

1938.  

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VICTORIA.

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STATE RIVERS AND WATER SUPPLY COMMISSION.

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THIRTY-THIRD  
  
ANNUAL REPORT,  
  
1937-38.

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

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# STATE RIVERS AND WATER SUPPLY COMMISSION.

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## ANNUAL REPORT, 1937-38.

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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 1937-38, and Estimates for the ensuing year.

The personnel of the Commission is as follows :—

**Mr. L. R. East**, M.C.E., M.Inst.C.E., M.Am.Soc.C.E., M.I.E., Aust. ;  
Chairman.

**Mr. W. A. Robertson**, M.C.E., M.Inst.C.E., M.I.E., Aust. ; Commissioner

**Mr. H. Hanslow**, Commissioner.

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# TABLE OF CONTENTS.

| SUBJECT.  |  | PAGE  |
|---|--|-------|
| <b>Part I.</b>  |  |       |
| Summary of Report .. .. .   |  | 4-6   |
| <b>Part II.</b>   |  |       |
| WORKS (Reports of Divisional Engineers)—  |  |       |
| Goulburn and Gippsland .. .. .  |  | 7-10  |
| Loddon .. .. .  |  | 10-14 |
| Wimmera-Mallee .. .. .  |  | 15-18 |
| Main Urban Supplies .. .. .   |  | 19-22 |
| Investigations and Designs .. .. .  |  | 23-25 |
| Murray and Major Works .. .. .  |  | 26-32 |
| Rivers and Reclamation .. .. .  |  | 33-37 |
| River Gauging Statement .. .. .   |  | 38    |
| Total Storages in State .. .. .   |  | 39    |
| Waterworks Trusts and Sewerage Authorities .. .. .  |  | 40-46 |
| Research and Testing .. .. .  |  | 47-48 |
| Land Valuations .. .. .   |  | 49    |
| GENERAL—  |  |       |
| Area of lands under Irrigated Culture .. .. .   |  | 50    |
| Progress in Irrigation Districts .. .. .  |  | 51    |
| <b>Part III.</b>  |  |       |
| ADMINISTRATION—   |  |       |
| Commission .. .. .  |  | 52    |
| Legislation .. .. .   |  | 52-54 |
| Advisory Boards .. .. .   |  | 54    |
| Engineers of Water Supply Examination .. .. .   |  | 54    |
| Staff .. .. .   |  | 54-55 |
| New Districts .. .. .   |  | 55    |
| Statement of Rates and Charges with Valuations of Lands and Populations in Districts .. .. .  |  | 56-61 |
| FINANCE—  |  |       |
| Summary of Annual Receipts, Disbursements and Estimates .. .. .   |  | 62-68 |
| District Receipts and Disbursements for 1937-38 .. .. .   |  | 68-78 |
| Expenditure for 1937-38—  |  |       |
| Total Capital .. .. .   |  | 79-80 |
| Contracts and Direct Labour .. .. .   |  | 81    |
| Water Supply Works Depreciation Account .. .. .   |  | 82-84 |
| Statement of Revenue showing Arrears .. .. .  |  | 85    |
| Loan Capital Liability at 30th June, 1938—  |  |       |
| A.—Free Headworks .. .. .   |  | 86    |
| B.—Capital Works and Charges not apportionable to Districts .. .. .   |  | 86    |
| C.—Headworks .. .. .  |  | 87    |
| D.—Irrigation and Water Supply Districts .. .. .  |  | 88    |
| E.—Urban Divisions .. .. .  |  | 89    |
| F.—Waterworks Districts .. .. .   |  | 89    |
| G.—Urban Districts .. .. .  |  | 90-91 |
| H.—Flood Protection Districts .. .. .   |  | 91    |
| I.—Waterworks Trusts and Local Governing Bodies .. .. .   |  | 92    |
| Summary Statement of Loan Liability as at 30th June, 1938 .. .. .   |  | 93    |
| Estimates for 1938-39 .. .. .   |  | 94    |
| APPENDICES—   |  |       |
| A—Orders in Council relating to—  |  |       |
| (1) adjustment, between the various Districts and the State, of liability for the cost of works controlled by the Commission, and (2) the continuation of water supply to districts where the revenue to the Commission is insufficient to cover maintenance and management expenses. |  |       |
| B—Statement showing Unemployment Relief Grants made to Commission from 1st June, 1930, to 30th June, 1938.  |  |       |
| C—Statements giving general particulars relating to Districts controlled by Commission.   |  |       |
| D—Water Supply Statistics.  |  |       |
| Map of Coliban System of Waterworks.  |  |       |

# ANNUAL REPORT

OF

## THE STATE RIVERS AND WATER SUPPLY COMMISSION

FOR

### YEAR ENDED 30TH JUNE, 1938.

#### PART I.—SUMMARY OF REPORT.

##### GENERAL.

1. The State Rivers and Water Supply Commission was constituted on 1st May, 1906, under the provisions of the "Water Act 1905."
2. This Report covers the period 1st July, 1937, to 30th June, 1938.
3. Following the reports of the Royal Commission on Water Supply, an Act No. 4513 to amend the "Water Act 1928" (No. 3801) was passed during the year .. .. . Page 52-54
4. The quinquennial valuation of rateable lands and tenements in rural districts subject to its jurisdiction has been carried out by the Commission .. .. . 49

##### WATER SUPPLY.

5. The total capacity of water storages controlled by the Commission is 1,903,450 acre feet .. .. . 39
6. The total net annual valuation of properties within irrigation and water supply and waterworks districts and the urban districts and divisions thereof, including Coliban System, amounted to £3,222,397, indicating a total capital value of over £60,000,000 .. .. . 60
7. The population dependent upon the works of the Commission for domestic supplies was 224,077 .. .. . 60
8. The total area of lands supplied with water for domestic and stock purposes by channels, tanks and bores was 15,065,000 acres .. .. . 36
9. The total area irrigated during the year was a record one of 590,112 acres, the largest area previously irrigated in any one year being 566,577 in 1929-30 .. .. . 50
10. The quantity of water delivered to water users in irrigation districts was a record one of 672,782 acre feet, of which 55,944 acre feet were supplied by pumping; the previous record quantity delivered was 651,400 acre feet in 1929-30 .. .. . 36

##### IRRIGATION WORKS.

11. The construction of the main canal with a capacity of 1,000 cusecs and the main channel with a capacity of 800 cusecs, to carry water for irrigation of lands in the Murray Valley District, has been continued, some 1,250,000 cubic yards of earth having been excavated to date .. .. . 29
12. The first stage of the conversion of the Merbein pumping plant to electric drive has been completed, and work on the second stage is well advanced .. .. . 15
13. In co-operation with the Department of Agriculture and the Commonwealth Council for Scientific and Industrial Research, further investigations have been made into the seepage and salt problems of the Kerang District .. .. . 12-14

##### URBAN SUPPLY WORKS.

14. There are at present 109 towns whose reticulated water supply systems are directly controlled by the Commission .. .. . Appendix D
15. Under the £200,000 scheme for improving the water supply to the Coliban District, 43½ miles of channels have been concrete lined, and some 40 miles of water mains have been laid in connexion with the remodelling of the reticulation systems at Bendigo and Castlemaine .. .. . 19-20
16. Work on the enlargement of the Malmsbury Reservoir on the Coliban River was commenced .. .. . 31

|  | Page    |
|--|---------|
| 17. The Government has approved of recommendations of the Commission for providing increased storage at the headworks of the Coliban System, involving the construction of four new minor storages, and the construction of a new storage of approximately 14,000 acre feet capacity on the Coliban River near Lauriston .. .. . | 20      |
| 18. In the Otway District, considerable progress has been made with the works for the supply of water to Camperdown, Cobden, Terang, and Warrnambool from the Otway Ranges .. .. .   | 22 & 24 |
| 19. Works have been continued in connexion with the extension of the Mornington Peninsula District to serve the bayside towns between Dromana and Portsea .. .. .  | 21 & 25 |
| 20. A record quantity of 583,820,000 gallons of water was supplied to the City of Geelong from the Commission's Bellarine Peninsula System .. .. .   | 22      |

#### WATERWORKS DISTRICTS.

|   |       |
|---|-------|
| 21. The Wimmera-Mallee domestic and stock water supply system is the most extensive of its kind in any part of the World, the area supplied by 6,332 miles of Commission's channels being approximately 11,000 square miles .. .. . | 16    |
| 22. A proposal for the enlargement of the Taylor's Lake Outlet Channel in the Wimmera-Mallee System is being investigated by the Public Works Committee .. .. .   | 16    |
| 23. The increasing costs of clearing drift sand from channels in the Wimmera-Mallee System make imperative the institution of some measure of control of cultivation .. .. .  | 16    |
| 24. To provide additional storage for the Wimmera-Mallee System it is proposed to make investigations as to the possibility of further developing the Glenelg River catchment .. .. .   | 16    |
| 25. Works to supply water for domestic and stock requirements to about 30 square miles of high lands west of Pimpinio, within the Western Wimmera District, are under construction .. .. .  | 17    |
| 26. Works are being carried out to supply water to approximately 190 square miles of land in the Normanville District .. .. .   | 17-18 |

#### MAJOR WORKS.

|  |       |
|--|-------|
| 27. Considerable progress has been made with the construction of the Yarrawonga Weir which will divert from the River Murray, water released from Hume Reservoir .. .. . | 27-28 |
|--|-------|

#### DRAINAGE WORKS.

|  |    |
|--|----|
| 28. Works carried out by the Commission reduced flooding in the Kooweerup, Cardinia, and Carrum Districts in October, 1937 .. .. .   | 33 |
| 29. The estimated total cost of drainage schemes prepared for Irrigation Districts is £1,285,465, of which £974,335 had been expended at 30th June, 1938 .. .. .                           | 55 |
| 30. The Cohuna, Kerang East, Merbein, Red Cliffs, Rochester, Rodney, Shepparton, Tongala-Stanhope, and Werribee Drainage Districts have been constituted .. .. .                           | 55 |
| 31. The drainage works undertaken by the Commission for the First Mildura Irrigation Trust have been completed and handed over to the Trust .. .. .  | 15 |
| 32. Proposals for drainage improvement works in the Woorinen area of the Swan Hill District were agreed to by the landholders concerned and the preliminary works were put in hand .. .. . | 14 |

#### RIVERS.

|   |    |
|---|----|
| 33. Grants made on a contributory basis from the Rivers and Streams Fund now total 365, involving £59,200, the number recommended to and approved by the Honorable the Commissioner of Public Works during the year being 54 grants, totalling £8,788 .. .. . | 34 |
| 34. Works for the improvement of the Latrobe and Snowy Rivers were put in hand and are now well advanced; the estimated costs of these schemes are £46,000 and £23,000 respectively .. .. .   | 34 |
| 35. A further amount of £5,000 was expended on the systematic snagging of rivers of the State; bringing the total amount expended during the last three years to £51,500 .. .. .  | 34 |
| 36. To make a comprehensive investigation into methods of river control in New Zealand, Mr. H. G. Strom, B.C.E., A.M.I.E.Aust., Divisional Engineer, visited that country during the year .. .. .   | 34 |
| 37. A Committee, on which the Commission was represented by Mr. Strom, was appointed by the Government and presented a report drawing attention to the seriousness of the soil erosion problem .. .. .  | 36 |
| 38. As a result of the abnormally low rainfall, the discharge of streams was generally far below the average, and in some instances the minimum record was established .. .. .  | 37 |
| 39. To record the flow of the more important streams throughout the State, the Commission maintains and operates 50 gauging stations, as shown on a statement setting out all streams gauged and the periods of gauging .. .. .                               | 38 |

**WATERWORKS TRUSTS AND SEWERAGE AUTHORITIES.**

40. Many important works were carried out during the year by the 116 Waterworks Trusts and 17 Local Governing Bodies which operate under supervision of the Commission .. 40-41
41. The Total Capital Liability to the State of these Trusts and Bodies as at 30th June, 1938, was £1,438,060 17s. 7d. and £567,698 18s. 3d. respectively .. 44
42. There are now 22 authorities constituted to install and control sewerage systems in country towns. Following the announcement by the Government of a liberal basis for granting financial assistance for the sewerage of smaller country towns, preliminary proposals for schemes in 33 towns have been submitted to the Commission for consideration .. 45 & 46

**IRRIGATION PRODUCTION.**

43. A record quantity of 56,750 tons of dried fruits was produced in Victoria, equal to approximately 62 per cent. of the total Commonwealth production for 1937-38 season .. 51
44. The Australian production of canned fruits reached the record figure of 3,030,000 cases, Victoria's share being 2,218,000 cases, of which 1,438,000 cases were processed at the Shepparton, Ardmona, and Kyabram Canneries .. 51
45. In the Standard Herd Test conducted for 1937-38, dairy herds grazed on irrigated pastures again obtained prominent positions .. 51

**FINANCE.**

46. The liability for the cost of works controlled by the Commission has been adjusted, in accordance with Act No. 4513, between the various Districts and the State .. 63 and Appendix A.
47. The net Loan Liability of the State for works of water supply and drainage at 30th June, 1938, was £25,270,314 .. 93
48. The total Interest Charges for 1937-38, including £101,686 exchange on overseas payment, on this liability amounted to £1,152,694 .. 66
49. The total Receipts for the financial year 1937-38 amounted to £560,241, the largest amount collected in any one year, and an increase of £10,456 on the previous year's receipts .. 68
50. The total Vote Expenditure, including Special Appropriations, was £360,723, and after transferring from Revenue an amount of £4,391 to Depreciation Fund and State Loans Repayment Fund, a sum of £195,127 was available to meet interest charges .. 68
51. In addition, Waterworks Trusts and Local Water Authorities paid to the Treasury as interest on loans the sum of £81,742 .. 66
52. After deducting the sum of £13,424 debited by the Treasury for pensions, the amount available to meet interest and exchange was £263,445, or 19s. 11d. per cent. on total Capital Liability, leaving £889,249 to be borne by the Treasury as the gross deficiency on water supply undertakings .. 66
53. Of this amount of £889,249 borne by the Treasury, £164,760 represented interest and exchange on Free Headworks, Capital Works not apportionable to Districts and Capital written off 39 years ago, and £373,755 represented interest and exchange on headworks and distributary works not debitable to Districts, making a total of £538,515 interest and exchange on the cost of works transferred to the "Capital Borne by the State Account" .. 66
54. The cost of general services of a National Character and other charges not debited to the Districts was £17,875. The loss resulting from operating certain Districts chargeable to the "Revenue Expenditure Chargeable to the State Account" was £10,891. .. 66
55. The total expenditure during the year on water distribution, maintenance of water supply and drainage works, and administration, was £416,554, of which £357,373 was provided from Vote Funds and £55,831 from Unemployment Relief Funds .. 68
56. The total expenditure on capital works was £712,156, of which £353,606 was from Loan Funds and £358,550 from Unemployment Relief Funds .. 79-80
57. A sum of £10,415 was paid into Consolidated Revenue as depreciation for the year 1937-38, of which sum an amount of £4,000 was transferred, by direction of the Treasurer, to the credit of the Water Supply Works Depreciation Fund and invested by the Treasury at 3 per cent. per annum .. 82 & 84
58. A statement showing the equity of various Districts in the Water Supply Works Depreciation Fund is included .. 83-84
59. The arrears of water rates and charges outstanding at 30th June, 1938, amounted to £787,353 .. 85
60. The amount included in the Budget Estimate for 1938-39 for Vote Expenditure on works and services under the control of this Commission is £358,120. This sum, however, has been augmented by funds from other sources .. 65 & 94
61. A total amount of £2,380,408 has been made available to the Commission from Unemployment Relief Funds since 1st June, 1930. Of this amount £2,216,802 was expended at 30th June, 1938. The total number of men to whom employment has been provided is 37,541 .. Appendix B.

**APPENDICES.**

62. Attached to this Report are copies of the Orders in Council relating to Capital Adjustment and Districts which will not produce sufficient revenue to cover the expense of their maintenance and management, statement showing Unemployment Relief Grants made to Commission from 1st June, 1930, to 30th June, 1938, statements giving information of a general nature relating to the operations of the Commission, statement of water supply statistics, and a map of the Coliban System of Waterworks ..

## PART II.

## WORKS CARRIED ON OR COMPLETED DURING THE YEAR.

## REPORTS OF DIVISIONAL ENGINEERS.

## GOULBURN AND GIPPSLAND DIVISION.

(*E. P. Kendall, B.C.E., A.M.I.E. Aust., Divisional Engineer.*)

The Districts of the Goulburn and Gippsland Division comprise the Rodney, Shepparton, Katandra, North Shepparton, South Shepparton, Tongala, Stanhope, Deakin, Echuca North, and Rochester Irrigation and Water Supply Districts supplied from the Goulburn Irrigation System, the storages of which are the Eildon Reservoir, Waranga Reservoir, and Goulburn Weir, with a total capacity of 660,100 acre feet; the Campaspe Irrigation and Water Supply District supplied from the Campaspe River; the Maffra-Sale Irrigation and Water Supply District supplied from the Glenmaggie Weir on the Macalister River; the Bacchus Marsh and Werribee Irrigation and Water Supply Districts, the headworks of which are the Pykes Creek Reservoir, on a tributary of the Werribee River above Bacchus Marsh, and the Melton Reservoir on the Werribee River between Bacchus Marsh and Werribee; and, in addition, the Werribee Waterworks District and the Stanhope, Corop, Lockington, Heyfield, and Bacchus Marsh Urban Divisions.

The Rodney, Shepparton, Tongala-Stanhope, Rochester, and Werribee Drainage Districts, and the Loch Garry, Kanyapella, and Echuca (High-street) Flood Protection Districts, are also controlled by this Division.

In the following pages a description is given of the principal works carried out in these Districts during the year.

## TATURA CENTRE.

The **Rodney Irrigation and Water Supply District** and the **Rodney Drainage District** are administered from the Commission's Office at Tatura.

The absence of early rains and the exceptionally dry conditions during the latter half of the season resulted in an abnormal demand for water for irrigation, the total quantity delivered to users amounting to 89,498 acre feet, which is only slightly lower than the record delivery for the year 1929-30.

This Irrigation District is one of the oldest in the State and many original wooden structures have reached the stage when ordinary maintenance and repair work would no longer make them effective. Lack of sufficient Vote Funds to carry out the required replacement works has for some time caused great difficulty in the satisfactory regulation of water supplies, but, with Unemployment Relief Funds provided by the Government for the reconditioning of channels and structures, many very necessary improvements have been made during the year. In addition to the reconditioning of part of the distributary system and the provision of modern outlet facilities, four new regulators have been constructed in the Cussen Main Channel, and thirty old timber road and occupation bridges over channels were renewed in reinforced concrete. The Commission, in accordance with the policy of the Country Roads Board to widen bridges on Main Roads, also constructed fourteen reinforced concrete road bridges to the desired width, the cost being partly borne by the Country Roads Board.

The **Rodney Drainage District**, which was constituted during the year, comprises an area of 32,668 acres. The works completed to date consist of the Rodney Main Outfall Drain, the Main Wyuna Drain, and the Randall, Kelly, and Settlers Drains, the total length of completed drainage channels being 57 miles; and the Ardinona, Taripta, Rodney Main, Lancaster and Wyuna Main Extension Drains are under construction. The dry weather experienced since the completion of portion of the drainage system has not afforded an opportunity to show the real value of these works, but during the isolated storms which have occurred the system has functioned admirably.

## SHEPPARTON CENTRE.

The Districts controlled from this centre comprise the **Shepparton, Katandra, North Shepparton, and South Shepparton Irrigation Districts**, the **Loch Garry Flood Protection District**, and the **Shepparton Drainage District**.

The past season was a most successful one from the irrigation aspect, and, although the requirements were heavy on account of the abnormally dry conditions, water was available to meet all demands.

The irrigation supply distributary system was extended during the year by the construction of channels, pipe line, and an open concrete flume, the total length being  $2\frac{1}{2}$  miles. With Unemployment Relief Funds many improvements to individual services were effected by the lining of channels with concrete, and, in the Shepparton fruit area, several small channels totalling about 1 mile in length were re-lined with concrete. In addition, essential maintenance works which had been long delayed on account of the lack of funds were carried out, including the reconditioning of channels and structures, the re-painting of bridge approach fencing and general repairs to outlets. In the Kaarimba Loop Channel, five checks were enlarged to give increased carrying capacity and resulted in greatly improved deliveries of supplies to irrigators.

The **Shepparton Drainage District** with an area of 70,050 acres, containing 187 miles of drainage channels, was constituted during the year. Construction work is still in progress, and 30 miles of main and minor drains were remodelled and enlarged to cope with the additional drainage requirements of the area served. A definite scheme of maintenance has been instituted, and a very effective drainage system is nearing completion. Although the season was dry, there has been a distinct improvement in those small areas affected with seepage.

#### TONGALA CENTRE.

From this centre the **Tongala, Stanhope, Deakin**, and half of the **Echuca North Irrigation Districts**, as well as the **Tongala-Stanhope Drainage District**, the **Kanyapella Flood Protection District**, and the **Corop and Stanhope Urban Divisions**, are controlled.

In the season under review, the demand for irrigation supplies was exceptionally heavy and resulted in the record aggregate delivery of 67,252 acre feet, this quantity being slightly in excess of the previous record supplied in 1929-30 season.

During the year no further extensions to the irrigation distributary system were made, and the limited Vote Funds provided permitted the carrying out of essential maintenance works only.

The **Tongala-Stanhope Drainage District**, which was constituted during the year, has an area of 83,948 acres, the largest drainage district in the State. The extensive network of drainage channels, totalling 244 miles, which tap the majority of the holdings in the District, requires a great amount of maintenance. A dragline excavator has been engaged on cleaning silt and cobungi from the Deakin Main Drain for the first time, and a gang of four men has been employed on other maintenance works.

#### ROCHESTER CENTRE.

The Districts controlled from this centre are the **Rochester, Campaspe**, and part of the **Echuca North Irrigation and Water Supply Districts**, the **Rochester Drainage District**, the **Echuca (High-street) Flood Protection District**, and the **Lockington Urban Division**.

During the past season, which was a particularly dry one, an exceptional demand for water was received and satisfactorily supplied. In the **Rochester District** 86,347 acre feet of water were delivered. This quantity constituted a record, being 16 per cent. in excess of the previous largest delivery in 1929-30.

No further channel extensions were made in the Rochester District, and essential maintenance works only were carried out.

In the **Campaspe District** similar dry weather conditions prevailed, water supplies being provided from the Campaspe River by means of the Campaspe Weir. Repairs carried out during the previous year prevented leakage through the weir and made the maximum supply available for irrigation. Since December, 1936, this weir has been subject to overflow on one occasion only. Timber bridges over 40 years old were replaced with concrete pipe structures.

The **Rochester Drainage District** was constituted during the year. This District serves an area of 42,226 acres, representing the major portion of the high class land in the irrigation district. During the year  $7\frac{1}{2}$  miles of drainage channels were constructed, making a total of 115 miles serving the Bamawm, Nanneella, and Echuca West areas. Maintenance work has been adequate to keep the drains in good condition. The deep drainage system provided in the citrus area has proved of particular benefit, and trees are showing a marked improvement as a result of the consequent lowering of ground water levels.



## MAFFRA CENTRE.

From the Commission's Office at Maffra, the **Maffra-Sale Irrigation and Water Supply District** and the **Heyfield Urban Division** are administered.

The dry season experienced provided an excellent example of the benefits of irrigation in the Maffra-Sale Irrigation District, an uninterrupted return being obtained from irrigation blocks while dry areas in the locality had great difficulty in carrying their stock over the lean period. Although portions of the channel system were taxed to their limit, there was no delay in fulfilling all requirements, a record quantity of 21,353 acre feet of water being delivered.

