1908.

VICTORIA.

STATE RIVERS AND WATER SUPPLY COMMISSION.

THIRD ANNUAL REPORT.

1907-8.

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

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STATE RIVERS AND WATER SUPPLY COMMISSION.

ANNUAL REPORT, 1907-8.

In compliance with the provisions of section 49 of the *Water Act* 1905 the State Rivers and Water Supply Commission submits the following Report and Statement for the Financial Year 1907-8, and Estimates for the ensuing year.

Since the last Report was submitted, there has been one change in the Commission's membership. In November last the Chairman, Mr. Stuart Murray, retired, and was succeeded by Mr. Elwood Mead.

Works under Control of Commission.

The tabular statement which follows gives a brief description, summary of cost, and other details relative to the works now controlled by the Commission. These include all State works of water supply and works in the Irrigation and Water Supply Districts, which were originally administered by Irrigation Trusts, but which under the provisions of the *Water Act* 1905, have been taken over by the State. The only change which has been made since the previous Report was prepared is the sale of the Geelong Water Supply Works to the Geelong Municipal Waterworks Trust.

I.—STATE WORKS,

(*a*) Free Head Works.

Description of Works.	Capital Debit at 30th June, 1908.
	£
Broken River Works :—Casey's Weir and offtake, with about 59 chains of channel to the Broken Creek ; Gowangardie Weir with offtake sluice	14,853
Goulburn River Works :—Weir on the Goulburn River, about 9 miles above Murchison ; channel therefrom, about 23½ miles, to Waranga ; and the Waranga *Reservoir	731,738
Kow Swamp Works :—Intake from the Murray River with regulator, at the effluence of the Gunbower Creek ; channel thence to the Kow Swamp Reservoir, and that Reservoir ; channel along the northern side of the reservoir ; channel from the outlet of the reservoir, about 23½ miles, to the left bank of the Loddon River ..	188,407
Carried forward	934,998

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

(*a*) FREE HEAD WORKS—*continued.*

Description of Works.	Capital Debit at 30th June, 1908.
	£
Brought forward	934,998
Loddon River Works :—Laanecoorie Weir, on the Loddon ; Bridgewater Weir, on the Loddon ; Kinypanial Weir, on the Loddon	156,408
Lake Lonsdale Reservoir :—Reservoir at Lake Lonsdale, on the Little Wimmera River, near Ledcourt	50,326
Lower Wimmera Compensation Works :—Drung Drung Weir, on the Wimmera, near allotment 29, parish of Longerenong ; Dimboola Weir, on the Wimmera, near Dimboola township ; Antwerp Weir, on the Wimmera, at Antwerp Station homestead ; Jeparit Weir, on the Wimmera, near Jeparit township	8,753
Long Lake Pumping Works :—Regulated intake to Lake Baker, from the Little Murray River ; water storage works at Lake Baker and Long Lake, with channel connecting these lakes ; pumping plant at Long Lake, with rising main thence about 7 miles to allotment 10M, parish of Kooem ; system of main distributary channels, about 85 miles in length	27,898
Kerang North-West Lakes Works :—Weir on the Loddon River at its confluence with the Pyramid Creek ; regulating weirs at the effluence from the Loddon of the Sheepwash and Washpen Creeks ; channel from the Washpen Creek regulator to Reedy Lake, Middle Lake, Third Lake, Lake Charm, Race-course Lake, Cullen's Lake, Kangaroo Lake, and Lake Tutchewop, and to the Little Murray River, with water storage works at these lakes	10,008
Total	1,188,391

(*b*) OTHER STATE WORKS.

Description of Works.	Capital Debit at 30th June, 1908.
	£
Geelong Water Supply Works :—Bolwarra Weir, on the Eastern Moorabool River ; aqueduct thence to Stony Creek ; Upper and Lower Stony Creek Reservoirs ; aqueduct from Upper Stony Creek to Anakie, and pipe head basin there ; pipe main from Anakie basin to Lovely Banks, about 17 miles, with pipe connexion thereto from Lower Stony Creek ; service reservoirs at Lovely Banks and at Montpelier ; about 125 miles of reticulation pipes within the town of Geelong and the suburbs thereof (sold to Geelong Municipal Waterworks Trust on 25th January, 1908)	456,700
Coliban System of Waterworks :—Upper Coliban and Malmsbury storage reservoirs, on the Coliban River ; main channel from Malmsbury, with branches, about 43 miles in length ; distributary channels from the main channel and branches, about 287 miles in length ; twenty-six minor reservoirs and service basins ; about 282 miles of main and reticulation pipes (includes £3,552 expenditure 1906-7 debited 1907-8)	1,239,524
Glenorchy Works :—Glenorchy Weir, on the Wimmera River, at the effluence of the Dunmunkle Creek ; channel thence, about 1¼ miles, to Swede's Creek— Approximate cost, as stated by Trust	10,294
Donald Weir : —Weir on the Richardson River, at the township of Donald— Approximate cost, as stated by Trust	1,890
Mallee Distribution Works :—Channels of the Sea Lake system, within the Sea Lake waterworks district, and channels forming part of that system without the district, about 480 miles ; tanks, eleven in number, connected with and supplied from the channel system (including Sea Lake Town Supply)	67,803
Carried forward	1,776,211

(*b*) Other State Works—*continued.*

Description of Works.	Capital Debit at 30th June, 1908.
	£
Brought forward	1,776,211
Long Lake Works :—Branch distributary channels, about 2·30 miles for the service of the Long Lake Waterworks District, connected to and supplied from the Long Lake free head works	15,656

Irrigation and Water Supply Works :—Distributary works within the districts taken over by the Commission, as follows :—

Name of District.	Total Advances by State to late Trust.	Capital written off by Acts 1625 and 1651.	Redemption paid to Treasury.	Balance at Debit at 1st May, 1906.	Capital Expenditure from Loans and Revenue since 1st May, 1906.	Balance at Debit at 30th June, 1908.	
	£	£	£	£	£	£	
Bacchus Marsh ..	14,406	8,906	243	5,257	..	5,257	
Campaspe	61,700	52,685	305	8,710	5,881	14,591	
Rodney	223,268	149,949	2,902	70,417	20,616	91,033	
Benjeroop and Murrabit	12,936	7,200	64	5,672	257	5,929	
Cohuna	151,213	93,968	512	56,733	6,777	63,510	
Dry Lake	1,704	686	299	719	..	719	
Gunbower West ..	5,889	..	..	5,889	126	6,015	
Kerang East ..	14,025	6,984	18	7,023	133	7,156	
Koondrook and Myall	15,469	12,080	53	3,336	495	3,831	
Macorna North ..	18,557	8,082	81	10,394	276	10,670	
Marquis Hill ..	14,477	9,076	2	5,399	..	5,399	
South Kerang ..	632	..	14	618	14	632	
Swan Hill	24,800	19,799	201	4,800	1,955	6,755	
Wandella	30,754	20,929	111	9,714	..	9,714	
East Boort	21,567	14,866	184	6,517	..	6,517	
Leaghur and Meering	5,043	2,543	78	2,422	..	2,422	
North Boort ..	6,977	4,867	52	2,058	..	2,058	
Tragowel Plains ..	159,848	124,534	444	34,870	..	34,870	
Twelve Mile	5,050	3,250	28	1,772	..	1,772	
Totals ..	788,315	540,404	5,591	242,320	36,530	278,850	278,850
					Total		2,070,717

REVIEW OF THE YEAR'S WORK.

Taken as a whole, the irrigation works of Victoria were of great service in the season just closed. The scanty rainfall made ability to irrigate pastures and fodder crops of great value to dairymen and all stock-owners, while the failure of streams and exhaustion of tanks gave added importance to the water supplied for domestic and stock purposes. The irrigation works administered by the Commission supplied water for the irrigation of 232,000 acres of land. As the total area irrigated in the previous year from the same works was 108,000 acres, the increase for the season was 124,000 acres, or a gain of 115 per cent.

The following table shows the areas irrigated and the kind of crops grown in each district. The succeeding table gives the comparative record for last year and the year previous.

LANDS UNDER IRRIGATED CULTURE.

STATEMENT OF THE EXTENT OF IRRIGATION AND OF AREAS OF DIFFERENT KINDS OF CROPS WATERED—YEAR 1907-8.

Name of District.	Area under Irrigation (Acres).							
	Cereals.	Lucerne grown for Pasture and Hay.	Sorghum and other Annual Fodder Crops.	Pastures.	Vineyards, Orchards, and Gardens.	Fallows.	Miscellaneous.	Total.
Supplied from Goulburn State Works.								
Rodney	17,792	16,659	783	19,630	3,106	4,962	11	62,943
Echuca and Waranga (Deakin)	3,740	4,847	700	10,373	93	1,080	..	20,833
Totals	21,532	21,506	1,483	30,003	3,199	6,042	11	83,776
Supplied from Kow Swamp State Works.								
Dry Lake	30	..	100	510	5	..	..	645
Gunbower West	369	429	350	1,669	31	..	..	2,848
Kerang East	1,141	171	641	2,587	6	..	..	4,546
Macorna North	924	93	1,222	7,149	..	55	4	9,447
Marquis Hill	511	64	359	2,302	..	..	..	3,236
South Kerang	87	122	124	583	..	..	4	920
Wandella*	1,924	525	838	5,280	8	..	..	8,575
Totals	4,986	1,404	3,634	20,080	50	55	8	30,217
Supplied from Loddon State Works.								
Wandella*	..	..	..	..	..	..	..	..
East Boort	1,538	18	119	758	39	..	..	2,472
Leaghur and Meering	534	12	173	867	8	..	..	1,594
North Boort	577	..	17	416	24	..	..	1,034
Tragowel Plains	9,166	590	546	9,910	61	..	93	20,366
Twelve Mile	632	138	158	1,214	..	..	..	2,142
Totals	12,447	758	1,013	13,165	132	..	93	27,608
Supplied from other State Works.								
Bacchus Marsh	..	426	25	3	6	..	10	470
Benjeroop and Murrabit	1,128	95	67	2,700	42	..	..	4,032
Campaspe	502	205	58	580	7	..	..	1,352
Cohuna	4,254	3,092	2,824	23,039	205	34	2	33,450
Koondrook and Myall	1,056	212	436	5,412	28	..	..	7,144
Swan Hill	2,837	2,178	528	1,518	40	..	..	7,101
Western Wimmera	29	62	40	68	818	..	62	1,079
Totals	9,806	6,270	3,978	33,320	1,146	34	74	54,628
Lands supplied from Kerang North-west Lakes	1,694	188	2,111	4,809	..	36	..	8,838
Lands supplied directly from Kow Swamp State Works	1,050	816	265	3,282	..	40	..	5,453
First Mildura	300	600	..	..	9,976	..	..	10,876
Supplied from Coliban State Works	408	82	233	288	1,180	..	..	2,191
Private Diversions in Kerang District	2,707	561	1,179	3,924	11	43	..	8,425
Grand Totals	54,930	32,185	13,896	108,871	15,694	6,250	186	232,012
Grand Totals, 1906–7	11,395	24,216	4,582	52,133	13,752	1,913	68	108,059
Increase	43,535	7,969	9,314	56,738	1,942	4,337	118	123,953

* The Wandella District is supplied with water from both the Kow Swamp and Loddon State Works. In the year 1907–8 one-third of the water used was from the latter source.

Comparative Statement of the Extent of Irrigation and of Areas of Different Kinds of Crops Watered—Years 1906–7 and 1907–8.

Areas under Irrigation (Acres).

