  
Cost of Loan  
Flotation.

				£
Brought forward	..	..	..	18,411,978

### E.—WATERWORKS TRUSTS DISTRICTS.

## DISTRICTS HELD IN TRUST BY THE COMMISSION.

Name of Trust.	Total Advances by State.	Capital Written Off By Acts 1625, 1651 and 1176.	Redemption Paid to Treasury.	Capital Debit at 30th June, 1934.
	£	£	£	£
1. Carrum Waterworks Trust .. .. .	38,800	7,732	5,511	25,557
2. Loddon United Waterworks Trust— Rural District .. .. .	20,186	7,717	7,951	4,518
Urban District (Mitiamo) .. .. .	5,158	..	221	4,937
	64,144	15,449	13,683	35,012
<b>Grand Total .. ..</b>	<b>£18,411,978</b>			

## 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 23,847 square miles, equal to about 15,262,000 acres.

The area under irrigated culture for all kinds of crops was 435,324 acres. This area, owing to heavy rainfall during the irrigation season, was 39,392 acres less than in the previous year.

The number of separate towns supplied, exclusive of the City of Melbourne and Suburbs, is as shown in the following statement :—

Controlling Authorities.	Number of Towns Supplied.	Estimated Population Served.
Commission .. .. .	101	123,200
Waterworks Trusts .. .. .	110	200,100
Local Governing Bodies .. .. .	16	78,400
<b>Totals .. .. .</b>	<b>227</b>	<b>401,700</b>

## LANDS UNDER IRRIGATED CULTURE.

The two Statements hereunder show the extent of Areas Irrigated—(A) during last year in detail, and (B) during the last five years totalled for purposes of comparison.

(A) STATEMENT OF THE EXTENT OF IRRIGATION AND OF AREAS OF DIFFERENT KINDS OF CROPS WATERED—YEAR 1933-34.

Name of District.	Area Irrigated (Acres).							Total.
	Cereals.	Lucerne grown for Pasture and Hay.	Sorghum and other Annual Fodder Crops.	Pastures, Native and Sown.	Vineyards, Orchards, and Gardens.	Fallow.	Miscellaneous.	
<i>Supplied from Goulburn State Works.</i>								
Katandra .. .. .	88	2,587	104	1,928	104	12	..	4,823
North Shepparton .. .. .	65	1,378	88	1,197	9	5	12	2,754
Shepparton .. .. .	133	2,290	106	1,350	4,975	3	189	12,046
South Shepparton .. .. .	27	1,370	133	769	81	33	10	2,423
Rodney .. .. .	2,358	22,967	2,253	17,940	7,663	624	538	54,343
Stanhope .. .. .	405	8,292	407	3,062	339	15	2	12,522
Tongala .. .. .	648	10,034	401	6,238	1,252	66	34	18,673
Rochester .. .. .	1,515	17,722	1,023	20,604	1,848	217	625	43,554
Echuca North .. .. .	75	1,757	314	2,342	..	145	191	4,824
Dingee .. .. .	6	967	86	2,295	19	21	20	3,414
Calivil .. .. .	317	2,185	317	1,936	34	46	35	4,870
Tragowel Plains .. .. .	6,531	2,226	3,891	30,322	25	142	218	43,355
Deakin .. .. .	98	1,070	72	430	2	..	8	1,680
Boort .. .. .	2,098	332	1,230	4,032	..	132	..	7,824
Totals .. .. .	14,364	75,177	10,425	97,445	16,351	1,461	1,882	217,105
<i>Supplied from River Murray State Works.</i>								
<i>(a) Torrumbarry Weir.</i>								
Leitchville .. .. .	480	1,669	81	4,007	21	14	38	6,310
Cohuna .. .. .	1,665	2,912	579	24,007	77	258	1,284	30,782
Gannawarra .. .. .	2,210	1,172	1,453	16,354	34	915	774	22,912
Koondrook .. .. .	3,138	1,438	1,730	10,366	792	142	72	17,678
Swan Hill .. .. .	3,387	5,403	973	5,879	2,993	461	30	19,126
Third Lake .. .. .	433	111	212	1,443	6	60	..	2,265
Mystic Park .. .. .	68	236	202	857	..	..	32	1,395
Tresco .. .. .	..	70	30	..	897	..	10	1,007
Fish Point .. .. .	130	90	75	1,368	..	..	36	1,699
Kerang .. .. .	3,084	540	1,876	14,879	21	135	..	20,535
Dry Lake .. .. .	53	..	15	143	3	..	..	214
Kerang North-West Lakes .. .. .	580	41	144	1,102	408	..	7	2,282
Lands supplied direct (outside Districts) .. .. .	153	713	178	1,865	25	..	118	3,052
Totals .. .. .	15,381	14,395	7,548	82,270	5,277	1,985	2,401	129,257
<i>(b) Direct from River.</i>								
Nyah .. .. .	40	200	..	..	2,400	..	464	3,104
Red Cliffs .. .. .	..	250	150	..	11,133	..	112	11,645
Merbein .. .. .	..	33	..	..	7,601	..	74	7,708
Totals .. .. .	40	483	150	..	21,134	..	650	22,457
Totals (River Murray State Works) .. .. .	15,421	14,878	7,698	82,270	26,411	1,985	3,051	151,714
<i>Supplied from Loddon and Other Northern State Works.</i>								
Boort .. .. .	900	194	558	1,767	19	61	..	3,499
Coliban .. .. .	136	550	396	2,121	4,874	429	457	8,963
Campaspe .. .. .	30	311	..	239	..	..	..	580
Western Wimmera .. .. .	..	75	242	..	1,102	..	35	1,454
Totals .. .. .	1,066	1,130	1,196	4,127	5,995	490	492	14,496
<i>Supplied from Southern State Works.</i>								
Bacchus Marsh .. .. .	..	1,380	164	1,709	194	48	..	3,495
Werribee .. .. .	359	1,405	165	4,176	325	581	1,130	8,141
Narre Warren .. .. .	216	3	..	444	219	137	..	1,019
Maffra .. .. .	22	662	400	4,341	..	222	328	5,975
Sale .. .. .	84	1,092	534	2,760	..	72	515	5,057
Totals .. .. .	681	4,542	1,263	13,430	738	1,060	1,973	23,687
<i>Supplied from other Works.</i>								
First Mildura District .. .. .	..	498	127	..	10,974	..	184	11,783
Private Diversions—Kerang (outside Districts) .. .. .	111	23	48	357	..	..	..	539
Other Private Diversions throughout the State .. .. .	1,900	3,700	2,800	2,300	4,200	100	1,000	16,000
Totals .. .. .	2,011	4,221	2,975	2,657	15,174	100	1,184	28,322
Grand Totals 1933-34 .. .. .	33,543	99,948	23,557	199,929	64,669	5,096	8,582	435,324
Grand Totals, 1932-33 .. .. .	32,492	119,682	24,810	210,869	67,451	8,275	11,137	474,716

(B) COMPARATIVE STATEMENT OF THE EXTENT OF IRRIGATION, 1929-30 TO 1933-34.

Source of Supply.	Area under Irrigation (Acres).				
	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.
Goulburn State Works .. .. .	322,039	242,435	212,284	243,378	217,105
River Murray State Works .. .. .	173,642	156,169	136,254	158,223	151,714
Loddon and other Northern State Works .. .. .	12,486	12,067	11,120	11,621	14,496
Southern State Works .. .. .	25,831	22,662	28,094	31,042	23,687
Mildura and Private Diversions .. .. .	32,579	29,765	30,663	30,452	28,322
<b>Totals .. .. .</b>	<b>566,577</b>	<b>463,098</b>	<b>418,415</b>	<b>474,716</b>	<b>435,324</b>

## VALUATIONS, RATES, FLOOD PROTECTION CHARGES, 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, flood protection charges, and compulsory irrigation charges made in all Districts. An estimate of the number of persons dwelling in such Districts is also appended.

During the year rates were, for the first time, made for a half-year in the Urban Waterworks Districts of Barwon Heads and Ocean Grove, and Newstead.

The Avoca Water Trust was abolished by the *Avoca Water Trust Act 1933* and the Quambatook Urban District placed under the jurisdiction and control of the Commission.

In 37 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. The Lower Kooweerup, Cardinia, and Kanyapella Flood Protection Districts, where the charging is on an acreage basis, were similarly divided into divisions. As heretofore in the Urban portion of the Coliban system, a minimum and tapering rate has been made, while the Carrum Waterworks Trust District has, as in past years, been arranged in five rating divisions in accordance with the relative benefits derived by such lands from the works.

Under the powers conferred by Section 62 of the *Water Act 1928*, a minimum annual rate on the basis of £10 13s. 4d. per 640 acres was fixed by the Commission on the first division lands of the Birchip, Carwarp, Karkaroc, Long Lake, Sea Lake, Tyntynder, Tyrrell, Upper Western Wimmera, Upper Wimmera United, Wimmera United, Wycheproof, and Yelta Waterworks Districts, while in the Baring, Carwarp Central, and Kia Districts the minimum was fixed at £16 per 640 acres, in the Eureka, Hindmarsh, and Walpeup Central Districts at £18 13s. 4d. per 640 acres, in the Dering and Millewa Districts at £21 6s. 8d. per 640 acres, in the Millewa Central District at £26 13s. 4d. per 640 acres, in the Coreena District at £34 13s. 4d. per 640 acres, and in the Walpeup West Bore District at £5 6s. 8d. per 640 acres.

In 24 Districts the Commission made and levied compulsory irrigation charges, while in five Flood Protection Districts and in three Waterworks Trusts Districts taken over by the Commission a rate or charge was also made. Details of all rates and charges made are set out hereunder: -

### A.—VALUATIONS, RATES, AND FLOOD PROTECTION CHARGES.

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, 1934.	Period of Rate.	Estimated Number of Persons dwelling in District.
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### IRRIGATION AND WATER SUPPLY DISTRICTS.

	Valuation by Commission.	Divisions.				
		1st.	2nd.	3rd.		
	£	s. d.	s. d.	s. d.		
1. BACCHUS MARSH ..	15,929	1 0	..	..	1st July, 1933, to 30th June, 1934	615
2. BOORT ..	14,687	2 0	1 0	..	" " "	594
3. CALIVIL ..	15,468	1 0	..	..	" " "	500
4. CAMPASPE ..	8,211	2 0	1 0	0 6	" " "	576
5. COHUNA ..	19,917	2 0	1 0	0 6	" " "	1,037
6. DEAKIN ..	46,907	1 8	0 10	0 5	" " "	1,620
7. DINGEE ..	3,070	1 0	..	..	" " "	200
8. DRY LAKE ..	250	(No rate made)			" " "	14
9. ECHUCA NORTH ..	5,171	1 0	0 6	..	1st July, 1933, to 30th June, 1934	568
10. FISH POINT..	1,364	1 0	..	..	" " "	133
11. GANNAWARRA ..	17,759	2 0	1 0	0 6	" " "	653
12. KATANDRA ..	8,449	1 0	..	..	" " "	520
13. KERANG ..	16,041	2 4	1 2	0 7	" " "	1,160
14. KOONDROOK ..	17,753	2 0	1 0	..	" " "	1,140
15. LEITCHVILLE ..	7,718	2 0	1 0	..	" " "	246
16. MAFFRA ..	32,112	1 0	0 6	..	" " "	1,273
17. MERBEIN ..	31,044	1 0	..	..	" " "	3,000
18. MYSTIC PARK ..	3,197	1 0	..	..	" " "	113
19. NORTH SHEPPARTON ..	43,532	1 0	..	..	" " "	1,250



IRRIGATION AND WATER SUPPLY DISTRICTS--continued.

### WATERWORKS DISTRICTS.

## WATERWORKS TRUSTS.

63. LODDON UNITED	68,579	0	8	0	4	0	2	1st January, 1934, to 31st December, 1934	3,300
	Municipal Valuation.								
	£					s.	d.		
64. CARRUM	23,373	1st Division	..	3	8	"	"	"	1,500
		2nd Division	..	1	10				
		3rd Division	..	1	0				
		4th Division	..	0	10				
		5th Division	..	0	3				
65. MITIAMO	891	..	..	4	0	"	"	"	190

A.—VALUATIONS, RATES, AND FLOOD PROTECTION CHARGES—*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, 1934.	Period of Rate.	Estimated Number of Persons dwelling in District.
URBAN DIVISIONS AND DISTRICTS.				
	Municipal Valuation.			
	£	s. d.		
66. ANTWERP .. ..	228	.. .. 5 0	1st July, 1933, to 30th June, 1934	78
67. BACCHUS MARSH ..	15,250	.. .. 1 6	.. .. ..	1,760
68. BARWON HEADS AND OCEAN GROVE {	9,555	.. .. 1 8	1st May, 1933, to 31st Dec., 1933	1,148
	9,940	.. .. 1 3	1st Jan., 1934, to 30th June, 1934	
69. BERRIWILLOCK ..	1,361	.. .. 3 6	1st July, 1933, to 30th June, 1934	160
70. BERWICK .. ..	5,786	.. .. 2 1	.. .. ..	900
71. BEULAH .. ..	2,900	.. .. 3 0	.. .. ..	500
72. BIRCHIP .. ..	5,962	.. .. 1 8	.. .. ..	993
73. BITTERN .. ..	656	.. .. 3 1	.. .. ..	90
74. BRIM .. ..	1,010	.. .. 4 6	.. .. ..	180
75. BUNYIP .. ..	2,895	.. .. 2 4	.. .. ..	420
76. CARRUM .. ..	74,474	.. .. 1 5	.. .. ..	6,355
77. CARWARP .. ..	207	.. .. 5 0	.. .. ..	45
78. CHILLINGOLLAH ..	429	.. .. 5 0	.. .. ..	120
79. CHINKAPOOK ..	530	.. .. 6 0	.. .. ..	125
80. COHUNA .. ..	8,277	.. .. 2 0	.. .. ..	900
81. COROP .. ..	211	.. .. 2 0	.. .. ..	85
82. CRANBOURNE ..	3,220	.. .. 2 0	.. .. ..	250
83. CRIB POINT ..	3,085	.. .. 3 1	.. .. ..	530
84. CULGOA .. ..	1,288	.. .. 3 6	.. .. ..	157
85. DANDENONG ..	59,291	.. .. 1 3	.. .. ..	4,500
86. DIMBOOLA .. ..	13,654	.. .. 1 11	.. .. ..	1,670
87. DINGEE .. ..	478	.. .. 4 0	.. .. ..	90
88. DOON .. ..	169	.. .. 2 0	.. .. ..	30
89. FRANKSTON ..	53,442	.. .. 1 4	.. .. ..	5,330
90. GARFIELD .. ..	2,649	.. .. 2 4	.. .. ..	300
91. HASTINGS .. ..	1,935	.. .. 3 0	.. .. ..	460
92. HEYFIELD .. ..	4,437	.. .. 2 6	.. .. ..	537
93. HICKSBOROUGH ..	465	.. .. 3 9	.. .. ..	100
94. HOPETOUN .. ..	1,959	.. .. 3 0	.. .. ..	700
95. JEPARIT .. ..	7,548	.. .. 2 2	.. .. ..	871
96. JUNG JUNG .. ..	897	.. .. 3 0	.. .. ..	171
97. KOONDROOK ..	3,670	.. .. 2 6	.. .. ..	485
98. LAKE BOGA .. ..	2,179	.. .. 3 0	.. .. ..	380
99. LALBERT .. ..	980	.. .. 5 0	.. .. ..	155
100. LASCELLES .. ..	676	.. .. 5 0	.. .. ..	130
101. LEITCHVILLE ..	1,994	.. .. 3 2	.. .. ..	201
102. LOCKINGTON ..	1,878	.. .. 3 3	.. .. ..	240
103. MANANGATANG ..	1,994	.. .. 3 6	.. .. ..	270
104. MARNOO .. ..	1,716	.. .. 3 6	.. .. ..	250
105. MARONG .. ..	898	.. .. 3 0	.. .. ..	300
106. MERBEIN .. ..	8,870	.. .. 2 9	.. .. ..	900
107. MERINGUR .. ..	357	.. .. 7 0	.. .. ..	105
108. MINYIP .. ..	6,589	.. .. 2 9	.. .. ..	750
109. MORNINGTON ..	35,337	.. .. 1 5	.. .. ..	2,260
110. MOUNT MARTHA ..	5,867	.. .. 2 1	.. .. ..	203
111. MURRABIT .. ..	275	.. .. 6 0	.. .. ..	35
112. NANDALY .. ..	332	.. .. 6 0	.. .. ..	114
113. NATIMUK .. ..	3,237	.. .. 1 6	.. .. ..	585
114. NEWSTEAD .. ..	2,676	.. .. 1 6	1st Jan., 1934, to 30th June, 1934	400
115. NORTH WONTHAGGI ..	3,874	.. .. 2 0	1st July, 1933, to 30th June, 1934	1,000
116. NULLAWIL .. ..	789	.. .. 5 0	.. .. ..	115
117. NYAH .. ..	692	.. .. 2 6	.. .. ..	170
118. NYAH WEST .. ..	3,717	.. .. 2 9	.. .. ..	340
119. OUYEN .. ..	10,606	.. .. 2 9	.. .. ..	1,050
120. PAKENHAM .. ..	4,988	.. .. 2 1	.. .. ..	700
121. PATCHEWOLLOCK ..	387	.. .. 6 0	.. .. ..	156
122. PIANGIL .. ..	1,395	.. .. 3 6	.. .. ..	260
123. PYRAMID HILL ..	3,451	.. .. 3 0	.. .. ..	500
124. QUAMBATOOK ..	3,232	.. .. 1 5	1st Jan., 1934, to 30th June, 1934	379
125. QUEENSCLIFF AND POINT LONSDALE ..	22,504	.. .. 2 6	1st July, 1933, to 30th June, 1934	3,100
126. RAINBOW .. ..	7,936	.. .. 2 2	.. .. ..	989
127. RED CLIFFS .. ..	11,281	.. .. 2 3	.. .. ..	850
128. RUPANYUP .. ..	5,929	.. .. 2 9	.. .. ..	650
129. SEA LAKE .. ..	6,866	.. .. 2 0	.. .. ..	620
130. SOMERVILLE .. ..	1,889	.. .. 2 6	.. .. ..	250