During the year,  $2\frac{1}{4}$  miles of supply channels were constructed. On the Main Northern Channel 5 chains of concrete core wall were constructed to prevent seepage, and the Swan Estate Channel was lined with concrete. Re-subdivision of a number of closer settlement holdings necessitated the construction of additional water supply facilities.

With the object of enabling more efficient control of the channel system during the periods of heavy rainfall frequently experienced in this District, certain works consisting of one floodway, one spillway, and one bywash were constructed, and screw gates were provided on three existing structures.

The installation of a drainage system is proceeding, the total length of channels constructed being 89 miles, and it is proposed to constitute the Maffra-Sale Drainage District in the next financial year. New drains constructed during the period under review aggregated 2 miles in length, including  $\frac{1}{4}$  mile of intercepting drain which is successfully coping with seepage from the Heyfield Urban Supply Channel. Silt and cobungi have been removed from the drains by means of a dragline excavator, which proved of inestimable value. This work was supplemented by a small gang of men, and the regular cutting of weeds has resulted in their growth being materially checked.

## BACCHUS MARSH AND WERRIBEE DISTRICTS.

The **Bacchus Marsh Irrigation and Water Supply District** and the **Bacchus Marsh Urban Division** are controlled from Bacchus Marsh, and the **Werribee Irrigation and Water Supply District**, the **Werribee Waterworks District**, and the **Werribee Drainage District** are administered from Werribee.

Owing to the limited supplies in the Pykes Creek and Melton Storages at the commencement of the irrigation season, it was necessary to impose restrictions upon irrigators.

Good rains in October, 1937, replenished the storages and enabled restrictions to be lifted until March, 1938, when, following a dry season of peak demands, it was again necessary to limit supplies, and restrictions were imposed after consultation with local advisory boards, in order to retain some reserve of water in the storages.

The raising of the Werribee Diversion Weir and the concrete lining of the tunnel from Werribee River to Pykes Creek, which works will enable additional supplies to be conserved, were approved, Unemployment Relief Funds being provided by the Government; and investigations are proceeding into the possibility of providing for additional storages to supply these districts.

In the **Bacchus Marsh Irrigation District**, the total quantity of water supplied for irrigation during the season was 5,121 acre feet.

Owing to the erosion of the banks of the Lerderberg River it was necessary to construct further protective works, consisting of one large wire mesh and stone groyne. One mile of protective works, previously constructed by the Commission, is still in excellent condition.

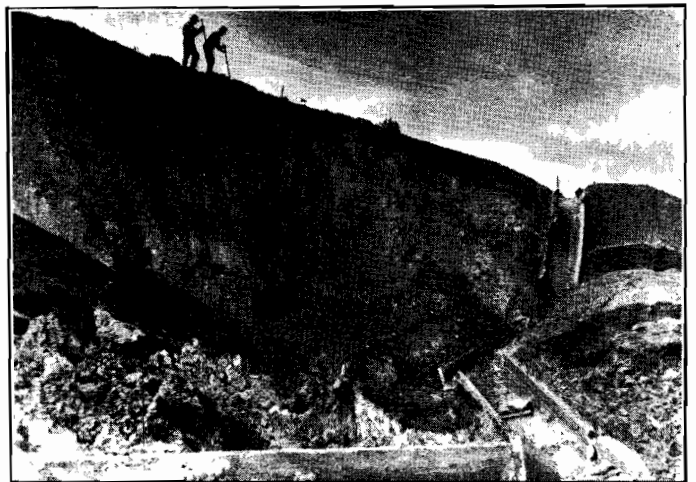
At Pykes Creek Reservoir, the *Pinus Insignis* trees planted in past years are making excellent growth and are ready for thinning out. Two thousand additional seedlings were planted during the year.

On the Gorge to Gorge Channel, which traverses treacherous and steep country between the Werribee Gorge and Korkuperrimull Creek, a landslip occurred which carried away portion of the concrete lined channel. The damaged section of the channel was replaced with 260 feet of reinforced concrete box channel and the top slabbed. To strengthen the timber and iron flumes on this channel at Kelly's and Dugdale's Gullies, cement lining was carried out for a distance of 270 feet.



Landslide which damaged Gorge to Gorge Channel.

Showing damage to Gorge to Gorge Concrete Channel.



At Grant's Gully Service Basin, from which water is supplied to the Bacchus Marsh township, a chlorination plant has been erected and used for the treatment of water.

The construction of water measuring wheels for use in all districts controlled by the Commission is still being carried out at the Bacchus Marsh workshops, 62 large and 69 small wheels having been made during the year.

In the **Werribee Irrigation District**, 12,939 acre feet of water were delivered to meet the requirements of irrigators. Some 8 miles of irrigation channels were cleaned out and repaired during the year and general maintenance work, as far as funds available permitted, was carried out.

The usual service of water for domestic and stock purposes was given through the 24 miles of channels in the **Werribee Waterworks District**.

An area of 10,496 acres has been constituted the **Werribee Drainage District**. This District is drained by 42 miles of channels, of which 19 miles were cleaned out during the year. In addition, new drains totalling 40 chains in length and three pipe crossings were constructed.

### LODDON DIVISION.

(*F. Rogerson, A.M.I.E.Aust., Divisional Engineer.*)

The Districts controlled from the Loddon Division include the Tragowel Plains, Dingee, Calivil, and Boort Irrigation and Water Supply Districts supplied from the Goulburn System, with supplementary supplies from the Loddon River regulated by the Laanecoorie Weir and other diversion weirs; the Cohuna, Leitchville, Kerang, Koondrook, Third Lake, Swan Hill, Mystic Park, and Fish Point Irrigation and Water Supply Districts supplied by gravitation

from the River Murray, the headworks being the weir and lock at Torrumbarry some 20 miles (by road) downstream from Echuca; the Nyah Irrigation and Water Supply District, which is supplied with water pumped direct from the River Murray at Nyah; the Tresco Irrigation and Water Supply District, supplied by pumping from Lake Boga; the Kerang North-West Lakes Waterworks District; the Loddon United Waterworks Trust District; and the Urban Divisions of Dingee, Cohuna, Leitchville and Murrabit; and the Urban Districts of Pyramid Hill, Mitiamo, Koondrook, Nyah, Nyah West and Lake Boga, as well as the recently constituted Cohuna and Kerang East Drainage Districts.

An outline of the most important works carried out in these Districts during the year is set out in the ensuing pages.

#### PYRAMID HILL CENTRE.

The Districts administered from this centre are the **Tragowel Plains, Dingee and Calivil Irrigation and Water Supply Districts**, the **Loddon United Waterworks Trust District**, the **Pyramid Hill** and **Mitiamo Urban Districts**, and the **Dingee Urban Division**.

The rainfall in this area during the year was only 9 inches as against an average of  $14\frac{1}{2}$  inches over a period of 44 years, and, as over 50 per cent. of the total fall was experienced in the first four months of the season, the Autumn and early Winter were particularly dry, resulting in serious losses to those landholders without fodder reserves. The farmers, however, who followed sound irrigation methods, had no difficulty in maintaining their stock. One landholder on his 144 acres carried 1,200 sheep in addition to 40 cows, 40 head of other cattle, and 12 horses, while several small property owners supplied pasture hay to properties from ten to twenty times their size.

The demand for water remained fairly steady throughout the year, and the total water delivered for irrigation amounted to 58,833 acre feet, compared with 45,175 acre feet for the previous year. All water right commitments were met and, in the Dingee District, excess sales amounted to 28·5 per cent., and in the Tragowel Plains District to 35 per cent. of the water rights.

During the latter part of the season, landowners in the Terricks area constructed, under the Commission's guidance, approximately 14 miles of private channels, which enabled their dams to be filled from the Mitiamo Urban Channel.

With the exception of lucerne, practically all types of crops watered showed increased plantings. The area under pasture, particularly sub-clover and Wimmera rye-grass, is steadily increasing, and tobacco seedlings also are now being successfully grown in the vicinity of Pyramid Hill.

With Unemployment Relief Funds made available by the Government, six checks and eleven timber bridges were replaced by concrete structures, and the reconditioning of thirteen meter outlets was completed during the year.

The drainage works in progress in the northern portion of the Tragowel Plains District were carried on another stage, and it is anticipated that the system will be completed during the next season.

Particular attention has been paid to the eradication of cobungi growths in the channels. The method of attack adopted has been to make cuttings under water at least twice, and possibly three times, during the months of January to April, and, to date, very satisfactory results have been obtained.

#### BOORT CENTRE.

In the **Boort Irrigation and Water Supply District**, the demand for water remained steady throughout the season, deliveries reaching the large total of 15,371 acre feet as compared with 11,831 acre feet in the previous season.

The increase in the areas under lucerne and sown pastures has been maintained.

To encourage the adoption of improved irrigation methods, the Commission again donated a prize of water to the value of £15, to the winners of various sections of the annual pasture and fodder crop competitions conducted by the Boort Agricultural and Pastoral Society. This competition created considerable interest, and beneficial results through the District are anticipated.

## COHUNA CENTRE.

The Districts administered from this centre are **Cohuna** and **Leitchville Irrigation and Water Supply Districts**, and the **Urban Divisions of Cohuna and Leitchville**, as well as the recently constituted **Cohuna Drainage District**.

The rainfall in the **Cohuna** and **Leitchville Irrigation Districts** during the year was less than 9 inches, as against the average of approximately 15 inches, and, on account of the dry conditions which prevailed, irrigation commenced early in August, 1937, and continued until the end of May, 1938, resulting in the record delivery of 62,642 acre feet to lands within the Districts. In addition, 16,026 acre feet of water were diverted from the Gunbower, Taylors and Pyramid Creeks by landholders outside the constituted districts.

The treatment of salt affected lands is one of the problems in the Cohuna and Leitchville Districts and, for some years past, the Commission has been supplying water free of charge to landholders for the purpose of leaching salt from certain allotments where it is considered benefit would accrue and the adjoining properties would not be injuriously affected. Many holdings have been considerably improved, and definite evidence of the benefits of such free water assisting in the reclamation of unproductive land is available.

Improvement works on the Barr Creek, the main drainage outfall for these areas, were well advanced during the year, and, to the present, 30 miles of this creek have been regraded, giving full outfall facilities to the Cohuna area. The reconditioning of the drainage channels has been continued with further Unemployment Relief Funds made available from time to time, and this year a length of 17 miles was completed by mechanical excavators, thereby further extending the area receiving drainage benefits.

The **Cohuna Drainage District**, comprising 61,893 acres served by 125 miles of drainage channels, has been constituted.

In the Cohuna Urban Division, some 91 chains of new mains were laid and the reticulation system was reconditioned.

## KERANG CENTRE.

The **Irrigation and Water Supply Districts** of **Kerang**, **Koondrook** and **Third Lake**, the **Urban District of Koondrook** and the **Urban Division of Murrabit**, and the recently constituted **Kerang East Drainage District** are controlled from this centre.

The dry conditions which prevailed necessitated the commencement of watering at the end of July, 1937, continuing without interruption until the end of the following May. A total record quantity of 76,000 acre feet of water was delivered to users during this period.

By arrangement with the Country Roads Board, six channel culverts on the Main Highways were replaced with concrete structures, advantage being taken during the reconstruction to extend the road widths to conform to modern highway requirements.

Unemployment Relief Funds made available by the Government enabled considerable improvements to the supply system to be completed. These works consisted mainly of the replacement of old timber bridges and checks with concrete structures, and the installation of meter outlets.

The levee banks along the Lower Loddon River between Benjeroop Township and the Little Murray River were made safe by the construction of 2 miles of new banks and the strengthening of some  $2\frac{3}{4}$  miles of existing banks. This work, as well as the construction of a connecting channel in the Wandella section of the Kerang District, was carried out under Unemployment Relief conditions.

During the year quarters for two water bailiffs were erected on sites well suited for the handling of the respective sections, and greatly facilitated the control of supplies in the districts concerned.

In co-operation with the Department of Agriculture and the Commonwealth Council for Scientific and Industrial Research, investigations into the seepage and salt problems of the Kerang District have been further advanced. These investigations are controlled by a Committee composed of the following members, viz.:—Messrs. A. V. Lyon, M.Agr.Sc., (Commonwealth Research Station, Merbein), (Chairman); F. Penman, M.Sc., A.A.C.I., Assistant Research Chemist, and L. C. Bartels, B.Agr.Sc., Senior Agrostologist (Department of Agriculture); F. Rogerson, A.M.I.E., Aust., Divisional Engineer, and H. B. Lincoln, A.M.I.E., Aust., District Engineer, (State Rivers and Water Supply Commission); and W. R. Scriven (Kerang Seepage Committee).

At a meeting of this Committee, Mr. Penman presented, on behalf of the Division of Soils and the Department of Agriculture, a report on the soil survey of part of the Kerang Irrigation District, with models depicting the principal soil types and a soil map of the area. This report forms a valuable contribution towards the solution of the problems of the District. Mr. Penman's conclusions as set out in the report were:—

#### FACTORS IN THE DEVELOPMENT OF EXCESSIVE SOIL SALINITY.

As is usually the case, the development of the acute salt problem in the district was associated with definite rise of water table throughout the area. Although the data to hand do not allow the relative importance of the factors contributing to the rise in water table to be evaluated, the following are discussed:—

- (a) heavy watering in association with insufficient or complete absence of grading, most of the land being crab-hole;
- (b) seepage and leakage from channels;
- (c) flooding and restrictions to drainage in this naturally flat area;
- (d) overstocking and general management, including the effect of spread of dillon bush, which provides harborage for rabbits;
- (e) insufficient or no use of fertilizers.

With regard to seepage, this is definitely a factor over short distances. In spite of high clay content, Macorna and Kerang clay types are fairly permeable to water. On surface evidence, seepage effects may extend for 4 chains at least from irrigated land. With regard to the influence of the Macorna channel, there was evidence of seepage effect from this channel for only 3 chains in Macorna clay and no evidence at all in Kerang clay. The Pyramid Creek soils are the most permeable in the area, but their extent is so limited that they cannot provide evidence of seepage for great distances, although local effects are sometimes quite marked.

*Reclamation.*—Much affected land in the area is making the first steps in recovery under natural conditions. The list of salt tolerances of plants given ..... for local conditions indicates the sequence of plants which occurs on such areas during recovery. The usual sequence on badly affected land at Kerang is from bare ground through sea blite to barley grass and, as the process of recovery proceeds, trefoil, woolly clover, spider, and summer grass appear, depending on fertility and nature of irrigation. On holdings managed extensively, the process of recovery is encouraged by clearing of lignum and dillon bush and by withholding of stock and irrigation as much as possible. Recovery under such conditions is naturally slow, and the resulting pasture relatively poor.

Under more intensive management, the land can be brought to good production, in spite of the persistence of high concentrations of salt below 2 to 3 feet and saline water tables at about 6 feet. Similar methods have given extraordinary results at Cohuna. In outline, the procedure involves:—

- (a) clearing and cultivating, thorough grading and laying out by approved methods;
- (b) sowing annual crops for two or three years, grading before each sowing, and irrigating by the best methods;
- (c) final grading and sowing of a pasture mixture for irrigation.

Fertilizing with superphosphate is necessary throughout the process, and regrading may be necessary after a few years of sown pasture, especially on crab-hole land. The annual crops chosen are usually millet, because of the desirability of summer watering, or oats.

By methods essentially similar to that outlined, good swards have been established in different parts of the area of the perennial rye-grass—white clover type, paspalum—white clover, Wimmera rye-grass—subterranean clover, phalaris—subterranean clover, as well as mixtures including lucerne, strawberry, red and alsike clovers, and cocksfoot. There is nothing to suggest that the land on which such results have been attained is inherently better than the bulk of the land in the area, except for areas of paspalum with white clover, some of which are established on swampy ground which has never become very saline.

With respect to difficulties associated with reclamation, there is some danger of seepage effects on adjacent unimproved land and some soil types are more difficult to handle than others. The red-brown phase of Macorna clay appears to be the most difficult, as immediately below its surface layer is a very intractable clay, difficult to cultivate and to irrigate. Probably the greatest difficulty is that of the financial outlay necessary thoroughly to carry out the type of reclamation programme outlined, and the position is that nothing less than very thorough attention will suffice. In addition, the change from an extensive to a more intensive system requires initiative and adaptation.

It is generally recognized that definite improvement in many areas has followed the open-cut drainage construction carried out by the State Rivers and Water Supply Commission two years ago. The ability to get rid of surplus surface water provided by these drains and farmers' laterals linked to them has widened the possibilities of reclamation and given increased protection to established pastures.

*Conclusion.*—The number of instances of pasture improvement in the area, some to a high level of production, and the land recovering under natural conditions or being brought back into a reasonable standard of production, show that reclamation of much of the salt affected land is thoroughly practicable by the use of well established methods. There is no reason why reclamation should not prove possible, since there are now examples of improvement on every soil type in the area.

After consideration of Mr. Penman's report, the Committee agreed that the possibilities of reclamation and development in the Kerang District indicate that the outstanding need of the District is for a considerable extension of advisory services in connexion with irrigated agriculture, preferably by means of an officer stationed in the District. The importance of an adequate internal farm drainage system, to link with the District drains for the removal of excess irrigation and storm waters, was stressed.

The Committee also considered that, in the application of fertilizers, the lay-out and method of irrigation, and the establishment of pastures, the general practices in the District at present are definitely below attainable standards.

The Committee recommended that further investigatory work in this connexion should embrace the following:—

- (a) Rates and frequency of watering of irrigated crops on major soil types;
- (b) Relations between cultural practice and salt concentration and between productivity of the land, and level and salinity of free sub-soil water; and
- (c) The establishment and maintenance of irrigated pasture and the suitability and adaptation of the standard species and strains of grasses and clovers, including responses to fertilizers, influence of varying watering treatment and influence of different methods of pasture utilization.

The **Kerang East Drainage District**, comprising 82,360 acres, was constituted during the year. The 110 miles of drainage channels are in operation and provide facilities for the drainage of holdings in the District.

#### SWAN HILL CENTRE.

The Swan Hill Centre administers the **Irrigation and Water Supply Districts of Swan Hill and Nyah**, and the **Urban Districts of Nyah West, Nyah, and Lake Boga**, and also controls the Tresco Sub-centre which embraces the **Irrigation and Water Supply Districts of Tresco, Fish Point, and Mystic Park**, and the **Kerang North-West Lakes Waterworks District**.

On account of the low rainfall, which was 4 inches below the average for the past 50 years, a steady demand for water was experienced throughout the season. In the **Swan Hill District** the total water deliveries were 32,000 acre feet, compared with 27,637 acre feet for the previous year. Including 5,430 acre feet of water supplied to water users on Pental Island, all irrigation requirements were met.

The improvement in the supply system, due to the reconstruction of main channels with a dragline excavator, was very apparent. To date, this machine has completed  $8\frac{1}{2}$  miles of main channel remodelling, the work being carried on throughout the watering season. No interference was caused to water supply arrangements along the channel during treatment, and this method of channel remodelling is admirably suited for dealing with weed growth and siltation in all channels.

In the Woorinen area  $8\frac{1}{2}$  chains of concrete channels were re-lined, and a further  $2\frac{1}{2}$  miles of similar channels were treated for the prevention of seepage.

The construction and strengthening of levee banks along the Murray and Little Murray Rivers, to provide flood protection to the Swan Hill Flats, were continued during the year and the work is now well advanced.

Towards the end of the year work was commenced on the Nyah Outfall Drain, which is being constructed to the depth necessary to take the sub-surface drainage from the Nyah District, when the drainage system in that area is completed in the future.

Proposals for drainage improvement works in the Woorinen area were agreed to by the landholders concerned, and the preliminary works were put in hand. The landowners will contribute towards the cost at the rate of £2 10s. per acre of their irrigable lands, and the balance of the cost will be met from grants from Unemployment Relief Funds.

A commencement was also made with the work of laying a pipe drain to replace the deep section of open-cut in the Tresco Main Drain.

The dried fruit crop handled by the Woorinen Fruitgrowers' Co-operative Society was of excellent quality and totalled 3,606 tons, compared with 2,700 tons in the previous year. The Swan Hill Co-operative Dairying Company manufactured 579 tons of butter, as compared with 551 tons last year, and, as some 2,000 tons of lucerne hay were despatched from the area during the year, the irrigation centre of Swan Hill can be considered to have experienced a prosperous season.



## WIMMERA-MALLEE DIVISION.

(*R. F. McNab, L.S., A.M.I.E.Aust., Divisional Engineer.*)

The Districts administered under this Division are the Red Cliffs and Merbein Irrigation and Water Supply Districts, the Red Cliffs and Merbein Drainage Districts, and the Waterworks Districts served from the Wimmera-Mallee Water Supply System and by pumping from the River Murray.

A general description of these Districts and references to the main works carried out therein during the past year are set out.

### RED CLIFFS AND MERBEIN CENTRES.

The **Red Cliffs** and **Merbein Irrigation and Water Supply Districts** are supplied with water from the River Murray by means of high-lift pumping plants, the station at Red Cliffs having the greatest capacity of any pumping station in Australia.

Irrigation water pumped for Red Cliffs during the year amounted to 36,299 acre feet and for Merbein 28,951 acre feet, these volumes being greater than the quantities for the previous year, and also in excess by some 5,000 acre feet for Red Cliffs, and 2,500 acre feet for Merbein, over the average pumped.

No serious setbacks were felt by growers, and, from a productive point of view, both Districts experienced one of the best seasons for many years, a total quantity of some 33,000 tons of dried fruits being harvested, 20,000 tons from Red Cliffs and 13,000 tons from Merbein.

Three small sections of concrete lined channel were constructed to supply areas allotted to settlers to bring their holdings up to living areas.

The first stage of the conversion of the Merbein Pumping Plant from direct steam engine driven pumping units to electric motor driven pumps was completed and on load for the first irrigation, which commenced in September, 1937. This unit, which is one-third of the total capacity of the station, was on load for the maximum hours during the season and delivered 12,548 acre feet of water, which is slightly more than one-third of the season's total deliveries from pumps. The electrical energy supplied from the Red Cliffs generating station for this unit at Merbein was 1,562,000 units for the year. The second stage of conversion work is well advanced. The second circuit on the transmission line has been erected, and the foundations for the alternator at Red Cliffs and the motor at Merbein are well on towards completion. Tenders have been let for all plant and the unit will be ready for load by February, 1939. At that date, 66 per cent. of the District requirements for water will be supplied by the electrical installation. The use of firewood as fuel will then be materially reduced at Merbein and thus save the limited forest areas for smaller undertakings. Brown coal briquettes from Yallourn are used almost exclusively at the Red Cliffs pumping station.

In both Red Cliffs and Merbein Districts some  $2\frac{1}{2}$  miles of agricultural drains were laid and connected to the sub-surface drainage system for the purpose of draining seepages from channels which were affecting planted holdings.

All the projected sub-surface drainage schemes in Red Cliffs and Merbein Districts were completed during the year, the benefits of drainage now being available to 10,470 acres in Red Cliffs and 7,360 acres in Merbein Districts. This work materially helped in the record production of these areas for the past year. In the **Red Cliffs Drainage District** and the **Merbein Drainage District**, which were constituted during the year, there are 136 miles of pipe drains and 10 miles of open drains, which were maintained in an efficient working condition.

In the First Mildura Irrigation Trust District, the drainage works undertaken by the Commission were completed. The Trust has taken over these works and is now operating and maintaining the various systems. Some 11,000 acres in the Trust's area are served by these works, which comprise  $108\frac{1}{2}$  miles of pipe and open drains. Proposals have been made and are under consideration for the drainage of two more or less isolated areas in the Trust's district at South Irymple and Koorlong.

Up to 750 men at one time have been employed in the three districts on these drainage works, which have all been carried out under Unemployment Relief conditions.