Supplied from—	Cereals.		Lucerne grown for Pasture and Hay.		Sorghum and other Annual Fodder Crops.		Pastures.		Vineyards, Orchards, and Gardens.		Fallows.		Miscellaneous.		Total.	
	1906–7.	1907–8.	1906–7.	1907–8.	1906–7.	1907–8.	1906–7.	1907–8.	1906–7.	1907–8.	1906–7.	1907–8.	1906–7.	1907–8.	1906–7.	1907–8.
Goulburn State Works	64	21,532	15,609	21,506	203	1,483	10,389	30,003	3,024	3,199	1,751	6,042	19	11	31,059	83,776
Kow Swamp State Works	2,162	4,986	1,579	1,404	1,870	3,634	16,755	20,080	60	50	42	55	25	8	22,493	30,217
Loddon State Works	4,726	12,447	487	758	490	1,013	7,151	13,165	128	132	74	..	..	93	13,056	27,608
Other State Works	2,589	9,806	5,663	6,270	1,573	3,978	11,538	33,320	1,031	1,146	36	34	24	74	22,454	54,628
Kerang, N.W. Lakes	834	1,694	256	188	246	2,111	3,917	4,809	..	..	10	36	..	..	5,263	8,838
Kow Swamp Works (*direct*)..	178	1,050	..	816	..	265	2,233	3,282	4	..	..	40	..	..	2,415	5,453
First Mildura Trust Works..	542	300	572	600	..	..	..	..	8,355	9,976	..	..	..	..	9,469	10,876
Coliban State Works	.. 300	408	50	82	200	233	150	288	1,150	1,180	..	..	..	..	1,850	2,191
Private Works in Kerang District	*	2,707	*	561	*	1,179	*	3,924	*	11	*	43	..	..	*	8,425
Totals	11,395	54,930	24,216	32,185	4,582	13,896	52,133	108,871	13,752	15,694	1,913	6,250	68	186	108,059	232,012

* Not stated.

The figures in these tables, if taken without analysis or explanation, are liable to be misleading. The mere fact that the irrigated area was more than doubled would indicate a growth which closer scrutiny does not sustain. To rightly interpret this expansion, it is necessary to look into the character of the crops watered, and the irrigation methods employed. The importance of an irrigation system is not measured by the acres commanded, nor necessarily by the acres watered, but by the value of the crops grown. Measured by this standard, the results of last year's irrigation are disappointing. The following explanation will, it is believed, make clear the causes of this:—

Of the 232,000 acres irrigated, 194,000 acres, or 84 per cent., was made up of the following crops:—

Cereals	55,000 acres
Native grass	109,000 ,,
Lucerne grown for pasture (about)	30,000 ,,
Total	194,000 ,,

Whatever may have been the benefit resulting from irrigation this season, it was not one-tenth of what it would have been if the chief crop had been hay instead of grass. No estimate of the value of irrigated grass has placed it above £1 an acre. No return of the value of an acre of lucerne hay has been as low as £10, while it has gone as high as £60. One crop was contracted, delivered in the field, at £5 a ton, and the yield was 5 tons per acre. Hay sold as high as £7 10s. per ton, and crops sold at this price produced 4 tons to the acre. These abnormally high prices and large profits are due to the drought, but the prices in ordinary years will return reasonable profit. Moreover, it is a well established fact that seasons of scanty rainfall occur every few years, and should be considered as a factor in the development of irrigated agriculture in the State. This is true whether we consider the general welfare of the State or the interests of the individual settler. Had hay been generally grown last season, the benefit to the State would have been as great as to the individual irrigator, because with 109,000 acres in lucerne hay, instead of that many acres in pasture, there would have been no loss of sheep or cattle in the irrigated districts, or need of shipping fodder from other States.

To the irrigator, it was a chance for phenomenal profits lost for lack of preparedness; to the State, it meant a disturbance of trade relations, and a drain on wealth for food supplies imported, and all because this expansion in irrigation was confined to the watering of the cheapest possible crops in the crudest possible way.

Furthermore, the increase in the area irrigated does not, taken alone, indicate any permanent change in the methods of farming in the irrigated districts.

The increase in the watered area was made up, almost wholly, of the following crops:—

Cereals	43,000 acres
Native grass	57,000 ,,
Lucerne grown for pasture ...	8,000 ,,
	108,000 ,,

If there had been an average rainfall, it is not likely there would have been much increase in the irrigation of grain or grass, and if the coming season should be wet, it is probable that the shrinkage in the irrigation area and the falling off in revenue from sales of water, next season, would be as striking as the increase has been in the year just passed.

Such wide fluctuations in the use of water, and in the income from State works, are fatal to the best results either in irrigated agriculture or canal management. The farmers who made money last season were those who had prepared to irrigate beforehand, whether the season was wet or dry. The owners of 15,000 acres of orchards, vineyards, and gardens must have realized handsome profits. But, unfortunately, the increase in the area devoted to high-priced products was small, because land so irrigated must be prepared in advance, and the land has not been so prepared because the farmers who live in the large irrigation area rely too largely on rain. While it is desirable to make the most of the relatively large rainfall of the Goulburn Valley and similar districts, the saving in charges for water which this makes possible, is utterly

insignificant when contrasted with the larger value of the crops which can be grown on land properly graded, heavily manured, and ensured the moisture required to maintain a continuous, vigorous growth. The success of irrigation in this State depends on the thoroughness of the irrigators' conversion from relying mainly on the clouds to relying mainly on the canal.

Agricultural Practices in the Irrigated Districts.

The vital necessity for improvement in agricultural practices in the irrigation districts justifies giving considerable attention to the subject in a report dealing with the results of irrigation last season. Much of the soil in the Northern Districts is a heavy clay or clay loam. It lacks humus. Everywhere the soil will be improved by a heavy application of farm-yard manure, or the growing of leguminous crops. Both should be ploughed under and incorporated in the soil. To obtain the farm-yard manure, there must be a considerable change in farming methods. The present general dependence on pastures in stock-raising and dairying must, in part, give way to hand-feeding. This change will pay directly and indirectly. Five times the feeding value of an acre of lucerne pasture can be obtained from an acre of lucerne grown for hay. A large part of the fertilizing value of stock grazed on pastures which is lost can be saved by hand-feeding, and the money now spent for commercial fertilizers may, with profit, be expended on labour to conserve fertility on the farm.

Demonstration Plots.

Two small plots have been leased by the Commission, at Tatura and Kerang, on which to demonstrate and illustrate the methods of grading and irrigating land, and the use of the best tools and appliances for the purpose.

In both cases the plots will be seeded to lucerne. This is believed to be the most important farm crop of the irrigated districts. In part, because its growth will improve the soil, and, in part, because the protection of the State from the vicissitudes of dry years, can be most effectively secured, by having a large part of the irrigated areas devoted to the growth of hay and fodder.

The methods of grading and preparing land, illustrated on these plots, will answer for other farm crops. The preparation of land for irrigation will be supplemented later on by demonstrations in the use of modern hay-making machinery, which has been neglected in Victoria, and by means of which the labour and cost of hay making may be reduced one-half. These changes in farming methods are not now possible in all the irrigated districts. Out of the 1,160,000 acres of land commanded less than half has, as yet, a water supply large enough or certain enough to warrant any considerable expenditure in grading land or in attempting to grow high-priced crops. Among the lands not fully supplied with water are included the districts supplied from the Loddon, from the natural flow of the Campaspe, and from the Murray by gravitation. The hardship, anxiety, and occasional loss of crops which dependence on an uncertain water supply entails are fully realized ; but the Commission feels confident that when the plans of the Government for storing water have been carried out effective relief will be afforded.

Delivery of Water.

Changes in agricultural methods must be accompanied by corresponding improvement in the delivery of water from canals. A delay of ten days in the watering of a pasture crop is not serious, but such a delay in providing water for a crop of hay or vegetables might be disastrous. In order to encourage improvement in irrigated agriculture the Commission must make provision to supply water when needed. To do this will require the reconstruction of many channels, and the working out of a system for supplying and measuring water suited to the more exacting requirements of the future.

A beginning was made this season in the measurement of water delivered to irrigators, but the period of observations did not include the entire season, and hence the measurements are not conclusive. The Commission also requested the District Engineers and Mr. C. J. Grant, Engineer at Mildura, to give the results of their experience in the districts administered by them.

The information furnished by the Engineers is embodied in the two following tables :—

IRRIGATION PRACTICE.—TABLE I.

District.	Duration of Irrigation Season.	Amount of Water required to ensure vigorous growth during such Season (net-on-land) per acre.	Additional amount required for losses by seepage and evaporation in Channels from head of Main Channel to point of delivery on land.	Greatest demand for Water.		Intervals between Waterings (for rotation period).
				Two months period.	Amount per acre net-on-land per 30 days.	
		ac. ft.	ac. inches.		ac. inches	
Bacchus Marsh	7 months (Aug.-Feb.) if full water supply	3	7	Dec.-Jan. ..	9	Lucerne, 6 weeks
Coliban ..	7–8 months (Aug.-Feb.) if full water supply	1	4	Dec.-Jan. ..	4	Orchards (Nov.-Feb.)—2 weeks, 1 acre inch waterings; Lucerne—2 weeks, ½ acre inch waterings; Maize, &c.,—2 weeks, 1 acre inch waterings; Tomatoes—1 day, ½ acre inch waterings
Kerang ..	9–10 months ..	2½ to 2¾ (Cohuna), 3½ to 4 (Swan Hill flats)	8 to 14 (compact areas), double for long distances	Mar. - Apr. (grass), Jan. and Feb. for Lucerne when improved supply available	6 Cohuna, 6 to 8 Swan Hill and similar lands	4 weeks (Dec.-Feb.)
Rodney	Usually 8 months (Sep.-Apr.) In exceptional years, 10 months (Sep.-June)	2¼	13 (9½ in main channels, 3½ distribution)	Oct. and Nov.	6	Lucerne—7 weeks (grazing), 5 weeks (cutting); Sorghum, &c.—5 weeks; Cereals—6 weeks; Orchards—1 week (Nov.-Mar.)
First Mildura	10 months (July-Apr.)*	2	8 when 4 full waterings given, 12 when 3 full waterings and 2 half waterings	Nov.-Dec. .. Dec.-Jan.	6	Trees and Vines—6–7 weeks (Oct.-Apr.)†

* In dry years a winter watering is necessary in July or August. In good years the irrigation season embraces eight months (September to April).

† Although six weeks is a suitable rotation interval for trees and vines, the pumps and channels should be capable of irrigating the whole area in four or five weeks, even if a cessation of watering for a week or two is involved.

IRRIGATION PRACTICE.—TABLE II.

YEAR 1907–8.

District.	Largest No. of Waterings given.	Average depth of Watering.	Average depth applied for Season, over total area under Irrigation (including Distribution, Losses and Domestic and Stock Supply).
		inches.	
Bacchus Marsh	2	9	18 in. over 500 acres
Coliban	Varies with crops	1	16 in. over 2,200 acres.
Cohuna	5	6	15 in. over 33,500 acres
Kow Swamp	5	6	12 in. over 30,200 acres
Rodney	10	9	24 in. over 63,000 acres
First Mildura	4	8	27 in. over 10,900 acres

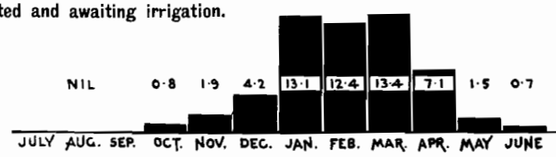
An inspection of the tables shows that, in the opinion of these Engineers, the amount of water required, measured at the margin of the fields, and with no allowance for evaporation losses in channels, varies from one to four acre feet per acre. The smallest quantity is in the Coliban district, where the rainfall is larger than elsewhere, and where a considerable part of the water is used in the irrigation of orchards, which require less water than either farm crops or gardens. Of the Engineers' replies one of the most important is that giving the maximum requirements of a thirty-day period in the season, as this requirement should govern the size of channels.