A.—VALUATIONS, RATES, AND FLOOD PROTECTION CHARGES—*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, 1934.	Period of Rate.	Estimated Number of Persons dwelling in District.
URBAN DIVISIONS AND DISTRICTS— <i>continued.</i>				
	Municipal Valuation.			
	£	s. d.		
131. SOUTH FRANKSTON ..	10,627	.. .. 2 6	1st July, 1933, to 30th June, 1934	700
132. SPEED ..	283	.. .. 10 0	" " "	90
133. SPRINGVALE ..	24,558	.. .. 1 6	" " "	1,820
134. STANHOPE ..	1,052	.. .. 4 0	" " "	290
135. TEMPY ..	267	.. .. 8 0	" " "	110
136. ULTIMA ..	2,566	.. .. 3 0	" " "	400
137. WATTHIE ..	345	.. .. 5 0	" " "	120
138. WATCHEM ..	1,982	.. .. 3 0	" " "	250
139. WERRIMULL ..	785	.. .. 7 0	" " "	154
140. WONTHAGGI ..	32,639	.. .. 1 6	" " "	8,000
141. WOOMELANG ..	1,813	.. .. 3 6	" " "	425
142. WOORINEN ..	377	.. .. 4 0	" " "	65
143. WYCHEPROOF ..	7,475	.. .. 2 0	" " "	817
144. YAAPEET ..	241	.. .. 9 0	" " "	106

## COLIBAN SYSTEM.

	£	s. d.		
145. COLIBAN ..	369,620	On Valuations up to £300 .. 1 6	1st July, 1933, to 30th June, 1934	60,000
		(Minimum 20s.)		
		From £301 up to £700 .. 1 3		
		From £701 on .. 1 0		
		Vacant lands .. 1 6		

## FLOOD PROTECTION DISTRICTS.

	Valuation by Commission.			
	£	s. d.		
146. ECHUCA (HIGH-ST.) ..	1,466	.. .. 1 0	1st July, 1933, to 30th June, 1934	80
147. CARDINIA ..	36,206	1st Div. (p. ac.) 3 0	" " "	820
		2nd Div. (p. ac.) 1 6	" " "	
		3rd Div. (p. ac.) 0 9	" " "	
148. LOWER KOOWEERUP ..	54,834	1st Div. (p. ac.) 2 0	" " "	2,400
		2nd Div. (p. ac.) 1 0	" " "	
		3rd Div. (p. ac.) 0 6	" " "	
149. KANYAPELLA ..	14,494	1st Div. (p. ac.) 0 7	" " "	50
		2nd Div. (p. ac.) 0 3½	" " "	
150. LOCH GARRY ..	10,886	Per acre .. 0 6	" " "	200

## 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 ..	6,684	3,359	3,359	22s. 6d.	1st October, 1933, to 30th April, 1934
2. COHUNA ..	36,539	22,825	22,939	6s.	1st September, 1933, to 30th April, 1934
3. DINGEE ..	8,576	4,494	4,494	7s.	" " " "
4. ECHUCA NORTH ..	13,793	5,445	5,314	7s. 6d.	" " " "
5. FISH POINT ..	6,379	3,831	1,884	8s.	" " " "
6. GANNAWARRA ..	53,496	19,616	19,690	6s.	" " " "
7. KOONDROOK ..	62,165	18,802	18,802	6s.	" " " "
8. LEITCHVILLE ..	13,820	12,077	4,216	7s.	" " " "
9. MAFFRA ..	25,062	11,336	15,295	10s.	" " " "
10. MERBEIN ..	8,496	7,708	19,271	24s.	1st August, 1933, to 30th April, 1934
11. MYSTIC PARK ..	18,764	9,024	3,056	Min. 60s. per acre	1st September, 1933, to 30th April, 1934
12. NYAH ..	3,739	3,108	7,711	20s.	1st August, 1933, to 30th April, 1934
13. RED CLIFFS ..	30,881	11,072	27,680	Min. 50s. per acre	" " " "
				Min. 70s. per acre	" " " "
14. ROCHESTER ..	172,226	54,908	55,553	6s.	1st September, 1933, to 30th April, 1934
15. RODNEY ..	267,803	192,002	61,616	6s.	" " " "
16. SALE ..	16,880	8,833	7,481	10s.	" " " "
17. SHEEPARTON ..	24,588	21,704	21,704	6s.	" " " "
18. SOUTH SHEEPARTON ..	33,752	18,356	4,601	8s.	" " " "
19. STANHOPE ..	25,988	18,700	18,173	6s.	" " " "
20. SWAN HILL ..	36,431	22,051	22,051	6s.	" " " "
21. THIRD LAKE ..	11,488	4,057	2,706	7s.	" " " "
22. TONGALA ..	45,477	28,632	28,567	6s.	" " " "
23. TRAGOWEL PLAINS ..	214,885	147,944	31,238	7s.	" " " "
24. WERRIBEE ..	9,960	8,083	8,106	12s.	1st October, 1933, to 30th April, 1934

## CONTRACTS.

STATEMENT OF CONTRACTS ENTERED INTO DURING THE YEAR ENDED 30TH JUNE, 1934.

No.	Name of Contractor.	Work or Supply.	Amount (Loan and Vote)		
			£	s.	d.
2801	Australian Cement Ltd.	2,500 tons Cement	11,000	0	0
2802	Hume Pipe Co. Ltd.	Concrete Pipes, Bellarine Peninsula	9,754	8	4
2803	Mephan Ferguson Pty. Ltd.	Steel Pipes, Bellarine Peninsula	2,221	1	8
2804	Arthur Dunn	Bores, Wimmera Mallee	282	4	6
2805	W. Russell	Firewood, Millewa	570	2	1
2806	J. Smith	Firewood, Millewa	100	0	0
2807	W. F. Decker	Firewood, Millewa	229	3	4
2808	F. D. Le Poidevin	Firewood, Millewa	464	15	0
2809	C. H. Hamence	Firewood, Millewa	264	5	6
2810	J. J. Russell	Firewood, Millewa	237	10	0
2811	E. E. McMillan	Firewood, Millewa	241	13	4
2812	B. Alderson	Firewood, Millewa	241	13	4
2813	P. J. McPhee	Firewood, Millewa	535	12	6
2814	H. Russell	Firewood, Millewa	544	18	4
2815	Australian Cement Ltd.	3,000 tons Cement	13,200	0	0
2816	M. Dorman	Firewood, Millewa	916	13	4
2817	C. S. Foster	Firewood, Millewa	356	5	0
2818	Rocla Ltd.	Concrete Pipes, Red Cliffs	1,527	18	6
2819	A. Harman	2 Excavators	5,092	10	0
2820	J. Hardie and Co. Ltd.	Fibrolite Pipes, Bellarine Peninsula	1,657	16	0
2821	C. G. Woodhouse	Brick Office, Maffra	1,087	4	6
2822	J. Nuttall	Residence, Rodney	695	7	3
2823	Mephan Ferguson Pty. Ltd.	Steel Pipes, Bellarine Peninsula	1,198	2	10
2824	Hume Pipe Co. (Aust.) Ltd.	Concrete Pipes, Red Cliffs	773	6	0
2825	J. Hardie and Co. Ltd.	Fibrolite Pipes, Mornington Peninsula	350	11	0
2826	Rocla Ltd.	Concrete Pipes, Red Cliffs	644	18	4
2827	Australian Cement Ltd.	2,000 tons Cement	8,733	6	8
2828	J. Hardie and Co. Ltd.	Fibrolite Pipes, Mornington Peninsula	753	4	6
2829	H. L. Salau	Firewood, Tresco	187	10	0
2830	E. D. Moody	Firewood, Tresco	38	12	11
2831	E. E. Duffy	Firewood, Nyah	325	0	0
2832	A. R. Mannix	Firewood, Nyah	687	10	0
2833	Wm. Russell	Firewood, Merbein	741	13	4
2834	W. C. Mercer	Firewood, Merbein	181	5	0
2835	W. Faulkhead	Firewood, Merbein	183	6	8
2836	M. P. Cairns and Co.	Firewood, Merbein	333	6	8
2837	M. P. Cairns and Co.	Firewood, Merbein	962	10	0
2838	G. W. Dannatt	Firewood, Merbein	556	5	0
2839	C. W. Dannatt	Firewood, Merbein	758	6	8
2840	G. Webb	Firewood, Merbein	733	6	8
2841	A. Robinson	Firewood, Merbein	300	0	0
2842	F. Russell	Firewood, Merbein	741	13	4
2843	Martin Stoneware Pipe Ltd.	Stoneware Pipes, Red Cliffs	948	16	8
2844	J. Hardie and Co. Ltd.	Fibrolite Pipes, Mornington Peninsula	814	0	0
2845	P. Mannix, senr.	Firewood, Nyah	287	10	0
2846	J. A. Bettie	Firewood, Merbein	550	0	0
2847	W. H. Duffy	Firewood, Nyah	287	10	0
2848	Martin Stoneware Pipe Ltd.	Stoneware Pipes, Red Cliffs and Merbein	1,719	0	0
2849	J. N. Nickels	Residence, Kerang	878	11	11
2850	Rocla Ltd.	Concrete Pipes, Red Cliffs and Merbein	9,130	0	0
2851	Rocla Ltd.	Concrete Pipes, Mornington Peninsula	1,876	3	9
Small contracts at piece-work rates—					
Loan Funds			7,378	0	0
Unemployment Relief Funds			1,727	0	0
Total			99,001	10	5

## DIRECT LABOUR.

The construction of the larger works is still being mainly carried out by "Direct Labour," and the Statement hereunder shows the Fund from which this expenditure has been met. The principal payments during the year were :—

Works.	Loan Funds.	Unemployment Relief Funds.
	£	£
Wimmera-Mallee System	43,388	5,405
River Murray Storages (Hume Reservoir and Traffic Diversions)	17,865	..
Rochester, Rodney, Shepparton, Stanhope, and Tongala Districts	15,177	47,186
Eildon Reservoir	14,794	..
Mornington Peninsula	13,619	13,544
Maffra District (Glenmaggie Reservoir) and Sale District	8,110	2,782
Coliban and Newstead Districts	6,408	8,593
Merbein, Millewa, Red Cliffs, Corcena, Carwarp, and Walpeup Districts	6,373	11,058
Cohuna, Kerang, Kerang Lakes, Koondrook, Mystic Park, and Tresco Districts	5,486	24,250
Boort, Tragowel Plains, Nyah, and Swan Hill Districts	5,461	16,694
Bellarine Peninsula	5,346	21,188
Goulburn Main Channels	3,728	..
Bacchus Marsh and Werribee Districts	2,226	17,123
Kooweerup, Cardinia, and other Flood Protection Districts	1,447	11,697
Other Districts	6,637	6,244
	156,065	185,764
Grand Total	£341,829	

## WORKS CARRIED ON OR COMPLETED DURING THE YEAR ENDED 30TH JUNE, 1934.

Throughout the Irrigation Districts, including the area supplied from the Coliban System, the channels controlled by the Commission make a total length of 5,269 miles, being 249 miles of main channels from the Goulburn Headworks, 4,192 miles of main and distributory irrigation channels in the districts, and 828 miles of drainage channels.

The main works carried out during the year and chief items of interest in each district are set out in the following pages.

### COLIBAN SYSTEM.

The Coliban System comprises two main storage reservoirs on the Coliban River, the Upper Coliban with a capacity of 25,700 acre feet and Malmsbury with a capacity of 12,300 acre-feet, together with 29 subsidiary reservoirs, with a total capacity of 6,970 acre-feet, also main and distributory channels of a total length of 387 miles, and about 300 miles of urban pipe reticulation.

The scheme provides a supply of water for the City of Bendigo, the important towns of Castlemaine, Eaglehawk, and Maldon, and eighteen other townships, and, in addition to providing water for irrigating orchards, market gardens, permanent pastures, and other crops, of which the area watered annually is about 9,000 acres, supplies the demands of the mining industry throughout the District.

During the year an endeavour has been made to continue the policy of consolidating existing works as far as funds will permit. The result has been that a number of important works throughout the channel system have been considerably strengthened and made more efficient. The Commission, keeping in view the importance of minimizing losses of water in the channel system, has concentrated largely on the lining of leaky sections of channel, and during the year a section of 1,000 feet of the main channel at Malmsbury was completed, also in the subsidiary channels a length of over 2 miles was regraded and lined.

At Specimen Gully, Harcourt, a length of  $\frac{3}{4}$  of a mile of leaky channel was eliminated by laying 11 chains of 24-inch diameter concrete pipe across Boatswain's Gully. A further section of the Diamond Gully syphon at Campbell's Creek which consisted originally of 15-inch diameter spirally riveted pipes was replaced with 10 chains of 15-inch diameter reinforced concrete pipes.

At Upper Coliban Reservoir, necessary repairs to a portion of the by-wash floor which was damaged by flood waters were carried out during the year.

Improvements to the reticulations of Bendigo and Castlemaine, including a number of replacements and extensions of water mains, together with considerable quantities of pipe scraping to maintain the efficiency of the system, were carried out: one of these being the substitution of a new 6-inch diameter fibrolite pipe for an old cast iron main in Barnard-street, Bendigo. This work not only enables a better supply to be maintained, but also provides a supply of water under a pressure that is satisfactory for Fire Brigade demonstration purposes.

During the Summer, some trouble was experienced through the water in Crusoe Reservoir becoming affected by algae. The water was treated with copper sulphate and lime, and, later on in the year, the reservoir was lowered, and a floating arm installed to enable the water to be drawn off at a constant level close to the surface instead of from near bed level.

The wet conditions that prevailed during the Summer made it possible to maintain a supply of water for sluicing until the end of May, when it became necessary to discontinue this supply to ensure the domestic and irrigation requirements of the District.

To augment the storages on the Coliban River a proposal to divert portion of the head waters of the Campaspe River at Ashbourne to the Upper Coliban Reservoir is being investigated. Investigations of other proposals for the improvement of works are in hand.

During the year the scheme to provide a supply of water from the Jim Crow Creek for domestic, stock, and irrigation purposes for Newstead and adjoining districts was completed and is giving satisfaction.

## IRRIGATION AND WATER SUPPLY DISTRICTS.

## GOULBURN DIVISION.

## RODNEY DISTRICT.

For the supply of water for the irrigation of lands in this District there are 639 miles of channels, as well as 32 miles of channels for drainage purposes.

In addition to the carrying out of urgent repair and maintenance works, further outlets to replace old leaky orifices were installed and additional concrete regulators were constructed on several channels to facilitate water distribution. At Merrigum, the Webb-Pearce spur channel was extended to outfall in the Bray main channel.

Considerable progress has been made with works designed for the drainage of lands at Wyuna and north of Kyabram. These works are being carried out with Unemployment Relief Funds. The Wyuna Main Drainage Channel and outfall drains discharging into the Goulburn River north of Tongala have been completed, and work is proceeding on the sub-mains north of Lancaster and Kyabram. This drainage system serves an area of approximately 60 square miles and, so far, 32 miles of main drains, together with structural works have been constructed. Plans for works estimated to cost £100,000 have been prepared for the drainage of Ardmona, Undera, and areas at and north of Tatura. It is intended that the most urgent of these works be put in hand as funds become available.

## SHEPPARTON CENTRE.

The Districts controlled from this Centre are Shepparton, North Shepparton, South Shepparton and Katandra, in which there are 463 miles of channels, 278 miles for the supply of water for irrigation and 185 miles for drainage.

The works of the comprehensive scheme of drainage in North Shepparton area were continued, the lower portions of the Congupna and Pine Lodge Creeks being cleaned out and the Katandra Outfall Drain constructed. This scheme has already shown good results in disposing of summer storm-waters.

A drainage scheme for the Fruit Area of the Shepparton District was commenced with funds provided for Unemployment Relief purposes, and the southern portion has been practically completed.

## TONGALA CENTRE.

From this Centre the Tongala, Stanhope, and Deakin Districts and portion of the Echuca North District are controlled. Irrigation channels in these Districts total 366 miles in length and drainage channels 235 miles.

In the Tongala District a further 34 miles of drainage channels were constructed during the year, making a total length of 87 miles. By means of a dragline excavator, 2½ miles of seepage drain through the main Tongala depression were completed. Earthworks on the Coram Spur drain, 9 miles in length, are almost finished and the necessary structures have been commenced. This drain will serve the north-eastern portion of the District and relieve portion of No. 2 Main Drain. Six miles of existing drains were reconditioned.

The Deakin Main Drainage Channel in the Stanhope District was remodelled for an additional length of 5 miles by means of the No. 18 dragline excavator, and 13 miles of this channel were cleaned out. Two miles of new spur channel have been constructed for the drainage of lands in McDonald's Estate.

In the Deakin District the outfall channel connecting the Yambuna Creek and Goulburn River has been completed and is in effective operation. This channel will be made further use of with the extensions to the Rodney and Tongala drainage systems.

The outfall for the Deakin Main Drainage Channel in the Echuca North District was completed by dragline excavator, a further 2 miles of channel having been constructed.

## ROCHESTER CENTRE.

In the Rochester and Campaspe Districts and the part of the Echuca North District controlled from this Centre, there are 396 miles of irrigation channels and 62 miles of channels for drainage purposes.

Works carried out during the year included the construction of a new earthen supply channel, with the necessary structures, 20 chains in length, at Wharparilla, and a 12-inch diameter syphon, 300 feet in length, for an improved supply at Nanneella. In addition several new outlets were constructed to various holdings. Urgent necessary repairs and maintenance received attention.

Plans have been prepared for a comprehensive drainage scheme for the Rochester District, involving the ultimate expenditure of approximately £125,000. The works embrace the remodelling of 60 miles of existing drains and the construction of about 200 miles of new drainage channels. Amounts totalling £20,000 have been allocated from Unemployment Relief Funds and 200 men are at present engaged on this work.

In the Campaspe District, a good supply of water was available for domestic and stock purposes, as well as for irrigation. The freshets in the Campaspe River during the months of July and December caused some damage to the Campaspe Weir; necessary repairs have been effected.

Essential maintenance works were carried out in the Campaspe and Echuca North Districts and in the Lockington Urban Division.

#### LODDON DIVISION.

##### LODDON CENTRE.

From Pyramid Hill, where the Commission's office for this Centre is situated, the Tragowel Plains, Dingee, Calivil and Loddon United Districts are controlled. The total length of irrigation channels in these Districts is 597 miles.

As an Unemployment Relief work, improvements to drainage channels were carried out during the year, and certain improvements and repairs were effected to the by-pass and bank at the Laanecoorie Weir.

##### BOORT DISTRICT.

Channels within the Boort District for the supply of water for irrigation have a total length of 140 miles.

Extra provision has been made to enable future floods to be more satisfactorily controlled and work is now in progress under Unemployment Relief conditions in the vicinity of Lake Meering.