The **Urban Centres** of **Red Cliffs** and **Merbein** continue to develop, many new residences and business premises being erected during the year and Municipal Swimming Baths installed in both townships. Reticulation extensions were made to cope with the development, the total mains in the Red Cliffs township being now 600 chains, and in Merbein township 523 chains. Full supplies of water were maintained in both places throughout the year.

## WIMMERA-MALLEE WATER SUPPLY.

The Wimmera-Mallee domestic and stock water supply system is the most extensive of its kind in any part of the World. The water is supplied by gravitation from the Headworks Reservoirs, with a combined storage of 207,710 acre feet, on the Wimmera and Glenelg Rivers, with supplementary supplies, when available, from the Loddon and Goulburn Systems conveyed through the Waranga Western Extension Channel. The distribution system of this scheme comprises 6,332 miles of the Commission's channels as well as more than 3,000 miles of farmers' connecting channels, the area supplied being approximately 11,000 square miles.

The **Waterworks Districts** served from this system are **Western Wimmera, Upper Western Wimmera, Wimmera United, Upper Wimmera United, Karkarooc, Hindmarsh, Birchip, Wycheproof, Long Lake, Sea Lake, Tyrrell, Tyrrell West, Tyntynder**, and, in addition to the five towns controlled by the **Charlton, Donald, Horsham, Murtoa, and Warracknabeal Waterworks Trusts**, the following 37 Urban Districts with pipe supply systems operated by the Commission are connected to this scheme, viz. :—

|                      |                    |                      |                   |                   |
|----------------------|--------------------|----------------------|-------------------|-------------------|
| <b>Antwerp</b>       | <b>Dimboola</b>    | <b>Marnoo</b>        | <b>Quambatook</b> | <b>Waitchie</b>   |
| <b>Berriwillock</b>  | <b>Dooen</b>       | <b>Minyip</b>        | <b>Rainbow</b>    | <b>Walpeup</b>    |
| <b>Beulah</b>        | <b>Hopetoun</b>    | <b>Nandaly</b>       | <b>Rupanyup</b>   | <b>Watchem</b>    |
| <b>Birchip</b>       | <b>Jeparit</b>     | <b>Natimuk</b>       | <b>Sea Lake</b>   | <b>Woomelang</b>  |
| <b>Brim</b>          | <b>Jung Jung</b>   | <b>Nullawil</b>      | <b>Speed</b>      | <b>Woorinen</b>   |
| <b>Chillingollah</b> | <b>Lalbert</b>     | <b>Ouyen</b>         | <b>Tempy</b>      | <b>Wycheproof</b> |
| <b>Chinkapook</b>    | <b>Lascelles</b>   | <b>Patchewollock</b> | <b>Ultima</b>     | <b>Yaapeet.</b>   |
| <b>Culgoa</b>        | <b>Manangatang</b> |                      |                   |                   |

Although an indifferent season was experienced during the season under review, full supplies of water were distributed during the annual run which is carried out in the Winter and Spring of each year. Sand drift was more prevalent than in the previous season, and increasing costs of this work make imperative the institution of some measure of control of cultivation to minimize the trouble, both in the interests of the landholder himself and of the authorities controlling public works in the Mallee areas.

In the catchment areas of the system little run-off occurred during the Winter and Spring of 1937, and very little run-off has resulted to date during the present season. These are the driest two consecutive years experienced on these catchments for the past 50 years since records have been taken, only 14,000 acre feet of water having been stored since the 1st October, 1936. In spite of the fact that the existing storages have a capacity sufficient for two years' supply, the position at present is, that when the watering, now almost completed, is finished, there will, with the exception of some 16,000 acre feet which must be pumped from Pine Lake Reservoir, be no water available to commence next year's operations until sufficient Winter rains fall in 1939.

The position would have been eased to some extent had the proposed Taylors Lake Outlet Channel enlargement been in operation. This work, if carried out, would enable larger volumes of water to be distributed during the more favorable months of the year, and so effect savings and greater efficiency by shortening the watering season. This proposal is now being investigated by the Public Works Committee.

In order to conserve existing supplies throughout the system, the Commission is taking steps to regulate the supply of water in all the Urban Districts by prohibition of garden watering except at specified times.

Owing to the increasing use of water generally, and particularly in the development and growth of many Urban Centres, the necessity for increased headworks storages is becoming more evident and some additional provision must be undertaken in the near future, otherwise development generally will be retarded.

As the Wimmera and Grampians Catchments are developed almost to economic limit, it would appear that the best means of augmenting supplies lies in the further development of the Glenelg Catchment, which is already tapped to a limited extent by the Moora Reservoir and the Glenelg Channel.

In the newer Mallee, further Closer Settlement holdings have been vacated and allotted as grazing leases, and these lands, where conveniently situated, are supplied with water on a sales basis involving payment in advance for supplies.



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

In many of the Urban Districts in the above Districts systematic remodelling and reconditioning of wood and other mains have been undertaken, and these works will result in an extended life of the mains and effect a better water distribution throughout the various reticulation systems. A number of short extensions of mains has been laid to meet development in many Urban Districts, and extensions of local storages for Doon and Dimboola Urban Districts are now being carried out.

Two excavating machines were put into operation during the year on the Taylors Lake Outlet Channel, which had become silted to such an extent that little more than half volumes of water could be run. This work will restore the channel to its original capacity.

In the areas in the vicinity of Horsham and Murtoa, where water for irrigation is made available, further progress has been made, the total area watered for the year having increased from 2,079 acres in 1936-37 to 2,295 acres. Of this area, 1,278 acres comprise orchards, vineyards and market gardens, most of which have been under irrigated culture for more than 40 years, and 1,017 acres are sown to lucerne, permanent pastures and fodder crops, which are the more recent developments in these areas.

On account of the abnormal seasons experienced and the likelihood of shortage of supplies, no applications for irrigation of new areas will be approved until conditions become again normal, and supplies of water will be restricted.

A scheme of supply for high lands west of Pimpinio within the Western Wimmera District, is now being installed and will be in operation late in the present season. This country, about 30 square miles in extent, is comparatively close to the headworks. Water will be conveyed by means of a 24 inch diameter concrete pipe syphon, 2 miles long, across the Wimmera River, and thence by channel to a pumping plant at Vectis East, from which point channels will reticulate the high country. This scheme will also provide water for Dimboola Township, hitherto supplied by pumping at Jung, and the new route will very considerably reduce the distance over which supplies were previously run and will effect savings in operation.

A further area of approximately 35 square miles previously supplied from the Jung pumps will also be now supplied by gravitation through the new syphon across the Wimmera River.

BIRCHIP, WYCHEPROOF, LONG LAKE, SEA LAKE, TYRRELL, TYRRELL WEST,  
AND TYNTYNDER DISTRICTS.

No new works of any consequence, other than extensions of storages for Urban Districts were undertaken in the above-mentioned Districts. An additional storage tank was constructed for Speed Township and the enlargement of Ouyen No. 2 Storage is in progress.

A new tank for Curyo Township was built to provide more convenient supplies of water for general use.

A plant has been in operation throughout the year carrying out recoating and reconditioning of mains in the urban reticulation systems. At the same time, many short extensions of mains have been laid to cope with the steady development in the townships. The pipe coating plant is still engaged.

The asbestos cement flumes on the Burra Channel, which were constructed for the 1936-37 season, proved very satisfactory in operation. Galvanized corrugated iron has, in the past, been used for flumes, but the experience gained so far with the use of asbestos cement shows its use to be preferable to iron, apart from the fact that up to double the volume of water can be transferred through an asbestos cement flume as can be taken through a corrugated iron flume of the same size.

*(Waterworks Districts Not Part of Wimmera Mallee System).*

NORMANVILLE DISTRICT.

An area of approximately 190 square miles, which lies south and east of Quambatook, and which is portion of what is known as the Little Mallee, is to be constituted the Normanville Waterworks District.

The land is of good quality, suitable for wheat and general farming, and requests extending over many years have been made for a domestic and stock supply.

The southern portion of the area had previously been supplied by a private pumping scheme from Lake Marmal, and some of the channels will be taken over and remodelled to form part of the system to convey supplies from the Waranga Western Extension Channel.

The principal supply will be drawn from this channel at 36 miles by the Main Normanville Channel, 48 miles long, which is being constructed to Kooranjie and Meering West. Distributary channels, totalling in all 25 miles in length, are also being constructed.

This system will be run for the first time during the 1938 season, the area of the constituted district being that commandable by gravitation. A considerable area of some 60 square miles, which is commandable only by pumping, is not provided for in the present proposals.

#### WALPEUP WEST DISTRICT.

The water supplies of this District are provided by 109 public bores and by landholders with private bores on their holdings. Allotments on which private bores are installed are rated in a lower division than those without bores.

The District is administered from the Ouyen Centre and the public bores have been kept in reasonably efficient working order during the period under review.

#### CARWARP, CARWARP CENTRAL, COREENA, AND YELTA DISTRICTS.

The **Carwarp and Carwarp Central Districts** are watered from the Red Cliffs Irrigation District pumping plant on the River Murray, and all settled holdings were supplied. An area of some 125 square miles now leased for grazing was not watered.

In the **Carwarp Urban District** a new storage is being constructed, the existing storage being of insufficient capacity to provide continuous supplies to the township throughout the year. A new elevated tank and stand is also being installed.

The **Coreena District** is watered by pumping from the River Murray. The main plant is situated on a billabong which, when the river flow is not sufficiently high, must be filled by a temporary plant on the river. This additional pumping was done for 1937-38 and will be necessary in the 1938-39 season. Full supplies were distributed to all settled holdings and, by arrangement, to a number of grazing areas.

Supplies of water were also distributed to holdings in the **Yelta District**, the channel system of which is supplied from the Merbein Irrigation District pumps on the River Murray.

On account of a number of holdings having reverted to the Crown and been leased for grazing, the running of about one-third of the channel system will not be made in future.

#### MILLEWA AND MILLEWA CENTRAL DISTRICTS.

These Districts receive their supplies from the River Murray at Lock 9. Water is pumped to a height of 145 feet for Millewa District, and an additional 135 feet for Millewa Central District, four separate pumping plants, with an approximate total horse-power of 2,000, being used for this purpose.

In these Districts further allotments, previously occupied by closer settlers, have been leased for grazing.

Practically all the grazing lands, including a large area now outside these Districts, were supplied with water on a sales basis, arrangements having to be made in advance by lessees for payment for such supplies.

In the **Meringur and Werrimull Urban Districts** reconditioning and remodelling of the reticulation systems were carried out, and the work done will prolong the life of the existing pipes and provide an improved service. Small extensions of the water supply mains were made.

## TOWN SUPPLIES.

## MAIN URBAN SUPPLIES DIVISION.

(*W. F. Nevill, B.C.E., Divisional Engineer.*)

The **Urban Supply Systems** serving the **Coliban, Mornington Peninsula, Wonthaggi, Bellarine Peninsula, and Otway Districts** are controlled under this Division. These systems, and the principal operations carried out during the year, are described in the following pages.

## COLIBAN SYSTEM.

In the Coliban System there are two main storage reservoirs on the Coliban River, the Upper Coliban with a capacity of 25,700 acre feet, and Mahnsbury with a capacity of 12,300 acre feet, together with 29 subsidiary reservoirs with a total capacity of 6,840 acre feet. The main and distributary channels have a total length of 348 miles, while a supply of water for the City of Bendigo, the important towns of Castlemaine, Eaglehawk, and Maldon, and eighteen other townships is provided through some 300 miles of urban pipe reticulation. In addition, water is normally supplied for irrigating a large area of orchards, market gardens, permanent pastures, and other crops, and for the requirements of the mining industry throughout the district.

Owing to the failure of Spring rains this year on the catchment, consumers within the Coliban System were faced with a serious shortage of water early in the season, the two main storages on the Coliban River having stored in them at the end of October, 1937, only slightly more than one-fourth of their total full capacity of 38,000 acre feet. Steps were therefore taken to safeguard the domestic and industrial water supplies for the district, which has a population of 60,500 persons. At the beginning of the season minor restrictions were enforced, but with the continuance of drought conditions it was later found necessary to impose restrictions of a more drastic nature. All irrigation supplies were discontinued except to certain areas in Harcourt District and the use of water was restricted to domestic, manufacturing and mining purposes only.

All means of meeting the emergency were expeditiously explored, and the methods adopted were considered to be in the best interests of the district as a whole.

It is hardly necessary to point out that the water shortage, as well as being a serious handicap to growers generally in the district, has been responsible for a marked falling off in revenue.

The supply for the townships of Raywood, Sebastian and Marong completely failed, and to provide a service to the residents, the Commission accepted the generous offer of the Kyneton Waterworks Trust to make available water from that system for transportation by rail.

In the Harcourt District, orchardists who are normally supplied from the Coliban storages were given limited supplies until the end of January, while those served from Barkers Creek Reservoir received full supplies throughout the season, although in the latter portion of the year it was found necessary to resort to pumping.

No water for sluicing has been supplied since April, 1937, and, in accordance with a decision by the Government following a recommendation by the Commission, water for sluicing purposes will not be made available in future unless water is actually flowing over the reservoir bywashes and would otherwise run to waste.

During the year the Commission continued with its policy of consolidating existing works by substituting new and more permanent structures in reinforced concrete for old and worn out timber constructions. A number of leaky flumes have been replaced by reinforced concrete pipes, and where channel supplies were originally carried in spirally riveted pipes now beyond repair, concrete pipes have been used to replace them. The more important works of this nature included the replacement of 12 chains of 15 inch diameter pipes in Diamond Gully syphon at Campbell's Creek and the 18 inch diameter syphon crossing the railway line at Harcourt.

In 1935-36 the Government approved of the provision of £200,000 from Unemployment Relief Funds, of which £50,000 was for channel lining and £150,000 for reticulation improvements at Bendigo and Castlemaine.

These works have been proceeded with during the year. A further length of 8 miles of channel was reconditioned in either concrete ground fluming or channel lining. The total length now completed is 43½ miles, 17 miles of Main Channel and 26½ miles of branch channels. From the point of view of reducing seepage in the channel system the main object of this expenditure—the results have proved very satisfactory, but there are still many miles of main channels in which a considerable saving of water could be effected by continuing this important work.

Satisfactory progress has been made with the work of remodelling the reticulations of Bendigo and Castlemaine, and during the year 2 $\frac{3}{4}$  miles of 9 inch diameter steel cement lined and 22 $\frac{1}{4}$  miles of fibrolite pipes of various diameters have been laid in the business and residential parts of the City of Bendigo. At Castlemaine the work of laying 2 $\frac{1}{2}$  miles of 15 inch diameter, 27 $\frac{1}{2}$  chains of 12 inch diameter, and 11 $\frac{1}{2}$  chains of 9 inch diameter steel cement lined pipes has been completed, the larger diameter mains replacing portion of the existing 11 $\frac{1}{2}$  inch and 10 $\frac{1}{2}$  inch diameter cast iron supply main from Golden Point. The total length of pipes laid since this work began in April, 1937, is approximately 40 miles.

Additional extensions of the pipe reticulation systems of Bendigo and Castlemaine involving the laying of 43 chains of 3 inch diameter mains were carried out this year, new subdivisions and progress in building making these works necessary.

The low level to which the water had receded towards the end of the season made it possible to carry out urgent repairs and maintenance work to the outlet tower at Barkers Creek Reservoir. New bolts and nuts were substituted throughout, and a section of the main spindle renewed. The cast iron structure itself was scraped, cleaned and painted with two coats of tar paint and is now in a serviceable condition.

The Government has approved of recommendations of the Commission for providing increased storage at the headworks of the Coliban System. At Malmsbury Reservoir, works to store an additional 2,100 acre feet by installing flood gates on the spillways of the reservoir at a cost of £36,500 are in hand.

Investigations of a number of known sites for minor storages near Bendigo were also carried out with a view to effecting a saving in distribution, and providing more reliable supplies for the smaller towns of Raywood, Sebastian and Marong. The construction of four new storages has been approved, and together with the remodelling of three existing basins, will provide for additional storage capacity of 145 acre feet.

In order to safeguard the domestic and industrial requirements of the City of Bendigo, the Boroughs of Eaglehawk and Castlemaine and the other towns dependent upon the Coliban System, against a repetition of the present shortage, the Commission also recommended, after further investigation—

- (1) That a new storage of approximately 14,000 acre feet capacity (to be known as Lauriston Reservoir) be constructed on the Coliban River below Shepherds Hut Creek near Lauriston, the estimated cost being £280,000.
- (2) That this additional storage be operated solely as a reserve for town supply purposes, no water to be supplied from it for irrigation or other purpose.
- (3) That with a view to safeguarding the Coliban System against any further increase in irrigation demand—
  - (a) a register be prepared of all lands now irrigated;
  - (b) agreements then be entered into to supply water, when available, to these lands only, (these agreements to serve as a basis for a proportionate supply when available water is insufficient to meet all requirements); and
  - (c) no additional lands be supplied with water for irrigation even if temporary surpluses may be available.

These recommendations were approved by the Government and steps are being taken to have the proposals put into operation.

Contour surveys have been made of a portion of the reserved lands above Crusoe Reservoir and also at the Springs adjacent to the Main Channel in the parish of Sedgwick for the purpose of ascertaining what facilities exist for subsidiary storages on the Main Channel.

As an appendix to this Report a plan of the Coliban System of Waterworks is included. In addition to the district served, this plan shows the catchment area, the reservoirs, water races and main pipe lines comprising the system, the pipe reticulated areas and Waterworks Districts supplied, and also the location of the Waranga Western Channel from the Waranga Reservoir.

#### NEWSTEAD DISTRICT.

On account of the failure of the flow in the Jim Crow Creek, the storages for the town supply of Newstead were reduced to less than one-third their full capacity of 40 acre feet at the beginning of April, 1938, and, in order to ensure supplies for domestic use, it was necessary to impose restrictions similar to those in force in the Coliban District at the time. Fortunately, good rains fell shortly afterwards quickly replenishing the reservoirs, and conditions were again restored to normal.

## MORNINGTON PENINSULA DISTRICT.

The supply for this District is drawn from a catchment of 30 square miles of forest country at the head waters of the Bunyip River. Water is conveyed mainly by pipes to service reservoirs having a total capacity of 5,260 acre feet, and thence by pipe lines to the Flinders Naval Base and to the bayside resorts of Aspendale, Edithvale, Chelsea, Carrum, Seaford, Frankston, South Frankston, Mornington, and Mount Martha, and to the inland townships of Spring Vale, Noble Park, Dandenong, Berwick, Beaconsfield, Pakenham, Garfield, Bunyip, Longwarry, Cranbourne, Somerville, Hastings, Bittern, and Crib Point. In addition, ample supplies of water are available for market gardening in the vicinity of Dandenong.

An extension of this system to supply water to the bayside towns of Dromana, Rosebud, Rye, Sorrento, and Portsea is now being undertaken.

The Bittern Reservoir, the main storage for the water supply to these towns, has been completed, and the construction of the main pipe line from Cranbourne to this storage is now in progress. This pipe line consists of 27 inch, 24 inch and 21 inch diameter reinforced concrete pipes and 21 inch diameter wood stave pipes. Contracts for the manufacture and laying of these pipes have been let and about half this line, comprising 26,981 feet of concrete pipes and 24,725 feet of wood pipes has been completed.

After some difficulty in obtaining a suitable site, the Dromana Reservoir, which forms the pipe head basin for the reticulation of the new areas, is now in course of construction.

In addition to these new works, considerable alterations and extensions have been carried out in the older portion of the district.

The service basin at Mount Martha was completed early in the year and brought into operation during the Summer and has resulted in a much more satisfactory water supply being made available. Owing to the heavy consumption of water in Mornington at peak periods, the supply to Mount Martha had, in the past, been seriously affected.

On account of the considerable increase in the activities of the Longwarry Creamery and the consequent large consumption of water, the 4 inch diameter main serving the township of Longwarry proved totally inadequate to meet the demand. To overcome this restriction a new 6 inch diameter main has been laid. The original 4 inch line, which is still in perfect order, has been lifted and will be used for reticulation purposes as required elsewhere in the district.

Further improvement was effected in the Springvale Urban District by the reconditioning and relaying in Springvale Road of several chains of 12 inch diameter wood stave pipes which had been removed from the Dandenong Creek syphon.

A grant from Unemployment Relief Funds enabled a much needed catch drain to be constructed around the Beaconsfield Reservoir. This work will prevent the possibility of contamination of the water by the run-off from the alienated portions of the reservoir catchment.

Alterations to the Point Nepean Road Bridge over the Carrum Creek uncovered the 12 inch diameter wood main at this point. As this section of the main was in very bad condition, advantage was taken of the circumstances to replace the defective portion with 296 feet of cement lined steel pipe.

Several chains of small diameter main in Hammond Road, Dandenong, were replaced with a 4 inch diameter asbestos-cement pipe to enable a sufficient water supply to be made available to the treatment works of the newly formed Dandenong Sewerage Authority.

A very large number of reticulation extensions has been carried out in many of the Urban Districts, including the laying of a 6 inch diameter main in William Street, Frankston.

## WONTHAGGI DISTRICT.

The towns of Wonthaggi, North Wonthaggi, and Hicksborough, which comprise this District, are supplied with water conveyed by pipe line from a storage reservoir constructed on Lance Creek.

Satisfactory water supplies have been maintained throughout the year, work being confined entirely to the general maintenance of the main lines and reticulation of the district.

Several chains of small diameter cast iron pipe, which had deteriorated to a marked degree, have been replaced with asbestos cement pipe.

Minor repairs to the outlet works at Lance Creek Reservoir were also carried out.

### BELLARINE PENINSULA DISTRICT.

The principal storage for the supply of water in the Bellarine Peninsula is the Wurdee Boluc Reservoir, capacity 10,000 acre feet, which is filled by an inlet channel from tributaries of the Upper Barwon River. From this storage an outlet channel conveys water to a main pipe-head basin at Wauru Ponds from which supplies are taken to the service basins of the townships of Drysdale, Portarlington, Queenscliff, Point Lonsdale, Ocean Grove, Barwon Heads, Torquay and Anglesea. A supplementary supply is also provided for the City of Geelong, and rural supplies are given to farms and market gardens adjacent to the main pipe line.

The construction of the Wauru Ponds Auxiliary Basin, approved towards the end of last year, has now been completed and the basin filled. The storage has permitted the emptying of the original Wauru Ponds Pipe Head Basin which is now in process of being cleaned out.

Pipes have been laid and arrangements made to bypass water from the Bellarine main line around the Bellarine Basin when required. Advantage has already been taken of this installation to empty this storage and undertake the removal of submerged stumps and other debris.

Owing to the very dry season experienced, the Wurdee Boluc Storage has been depleted to a slightly greater extent than last year, but the position is quite satisfactory.

The quantity of water taken from the Bellarine Scheme by the Geelong Waterworks and Sewerage Trust has, for the first time, exceeded the amount guaranteed by the Trust, and revenue to the extent of £5,361 for the supply of 583,820,000 gallons has been received. This is an increase over the previous year of more than £360.

Several minor extensions have been made in the Urban Districts, all of which continue to be satisfactorily supplied from the scheme.

The Commission's administrative office for this District is now situated in the recently erected Public Offices at Geelong.

### OTWAY DISTRICT.

As stated in previous Annual Reports, works are being carried out to supply water to the City of Warrnambool and the important Western District towns of Camperdown, Cobden, and Terang. Supplies are to be drawn from the Arkins Creek in the Otway Ranges and conveyed by pipe lines totalling 78 miles in length to service basins of ample capacities to meet the requirements of the centres to be served.