The Engineers' replies are corroborated, in the Rodney and Mildura districts, by the measurements of water made at the heads of the main distribution channels. These measurements are shown graphically in Figures 1 and 2 of the diagrams hereunder, and include all losses in distribution.

IRRIGATION PRACTICE.

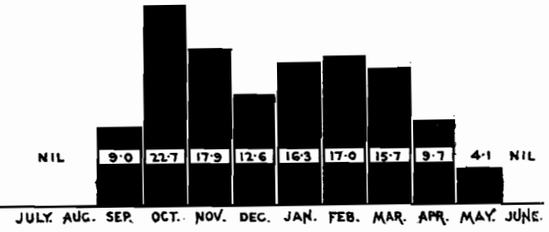
DIAGRAMS showing comparative use of water in the Rodney District, in the seasons 1906-7 and 1907-8.

Figs. 1 and 2. Volumes delivered to distributing channels in different months, in thousands of acre feet.
,, 3 ,, 4. Average depth of water over area irrigated, and rainfall, in different months.
,, 5. Average monthly rainfall for 24 years.
,, 6 and 7. Areas, irrigated and awaiting irrigation.



1906-7

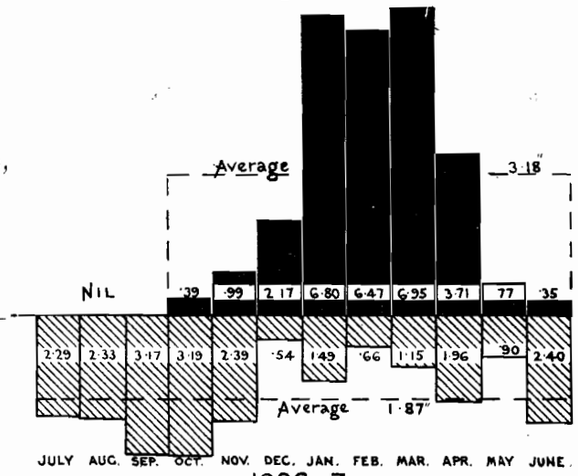
Fig. 1



1907-8

Fig. 2

AVERAGE DEPTH OF WATER APPLIED, IN INCHES OVER 23,000 ACRES.



1906-7

Fig. 3

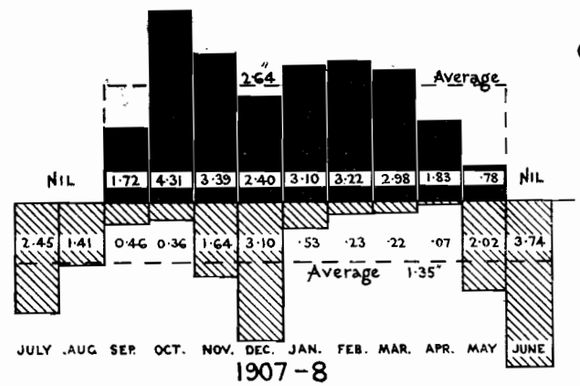


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Fig. 4

AVERAGE DEPTH OF WATER APPLIED, IN INCHES OVER 63,000 ACRES.

RAINFALL IN INCHES.

RAINFALL IN INCHES.

AVERAGE RAINFALL
(24 YEARS TO 1907)

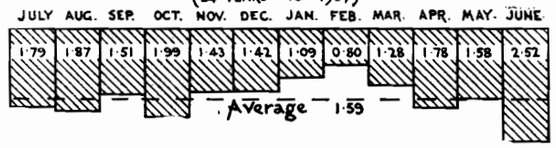
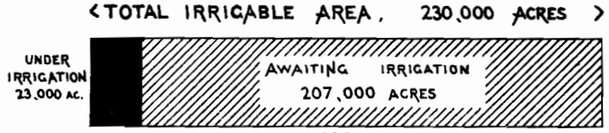
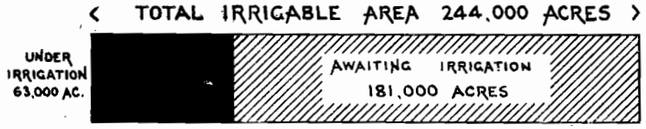


Fig. 5



1906-7

Fig. 6



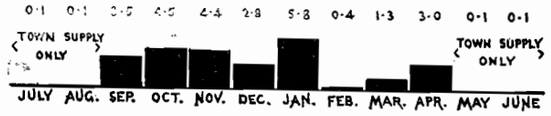
1907-8

Fig. 7

IRRIGATION PRACTICE.

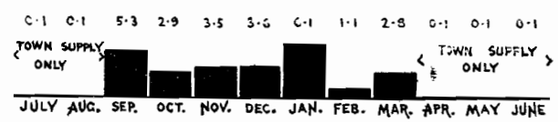
DIAGRAMS showing comparative use of water in the First Mildura Irrigation Trust District, in the seasons 1906-7 and 1907-8.

Figs. 1 and 2. Volumes delivered to distributing channels in different months, in thousands of acre feet.
„ 3 „ 4. Average depth of water over area irrigated, and rainfall, in different months. Fig. 5. Average monthly rainfall for 17 years.



1906-7

Fig. 1

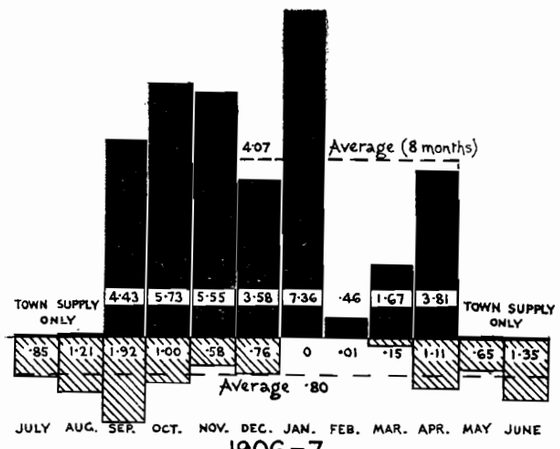


1907-8

Fig. 2

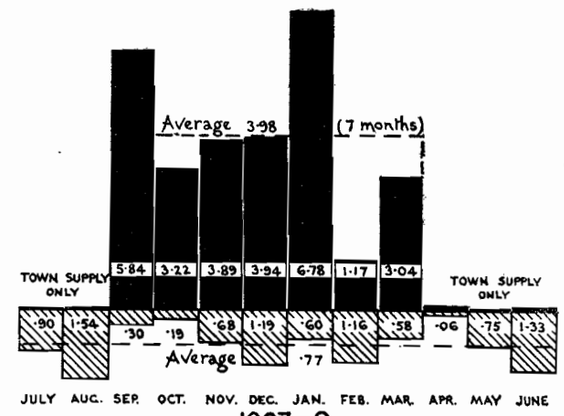
AVERAGE DEPTH OF WATER APPLIED, IN INCHES OVER 9,500 ACRES.

RAINFALL IN INCHES.



1906-7

Fig. 3



1907-8

Fig. 4

AVERAGE DEPTH OF WATER APPLIED, IN INCHES OVER 10,900 ACRES

RAINFALL IN INCHES.

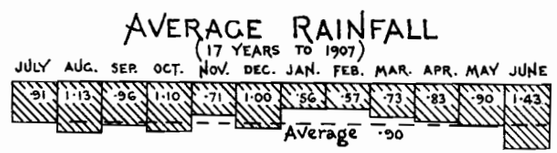


Fig. 5

The Commission has, tentatively, adopted 2 acre feet of water for each acre irrigated as the average duty of water, and is making all distributing channels large enough to carry 1 cusec. for each 100 acres of irrigable land commanded.

The inevitable increase in population in the irrigated districts will increase the consumption of water. The extent to which this will modify former plans and estimates cannot now be fully determined; but it is certain that the chief danger is in being over sanguine as to the area which can be irrigated. The following diagram, showing the flow of the Goulburn for the past two years, and the portion used for irrigation and other purposes, is useful in this connexion :—

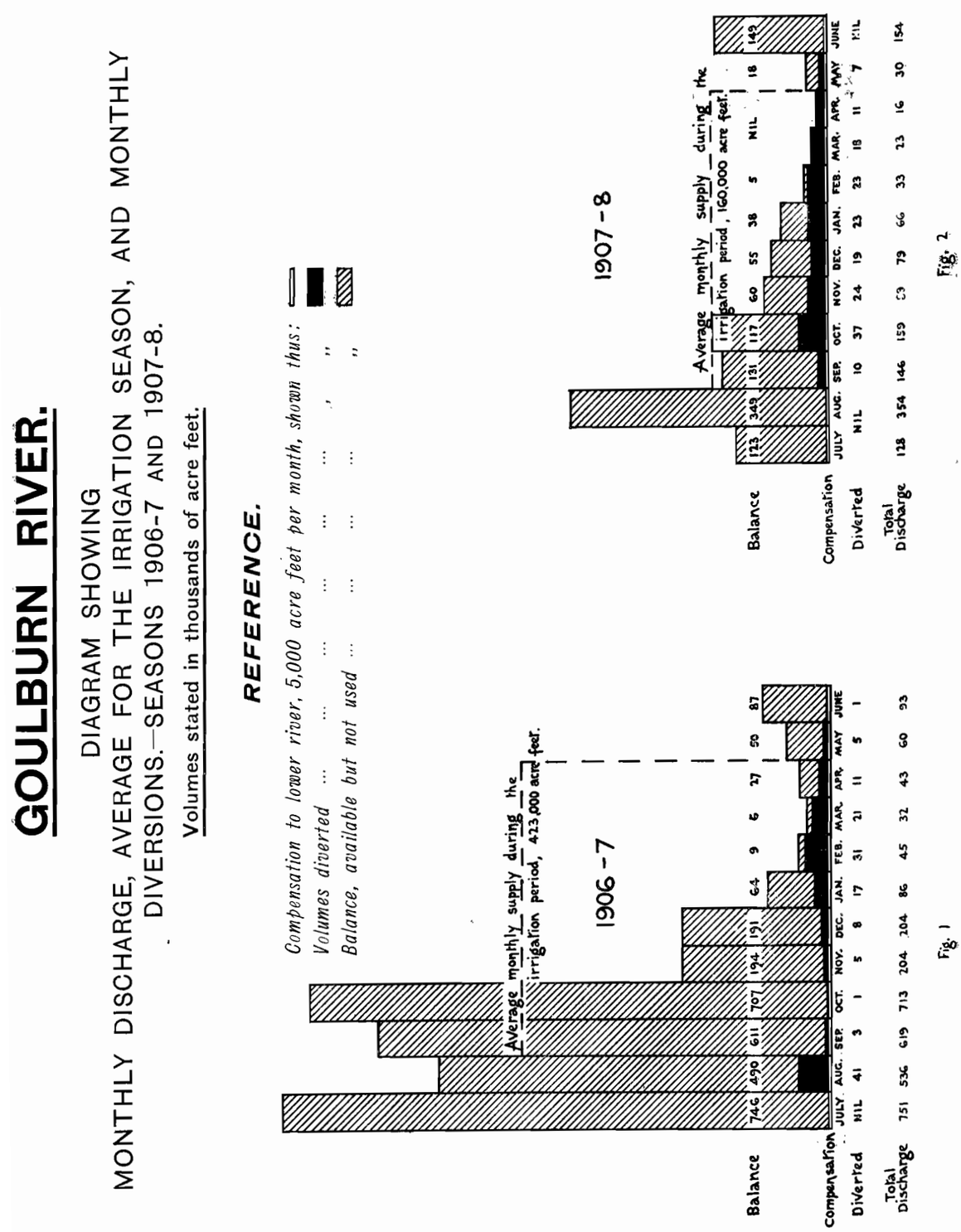


Fig. 1

Fig. 2

It will be noted that the consumption in March and April this year absorbed the whole flow of the river, and almost equalled it in the same months last year. No more effective argument can be furnished for the need for some other large reservoir on the main stream. It will be indispensable for supplying the East Goulburn Channel. More than half the water turned into the Rodney channels last year was lost by seepage and evaporation. Sixty-one per cent. of the water of Kow Swamp was lost in the same way. In seven months the water in Lake Hindmarsh was lowered 3·5 feet by the same action. Floating tanks placed in the channels of the Rodney and Kerang districts showed evaporation losses of 10 inches in thirty days. These figures show, beyond question, that we can largely increase the duty of water by concentrating its use on compact areas.