##### COHUNA CENTRE.

The Districts controlled from this Centre are Cohuna, Gannawarra, and Leitchville, in which there are 232 miles of irrigation channels and 92 miles of drainage channels.

Extensive improvements to drainage works within the Cohuna and Leitchville Districts were carried out with Unemployment Relief funds. Channels were deepened and remodelled over a length of 20 miles and extensions totalling 3 miles in length were carried out.

##### KERANG CENTRE.

Throughout the Kerang, Koondrook, and Third Lake Districts, which are controlled from this Centre, there are 466 miles of channels, 427 miles being for the supply of water for irrigation, and 39 miles for drainage purposes.

Under Unemployment Relief conditions extensive drainage works are in progress. The remodelling of the Barr Creek has been continued and three excavators are now working in the vicinity of Westblades Swamp. The Kerang East Drainage Scheme has been commenced and work is now in progress on the Main Outfall Drain between the Pyramid and Barr Creeks, and the concrete syphon under the Pyramid Creek connecting this work is nearing completion.

Levee banks fronting the Little Murray River have been extended, 8 miles being completed during the year.

##### TRESCO CENTRE.

From this Centre the Mystic Park, Tresco, Fish Point, and Kerang North-West Lakes Districts are controlled. Irrigation channels in these Districts total 128 miles in length and drainage channels 37 miles.

Full water supplies were provided by gravitation for all irrigators within the Mystic Park, Fish Point, and Kerang North-West Lakes Districts. Requirements at Tresco were met by four general waterings and a special watering during June, the latter being the result of the dry Autumn.

Considerable improvements to the irrigation and drainage systems in these Districts have been completed under Unemployment Relief conditions. Included in these works were the construction of a levee bank to the north-east of Lake Boga to protect the Agricultural College Areas in the Swan Hill District, the completion of a deviation from the existing Tutchewop Boga channel to connect Lake Boga without using Lake Mannaor as a water carrier, as well as works which, in addition to limiting the spread of Avoca River flood waters through Mystic Park District, will also reduce flooding of the marginal lands around the Avoca Marsh. To replace old wooden regulators and provide water supply improvements, two concrete regulators were constructed on the Tutchewop Outfall Channel. The construction of a levee bank along the Little Murray River including the remodelling of the existing bank has been commenced, and, when completed, protection will be afforded to the whole of the Fish Point and portion of the Swan Hill Districts. A channel from Lake Kangaroo to provide water supply to Swan Hill and Fish Point Districts and to reduce the water level of Lake Tutchewop during irrigation periods is also in course of construction.



## SWAN HILL DISTRICT.

Throughout this District there are 105 miles of supply channels and 32 miles of drainage channels.

Improvements to the drainage system at Woorinen have been effected during the year, extensions to existing drains being  $2\frac{1}{2}$  miles, including 60 chains of pipe drains. An outfall channel was constructed from the end of the Beverford supply channel to the River Murray, a distance of one mile.

Extensive alterations to the Little Murray Weir, commenced in the previous year, were advanced a further stage, and a regulator was put in position at the offtake channel.

The construction of a 200-cusec capacity channel from Lake Boga to Swan Hill Channel has been completed, thus bringing a step closer the proposal to supply Swan Hill District from the Torrumbarry Weir through the Kerang Lakes System.

The dried fruits crop for the season was 2,500 tons.

## NYAH DISTRICT.

The channels in this District make a total length of 54 miles, 35 miles being for irrigation and 19 miles for drainage purposes.

Considerable improvements to both irrigation and drainage channels have been carried out during the year under Unemployment Relief Conditions.

Of the 4,200 tons of fruit packed at the Nyah District Shed this year, 3,300 tons were produced within the irrigation area. This is the second successive record heavy yield averaging 30 cwt. to the acre over the area of vines in bearing.

## RED CLIFFS AND MERBEIN DISTRICTS.

In the Red Cliffs District, in which there are 124 miles of irrigation channels and 9 miles of drainage channels, five general waterings and one special watering were provided during the year, full supplies being available to meet all requirements.

In the Merbein District there are 54 miles of channels to provide irrigation supplies and 3 miles for drainage purposes. Six general irrigations were given and all demands for water were met. A majority of fruitgrowers in this District voted against a proposal, involving an increase in the charge for water, for the installation of an additional pumping unit.

During the year the Government made grants from Unemployment Relief Funds towards the cost of main outlet works for sub-surface drainage of horticultural lands in the Red Cliffs, Merbein, and Mildura Districts and considerable progress has been made in the investigation and execution of these works. In the Red Cliffs District a scheme to drain some 94 holdings totalling 1,509 acres of irrigable land at Cardross has been completed, and a commencement was made with schemes to drain 2,098 acres in 153 holdings in the south-east area of the District and 52 holdings containing 936 acres in the south-west part of the District. Similar works to drain 123 holdings having an irrigable area of 2,361 acres at north-west and west Merbein have also been put in hand. These schemes comprise complete systems of underground pipe drains providing an outlet at suitable depths to all holdings within the areas served. The pipes, which have sealed joints, are of stoneware and reinforced concrete ranging in size from 4 inches up to 24 inches in diameter. In order to eliminate risk of blockage and to reduce maintenance costs, block-holders are required to construct silt pits on their holdings into which the internal drainage from individual blocks must be discharged before being taken into the Commission's system. All work put in hand has been at the request of the growers concerned who are required to contribute substantially to the cost of the works.

Several miles of concrete lined channels were relined or repaired during the year, the most important of these works being the relining of portions of Trager's "fill" channel at Merbein and No. 1 Channel in the big "fill" near the Red Cliffs pumping station.

The dried fruits crops for the season amounted to 16,000 tons, valued at £560,000 in the Red Cliffs District, and 10,000 tons, valued at £400,000 in the Merbein District.

To meet increased demands for water in the Red Cliffs Urban Division, proposals for additions and alterations to the existing reticulation system are under consideration.

In the Merbein Urban District plans for improvements and additions to the reticulation system have been completed and an early start will be made with the work.

## BACCHUS MARSH AND WERRIBEE DISTRICTS.

For the supply of water for irrigation to lands in the Bacchus Marsh District there are 47 miles of channels.



In order to cope with the increased demand for irrigation supplies at the eastern end of the District, the Darley Main Channel was remodelled and concrete lined for a distance of 3 miles, and about 60 chains of new protective fencing were erected. The Doherty Channel was remodelled and concrete lined for a distance of 30 chains, while 1 mile 14 chains of the Hopetoun Channel were remodelled and concrete lined to increase its carrying capacity. Fifty chains of the Main Supply Channel were rendered with cement. Nine new measuring wheels and emplacements have been installed in the District.

On the Lerderderg River two large stone groynes and eighteen stone gabions have been constructed to protect the banks from erosion, in addition to the large amount of protective work already carried out.

During the last three or four years, many buildings have been erected on that portion of the Bacchus Marsh township known as Slackville. This area has been reticulated with 19 chains of 3-inch diameter and 11 chains of 2-inch diameter pipes and will be included in the Urban Division.

In the Werribee District, there are 47 miles of irrigation channels and 25 miles of channels for drainage as well as 24 miles of channels to provide domestic and stock supplies.

The work of concrete lining irrigation channels to prevent seepage and to give a more efficient delivery was continued during the year, and an additional length of 5 miles 44 chains was lined.

Additional drainage facilities were also provided, and the drains are functioning effectively. The value of drainage is well illustrated by the sale of a holding of 53 acres during the year. About fifteen years ago this land was apparently ruined by seepage. The Commission, therefore, carried out a reclamation scheme, and so effective were the drainage works that the land was sold during 1933 for £61 10s. per acre.

The usual service of domestic and stock supply was given the Waterworks District. Eight miles of channel in that District were regraded and greater efficiency in service resulted.

#### MAFFRA-SALE DISTRICTS.

In these Districts there are 190 miles of irrigation channels and 58 miles of channels for drainage purposes.

In the areas served by drainage channels no difficulty was experienced in dealing with the run-off following unseasonable rains during the year, and arrangements have now been made for extensions of these channels to many parts of the Districts not previously drained. New supply channels 3 miles in length were constructed to meet the demand for permanent irrigation supplies, while drainage channels were extended by 4 miles. Seepage prevention works included the concrete lining of 5 chains of the Main Sale Channel, 15 chains of the Tinamba Northern Channel, and the construction of 2 miles 46 chains of concrete box channels.

To meet the requirements of the Country Roads Board, the Glenmaggie Bridge was covered with wheel-board decking, 1¼ miles of road around the Glenmaggie Reservoir were reformed, and two large concrete culverts were installed. Erosion of the banks of the Avon River threatened the safety of the Commission's supply channels in several parts of Boisdale, and was checked by the erection of 4½ chains of single and 12 chains of double stone crib work, supplemented by willow plantings.

A metallic circuit telephone line, 24 miles in length, was erected to assist in the efficient working of the Districts, the terminal points being the Glenmaggie Weir and the Maffra office.

The main basin of the Stratford township supply was remodelled and enlarged to hold 4¾ million gallons of water, and a modern chlorinating plant was installed to ensure the satisfactory quality of the supply.

The Commission's office is now situated in a new brick building erected for that purpose in the centre of the town of Maffra.

#### INVESTIGATIONS OF NEW IRRIGATION AND WATER SUPPLY PROPOSALS.

In connexion with the proposed supply of water from the River Murray to lands in the Murray Valley area, contour surveys have been further extended within the area, and the location of the Main Canal from the site of the diversion weir at Yarrawonga and of the main distributary channels is now proceeding. Preliminary surveys for the location of a channel line connecting the Main Canal from Yarrawonga with the Goulburn System have been completed to the Broken River syphon.

In regard to the proposed diversion weir at Yarrawonga, detail designs have been prepared. The plans, which are now ready for submission to the River Murray Commission for approval, cover all portions of the structure with the exception of the spillway crest gates, the design of which is still in progress.

Based upon survey information, a detail estimate of the cost of the proposed scheme to provide reticulated water supplies to the towns of Warrnambool, Camperdown, and Terang has been made which, together with alternative allocation of charges as between the centres, has been forwarded to the interested municipalities.

A comprehensive investigation has been made into the Mornington Peninsula Scheme with a view to providing for extensions of service to several additional towns. Contour surveys have been carried out for the proposed Bittern Reservoir which will serve the Dromana-Sorrento-Portsea extension. An estimate of the cost of supplying the towns of Dromana, Sorrento and Portsea together with other bayside towns *en route* has been submitted to representatives of the towns to be supplied.

Detail designs of the extensions to the Bellarine Peninsula Scheme to provide reticulated water supplies to Drysdale, Portarlington, Torquay, and Anglesea have been prepared and the works are now in progress.

Preliminary investigations have been made in connexion with the possibilities of improving the supply to the Coliban storages by means of diverting portion of the winter flow of the Campaspe River at Ashbourne into the Coliban River.

A proposal for increasing the storage of the Melton Reservoir by the installation of crest gates on the existing by-wash was investigated and an estimate of cost prepared. Steps are now being taken to carry out this work.

In order to obviate the use of a considerable length of the Gunbower Creek near Cohuna as a carrier for irrigation purposes and to improve drainage conditions by lowering the water at Cohuna Weir, a scheme was prepared for serving the area by the enlargement of the existing Gunbower-Cohuna Right Branch Channel. This scheme has been deferred, for the present, on the representations of the irrigators.

In Merbein and Red Cliffs Districts, surveys have been carried out in respect to a comprehensive drainage scheme for lands within these districts and works were commenced.

Surveys for the location of main and subsidiary drainage channels are being carried out for lands in the East Kerang area.

Surveys are now in hand in connexion with drainage schemes for Rodney, Maffra, and Rochester Districts and the further extensions of Tongala and Shepparton drainage schemes.

Surveys have been carried out in the Kerang North-West Lakes areas in connexion with proposed improvements of irrigation supplies therein.

Extensive surveys have also been carried out at Black Swamp near Wangaratta and along the Ovens, Fitzroy, Loddon, and Snowy Rivers in regard to probable river improvements.

Proposals for the improvement of the services to the following existing urban supplies have been investigated, viz :—Red Cliffs, Merbein, Leitchville, Quambatook, and Wonthaggi.

## WATERWORKS DISTRICTS.

### MORNINGTON PENINSULA DISTRICTS.

During the year the construction of the first stage of the Lysterfield Reservoir, capacity 3,400 acre feet, was satisfactorily completed. This reservoir, in addition to providing an improved supply to Carrum, Chelsea, Edithvale, Aspendale and portion of Dandenong, will make ample water available for market gardening and poultry farming purposes in the closely occupied areas of Dingley, Keysborough, and adjoining districts. The construction of the outlet works from the Lysterfield Reservoir, the chemical clarifying plant, settling basins and service reservoirs, and the laying of approximately 12 miles of 18-inch, 21-inch and 24-inch diameter pipes from Hallam to Chelsea were completed. The whole of the plant and the pipe line operated successfully and full water supplies were available in the Carrum, Chelsea, Edithvale, and Aspendale areas at all times during the Summer period.

Approximately 8 miles of the Cranbourne-Langwarrin-Hastings Channel were completed, and the construction of the new storage basin in the parish of Bittern, some 4 miles west of the Hastings township, was commenced with funds provided for Unemployment Relief purposes. These works when completed will provide an increased water supply to the Naval Base. They are also at a level sufficiently high to command by gravitation the bayside townships from Dromana to Portsea on Port Phillip Bay and Palm Beach and Balnarring on Western Port Bay, should such works be undertaken at a later date.

The present scheme of supply to the townships of Garfield and Bunyip was further extended, at the request of the residents, to embrace the township of Longwarry. A pipe line approximately 3 miles long of 3  $\frac{9}{16}$ -inch diameter fibrolite pipe was laid to the township along the Bunyip-Longwarry Road and the necessary reticulation mains were put down. Water has been turned into the mains and the supply is satisfactory in every respect.

The construction of the service basin in connexion with the Bunyip-Garfield-Longwarry supply with Unemployment Relief Funds was completed and the basin was filled with water. Unemployment Relief Funds were also provided for the earthwork in connexion with the raising of the embankment of the Mornington Reservoir. Approximately 40,000 cubic yards of earth were placed in the embankment and the necessary stone beaching is now in progress. This new work when completed will increase the capacity of the Reservoir from 34½ million gallons to 66 million gallons. This increased capacity will materially assist in the economical working of the scheme.

Further considerable extensions were made to the existing reticulation systems in the townships of Frankston, South Frankston, Noble Park, and Mount Martha.

#### WONTHAGGI DISTRICT.

The main storage reservoir at Lance Creek contained ample water for all requirements, but difficulty is experienced in supplying the service basin at Wonthaggi during peak demands. It is proposed, however, to improve the supply by installing a duplicate pumping plant and constructing a new storage basin near the town.

The 12-inch main from the reservoir to the town was brushed out, the service basin cleaned, and the works maintained in a satisfactory condition.

#### BELLARINE PENINSULA DISTRICTS.

The main supply works for the above districts maintained ample supplies for all demands during the year, the principal reservoir at Wurdee Boluc holding, at the end of the period, sufficient water for the coming season. Improvements were made to the main inlet and outlet channels, the most important being the concrete lining of 5 miles of the latter channel.

The pipe reticulations of Queenscliff, Point Lonsdale, Ocean Grove, and Barwon Heads were satisfactorily operated, full volumes of water of excellent quality being available throughout the season. As a result of this scheme a marked improvement is apparent in the general appearance of these towns.

During the year the laying of the main supply pipe lines for Drysdale and Portarlington was carried out and the pipe reticulation systems for these towns were installed.

Substantial progress has been made with the construction of the channels and storage basins for the water supply to Torquay and Anglesea, and arrangements have been made to procure pipes for the reticulation of these townships. It is anticipated that these systems will be ready during the coming year.

From the Bellarine Scheme, 386,000,000 gallons of water were supplied to the Geelong Waterworks and Sewerage Trust during the year through 5 connexions with the Commission's Bellarine main, two additional connexions having been installed by arrangement to augment the supply to the City of Geelong.

#### WIMMERA DIVISION.

##### WIMMERA-MALLEE WATER SUPPLY.

The annual distribution of water for domestic and stock supplies to the Wimmera-Mallee area was carried out without any delays of consequence. The total length of channels supplying this area of 11,000 square miles is 6,175 miles. The prolonged dry Summer depleted considerably the farmers' supplies and all main channels were run at their fullest capacity to relieve farmers and to confine distribution to the Winter months as far as possible. The dry season has retarded the growth of vegetation, and, unless very plentiful Spring rains fall, it is anticipated that considerable trouble will be experienced with sand drift next Summer as there is very little natural cover in the Mallee areas. Ample supplies of water were made available to the five towns within the area controlled by Waterworks Trusts as well as to the following 37 Urban Districts, which have pipe reticulation systems operated by the Commission:—

Antwerp	Dimboola	Marnoo	Patchewollock	Ultima
Berriwillock	Dooen	Minyip	Quambatook	Waitchie
Beulah	Hopetoun	Nandaly	Rainbow	Watchem
Birchip	Jeparit	Natimuk	Rupanyup	Woomelang
Brim	Jung Jung	Nullawil	Sea Lake	Woorinen
Chillingollah	Lalbert	Nyah West	Speed	Wycheproof
Chinkapook	Lascelles	Ouyen	Tempy	Yaapect
Culgoa	Manangatang			

The very heavy rains in December last filled the whole of the Wimmera-Mallee storages in the Grampians to overflowing, thus ensuring supplies for a considerable period. The new by-wash and by-pass channel at Lake Lonsdale Reservoir carried the heavy overflow without any adverse effect on the new works, and the reservoir was filled to its increased capacity of 53,300 acre-feet.

The Riverside, Burnlea, Young, Quantong, and Haven irrigation settlements received their supplies from Green and Dock Lakes. The advantageous position of these new storages enabled ample supplies to be provided at short notice; thus meeting the requirements for perishable crops and effecting a considerable saving in water to be made as against the previous system of supplying these settlements from the Wartook Reservoir.

The construction of an inlet channel from the Glenelg River to Moora Storage is in hand and will enable this regulating basin to be further utilized to convey surplus flows from this catchment to the main storages. At the beginning of the Summer, full benefits from the Mount Zero Scheme were made available to the Borough of Horsham Waterworks Trust. The 12-inch diameter wood main which was laid some 21 years ago was taken up, recoated, and relaid in two rows on to the end of the 18-inch diameter concrete lined steel main already in position,

The wood main was found to be in excellent condition and of the 10 miles of pipe lifted, none had to be discarded. The whole pipe system is supplied from a service basin at the end of the Mount Zero Channel. The completion of this channel and main has placed Horsham in a very advantageous position as regards water supply, the pressure provided being most satisfactory and the quality of the water being of a very high standard.