Considerable progress has been made with the construction of these works. The main pipe line from the diversion weirs on Arkin's Creek to the Camperdown Bifurcation, consisting of 30 miles of 17 inch diameter concrete lined mild steel pipes, has now been completed. This work includes the crossing of the Gellibrand River at a point 1,000 feet below the source of supply, the high pressure involved necessitating the use of  $\frac{3}{8}$  inch thick steel plate for the pipes in this section of the line.

The Camperdown branch line from the main pipe line to the Camperdown Storage Reservoir is being laid partly in reinforced concrete and partly in cement lined steel pipes; the concrete section has been completed and the laying of the steel pipe is in progress.

Further sections of the main line between the Camperdown Bifurcation and the Terang (Mount Ewen) Storage Reservoir comprising 11,000 feet of 12 inch diameter reinforced concrete pipe and nearly 8,000 feet of 14 inch diameter wood stave pipe have also been laid. Delays in pipe laying have occurred on account of the difficulty of the contractors in obtaining supplies of plate for the steel pipes.

The Warrnambool (Tank Hill) Storage Reservoir is now almost completed, the construction of the Terang and Camperdown Reservoirs is in progress, and the Cobden Reservoir has been commenced.

The Camperdown service basin has been completed, and the 9 inch diameter supply line from the Camperdown Storage Reservoir laid.

The reticulation of the town of Camperdown is now ready for connexion to the supply as soon as the water is available, and contracts have been let for the supply of pipes and fittings for the reticulation of the towns of Cobden and Terang.

More than 200 men have been employed on the works through the year, and for a short period during the latter part of the Summer the number exceeded 300.

It is anticipated that the whole of the work will be completed by the end of the next financial year.



## INVESTIGATION OF NEW IRRIGATION AND WATER SUPPLY PROPOSALS.

### INVESTIGATIONS AND DESIGNS BRANCH.

(*R. G. Knight, M.C.E., M.Inst.C.E., M.I.E. Aust., Chief Designing Engineer.*)

#### RIVER MURRAY WORKS—YARRAWONGA WEIR.

Designs and specifications for the steel gates, superstructure, and electrical operating gear were prepared and contracts let for the construction of the gates.

#### PROPOSED MURRAY VALLEY IRRIGATION DISTRICT.

Further investigations, surveys, and designs of channels and structures were completed in connexion with the proposed Murray Valley Irrigation District which it is proposed to irrigate by diversion, from the River Murray at the Yarrawonga Weir, of the waters stored at the Hume Reservoir.

**CHANNELS AND STRUCTURES.**—The offtake regulator at the Yarrawonga Weir was designed and plans completed. Designed to discharge 1,350 cusecs, the ultimate capacity of the Yarrawonga Main Channel, the regulator comprises nine steel butterfly gates, hand operated by means of worm gearing, in three frames of three gates each. The sill is at R.L. 402·2 feet and this work, the concrete wing walls and the foundations of the offtake regulator were constructed in readiness for the erection of the gates, the design of the regulator control deck necessitating the placing of the gate frames before it could be completed.

Specifications were prepared and contracts let for the gates and operating gear.

Land required for the Yarrawonga Weir—Burley Road section of the Yarrawonga Main Channel was held by the Victorian Railways Commissioners, Yarrawonga Shire Council, Alexandra Park Committee, and Police Department. Surveys were completed, the land acquired, and designs and estimates of this section of the Main Channel prepared.

The interests of the Victorian Railways Commissioners and the Shire of Yarrawonga will be affected, and both authorities were consulted in the preparation of plans for the embankment and designs for drainage subways and road crossings on and adjacent to the line of the channel.

The Victorian road approach to the Weir traverses the western embankment of the Yarrawonga Main Channel and the road plans were prepared in accordance with the requirements of the Country Roads Board.

A syphon to take the town drainage under this channel at Orr-street (0 miles 19 chains) was designed and its construction well advanced. Designs of the Burley Road Bridge across the channel at 0 miles 50 chains were completed and construction commenced. A drainage system for the area to the south of the Burley Road—Cobram Road area of the Township of Yarrawonga with outfall near the Burley Road Bridge is in course of design.

A Type Road Bridge for the Main Channel, with bed width of 47 feet, for Country Roads Board Class B loading was evolved, four of these structures being required at 7 miles 23 chains, 8 miles 28 chains, 9 miles 27 chains, and 10 miles 73 chains. Several occupation crossings were constructed to a type design embodying reinforced concrete piers and deck. A skew bridge with 20 feet deck width at 5 miles 54 chains on the main road to Katamatite was designed and constructed to conform to the requirements of the Shire Council.

The hydraulic structures, which include drops, checks and combinations thereof with bridges or occupation crossings, have been designed for the ultimate capacity of the channels. The construction of such structures as far as the junction with the Cobram and Strathmerton main channels and the designs of regulators and an important escape structure at 11 miles 30 chains are well advanced.

The layout and design of the Cobram Channel System (main channel 18 miles 59 chains in length—total length of main and laterals 40 miles) are practically completed, and surveys for the No. 3 Katamatite area and designs for the trunk mains feeding the No. 2 Strathmerton System as far as the offtake for the Katamatite main were advanced a further stage.

Location surveys of the main and distributary channels for the whole of the No. 2 Strathmerton area were completed, and the plotting of sections is in hand.

A designed layout of the whole of the remainder of the Murray Valley System, in addition to those areas before mentioned, where the channel location surveys have been carried out, was completed, and an estimate of the cost of the entire scheme, with financial statements based on alternative construction programmes and showing the proposed apportionment of capital expenditure, was prepared.

After consultation with the officers of the Department of Agriculture, arrangements were made for a complete soil analysis of the Murray Valley Irrigation Area, and this work is now being carried out.

## OTWAY WATERWORKS DISTRICT.

The Otway Waterworks Scheme is designed to supply the Townships of Camperdown, Cobden, and Terang, and the City of Warrnambool with water diverted from the Arkins Creek, a tributary of the Gellibrand River, at an elevation of 1,100 feet, in the vicinity of Wyelangta, where the runoff of a catchment of 1,700 acres in the Otway Ranges in the 80 inch rainfall belt is being utilized.

The main pipe line 70 miles in length consists of welded concrete lined steel, wood stave, asbestos cement, and reinforced concrete pipe in various lengths. Detailed sections for 37 miles of main pipe line terminating at Mount Ewen, and general plans and sections for 33 miles between Mount Ewen and Warrnambool, were completed during the year. Specifications were prepared and contracts let for approximately 40 miles of main pipe line between the Camperdown Bifurcation and Warrnambool. Plans were prepared for the reticulation of Cobden and Terang.

The exceptional heads, as high as 1,000 feet, encountered on the Otway pipe lines, necessitated the design of special automatic air escape and scour valves of types not supplied by makers either in Australia or Great Britain. These valves were designed by the Investigations and Designs Staff, and contracts for their manufacture let to Victorian firms. They have withstood the tests most satisfactorily, and are being installed as they are supplied.

At the more important control points of the system, namely, the Camperdown and Terang Bifurcation, needle valves were installed for ease and efficiency in control under high heads.

The designs of the Camperdown and Mount Ewen storage reservoirs and of the Terang Service Basin were completed. The Camperdown Storage of 100 acre feet capacity with full supply level at R.L. 803 feet is situated on a natural saddle about 2 miles south of the town and is formed by an earthen embankment on the north, south, and west sides.

The Mount Ewen Storage at 37 miles from the headworks is of 330 acre feet capacity, with full supply level at R.L. 635 feet and is constructed in a depression at the eastern foot of Mount Ewen between two earthen embankments with crest level at R.L. 640 feet. The construction of the Camperdown Storage works was well advanced.

The designs of the Terang Service Basin, a circular reinforced concrete structure, and of the Cobden Storage Reservoir, an earthen embankment, were in hand at the end of the year, as was the design of the Tank Hill-Warrnambool 15 inch diameter pipe line. The construction of the Tank Hill Storage (full supply level at R.L. 330 feet), which comprises an earthen bank of 60 feet maximum height constructed in the gap in an old breached volcanic crater, was nearing completion.

## COLIBAN WATER SUPPLY DISTRICT.

Investigations into numerous alternative proposals were made and designs prepared for increasing the capacity of the Malmsbury Reservoir as well as for a new large reservoir on the Coliban River and minor storages near Bendigo.

**MALMSBURY RESERVOIR.**—An investigation into the enlargement of the Malmsbury Reservoir from 12,300 acre feet to 14,400 acre feet capacity was made and designs brought to an advanced stage.

Provision was made for raising the bank and constructing flood gates on both the eastern and western bywashes (eastern three 38 feet by 7 feet, western six 36 feet by 5 feet).

A geological investigation of the rock formation was made, at the request of the Commission, by the Director of Geological Survey, and the designs of the bywash structures prepared accordingly.

**NEW STORAGE.**—Three sites on the Coliban River were surveyed and examined (in addition to others in adjoining catchments, which were inspected and considered impracticable) as possibilities for a new storage, and a site at Lauriston immediately below the junction of the Shepherds Hut Creek with the Coliban River, was chosen as the most favorable. This is about midway between the Upper Coliban and the Malmsbury Reservoirs.

Alternative designs of rock fill, earthen and concrete dams were prepared and a concrete buttress dam was found to offer opportunities for economies in construction at the selected site.

**MINOR STORAGES.**—Numerous sites in the vicinity of Bendigo were investigated and designs prepared for four minor local storages totalling approximately 100 acre feet.

A proposed storage on the Stockyard Creek and the question of increasing the diversion capacity at the Ashbourne Weir on the Campaspe River were investigated but found to contribute no material advantage to the Coliban Scheme.



#### WERRIBEE AND BACCHUS MARSH DISTRICTS.

An investigation as to the possibilities of providing extra storage for the Werribee and Bacchus Marsh Districts was instituted and prospective sites for a storage reservoir on the lower Werribee River at and near Cobbledicks Ford were examined.

A geological examination of the Werribee Valley was carried out by an officer of the Geological Survey Branch of the Mines Department with a view to ascertaining the possibility of locating more satisfactory rock foundations.

Storage sites on the Lerderderg River and Goodmans Creek were inspected and arrangements made for surveys to be carried out.

A proposal for increasing the supplies in the Pykes Creek Reservoir by improved diversion from the Werribee River through the Pykes Creek Tunnel is being investigated, preliminary surveys having been completed.

**WERRIBEE WEIR.**—Designs were prepared for the raising of the diversion weir on the lower Werribee River to increase the storage capacity by 100 acre feet. The repeated use of this extra pondage to conserve freshets or water liberated from the Melton Reservoir will result in a considerable saving of the water resources.

#### BELLARINE PENINSULA.

**WAURN PONDS.**—An auxiliary service basin was designed to supplement the existing storage at Waurn Ponds, and to provide a means of periodically emptying either of the basins for cleaning.

**YAN YAN GURT.**—Designs were prepared and the work completed for the restoration of the Yan Yan Gurt Syphon.

#### MORNINGTON PENINSULA.

The extension of the Mornington Peninsula Scheme is designed to provide water for the bayside towns between Dromana and Portsea, from the Beaconsfield Reservoir by means of the existing Cranbourne pipe line and the new Cranbourne-Bittern 27 inch diameter main pipe, taking off from the present pipe line at 11 miles 65 chains. The Bittern Reservoir of 480 acre feet capacity with full supply level at R.L. 250 feet, is the main storage of the scheme.

Plans of the Cranbourne-Bittern section of the main pipe line were prepared and contracts let for the supply and laying of the pipes. This section includes the Somerville Syphon of wood stave pipes. The Bittern Reservoir was completed, and surveys for the Bittern-Dromana aqueduct were carried out.

The towns of Sorrento and Portsea were surveyed for reticulation purposes, and grid levels taken of prospective sites for the service basins for those towns.

Designs were completed of the Dromana Storage about 3 miles east of Dromana, this being the terminal basin on the Bittern-Dromana section of the scheme. It is of 60 acre feet capacity (full supply level R.L. 227 feet) and consists of an earthen embankment on three sides of the rectangular basin, the bank being 30 feet high at the maximum section. The construction of the basin was commenced.

#### OTHER WORKS INVESTIGATED INCLUDED THE FOLLOWING :—

**KOOVEERUP AND CARDINIA FLOOD PROTECTION DISTRICTS.**—The eastern branch of the Deep Creek Drain forming part of the scheme for dealing with the flood discharge in the Deep, Toomuc, and Cardinia Creeks, including the occupation and skewed road bridges thereon.

**RODNEY DISTRICT.**—Drainage proposals in connexion with the Rodney and Ardmona main drains.

**COHUNA DISTRICT.**—A syphon to pass the smaller flows of Barr Creek drainage under the main lateral "T" syphon of the Cohuna District which crosses the Barr Creek at 36 miles 58 chains.

**KERANG NORTH-WEST LAKES DISTRICT.**—Offtake regulator on the Tutchewop outfall channel for diversion of water to the northern portion of the Winlaton Area.

**MAFFRA-SALE DISTRICT.**—Improvements to the outlet works of the Glenmaggie Weir.

**COHUNA URBAN DIVISION.**—Improvements to the Cohuna Urban water supply scheme.

**WIMMERA-MALLEE DIVISION.**—Design of notched drops for the Taylors Lake Outlet Channel.

#### DISTRICT DRAINAGE PROPOSALS—SURVEYS.

Surveys have been further extended in respect to the comprehensive drainage schemes in the districts of Woorinen, Nyah, Rodney, Rochester, Cohuna, Shepparton and Tragowel Plains.

## MURRAY AND MAJOR WORKS DIVISION.

(*E. D. Shaw, M.C.E., M.Inst.C.E., M.I.E. Aust., Senior Divisional Engineer.*)

### 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, comprised 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.

A further amending agreement was entered into in 1934 by the Commonwealth of Australia and the States of New South Wales, Victoria, and South Australia, 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 mouth of the River Murray.

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 the 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.

Up to the present the South Australian Constructing Authority has completed the Lake Victoria Storage and the nine weirs and locks between Lake Alexandrina and Wentworth, and is now engaged on works in connexion with the construction of the five barrages in the vicinity of the Murray mouth.

The New South Wales Constructing Authority has completed Weir and Lock No. 10 at Wentworth, and Weir and Lock No. 15, Euston, and has continued work on Murrumbidgee Weirs Nos. 5 and 7.

The State Rivers and Water Supply Commission, the Constructing Authority for Victoria, has completed the weirs and locks at Torrumbarry and Mildura, and expects to complete the construction of the diversion weir at Yarrawonga early in 1939.

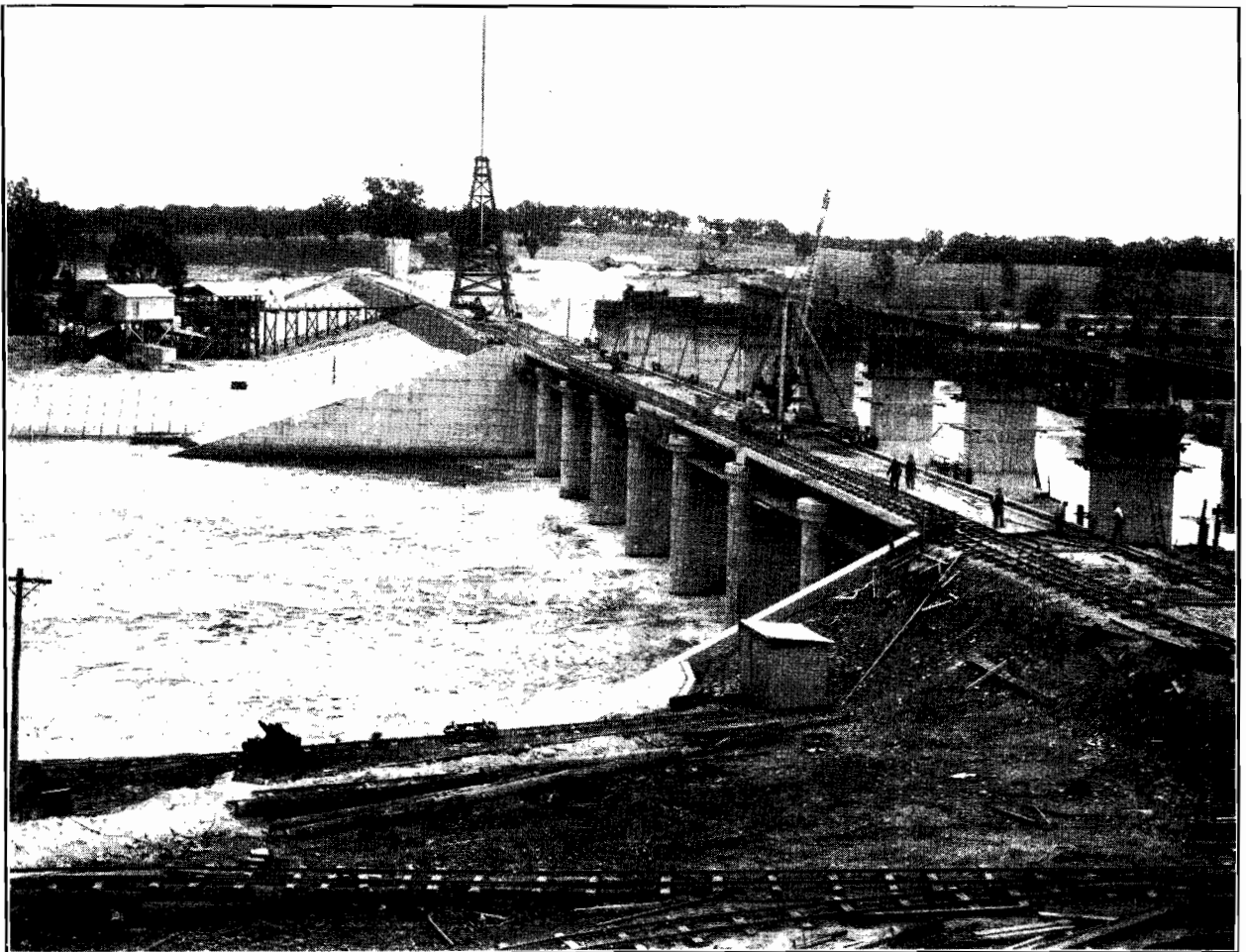
The Hume Reservoir has been functioning successfully during the year. The reservoir was filled to full supply level, R.L. 606 feet, representing 1,250,000 acre feet, on 15th November, 1937, and remained at or above that level to 29th November, 1937. The highest level reached during the year was R.L. 606·4 feet on 22nd November, 1937, and the lowest R.L. 567·2 feet on 19th to 22nd June, 1938. No trouble was experienced with algal growths in the reservoir during the year.

## YARRAWONGA WEIR.

This Weir, which is required to divert from the River Murray for irrigation purposes water released from Hume Reservoir, was included in the Amended River Murray Agreement. The structure consists of three sections; a concrete weir 380 feet in length across the River Murray itself; an earthen dam 1,125 feet across the river flats; and a regulator 99 feet long across the flood channel on the New South Wales side of the river—a total length of 1,604 feet. In the weir across the river there will be eight movable flood gates, each 40 feet long by 20 feet high, operated by electric winches, and a further two gates of similar construction in the regulator on the New South Wales side. The average height of the weir across the river will be approximately 60 feet from the foundations to the crest of the flood gates, and 90 feet to the platform for operating the flood gates. The earthen dam over the flats will be approximately 20 feet high with a crest width of 24 feet 6 inches.

A roadway will be provided across the structure for traffic between the two States. The construction of this roadway was agreed to by the Governments of New South Wales and Victoria, and the extra cost is being borne by the Road Authorities of those States.

The river flow being very favorable for construction during the year, work was expedited by working two and three shifts wherever possible. The embankment was brought to its full height. All work in No. 1 Coffor Dam was completed and the dam flooded early in August, 1937. The dismantling of this dam and the erection of No. 2 Coffor Dam was completed by December, 1937. By May, 1938, all work in this dam had been completed above river level and the coffer dam flooded, and by the end of June it had been dismantled, except for a small section of the centre arm. The concreting of spans Nos. 6, 7, and 8 of the spillway to sill level was done within No. 3 Coffor Dam, and by the end of June, span No. 8 had been completed and spans Nos. 6 and 7 were ready for concrete.



Yarrawonga Weir—Under Construction.

The Victorian outlet regulator is being constructed for the State Rivers and Water Supply Commission. The site was excavated and concrete placed in the floor, wing walls, and retaining wall.

The placing of filling in the main embankment across the river flats was completed on 9th November, 1937, and the stone beaching of the slopes was continued. The back slope of the bank above the stone beaching has been loamed.

Except for a small portion of stone beaching and the formation of the road along the crest this embankment is complete.

Plans and specifications for Road Deviation No. 1 on New South Wales side were approved. Preliminary plans for other road deviations in that State were also made and final plans are in course of preparation.

Preparations were made to regrade certain streets in Yarrawonga which will be affected by the weir.

Surveys of the drainage of the township of Mulwala, New South Wales, were made, and plans for regrading those roads affected by the weir are being prepared.

In addition, the gate guides, and tracks and sill castings for the spillway gates were received and placed in position.

Two buildings were sold for removal. The workmen's mess was closed on 28th June, 1938.

All lands affected by the weir are being resumed by the two Constructing Authorities and negotiations are in progress in a number of cases.

The river did not rise above a normal average level and this allowed a maximum working period to be obtained and the works were expedited to take advantage of the position, the average number of men employed being 345.

#### HUME RESERVOIR.

During the year both sides of the structure have been controlled by the officer in charge on the New South Wales side of the reservoir. Regular joint inspections by the engineers of the two Constructing Authorities have been made, and the system has worked very smoothly and economically.

About 1,200 ornamental trees were planted in the old borrow pit near the Victorian end of the bank and around the maintenance staff houses.

The embankments were satisfactorily maintained, particular attention being given to the downstream face where rain scours had occurred. The loaming of the back slope of the main embankment was continued and good results have been obtained. The drainage gallery was regularly inspected, and the amount of drainage water was small during the whole year.

Measurements of the deflection of the corewall were made and only minor movements have been observed.

Repairs to the concrete facing were carried out where necessary. The roadway from the Bonegilla Road to and across the main embankment was kept in good order.

About 148 acres of land which had been resumed for works purposes were sold by public auction during the year. The area below the bank was placed under the control of the Wodonga Shire Council for camping and recreation purposes.

#### WEIRS AND LOCKS, TORRUMBARRY AND MILDURA.

Both of these works, which were constructed by the State Rivers and Water Supply Commission under the River Murray Agreement, operated successfully during the year, and have proved most beneficial in connexion with the water supply of important irrigation districts along the River Murray.

The works have been carefully maintained, the areas around the locks were improved, and ornamental tree planting was continued. The weir trestles at Mildura were removed from the river on 26th May, 1938, for cleaning, painting and replacement of defective timber. Owing to the unfavorable river level the weir trestles at Torrumbarry have not been removed from the river since their replacement on 19th October, 1936. The lock gates on both structures were cleaned, caulked, and painted.

#### MURRAY VALLEY IRRIGATION DISTRICT.

The Murray Valley District will consist of an area of about 400,000 acres, extending from near Yarrawonga towards Cobram, Strathmerton, Picola and Numurkah. The waters of the River Murray will be diverted immediately above the Yarrawonga Weir and thence conveyed by means of a main canal and main and tributary channels to the various areas included in the scheme; the length of all channels being approximately 500 miles.

Works on the construction of the Yarrawonga Main Canal and Murray Valley Main Channel, the main arteries of the reticulation system, have proceeded steadily throughout the year.

A commencement was made with the excavation of the Cobram Main Channel, but, owing to the exceptionally dry conditions prevailing, the difficulty experienced in excavation work and the unsuitability of the material being excavated for the construction of channel banks, it was found necessary to temporarily cease operations on this channel.