Revision of Charges for Water.

In some of the districts the charges for supplying water for irrigation should be revised. These charges were fixed by the regulations of the Trusts having jurisdiction over the districts prior to the coming into force of the *Water Act* 1905, and must be followed by the Commission until legal power has been given to alter them. The principal reason for revision is that the present charges are arbitrary, having little relation to the character or cost of the service. A casual inspection of the table giving the charges for irrigation water in the different districts will show that this is the case.

Table of Charges for Water in the Irrigation and Water Supply Districts under the Control of the Commission.

District.	Source of Supply.	Charges for Water Sold per Acre per Watering.			
				s.	*d.*
Rodney ..	Goulburn ..	General, other than undermentioned	(1st) watering	2	0
			(2nd) ,,	1	6
			(3rd, &c.) ,,	1	0
		Lucerne, Grass, Stubble, Fallow, and Ploughing ..	..	1	0
Deakin ..	Goulburn ..	Cereals, Fodder, and Orchards	..	2	0
		Grass and Lucerne ..	..	1	0
Gunbower West	Kow Swamp	Cereals	(1st) watering	2	0
			(2nd, &c.) ,,	1	6
		Fodder (Lucerne, Sorghum, &c.)	(1st) ,,	1	6
			(2nd, &c.) ,,	1	0
		Fallow	..	1	6
		Grass	..	1	0
		Garden Rights .. for 1 acre, £1 per annum			
Kerang East	Kow Swamp	Cereals, Fodder, Gardens ..	(1st) watering	1	3
			(2nd, &c.) ,,	0	10
		Grass	..	0	10
		Garden Rights .. for 1 acre, £1 per annum			
Macorna North	Kow Swamp	Cereals	(1st) watering	1	6
			(2nd, &c.) ,,	1	0
		Fodder (Lucerne, Sorghum, &c.) and Fallow	..	1	0
		Grass and Gardens ..	..	1	0
Marquis Hill	Kow Swamp	Cereals	..	2	0
		Fodder (Lucerne, Sorghum, &c.)	..	1	9
		Grass	..	1	0
		Fallow	..	1	6
South Kerang	Kow Swamp	Cereals and Fallow ..	(1st) watering	1	0
			(2nd, &c.) ,,	0	6
		Grass, Lucerne, Sorghum, &c.	..	0	6
Wandella ..	Kow Swamp and Loddon	All	..	1	0

District.	Source of Supply.	Charges for Water Sold per Acre per Watering.
Rodney ..	Goulburn ..	
Deakin ..	Goulburn ..	
Gunbower West	Kow Swamp	
		if supplied direct from Murray, 9d.
		for each additional acre or part, 10s. per annum
Kerang East	Kow Swamp	
		if supplied direct from Murray, 5d.
		for each additional acre or part, 10s. per annum
Macorna North	Kow Swamp	
		if supplied direct from Murray, 5d.
Marquis Hill	Kow Swamp	if supplied direct from Murray, 1s. 9d.
		if supplied direct from Murray, 1s. 3d.
		if supplied direct from Murray, 6d.
		if supplied direct from Murray, 1s.
South Kerang	Kow Swamp	
Wandella ..	Kow Swamp and Loddon	

TABLE OF CHARGES—*continued.*

District.	Source of Supply.	Charges for Water Sold per Acre per Watering.		s.	d.	
East Boort ..	Loddon ..	All—				
		(1st January to 31st March)	(1st) watering	2	3	
			(2nd, &c.) „	1	6	
		(1st April to 31st December)	(1st) „	1	6	
			(2nd, &c.) „	1	0	
		Grass (surplus water) ..	..	0	6	
North Boort..	Loddon ..	All—				
		(1st January to 31st March)	(1st) watering	2	3	
			(2nd, &c.) „	1	6	
		(1st April to 31st December)	(1st) „	1	6	
			(2nd, &c.) „	1	0	
		Grass (surplus water) ..	..	0	6	
Leaghur and Meering	Loddon ..	All	..	1	6	
		Grass (surplus water) ..	..	0	6	
Tragowel Plains	Loddon ..	All	(1st) watering	1	3	
			(2nd, &c.) „	1	0	
		Grass (surplus water) ..	(1st) „	0	7½	
			(2nd, &c.) „	0	6	
		Gardens (up to 2 acres) ..	..	12	6	or £1 per annum
Twelve Mile	Loddon ..	All	..	1	0	
		Grass (surplus water) ..	..	0	6	
		Gardens, for 1 acre (or part)..	12s. 6d. per annum			for each additional acre or part, 5s. per annum
Benjeroop and Murrabit	Murray ..	Cereals	(1st) watering	2	0	
			(2nd) „	1	0	
		Fodder, Fallow, and Grass ..	..	0	6	
Cohuna ..	Murray ..	*Gravitation*—				
		Cereals	(1st) watering	1	6	
			(2nd, &c.) „	1	0	
		Fodder (Lucerne, &c.) ..	(1st) „	1	0	when river is 10 feet above summer level
			(2nd, &c.) „	0	9	when river is 10 feet above summer level
		Fodder	..	1	6	when river is below 10 feet above summer level
		Grass	..	0	6	
		Fallow	..	1	0	
		Pumping—				
		All	..	2	6	when river is 5 feet above summer level
		All	..	3	0	when river is below 5 feet above summer level
Koondrook and Myall	Murray ..	*Gravitation*—				
		Cereals	(1st) watering	1	3	
			(2nd) „	1	0	
		Fodder	..	0	9	
		Grass	..	0	6	
		Pumping—				
		All, per acre foot pumped..	..	2	0	
Swan Hill ..	Murray ..	*Gravitation*—				
		All	(1st) watering	2	0	
			(2nd, &c.) „	1	0	
		Grass (surplus water) ..	..	6	0	
		Pumping—				
		All	..	3	0	
Campaspe ..	Campaspe ..	1st May to 30th September—				
		Cereals, Fodder, and Orchards	..	1	0	
		Lucerne and Grass ..	..	0	6	
		1st October to 30th April—				
		Cereals, Fodder, and Orchards	..	2	0	
		Lucerne and Grass ..	..	1	0	
Bacchus Marsh (excluding Urban Division)	Werribee ..	All, per acre foot delivered—				
		1st May to 31st August ..	..	2	8½	
		1st September to 30th November	..	5	5	
		1st December to 30th April	..	8	2	

The application of the Irrigation Charge provided in the Act will remove anomalies in many of the districts; but in those districts which cannot be fully supplied with water for several years it will tend to promote contentment on the part of irrigators, and assist the Commission in its duties, if legislation is enacted giving authority to make needed changes in the charges.

LANDS, ETC., SUPPLIED WITH WATER WITHIN THE STATE.

The area of country lands within the State artificially supplied with water for domestic and ordinary use and for watering stock is 16,875 square miles, equal to 10,800,000 acres. The total extent of land under irrigated culture, for all kinds of crop, is 232,000 acres, exclusive of the areas watered by unauthorized diversions, of which no account has yet been taken. These do not probably aggregate more than 40,000 acres. Steps are now being taken to have them accurately recorded and brought under the control of the Commission.

The number of separate towns supplied, exclusive of that to the city of Melbourne and its suburbs is 112, as shown in the following statement:—

Controlling Authorities.	Number of Town Supplies.	Estimated Population Served.
Commission	16	76,000
Waterworks Trusts... ...	83	111,000
Local Governing bodies ...	13	75,000
Totals ...	112	262,000

VALUATION AND RATING.

During the year rates for the supply of water for domestic and stock purposes were made in the various districts under the control of the Commission.

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

In all the districts, except that of the Loddon United Waterworks Trust, the rate was made for the financial year ended 30th June, 1908, on valuations made by direction of the Commission; in the Loddon United Waterworks Trust District the rate was, as required by the *Water Act* 1905, made for a calendar year. In this latter district also it was, as in previous years, made in eleven divisions on the municipal valuation of the lands and tenements. It is proposed, however, to make the next rate in not more than three divisions (as in the thirteen districts before mentioned) on a valuation made by direction of the Commission.

The following is a statement of the annual value of the lands and tenements in the various districts, and the rates levied thereon ; also of the estimated number of persons dwelling in such districts :—

Name of District.	Annual Value of Lands and Tenements as returned by Valuers appointed by Commission.	Rate in the £1 made by Commission for Year ended 30th June, 1908.	Estimated Number of Persons dwelling in Districts.
	£	s. d.	
Rodney	109,829	Div. 1 .. .. .. 1 0 Div. 2 .. .. .. 0 6 Div. 3 .. .. .. 0 3	4,220
Campaspe	14,068	Div. 1 .. .. .. 1 8 Div. 2 .. .. .. 0 10 Div. 3 .. .. .. 0 5	710
Bacchus Marsh (Irrigation District)	2,207	.. .. 1 6	60
Bacchus Marsh Urban ..	5,608	.. .. 1 6	1,010
Benjeroop and Murrabit ..	4,138	Div. 1 .. .. .. 1 6 Div. 2 .. .. .. 0 9	170
Cohuna	17,830	Div. 1 .. .. .. 4 8 Div. 2 .. .. .. 2 4	1,020
Dry Lake*	..	.. ..	10
Gunbower West	2,167	.. .. 3 0	110
Kerang East	2,791	.. .. 3 0	200
Koondrook and Myall ..	2,077	.. .. 4 6	100
Macorna North	3,973	Div. 1 .. .. .. 4 0 Div. 2 .. .. .. 2 0 Div. 3 .. .. .. 1 0	220
Marquis Hill	1,662½	Div. 1 .. .. .. 4 0 Div. 2 .. .. .. 2 0	100
South Kerang	528	.. .. 3 0	30
Swan Hill	3,811	Div. 1 .. .. .. 4 0 Div. 2 .. .. .. 2 0	230
Wandella	3,633	.. .. 2 0	220
East Boort	4,429	Div. 1 .. .. .. 2 0 Div. 2 .. .. .. 1 0	130
Leaghur and Meering ..	1,461	Div. 1 .. .. .. 2 0 Div. 2 .. .. .. 1 0	110
North Boort	1,965	Div. 1 .. .. .. 2 0 Div. 2 .. .. .. 1 0	90
Tragowel Plains	22,704	Div. 1 .. .. .. 2 2 Div. 2 .. .. .. 1 1	980
Twelve Mile	1,146	.. .. 2 0	90
Long Lake	26,342	Div. 1 .. .. .. 2 9 Div. 2 .. .. .. 1 4½ Div. 3 .. .. .. 0 8¼	1,120
Sea Lake	36,870	Div. 1 .. .. .. 2 0 Div. 2 .. .. .. 1 0 Div. 3 .. .. .. 0 6	2,350
Loddon United Waterworks Trust	61,615 (Municipal)	Rate for year ended 31st December, 1907. Marong Shire Division .. 0 6 East Loddon Shire Division .. 0 6 Gordon Shire: No. 1 East Division 1 6; No. 2 East Division 1 0; No. 3 East Division 0 9; No. 1 West Division 2 0; No. 2 West Division 1 6; No. 3 West Division 0 9 Korong Shire: No. 1 Division .. 1 4; No. 2 Division .. 0 9; Charlton Division 0 6	2,257

* No rate made.