WESTERN WIMMERA, UPPER WESTERN WIMMERA, WIMMERA UNITED, UPPER WIMMERA UNITED, KARKAROO, AND HINDMARSH DISTRICTS.

As stated above the Mount Zero Channel, some 18 miles in length, was completed, and a small channel was constructed near Wonwondah, to serve allotments previously supplied from the Horsham wood pipe line now removed. The renewal of a syphon, 52 chains long, at Mount Arapiles was undertaken with surplus wood pipes from the Mount Zero Scheme. Repairs made to the Longerenong Weir on the Wimmera River will enable greater flows to be diverted along the Yarriambiack Creek to the advantage of all towns through which the creek passes.

A new water supply storage was completed at Watchem, thus providing ample Summer supplies for that town. Extensions of mains were carried out in the township of Dimboola.

BIRCHIP, WYCHEPROOF, SEA LAKE, DERING, EUREKA, BARING, WALPEUP CENTRAL, KIA, TYRRELL, LONG LAKE, AND TYNTYNDER DISTRICTS.

In all of these Districts dry conditions have prevailed and the amount of cover on the light sandy soil is very small. Consequently, if copious rains do not fall in the Spring, the sand drift trouble will be serious.

In Tyrrell District, 12 miles of channel and an earthen tank were constructed to supply settlers south of Underbool on the fringe of the bore country, who were dependent for their supplies by carting from bores which had too high a mineral content for general use. An earthen tank, 32,000 cubic yards capacity, was constructed close to Walpeup Township to augment water supplies for the residents who previously had to cart water for some distance. This tank is so located that it can be used for the reticulation of the township should such a system be installed in the future.

In Baring District, four ironclad catchments were constructed while eleven others are being erected in co-operation with the Closer Settlement Commission. These catchments are being installed on allotments too high to be served by the Commission's channel system.

A channel, 5 miles long, was constructed on the east of Donald to connect the Charlton Channel System to the Donald Main Channel. The construction of this channel enabled many landholders, hitherto unserved, to obtain a supply of water, and also allowed the Donald Waterworks Trust to fill its storages to a greater capacity by gravitation with water of an improved quality. In order to supply water from the channel system to some high allotments in the Borong district between Woomelang and Sea Lake, several windmills and pipe lines were installed.

Extensions to water mains were made in the Manangatang, Nyah West, Birchip, Sea Lake, and Nullawil Urban Districts.

WALPEUP WEST DISTRICT.

The water supply in this District is provided by public and private bores. The total number of public bores equipped with windmills and elevated tanks is 109, and they have been kept in operation during the year. As the number of bores installed by landholders on their holdings is increasing the draw on the public bores is now less than formerly. Two bores on the desert stock route between Nhill and Murrayville were installed and placed under the control of the Lowan Shire Waterworks Trust.

COREENA DISTRICT.

Water was run in the 100 miles of channels in this District, domestic and stock supplies being provided from the pumping plant adjacent to the River Murray at Coreena Bend to all holdings in the District.

CARWARP AND CARWARP CENTRAL DISTRICTS.

The watering of these Districts was carried out in satisfactory time, comparing very favorably with last year. The supply is given by pumping from the River Murray at Red Cliffs, the total length of channels being 154 miles.

YELTA DISTRICT.

All dams in this District were filled during the year with water pumped at Merbein throughout the 50 miles of channels comprising the system. On account of abnormally dry conditions prevailing towards the end of the year, a special run of water was provided for tank filling on a section of the system.

MILLEWA AND MILLEWA CENTRAL DISTRICTS.

Full supplies of water were distributed through the 687 miles of channels which comprise this system. This completed the tenth annual watering. In the Meringur Urban District an additional service tank is being installed and an auxiliary oil engine supplied to meet the needs of this growing township.

## DRAINAGE AND FLOOD PROTECTION SCHEMES.

## LOCH GARRY.

There was a short high flood in the Goulburn River in September and the works carried out their purpose of protection quite efficiently.

## KANYAPELLA.

Two small outlets were constructed in the channel connecting the Yambuna and Warrigal Creeks to enable adjoining landholders to control delivery of water for stock purposes. No floods of any consequence occurred during the year.

## ECHUCA.

The level of the Campaspe River during the past year did not reach a stage where the levee banks were called upon to protect the District. However, levees are being maintained in good order and condition to cope with any emergency.

## CARRUM.

During the year, the construction of the Eastern Contour Drain in the Parish of Lyndhurst was satisfactorily completed under Unemployment Relief conditions. This work, which intercepts the drainage water of 54 square miles of Cranbourne high lands and discharges it direct into the new Eumemmerring Canal, has now made a large area of valuable farming lands in the Carrum District immune from the frequent floodings it usually received, and has already proved a great boon to the District.

On completion of the Eastern Contour Drain, the bucket dredger travelled direct to Pillars Bridge and commenced the work of diverting the Dandenong Creek from its existing outlet to the sea at Mordialloc to the new waterway provided in the enlarged Eumemmerring Creek with its outlet at Carrum. Steady progress has been made and it is anticipated that the diversion will be completed during the coming Summer months so as to be available next Winter.

## KOOWEERUP AND CARDINIA.

In these Districts, there are 415 miles of drainage channels controlled by the Commission.

During the year further progress has been made by the Commission in constructing new channels, enlarging and remodelling existing drains, and carrying out maintenance work within the Kooweerup and Cardinia Districts, mainly as Unemployed Relief Works.

By means of dragline excavators, the enlargement of the No. 6 Yallock Drain has been extended 3 miles to Modella-road and the Cardinia Channel was remodelled and enlarged for 3 miles above the "V" junction, while the construction of the Main Western Contour Drain by bucket dredger has progressed  $1\frac{3}{4}$  miles to within 25 chains of the Clyde Creek at Bullarto-road. The construction of minor drains by horse teams has been carried out for a total length of 100 chains. In all about 240,000 cubic yards of earthwork were removed during the year, mostly by mechanical excavators.

New structural work included the erection of 9 timber bridges totalling 550 lineal feet in length; 20 concrete pipe outlets and drops;  $3\frac{1}{2}$  miles of fencing; and other minor works.

Maintenance work comprised the remodelling and regrading of drains for a total length of 32 miles, the treatment of noxious weeds and vermin along some 36 miles of drainage reserves, and general repairs to bridges and structures.

Privately owned suction plants, operating under an arrangement with the Commission, have removed 10,000 tons of coarse clean sand from the Kooweerup Main Canal during the year. The total output of sand to date is 285,000 tons.

## RIVERS AND STREAMS DIVISION.

## RIVER IMPROVEMENT.

During the year many applications were received from landowners for permission to carry out works for the protection of their properties from erosion or flooding, and, where investigation showed that proposals were justifiable, permission was granted under the provisions of the *Water Act* 1928 for the works to be carried out at the cost of applicants.

Much valuable work is being done throughout the State with assistance from the Rivers and Streams Fund which enables the whole of the rentals received from river frontages to be expended on works of stream improvement, comprising the removal of obstructions from their courses and the prevention of erosion of their banks. During the year 42 grants towards the cost of works of this nature were approved after investigation and on the recommendation of the Honorable the Commissioner of Public Works, bringing the number approved since the creation of the Fund in 1930 to 119. Owing to the limited resources of the Fund, grants have been made only on a contributing basis. In the cases of expenditure for the protection of public works such as roads or bridges, grants have been up to two-thirds of the total cost, but where private lands are benefited, contributions have been required from the landowners concerned, and the subsidy from the Fund has been limited to not more than one-half of the total cost of works.



The estimated total cost of works for which grants have been approved during the year has been £13,382 towards which the approved contribution from the Fund has been £5,632, the balance being provided from other sources.

Surveys to provide information upon which to base remedial measures have been continued on streams most urgently requiring attention. The survey of the Ovens River from Wangaratta upstream to a few miles above Myrtleford, a total length of 56 miles, has been completed, as also has a survey of the Tambo River at Bruthen and of the Snowy River at Orbost. At the latter place, extensive works based on this survey are now in hand. These works comprise the snagging of the river and the removal of several large willow-covered islands and the construction of a number of embankments to prevent breakaways of the river.

Following the completion of the survey of the Black Swamp, the Black Dog Creek and tributary streams, a scheme for the protection of adjoining lands was prepared during the year and submitted to the Wangaratta and Rutherglen Shire Councils with the suggestion that the works proposed might be carried out under the provisions of the Drainage Areas Act.

The necessity for special legislation to provide for the carrying out of river improvement works is becoming increasingly apparent. Such legislation should provide for the constitution of River Improvement Districts on lines similar to those of Drainage Districts, sections 77-79 of the *Water Act* 1928, the annual maintenance charges involved being met by rating the lands benefited, and it should also provide for the carrying out of minor works of river improvement without the constitution of Districts.

#### MURRAY LEVEES.

The Interstate Committee appointed to report on applications for permission to construct levees protecting lands in Victoria and New South Wales from flooding from the River Murray, has dealt with a number of proposals during the year. In several instances, landowners who had previously obtained permission to construct levees signified that they did not propose to proceed with their works and in these cases approval was withdrawn and the reclamation debited against the State concerned was cancelled. Approved flood protection works on the Victorian side of the Murray now represent a total reclamation of 17,973 acre-feet out of a permissible total of 33,000 acre-feet. Those on the New South Wales side represent 35,341 acre-feet, the permissible total being 99,000 acre-feet.

#### RIVER GAUGING.

As provided by Section 32 of the *Water Act* 1928, the work of gauging and recording the flows of the principal rivers and streams of the State was continued. Weekly returns showing the volumes of water stored in reservoirs were made available for publication.

Unseasonable conditions during the year resulted in some remarkable extremes in gauging records. Generally, the discharge of streams during the mid-summer months was considerably above the average, and heavy flooding occurred in the Loddon River during December and in the Snowy River in January. The peak flow of the Loddon flood was exceeded only by that of the record flood in 1909, while in the Snowy River the discharge, which was computed to be at the rate of 245,000 cubic feet per second at the Jarrahmond Station, was the highest recorded since the inception of gaugings.

In the latter part of the year, stream flows reached an exceptionally low level, and in the Goulburn River the June discharge was the minimum recorded for that month during the past 53 years.

During the year a new gauging station was established on Riddell's Creek at Riddell, and the gauging of 25 other streams was discontinued as it was considered that sufficient information regarding their behaviour had been obtained.

The number of gauging stations now in operation is 37.

#### 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 and watercourses, lakes, lagoons, swamps and marshes, supervision has been maintained over all such sources of supply.

Owing to repeated heavy falls of rain, irrigation by private diverters was not so extensive as during the previous year, and, due to this, as well as to the early failure of many tobacco crops, and the adverse financial position of former diverters, the demand for authority to divert water was below that for the preceding year.

Authorized diversions in force are:—

Yearly permits .. .. .	1,335
Flood permit .. .. .	1
Licences .. .. .	11
<b>Total .. .. .</b>	<b>1,347</b>

During the year the Scale of Charges for authority to divert water from natural sources has been revised and will come into operation as from the 1st July, 1934. A reduction has been made in the charge for diversions for domestic and stock supplies to rated lands within Waterworks or Irrigation Districts. In the case of diversions for the development of water power, a reduction was made in the unit charge per horse-power, but the charge was made to apply to the maximum capacity of the plant instead of the average horse-power developed. This was done in order to simplify the application of the charge. Other minor alterations were made to remove anomalies in respect to diversions for irrigation.

#### WATER DISTRIBUTION.

The irrigation demand which usually commences in the Northern Districts on 1st September and in the Southern Districts on 1st October, did not this year commence until late October, and continued fairly generally until early December, when heavy rainfall interrupted water deliveries. Consequently, at the end of the Irrigation Season, only 75 per cent. of Water Rights allotted had been used up.

Although the defined irrigation period closed on 30th April, water was made available until late June, at the request of irrigators, in a number of Districts.

In order to augment the supply to the northern sections of the Wimmera-Mallee System, a volume of water amounting to 29,586 acre-feet was sent westward of the Avoca River from the Goulburn and Loddon Systems.

#### 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  $23\frac{1}{2}$  miles; the Waranga Reservoir; the Waranga-Rodney Channel, a distance of  $4\frac{1}{2}$  miles; the Main Channel, extending westerly from the Waranga Reservoir to the Loddon River, a distance of 98 miles; the Waranga Western Main Channel Extension, extending north-westerly from the Loddon River, a distance of 36 miles (for irrigation) and a further distance of 94 miles to Kurdgweechee to supplement the supply from the headworks of the Wimmera-Mallee Gravitation System for domestic and stock purposes, making a total distance of 130 miles from the Loddon River, or 228 miles from the Waranga Reservoir; the Leaghur-Normanville Main Channel, extending from a point 36 miles on the Waranga Western Main Channel Extension northerly for a distance of 6 miles; the Tandarra-Calivil Main Channel, extending from 64 miles 69 chains on the Waranga Western Main Channel north-westerly to Tragowel Plains No. 1 Main Channel, a distance of 26 miles. On the eastern side the Main Eastern Channel now extends from the Goulburn Weir to the Katandra Area, a distance of 55 miles. The total length of main channels is therefore 343 miles. The Irrigation Districts supplied are South Shepparton, Shepparton, North Shepparton, Katandra, Rodney, Deakin, Tongala, Stanhope, Rochester, Echuca North, Dingee, Calivil, Tragowel Plains, and Boort.

In connexion with the irrigation supply to lands in the vicinity of Dunbulbalane, offers for the construction of earthworks, at piecework rates, have been accepted and work commenced on the extension of the Dunbulbalane Main Spur Channel (D4) from its present terminus in the Parish of Youanmite to the Parish of Dunbulbalane, a distance of 1 mile.

Minor breaks in the stone face pitching of the embankment at Waranga Reservoir, caused during storms, have been filled with stone and grouted with cement concrete, and general maintenance works have been carried out at the Goulburn Weir, the Waranga Reservoir, and on the Goulburn Main Channels.

#### NEW STORAGES.

##### EILDON RESERVOIR.

Further work to give effect to the recommendations of the Inquiry Board, to which reference has been made in previous Reports, was carried out. The bank was maintained at the designed section by placing necessary rock fill. Further work was done on the new outlet works, and, with the exception of the alterations to the main outlet tower, this work was practically completed.

The control valves were satisfactorily operated at regular intervals, under varying heads up to 100 feet.

The installation of the six flood control gates in the spillway gap at R.L.808 was continued, and will be completed early in September, 1934. This will restore the reservoir to its original capacity of 306,000 acre-feet.

Further work was done to the drainage system in the downstream section of the bank. Regular observations were continued throughout the period and have shown consistently satisfactory results for the work so far completed.

**TOTAL STORAGES IN STATE.**

In 1902 the total capacity of storages in the State was 172,000 acre feet. The present capacity is 1,908,870 acre feet. The Hume Reservoir, designed to contain 2,000,000 acre feet (half of which can, subject to the provisions of the River Murray Agreement, be credited to the State of Victoria) now has a capacity of 1,250,000 acre feet. When the final stage of this work has been constructed (involving a further approval of the interested State Governments), and the Yarrawonga Weir, Euston Lock Weir, Glenmaggie and Bittern Reservoirs are completed, the combined capacities of Victoria's storages will be 2,367,570 acre feet.

**EXISTING STORAGES.**

	Capacities in Acre Feet.	
<i>Goulburn System—</i>		
Goulburn Weir .. .. .	20,700	
Waranga .. .. .	333,400	
Eildon (200,000 acre feet capacity this year) .. .. .	306,000	
		660,100
<i>Murray-Loddon System—</i>		
Hume Reservoir (part of 2,000,000 acre feet—half share) .. .. .	625,000	
Torrumbarry (half share of 26,000 acre feet) .. .. .	13,000	
Mildura (half share of 34,000 acre feet) .. .. .	17,000	
Wentworth (half share of 20,000 acre feet) .. .. .	10,000	
Kow Swamp .. .. .	40,860	
Laanecoorie .. .. .	6,650	
Kerang North-West Lakes .. .. .	92,000	
Lake Boga .. .. .	28,000	
Long Lake .. .. .	3,820	
		836,330
<i>Wimmera-Mallee System—</i>		
Fyans Lake .. .. .	17,100	
Lake Lonsdale .. .. .	53,300	
Wartook .. .. .	23,800	
Taylors Lake .. .. .	30,000	
Pine Lake .. .. .	52,000	
Green Lake .. .. .	6,600	
Dock Lake .. .. .	4,800	
Moora .. .. .	5,100	
Lower Wimmera Weirs .. .. .	2,870	
Batyo Catyo (Avon Regulator) .. .. .	5,000	
Lake Whitton .. .. .	1,300	
Earthen Storages, Township Reservoirs, and Mallee Tanks .. .. .	5,760	
		207,630
<i>Maffra-Sale System—</i>		
Glenmaggie (part of 150,000 acre feet) .. .. .	..	104,500
<i>Coliban System—</i>		
Upper Coliban .. .. .	25,700	
Malmsbury .. .. .	12,300	
Spring Gully .. .. .	2,000	
Subsidiary Reservoirs .. .. .	4,970	
		44,970
<i>Werribee System—</i>		
Pykes Creek .. .. .	21,000	
Melton .. .. .	17,000	
		38,000
<i>Bellarine Peninsula System—</i>		
Wurdee Boluc .. .. .	10,000	
Service Basins .. .. .	630	
		10,630
<i>Mornington Peninsula System—</i>		
Lysterfield .. .. .	3,400	
Beaconsfield, Frankston, and Mornington .. .. .	1,560	
Service Basins .. .. .	200	
		5,160
<i>Miscellaneous—</i>		
Wonthaggi .. .. .	..	1,550
<b>Total capacity of existing Storages .. .. .</b>	<b>..</b>	<b>1,908,870</b>

**ADDITIONAL STORAGE BEING PROVIDED BY WORKS APPROVED OR IN COURSE OF CONSTRUCTION.**

<i>Maffra-Sale System—</i>		
Glenmaggie (balance of 150,000 acre feet) .. .. .	..	45,500
<i>Mornington Peninsula System—</i>		
Bittern .. .. .	..	1,200
<i>Murray System—</i>		
Hume Reservoir, at junction with Mitta River (half-share of balance of 2,000,000 acre feet) .. .. .	..	375,000
Yarrawonga Weir (half share of 50,000 acre feet) .. .. .	..	25,000
Euston Lock Weir (half share of 24,000 acre feet) .. .. .	..	12,000
<b>Total capacity of Storages when works are completed .. .. .</b>	<b>..</b>	<b>2,367,570</b>



# RIVER MURRAY WATERS AGREEMENT WORKS.

## GENERAL OUTLINE.

The scheme of works provided in the River Murray Waters Acts, passed by the Governments of the Commonwealth and of the States of New South Wales, Victoria, and South Australia, comprises storages on the Upper River Murray and at Lake Victoria, locks and weirs in the course of the River Murray from its mouth to Echuca, and also locks and weirs on the lower part of the River Murrumbidgee. The Acts also provide that, for purposes of construction, the Minister of Public Works of New South Wales shall be the Constructing Authority for that State; that for South Australia, the Commissioner of Public Works shall be the Constructing Authority; and that the State Rivers and Water Supply Commission shall be the Constructing Authority for Victoria.