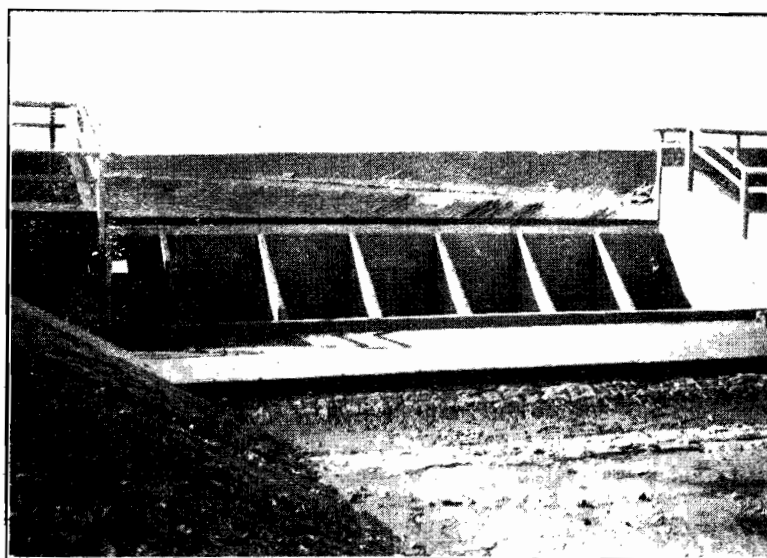
The excavation of the Main Canal and the Murray Valley Main Channel, with the exception of the portion of the canal now under construction in the township of Yarrawonga, has been practically completed for a distance of  $11\frac{1}{2}$  miles, which is the bifurcation point of the channels to supply Cobram and the southern areas of the proposed district.

The Yarrawonga Main Canal has a bed width of 61 feet, side slopes of 2 to 1 and a grade of 6 inches to the mile. The capacity, with 7 feet depth of water, is 1,000 cusecs. The Murray Valley Main Channel has a bed width of 47 feet, and a capacity, with a grade of 6 inches per mile and 7 feet depth of water, of 800 cusecs.

To date, approximately 1,250,000 cubic yards of earth has been excavated from the Canal and Murray Valley Main Channel.

The earthwork has been carried out by contract, mainly by means of horse-drawn scoops, but some contractors used tractors for drawing scoops.

The construction of bridges, regulators, and drops, mainly of reinforced concrete and steel design, and drainage and other works, is being carried out under day labour conditions and is proceeding concurrently with the channel earthworks.



Murray Valley Main Channel—Typical Drop.

It is proposed to complete the Channel System for the Cobram area during the coming year, and it is expected that water will be available in this area during the irrigation season of 1939-40.

### **STORAGES.**

#### **GOULBURN STORAGES.**

These works comprise the Eildon Reservoir, 306,000 acre feet capacity, on the Goulburn River about 18 miles above Alexandra; Goulburn Weir, on the Goulburn River near Wahring, capacity 20,700 acre feet; and the Waranga Reservoir near Rushworth, 333,400 acre feet capacity. These storages supply an area of 1,330,000 acres of land with domestic and stock and irrigation water.

#### **EILDON RESERVOIR.**

The length of the dam is 3,000 feet, of which 2,300 feet consists of rock-fill bank about 140 feet high.

During the year the designed section of the bank was maintained by adding rock-fill where necessary. The painting of the spillway gates, high level outlet gates, and the outside of the low level outlet pipes was completed.

Weekly measurements taken of the deflections of the corewall and drainage flows from the bank have shown that there have been only minor alterations in these measurements during the year.

The works area has been cleaned up, houses painted, and water mains laid. Several houses and house blocks were sold during the year, and Commission's lands along the reservoir boundaries were patrolled and kept in order.

The highest level of the reservoir was R.L. 822.65 feet on 22nd October, 1937, and its lowest level was R.L. 738 feet or 1,700 acre feet on 14th May, 1938; the full supply level being R.L. 823 feet, representing 306,000 acre feet.



## GOULBURN WEIR.

This structure is on the Goulburn River, near Nagambie, and consists of a concrete wall faced with granite blocks. Its total length with the channel regulators is 925 feet, and the weir raises the Summer level of the river about 45 feet. Along its crest there are 21 flood gates, each 20 feet wide by 10 feet high, which can be lowered into the structure for regulating the water level.

The works were kept in satisfactory order during the year. Some of the timber decking of the gangway was renewed, the back of the gates and other parts of the structure were painted, and minor repairs were done to the hydraulic turbines and overhead gearing. Further tree planting and minor improvements were carried out.

## WARANGA RESERVOIR.

This reservoir, situated about 10 miles from Rushworth, has been formed out of a natural depression by an earthen embankment  $4\frac{1}{2}$  miles long and 40 feet high, faced with stone pitching set in concrete, its water surface being 23 square miles. Constant supervision of this bank is essential owing to the large waves which break on the stone pitching. During this year little trouble has been experienced from this action, and minor faults in the pitching have been repaired with stone filling grouted in concrete, the bank being now in good condition.

A further mile of tram line along the crest of the bank was relaid with heavier rails and new sleepers. The stone wall along the crest, used as a reserve for stone for repairs in cases of emergency, has been kept to full requirements and the quarry has been put in order.

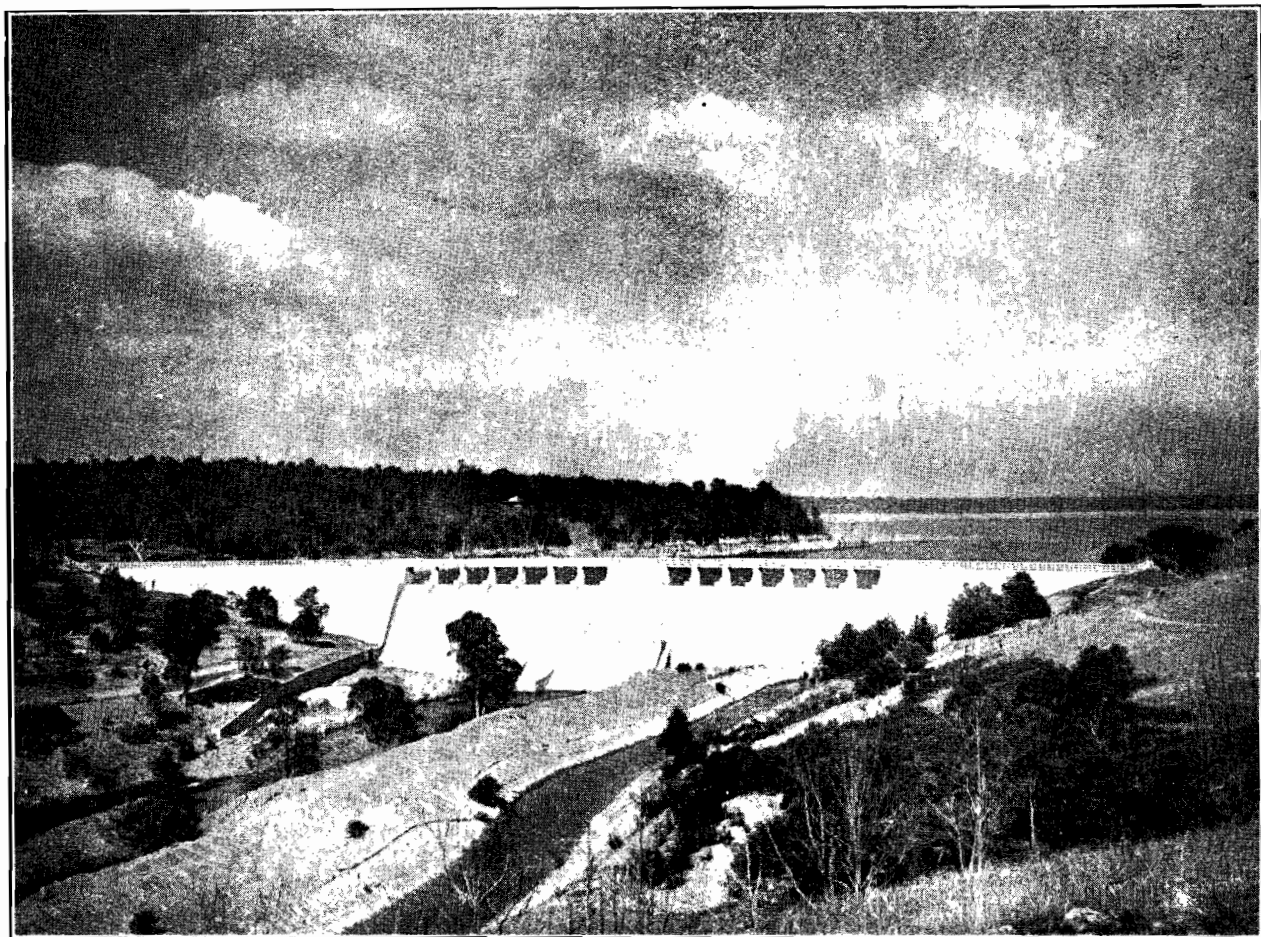
About 20 chains of the back face of the bank were trimmed, resoiled, and planted with grasses. This work will be continued as funds become available. Ornamental trees were planted in the neighbourhood of the caretaker's house, repairs were carried out to workshops and storerooms and the adjacent area was cleaned up.

The highest level of the reservoir was R.L. 397·8 feet (331,000 acre feet) on 8th and 9th September, 1937 (full supply level 398 feet = 333,400 acre feet), and lowest R.L. 375·33 feet (68,400 acre feet) on 18th to 21st May, 1938.

## GLENMAGGIE RESERVOIR.

This reservoir is situated on the Macalister River, near Heyfield, and supplies some 44,000 acres of rich river flats near Maffra, Stratford, and Sale.

The dam, a large cyclopean concrete structure 1,000 feet in length, raises the water to a maximum height of 100 feet above the foundations.



Glenmaggie Reservoir.

The dam was carefully maintained during the year. The handrails along the crest were painted and the area around the dam was kept in a satisfactory condition.

The reservoir was at full supply level, R.L. 244 feet (104,500 acre feet) from 16th October to 1st November, 1937, the lowest level being R.L. 215.85 feet (26,030 acre feet) on 19th July, 1937.

#### MALMSBURY RESERVOIR.

The Malmsbury Reservoir, on the Coliban River near Malmsbury, is one of the storages for the Coliban Water Supply Scheme. The dam consists of an earthen embankment with flood spillways at each end. Its present capacity is 12,300 acre feet, and works were commenced during the year to increase the capacity by approximately 2,100 acre feet. These additional works comprise the raising of the existing bank by 4 feet 3 inches and the installation of steel regulator gates supported by concrete piers on both flood spillways.

This work proceeded satisfactorily until adverse weather conditions caused the temporary suspension of operations. The upstream portion of the enlargement of the embankment has been completed to the existing crest level, 4,000 cubic yards of clay filling and 3,000 square yards of stone beaching being placed in position. The works have been carried out under Unemployment Relief conditions, and the average number of men employed during the progress of the work was 57.

#### LAANECOORIE RESERVOIR.

This work consists of an earthen embankment, with clay core and a regulating weir on the Loddon River, about  $\frac{1}{2}$  mile upstream from the township of Laanecoorie, with a storage capacity of 6,650 acre feet, and is the headworks of the Loddon River System.

Maintenance of this storage was carried out satisfactorily during the year.

The reservoir was at full supply level, R.L. 526 feet (6,650 acre feet) from 20th October, 1937, to 2nd November, 1937, the lowest level being R.L. 509 feet (115 acre feet) on 30th and 31st May, 1938.

#### WIMMERA STORAGES.

The principal storages in this system are Wartook Reservoir 23,800 acre feet, Lake Lonsdale 53,300 acre feet, Fyans Lake 17,100 acre feet, Taylors Lake 30,000 acre feet, and Pine Lake 52,000 acre feet. These storages are the main headworks for the Wimmera-Mallee Water Supply System of 11,000 square miles.

#### WARTOOK RESERVOIR.

The new outlet valve installed last year is operating satisfactorily. Beaching was repaired where necessary, further drains were installed to carry away seepage water, and the bank was cleared of shrubs and small tree growth. General maintenance work was carried out.

A new residence was built for the caretaker.

#### LAKE LONSDALE.

The embankment and the downstream toe were cleaned of all timber and scrub, and further drains placed to carry off all seepage water. Some minor repairs were made to the gearing of the outlet valves and general maintenance work was carried out.

#### PINE LAKE, FYANS LAKE, AND TAYLORS LAKE.

Only minor repair and general maintenance works were done at these storages during the year.

At Pine Lake the section of the back slope of the bank which had been trimmed and resoiled last year is in good order, and it is hoped to extend this work in the near future.

#### WERRIBEE AND BACCHUS MARSH STORAGES.

These storages comprise the Melton Reservoir, 19,100 acre feet, on the Werribee River near Melton, and the Pykes Creek Reservoir, 21,000 acre feet, on Pykes Creek near Ballan, the latter storage being supplemented by the Pykes Creek tunnel diverting water from Werribee River into the Reservoir.

## MELTON RESERVOIR.

The new gates installed last year on the spillway of this reservoir resulted in the storing of an additional 2,100 acre feet of water in October, 1937.

A hydraulic ejector to drain the outlet tunnel and a hydraulic ram for the water supply to the caretaker's quarters were installed. Handrailing was fitted on the bywash abutment wall, the bank fence was renewed with concrete posts, and general maintenance work received attention.

The highest level of the reservoir was R.L. 272.5 feet on 30th to 31st October, 1937, full supply level being R.L. 273 feet (19,100 acre feet) and the lowest R.L. 209 feet (448 acre feet) on 26th May, 1938.

## PYKES CREEK RESERVOIR AND TUNNEL.

The Pykes Creek Reservoir was maintained in a satisfactory condition throughout the year. Some repairs were done to the upstream beaching which had been displaced by storms. Resoiling of the back of the dam was continued and additional planting of pine trees was done in the reserves in the vicinity of the dam. Thinning out of the plantations will be carried out during the coming year.

The highest level of the reservoir was R.L. 1,289 feet (13,260 acre feet) on 28th to 31st October, 1937, full supply level being 1,306 feet (21,000 acre feet), and the lowest level was R.L. 1,256 feet (3,800 acre feet) on 28th June, 1938.

The Pykes Creek Tunnel, near Ballan, extends from the Werribee River to Myers Creek, a distance of about 80 chains, and is 6 feet in diameter. At the entrance to the tunnel there is a low concrete weir across the Werribee River. The water diverted into the tunnel flows into the Pykes Creek Reservoir, via Myers Creek.

To improve the carrying capacity of this tunnel, cleaning out and concrete lining operations were continued as grants of Unemployment Relief Funds became available. Large quantities of debris were removed, and narrow sections were enlarged. The tunnel is now fully or partially lined over a length of 44 chains.

The average number of men employed at the tunnel was 55.

## LITTLE MURRAY WEIR.

The Little Murray Weir is situated on the Little Murray River, about 4 miles from Swan Hill. It is the diversion weir for the supply of water to the Swan Hill and Woorinen irrigation areas.

General maintenance was carried out.



## RIVERS AND RECLAMATION DIVISION.

(*H. G. Strom, B.C.E., A.M.I.E.Aust., Divisional Engineer.*)

### DRAINAGE AND FLOOD PROTECTION SCHEMES.

#### KOOWEERUP AND CARDINIA.

Following heavy rainfall totalling 9 to 10 inches on the Gembrook Ranges during a period of four days in October, 1937, the flood discharge in the Bunyip River was the second largest on record, being estimated as 20,000 cusecs and exceeded only by the extraordinary discharge in November-December, 1934. Widespread flooding occurred throughout the districts and waters inundated the Kooweerup Township to a depth of 2 to 3 feet.

In the Cardinia District, works carried out by the Commission during the preceding two years proved very effective, and although not completed, were instrumental in preventing flooding of a much more serious nature than that which actually occurred.

The Commission has continued the construction of major works for the alleviation of flooding in the Cardinia and western portion of the Kooweerup Districts, and has now completed the whole of the Toomuc-Deep Creek works comprising a large new Outfall,  $6\frac{1}{4}$  miles in length, along the east side of the Toomuc-Cardinia Main Drain, and an extension of the Outfall north-easterly for an additional 4 miles to intercept the run-off from the Deep Creek Catchment.

A substantial measure of protection against the menace of flooding is afforded by these works to a very large area of reclaimed swamp country.

The construction of the large Cardinia Outfall on the west side of the Toomuc Cardinia Main Drain has been constructed for a distance of  $2\frac{1}{2}$  miles from Western Port Bay. It is expected that this important outfall and appurtenant work will be completed within a period of twelve months.

During the past year approximately 350,000 cubic yards of earthwork were removed, for the most part by six mechanical excavators; timber and steel bridges totalling over 500 feet in length were constructed; fencing was erected for a distance of  $5\frac{1}{2}$  miles; and other work, including clearing, concrete work and roadwork, was carried out.

Maintenance work has comprised extensive repairs to 32 bridges totalling 1,600 feet in length; the cleaning and regrading of drains for a total distance of 74 miles; the treatment of noxious weeds and vermin along some 26 miles of drainage reserves; and the carrying out of flood repairs involving structural work and about 16,000 cubic yards of earthwork.

Surveys for the preparation of plans in connexion with the proposed Yallock Outfall are in progress.

Privately owned suction plants, operating under an arrangement with the Commission, have removed about 19,000 tons of coarse clean sand from the Kooweerup Main Canal during the year, for commercial purposes. The total output of sand to date is approximately 347,000 tons.

#### CARRUM.

In October, 1937, a very heavy flood discharge, estimated at 12,000 cusecs, occurred in the Dandenong Creek and caused intense flooding of lands in the low lying parts of the Dandenong Township and in the Bangholme and Keysborough Districts.

The large new Outfall constructed by the Commission from Pillars Crossing to the Patterson River at Carrum operated most satisfactorily, with the result that comparatively little or no flooding occurred within the greater part of the Carrum District situated south of the Mordialloc and Eumemmerring Main Drains.

During the year the Commission has enlarged the waterway of the Patterson River at Carrum, and strengthened the north bank for about 1,000 feet in length with timber sheet piling to resist the fretting action of flood and tidal waters. Further protective work of this nature is now in progress. The banks of the Main Outfall throughout its full length of five miles below Pillars Crossing have been regraded to provide a greater margin of safety for flood flows.

Repairs involving earthwork, stone beaching, and sodding were effected to the works damaged by flood waters above Pillars Crossing.

General maintenance work has comprised the cleaning of drains totalling about 40 miles in length, and some treatment of noxious weeds on the main drainage reserves.

#### LOCH GARRY, KANYAPELIA, AND ECHUCA.

As the rivers in these districts did not reach flood level during the year, the flood protection works were not brought into operation. Necessary maintenance works were carried out.

Sufficient revenue having been obtained to liquidate the Capital Liability of the Echuca (High-street) Flood Protection District, steps have been taken to abolish the district and to transfer the flood protection works to the Echuca Borough Council. Effect will be given to this transfer under the provisions of the *Echuca (High-street) Flood Protection District Abolition Act 1938* (No. 4552).

### RIVERS.

#### RIVER IMPROVEMENT.

During the year, 54 grants from the Rivers and Streams Fund, totalling £8,778, were recommended, after investigation, to the Honorable the Commissioner for Public Works, and subsequently approved by him. This brought the total number of grants made since the establishment of the Fund in 1930 to 365, and the total amount granted to £59,200. The revenue of the Fund, which comprises rentals received by the Crown from river frontages, increased this year to £8,800.

The works of improvement, recommended by the Public Works Committee, on the Latrobe and Snowy Rivers were put in hand and are now well advanced. On the Latrobe River some 32 miles were cleared of snags and overhanging trees, out of a total length of 86 miles scheduled to be done; and two bends were cut through to give more direct flow. The amount expended to the end of the year was £11,500 out of the total proposed expenditure of £46,000.

On the Snowy River, extensive removal of willows, silt banks, islets and snags has been undertaken. The outlets to the river from some of the local creeks, which are acting as drainage carriers, have been enlarged and cleared of obstruction. A flood which occurred in the Snowy River in March, 1938, was, by a coincidence, of practically the same magnitude as the flood of June, 1936, and the reduction in flooding clearly demonstrated the value of the works done in the interval. Out of an estimated total expenditure of £23,000 the expenditure so far has been £12,000.

A further instalment of £5,000 of Unemployment Relief funds was expended on the systematic snagging of the rivers of the State, bringing the total to £51,500 in the last three years. This amount has, with the co-operation of the Municipal Councils concerned, been expended on the Avoca, West Barwon, Broken, Fitzroy, Gellibrand, Goulburn, King, Kiewa, Latrobe, Loddon, Macalister, Mitchell, Ovens, Powlett, Rubicon, Snowy, Tambo, Tarra, Tarwin, Thomson, and Yarra Rivers, and the Gunbower and Woori Yallock Creeks. Numerous applications for extension of this work have been received and it will be continued during the coming year if further grants are made available for the purpose. The photographs on the next page show the beneficial result of these snagging operations.

The systematic survey of rivers where erosion or flood problems are acute has been carried steadily forward, the Mitta and Kiewa Rivers being surveyed during the year.

The problem of erosion at the effluences of Wodonga Creek and Ryans Creek from the River Murray, which gave rise to a fear of two complete breakaways by the latter river, was considered by a conference of engineers representing New South Wales and Victoria. A scheme for the protection of the Wodonga Creek effluences was outlined by the conference and will shortly be put in hand. A further survey is being made of Ryans Creek, and works for the protection of its effluence are being considered.

A scheme to check the serious erosion on the Avon River in Gippsland is being prepared. Mr. H. G. Strom, Divisional Engineer, visited New Zealand to make a comprehensive investigation into methods of river control in that country, with special reference to methods of erosion prevention suitable for use on the Avon and similar rivers in Victoria. Every assistance was given him by the New Zealand Authorities, and much valuable information was obtained and embodied in a report which will probably be printed and made available to public bodies concerned with the problems of river erosion.

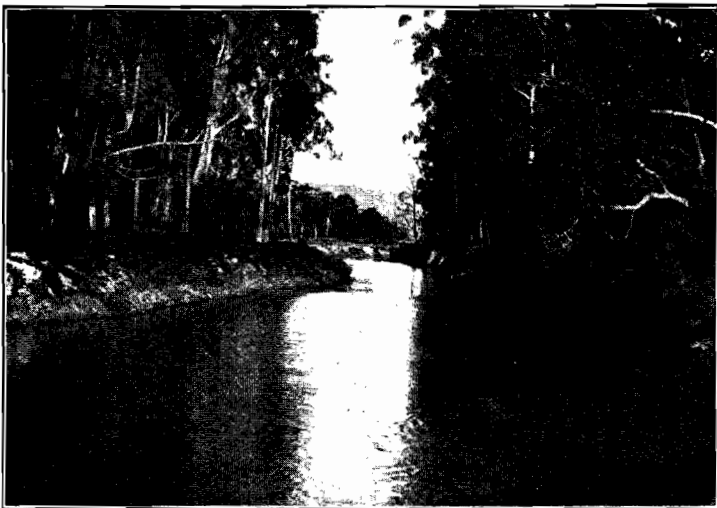
LATROBE RIVER.



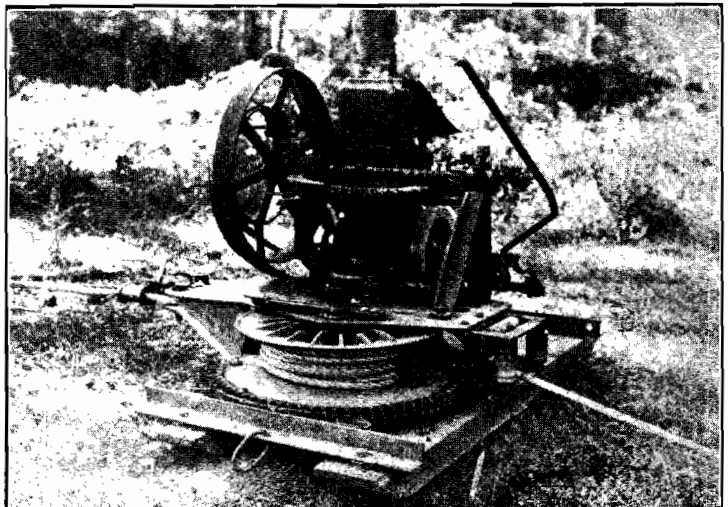
THE RIVER BEFORE SNAGGING.