Geelong Area and Coliban District.

For the Geelong Water Supply Area and the Coliban Waterworks District by-laws have been made imposing rates similar in amount to those of the previous year. These have been published in the *Government Gazette* (see page 3489) and in newspapers circulating in the districts affected. The Geelong area and the Coliban District, being urban districts, the rates levied therein have been based on the municipal valuations as provided by the Act.

Geelong Water Supply Works sold to Geelong Municipal Waterworks Trust.

By an Act passed on 16th December, 1907, called the *Geelong Municipal Waterworks Act* 1907, provision was made for the constitution of a Trust to purchase and manage the Geelong Water Supply Works. Such a Trust was constituted, and it has purchased the works for the sum specified in the Act—£265,000. The transfer to the Trust and all necessary adjustments pertaining thereto were made as on 25th January, 1908, after which date the Commission ceased to manage or control the system.

CONTRACTS.

Statement of Contracts entered into during the Year ended 30th June, 1908.

No.	Name of Contractor.	Work or Supply.	Amount.		
			£	s.	d.
65	Bray and Soar ..	North Meatian Channel, Long Lake District	40	12	6
66	Hansen, H. ..	Yarraby Channel, Long Lake District ..	106	2	1
67	Chisholm, John ..	Theobald's Channel, Long Lake District ..	116	5	0
68	Henderson, J. and J.	North Lalbert Channel, Long Lake District	60	19	2
69	Cavanagh, W. J. ..	Wortongie Channel, Sea Lake District ..	78	10	8
70	Moore, C. W. ..	Main Southern Channel, Long Lake District..	117	10	0
71	Staley and Connell ..	1,200 tons Firewood for Pumping Station, Swan Hill District	375	0	0
72	Wingfield, W. H. ..	North Woorinen Channel, Long Lake District	52	5	0
73	Anderson, Jas. K. ..	Anderson's Channel, Long Lake District ..	45	10	0
74	Dew, Isaac	Wortongie Channel, Sea Lake District ..	181	10	2
75	Moloney Bros. ..	Wortongie Channel, Sea Lake District ..	155	17	7
76	Moloney Bros. ..	Wortongie Channel, Sea Lake District ..	159	12	9
77	Dew, Isaac	Wortongie Channel, Sea Lake District ..	165	7	2
78	Hallett Bros. ..	Birchip West Channel, Sea Lake District ..	59	3	9
79	Hallett Bros. ..	Birchip West Channel, Sea Lake District ..	75	10	5
80	Hallett Bros. ..	Birchip West Channel, Sea Lake District ..	80	10	6
81	Hallett Bros. ..	Birchip West Channel, Sea Lake District ..	95	12	6
82	Hallett Bros. ..	Birchip West Channel, Sea Lake District ..	65	15	10
83	Hallett Bros. ..	Birchip West Channel, Sea Lake District ..	60	14	2
84	Kilpatrick, John ..	800 tons Firewood for Pumping Station, Swan Hill District	235	0	0
85	Milthorpe Bros. ..	35,638 super. feet Sawn Redgum Timber for Weir, Campaspe District	312	6	0
86	Nichols, H. E. ..	Timber Piles for Weir, Campaspe District ..	157	17	0
87	Venters, Fredk. ..	4,000 tons Firewood for Pumping Station, Cohuna District	850	0	0
88	McLarty, A. D. ..	Northern Channel, Branch No. 7, Long Lake District	114	18	2
89	Barton, G.	Northern Channel, Branch No. 7, Long Lake District	71	0	6
90	Keele and Drape ..	Contour Survey, 140 square miles, Parishes of Gunbower, Gunbower West, Macorna, and Tragowel	805	0	0
91	Smith Bros. ..	Northern Channel, Branch No. 5, Long Lake District	35	15	0
92	Smith Bros. ..	Northern Channel, Branch No. 5, Long Lake District	41	18	9
93	Donnelly, James ..	Northern Channel, Branch No. 5, Long Lake District	36	0	5
94	Donnelly, James ..	Northern Channel, Branch No. 5, Long Lake District	43	2	6
95	Leach, A.	Southern Channel, Branch No. 13, Long Lake District	29	11	8
96	Connor, Stephen, jun.	Southern Channel, Branch No. 2, Main Ultima Channel Extension, Long Lake District	14	0	0
97	Sayers, James ..	Southern Channel, Branch No. 10, Long Lake District	33	0	6
98	Sayers, James ..	Southern Channel, Branch No. 10, Long Lake District	19	14	11
99	Sands, William ..	Barupga Channel, Sea Lake District ..	124	10	8
100	McCabe, Phillip ..	Barupga Channel, Sea Lake District ..	127	16	11
101	McCabe, Phillip ..	Barupga Channel, Sea Lake District ..	128	18	0
102	Smith Bros. ..	Northern Channel, Branch No. 5, Long Lake District	50	8	4
103	Sands, Wm. ..	Willangie Channel, Sea Lake District ..	145	2	6

CONTRACTS ENTERED INTO DURING THE YEAR ENDED 30TH JUNE, 1908—*continued.*

No.	Name of Contractor.	Work or Supply.	Amount. £	s.	d.
104	Doran, Pickering, and Gordon	Willangie Channel, Sea Lake District ..	149	3	4
105	Sands, Wm. ..	Willangie Channel, Sea Lake District ..	201	19	4
106	Sands, W.	Willangie Channel, Sea Lake District ..	160	17	6
107	Sands, W.	Willangie Channel, Sea Lake District ..	148	10	10
108	Taysom, Charles ..	Timber Weir across Gunbower Creek at Cohuna	1,141	11	0
109	Sayers, James ..	Barton's Channel, Branch No. 9, Long Lake District	102	17	11
110	Connor, Stephen, jun.	Ferguson's Channel, Long Lake District ..	44	1	10
111	Sayers, James ..	Ferguson's Channel, Long Lake District ..	84	15	0
112	Moore, C. W. ..	Ferguson's Channel, Long Lake District ..	59	0	0
113	Connor, Stephen, jun.	Ferguson's Channel, Long Lake District ..	53	4	9
114	Connor, Stephen, jun.	Ferguson's Channel, Long Lake District ..	43	10	0
115	Cramer, W. T. ..	Ferguson's Channel, Long Lake District ..	41	8	9
116	Cramer, W. T. ..	Ferguson's Channel, Long Lake District ..	37	13	4
117	Scott, G. W. ..	Ferguson's Channel, Long Lake District ..	38	0	10
118	Tuck, Wm... ..	Lalbert-Waitchie Channel, Long Lake District	19	17	6
119	Curtis, R. ..	Lalbert-Waitchie Channel, Long Lake District	27	14	2
120	Curtis, R.	Lalbert-Waitchie Channel, Long Lake District	23	15	0
121	Moore, C. W. ..	Lalbert-Waitchie Channel, Long Lake District	18	15	0
122	Moore, C. W. ..	Lalbert-Waitchie Channel, Long Lake District	18	19	2
123	Weekley, S. ..	Eastern Channel, Swan Hill District ..	392	13	0
124	Weekley, S. ..	Eastern Channel, Swan Hill District ..	375	9	0
125	Thompson Bros. ..	Eastern Channel, Swan Hill District ..	522	7	4
126	Noonan, M. P. ..	Gregory's Tank Channel, Sea Lake District ..	175	4	10
127	Thomson, John D. ..	Cartage of Timber and Piles, Campaspe District	55	13	6
128	Malone, M. ..	Girgarre Channel, Rodney District ..	2,015	7	10
129	Malone, M. ..	Bray-Finlay Loop Channel, Rodney District	1,282	2	4
130	Moloney Bros. ..	Perrit Channel, Sea Lake District ..	163	7	11
131	Stahl, Jas.	Perrit Channel, Sea Lake District ..	115	8	4
132	G. Weymouth Ppy. Ltd.	Pumping Plants at Nyah and White Cliffs ..	18,062	2	0
133	Weekley, S. ..	Western Channel, Swan Hill District ..	548	11	3
134	Guilmartin, R. ..	Western Channel, Swan Hill District ..	387	14	4
135	Weekley, S. ..	Western Channel, Swan Hill District ..	691	1	10
136	Allan and Taylor ..	Gregory's Tank Channel, Sea Lake District	124	18	7
137	Hernon, Keiron ..	Perrit Channel, Brennan's Branch, Sea Lake District	117	2	1
138	Burns, J. H. ..	Perrit Channel, Brennan's Branch, Sea Lake District	109	3	4
139	Drewett Bros. ..	North Woorinen Channel, Long Lake District	36	15	0
140	Drewett Bros. ..	North Woorinen Channel, Long Lake District	44	18	4
141	Bankin, Alexander ..	Gregory's Tank Channel, Sea Lake District..	144	12	1
142	O'Callaghan, Dan ..	Gregory's Tank Channel, Sea Lake District..	127	4	2
143	O'Callaghan, Dan ..	Gregory's Tank Channel, Sea Lake District..	122	5	7
144	McClelland, Hugh ..	Gregory's Tank Channel, Sea Lake District..	128	2	1
145	Holden, David, jun., and Hayes, John	Gregory's Tank Channel, Sea Lake District..	116	11	10
146	McLean, Arthur ..	Tungie Channel, Sea Lake District ..	933	9	3
147	Bankin, Alex. ..	Perrit Channel, Sea Lake District ..	73	13	11
148	Scott, Chas. F. ..	Pipe Line Branch, No. 2 Channel, Long Lake District	27	0	0
149	Scott, Chas. F. ..	Pipe Line, Branch, No. 2 Channel, Long Lake District	33	6	8
150	Roberts, Chas. ..	Pipe Line Branch, No. 2 Channel, Long Lake District	33	16	8
151	Scott, Chas. F. ..	Pipe Line Branch, No. 2 Channel, Long Lake District	42	10	0
152	Scott, Chas. F. ..	Pipe Line Branch, No. 2 Channel, Long Lake District	38	8	6
153	Sayers, James, and Connor, Stephen, jun.	Channel connecting Lake Boga and Long Lake, Long Lake District	712	18	4