Following a report by the River Murray Commission regarding the proposed construction of further works, the Right Honorable the Prime Minister of Australia and the Honorables the Premiers of New South Wales, Victoria, and South Australia have entered into an Agreement, for the further variation of the River Murray Agreement, to provide for the construction in accordance with the general provisions of the original Agreement of (a) The Upper Murray Storage (Hume Reservoir) to a capacity of approximately 1,250,000 acre feet of water only, (b) A roadway over the Hume Dam, (c) A diversion weir at Yarrawonga, (d) Two weirs on the River Murrumbidgee, and (e) Barrages across the five channels in the vicinity of the Murray Mouth. This further amending Agreement also provides for (1) The extension of the construction of the Upper Murray Storage to a capacity of not more than approximately 2,000,000 acre feet of water, if and when so desired, by the States of New South Wales, Victoria, and South Australia, (2) The release of the Commonwealth Government from liability to contribute towards the cost of maintenance, operation, and control of completed works and gauging stations, such cost to be borne in equal shares by the three State Contracting Governments, and (3) The deletion from the Agreement of the thirteen weirs and locks on the River Murray and the nine weirs and locks on the River Murrumbidgee, the construction of which has not been commenced.

The Commonwealth Parliament has ratified this further amending Agreement, and action is being taken to introduce the necessary ratifying legislation into the Parliaments of the States of New South Wales, Victoria, and South Australia.

The Lake Victoria Storage, constructed by the South Australian Constructing Authority, was filled to its full capacity of 514,000 acre feet of water for the first time since the works were constructed. This Authority has also practically completed the construction of Weirs and Locks Nos. 7 and 8, thereby making the River Murray permanently navigable from its mouth to about 40 miles above Mildura.

The New South Wales Constructing Authority, following approval of the River Murray Commission, has re-commenced work at Weir and Lock No. 15, Euston.

## HUME RESERVOIR.

During the year the New South Wales Constructing Authority has been engaged on the Hume Reservoir within its territory. The main work carried out in this portion of the dam was the raising of the spillway from R.L. 580 to R.L. 606 to enable the capacity of the storage to be raised to 1,250,000 acre feet.

In Victoria the work of constructing the Main Embankment and Bank No. 2 was continued, the Main Embankment being brought to the level of R.L. 635, or 125 feet above the river flats, and Bank No. 2 being completed to its finished height of R.L. 630. During the year 11,424 cubic yards of earthwork were placed in the embankments, and 373 cubic yards of concrete and 3 tons of steel reinforcement in the core wall, which was also completed to its finished height of R.L. 638. In addition, 168 cubic yards of gravel beaching were placed on the downstream faces of both embankments. The paving of the upstream faces of these embankments with a 12-inch layer of concrete was completed, the quantity of concrete placed during the year being 3,267 square yards. A storm-water drain on Bank No. 2, 1,200 feet long, was constructed, and 3,269 reinforced concrete drainage slabs were made during the year, 680 of which were placed in position on the main embankment.

The embankments, boundary lines, and excavations were all fenced, the total length of fencing erected being 15,000 feet.

Road deviations, being carried out on behalf of the Water Commission by the Victorian Country Roads Board, on the Upper Murray Valley Roads are proceeding satisfactorily. Contracts were also let for deviations in the Towong Shire, and construction commenced. It is expected that all roads will be completed by September, 1934.

## YARRAWONGA WEIR.

The remainder of the boring of the foundations for this work was completed and plans and estimates prepared by the Water Commission (the Constructing Authority for Victoria) in co-operation with the Public Works Department of New South Wales. These plans will be submitted to the River Murray Commission for approval as soon as the legislation to amend the River Murray Agreement has been passed by the Governments concerned. Arrangements have been made for the transfer of the necessary plant and buildings from other works to enable construction to be commenced during the Spring season of 1934.

## WEIRS AND LOCKS, TORRUMBARRY AND MILDURA.

Both these works operated satisfactorily during the year, and again proved beneficial in connexion with the water supply to the important Irrigation Districts along the River Murray.

## WORKS CONTROLLED BY OTHER AUTHORITIES.

(Under General Supervision of the Commission.)

### SEWERAGE IN COUNTRY DISTRICTS.

The Ballarat Sewerage Authority continued to extend the reticulation sewers to serve the outer areas, the sewerage of the whole of the City being completed. Minor sewer extensions were carried out at Bendigo.

The works of the Colac, Mildura, and Echuca Sewerage Authorities have been in satisfactory operation throughout the year.

The Swan Hill Sewerage Authority completed the construction of its works and the majority of the houses have been connected to the sewers.

The Warrnambool Sewerage Authority completed the major portion of its works and a commencement has been made with the connexions to the sewers.

The Horsham Sewerage Authority is making good progress with the construction of works.

The detail survey in connexion with the Wangaratta sewerage scheme was completed and the construction of works was commenced by the Authority. A detail survey in connexion with the Kerang sewerage works was also completed and plans are being prepared for the construction of works.

Sewerage Authorities were constituted at Benalla and Kyneton and preparations are being made for detail surveys.

Applications for the constitution of Sewerage Authorities at Shepparton and Dandenong were examined and the schemes generally approved, while proposals for sewerage schemes at Hamilton and Warragul are under consideration.

### COUNTRY WATER SUPPLIES.

Many important works were carried out by Waterworks Trusts and local governing bodies, of which there are now 113 and 17 respectively.

The Warrnambool City Council installed a new rising main to provide an improved water supply for sewerage and general purposes.

The Mooroopna Waterworks Trust is contemplating the installation of a purification plant to improve the quality of the water supplied to consumers, and the Lorne Waterworks Trust is commencing the construction of a new service basin to improve the supply to the high levels of the town.

The Kilmore Waterworks Trust increased the capacity of its main storage basin to ensure an adequate supply throughout the Summer months.

The Rochester Waterworks Trust commenced the construction of a filtration plant to improve the quality of the town water supply, while the Hamilton Trust enlarged a further section of the 23-mile main pipe line leading from the Grampians to the town.

The Horsham Waterworks Trust laid new pipe mains to enable advantage to be taken of the improved supply from the Mount Zero Scheme.

The Gisborne Trust completed the construction of a new storage basin of 2,000,000 gallons capacity to supplement the supply from Baringo Creek.

The Moe Waterworks Trust, recently constituted, is well advanced with the construction of works for the supply of water to the township of Moe.

The Myrtleford Waterworks Trust was constituted and will shortly construct works for a town water supply at Myrtleford.

The St. Arnaud Borough Waterworks Trust laid new mains to provide an independent supply to the higher areas of the district.

Pipe extensions and other works were carried out at Colac, Tungamah, Swan Hill, Wangaratta, Maffra, Bairnsdale, Seymour, Toora, Yarram, Morwell, Woodend, Kerang, Shepparton, and Echuca.

The Avoca Water Trust was abolished by Act of Parliament.

## PROGRESS IN IRRIGATION DISTRICTS.

Dairy herds which were grazed in Irrigation Districts again secured the leading positions in the Standard Herd Test which is conducted annually by the Department of Agriculture. The first place for the 1933-34 season was awarded to a herd from the Tongala Irrigation District, whose average production was 560.29 lbs. of butter-fat, while second place was secured by a herd from Tallygaroopna, in the North Shepparton Irrigation District, with an average production of 543.33 lbs. of butter-fat per cow. It is noteworthy that three out of the first four places in the order of merit list were won by herds from Irrigation Districts situated in widely separated portions of the State. The second prize for the highest individual return was also gained by a cow from the Tallygaroopna irrigation area, with an average production of 701.87 lbs. of butter-fat. In the individual classes also, the leading places were gained by cows from Irrigation Districts.

A notable fact in connexion with the Dairy Herd Tests is that the only cow to gain the title of Grand Champion, with the highest production in the State for three years, was grazed on irrigated pastures.

The Victorian output of dried vine fruits, viz., currants, sultanas, and lexia raisins, for the 1934 season amounted to approximately 40,000 tons, or 60 per cent. of the total Australian output.

Seasonal conditions during the drying period proved unfavorable to the harvesting of the large crop which was grown in the Irrigation areas, thereby entailing considerable wastage of fruit.

It may be mentioned that record shipments of Australian dried fruits were made to the United Kingdom from the previous harvest (1933), and comprised more than 55,000 tons. The whole of these shipments have been sold, thus materially assisting in the disposal of the present season's crop.

The Victorian production of canned apricots, peaches, and pears for the 1934 season amounted to approximately 1,920,000 dozen cans, or 67 per cent. of the total Australian output of these fruits, viz., 2,851,700 dozen cans. This figure represents a material reduction on the previous year's record pack, when some 2,960,000 dozen cans were processed in Victoria alone. The reduced production was in a large measure due to the failure of the peach crop owing to the ravages of the Oriental moth and brown rot, which destroyed large quantities of fruit, thereby entailing severe losses on the growers.

Following upon a period of depressed trade conditions in Great Britain during the latter half of 1933, special efforts were exerted early this year by the Canned Fruits Export Control Board to ensure a more rapid clearance of Australian stocks. As a result, sales in the United Kingdom for the first eight months of this year have reached record proportions, being 2,534,000 dozen cans as compared with the previous highest total of 1,124,000 dozen cans for any prior period of twelve months.

Whilst the prices realized have been on a lower level it is gratifying that canners' export stocks generally have been cleared throughout Australia, thereby paving the way for the absorption of the coming fruit crop.

The Commonwealth Citrus Investigation Committee, on which the Commission has representation, has been engaged on a general survey of the citrus industry with a view to recommending measures to assist and stabilize the industry. The scope of the inquiry has included production methods, means of marketing, and also a search for new outlets for the disposal of Australian citrus fruits.

The bulk of the Committee's work in regard to compilation of information relative to production has been delegated to State Sub-committees, reports from which are to be received at an early meeting of the Committee. The report of the Victorian Sub-committee indicates a decrease in the productive acreage of all varieties of citrus with the exception possibly of grape fruit.

The Committee has also been entrusted with the allocation of the Commonwealth grant of £10,000 to assist mandarin growers. This grant is to be utilized in the form of compensation to growers in consideration of a reduction in the acreage of bearing trees. Victoria is, however, only slightly affected by these proposals, as only a small acreage of mandarins is in bearing, the proportion of compensation allocated to this State being £216.

Those areas in which citrus production has been curtailed are being devoted to other forms of irrigated culture.

## ADMINISTRATION.

### EXTENSIONS AND EXCISIONS.

The Maffra Irrigation District was extended to include some 1,950 acres which had not previously been included in any constituted District.

The Nyah Irrigation Area was increased by the inclusion of 40 acres, of which area 22 acres were added to the Nyah Waterworks District.

The Tyrrell Waterworks District was extended by the inclusion of 332 acres which were excised from Eureka Waterworks District.

The Mornington Peninsula Waterworks District was extended to embrace an area of 20,200 acres which included the Lysterfield Reservoir and Longwarry Township. This township has been provided with reticulation works and has been proclaimed the Longwarry Urban District.

The boundaries of Pakenham Urban District, within the Mornington Peninsula Waterworks District, and Barwon Heads and Ocean Grove Urban District, within the Bellarine Peninsula Waterworks District, were amended to include additional areas of 100 acres and 200 acres respectively.

An area of 2,400 acres of frontage lands in the parish of Bumbang, adjacent to permanent water in the River Murray or in billabongs, was excised from Coreena Waterworks District.

The extent of the Waterworks District of the Loddon United Waterworks Trust was diminished by the excision of 97,200 acres, following legislation passed by Parliament in December, 1933.

The Avoca Water Trust (the District of which had been administered by the Commission since 1910) was, by Act of Parliament No. 4175, which came into operation on 1st January, 1934, relieved of its loan indebtedness to the State, and was then abolished.

### NEW AND PROPOSED DISTRICTS.

Reticulation works for the supply of Newstead Township have been completed and the township has been proclaimed the Newstead Urban District. The boundaries of this District were subsequently amended to include an additional area of 225 acres, making the total area of the District 1,145 acres.

The Act above mentioned relating to the Avoca Water Trust also constituted the Township of Quambatook the Quambatook Waterworks District, and placed such District under the jurisdiction and control of the Commission. The whole of this District was subsequently proclaimed the Quambatook Urban District.

### STAFF.

The Commission, in continuance of the policy of observing the utmost economy, has further revised its services wherever practicable throughout the whole of its Districts, and the economies thus effected have led to a reduction in the annual Vote charges from £262,664 in 1929-30 to £224,500 in the financial year 1934-35. When it is recognized the great difficulty that arises in reducing or in any way curtailing the water supply services to the numerous Irrigation and Waterworks Districts, the value of this achievement will be realized. The number of employees on the Staff has been reduced to 372 as against 500 on 1st January, 1929.

A scheme of re-organization of the Commission's staff was put into operation during the year. This scheme involved the creation, outside of the clerical and accountancy sections of the Commission's work, of twelve divisions in charge of Divisional Officers.

Mr. E. P. Kendall, District Engineer, Maffra Centre, was transferred to Head Office, the vacancy thus caused being filled by the transfer of Mr. I. B. Hughes, District Engineer, Rochester, whose place was taken by Mr. H. E. Harding, previously District Officer, Tongala Centre. A number of other District Engineers were changed from one centre to another.

Mr. S. P. Bromfield, District Engineer and Secretary, Red Cliffs Centre, has been taken over by the Closer Settlement Commission. The vacancy at Red Cliffs was filled by the transfer of Mr. A. R. McConchie, District Engineer and Secretary, Loddon Centre, and Mr. H. H. C. Williams, Engineer, Shepparton Drainage Works, was transferred to the Loddon Centre to fill the vacancy thus caused.

To take charge as Executive Engineer of the important drainage works being carried out in the Red Cliffs and Merbein Districts, Mr. A. W. Johnson was transferred from the Hume Reservoir works to Red Cliffs.

Mr. A. G. Lawson has been transferred from Werrimull Centre to the position of Assistant District Officer at Merbein, the vacancy thus caused being filled by the transfer of Mr. W. H. E. Bentley from Ouyen Centre.

In addition to his duties as District Officer, Tresco Centre, Mr. J. D. Wallis was appointed to the position of District Secretary and Collector for Mystic Park District.

Mr. E. G. Cameron, from the Tatura Office, has been appointed to the position of District Secretary and Collector, Shepparton Centre, while Mr. H. F. Byham, District Engineer and Secretary, Boort District, was also appointed District Secretary and Collector for the Quambatook Waterworks and Urban Districts.

The Commission records with deep regret the deaths of Mr. A. I. Champion, Head Water Bailiff, Tresco Centre, and Mr. T. Clarricoates, Water Bailiff, Tragowel Plains District.

The following officers have retired or resigned since the publication of the last Report:—Messrs. F. Bassett, O. J. Collis, A. Moller, T. Byrnes, R. S. H. Bickell, H. J. Cooper, R. H. Hetherington, J. Sleeth, W. Mathers, R. H. Fieldew, W. J. Stirling.

### FIRE INSURANCE.

The Commission has continued its policy of carrying the fire risk on its own buildings. The premiums thus saved now amount to £12,044.

## RECEIPTS, DISBURSEMENTS, AND ESTIMATES.

The total receipts for the financial year 1933-34 amounted to £483,412. This is some £10,025 less than the amount collected in 1932-33. In addition to this total a sum of £84,377 was paid to the Treasury by Waterworks Trusts and Local Water Authorities as interest on loans made for water supply purposes. The collections for the year 1933-34 from arrears and current charges are equivalent to 86 per cent. of the year's rates and charges, and the amounts outstanding at 30th June were £693,301. While an appreciable portion of these arrears has been incurred by Closer Settlers within the irrigated areas, the greater part of the amount is owing in Mallee districts by Crown Lessees whose financial position does not justify any expectations of a reduction in the total indebtedness.

The expenditure from the Annual Votes amounted to £237,642 against £265,977 in 1929-30. The Commission desires to again point out that it is not practicable to largely reduce the water supply services throughout the State, and that consequently there is small scope for any considerable reduction on the Annual Votes for maintenance and water distribution. The Loan expenditure on the Commission's works for the year was £311,862 as against £476,452 in the previous year, while a sum of £244,057 was expended from Unemployment Relief Funds for carrying out valuable improvements in connexion with water supply works throughout the State. Full details in respect to the expenditure under these headings are furnished in other portions of this Report.

The collections in the Irrigation Districts amounted to £226,208 as against £238,005 received in 1932-33. The reduction in the collections for the past year may be attributed to the smaller returns from those districts engaged in dried vine fruit production, following decreased yields and lower prices. After debiting the districts with working expenses and interest chargeable, the deficit for the year was £84,685 as against £71,171 in the previous year. The financial position of each district is set out in detail in other portions of this report.

In the Coliban District the collections amounted to £45,290. The loss on this district for the past year amounted to £34,760. In this connexion the Commission wishes to point out that as the rating in the Coliban District is specially limited by the Water Act, the reduction of the deficit must be of a very gradual nature following the general development of the district.

The collections from the Waterworks Districts other than Coliban were £193,526 as against £189,371 received in 1932-33. This division embraces many urban districts where the collections were particularly satisfactory, but in the rural areas of land occupied very largely by Crown Lessees the financial position still continues to be very difficult. After debiting the districts with working expenses and interest charges the deficit for the year was £70,537 as against £40,822 in 1932-33.

There are 112 Waterworks Districts, inclusive of town supplies, and the financial position of each district is set out in detail in other portions of this Report.

In the five Flood Protection Districts controlled by the Commission under the provisions of the Water Act the receipts were £5,008 as against £5,546 in the previous year. After providing for interest, maintenance and management, the loss for the year amounted to £2,339 as against the loss of £1,777 for 1932-33.