AFTER SNAGGING.



A STRETCH OF THE RIVER AFTER SNAGGING.



A POWER UNIT.

## SOIL EROSION AND SILTATION.

During the year the Government appointed a Committee to investigate soil erosion, on which this Commission was represented by Mr. H. G. Strom, Divisional Engineer. This Committee, after carrying out extensive inquiries throughout the State, has presented its report to the Government, drawing attention to the seriousness of the problem.

In addition, numerous investigations and inspections were made to ascertain the probable effect on streams and storages, of proposed mining operations and settlement of lands.

As an example of the economic importance of the question, it may be mentioned that the cost of removing sand drift from the channels of the Wimmera-Mallee System alone was approximately £55,000 for the year.

## MINING AND SLUDGE ABATEMENT.

An important activity of the Rivers and Reclamation Division has been the investigation of the probable effect of numerous proposed alluvial mining operations in various parts of the State on the local streams. The Commission has been in close touch with the Sludge Abatement Board in endeavouring to ensure that the methods used in mining should be such that the streams do not suffer from undue pollution or siltation. Some 25 cases have been dealt with during the year.

## MURRAY LEVEES.

Applications received during the year for permission to carry out works to protect lands from the effects of floods in the River Murray were dealt with by the Interstate Committee appointed for the purpose. Of the permissible total of 99,000 acre feet flood storage reclamation on the New South Wales side of the river, and of 33,000 acre feet on the Victorian side, 16,354 and 20,533 acre feet respectively have now been allotted.

## WATER DISTRIBUTION.

The total area of land in Victoria supplied with water for domestic and stock purposes or for irrigation, excluding metropolitan areas, aggregated 15,065,000 acres.

The supply of water to users was commenced in early August, 1937, at which time the storages, including Victoria's half share of Hume Reservoir, contained 964,430 acre feet, and terminated about the 1st June, 1938, when the volume remaining in the storages amounted to 490,755 acre feet. Full advantage was taken of available river flows during the year in order to conserve water as far as possible.

During the year a total of 672,782 acre feet of water, including 55,944 acre feet by pumping, was delivered from the Commission's channels to landholders in Irrigation Districts. This quantity exceeded the previous record of 1929-30 season when irrigation deliveries commenced during July and terminated at the end of May, 651,400 acre feet of water, inclusive of 50,556 acre feet by pumping, being delivered to users. Actually the year under review (1937-38) shows a greater delivery than in the preceding year by 160,797 acre feet.

The Irrigation Districts of Red Cliffs, Merbein, and Nyah received 55,944 acre feet pumped direct from the River Murray, while the high level Waterworks Districts of Millewa, Coreena, Carwarp, and Yelta, also involving pumping, received 20,917 acre feet for domestic and stock supplies.

Although an interruption of delivery was caused by late Spring rainfall, the demand for irrigation water, which began early in August, extended to an exceptionally late period and resulted in slightly more than 95 per cent. of the water rights apportioned throughout the gravitation systems being used, while in the three districts dependent upon pumped supplies, 97 per cent. of water rights was taken.

The Wimmera-Mallee Waterworks Districts also received some 33,224 acre feet from the Loddon and Goulburn systems, in addition to their usual supplies from the Wimmera-Mallee storages in the vicinity of the Grampians. The volume of water discharged from the Waranga Reservoir amounted to 625,300 acre feet. Of this quantity, 266,710 acre feet were delivered to users in Irrigation Districts, and, together with water passed to the Wimmera-Mallee Waterworks Districts at the Loddon Weir, gave a delivery efficiency of about 47 per cent. Whilst this percentage is an advance on previous years, it is hoped, by improving the condition of channels and structures, to further increase the efficiency of delivery which would add to the actual quantities of water that could be made available on the land.

## DIVERSION OF WATER.

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, has been strictly exercised. The seasonal conditions and stream flows during the earlier Summer months were favourable to the use of water for irrigation, and resulted in an increased demand by landholders outside irrigation districts for authority to divert water from streams and other natural sources of supply. In many cases, however, during the later Summer months, it was found necessary to restrict supplies from certain streams owing to the necessity of safeguarding domestic and stock supplies. Notwithstanding this, the authorized diversions in force are 2,278 compared with 1,969 for the previous year.

## OCCUPATION OF COMMISSION LANDS.

Again the Commission has been enabled to secure suitable tenants for lands not required in connexion with works, and has arranged in all 1,179 tenancy permits for periods up to fifteen years to occupy such lands. Of this number, 993 permits are actually in force. Included in the number of existing permits are 112 in respect of River Murray Commission lands administered by this Commission, also 5 in the Carrum Trust area. In addition, 21 permits have been granted for the right to remove sand and gravel from canalized waterways.

The matter of controlling boating on reservoirs and main channels throughout the State has been made uniform by the Commission, and, in the exercise of such control, 170 licences are now in force.

## CROWN LANDS.

Numerous applications for alienation or occupation of Crown Lands, including water reserves and creek frontages, were referred by the Lands Department to this Commission for report as to whether such applications could be granted without injury to water supply interests. In dealing with these, it has been necessary for a number of inspections to be made in different parts of the State in order to ascertain for each area its value for water supply or its liability to erosion.

## 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.

As a result of the abnormally low rainfall experienced during the year, the discharge of streams was generally far below the average, and in some instances the minimum record was established. In the principal storage catchments the run-off was below the average by the following percentages:—Hume Reservoir, 51; Goulburn, 59; Wartook Reservoir, 52; Lake Lonsdale, 74; and Coliban, 88.

The table hereunder shows maximum, average, and 1937–38 run-offs on these catchments:—

| Catchment.            | Run-off in Acre feet During 12 months period from July to June. |                      |           |           |
|-----------------------|---|----------------------|-----------|-----------|
|                       | Maximum.  | Minimum.             | Average.  | 1937–38.  |
| Hume* .. .. .         | 8,048,000<br>(1917–18)  | 883,000<br>(1914–15) | 3,029,000 | 1,488,000 |
| Goulburn† .. .. .     | 5,799,000<br>(1917–18)  | 655,000<br>(1914–15) | 2,316,000 | 952,000   |
| Wartook .. .. .       | 40,400<br>(1910–11)   | 7,900<br>(1914–15)   | 21,300    | 10,236    |
| Lake Lonsdale .. .. . | 181,800<br>(1916–17)  | 5,400<br>(1914–15)   | 76,000    | 19,300    |
| Coliban .. .. .       | 144,260<br>(1916–17)  | 6,330<br>(1937–38)   | 54,140    | 6,330     |

\* Measured at Jingellic and Tallangatta.

† Measured at Murchison.

With regard to the Coliban storages, the inflow for the year was the lowest on record, being only 47 per cent. of that in the year 1914–15, and 52 per cent. of the inflow in the year 1902–3.

The only severe flooding occurred in the Bunyip River and Dandenong Creek during October, 1937, when the level reached in each stream was exceeded only by that of the record flood in 1934.

During the year, the gauging station on the Glenelg River at Balmoral, which was temporarily abandoned in 1933, was re-established. The number of gauging stations in operation is now 50.

The following statement shows the streams on which gaugings have been carried out, the sites of the gauging stations, and the periods for which gauging records are available:—

# STATEMENT SHOWING STREAMS, GAUGING SITES, AND PERIODS FOR WHICH GAUGING RECORDS ARE AVAILABLE.

Stations where gaugings are now being taken shown in heavy type and by \*.

| Stream.                     | Site of Gauging Station        | Gaugings Commenced. | Date to which Gaugings Continued. | Stream.                     | Site of Gauging Station. | Gaugings Commenced. | Date to which Gaugings Continued. |
|-----------------------------|--------------------------------|---------------------|-----------------------------------|-----------------------------|--------------------------|---------------------|-----------------------------------|
| Avoca River ..              | Coonooer Weir ..               | Month. Year         | Month. Year.                      | <b>Macalister River ..</b>  | <b>Glenmaggie Weir</b>   | Month. Year.        | Month. Year                       |
| <b>Avon River ..</b>        | <b>Valencia Creek</b>          | June 1889           | Dec. 1931                         | Macalister River            | Maffra ..                | Jan. 1923           | * Jan. 1923                       |
| Armstrong Creek             | Reefton ..                     | Mar. 1918           | Dec. 1933                         | <b>Mackenzie River</b>      | <b>Wartook Reservoir</b> | Jan. 1887           | * Jan. 1887                       |
| Back Creek ..               | Nillahcootie ..                | Oct. 1936           | *                                 | Maribyrnong River           | Keilor ..                | Jan. 1908           | Dec. 1933                         |
| Barwon River ..             | Pollocksford ..                | Jan. 1901           | Dec. 1901                         | Mathers Creek ..            | Balmoral ..              | June 1889           | Dec. 1893                         |
| Barwon River ..             | Winchelsea ..                  | Aug. 1902           | Dec. 1915                         | Mitchell River ..           | Bairnsdale ..            | Jan. 1890           | June 1922                         |
| Bemm River ..               | Club Terrace ..                | July 1906           | Dec. 1921                         | <b>Mitchell River ..</b>    | <b>Glenaladale ..</b>    | June 1937           | *                                 |
| Brodrigg River ..           | Sardin Creek ..                | Jan. 1922           | Dec. 1933                         | Mitchell River ..           | Waterford ..             | April 1922          | Dec. 1933                         |
| <b>Broken River ..</b>      | <b>Goorambat ..</b>            | May 1922            | June 1929                         | <b>Mitta River ..</b>       | <b>Tallandoon ..</b>     | July 1934           | *                                 |
| Broken River ..             | Nillahcootie ..                | June 1886           | *                                 | <b>Mitta River ..</b>       | <b>Tallangatta ..</b>    | Aug. 1885           | *                                 |
| <b>Broken River ..</b>      | <b>Lima South</b>              | Aug. 1902           | Dec. 1925                         | Moorarbool River            | Batesford ..             | Jan. 1908           | Dec. 1921                         |
| Buckland River ..           | Buckland Bridge                | Jan. 1926           | Dec. 1933                         | Mount Emu Creek             | Skipton ..               | June 1920           | Dec. 1933                         |
| Buffalo River ..            | McGuffies Bridge               | July 1936           | *                                 | <b>River Murray ..</b>      | <b>Jingellic ..</b>      | May 1890            | *                                 |
| Bullarook Creek             | Clunes Weir ..                 | Dec. 1924           | Dec. 1933                         | River Murray ..             | Albury ..                | Jan. 1877           | Dec. 1905                         |
| <b>Bunyip River ..</b>      | <b>Bunyip ..</b>               | Dec. 1924           | Dec. 1933                         | <b>River Murray ..</b>      | <b>Tocumwal ..</b>       | Jan. 1908           | *                                 |
| Burrowye Creek ..           | Burrowye ..                    | April 1930          | Dec. 1933                         | River Murray ..             | Echuca ..                | Sept. 1865          | Dec. 1908                         |
| Callaghans Creek            | Barwon Downs ..                | June 1907           | *                                 | <b>River Murray ..</b>      | <b>Torrumbarry ..</b>    | Jan. 1906           | *                                 |
| Campaspe River              | Rochester ..                   | Nov. 1935           | *                                 | River Murray ..             | Swan Hill ..             | Jan. 1909           | *                                 |
| <b>Campaspe River ..</b>    | <b>Rochester Weir ..</b>       | Oct. 1929           | June 1931                         | <b>River Murray ..</b>      | <b>Wakool Junction</b>   | July 1929           | *                                 |
| Campaspe River ..           | Ashbourne ..                   | April 1885          | Dec. 1908                         | River Murray ..             | <b>Lock 15, Euston</b>   | Jan. 1930           | *                                 |
| Cann River ..               | Weeragana ..                   | Jan. 1909           | *                                 | River Murray ..             | Mildura ..               | Jan. 1865           | Dec. 1929                         |
| Cardinia Creek ..           | Beaconsfield ..                | Mar. 1933           | *                                 | Ovens River ..              | Bright ..                | Dec. 1924           | Dec. 1933                         |
| Carlisle River ..           | Carlisle Bridge                | May 1922            | June 1929                         | <b>Ovens River ..</b>       | <b>Wangaratta ..</b>     | June 1887           | *                                 |
| Coliban River ..            | Malmbsbury Resr.               | Oct. 1936           | *                                 | O'Shaunnessy Creek          | Warburton ..             | Jan. 1901           | Dec. 1914                         |
| Creswick Creek ..           | Tourello ..                    | Mar. 1930           | *                                 | <b>Pykes Creek ..</b>       | <b>Pykes Creek ..</b>    | Nov. 1908           | June 1922                         |
| <b>Dandenong Creek</b>      | <b>Dandenong ..</b>            | May 1889            | *                                 | <b>Riddells Creek ..</b>    | <b>Riddell ..</b>        | July 1926           | *                                 |
| Dargo River ..              | Dargo ..                       | April 1930          | Dec. 1933                         | Snowy River ..              | Orbost ..                | Sept. 1933          | *                                 |
| Deep Creek ..               | Bulla ..                       | Nov. 1924           | *                                 | <b>Snowy River ..</b>       | <b>Jarrahmond ..</b>     | Jan. 1907           | June 1922                         |
| Dewings Creek ..            | Barwon Downs ..                | April 1922          | Dec. 1933                         | <b>Tallangatta Creek</b>    | <b>Tallangatta ..</b>    | May 1922            | *                                 |
| <b>Eastern Barwon River</b> | <b>Forrest ..</b>              | Feb. 1908           | June 1933                         | <b>Tambo River ..</b>       | <b>Bruthen ..</b>        | Sept. 1935          | *                                 |
| Eastern Moorarbool River    | Bolwarrah Weir ..              | Oct. 1929           | June 1930                         | Tambo River ..              | Ensay ..                 | Jan. 1906           | Dec. 1924                         |
| Emu Creek ..                | Sunbury ..                     | Oct. 1926           | *                                 | <b>Tanjil River ..</b>      | <b>Willow Grove ..</b>   | June 1937           | *                                 |
| <b>Eumemmerring Creek</b>   | <b>Abbotts Road, Dandenong</b> | Aug. 1908           | Dec. 1921                         | Tarago River ..             | Trouin West ..           | Jan. 1925           | *                                 |
| Fiery Creek ..              | Streatham ..                   | Feb. 1908           | June 1933                         | Thomson River ..            | Heyfield ..              | June 1907           | Dec. 1933                         |
| Genoa River ..              | Wangrabelle ..                 | Feb. 1931           | *                                 | <b>Thomson River ..</b>     | <b>Cowwarr ..</b>        | Jan. 1901           | June 1922                         |
| <b>Glenelg River ..</b>     | <b>Balmoral ..</b>             | June 1920           | Dec. 1933                         | <b>Thomson River ..</b>     | <b>Coopers Creek ..</b>  | Mar. 1922           | *                                 |
| Glenelg River ..            | Moora Moora ..                 | May 1922            | Dec. 1933                         | Toolern Creek ..            | Melton ..                | Jan. 1928           | *                                 |
| Glenelg River ..            | Sandford ..                    | Oct. 1927           | June 1929                         | <b>Tyers River ..</b>       | <b>Gould ..</b>          | May. 1922           | Dec. 1933                         |
| <b>Goulburn River ..</b>    | <b>Eildon Weir ..</b>          | Oct. 1927           | June 1929                         | Wannon River ..             | Dunkeld ..               | Oct. 1921           | *                                 |
| <b>Goulburn River ..</b>    | <b>Murchison ..</b>            | April 1889          | Dec. 1933                         | Werribee River ..           | Bacchus Marsh ..         | June 1920           | Dec. 1933                         |
| <b>Goulburn River ..</b>    | <b>Shepparton ..</b>           | June 1938           | *                                 | Werribee River ..           | Werribee ..              | Jan. 1907           | Dec. 1921                         |
| <b>Goulburn River ..</b>    | <b>Trawool ..</b>              | Feb. 1889           | Dec. 1890                         | Werribee River ..           | Cobbledicks Ford         | Feb. 1911           | Dec. 1915                         |
| Goodmans Creek ..           | Darley ..                      | Jan. 1900           | June 1920                         | <b>Werribee River ..</b>    | <b>Melton Reservoir</b>  | Mar. 1930           | Dec. 1933                         |
| Goslings Creek ..           | Murroon ..                     | Jan. 1916           | *                                 | <b>Western Barwon River</b> | <b>Forrest ..</b>        | Sept. 1936          | *                                 |
| Hopkins River ..            | Allansford ..                  | June 1881           | *                                 | Western Moorarbool River    | Bennetts Bridge          | Oct. 1926           | *                                 |
| Hopkins River ..            | Wickliffe ..                   | June 1921           | *                                 | Wimmera River ..            | Eversley ..              | Jan. 1909           | Dec. 1921                         |
| Jacksons Creek ..           | Sunbury ..                     | Jan. 1908           | May 1909                          | Wimmera River ..            | Glenorchy Weir ..        | Oct. 1902           | Dec. 1933                         |
| Jim Crow Creek              | Franklinford ..                | Jan. 1926           | *                                 | <b>Wimmera River ..</b>     | <b>Horsham ..</b>        | May 1884            | Dec. 1914                         |
| King River ..               | Wangaratta ..                  | June 1927           | Dec. 1933                         | Woody Yallock River         | Pitfield ..              | Jan. 1889           | *                                 |
| <b>King River ..</b>        | <b>Whitfield ..</b>            | June 1930           | June 1920                         | Yarra River ..              | McVeighs ..              | Aug. 1917           | Dec. 1933                         |
| <b>Kiewa River ..</b>       | <b>Kiewa ..</b>                | Dec. 1886           | Dec. 1900                         | Yarra River ..              | Reefton ..               | April 1908          | Dec. 1914                         |
| <b>Lang Lang River</b>      | <b>Heath Hill</b>              | Dec. 1924           | *                                 | Yarrowee River ..           | Warrandyte ..            | Jan. 1901           | Dec. 1901                         |
| Latrobe River ..            | Rosedale ..                    | July 1885           | *                                 |                             | Garibaldi ..             | Jan. 1891           | Dec. 1933                         |
| Latrobe River ..            | Willow Grove ..                | Jan. 1925           | *                                 |                             |                          | April 1922          | Dec. 1929                         |
| Latrobe River ..            | Yallourn ..                    | Dec. 1936           | *                                 |                             |                          |                     |                                   |
| <b>Lerderderg River</b>     | <b>Darley ..</b>               | Dec. 1919           | *                                 |                             |                          |                     |                                   |
| <b>Little Wimmera River</b> | <b>Lake Lonsdale Reservoir</b> | Dec. 1936           | *                                 |                             |                          |                     |                                   |
| Loddon River ..             | Brigewater ..                  | Jan. 1901           | Dec. 1919                         |                             |                          |                     |                                   |
| <b>Loddon River ..</b>      | <b>Laanecoorie ..</b>          | Dec. 1936           | *                                 |                             |                          |                     |                                   |
| Loddon River ..             | Vaughan ..                     | Jan. 1925           | *                                 |                             |                          |                     |                                   |
| Macalister River            | Grogans Bridge ..              | June 1919           | Dec. 1922                         |                             |                          |                     |                                   |

**Flood Warning Stations.**  
(Readings Only, Recorded.)

|                   |                 |           |            |
|-------------------|-----------------|-----------|------------|
| Boosey Creek ..   | Tungamah ..     | Nov. 1917 | Aug. 1929  |
| Campaspe River    | Axedale ..      | Jan. 1919 | *          |
| Kiewa River ..    | Tawonga ..      | Nov. 1917 | *          |
| Latrobe River ..  | Noojee ..       | Oct. 1925 | Sept. 1931 |
| Loddon River ..   | Appin South ..  | Oct. 1927 | *          |
| Mitchell River .. | Bairnsdale ..   | June 1937 | *          |
| Mitta River ..    | Mitta Mitta ..  | Nov. 1917 | *          |
| Ovens River ..    | Whorouly ..     | Nov. 1917 | *          |
| Tambo River ..    | Swifts Creek .. | June 1937 | *          |
| Wimmera River ..  | Longerenong ..  | Jan. 1916 | *          |
| Wimmera River ..  | Woodlands North | June 1937 | *          |



**TOTAL STORAGES IN STATE.**

In 1902 the total capacity of storages in the State was 172,000 acre feet. The present capacity is 1,903,450 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, Glenmaggie, and other Reservoirs are completed, the combined capacities of Victoria's storages will be 2,352,560 acre feet.