CONTRACTS ENTERED INTO DURING THE YEAR ENDED 30TH JUNE, 1908—*continued.*

No.	Name of Contractor.	Work or Supply.	Amount.
			£ s. d.
154	Furphy, R. L. ..	Donaldson Spur Channel, Rodney District ..	336 4 5
155	Kilbride, Peter ..	Special Embankment on Girgarre Channel and Cook's Spur Channel, Rodney District	674 11 2
156	Davies Brothers ..	Hogan-Mackenzie Loop and Groves Spur Channels, Rodney District	1,770 3 7
157	Keele and Drape ..	Contour Survey, 103 square miles, Parishes of Kerang and Cohuna, and portion of Gunbower Island	592 5 0
158	Steele, Andrew ..	Willangie Channel, Sea Lake District ..	75 0 0
159	Johnson, and Co., W. W.	Bitchigal Channel, Sea Lake District ..	104 14 7
160	McDonald, James ..	Bitchigal Channel, Sea Lake District ..	126 14 7
161	.. .. ..	Bitchigal Channel, Sea Lake District ..	(not let)
162	Gamble Bros. ..	Storage Tank No. 1, Birchip Town Water Supply	1,025 0 0
163	Ferguson, Mephan ..	Steel Riveted Pipes for Syphon on Sparrowhawk to Epsom Race, Coliban District	1,093 13 7
164	Anders, Chas., and Adler, Frank	Free's Channel, Long Lake District ..	76 0 0
165	Hickmott, H. E. ..	Free's Channel, Long Lake District ..	84 2 3
166	Whelan, Jas. ..	Durie's Branch Channel, Sea Lake District ..	149 5 3
167	Holden and Hayes ..	Durie's Branch Channel, Sea Lake District ..	129 14 2
168	Bankin, A. ..	Durie's Branch Channel, Sea Lake District ..	122 10 0
169	Noonan, P. E. ..	Durie's Branch Channel, Sea Lake District ..	130 12 6
170	Noonan, P. E. ..	Durie's Branch Channel, Sea Lake District ..	131 0 10
171	Moloney Brothers ..	Gray's Branch Channel, Sea Lake District ..	142 10 10
172	Stahl, Jas.	Gray's Branch Channel, Sea Lake District ..	149 10 0
173	Still, W. E. ..	Gray's Branch Channel, Sea Lake District ..	143 0 8
174	Smith Brothers ..	Gray's Branch Channel, Sea Lake District ..	134 12 0
175	Taylor, H. ..	Gray's Branch Channel, Sea Lake District ..	150 5 0
176	Chandler, A. ..	Inlet Channel to Lake Boga, Long Lake District	75 11 6
177	Dorman, J. H. ..	Inlet Channel to Lake Boga, Long Lake District	91 18 8
178	Castle, W. ..	Inlet Channel to Lake Boga, Long Lake District	71 10 5
179	Barton, G.	Inlet Channel to Lake Boga, Long Lake District	79 4 0
180	.. .. ..	Inlet Channel to Lake Boga, Long Lake District	(not let)
181	.. .. ..	Inlet Channel to Lake Boga, Long Lake District	(not let)
182	.. .. ..	Inlet Channel to Lake Boga, Long Lake District	(not let)
183	Murphy Brothers ..	Ryan Murray Loop Channel, Rodney District	946 17 2
184	Murphy Brothers ..	Richards' Spur Channel, Rodney District ..	586 15 10
185	Murphy Brothers ..	Collie Channel and Colkon Spur Channel, Rodney District	1,473 6 2
186	Malone, M. ..	S. Kennedy Spur Channel, Rodney District..	816 11 9
187	Poole and Crothers ..	Robinson-Crooks Spur Channel, Rodney District	331 4 6

WORKS CARRIED ON OR COMPLETED DURING THE YEAR ENDED 30TH JUNE, 1908.

COLIBAN WORKS.

Extensions and improvements of pipe reticulation were carried out in Bendigo at a total cost of £3,660. The principal work was the replacing of the 7-inch pipe in High-street by a new 12-inch main, and relaying the old pipes in Mundy-street and McIvor-road, at a cost of £2,999. Minor extensions and improvements of the pipe reticulation have also been carried out in Eaglehawk, Castlemaine, and Maldon.

The Spring Gully to Axe Creek Extension Race, 21 miles long, was completed at a total cost of £4,500, and about 500 acres of Crown lands, commanded by it for irrigation, have been subdivided and settled in blocks of from 10 to 20 acres

each. The Ascot Extension Race, 7 miles long, and the Goornong Extension Race, 9 miles long, were also constructed at a cost of £632 and £688 respectively. The former race was built early in the year, and proved of great value for the irrigation of orchards, gardens, and fodder crops ; and although the latter was not completed until the irrigation season was well advanced, it proved valuable for filling tanks. In the case of these races the Municipal Councils interested guarantee 5 per cent. per annum on the capital cost, as provided by section 71 of the Act.

A race from Sparrowhawk to Epsom has been commenced, and should be completed by the end of September next, when the Crown lands commanded by it, some 800 acres in extent, will be subdivided into small blocks for settlement. The estimated cost of this race is £2,500.

Schemes for extending the Harcourt Gardens Race to Porcupine Ridge and the Harcourt Trust Race to Muckleford Creek Valley have been considered, and it is anticipated these works will be carried out during next year.

Geelong Works.

These works were sold to the Geelong Municipal Waterworks Trust on 25th January, 1908. Before that date the usual annual maintenance works were carried out, together with some necessary extensions. The whole of the works were handed over to the Trust in good order.

Irrigation and Water Supply Districts.

Rodney District.

Ordinary maintenance and repairs to channels were carried out before the watering season began in September last. The demand for water for irrigation was very heavy during September and October, and the channels were taxed to their utmost capacity to carry 400 cusec; this was particularly the case with the Bray Channel between Merrigum and Wyuna, but many other channels were also run above their safe limit to meet urgent demands for irrigation. This section of the Bray Channel, and portions of other channels, have since been strengthened, but there is still a large amount of work to be done to bring the channels generally up to a proper standard of efficiency. Surveys of channels required to complete reticulation are in progress, and the construction of the channels is being pushed on. Contracts for 26 miles of channels, amounting in all to £10,233, have been entered into.

Districts Administered from the Kerang Centre.

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

A contract has been entered into for a new pumping plant at Swan Hill with a discharging capacity of 100 cusec to replace the existing plant, which has a capacity of only 25 cusec. A new channel system to carry the increased delivery is nearing completion.

A pumping plant for Koondrook of like capacity to the Swan Hill new plant is arranged for, and should also be completed during the ensuing year. Both plants will consist of triple expansion steam engines, with forced lubrication, and direct driven turbine pumps, and are expected to show great fuel economy in working. The Koondrook plant will supply the Benjeroop and Murrabit district as well as Koondrook and Myall, and with that object surveys have been proceeding to locate a main channel system for the combined districts. The construction of the channels will be proceeded with at the earliest possible date.

New pumps were installed at the Cohuna pumping station, capable of delivering 100 cusec in place of 50 cusec, the old delivery. The addition of still another pumping plant of 100 cusec will be required to provide an adequate supply for the irrigation of the district, and during next year the providing of this will receive consideration.

A weir has been constructed in the Gunbower Creek at Cohuna, which enables water to be diverted through the main channel of No. 2 Riding, at a level to command for irrigation all lands served by this channel.

A general re-instatement and improvement of channels and structures throughout the Cohuna district are being carried out.

Surveys of Pyramid Creek have been made, and the work of clearing obstructions to its flow is proceeding.

Districts Administered from the Loddon Centre.

These include Tragowel Plains, North Boort, East Boort, Leaghur and Meering, and Twelve Mile. Only urgent repairs of works were undertaken during the year. There are still, however, considerable arrears of maintenance to be overtaken.

Campaspe District.

The repair of the works in this district damaged by the flood of September, 1906, was completed during the year without interfering with the supply of water to the district. The earth embankment across the river flat at the end of the weir, which was carried away, has been replaced by a low weir 400 feet long, with crest 4 feet above the crest of the main weir, thus providing a largely increased waterway for floods. The end abutments have also been raised about 2 feet, and also the Eastern and Western Channel regulators. The timber flume across the main depression near Rochester, which was washed away, has been replaced by a re-inforced concrete inverted syphon, leaving the natural waterway unobstructed. The total expenditure on repairs of flood damage has been £5,881, being £1,619 below the estimate (£7,500).

Bacchus Marsh District.

Ordinary maintenance of works only has been attended to during the past year. In connexion with the Pykes Creek Storage it is intended to enlarge the main diversion channel from the river during next year, as a first instalment of the complete scheme of works proposed for the district.

Deakin Irrigation District.

As this district will come under the control of the Commission on 1st July, 1908, arrangements have been made for assuming its administration. The construction of the Main Eastern Channel of the district from Waranga to Wyuna by the Water Supply Department has been completed, and the survey of distributary channels in the parishes of Kyabram and Tongala is in progress. It is intended to proceed with the construction of these works without delay.

MURRAY RIVER FRONTAGE LANDS.

White Cliffs Irrigation Area.

The permanent survey of a system of channels for the irrigation of a compact area of about 5,000 acres of first class Mallee land has been completed, and a scheme of subdivision proposed. In addition, a system of domestic and stock supply channels for an area of 100 square miles of the back country has been surveyed.

Owing to the difficulty of letting contracts it has been decided to defer the construction of the channels until about November, when it is expected more reasonable prices will prevail. A contract has been entered into for the supply and erection of a pumping plant with a discharging capacity of 50 cusec.

The surveyors of the Lands Department are now at work on the subdivision survey.

Nyah Irrigation Area.

The establishment at Nyah of the new Irrigation Area is now well forward. A suitable irrigation area of some 2,500 acres immediately around Nyah and close to the river has been selected. Following upon the necessary land adjustments surveys have been made of a complete system of supply channels and drains to serve the whole area, which contains blocks varying from 20 to 45 acres of irrigable land. In laying out the channels the possibility of extensions to adjacent

lands has been kept in view. A contract has been let for the supply and erection of a pumping plant to lift 25 cusec, and the construction of the channels is in hand.

Surveys are now also in hand for the purpose of extending main lines of domestic and stock channels into the country west of Nyah Irrigation Area which can be commanded by the plant.

Long Lake Waterworks District.

During the year some 80 miles of distributary channels were constructed. Besides these, about 40 miles of minor drains to farmers' tanks have, for the purpose of assisting settlers, been surveyed.

The area which should be supplied from the Long Lake Pumps is now becoming more clearly defined, and consequently re-adjustments of the area are proposed. As the Northern part of the present area will be more economically supplied from the new pumping plant at Nyah on account of the much lower lift, it will be possible, by excising such part, to considerably extend the Long Lake area to the South-east, South-west, and West to the Lalbert Creek, and thus include districts which will materially benefit by the service.

Works for providing Lake Boga township with a suitable urban supply are being carried out. The estimated cost is £1,700.

Sea Lake Waterworks District.

Considerable progress has been made during the year towards the completion of the reticulation of the districts governed by the Sea Lake Channel System; 148 miles of new channels have been constructed, besides the location of some 50 miles of minor drains to tanks. Steps are being taken to define what area of the present Sea Lake district and of the Birchip, Wycheproof, and Wimmera districts coming under the Commission's control will eventually be commanded by this channel system.

During the year the township of Sea Lake has been reticulated and supplied from the Sea Lake at a cost of £803, and it has accordingly been proclaimed an urban district. A start has also been made with the reticulation of Birchip township, estimated to cost £5,500.

Gauging Streams, and Measurement of Water in Irrigation.

Provision was made during the year for re-gauging all streams largely drawn upon for domestic and irrigation water supplies. This action is necessary because of the changes which have taken place in cross-section and level of streams since last gauged. In connexion with this work, a change has been made in the units of volume of water heretofore employed in official reports, the cubic foot per second taking the place of the cubic foot per minute as the unit of flowing water, and the acre foot being substituted for the cubic foot as the unit of stored water. The units adopted are those generally employed in other English-speaking irrigated countries, and they have the merit of being easily convertible.

In India, and increasingly in other countries, the expression "cubic foot per second" is abbreviated to "cusec." The Commission and Water Supply Department regard this as a step in the right direction, and both will employ the abbreviated form hereafter.

PROPOSALS AND REPORTS ON NEW PROJECTS OF WATER SUPPLY AND IRRIGATION.

Lerderderg River.

The question of providing a storage reservoir on the Lerderderg River for the irrigation of the rich alluvial flats on that river near Bacchus Marsh has been investigated. Surveys of two dam sites, one on the river at Simmons Reef and the other on Sardine Creek, a tributary, have been made. The capacity of the Simmons Reef site would be about 1,600 acre feet, that on Sardine Creek about the same, and the cost about £10,000 in each case. The Commission has recommended the Government to consider the scheme.

Campaspe Storage.

An investigation of the question of storage on this river has been undertaken. Surveys have been made of a site at Eppalock where a storage of about 100,000 acre feet can be constructed at a cost of about £125,000. A complete report on the subject is now being prepared.

Swift's Creek.