The disbursements for the next financial year are estimated at £224,500 as against an estimate of £235,500 for 1933-34. The receipts are estimated at £520,000.

The Loan Liability of the State for Works of Water Supply at the close of the year was £25,246,579. Of this total, £1,265,781 is for Free Headworks declared free by Parliament some 29 years ago; £1,290,615 was written off by Parliament some 35 years ago; £147,046 was advanced to some early-formed Local Authorities and also written off by Parliament: £2,484,618 is represented by River Murray Works; and £6,336,909 by Uncompleted or Unallotted Works, which are not yet revenue producing, details of which are set out separately in the Statement of Loan Liability in the Report. The balance, £13,721,610, is the sum in respect of which those benefited by the various works are this year liable for payment of interest.

The present interest charges on Loan amount to £1,070,901, and to this is to be added a sum of £116,655 on account of exchange on London, giving a total of £1,187,556. Of this amount £127,164 is not chargeable to any district, being debitable against Free Headworks and Amounts Written Off, and £116,871 is debitable against River Murray Works, while £298,077 is not at present debitable, being interest on cost of Uncompleted or Unallotted Works which are not yet revenue producing, leaving £645,444 as chargeable against the Commission and other Authorities. The amount available last year from the revenue of the Commission and other Authorities to meet such interest (after providing a sum of £18,515 for non-revenue producing works and services not chargeable to any district) was £329,647, as set out in the Statement on page 38.



## FINANCIAL POSITION.

The Statement of Loan Liability on page 38 of this Report sets out the present aggregate financial position in connexion with Works both for Irrigation and Domestic and Stock Supply as well as for Flood Protection and Drainage Services.

That Statement shows in detail the extent of the State's liability, although a large portion represents Amounts Written Off and other amounts which cannot be charged to water users, such as Free Headworks.

Taking the figures in the Report, the position in regard to Non-Revenue and Revenue Producing Works is :—

	£	£
Gross deficit including all Written Off and Irrecoverable Accounts .. ..	741,254	
To which certain Amounts are debited for Pensions by Treasury .. ..	8,885	
Exchange debited by Treasury on Interest commitments in London .. ..	116,655	
Making a total of .. ..		866,794
Included in this is interest and exchange on— .. ..	£	
CAPITAL WRITTEN OFF 35 years ago (1,290,615)		
FREE HEADWORKS declared 29 years ago (1,412,827)		
RIVER MURRAY AGREEMENT WORKS (2,484,618)		
Totalling .. ..	244,035	
LOSS ON COLIBAN District where Rate is limited by Water Act in lieu of general		
Writing Off .. ..	34,760	
GENERAL SERVICES rendered by Water Commission chargeable to whole State		
(see page 31 of Report) .. ..	18,515	
		297,310
Deducting the above there remains to be accounted for a further sum of .. ..		569,484
At present there are works under construction from which it is impracticable to obtain a full		
Revenue Return until completed or until districts connected with them have been settled		
so that Revenue could be collected. These comprise amongst others—Eildon and Waranga		
Reservoirs; Maffra and Sale Irrigation Districts; new Goulburn Districts; Kooweerup		
and Cardinia Flood Protection Districts; and Bellarine, Millewa, and other Domestic and		
Stock Schemes. The Interest and Exchange on these would amount to .. ..		298,077
Leaving still to be accounted for a sum of .. ..		271,407
The Interest chargeable to Districts controlled by the Commission is fixed by the Water Act		
at 4 per cent. on nearly all capital, which until recently was sufficient. The percentage		
now charged the Commission by the Treasury inclusive of exchange is £4 14s. 1d., and		
this represents approximately a sum of .. ..		97,257
Leaving after excluding Interest and Exchange on Free Headworks, Amounts Written Off,		
River Murray Works, and other Items mentioned .. ..		174,150

The Commission again points out that much of the interest charged cannot be debited to water users. This applies to the amount of £1,290,615, representing Capital Written Off 35 years ago; to the expenditure of £1,412,827 on Free Headworks, which were declared free some 29 years ago; and to the expenditure of £2,484,618 on River Murray Agreement Works.

The reason for the exclusion of interest debited to the Commission in respect to Capital Written Off and Free Headworks is obvious and requires no further elaboration by the Commission.

With respect to the River Murray Agreement Works it must be again pointed out that these undertakings were agreed upon by the Federal Government and the States of New South Wales, Victoria, and South Australia in order to adjust difficulties arising in respect to riparian rights and other conflicting claims of the States named. The River Murray Works were thus primarily decided upon in relation to the riparian rights question and were also laid down so as to provide water for navigation and the generation of electric and other power, as well as for irrigation. In regard to these great national works, the Water Commission is acting as the Constructing Authority for the State of Victoria and is discharging a responsibility which might have been delegated by the Victorian Government to some other Department or Government instrumentality.

The Commission wishes to again point out that many large and expensive works have been constructed on a scale to provide for future developments. This is particularly the case in regard to the Glenmaggie Reservoir at Maffra as well as to a number of other storages and main supply works, and until there have been further extensions to the irrigation systems it is not practicable to allot the portion of the liabilities which is fairly debitable to future development.

Attention is also directed to the recurring loss on the Coliban District. In this case the liability includes capital moneys expended some 50 to 60 years ago which are not represented by any tangible assets, and, as already pointed out, the Commission's rating powers in this District are specially limited by the provisions of the Water Act.

Heavy expenditure was incurred during the year in respect to exchange for remitting to London interest on moneys borrowed for water supply purposes. Although the amount (£116,655) shows a reduction on last year's figures, it is still an important factor in creating an unfavorable position in regard to water supply finance.

For the incoming year the estimated collections of the Commission are £520,000, while the payments of interest by Waterworks Trusts and local bodies are estimated at £84,000. The Commission's Vote expenditure for the year 1934-35 is estimated at £224,500, as against £265,977 expended in 1929-30. It will thus be seen that substantial economies have been effected by the Commission over the last four years.

## RECEIPTS AND DISBURSEMENTS.

STATEMENT of Moneys received and disbursed during the year ended 30th June, 1934.

Works.	Receipts.	DISBURSEMENTS, exclusive of Interest, Redemption, and Depreciation Charges.			Excess.	
		From Annual Votes and Special Appropriation.	Deduct Capital and Other Disbursements not Chargeable to Districts.	Net Disbursements on Maintenance and Management.	Receipts over Net Disbursements.	Disbursements over Receipts.
	£	£	£	£	£	£
Coliban .. .. .	45,290	14,217	..	14,217	31,073	..
Other State Works—						
Broken River .. .. .	..	93	..	93	..	93
Goulburn .. .. .	277	3,715	..	3,715	..	3,438
Kow Swamp .. .. .	359	853	..	853	..	494
Lake Lonsdale .. .. .	717	792	..	792	..	75
Loddon River .. .. .	..	83	..	83	..	83
North-West Lakes .. .. .	242	181	..	181	61	..
Irrigation Districts .. .. .	226,208	106,749	..	106,749	119,459	..
Waterworks Districts .. .. .	120,307	67,750	..	67,750	52,557	..
Urban Districts and Divisions .. .. .	73,219	16,408	..	16,408	56,811	..
Flood Protection Districts .. .. .	5,008	684	..	684	4,324	..
Other Districts not yet classified .. .. .	11,785	11,802	..	11,802	..	17
Licences, Diversions, Miscellaneous }						
	483,412	223,327	..	223,327	264,285	4,200
Not Revenue Producing—						
River Gauging, Surveys and Re-						
ports, New Projects .. .. .	..	3,069	..	3,069	..	3,069
Waterworks Trusts .. .. .	..	1,714	..	1,714	..	1,714
Boring for Water, Road } Cost of						
Clearing, Mallee and } Admin-	..	3,535	..	3,535	..	3,535
Land Settlement } stration	..	5,997	..	5,997	..	5,997
Loan Works .. .. .	..	..	..	..	..	..
Totals .. .. .	483,412	237,642	..	237,642	264,285	18,515

Amount available to meet Depreciation .. .. . £500

Amount available to meet Interest, as per page 38 of Report .. .. . £245,270

## COLIBAN SYSTEM.

STATEMENT of Moneys received and disbursed during the year ended 30th June, 1934; and of Interest charged at the rate of 4 per cent. on Capital Debts (including £41,072 at 5 per cent.).

District.	Capital Debit at 30th June, 1934.	Disbursements and Interest Charged.				Excess.	
		Receipts.	Disbursements.	Interest.	Total.	Receipts over Disbursements and Interest.	Disbursements and Interest over Receipts.
	£	£	£	£	£	£	£
Coliban .. .. .	1,623,909	13,377	12,723	65,222	77,945	..	34,568
Axe Creek .. .. .	1,750	101	360	70	430	..	29
Harcourt .. .. .	11,040	1,366	1,084	442	1,526	..	160
Marong .. .. .	2,100	146	65	84	149	..	3
Totals .. .. .	..	45,290	14,232	65,818	80,050	..	34,760

## FLOOD PROTECTION DISTRICTS.

STATEMENT of Moneys received and disbursed from 1st July, 1920, to 30th June, 1934; and of Interest charged at the rate of 4 per cent. on Capital Debts (including £508 at 5 per cent.); and also of Depreciation and Redemption charged as at 30th June, 1934.

## RECEIPTS.

District.	1st July, 1920, to 30th June, 1933.	1933-34.			Grand Total at 30th June, 1934.
		Charge.	Interest and Miscellaneous.	Total.	
	£	£	£	£	£
1. Cardinia .. .. .	18,399	1,328	47	1,375	19,774
2. Echuca .. .. .	1,504	66	..	66	1,570
3. Kanyapella .. .. .	1,963	141	18	159	2,122
4. Loch Garry .. .. .	6,988	825	58	883	7,871
5. Lower Kooweerup .. .. .	42,666	2,409	116	2,525	45,191
Totals .. .. .	71,520	4,769	239	5,008	76,528

## DISBURSEMENTS, AND INTEREST, DEPRECIATION, AND REDEMPTION CHARGED.

District.	DISBURSEMENTS.					INTEREST CHARGED.			(A) DEPRE- CIATION. (B) RE- DEMP- TION.	Grand Total at 30th June, 1934.
	1st July, 1920, to 30th June, 1933.	1933-34.			Total at 30th June, 1934.	1st July, 1920, to 30th June, 1933.	1st July, 1933, to 30th June, 1934.	Total at 30th June, 1934.		
		Repairs and Main- tenance.	Manage- ment.	Total.						
	£	£	£	£	£	£	£	£	£	£
1. Cardinia .. .. .	4,476	32	138	170	4,646	18,328	1,800	20,128	..	24,774
2. Echuca .. .. .	947	78	27	105	1,052	573	47	620	..	1,672
3. Kanyapella .. .. .	881	35	35	70	951	1,162	162	1,324	..	2,275
4. Loch Garry .. .. .	1,491	64	59	123	1,614	3,832	454	4,286	(B) 1,200	7,100
5. Lower Kooweerup .. .. .	7,512	40	176	216	7,728	40,968	4,000	44,968	..	52,696
Totals .. .. .	15,307	249	435	684	15,991	64,863	6,463	71,326	(B) 1,200	88,517

## IRRIGATION AND WATER SUPPLY DISTRICTS.

STATEMENT of Moneys received and disbursed from 1st May, 1906, to 30th June, 1934; and of Interest charged at the rate of 4 per cent. on Capital Debts (including £214,075 at 4½ and 5 per cent.); and also of Depreciation and Redemption charged, as at 30th June, 1934. (Free Headworks excluded.)

## RECEIPTS.

District.	1st May, 1906, to 30th June, 1933.	1933-34.					Grand Total at 30th June, 1934.
		Rates.	Compulsory Irrigation Charge.	Water Sales.	Interest and Miscel- laneous.	Total.	
	£	£	£	£	£	£	£
1. Bacchus Marsh .. .. .	106,211	768	3,755	610	45	5,178	111,389
2. Boort .. .. .	79,725	1,453	..	2,471	50	3,974	83,699
3. Calivil .. .. .	12,085	579	..	866	79	1,524	13,609
4. Campaspe .. .. .	20,565	587	..	60	9	656	21,221
5. Cohuna .. .. .	210,886	1,579	5,208	713	203	7,703	218,589
6. Deakin .. .. .	113,028	3,029	..	616	118	3,763	116,791
7. Dingee .. .. .	33,162	79	1,025	108	109	1,321	34,483
8. Echuca North .. .. .	20,069	228	1,243	190	137	1,798	21,867
9. Fish Point .. .. .	4,879	52	657	69	98	876	5,755
10. Gannawarra .. .. .	172,499	1,197	4,737	424	270	6,628	179,127
11. Katandra .. .. .	5,521	139	..	605	10	754	6,275
12. Kerang .. .. .	138,717	1,758	..	2,774	151	4,683	143,400
13. Koondrook .. .. .	141,282	1,091	2,929	237	389	4,646	145,928
14. Leitchville .. .. .	16,458	641	1,287	625	42	2,595	19,053
15. Maffra-Sale .. .. .	49,084	2,315	7,533	1,586	522	11,956	61,040
16. Merbein .. .. .	398,545	1,553	19,347	665	774	22,339	420,884
17. Mystic Park .. .. .	10,673	150	450	71	73	744	11,417
18. North Shepparton .. .. .	14,494	2,027	..	1,271	79	3,377	17,871
19. Nyah .. .. .	120,119	366	8,760	214	599	9,939	130,058
20. Red Cliffs .. .. .	313,968	1,080	31,128	210	511	32,929	346,897
21. Rochester .. .. .	297,249	2,840	14,238	3,102	1,043	21,223	318,472
22. Rodney .. .. .	585,131	6,038	16,410	3,542	703	26,693	611,824
23. Shepparton .. .. .	138,966	1,665	5,273	302	454	7,694	146,660
24. South Shepparton .. .. .	17,487	767	1,833	102	149	2,851	20,338
25. Stanhope .. .. .	64,988	507	1,893	310	153	2,863	67,851
26. Swan Hill .. .. .	156,229	1,150	5,499	2,017	489	9,155	165,384
27. Third Lake .. .. .	7,359	112	556	32	123	823	8,182
28. Tongala .. .. .	132,210	1,010	4,233	485	277	6,005	138,215
29. Tragowel Plains .. .. .	267,246	1,854	10,220	1,004	607	13,685	280,931
30. Tresco .. .. .	23,447	..	562	82	23	667	24,114
31. Werribee .. .. .	98,049	774	3,980	1,704	708	7,166	105,215
Totals .. .. .	3,770,331	37,388	152,756	27,067	8,997	226,208	3,996,539

## DISBURSEMENTS, AND INTEREST, DEPRECIATION, AND REDEMPTION CHARGED.

District.	1st May, 1906, to 30th June, 1933.	DISBURSEMENTS.				Total at 30th June, 1934.	INTEREST CHARGED.			(A) DEPRECIATION. (B) REDEMPTION.	Grand Total at 30th June, 1934.
		1933-34.					1st May, 1906 to 30th June, 1933.	1st July, 1933, to 30th June, 1934.	Total at 30th June, 1934.		
		Repairs and Maintenance.	Distribution of Water.	Manage- ment.	Total.						
	£	£	£	£	£	£	£	£	£	£	£
1. Bacchus Marsh ..	24,183	154	859	220	1,233	25,416	92,573	5,917	98,490	..	123,906
2. Boort .. ..	38,665	637	832	401	1,870	40,535	39,167	3,993	43,160	(B)1,400	85,095
3. Calivil .. ..	4,909	684	555	49	1,288	6,197	16,777	4,417	21,194	..	27,391
4. Campaspe .. ..	12,071	151	424	58	633	12,704	11,549	496	12,045	..	24,749
5. Cohuna .. ..	119,321	756	1,226	318	2,300	121,621	92,638	6,376	99,014	(A)9,010	229,645
6. Deakin .. ..	42,788	390	445	221	1,056	43,844	75,589	3,315	78,904	..	122,748
7. Dingee .. ..	17,130	250	545	27	822	17,952	21,972	1,226	23,198	..	41,150
8. Echuca North ..	8,398	202	515	95	812	9,210	14,253	1,637	15,890	..	25,100
9. Fish Point .. ..	3,972	129	334	61	524	4,496	3,929	621	4,550	..	9,046
10. Gannawarra ..	89,961	653	1,062	277	1,992	91,953	81,489	5,749	87,238	(A)5,694	184,885
11. Katandra .. ..	2,639	88	558	82	728	3,367	16,208	4,243	20,451	..	23,818
12. Kerang .. ..	74,402	1,155	1,596	445	3,196	77,598	63,284	4,654	67,938	(B)2,700	148,686
13. Koondrook .. ..	81,176	1,275	1,369	238	2,882	84,058	101,416	7,329	108,745	(A)450	197,304
14. Leitchville .. ..	6,383	397	653	168	1,218	7,601	10,143	1,671	11,814	..	19,415
15. Maffra-Sale .. ..	19,390	1,498	2,113	614	4,225	23,615	31,670	7,950	39,620	..	63,235
16. Merbein .. ..	287,563	723	13,197	391	14,311	301,874	121,645	8,332	129,977	(A)18,268	450,119
17. Mystic Park .. ..	7,920	122	197	83	402	8,322	5,917	694	6,611	..	14,933
18. North Shepparton ..	3,737	156	1,024	116	1,296	5,033	28,027	7,726	35,753	..	40,786
19. Nyah .. ..	93,590	399	3,858	544	4,801	98,391	56,188	4,078	60,266	(A)4,537	163,194
20. Red Cliffs .. ..	180,147	2,149	17,835	529	20,513	200,660	126,308	18,200	144,508	(A)15,000	360,168
21. Rochester .. ..	126,744	2,531	4,945	678	8,154	134,898	213,906	16,110	230,016	..	364,914
22. Rodney .. ..	236,207	2,849	7,502	933	11,284	247,491	400,056	25,542	425,598	..	673,089
23. Shepparton .. ..	49,714	562	1,827	740	3,129	52,843	126,126	9,974	136,100	..	188,943
24. South Shepparton ..	3,703	80	246	64	390	4,093	15,385	2,742	18,127	..	22,220
25. Stanhope .. ..	29,816	524	1,518	206	2,248	32,064	47,717	5,099	52,816	..	84,880
26. Swan Hill .. ..	83,243	1,681	1,452	552	3,685	86,928	77,752	6,716	84,468	(A)4,768	176,164
27. Third Lake .. ..	2,109	116	212	43	371	2,480	7,697	1,000	8,697	..	11,171
28. Tongala .. ..	55,929	1,191	1,566	517	3,274	59,203	120,492	8,526	129,018	..	188,227
29. Tragowel Plains ..	104,987	1,631	2,884	412	4,927	109,914	191,136	14,089	205,225	..	315,139
30. Tresco .. ..	32,619	439	1,828	116	2,383	35,002	34,259	3,654	37,913	..	72,915
31. Werribee .. ..	17,651	83	498	221	802	18,453	86,040	9,248	95,288	..	113,741
Totals .. ..	1,861,067	23,655	73,675	9,419	106,749	1,967,816	2,331,308	201,324	2,532,632	66,328	4,566,776



## WATERWORKS DISTRICTS.

STATEMENT of Moneys received and disbursed from 1st May, 1906, to 30th June, 1934; and of Interest charged at the rate of 4 per cent. on Capital Debts (including £275,855 at 4½ and 5 per cent.); and also of Depreciation and Redemption charged, as at 30th June, 1934. (Free Headworks excluded.)