### EXISTING STORAGES.

|  |    |    |    |    |    |    |    |    | Capacities in Acre Feet. |                  |
|--|----|----|----|----|----|----|----|----|--------------------------|------------------|
| <i>Goulburn System—</i>  |    |    |    |    |    |    |    |    |                          |                  |
| Goulburn Weir  | .. | .. | .. | .. | .. | .. | .. | .. | 20,700                   |                  |
| Waranga  | .. | .. | .. | .. | .. | .. | .. | .. | 333,400                  |                  |
| Eildon   | .. | .. | .. | .. | .. | .. | .. | .. | 306,000                  |                  |
| <i>Murray-Loddon System—</i>   |    |    |    |    |    |    |    |    |                          | 660,100          |
| 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                   |                  |
| Euston Lock Weir (half share of 24,000 acre feet)  | .. | .. |    |    |    |    |    |    | 12,000                   |                  |
| Kow Swamp  | .. | .. |    |    |    |    |    |    | 40,860                   |                  |
| Laanecoorie  | .. | .. |    |    |    |    |    |    | 6,650                    |                  |
| Kerang North-West Lakes  | .. | .. |    |    |    |    |    |    | 69,400                   |                  |
| Lake Boga  | .. | .. |    |    |    |    |    |    | 29,650                   |                  |
| Long Lake  | .. | .. |    |    |    |    |    |    | 3,820                    |                  |
| <i>Wimmera-Mallee System—</i>  |    |    |    |    |    |    |    |    |                          | 827,380          |
| Fyans Lake   | .. | .. |    |    |    |    |    |    | 17,100                   |                  |
| Lake Lonsdale  | .. | .. |    |    |    |    |    |    | 53,300                   |                  |
| Wartook  | .. | .. |    |    |    |    |    |    | 23,800                   |                  |
| Taylor's 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, Townships, Reservoirs, and Mallee Tanks  | .. | .. |    |    |    |    |    |    | 5,840                    |                  |
| <i>Maffra-Sale System—</i>   |    |    |    |    |    |    |    |    |                          | 207,710          |
| Glenmaggie (part of 150,000 acre feet)   | .. | .. |    |    |    |    |    |    | ..                       | 104,500          |
| <i>Coliban System—</i>   |    |    |    |    |    |    |    |    |                          |                  |
| Upper Coliban  | .. | .. |    |    |    |    |    |    | 25,700                   |                  |
| Malmsbury (Enlargement to 14,400 acre feet in progress)  | .. | .. |    |    |    |    |    |    | 12,300                   |                  |
| Spring Gully   | .. | .. |    |    |    |    |    |    | 2,000                    |                  |
| Subsidiary Reservoirs  | .. | .. |    |    |    |    |    |    | 4,840                    |                  |
| <i>Werribee System—</i>  |    |    |    |    |    |    |    |    |                          | 44,840           |
| Pykes Creek  | .. | .. |    |    |    |    |    |    | 21,000                   |                  |
| Melton   | .. | .. |    |    |    |    |    |    | 19,100                   |                  |
| <i>Bellarine Peninsula System—</i>   |    |    |    |    |    |    |    |    |                          | 40,100           |
| Wurdee Boluc   | .. | .. |    |    |    |    |    |    | 10,000                   |                  |
| Service Basins   | .. | .. |    |    |    |    |    |    | 760                      |                  |
| <i>Mornington Peninsula System—</i>  |    |    |    |    |    |    |    |    |                          | 10,760           |
| Lysterfield  | .. | .. |    |    |    |    |    |    | 3,400                    |                  |
| Beaconsfield, Frankston, and Mornington  | .. | .. |    |    |    |    |    |    | 1,660                    |                  |
| Service Basins   | .. | .. |    |    |    |    |    |    | 200                      |                  |
| <i>Miscellaneous—</i>  |    |    |    |    |    |    |    |    |                          | 5,260            |
| Eppalock   | .. | .. |    |    |    |    |    |    | 1,200                    |                  |
| Wonthaggi  | .. | .. |    |    |    |    |    |    | 1,550                    |                  |
| Wonthaggi Service Basins   | .. | .. |    |    |    |    |    |    | 10                       |                  |
| Newstead   | .. | .. |    |    |    |    |    |    | 40                       |                  |
| <b>Total capacity of existing Storages</b>   |    |    |    |    |    |    |    |    |                          | <b>1,903,450</b> |
| <b>ADDITIONAL STORAGE BEING PROVIDED BY WORKS IN COURSE OF CONSTRUCTION.</b>                                     |    |    |    |    |    |    |    |    |                          |                  |
| <i>Coliban System—Malmsbury Enlargement</i>  |    |    |    |    |    |    |    |    |                          | 2,100            |
| <i>Mornington Peninsula System—Bittern</i>   |    |    |    |    |    |    |    |    |                          | 480              |
| <i>Service Basin</i>   |    |    |    |    |    |    |    |    |                          | 60               |
| <i>Murray System—Yarrowonga Weir (half share of 50,000 acre feet)</i>  |    |    |    |    |    |    |    |    |                          | 25,000           |
| <i>Otway System—Service Reservoirs</i>   |    |    |    |    |    |    |    |    |                          | 970              |
|  |    |    |    |    |    |    |    |    |                          | 28,610           |
| <b>FURTHER STORAGE WHICH COULD BE PROVIDED BY COMPLETION OF EXISTING WORKS.</b>                                  |    |    |    |    |    |    |    |    |                          |                  |
| <i>Maffra-Sale System—Glenmaggie (balance of 150,000 acre feet)</i>  |    |    |    |    |    |    |    |    |                          | 45,500           |
| <i>Murray System—Hume Reservoir, at junction with Mitta River (half-share of balance of 2,000,000 acre feet)</i> |    |    |    |    |    |    |    |    |                          | 375,000          |
|  |    |    |    |    |    |    |    |    |                          | 420,500          |
| <b>Total capacity of Storages when works are completed</b>   |    |    |    |    |    |    |    |    |                          | <b>2,352,560</b> |

## WATERWORKS TRUSTS AND SEWERAGE AUTHORITIES DIVISION.

(*H. W. McCay, B.C.E., A.M.I.E. Aust., Divisional Engineer.*)

Water supply systems and sewerage works in many country towns are controlled by Local Authorities under the general supervision of the Commission.

### COUNTRY WATER SUPPLIES.

Under the provisions of the Water Acts, when the Council of any Municipality desires to have waterworks constructed and maintained in the municipal district, it first employs a qualified water supply engineer to prepare a report on the proposal, together with general plans and estimates of capital cost, annual expenditure involved, and rating necessary to finance the undertaking.

Should the engineer's report indicate that a scheme within the means of the ratepayers could be devised, copies of the report, plans and estimates are submitted to the Commission for examination.

The proposals are carefully reviewed both technically and financially and, if approved as feasible and satisfactory, the Council then gives public notice of its intention to seek the constitution of a Waterworks Trust to construct and maintain the proposed works.

Interested persons may lodge objections to the proposal within one month and on the expiry of a further month, consideration is given to the question of constituting a Waterworks Trust.

In addition to one or more Government nominees, the Trust Commissioners may be the whole of the Councillors of the Municipality, the Riding Councillors concerned, or be elected directly by the ratepayers of the waterworks district; or, where the waterworks district is in two or more municipalities, be elected by the Councils concerned.

In special cases, Municipal Councils may be constituted Local Governing Bodies under the Water Acts, and these Bodies act in all respects as a Waterworks Trust in so far as water supply activities are concerned.

A Waterworks Trust or Local Governing Body under the Water Acts can borrow only from Government sources, and loans are advanced by the Treasury on very long terms, the redemption payments being equivalent to a sinking fund of only  $\frac{1}{4}$  per cent. per annum.

There are now 17 Local Governing Bodies and 116 Waterworks Trusts, including 3 constituted under special legislation, namely, First Mildura Irrigation Trust, Mildura Urban Water Trust and Geelong Waterworks and Sewerage Trust.

Details of the capital liability to the State and of the rates made by these Local Governing Bodies and Waterworks Trusts are set out in the accompanying schedules.

Many important works of water supply were carried out during the year under review.

The **First Mildura** Irrigation Trust continued its programme of lining with concrete considerable lengths of the main channels to reduce leakage losses and damage to lands.

The **Mildura Urban** Water Trust carried out improvements to the town reticulation and again extended its supply works to serve areas taken over from the Irrigation Trust, where township settlement had taken place.

The **Apollo Bay** Waterworks Trust raised its weir on Anderson's Creek to provide increased storage to meet Summer demands.

The **Ararat** Town Council is enlarging portion of its main pipe line to provide an increased supply, and has installed a new pumping plant and rising mains to improve the supply to the higher levels of the town.

The **Colac** Waterworks Trust is carrying out the first stage of a programme for improvements of the supply by renewal and enlargement of the main pipe line.



The **Bet Bet** Shire Council has carried out extensive improvements to the **Dunolly** supply, including enlargement of the reservoir and construction of new catch drains and a new service basin, with the object of increasing the quantity of water available to consumers during Summer periods.

The **Korong** Shire Council has installed a new service basin, pumping plant and mains at **Wedderburn** to improve the available pressure during Summer months.

The **Lancefield** Waterworks Trust has enlarged its main pipe line to enable a satisfactory supply to be maintained.

The **Leongatha** Waterworks Trust is undertaking extensive improvements to the town reticulation.

The **Lorne** Waterworks Trust has carried out extensions and improvements to the town reticulation to provide for development which is taking place.

The **Malmsbury** Waterworks Trust, which was constituted during the year, has completed the installation of its works, and water is now supplied to the township.

The district of the **Morwell** Waterworks Trust was extended to include new township subdivisions, and reticulation extensions and improvements were carried out.

The **Port Fairy** Waterworks Trust, constituted during the year, is constructing the works for the supply to the town.

The **Shepparton Urban** Waterworks Trust is installing a new pumping plant to improve the supply.

The **St. Arnaud** Borough Council has enlarged its service basin to provide an increased supply during the Summer periods.

The **Swan Hill** Waterworks Trust completed the construction of a new elevated tank and pumping plant to provide an improved supply to the high levels.

The **Wangaratta** Waterworks Trust, having completed the installation of bore-hole pumping units and purification plant, is now drawing a supply from underground sources and is carrying out improvements to the reticulation to enable the full benefits of this supply to be obtained.

The **Warragul** Waterworks Trust has enlarged a section of its main pipe line to enable increasing demands to be met.

In order to increase the storage available, the **Woodend** Waterworks Trust is constructing a new reservoir.

Pipe extensions and other works were carried out at **Bairnsdale, Cobram, Colbinabbin, Corryong, Hamilton, Horsham, Kerang, Kilmore, Maffra, Mooroopna, Omeo, Rochester, Traralgon, Tarnagulla, Tatura, Tungamah, Upper Macedon, Warburton, Yarra Junction and Yarrawonga.**

Investigations were made into proposals for town water supplies at **Foster, Lara and Lismore**, and for improvements to works at **Alexandra, Ballarat, Boort, Chiltern, Mildura Irrigation District, Morwell, Nathalia, Rushworth, Seymour, Shepparton, Tallangatta, Trentham, Warracknabeal, Werribee, Wodonga, Woodend, and Yarram.**

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## WATERWORKS TRUSTS.

| Name of Trust.                  | Capital Liability to the State as at 30th June, 1938. |    |    | Rate in £1 made for the Year Ending 31st December, 1938. |    |
|---------------------------------|---|----|----|--|----|
|                                 | £   | s. | d. | s.   | d. |
| Alexandra .. .. .               | 4,403   | 12 | 10 | 2  | 0  |
| Apollo Bay .. .. .              | 5,581   | 16 | 7  | 2  | 3  |
| Avenel .. .. .                  | 4,573   | 10 | 6  | 3  | 0  |
| Avoca Township .. .. .          | 13,483  | 16 | 5  | 2  | 3  |
| Bairnsdale .. .. .              | 26,878  | 3  | 7  | 0  | 10 |
| *Ballan .. .. .                 | ..  | .. | .. | 1  | 9  |
|                                 |   |    |    | 1  | 0  |
|                                 |   |    |    | 0  | 5  |
|                                 |   |    |    | 1  | 6  |
| Bealiba .. .. .                 | 1,139   | 11 | 7  | 1  | 6  |
| Benalla .. .. .                 | 10,714  | 8  | 6  | 1  | 2  |
| *Bet Bet Shire .. .. .          | ..  | .. | .. | ..   | .. |
| Boort .. .. .                   | 4,447   | 15 | 5  | 2  | 3  |
|                                 |   |    |    | 1  | 9  |
|                                 |   |    |    | 1  | 6  |
|                                 |   |    |    | 1  | 6  |
| Bridgewater .. .. .             | 2,370   | 19 | 7  | 1  | 5  |
| Bright .. .. .                  | 4,474   | 11 | 7  | 1  | 6  |
| Broadford .. .. .               | 13,366  | 4  | 10 | 2  | 8  |
| *Bruthen .. .. .                | ..  | .. | .. | ..   | .. |
| Carisbrook .. .. .              | 4,481   | 10 | 5  | 2  | 9  |
|                                 |   |    |    | 2  | 6  |
|                                 |   |    |    | 2  | 3  |
|                                 |   |    |    | 2  | 3  |
| Carrum .. .. .                  | 24,937  | 6  | 0  | (Rates made by the Commission, see page 58)              |    |
| Charlton .. .. .                | 7,581   | 3  | 3  | 2  | 6  |
|                                 |   |    |    |  |    |
| Cobram .. .. .                  | 8,543   | 4  | 6  | 2  | 3  |
| Colac .. .. .                   | 63,656  | 15 | 1  | 1  | 2  |
| Colbinabbin .. .. .             | 869   | 0  | 2  | 3  | 6  |
| Coleraine and Casterton .. .. . | 61,062  | 19 | 1  | 2  | 9  |
|                                 |   |    |    | 2  | 6  |
|                                 |   |    |    | 3  | 0  |
| Corryong .. .. .                | 13,457  | 6  | 11 | 1  | 0  |
| Daylesford Borough .. .. .      | 16,236  | 17 | 0  | 0  | 11 |
|                                 |   |    |    | 4  | 0  |
|                                 |   |    |    | 3  | 0  |
|                                 |   |    |    | 1  | 0  |
| Devenish .. .. .                | 2,287   | 13 | 4  | 1  | 9  |
|                                 |   |    |    | 2  | 7  |
|                                 |   |    |    | 1  | 6  |
|                                 |   |    |    | 2  | 3  |
|                                 |   |    |    | 2  | 0  |
|                                 |   |    |    | 1  | 0  |
| Donald .. .. .                  | 10,334  | 6  | 5  | 1  | 9  |
| Drouin .. .. .                  | 16,985  | 14 | 7  | 2  | 7  |
| Echuca Borough .. .. .          | 23,215  | 3  | 10 | 1  | 6  |
| Elmore .. .. .                  | 3,706   | 8  | 11 | 2  | 3  |
| Euroa .. .. .                   | 22,962  | 2  | 0  | 2  | 0  |
| †Geelong .. .. .                | ..  | .. | .. | 1  | 0  |
| Gisborne .. .. .                | 4,933   | 18 | 11 | 1  | 9  |
| Glenrowan .. .. .               | 1,749   | 11 | 7  | 2  | 6  |
| Hamilton .. .. .                | 57,846  | 8  | 11 | 1  | 6  |
| Healesville .. .. .             | 20,955  | 16 | 8  | 0  | 9½ |
| Heathcote .. .. .               | 10,744  | 15 | 3  | 2  | 0  |
| Hepburn .. .. .                 | 6,875   | 15 | 5  | 1  | 0  |
| Horsham Borough .. .. .         | 11,238  | 2  | 10 | 1  | 3  |
| Kara Kara Shire .. .. .         | 2,619   | 15 | 7  | 0  | 2  |
| *Keilor-St. Albans .. .. .      | ..  | .. | .. | ..   | .. |
| Kerang .. .. .                  | 9,609   | 5  | 10 | 1  | 3  |
| Kerang Shire .. .. .            | 832   | 18 | 6  | (No rate made)   |    |
| Kilmore .. .. .                 | 17,402  | 2  | 3  | 2  | 3  |
|                                 |   |    |    | 2  | 6  |
|                                 |   |    |    | 1  | 10 |
| Kooweerup .. .. .               | 8,363   | 2  | 7  | 1  | 6  |
| Koroit .. .. .                  | 2,083   | 18 | 7  | 1  | 0  |
| Korumburra .. .. .              | 19,013  | 13 | 11 | 1  | 6  |
| Kyabram .. .. .                 | 14,285  | 15 | 9  | 0  | 6  |
| Kyneton Shire .. .. .           | 12,182  | 18 | 5  | 3  | 6  |
| Lancefield .. .. .              | 7,280   | 15 | 5  | 0  | 4  |
| Lawloit .. .. .                 | 15,514  | 5  | 7  | 1  | 10 |
| Leongatha .. .. .               | 23,746  | 12 | 1  | 1  | 3  |
| Lilydale .. .. .                | 5,160   | 19 | 7  | (Rates made by the Commission, see page 58)              |    |
| Loddon United .. .. .           | 6,932   | 17 | 4  | 3  | 0  |
| Longwood .. .. .                | 1,973   | 13 | 8  |  |    |
| Carried forward .. .. .         | 633,099   | 7  | 7  |  |    |

\* The Ballan and Bet Bet Shire Waterworks Trusts have liquidated their liabilities, and the Bruthen and Keilor-St. Albans Waterworks Trusts have not yet incurred any Capital Liability.

† The Geelong Waterworks and Sewerage Trust has borrowed the whole of its funds from other than Governmental sources.

## WATERWORKS TRUSTS—continued.

| Name of Trust.           | Capital Liability to the State as at 30th June, 1938. | Rate in £1 made for the Year Ending 31st December, 1938.  |
|--------------------------|---|---|
|                          | £ s. d.   | s. d.   |
| Brought forward ..       | 633,099 7 7   |   |
| Lorne .. ..              | 9,681 10 8  | 1 6   |
| Lowan Shire .. ..        | 9,034 13 9  | 0 2   |
| Macedon .. ..            | 9,474 1 11  | 2 4   |
| Maffra .. ..             | 13,827 10 5   | 1 5   |
| Malmsbury .. ..          | 2,799 6 11  | 1 9   |
| Mansfield .. ..          | 9,664 16 11   | 2 0   |
| Maryborough .. ..        | 84,830 18 11  | 2 2   |
| Marysville .. ..         | 2,232 2 1   | 2 6   |
| Merrigum .. ..           | 1,899 17 3  | 3 6   |
| Moe .. ..                | 10,089 14 10  | 2 3   |
| Mooroopna .. ..          | 9,001 4 9   | 2 0   |
| Mortlake .. ..           | 3,942 1 6   | 1 6   |
| Morwell .. ..            | 15,004 2 4  | 1 2   |
| Murchison .. ..          | 4,608 6 4   | 2 3   |
| Murtoa .. ..             | 4,143 12 10   | 1 6   |
| Myrtleford .. ..         | 11,585 0 0  | 2 6   |
| Nagambie .. ..           | 4,691 0 4   | 2 0   |
| Nhill .. ..              | 20,286 11 10  | 2 6   |
| Numurkah Shire .. ..     | 13,211 6 1  | 0 1 Numurkah Rural<br>1 8 Numurkah Urban<br>3 0 Wunghnu Urban<br>3 0 Strathmerton Urban<br>1 10 Nathalia Urban                                    |
| Omeco .. ..              | 3,644 7 7   | 2 6   |
| Orbost .. ..             | 16,705 14 4   | 2 6   |
| Port Fairy .. ..         | 1,145 7 8   | (No rate made for year)   |
| Portland .. ..           | 22,901 1 4  | 1 3   |
| Riddells Creek .. ..     | 2,673 12 10   | 2 2   |
| Rochester .. ..          | 11,041 6 8  | 1 3   |
| Romsey .. ..             | 3,259 6 3   | 2 0   |
| Rosedale .. ..           | 3,091 0 8   | 2 0   |
| Rushworth .. ..          | 8,558 15 6  | 2 6   |
| Rutherglen .. ..         | 22,094 19 8   | 3 6   |
| Seymour .. ..            | 23,836 14 8   | 1 0   |
| Shepparton Shire .. ..   | 966 18 6  | 0 9   |
| Shepparton Urban .. ..   | 24,822 4 5  | 1 3   |
| St. Arnaud Borough .. .. | 46,429 8 5  | 3 0   |
| *Stawell Shire .. ..     | .. ..   | .. ..   |
| Stratford .. ..          | 3,458 11 7  | 2 8   |
| Sunbury .. ..            | 18,373 19 7   | 1 3   |
| Swan Hill .. ..          | 26,891 19 6   | 1 3   |
| Tallangatta .. ..        | 3,266 7 11  | 2 0   |
| Tatura .. ..             | 6,071 3 0   | 1 8   |
| Tongala .. ..            | 3,216 6 6   | 1 0 (1937)  |
| Toora .. ..              | 13,865 16 9   | 2 3 up to £75 net annual valuation<br>1 6 over £75 " " "  |
| Trafalgar .. ..          | 15,354 1 9  | 1 9   |
| Traralgon .. ..          | 37,499 0 1  | 1 10  |
| Trentham .. ..           | 4,131 7 3   | 1 7   |
| Tungamah Shire .. ..     | 11,255 13 0   | 2 6 Tungamah Urban<br>2 0 Katamatite Urban<br>2 0 St. James Urban<br>Tungamah Rural—<br>0 6 Divisions 1 and 2<br>0 4 Division 3<br>0 3 Division 4 |
| Upper Macedon .. ..      | 5,535 1 3   | 1 9   |
| Violet Town .. ..        | 7,413 3 1   | 2 6   |
| Wahgunyah .. ..          | 2,715 0 0   | 1 6   |
| Wangaratta .. ..         | 25,527 17 9   | 1 3   |
| Warburton .. ..          | 2,045 2 7   | 1 0   |
| Warracknabeal .. ..      | 14,576 9 8  | 1 9   |
| Warragul .. ..           | 20,500 3 1  | 1 0   |
| Winchelsea .. ..         | 3,562 1 0   | 1 9   |
| Wodonga .. ..            | 24,249 18 2   | 1 9   |
| Woodend .. ..            | 17,104 13 2   | 1 6   |
| Yackandandah .. ..       | 4,064 1 1   | 2 6   |
| Yarra Junction .. ..     | 11,467 2 9  | 2 6   |
| Yarram .. ..             | 14,711 17 11  | 1 6   |
| Carried forward ..       | 1,361,135 4 2   |   |

\* The Stawell Shire Waterworks Trust has liquidated its liability.

WATERWORKS TRUSTS—*continued.*

| Name of Trust.                | Capital Liability to the State as at 30th June, 1938. | Rate in £1 made for the Year Ending 31st December, 1938. |
|-------------------------------|---|--|
|                               | £      s.      d.                                     | s.      d.   |
| Brought forward ..            | 1,361,135    4    2                                   |  |
| Yarrawonga Urban .. ..        | 8,174    12    1                                      | 1    6   |
| Yatchaw .. ..                 | 3,714    13    3                                      | 4    0   |
| Yea .. ..                     | 5,690    5    1                                       | 1    10½   |
| † First Mildura Irrigation .. | 48,598    15    10                                    | (Special Rating)   |
| Mildura Urban .. ..           | 10,747    7    2                                      | (Special Rating)   |
| Total ..                      | 1,438,060    17    7                                  |  |

† In addition, the First Mildura Irrigation Trust has borrowed further amounts from other than Governmental sources.

|   |                    |                              |
|---|--------------------|------------------------------|
|   | £      s.      d.  | £      s.      d.            |
| <b>Total Capital Liability of Waterworks Trusts</b> .. ..             | .. ..              | <b>1,438,060    17    7</b>  |
| Less Advances from Unemployment Relief Funds .. ..                    | 56,697    9    4   |                              |
| Advances from Surplus Revenue .. ..                                   | 28,496    18    11 |                              |
| Capitalized Interest .. ..  | 6,870    16    9   |                              |
|   |                    | 92,065    5    0             |
| <b>Net Interest Bearing Loan Liability of Waterworks Trusts</b> .. .. | .. ..              | <b>£1,345,995    12    7</b> |

## LOCAL GOVERNING BODIES.

| Name of Local Governing Body.      | Capital Liability to the State as at 30th June, 1938. | Rate in £1 made for the Year Ending 31st December, 1938. |
|------------------------------------|---|--|
|                                    | £      s.      d.                                     | s.      d.   |
| Arapiles Shire .. ..               | 48    10    10  | (No rate made)   |
| Ararat Borough .. ..               | 87,872    18    9                                     | 2    0   |
| Ballarat Water Commissioners ..    | 286,901    6    4                                     | 5 per cent. up to £300 net annual valuation              |
|                                    |   | 4½ per cent. £301 to £500      "      "                  |
|                                    |   | 4 per cent. £501 to £1,000      "      "                 |
|                                    |   | 3½ per cent. over £1,000      "      "                   |
| Beechworth Shire .. ..             | 20,774    10    9                                     | 1    6   |
| Bet Bet (Dunolly Borough) Shire    | 4,746    10    0                                      | 1    6   |
| Bet Bet (Tarnagulla Borough) Shire | 1,841    17    8                                      | 1    6   |
| Chiltern Shire .. ..               | 2,754    2    8                                       | 1    0   |
| Clunes Borough .. ..               | 9,650    7    0                                       | 2    0 up to £80 net annual valuation                    |
|                                    |   | 1    0 over £80      "      "                            |
| Creswick Borough .. ..             | 921    11    2  | 1    3 up to £45      "      "                           |
|                                    |   | 1    0 £46 to £99      "      "                          |
|                                    |   | 0    10 over £99      "      "                           |
| Inglewood Borough .. ..            | 12,992    11    2                                     | 1    9   |
| Korong Shire .. ..                 | 13,142    18    6                                     | 2    3   |
| Ripon (Beaufort) Shire .. ..       | 16,769    0    7                                      | 2    6   |
| Stawell Borough .. ..              | 62,345    10    6                                     | 2    6   |
| Talbot Borough .. ..               | 1,859    5    6                                       | 1    6   |
| Warrnambool City .. ..             | 28,535    16    6                                     | 0    10  |
| Werribee Shire .. ..               | 14,596    0    5                                      | 2    0   |
| Wimmera Shire .. ..                | 1,945    19    11                                     | (No rate made).  |
| Total ..                           | 567,698    18    3                                    |  |

|  |                   |                           |
|--|-------------------|---------------------------|
|  | £      s.      d. | £      s.      d.         |
| <b>Total Capital Liability of Local Governing Bodies</b> .. ..             | .. ..             | <b>567,698    18    3</b> |
| Less Advances from Unemployment Relief Funds .. ..                         | 9,507    14    4  |                           |
| Advances from Surplus Revenue .. ..  | 4,000    0    0   |                           |
| Capitalized Interest .. ..   | 3,874    11    6  |                           |
|  |                   | 17,382    5    10         |
| <b>Net Interest Bearing Loan Liability of Local Governing Bodies</b> .. .. | .. ..             | <b>550,316    12    5</b> |

## SEWERAGE IN COUNTRY DISTRICTS.

Under the provisions of the Sewerage Districts Acts, when the Council of any Municipality or any Waterworks Trust desires to have sewerage works constructed and maintained within its district, it first employs a qualified engineer to prepare a report on the proposal with plans of a tentative undertaking and estimates of capital cost, annual expenditure involved and rating necessary to meet this annual expenditure.