A scheme for irrigating about 1,500 acres of alluvial flats on the Tambo River, near Swift's Creek, is being inquired into. Surveys to determine the nature and cost of the work are now in hand.

Wimmera Water Supply.

In April last the Commission visited the different Wimmera districts to arrange for taking over the management and control on 1st July. The retiring Commissioners of the Trusts and their officers aided the Commission in many ways, their co-operation making it possible to begin improvements prior to the actual transfer of control.

The most important of these was the main channel, 38 miles long, to supply Rainbow, and the large area of unwatered country lying along the eastern side of the Wimmera River and Lake Hindmarsh. A suitable site for storage has also been selected close to Rainbow township, at an elevation sufficient to command the town by gravitation. The Rainbow channel will eventually be connected with the main gravitation channel from the Wimmera and Lake Lonsdale, but arrangements have been made to temporarily fill it from the Dooen pumping plant by means of a short connexion, some 4 miles in length, between the Dimboola channel and the Patterson's Swamp channel.

Another urgent work to be carried out on the western side of Yarriambiack Creek is the improvement of the main channels supplying the western Karkarooc system, and for this surveys are now being made. The Brickle channel will be utilized as a main carrier by enlarging it and connecting it with the existing Karkarooc channels. A connexion some 9 miles long has been surveyed between the Brickle channel and the Cat Swamp eastern channel, south of the Karkarooc Shire boundary, and its immediate construction, together with the necessary improvements to the Brickle channel back to its offtake, are proposed.

On the eastern side of the Yarriambiack Creek necessary improvements to existing channels are being carried out. Extensive surveys have been in hand for some months past, for the purpose of establishing the best line for a joint main gravitation supply from Lake Lonsdale and the Wimmera to the whole of the dependent channels, including the Sea Lake system.

During the Commission's visit requests were made for the excision of certain areas which have never been supplied with water, and the Commission proposes dealing with these matters during the ensuing year.

GENERAL.

Register of Lands.—Irrigation and Water Supply Districts.

A Register of Lands as provided by sections 56 and 61 of the Act, setting out, *inter alia*, the water rights apportioned, has been prepared for that part of the Rodney Irrigation and Water Supply District known as the Wyuna Settlement; it is proposed to complete similar registers during the ensuing year for the remaining portion of the Rodney District, for portion of Cohuna District, and for Swan Hill District. Contour surveys, one of the necessary preliminaries for the compilation of the Register, are also in progress in several other districts. Lithographic copies of the plans of all completed contour surveys are now on sale at a moderate price.

Irrigation Charge.

A valuation of the lands set out in the Register for that part of the Rodney District known as the Wyuna Settlement referred to above has been made by Mr. J. A. Carey, valuer, and it is proposed to make and levy an irrigation charge as on and from 1st July, 1908, upon the occupiers or owners thereof. Such charge shall, as provided by section 65 of the Act, be fixed by the Commission at a certain proportion of the net annual value of all lands to which water rights have been apportioned. This charge will take the place of the several charges for water supplied for irrigation now in force. Irrigation charges will be levied in other districts or parts of districts as soon as Registers of Lands therefor are prepared.

Diversions from Streams.

The Governor in Council, on the recommendation of the Commission, has, during the year, issued a number of licences permitting persons, for certain fixed charges, to divert water from streams. The Commission is collecting information as to the number of persons who are at present diverting water without legal sanction, and it is proposed during the ensuing year to take such action as may be necessary to protect the interests of the State, and, at the same time, give greater security to the users of water under licensed diversions.

Administration.—Loddon Centre Districts.

During the year Mr. E. Lyndon Smith, C.E., was appointed resident secretary and engineer for the Tragowel Plains, North Boort, East Boort, Leaghur and Meering and Twelve Mile Irrigation and Water Supply districts and the Loddon United Waterworks Trust district in lieu of Mr. George Laing, C.E., who, although still on the Commission's staff, has, at the request of the Water Supply Department, undertaken important survey and construction works in the newly-formed Deakin Irrigation and Water Supply District.

Provision of Private Tanks.

The construction of proper storage tanks or dams by land-holders for the service of their properties is of such importance that the Commission has recommended that its powers be extended so as to allow it, in the event of a land-holder neglecting or refusing to make proper storage provision, to carry out the work at the cost of such land-holder. Without these additional powers it is felt it will be impracticable to avoid running the channels several times a year to fill tanks of so limited a size as to be almost useless.

The unavoidable loss of water each time a channel is run during summer is estimated, in the Mallee districts, to be not less than 3,000 cubic yards a mile, and thus to fill through such a length of channel a tank of 500 cubic yards capacity four times a year will require 14,000 cubic yards of water, while to secure the same storage result by means of a single filling of a proper tank of 2,000 cubic yards will only require 5,000 cubic yards of water.

In some waterworks districts, unless proper tank provision is made, there is grave danger of the whole system of supply failing, while in all districts the present arrangements are proving exceptionally wasteful and costly both to State and land-holder. Notices have already been served, under section 177 of the present Act, requiring land-holders to provide proper tanks, but the result has not been satisfactory, and until the additional powers suggested are granted, very little improvement is likely to take place.

RECEIPTS, DISBURSEMENTS, AND ESTIMATES.

From the statements following it will be seen that the total revenue received by the Commission during the year was £88,110 ; this is a decrease of £737 on the amount for the previous year 1906–7, which, however, included a full year's return from the Geelong Works, while in the year 1907–8 revenue was, owing to the transfer of the works to the new Geelong Trust, only collected for six months, and was thus reduced £6,526.

The Coliban Works show an increase for the year of £1,697 in receipts, the percentage net return on capital cost being now $2\frac{7}{20}$ per cent. as against $1\frac{9}{10}$ per cent. in the year 1905–6.

The revenue from the irrigation and water supply districts has increased by £3,922, due mainly to the large sales of water for irrigation, owing to the drought of last year. The balance against these districts, as shown in the Statement of Receipts and Disbursements, has thus been reduced from £7,372 to £5,876. The revenue from sales of water must, however, continue to fluctuate until the charge is placed on some fixed basis. In each district brought under the irrigation charge provisions of the Act such a basis will of course be established.

The expenditure for last year from the Annual Votes was, excluding Geelong, £602 less than for the previous year. The expenditure of Loan moneys amounted for the year to £33,645. The districts in which the works were carried out are set out in detail.

It is proposed as from 1st July, 1908, in each district where any portion of its capital loan indebtedness has been, or is to be, applied to the purchase of machinery, plant or any kind of perishable structure, to make provision annually for the allocation of a sum equal to not less than 5 per cent. of the cost of such machinery, plant or structure, to the credit of a Depreciation Account. It was thought that the date named would be a suitable and convenient date for the initiation of such accounts, as a number of new machinery plants will be installed during the year then commencing.

The Estimates of both Disbursements and Receipts for the ensuing year show increases over the previous year, mostly due to the transfer to the control of the Commission of the Wimmera Waterworks and Deakin Irrigation and Water Supply Districts. The estimated available sum as disclosed by these Estimates to apply towards meeting the interest to be paid by the State on its loan expenditure for works of water supply is £10,125, to which should be added £47,800 estimated to be received by the State from other authorities, making a total of £57,925. As the total interest charges on Loans amount to £211,350 a balance of £153,425 is required to be provided by the State. This is some £16,700 more than last year ; the increase being due mainly to further Loan Expenditure for works carried out by the Board of Land and Works, which are not yet revenue producing, and which will require the completion of the distributary channels to enable revenue to be derived therefrom, and to the fact that in the newly transferred Wimmera Waterworks Districts it will be necessary for a year at least to incur heavy expenditure in repairs. The revenue from the Wimmera districts should, however, rapidly overtake all requirements both for interest and maintenance.

It will also be seen from these statements that the loan liability of the State for works of water supply, at the close of the year under review, was £6,261,355. Of this total £1,188,391 is for Free Head Works ; £1,296,934 has been written off ; £142,506 was advanced as Free Grants to some early formed Local Authorities; £8,632 has been raised but not expended, and £161,284 has been paid off by Trusts and other bodies. The balance, £3,463,508, is the sum on which interest should be paid by the occupiers or owners of the property benefited by the various works.

RECEIPTS AND DISBURSEMENTS.

STATEMENT of the moneys received and disbursed during the year ended 30th June, 1908.

Works.	Revenue.	Expenditure.			Excess.	
		From Annual Votes.	Deduct Expenditure on Capital Works.	Net Expenditure on Maintenance and Management.	Revenue over Net Expenditure.	Expenditure over Revenue.
	1.	2.	3.	4.	5.	
	£	£	£	£	£	£
Coliban	38,920	14,972	5,207	9,765	29,155	
Geelong (sold 25th January, 1908)	8,632	2,293	448	1,845	6,787	
Other State Works—						
Goulburn	213	1,843	..	1,843	..	1,630
Loddon River	39	412	..	412	..	373
Kow Swamp	452	2,244	..	2,244	..	1,792
Broken River	6	231	..	231	..	225
North-West Lakes	302	255	..	255	47	
Lake Lonsdale	137	265	..	265	..	128
Lower Wimmera	..	120	..	120	..	120
Irrigation Districts	34,097	28,686	7,240	21,446	12,651	
Waterworks Districts—						
Long Lake	3,248	2,974	244	2,730	518	
Sea Lake	1,516	4,204	..	4,204	..	2,688
Improvements to Natural Watercourses, Pyramid Creek ..	..	387	..	387	..	387
Licences, Diversions, Pumping ..	548	..	..	..	548	
	88,110	58,886	13,139	45,747	49,706	7,343
Not Revenue Producing—						
River Gauging and Surveys ..	..	3,197	..	3,197	..	3,197
New Projects	..	760	..	760	..	760
Miscellaneous (Demonstration Plots)	..	285	..	285	..	285
Loan Works—						
Services on account of, defrayed from Votes ..	..	1,085	..	1,085	..	1,085
Totals	88,110	64,213	13,139	51,074	49,706	12,670

RECEIPTS AND DISBURSEMENTS from Coliban and Geelong Works for the year ended 30th June, 1908.

Works.	Total Debit to Capital at 30th June, 1908.	Expenditure from Consolidated Revenue.		Receipts paid into Treasury, year ended 30th June, 1908. (Receipts for preceding year from Coliban Works shown in brackets.)	Receipts over Expenditure on Maintenance and Management, showing as to Coliban Works percentage on total cost. (Same for preceding year shown in brackets.)
		Interest on Capital.	Net Maintenance and Management.		
	£	£	£	£	£
Coliban	1,239,524	41,346	9,765	38,920 (37,223)	29,155 = $2\frac{7}{20}$ per cent. (25,558 = $2\frac{1}{2}$ per cent.)
*Geelong	456,700	15,408	1,845	8,632	6,787

* Geelong Water Supply Works sold to Geelong Municipal Waterworks Trust as on 25th January, 1908.

Irrigation and Water Supply Districts.

Statement of Moneys received and disbursed from 1st May, 1906, to 30th June, 1908 ; and of Interest at 4 per cent. on Capital Debits (except Free Head Works) due at 30th June, 1908.

Receipts.