## RECEIPTS.

District.	1st May, 1906, to 30th June, 1933.	1933-34.				Grand Total at 30th June, 1934.
		Rates.	Water Sales.	Interest and Miscel- laneous.	Total.	
	£	£	£	£	£	£
1. Bellarine Peninsula .. ..	3,199	3,500	258	38	3,796	6,995
2. Birchip .. ..		4,522	40	344	4,906	
3. Sea Lake .. ..		6,508	76	508	7,092	
4. Tyrell .. ..	506,495	7,881	116	1,505	9,502	535,988
5. Wycheproof .. ..		7,468	91	434	7,993	
6. Carwarp .. ..	12,485	467	..	140	607	13,092
7. Carwarp Central .. ..	1,153	10	..	18	28	1,181
8. Dering .. ..	3,304	935	..	143	1,078	4,382
9. Eureka .. ..	1,573	85	..	62	147	1,720
10. Hindmarsh .. ..	5,198	1,523	..	100	1,623	6,821
11. Karkaroo .. ..	211,211	11,684	..	591	12,275	223,486
12. Kerang North-west Lakes .. ..	3,205	145	2	9	156	3,361
13. Kia .. ..	2,075	301	..	44	345	2,420
14. Long Lake .. ..	168,822	8,467	..	583	9,050	177,872
15. Millewa .. ..	11,188	1,083	75	707	1,865	13,053
16. Millewa Central .. ..	6,951	365	..	251	616	7,567
17. Mornington Peninsula .. ..	49,080	3,000	..	53	3,053	52,133
18. Narre Warren .. ..	1,883	64	122	27	213	2,096
19. Tyntynder .. ..	95,134	3,689	..	453	4,142	99,276
20. Upper Western Wimmera .. ..	78,313	4,570	..	210	4,780	83,093
21. Upper Wimmera United .. ..	129,239	7,394	..	326	7,720	136,959
22. Walpeup Central .. ..	1,391	1,010	..	104	1,114	2,505
23. Walpeup West .. ..	28,130	1,199	25	173	1,397	29,527
24. Werribee .. ..	9,344	692	5	36	733	10,077
25. Western Wimmera .. ..	273,670	12,749	3,198	465	16,412	290,082
26. Wimmera United .. ..	307,922	17,517	948	805	19,270	327,192
27. Yelta .. ..	5,242	331	38	25	394	5,636
Totals .. ..	1,916,207	107,159	4,994	8,154	120,307	2,036,514

## DISBURSEMENTS, AND INTEREST, DEPRECIATION, AND REDEMPTION CHARGED.

District.	DISBURSEMENTS.					INTEREST CHARGED.			(A) DEPRECIATION. (B) REDEMPTION.		Grand Total at 30th June, 1934.
	1st May, 1906, to 30th June, 1933.	1933-34.				Total at 30th June, 1934.	1st May, 1906, to 30th June, 1933.	1st July, 1933, to 30th June, 1934.	Total at 30th June, 1934.		
		Repairs and Maintenance.	Distribution of Water.	Management.	Total.						
	£	£	£	£	£	£	£	£	£	£	£
1. Bellarine Peninsula	53	9	26	16	51	104	3,146	3,146	6,292	..	6,396
2. Birchip; 3. Sea Lake .. 4. Tyrell; 5. Wycheproof }	265,322	13,676	4,348	923	18,947	284,269	345,502	27,745	373,247	..	657,516
6. Carwarp .. ..	23,796	1,398	3,990	46	5,434	20,230	14,847	1,631	16,478	(A) 586	46,294
7. Carwarp Central .. ..	1,271	20	132	23	175	1,446	886	94	980	(A) 20	2,446
8. Dering .. ..	1,956	234	95	27	356	2,312	3,242	410	3,652	..	5,964
9. Eureka .. ..	2,669	52	114	22	188	2,857	1,246	222	1,468	..	4,325
10. Hindmarsh .. ..	1,649	240	67	42	349	1,998	4,042	835	4,877	(A) 560	7,435
11. Karkaroon .. ..	84,129	2,689	1,233	362	4,284	88,413	147,296	11,915	159,211	..	247,624
12. Kerang N.W. Lakes .. ..	2,033	39	52	40	131	2,164	1,563	82	1,645	..	3,809
13. Kia .. ..	2,297	213	93	22	328	2,625	1,230	582	1,812	..	4,437
14. Long Lake .. ..	100,705	2,073	1,438	257	3,778	104,483	80,686	6,662	87,348	(A) 8,305	200,136
15. Millewa .. ..	22,354	5,052	10,235	302	15,589	37,943	10,730	5,380	16,110	..	54,053
16. Millewa Central .. ..	6,494	151	2,337	95	2,583	9,077	8,000	4,000	12,000	..	21,077
17. Mornington Peninsula .. ..	6,737	301	170	59	530	7,267	39,990	2,720	42,710	..	49,977
18. Narre Warren .. ..	263	14	6	7	27	290	2,367	412	2,779	..	3,069
19. Tyntynder .. ..	65,635	3,476	699	183	4,358	69,993	85,988	10,163	96,151	..	166,144
20. Upper Western Wimmera .. ..	29,513	311	495	88	894	30,407	42,204	3,978	46,182	(A) 606 (B) 1,500	78,695
21. Upper Wimmera United .. ..	40,003	702	556	204	1,462	41,465	85,863	6,405	92,268	(B) 2,390	136,123
22. Walpeup Central .. ..	1,074	97	452	47	596	1,670	2,142	1,329	3,471	..	5,141
23. Walpeup West .. ..	20,971	191	..	98	289	21,260	15,096	1,479	16,575	(A) 1,200	39,035
24. Werribee .. ..	2,813	10	104	38	152	2,965	8,367	598	8,965	..	11,930
25. Western Wimmera .. ..	118,696	1,199	1,954	347	3,500	122,196	138,871	14,659	153,530	(A) 2,422 (B) 5,400	283,548
26. Wimmera United .. ..	98,600	1,637	1,294	479	3,410	102,010	193,155	16,136	209,291	(B) 5,310	316,611
27. Yelta .. ..	4,584	106	189	44	339	4,923	2,786	249	3,035	..	7,958
Totals .. ..	903,617	33,900	30,079	3,771	67,750	971,367	1,239,245	120,832	1,360,077	28,299	2,359,743

## DISTRICTS HELD IN TRUST BY THE COMMISSION.

STATEMENT OF RECEIPTS AND DISBURSEMENTS FOR THE YEAR ENDED 31st DECEMBER, 1933.

## RECEIPTS.

Name of Trust.	Bank Balance, at 31st December, 1932.	1933.				Grand Total for Year 1933.
		Rates.	Water Sales.	Interest and Miscellaneous.	Total.	
	£	£	£	£	£	£
Avoca .. ..	Cr. 24	549	76	25	650	674
Avoca (Quambatook, Urban) .. ..	Cr. 65	528	42	12	582	647
Carrum .. ..	Dr. 666	1,655	..	482	2,137	1,471
Loddon United .. ..	Dr. 565	1,646	10	20	1,676	1,111
Loddon United (Mitiamo, Urban) .. ..	Dr. 91	120	238	2	360	269
Totals .. ..	{ Cr. 89 Dr. 1,322 }	4,498	366	541	5,405	4,172

## DISBURSEMENTS.

Name of Trust.	1933.						Grand Total for Year 1933.	Bank Balance carried forward 1st January, 1934.
	Repairs and Maintenance.	Water Distribution.	Manage- ment.	Total.	Interest.	(A) Depreciation- (B) Redemption.		
	£	£	£	£	£	£	£	£
Avoca .. ..	178	..	94	272	131	B 121	524	Cr. 150
Avoca (Quambatook, Urban) .. ..	116	123	39	278	158	A 60 B 42	538	Cr. 109
Carrum .. ..	524	..	164	688	1,112	B 234	2,084	Dr. 613
Loddon United .. ..	395	675	280	1,350	470	B 361	2,181	Dr. 1,070
Loddon United (Mitiamo, Urban) .. ..	100	..	21	121	211	A 28 B 21	381	Dr. 112
Totals .. ..	1,313	798	598	2,709	2,082	917	5,708	Cr. 259 Dr. 1,795

## URBAN DISTRICTS

STATEMENT of Moneys received and disbursed from 1st May, 1906, to 30th June, £88,532 at 4½ and 5 per cent.) ; and also of Depreciation and Redemption charged, RECEIPTS.

District or Division.	1st May, 1906, to 30th June, 1903.	1933-34.				Grand Total at 30th June, 1934.
		Rates.	Water Sales.	Interest and Miscellaneous.	Total.	
	£	£	£	£	£	£
1. Antwerp .. .. .	250	67	17	11	95	345
2. Bacchus Marsh .. .. .	31,917	1,315	438	22	1,775	33,692
3. Barwon Heads and Ocean Grove .. .. .	94	1,548	135	63	1,746	1,840
4. Berriwillock .. .. .	4,015	284	21	33	338	4,353
5. Berwick .. .. .	5,542	662	104	29	795	6,337
6. Beulah .. .. .	10,643	416	140	38	594	11,237
7. Birchlip .. .. .	22,192	666	411	113	1,190	23,382
8. Bittern .. .. .	1,275	114	43	3	160	1,435
9. Brim .. .. .	2,539	339	46	34	419	2,958
10. Bunyip .. .. .	801	397	8	30	435	1,236
11. Carrum .. .. .	66,254	6,149	546	739	7,434	73,688
12. Carwarp .. .. .	234	36	..	..	36	270
13. Chillingollah .. .. .	998	57	49	19	125	1,123
14. Chinkapook .. .. .	900	341	4	31	376	1,276
15. Cohuna .. .. .	14,381	819	77	59	955	15,336
16. Corop .. .. .	688	29	..	1	30	718
17. Cranbourne .. .. .	6,455	312	71	57	440	6,895
18. Crib Point .. .. .	1,373	484	30	23	537	1,910
19. Cnlgoa .. .. .	4,242	291	138	33	462	4,704
20. Dandenong .. .. .	53,704	4,004	735	299	5,038	58,742
21. Dimboola .. .. .	39,812	1,321	555	154	2,030	41,842
22. Dingee .. .. .	706	88	..	4	92	798
23. Doon .. .. .	113	28	11	3	42	155
24. Frankston .. .. .	41,748	3,977	957	148	5,082	46,830
25. Garfield .. .. .	663	274	..	9	283	946
26. Hastings .. .. .	2,043	320	25	15	360	2,403
27. Heyfield .. .. .	996	622	..	14	636	1,632
28. Hicksborough .. .. .	265	65	..	1	66	331
29. Hopetoun .. .. .	13,527	710	145	55	910	14,437
30. Jeparit .. .. .	15,424	838	116	49	1,003	16,427
31. Jung Jung .. .. .	2,172	143	54	8	205	2,377
32. Koondrook .. .. .	8,056	459	20	16	495	8,551
33. Lake Boga .. .. .	6,888	422	18	63	503	7,391
34. Lalbert .. .. .	2,898	304	102	13	419	3,317
35. Lascelles .. .. .	2,651	178	39	15	232	2,883
36. Leitchville .. .. .	3,112	279	4	22	305	3,417
37. Lockington .. .. .	2,270	327	8	32	367	2,637
38. Manangatang .. .. .	4,529	519	147	43	709	5,238
39. Marnoo .. .. .	2,597	305	68	14	387	2,984
40. Merbein .. .. .	14,601	1,278	119	112	1,509	16,110
41. Meringur .. .. .	704	97	..	1	98	802
42. Minyip .. .. .	15,829	1,030	80	100	1,210	17,039
43. Mornington .. .. .	29,608	2,668	329	190	3,187	32,795
44. Mount Martha .. .. .	3,135	635	40	19	694	3,829
45. Murrabit .. .. .	222	90	..	3	93	315
46. Nandaly .. .. .	955	210	..	15	225	1,180
47. Natimuk .. .. .	11,633	291	193	71	555	12,188
48. Newstead .. .. .	..	223	1	74	298	298
49. North Wonthaggi .. .. .	2,446	320	..	7	327	2,773
50. Nullawil .. .. .	1,272	432	2	31	465	1,737
51. Nyah .. .. .	1,362	100	3	2	105	1,467
52. Nyah West .. .. .	6,306	640	72	15	727	7,033
53. Ouyen .. .. .	23,489	1,225	609	123	1,957	25,446
54. Pakenham .. .. .	5,460	589	493	19	1,101	6,561
55. Patchewollock .. .. .	746	219	22	16	257	1,003
56. Piangil .. .. .	4,235	358	154	18	530	4,765
57. Pyramid Hill .. .. .	4,130	565	20	42	627	4,757
58. Quambatook .. .. .	..	133	18	41	192	192
59. Queenscliff and Point Lonsdale .. .. .	1,700	3,280	38	116	3,434	5,134
60. Rainbow .. .. .	20,014	863	186	72	1,121	21,135
61. Red Cliffs .. .. .	12,834	1,404	153	82	1,639	14,473
62. Rupanyup .. .. .	13,761	993	43	86	1,122	14,883
63. Sea Lake .. .. .	16,554	867	318	124	1,309	17,863
64. Somerville .. .. .	2,687	230	78	3	311	2,998
65. South Frankston .. .. .	13,274	1,478	273	28	1,779	15,053
66. Speed .. .. .	815	323	9	26	358	1,173
67. Spring Vale .. .. .	17,136	2,334	243	142	2,719	19,855
68. Stanhope .. .. .	1,527	270	..	12	282	1,809
69. Tempy .. .. .	720	190	10	30	230	950
70. Ultima .. .. .	7,853	575	37	51	663	8,516
71. Waitechie .. .. .	621	47	..	5	52	673
72. Watchem .. .. .	5,843	376	20	70	466	6,309
73. Werrimull .. .. .	1,869	309	6	4	319	2,188
74. Wonthaggi .. .. .	87,519	2,062	1,777	25	3,864	91,383
75. Woomelang .. .. .	13,953	443	248	62	753	14,706
76. Woorinen .. .. .	863	100	..	..	100	963
77. Wycheproof .. .. .	16,352	986	189	116	1,291	17,643
78. Yaapeet .. .. .	432	130	..	14	144	576
Totals .. .. .	741,427	57,872	11,065	4,282	73,219	814,646

## AND DIVISIONS

1934; and of Interest charged, at the rate of 4 per cent. on Capital Debts (including as at 30th June, 1934. (Free Headworks excluded).