—	1st May to 30th June, 1906.	1st July, 1906, to 30th June, 1907.	1st July, 1907, to 30th June, 1908.				Grand Total at 30th June, 1908.
			Rates.	Sales of Water.	Interest and Miscellaneous.	Total.	
	£	£	£	£	£	£	£
Rodney	1,605	9,180	5,578	4,993	12	10,583	21,368
Campaspe	301	448	645	105	2	752	1,501
Bacchus Marsh	312	663	803	251	3	1,057	2,032
Kerang Centre—							
Benjeroop and Murrabit ..	146	588	251	177	3	431	1,165
Cohuna	1,992	7,166	3,982	3,270	61	7,313	16,471
Dry Lake	..	43	..	..	43	43	86
Gunbower West	70	534	334	327	2	663	1,267
Kerang East	82	1,000	372	307	2	681	1,763
Koondrook and Myall ..	233	549	484	663	16	1,163	1,945
Macorna North	54	1,525	778	753	5	1,536	3,115
Marquis Hill	171	699	323	260	5	588	1,458
South Kerang	52	137	78	54	1	133	322
Swan Hill	97	1,229	686	1,896	16	2,598	3,924
Wandella	352	1,129	332	725	5	1,062	2,543
Loddon Centre—							
East Boort	90	693	452	238	1	691	1,474
Leaghur and Meering ..	45	204	153	132	1	286	535
North Boort	41	266	172	102	..	274	581
Tragowel Plains	385	3,918	2,388	1,573	16	3,977	8,280
Twelve Mile	47	200	100	166	..	266	513
Miscellaneous	..	4	..	..	..	..	4
	6,075	30,175	17,911	15,992	194	34,097	70,347

Disbursements and Interest Due.

	Disbursements.				Interest Due.					Grand Total at 30th June, 1908.
	1st May to 30th June, 1906.	1st July, 1906, to 30th June, 1907.	1st July, 1907, to 30th June, 1908.	Total at 30th June, 1908.	Arrears at 1st May, 1906.	1st May to 30th June, 1906.	1st July, 1906, to 30th June, 1907.	1st July, 1907, to 30th June, 1908.	Total at 30th June, 1908.	
	£	£	£	£	£	£	£	£	£	£
Rodney	694	5,387	4,737	10,818	926	469	2,817	3,641	7,853	18,671
Campaspe	35	1,207	472	1,714	115	58	348	584	1,105	2,819
Bacchus Marsh ..	68	707	708	1,483	70	35	211	210	526	2,009
Kerang Centre—										
Benjeroop and Murrabit	181	206	120	507	221	38	227	237	723	1,230
Cohuna	816	6,241	5,932	12,989	2,534	378	2,269	2,540	7,721	20,710
Dry Lake	1	..	..	1	24	5	29	29	87	88
Gunbower West ..	122	135	193	450	305	39	236	240	820	1,270
Kerang East ..	224	468	353	1,045	273	47	281	286	887	1,932
Koondrook and Myall	159	549	1,271	1,979	108	22	133	153	416	2,395
Macorna North ..	456	905	538	1,899	348	69	416	427	1,260	3,159
Marquis Hill ..	239	486	381	1,106	496	36	216	216	964	2,070
South Kerang ..	19	42	63	124	21	4	25	25	75	199
Swan Hill	223	1,387	2,421	4,031	64	32	193	272	561	4,592
Wandella	197	384	491	1,072	128	65	388	389	970	2,042
Loddon Centre—										
East Boort	34	492	605	1,131	167	44	261	261	733	1,864
Leaghur and Meering	22	278	113	413	81	16	97	97	291	704
North Boort.. ..	15	393	338	746	58	13	82	82	235	981
Tragowel Plains ..	256	2,286	2,578	5,120	858	232	1,395	1,395	3,880	9,000
Twelve Mile ..	16	163	132	311	23	12	71	71	177	488
	3,777	21,716	21,446	46,939	6,820	1,614	9,695	11,155	29,284	76,223

Summary.

Total Receipts	£70,347	Balance Disbursements and Interest over Receipts at 30th June, 1907 ..	£7,372
Total Disbursements and Interest due	76,223	Excess of Receipts over Disbursements and Interest for 1907-8	1,496
Balance Disbursements and Interest over Receipts at 30th June, 1908 ..	£5,876	Balance 30th June, 1908	£5,876

Waterworks Districts.

Statement of Receipts from Rates made by Commission and of Disbursements from 1st July, 1906, to 30th June, 1908; and of interest at 4 per cent. on Capital Debits (except Free Head-works) for same period.

	Receipts.						Disbursements and Interest due, exclusive of Free Head-works.					
	From 1st July, 1906, to 30th June, 1907.	From 1st July, 1907, to 30th June, 1908.				Grand Total.	From 1st July, 1906, to 30th June, 1907.	From 1st July, 1907, to 30th June, 1908.			Grand Total.	Disbursements and Interest due over Receipts.
		Arrears of Rates.	Current Rates.	Interest.	Total.			Disbursements.	Interest.	Total.		
	£	£	£	£	£	£	£	£	£	£	£	£
Long Lake	1,809	610	2,304	64	2,978	4,787	2,276	2,730	626	3,356	5,632	845
Sea Lake	1,312	261	1,244	11	1,516	2,828	6,137	4,204	2,712	6,916	13,053	10,225

In the Long Lake District, in addition to the amount of £2,978 received during the year, a further sum of £270 was collected on account of rates made by the Victorian Water Supply Department. The total collected by the Commission on account of rates made by the latter Department now amounts to £2,618.

Works taken over by the Auditor-General, and transferred to Commission, as provided by Section 278 of Act.

Loddon United Waterworks Trust.

Financial Statement for Year ended 31st December, 1907.

Receipts.

1907.		£	s.	d.
Jan. 1	Balance from 1906 ..	141	5	6
Dec. 31	Rates Current £2,002 10 11			
	Rates Arrears 334 7 2			
		2,336	18	1
	Interest on rates	39	18	5
	Sales of water	150	8	0
	Dishonored cheque ..	9	8	0
	Refund of overpayment ..	0	9	3
	East Loddon interest ..	218	0	0
		2,896	7	3

Disbursements.

1907.		£	s.	d.
Dec. 31	Interest on loan	1,700	0	0
	Maintenance and repairs ..	435	12	0
	Wages, forage, &c. ..	156	11	9
	Stores, incidentals ..	71	3	4
	Gordon Shire refund ..	77	6	7
	Balance in bank	455	13	7
		2,896	7	3

Liabilities.

Loan — Redemption due 31st December, 1907	£848 17 5			
Balance	18,768 7 4			
		19,617	4	9
Interest		2,103	11	5
Overpaid rate		0	12	0
		21,721	8	2

Assets.

Works at cost	19,617	4	9
Rates arrears	241	19	1
Revenue account, balance in bank	455	13	7
General account balance (excluding £848 17s. 5d. redemption due) ..	1,406	10	9
	21,721	8	2

Loan Liability Account.

		£	s.	d.
Jan. 1	To amount transferred to Pyramid Hill Trust ..	437	0	0
	Balance	19,617	4	9
		20,054	4	9

		£	s.	d.
Jan. 1	By Treasurer of Victoria for amount advanced ..	20,054	4	9
		20,054	4	9

Statement of Rates.

		£	s.	d.
	Current rates	2,175	16	2
	Arrears from 1906 ..	402	9	0
	Rate overpaid	0	12	0
		2,578	17	2

		£	s.	d.
	Current rate collected ..	2,002	10	11
	Arrears	334	7	2
	Arrears to 1908	241	19	1
		2,578	17	2

Loan Expenditure.

Statement of Expenditure by the Commission for the year ended 30th June, 1908.

District.	Amount.		
	£	s.	d.
Coliban (includes £193 3s. 5d. from *Surplus Revenue Act* 1904)	3,214	19	10
Waterworks Districts—			
Long Lake	5,285	17	7
Sea Lake	14,344	13	2
Irrigation Districts—			
Benjeroop and Murrabit	6	9	7
Cohuna	5,706	6	4
Kerang East	13	16	0
Koondrook and Myall...	179	18	11
Macorna North	6	4	0
Rodney	2,398	19	7
South Kerang	13	18	0
Swan Hill	1,522	3	10
Irrigation Areas—			
Nyah	243	17	4
White Cliffs	707	15	4
Total	33,644	19	6

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, 1909.

Estimated Disbursements.

Salaries over £250 (to be apportioned to works at end of year)		£4,804	
Coliban Works		13,550	
Other State Works—			
Goulburn–Waranga	£2,000		
Kow Swamp	2,300		
Loddon River...	500		
North-West Lakes	330		
Broken River	400		
Lake Lonsdale	250		
Lower Wimmera	280		
		6,060	
Irrigation and Water Supply Districts, including irrigation areas		27,000	
Special Works—Kerang District, clearing Pyramid Creek		1,000	
Waterworks Districts		18,000	
General Expenditure (to be apportioned to works at end of year)		4,861	
River Gaugings and Surveys		2,600	
Special Surveys—Preparation of Register of Lands		2,000	
			£79,875

Estimated Receipts.

District or Works—			
Coliban		£36,500	
Irrigation and Water Supply Districts ...		29,800	
Waterworks Districts		22,500	
Sundry State Works		600	
Miscellaneous		600	
			£90,000

Estimate of the sums to be provided by the State to meet Interest on its Loan Expenditure for Works of Water Supply, both State Works of Water Supply and Works vested in Authorities other than the Board of Land and Works or the Commission ; and of the sums available from the revenues of the Commission, and from the moneys receivable from such Authorities, to provide such Interest for the year ending 30th June, 1909 :—

LOAN LIABILITY OF STATE FOR WORKS OF WATER SUPPLY AT 30TH JUNE, 1908, EXCLUSIVE OF LOAN LIABILITY IN RESPECT OF MELBOURNE WATER SUPPLY—

(*a*) Loan Expenditure debited as follows to—			
Free Head-works	£1,188,391		
Free Grants to Local Authorities ...	142,506		
Capital Written Off—			
Irrigation and Water Supply Trusts ...	569,318		
Waterworks Trusts, Local Governing Bodies, &c.	727,616		
		£2,627,831	
(*b*) Loan Expenditure debited as follows to—			
Waterworks Trusts and Local Governing Bodies	£1,614,012		
Works under construction by Board of Land and Works, &c.	411,789		
Commission's Works—			
Irrigation and Water Supply Districts ...	291,928		
Other Works vested in Commission ...	£1,307,163		
		£3,624,892	
(*c*) Raised but unexpended ... Loan Balance held by Treasury	£1,912		
(*c*) Raised but unexpended ... Held in Trust Fund by Treasury	6,720		
		8,632	
		6,261,355	
Deduct Payments to Redemption Fund		161,384	
Net Loan Liability		£6,099,971	

INTEREST PAYABLE ON LOANS—

(*a*) On Loan Expenditure borne entirely by the State—		
Free Head-works	£41,780	
Free Grants to Local Authorities... ...	5,323	
Capital Written Off –		
Irrigation and Water Supply Trusts ...	19,969	
Waterworks Trusts, Local Governing Bodies, &c.	24,920	
		£91,992
(*b*) On Loan Expenditure debited as follows :—		
Waterworks Trusts and Local Governing Bodies	£50,014	
Works under construction by Board of Land and Works	15,005	
Commission's Works—		
Irrigation and Water Supply Districts ...	10,620	
Other Works vested in Commission	43,719	
		£119,358
Total Interest charges on Loans (including Interest, £9,313 on account of Trust Funds upon which no Interest is paid by the Treasurer)		£211,350

NOTE.—The above amounts include Discount and Flotation Charges.

ESTIMATES OF SUMS AVAILABLE TO PROVIDE SUCH INTEREST FOR THE YEAR ENDING 30TH JUNE, 1909.

From the Revenues of the Commission		£10,125
From the Moneys receivable from—		
Waterworks Trusts, as estimated by Water Supply Department	£28,800	
Local Governing Bodies	19,000	
		47,800
Estimated total available		57,925
Balance to be provided by State		153,425
Total		£211,350

ELWOOD MEAD, Chairman.

G. GARSON, Commissioner.

WM. CATTANACH, Commissioner,

M. NALLY, Secretary.

Treasury Gardens, Melbourne,
29th September, 1908.

By Authority: J. KEMP, Government Printer, Melbourne.