## DISBURSEMENTS, AND INTEREST, DEPRECIATION, AND REDEMPTION CHARGED.

District or Division.	1st May, 1906, to 30th June, 1933.	DISBURSEMENTS.				INTEREST CHARGED.				DEPRECIATION.		Grand Total at 30th June, 1934.
		1933-34.				Total at 30th June, 1934.	1st May, 1906, to 30th June, 1933.	1st July, 1933, to 30th June, 1934.	Total at 30th June, 1934.	(a) DEPRECIATION.	(b) REDEMPTION.	
		Repairs and Maintenance.	Distribution of Water.	Management.	Total.							
	£	£	£	£	£	£	£	£	£	£	£	£
1. Antwerp ..	88	8	12	15	35	123	121	54	175	(a)	15	313
2. Bacchus Marsh ..	7,373	3	175	122	300	7,673	24,166	1,529	25,695	(a)	686	34,054
3. Barwon Heads and Ocean Grove ..	64	15	70	75	160	224	50	1,650	1,700	..	..	1,924
4. Berriwillock ..	1,943	96	44	34	174	2,117	2,080	222	2,302	(a)	70	4,489
5. Berwick ..	686	128	34	26	188	874	4,744	665	5,409	..	..	6,283
6. Beulah ..	4,595	10	189	26	225	4,820	5,659	375	6,034	(a)	84	10,938
7. Birchip ..	9,930	25	166	73	264	10,194	11,147	797	11,944	(a, b)	1,072	23,210
8. Bittern ..	160	10	6	6	22	182	1,189	150	1,339	..	..	1,521
9. Brim ..	594	29	24	25	78	672	1,604	291	1,895	(a)	189	2,756
10. Bunyip ..	122	37	19	20	76	198	822	411	1,233	..	..	1,431
11. Carrum ..	10,358	750	332	352	1,435	11,793	57,740	6,500	64,240	..	..	76,033
12. Carwarp ..	106	5	5	9	19	125	126	26	152	(a)	145	422
13. Chillingollah ..	451	8	12	16	36	487	996	149	1,145	(a)	160	1,792
14. Chinkapook ..	204	11	29	21	61	265	505	243	748	(a)	265	1,278
15. Cohuna ..	3,967	92	61	71	224	4,191	9,411	788	10,199	(a, b)	819	15,209
16. Corop ..	340	2	5	6	13	353	349	14	363	(a)	57	773
17. Cranbourne ..	861	33	17	48	98	959	6,152	368	6,520	..	..	7,479
18. Crib Point ..	209	53	29	22	104	313	912	440	1,352	(a)	232	1,897
19. Culgoa ..	1,690	24	45	34	103	1,793	2,623	269	2,892	(a)	60	4,745
20. Dandenong ..	8,497	400	223	274	897	9,394	44,605	4,650	49,255	(a)	500	59,149
21. Dimboola ..	23,072	176	125	147	448	23,520	13,267	1,564	14,831	(a) 1,620 (b) 1,230	..	41,201
22. Dungee ..	274	8	13	7	28	302	463	62	525	(a)	112	939
23. Doon ..	74	..	12	7	19	93	112	28	140	(a)	8	241
24. Frankston ..	6,205	385	215	170	770	6,975	35,573	4,250	39,823	..	..	46,798
25. Garfield ..	119	31	17	17	65	184	752	272	1,024	..	..	1,208
26. Hastings ..	348	33	17	11	61	409	1,739	277	2,016	..	..	2,425
27. Heyfield ..	445	59	104	30	193	638	731	343	1,074	..	..	1,712
28. Hicksborough ..	132	10	15	15	40	172	149	50	199	(a)	40	411
29. Hopetoun ..	7,361	12	372	31	415	7,776	6,357	619	6,976	(b)	150	14,902
30. Jeparit ..	2,962	41	52	41	134	3,096	11,148	946	12,094	(b)	800	15,990
31. Jung Jung ..	1,353	13	32	10	55	1,408	862	134	996	(a)	80	2,484
32. Koondrook ..	4,304	15	203	34	252	4,556	3,557	213	3,770	(a)	330	8,656
33. Lake Boga ..	3,492	20	180	54	254	3,746	3,564	168	3,732	(a, b)	300	7,778
34. Lalbert ..	596	18	13	17	78	674	2,057	283	2,340	(a)	591	3,605
35. Lascelles ..	1,321	16	12	20	48	1,369	1,517	121	1,638	(a)	152	3,159
36. Leitchville ..	1,616	62	57	26	145	1,761	1,350	208	1,558	(a)	224	3,543
37. Lockington ..	513	2	12	25	39	552	1,660	192	1,852	(a)	360	2,764
38. Manangatang ..	1,107	16	16	49	81	1,188	2,944	493	3,437	(a)	585	5,210
39. Marnoo ..	436	..	12	18	30	466	1,706	335	2,041	(a)	504	3,011
40. Merbein ..	6,737	113	488	126	727	7,464	7,595	759	8,354	(a)	600	16,418
41. Meringur ..	192	56	18	20	94	286	413	117	530	(a)	120	936
42. Minyip ..	4,794	43	166	57	266	5,060	9,989	846	10,835	(a) 563 (b) 124	..	16,882
43. Mornington ..	4,417	235	143	106	504	4,921	25,413	3,000	28,413	..	..	33,331
44. Mount Martha ..	448	62	34	23	119	567	2,600	600	3,200	..	..	3,767
45. Murrabit ..	102	20	13	10	43	145	143	41	184	..	..	329
46. Nandaly ..	322	..	21	15	36	358	529	109	638	(a)	192	1,188
47. Natimuk ..	2,967	24	20	38	82	3,049	7,979	444	8,423	(b)	750	12,222
48. Newstead ..	..	62	40	42	144	144	..	175	175	..	..	319
49. North Wonthaggi ..	854	60	50	50	160	1,014	1,568	287	1,855	(a)	280	3,149
50. Nullawil ..	443	1	14	17	32	475	990	268	1,258	(a)	60	1,793
51. Nyah ..	578	19	24	21	64	642	660	58	718	(a)	80	1,440
52. Nyah West ..	1,618	72	39	53	164	1,782	4,180	525	4,705	(a)	702	7,189
53. Ouyen ..	8,555	40	489	136	665	9,220	14,541	1,552	16,093	(a)	600	25,913
54. Pakenham ..	519	54	31	88	173	692	4,680	930	5,610	(a)	476	6,778
55. Patchewollock ..	228	1	6	16	23	251	578	128	706	(a)	230	1,187
56. Piangil ..	1,193	61	99	62	222	1,415	2,434	238	2,672	(a)	612	4,699
57. Pyramid Hill ..	1,628	34	122	30	186	1,814	2,266	346	2,612	(a)	450	4,876
58. Quambatook ..	..	10	15	6	31	31	..	79	79	(a)	30	140
59. Queenscliff and Point Lonsdale ..	89	20	125	125	270	359	1,600	3,200	4,800	..	..	5,159
60. Rainbow ..	3,617	3	80	43	126	3,743	14,445	1,026	15,471	(a, b) 1,800	..	21,014
61. Red Cliffs ..	5,715	60	434	110	604	6,319	5,727	1,073	6,800	(a)	640	13,759
62. Rupanyup ..	4,336	38	137	24	199	4,535	8,241	812	9,053	(a, b)	925	14,513
63. Sea Lake ..	7,923	19	280	62	361	8,284	7,124	793	7,917	(a)	1,299	17,500
64. Somerville ..	409	24	13	8	45	454	2,419	280	2,699	..	..	3,153
65. South Frankston ..	1,942	140	80	56	276	2,218	11,443	1,400	12,843	..	..	15,061
66. Speed ..	242	14	18	17	49	291	441	175	616	(a)	300	1,207
67. Spring Vale ..	2,375	230	129	132	491	2,866	14,550	2,220	16,770	..	..	19,636
68. Stanhope ..	373	2	52	21	75	448	1,026	145	1,171	(a)	256	1,875
69. Tempy ..	275	30	18	16	64	339	446	105	551	(a)	260	1,150
70. Ultima ..	2,709	26	40	40	106	2,815	5,023	509	5,532	(a)	210	8,557
71. Waitehie ..	351	..	13	11	24	375	640	102	742	(a)	252	1,369
72. Watchem ..	1,793	57	13	18	88	1,881	3,873	355	4,228	(a)	190	6,299
73. Werrinull ..	399	190	42	39	271	670	1,137	326	1,463	(a)	292	2,425
74. Wonthaggi ..	16,971	343	821	200	1,364	18,335	53,244	2,395	55,639	(a, b) 15,000	..	88,974
75. Woomelang ..	4,540	20	55	62	137	4,677	9,376	471	9,847	(a, b)	620	15,144
76. Woorinen ..	294	2	12	17	31	325	625	91	716	(a)	119	1,160
77. Wycheproof ..	8,089	8	315	57	380	8,469	7,430	826	8,256	(a)	809	17,534
78. Yaapeet ..	129	15	19	11	45	174	362	92	454	(a)	208	836
Totals ..	206,134	4,884	7,505	4,019	16,408	222,542	500,239	57,047	557,286	40,789	..	820,617

## CAPITAL EXPENDITURE.

STATEMENT of Moneys Expended from Water Supply Loans and Unemployment Relief Funds for the year ended 30th June, 1934.

Works.	Unemployment Relief Funds.	Water Supply Loans Application Acts 4084 and 4174 and Treasurer's Advance.	Total.
	£ s. d.	£ s. d.	£ s. d.
<i>Free Headworks.</i>			
1. Kerang North-West Lakes .. .. .	.. .. .	170 8 11	170 8 11
2. Laanecoorie Weir .. .. .	867 3 11	..	867 3 11
3. Lower Wimmera Weirs—Dimboola Weir .. .. .	..	105 5 0	105 5 0
<i>River Murray Waters Acts—Works.</i>			
4. Storages, Weirs and Locks .. .. .	..	52,654 9 4	52,654 9 4
<i>Reservoirs and Storages.</i>			
5. Goulburn Storages—			
Eildon Reservoir .. .. .	..	24,987 13 8	24,987 13 8
Waranga Reservoir .. .. .	..	314 16 9	314 16 9
6. Glenmaggie Reservoir .. .. .	..	2,975 16 1	2,975 16 1
7. Pykes Creek and Melton Reservoirs .. .. .	..	1,230 14 0	1,230 14 0
<i>Waterworks Districts.</i>			
8. Bellarine Peninsula .. .. .	23,759 16 8	26,857 16 7	50,617 13 3
9. Birchip, Sea Lake, Tyrol, and Wycheproof .. .. .	656 9 3	18,127 5 3	18,783 14 6
10. Carwarp .. .. .	..	196 16 0	196 16 0
11. Coreena .. .. .	10 0 0	115 5 1	125 5 1
12. Dering, Eureka, Baring, and Kia .. .. .	..	193 1 7	193 1 7
13. Hindmarsh .. .. .	..	472 17 6	472 17 6
14. Karkaroc .. .. .	..	1,681 12 11	1,681 12 11
15. Long Lake .. .. .	..	1,508 3 9	1,508 3 9
16. Millewa .. .. .	4 6 4	1,995 9 0	1,999 15 4
17. Mornington Peninsula .. .. .	19,645 8 7	33,619 14 6	53,265 3 1
18. Tyntynder .. .. .	..	4,083 11 4	4,083 11 4
19. Walpeup .. .. .	1,191 15 4	198 11 4	1,390 6 8
20. Western Wimmera .. .. .	..	38,200 3 1	38,200 3 1
21. Wimmera United .. .. .	698 3 9	5,355 16 5	6,054 0 2
22. Wimmera, Mallee, Main and Distributary Channels .. .. .	5,990 5 5	2,148 7 1	8,138 12 6
<i>Towns.</i>			
23. Bacchus Marsh .. .. .	..	80 15 9	80 15 9
24. Berriwillock, Beulah, and Birchip .. .. .	..	46 2 2	46 2 2
25. Cohuna, Merbein, Nyah, and Red Cliffs .. .. .	..	212 7 11	212 7 11
26. Coliban .. .. .	10,363 0 8	5,912 5 8	16,275 6 4
27. Culgoa, Dimboola, Hopetoun, and Jeparit .. .. .	..	150 3 5	150 3 5
28. Heyfield, Stratford, Stanhope, and Pyramid .. .. .	..	439 7 2	439 7 2
29. Lake Boga, Lascelles, Manangatang, and Minyip .. .. .	..	233 8 3	233 8 3
30. Natimuk, Nullawil, Nyah West, and Ouyen .. .. .	..	173 15 7	173 15 7
31. Newstead .. .. .	4 19 10	5,901 18 6	5,906 18 4
32. Patchewollock, Piangil, and Ultima .. .. .	..	68 8 1	68 8 1
33. Watchem, Werrimull, Wycheproof, and Meringur .. .. .	..	107 3 7	107 3 7
34. Wonthaggi .. .. .	..	54 9 0	54 9 0
<i>Irrigation and Water Supply Districts.</i>			
35. Bacchus Marsh and Werribee .. .. .	23,928 9 8	3,260 16 1	27,189 5 9
36. Boort .. .. .	..	1,594 15 0	1,594 15 0
37. Calivil .. .. .	..	289 12 2	289 12 2
38. Cohuna and Gannawarra .. .. .	15,832 18 4	2,600 16 11	18,433 15 3
39. Deakin and Dingee .. .. .	..	72 0 6	72 0 6
40. Katandra .. .. .	..	642 17 2	642 17 2
41. Kerang .. .. .	2,148 8 7	3,443 17 5	5,592 6 0
42. Koondrook .. .. .	..	1,160 11 4	1,160 11 4
43. Leitchville .. .. .	..	854 0 5	854 0 5
44. Maffra, Sale .. .. .	5,168 15 8	12,938 1 6	18,106 17 2
45. Merbein .. .. .	6,101 7 5	4,000 10 10	10,101 18 3
46. Mystic Park, Fish Point, Third Lake, and Tresco .. .. .	19,270 17 2	194 2 0	19,464 19 2
47. North Shepparton .. .. .	..	2,805 18 11	2,805 18 11
48. Nyah .. .. .	2,533 8 6	2,159 7 7	4,692 16 1
49. Red Cliffs .. .. .	9,993 19 4	4,176 4 5	14,170 3 9
50. Rochester and Echuca North .. .. .	2,638 3 5	4,790 0 10	7,428 4 3
51. Rodney .. .. .	16,104 3 4	8,546 3 3	24,650 6 7
52. Shepparton .. .. .	20,385 0 2	3,754 10 11	24,139 11 1
53. South Shepparton .. .. .	..	220 19 5	220 19 5
54. Stanhope .. .. .	1,721 1 5	1,264 0 5	2,985 1 10
55. Swan Hill .. .. .	10,844 19 5	1,692 3 4	12,537 2 9
56. Tongala .. .. .	17,654 13 11	4,120 16 4	21,775 10 3
57. Tragowel Plains .. .. .	1,339 7 11	1,373 7 1	2,712 15 0
58. Goulburn Main Channels .. .. .	..	4,851 7 1	4,851 7 1
<i>Flood Protection and Drainage Districts.</i>			
59. Kooweerup, Cardinia, and Dandenong Creek .. .. .	10,622 17 11	2,065 4 1	12,688 2 0
60. Other Districts and Works .. .. .	14,544 6 6	..	14,544 6 6
<i>Miscellaneous.</i>			
61. Investigations, Storages, and Works .. .. .	32 13 2	8,169 15 6	8,202 8 8
62. Torrumbarry Districts—New Districts commanded by Torrumbarry Weir .. .. .	..	245 16 8	245 16 8
Totals .. .. .	244,057 1 7	311,861 17 5	555,918 19 0

## 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, 1935, with 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, 1935.

## ESTIMATED DISBURSEMENTS.

## A.

## Revenue Producing Works—

Coliban District	..	..	..	..	£11,400
Irrigation and Water Supply Districts	..	..	..	..	109,500
Waterworks Districts	..	..	..	..	71,600
Drainage and Flood Protection Districts	..	..	..	..	450
Diversions from Streams	..	..	..	..	350
General Expenditure and Salaries (proportion) over £250 to be apportioned to above Districts	..	..	..	..	17,100
					<hr/> £210,400

## B.

## Non-Revenue Producing Works—

## General Services—

River Gaugings, Surveys, New Projects, Boring for Water, Land Settlement, General Expenditure and Salaries (proportion) over £250	..	..	..	..	£6,100
Loan Works, Services on Account defrayed from Votes	..	..	..	..	3,300
Waterworks Trusts Administration	..	..	..	..	1,600
					<hr/> £11,000

## C.

## Non-Revenue Producing Works—

## Free Headworks—

Broken River	..	..	..	..	..	£200
Goulburn-Waranga	..	..	..	..	..	1,150
Kow Swamp	..	..	..	..	..	1,000
Lake Lonsdale and Lower Wimmera	..	..	..	..	..	325
Loddon River	..	..	..	..	..	200
North-West Lakes	..	..	..	..	..	225
					<hr/>	£3,100
					<hr/>	£224,500

## ESTIMATED RECEIPTS.

Coliban District	..	..	..	..	..	..	£44,000
Irrigation and Water Supply Districts	..	..	..	..	..	..	257,000
Waterworks Districts	..	..	..	..	..	..	191,000
Flood Protection Districts	..	..	..	..	..	..	8,000
Miscellaneous	..	..	..	..	..	..	20,000
							<hr/> £520,000

Estimated amount available from Revenue Producing Works to meet Interest

£309,600

Less expenditure as per "B" and "C" above on Non-Revenue Producing Works

14,100

£295,500

To which add Estimated Revenues from other Authorities—

Waterworks Trusts .. .. . 60,200

Local Bodies .. .. . 23,800

£84,000

Total Estimated amount available from Revenues of all Authorities to meet Interest

£379,500

## STATEMENT OF LOAN LIABILITY.

STATEMENT of the amount provided by the State to meet Interest and Exchange thereon 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 and Exchange for the year ended 30th June, 1934:—

Loan Liability of State for Works of Water Supply at 30th June, 1934, exclusive of Melbourne Water Supply.					Total Interest of £1,070,901 and Exchange thereon of £116,855 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.) Uncompleted or Unallotted Works.	Balance at Debit of Authorities.	Interest and Exchange thereon payable by State on Net Advances.	(A.) Written Off. (B.) Free Head-works. (C.) Uncompleted or Unallotted Works.	Commission and Other Authorities.	
£	£	£	£	£	£	£	£	
Waterworks Districts .. .. .	49,954	5,171,186	(A.) 175,055	4,996,131	243,242	(A.) 8,234	235,008	
Irrigation and Water Supply Districts .. .. .	31,946	4,595,325	(A.) 575,152	4,020,173	216,155	(A.) 27,054	189,101	
Goulburn Channel Works (Free Headworks excluded) .. .. .	116	1,437,828	(C.) 915,493	522,335	67,633	(C.) 43,063	24,570	
Pykes Creek, Melton, and Distributory Works .. .. .	699	234,961	(C.) 49,750	185,211	11,053	(C.) 2,340	8,713	
Mornington Peninsula .. .. .	214	934,883	(C.) 206,722	728,161	43,975	(C.) 9,723	34,252	£245,270 (after providing £18,516 for non-revenue producing works, including Free Head-works).
Koo-wee-rup, Cardinia and other Flood Protection Schemes .. .. .	..	411,018	(C.) 244,688	166,360	19,335	(C.) 11,509	7,826	
Elkton Reservoir and Waranga Reservoir Enlargement .. .. .	6,929	2,561,384	(C.) 2,561,384	..	120,482	(C.) 120,482	..	
Maffra-Sale Irrigation and Water Supply Districts .. .. .	8	1,278,247	(C.) 1,066,103	212,144	60,126	(C.) 50,146	9,980	
Millewa Waterworks Districts .. .. .	..	525,802	(C.) 279,791	246,011	24,733	(C.) 13,160	11,573	
Red Cliffs Irrigation and Water Supply District .. .. .	..	792,587	(C.) 307,802	484,785	37,282	(C.) 14,479	22,803	
Bellarine Peninsula .. .. .	46	457,862	(C.) 272,221	185,641	21,537	(C.) 12,894	8,733	
Campaspe and Loddon Rivers Storages (proposed) .. .. .	2,324	122,138	(C.) 122,138	..	5,745	(C.) 5,745	..	
Waterworks Trusts (including First Mildura) .. .. .	395,657	1,770,755	(A.) 343,924	1,426,831	83,293	(A.) 16,177	67,116	
Local Bodies (Municipalities) .. .. .	153,440	711,587	(A.) 163,760	547,827	33,472	(A.) 7,703	25,769	£84,377
River Murray Agreement Works .. .. .	93	2,484,618	(C.) 2,484,618	..	116,871	(C.) 116,871	..	
Irrigation and Waterworks Trusts Abolished .. .. .	30	32,724	(A.) 32,724	..	1,539	(A.) 1,539	..	
Free Headworks .. .. .	420	1,265,781	(B.) 1,265,781	..	59,540	(B.) 59,540	..	
Free Grants to Local Authorities .. .. .	..	147,046	(B.) 147,046	..	6,917	(B.) 6,917	..	
Surveys, Exploratory, and Preliminary Works, including Purchase of Land reserved for Reservoirs .. .. .	75	310,817	(C.) 310,817	..	14,626	(C.) 14,626	..	
<b>Totals</b> .. .. .	641,951	25,246,579	11,524,969	13,721,610	1,187,536	542,112	645,444	329,647

Dated at the office of the State Rivers and Water Supply Commission, Treasury Gardens,  
Melbourne, the 24th day of September, 1934.

RICHD. HORSFIELD, Chairman.

A. S. KENYON, Commissioner.

W. TREVEAN, Commissioner.

P. J. O'MALLEY, Secretary.