Should the engineer's report indicate that a scheme within the means of the ratepayers could be devised, copies of the report, plans, and estimates are submitted to this Commission and the Commission of Public Health for examination.

The proposals are carefully reviewed by this Commission both technically and financially, consideration being given to any representations made by the Commission of Public Health.

Should the proposed sewerage undertaking be approved as feasible and satisfactory, the Council or Waterworks Trust then gives public notice of its intention to seek the constitution of a Sewerage Authority to construct and maintain the proposed sewerage works.

Interested persons may, within one month, lodge objections to the proposals, and, on the expiry of a further month, consideration is given to the question of constituting a Sewerage Authority.

A Sewerage Authority may consist of the whole of the Councillors of the Municipality or the whole of the Commissioners of a Waterworks Trust, or the whole of the members of a Local Governing Body within whose district the sewerage district is situated, or, if the sewerage district is not wholly within one municipal district, the members of the Sewerage Authority may be elected by the ratepayers within the sewerage district.

A Sewerage Authority may be granted a loan by the Government, but more usually borrows on the open market by the issue of its own debentures.

There are now 22 Sewerage Authorities in country centres as set out in the accompanying schedule.

## SCHEDULE OF SEWERAGE AUTHORITIES.

| Authority.           | Date of Constituting Order in Council. | Remarks.  |
|----------------------|--|---|
| 1. Bendigo ..        | 20th November, 1916 ..                 | Works in operation.   |
| 2. Ballarat ..       | 30th November, 1920 ..                 | Works in operation.   |
| 3. Colac ..          | 13th November, 1923 ..                 | Works in operation.   |
| 4. Horsham ..        | 22nd June, 1926 ..                     | Works in operation.   |
| 5. Swan Hill ..      | 8th November, 1926 ..                  | Works in operation.   |
| 6. Echuca ..         | 18th October, 1927 ..                  | Works in operation.   |
| 7. Mildura ..        | 12th June, 1928 ..                     | Works in operation.   |
| 8. Warrnambool ..    | 26th November, 1929 ..                 | Works in operation.   |
| 9. Bairnsdale ..     | 24th October, 1932 ..                  | Works in operation.   |
| 10. Kerang ..        | 19th December, 1932 ..                 | Works in operation.   |
| 11. Wangaratta ..    | 11th April, 1933 ..                    | Works in operation.   |
| 12. Kyneton ..       | 4th December, 1933 ..                  | Final plans being prepared.                                       |
| 13. Benalla ..       | 16th January, 1934 ..                  | Construction of works nearing completion.                         |
| 14. Shepparton ..    | 2nd July, 1934 ..                      | Construction completed. Houses being connected.                   |
| 15. Castlemaine ..   | 18th December, 1934 ..                 | Construction of works nearing completion.                         |
| 16. Hamilton ..      | 28th February, 1935 ..                 | Construction of works nearing completion.                         |
| 17. Dandenong ..     | 27th May, 1935 ..                      | Construction commenced 16th October, 1936, and now well advanced. |
| 18. Warragul ..      | 1st July, 1935 ..                      | Final plans being prepared.                                       |
| 19. Ararat ..        | 21st October, 1935 ..                  | Construction commenced 5th April, 1938.                           |
| 20. Sale ..          | 16th June, 1936 ..                     | Detail survey about to be commenced.                              |
| 21. Warracknabeal .. | 24th May, 1938 ..                      | Detail survey to be undertaken shortly.                           |
| 22. Portland ..      | 21st June, 1938 ..                     | Detail survey to be undertaken shortly.                           |

The past year has again been marked by considerable activity in sewerage construction. Good progress has been made with the installation of the seven schemes under construction at the beginning of the year, three having been completed and three more being sufficiently advanced to enable house drains to be connected. In addition, works have been commenced in one other centre.

Following the announcement by the Government of a liberal basis for granting financial assistance to facilitate the installation of sewerage schemes in the smaller country centres, thirty-three towns have carried out the necessary preliminary investigations for schemes, while two new Sewerage Authorities were constituted, and two Authorities previously constituted proceeded with the preparation of final plans for works.

The **Ballarat** Sewerage Authority continued to extend the sewer reticulation to serve the outer areas and constructed additions to the treatment works necessitated by the extension of the scheme. The sewerage district also was extended.

The **Bendigo** Sewerage Authority carried out further extensions to the sewers to serve additional outer areas.

The **Horsham** Sewerage Authority is undertaking the extension of the scheme to serve North Horsham and other areas, while at **Swan Hill**, improvements to the treatment works and sewage farm are under construction.

The **Bairnsdale**, **Kerang**, and **Shepparton** Sewerage Authorities completed the construction of the main sewerage schemes, and the work of connecting the houses to the sewers is proceeding.

The **Benalla**, **Castlemaine**, **Dandenong**, and **Hamilton** Sewerage Authorities continued the construction of works, which are now sufficiently near completion in the case of Benalla, Castlemaine and Hamilton to enable houses to be connected to the sewers, while at Dandenong construction is well advanced.

At **Ararat**, the sewerage scheme is now under construction.

The **Kyneton** and **Warragul** Sewerage Authorities have completed the detail surveys of their sewerage districts and the final plans are being prepared, while the **Sale** Sewerage Authority is about to proceed with a detail survey.

Sewerage Authorities have been constituted at **Portland** and **Warracknabeal**, and it is anticipated that in each case the detail survey and design of works will shortly be undertaken.

Applications for the constitution of Sewerage Authorities at eight centres, namely, **Kyabram**, **Lorne**, **Maffra**, **Mornington**, **Murtoa**, **Nhill**, **Wodonga**, and **Yarrawonga**, were examined and the schemes generally approved.

Proposals were submitted for the sewerage of **Donald**, **Mooroopna**, **Rochester**, **Rupanyup**, and **Tatura**, but could not be approved as these five schemes were financially impracticable.

Preliminary reports were submitted in respect of sewerage schemes at twenty additional centres, namely, **Bacchus Marsh**, **Beechworth**, **Beulah**, **Charlton**, **Cohuna**, **Dimboola**, **Euroa**, **Hopetoun**, **Jeparit**, **Leongatha**, **Minyip**, **Morwell**, **Noble Park**, **Sea Lake**, **Spring Vale**, **St. Arnaud**, **Traralgon**, **Werribee**, **Wycheproof**, and **Yarram**, and the proposals are now being examined.



### RESEARCH AND TESTING BRANCH.

(J. M. Mathew, B.M.E., A.M.I.E.Aust., Superintendent.)

The work of this Branch may be divided into—

- (1) Routine Laboratory Tests
- (2) Routine Outside Tests
- (3) Inspection of Materials
- (4) Chemical and Physical Examinations of Materials
- (5) Research
- (6) Miscellaneous.

The year has been a very busy one, particularly in regard to outside tests of pipes and valves and inspection of a diversity of constructional materials.

Routine laboratory tests have been undertaken for other departments, on payment, in cases where the Commission is in a position to handle the testing more expeditiously than the departments concerned. This applies particularly to cement, which is stored under test by the Commission in large silos at the manufacturers' works. Much of this tested cement has been used in construction by the Grain Elevators Board.

Under the following sub-headings the main items are presented, as far as possible, in a tabulated form.

### (1) Routine Laboratory Tests

[illegible]

(2) Routine Outside Tests---

These tests were undertaken mainly in connexion with constructional work in Otway Waterworks District, Mornington Peninsula Extension, Coliban District, and Yarrowonga Weir, but, in a lesser degree, most of the Commission's widespread constructional activities were covered. Most of the items concerned were supplied under contract.

Pipes of various materials and diameters up to 27 inches were included, but for brevity all diameters and pressure heads are grouped together in the following statement :—

[illegible]

## (3) Inspections of Materials—

Certain raw and fabricated materials are accepted on inspection in such cases where, owing to the nature of the materials or the class of work for which the materials are required, routine testing is not applicable.

In detail these consisted of:—

| Material.  | Lineal Feet. | Super Feet. | Number. |
|--|--------------|-------------|---------|
| Wood Pipes .. .. .   | 42,928       | ..          | ..      |
| Cement Concrete Pipes (Low Pressure) .. .. .               | 13,714       | ..          | ..      |
| Cast Iron Gibault Joints for Asbestos Cement Pipes .. .. . | ..           | ..          | 17,088  |
| Fire Plugs .. .. .   | ..           | ..          | 238     |
| Fire Plug Covers .. .. .                                   | ..           | ..          | 270     |
| Valve Covers .. .. .                                       | ..           | ..          | 296     |
| Castings, such as bends, tees, &c. .. .. .                 | ..           | ..          | 1,413   |
| Steel matching pieces, &c. .. .. .                         | ..           | ..          | 31      |
| Steel Joists .. .. .                                       | 1,571        | ..          | ..      |
| Hardwood .. .. .   | ..           | 6,367       | ..      |
| Oregon .. .. .   | ..           | 9,303       | ..      |
| Red Gum and Jarrah .. .. .                                 | ..           | 2,157       | ..      |
| Other timber .. .. .                                       | ..           | 3,592       | ..      |
| Totals .. .. .   | 58,213       | 21,419      | 19,336  |

NOTE.—Wood pipes are subsequently tested by the Superintending Engineer when laid in pipe line.

In addition, small quantities of numerous items of plant, such as scoops, and pipe laying gear, were inspected, but are not enumerated here.

## (4) Chemical and Physical Examinations of Materials—

In the main, these examinations have been confined to water for complete analysis and various determinations, and soils for salt content.

The water samples amounted to 80 in number, and the soil samples, mostly from the Murray Valley area, to 960.

Many water samples from mines in the Bendigo district were examined to ascertain whether the water could be of use to augment the district water supply.

## (5) RESEARCH.—

Much experimental work was done with concrete mixtures, and, in collaboration with the Yarrawonga Weir engineering staff, economical and effective concrete mixtures for use in the weir construction were designed and tested. Several other problems in concrete work were investigated, as for instance at Horsham where difficulties had been encountered in securing early strength in pipes being manufactured in cold weather. Certain alterations in the method of manufacture were recommended and introduced with beneficial results.

A series of experiments in paint composition was made to evolve a suitable light coloured coating for exposed pipe lines, and it was found that a very satisfactory and relatively economical combination could be made with very finely ground aluminium in paste form and certain oils.

## (6) MISCELLANEOUS.—

Tests have been made on a variety of materials, such as clay for reservoir banks, rubber jointing rings, pitch coatings for pipe protection, and anti-corrosive and non-toxic paints, also on water meters and associated appliances.

Algal conditions, which are a feature of a dry, hot summer, were reported in several of the reservoirs, notably at Minyip, Culgoa, Charlton, and Lance Creek Reservoir at Wonthaggi. Treatment with copper sulphate was given to the water at each of these reservoirs and the algal infestation checked. At Wonthaggi, where a close check is kept on the condition of the water during the Summer months, the beneficial effect of the treatment was very marked.

At Hume Reservoir and lower down the River Murray, smell and taste caused by an algal growth was manifest for only a few days, the period of incidence being so short, fortunately, that no serious inconvenience was felt by riverside dwellers or townspeople.

## LAND VALUATIONS.

(*H. C. Valentine, A.M.I.E. Aust., Chief Valuer.*)

The quinquennial valuation required by the Water Acts of the rateable lands and tenements in the rural districts subject to its jurisdiction has been carried out by the Commission. This has necessitated the making of over 31,000 separate assessments and the valuing of more than 10,000,000 acres of land, equal to about one-fifth of the total area of the State. The valuations, which were made by the Commission's own officers, entailed a very great addition to ordinary work.

Of all Public Authorities in the State, the Commission is unique in the magnitude of the rating valuation required of it by the legislature. There falls to it, also, the duty of assessing the amounts to be offered as compensation both of land required for works and for injury caused by works, and it has been felt for some time that the creation of a State Valuation Department to deal with all matters of valuation, for both rating and compensation purposes for all authorities, would not only result in the abolition of the existing anomaly whereby the same land may be assessed by valuers for different Authorities at varying amounts for Land Tax, Municipal Rating, Water Commission Rating, Probate or Acquisition for Public Purposes, but would eliminate the overlapping and duplication of services, and reduce the cost of valuing. It would, as well, tend to create greater confidence in valuations and result in substantial savings to the community.

Since its inception the Commission has served some 5,200 Notices to Treat for the acquisition of land required in connexion with its operations. In the last ten years alone 1,142 cases have been finalized and the Commission has paid some £798,426 in settlement of claims. During the financial year under review, 184 notices were served; 101 claims for compensation, amounting to £34,222 were received; and 82 cases, in which £24,172 was claimed, were settled for a total amount of £9,453.

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## 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 1937-38.

| Name of District.   | Area Irrigated (Acres). |                                    |  |                           |               |                      |              |                |                |
|---|-------------------------|------------------------------------|--|---------------------------|---------------|----------------------|--------------|----------------|----------------|
|   | Cereals.                | Lucerne grown for Pasture and Hay. | Sorghum and other Annual Fodder Crops. | Pastures Native and Sown. | Vineyards.    | Orchards or Gardens. | Fallow.      | Miscellaneous. | Total.         |
| <i>Supplied from Goulburn State Works.</i>                                    |                         |                                    |  |                           |               |                      |              |                |                |
| Katandra .. .. .  | 482                     | 2,056                              | 142                                    | 2,268                     | ..            | 28                   | 125          | ..             | 5,101          |
| North Shepparton .. .. .  | 1,107                   | 3,258                              | 82                                     | 4,781                     | ..            | 65                   | 56           | 88             | 9,437          |
| Shepparton .. .. .  | 985                     | 626                                | 336                                    | 4,642                     | 12            | 7,054                | 134          | 1,185          | 14,974         |
| South Shepparton .. .. .  | 774                     | 1,118                              | ..                                     | 3,567                     | ..            | 36                   | 10           | 120            | 5,625          |
| Rodney .. .. .  | 10,962                  | 24,522                             | 1,617                                  | 35,565                    | 257           | 8,008                | 223          | 138            | 81,292         |
| Stanhope .. .. .  | 1,505                   | 4,235                              | 475                                    | 6,343                     | ..            | 486                  | 40           | ..             | 13,084         |
| Tongala .. .. .   | 2,654                   | 5,712                              | 340                                    | 11,212                    | 26            | 1,413                | 285          | 8              | 21,650         |
| Rochester .. .. .   | 4,624                   | 13,317                             | 726                                    | 36,227                    | 16            | 1,611                | 441          | 90             | 57,052         |
| Echuca North .. .. .  | 399                     | 1,079                              | 130                                    | 4,069                     | ..            | 1                    | 178          | ..             | 5,856          |
| Dingee .. .. .  | 423                     | 56                                 | 51                                     | 3,294                     | ..            | 19                   | 21           | 20             | 3,884          |
| Calivil .. .. .   | 2,018                   | 1,855                              | 784                                    | 4,528                     | ..            | 36                   | 20           | ..             | 9,241          |
| Tragowel Plains .. .. .   | 7,912                   | 2,050                              | 5,313                                  | 40,388                    | ..            | 28                   | 223          | 95             | 56,009         |
| Deakin .. .. .  | 1,861                   | 1,795                              | 340                                    | 3,516                     | ..            | 8                    | 29           | 17             | 7,566          |
| Boort .. .. .   | 4,502                   | 881                                | 2,814                                  | 10,485                    | ..            | ..                   | 1,606        | ..             | 20,288         |
| Totals .. .. .  | 40,208                  | 62,560                             | 13,150                                 | 170,885                   | 311           | 18,793               | 3,391        | 1,761          | 311,059        |
| <i>Supplied from River Murray State Works</i><br><i>(a) Torrumbarry Weir.</i> |                         |                                    |  |                           |               |                      |              |                |                |
| Leitchville .. .. .   | 411                     | 862                                | 135                                    | 5,655                     | ..            | 28                   | 19           | 202            | 7,312          |
| Cohuna .. .. .  | 3,177                   | 2,639                              | 1,174                                  | 31,946                    | ..            | 200                  | 821          | 3,103          | 43,060         |
| Koondrook .. .. .   | 4,281                   | 1,713                              | 3,747                                  | 22,535                    | 10            | 708                  | 39           | 554            | 33,587         |
| Swan Hill .. .. .   | 4,293                   | 4,820                              | 1,251                                  | 11,009                    | 3,053         | 592                  | 932          | 150            | 26,100         |
| Third Lake .. .. .  | 467                     | 93                                 | 224                                    | 2,534                     | ..            | 3                    | 108          | ..             | 3,429          |
| Mystic Park .. .. .   | 924                     | 295                                | 15                                     | 3,811                     | ..            | ..                   | 178          | 5              | 5,228          |
| Tresco .. .. .  | 17                      | 40                                 | ..                                     | 8                         | 692           | 305                  | ..           | ..             | 1,062          |
| Fish Point .. .. .  | 124                     | 200                                | 93                                     | 3,130                     | ..            | ..                   | ..           | ..             | 3,547          |
| Kerang .. .. .  | 5,188                   | 745                                | 3,071                                  | 36,239                    | 6             | 12                   | 556          | 786            | 46,603         |
| Dry Lake .. .. .  | 60                      | ..                                 | 30                                     | 400                       | ..            | 2                    | ..           | ..             | 492            |
| Kerang North-West Lakes .. .. .   | 754                     | 59                                 | 50                                     | 2,324                     | 70            | 400                  | ..           | ..             | 3,657          |
| Lands supplied direct (outside Districts) .. .. .                             | 987                     | 2,010                              | 573                                    | 10,476                    | ..            | 24                   | 202          | 172            | 14,444         |
| Totals .. .. .  | 20,683                  | 13,476                             | 10,363                                 | 130,067                   | 3,831         | 2,274                | 2,855        | 4,972          | 188,521        |
| <i>(b) Direct from River.</i>   |                         |                                    |  |                           |               |                      |              |                |                |
| Nyah .. .. .  | 15                      | 180                                | 100                                    | 20                        | 2,422         | 128                  | 20           | 1              | 2,886          |
| Red Cliffs .. .. .  | ..                      | 120                                | ..                                     | 206                       | 10,352        | 577                  | ..           | ..             | 11,255         |
| Merbein .. .. .   | ..                      | 43                                 | ..                                     | ..                        | 6,748         | 541                  | ..           | 90             | 7,422          |
| Totals .. .. .  | 15                      | 343                                | 100                                    | 226                       | 19,522        | 1,246                | 20           | 91             | 21,563         |
| Totals (River Murray State Works) .. .. .                                     | 20,698                  | 13,819                             | 10,463                                 | 130,293                   | 23,353        | 3,520                | 2,875        | 5,063          | 210,084        |
| <i>Supplied from Loddon and Other Northern State Works.</i>                   |                         |                                    |  |                           |               |                      |              |                |                |
| Boort .. .. .   | 128                     | 25                                 | 81                                     | 300                       | ..            | ..                   | 46           | ..             | 580            |
| Coliban .. .. .   | ..                      | ..                                 | ..                                     | ..                        | ..            | 3,629                | ..           | ..             | 3,629          |
| Campaspe .. .. .  | 292                     | 207                                | ..                                     | 200                       | ..            | ..                   | ..           | ..             | 699            |
| Western Wimmera .. .. .   | 62                      | 303                                | 50                                     | 639                       | 66            | 1,134                | ..           | 23             | 2,277          |
| Wimmera United .. .. .  | ..                      | 42                                 | ..                                     | 35                        | ..            | 5                    | ..           | 48             | 130            |
| Totals .. .. .  | 482                     | 577                                | 131                                    | 1,174                     | 66            | 4,768                | 46           | 71             | 7,315          |
| <i>Supplied from Southern State Works.</i>                                    |                         |                                    |  |                           |               |                      |              |                |                |
| Bacchus Marsh .. .. .   | 5                       | 1,275                              | 195                                    | 1,700                     | ..            | 225                  | 90           | ..             | 3,490          |
| Werribee .. .. .  | 161                     | 1,366                              | 341                                    | 4,319                     | ..            | 2,440                | 300          | ..             | 8,927          |
| Narre Warren .. .. .  | ..                      | ..                                 | 8                                      | ..                        | ..            | 57                   | ..           | 70             | 135            |
| Maffra-Sale .. .. .   | 67                      | 1,305                              | 1,415                                  | 13,994                    | ..            | ..                   | 640          | 1,471          | 18,892         |
| Totals .. .. .  | 233                     | 3,946                              | 1,959                                  | 20,013                    | ..            | 2,722                | 1,030        | 1,541          | 31,444         |
| <i>Supplied from Other Works.</i>   |                         |                                    |  |                           |               |                      |              |                |                |
| First Mildura District .. .. .  | ..                      | 470                                | 125                                    | ..                        | 10,099        | 985                  | ..           | 190            | 11,869         |
| Private Diversions—Kerang (outside Districts) .. .. .                         | 114                     | 15                                 | 205                                    | 1,682                     | ..            | ..                   | ..           | ..             | 2,016          |
| Other Private Diversions throughout the State .. .. .                         | 3,731                   | 6,268                              | 515                                    | 2,471                     | 485           | 1,315                | ..           | 1,540          | 16,325         |
| Totals .. .. .  | 3,845                   | 6,753                              | 845                                    | 4,153                     | 10,584        | 2,300                | ..           | 1,730          | 30,210         |
| <b>Grand Totals 1937-38 .. .. .</b>   | <b>65,466</b>           | <b>87,655</b>                      | <b>26,548</b>                          | <b>326,518</b>            | <b>34,314</b> | <b>32,103</b>        | <b>7,342</b> | <b>10,166</b>  | <b>590,112</b> |
| Grand Totals 1936-37 .. .. .  | 38,328                  | 86,568                             | 19,753                                 | 292,001                   | 33,847        | 32,679               | 8,093        | 7,558          | 518,827        |

## (B) COMPARATIVE STATEMENT OF THE EXTENT OF IRRIGATION 1933-34 TO 1937-38.

| Source of Supply.                             | Area under Irrigation (Acres). |          |          |          |          |
|---|--------------------------------|----------|----------|----------|----------|
|   | 1933-34.                       | 1934-35. | 1935-36. | 1936-37. | 1937-38. |
| Goulburn State Works .. .. .                  | 217,105                        | 266,331  | 256,184  | 267,830  | 311,059  |
| River Murray State Works .. .. .              | 151,714                        | 163,547  | 172,037  | 176,370  | 210,084  |
| Loddon and other Northern State Works .. .. . | 14,496                         | 18,844   | 14,707   | 14,671   | 7,315    |
| Southern State Works .. .. .                  | 23,687                         | 18,294   | 24,060   | 29,043   | 31,444   |
| Mildura and Private Diversions .. .. .        | 28,322                         | 27,210   | 28,847   | 30,913   | 30,210   |
| Totals .. .. .                                | 435,324                        | 494,226  | 495,835  | 518,827  | 590,112  |

## PROGRESS IN IRRIGATION DISTRICTS.

During the 1937-38 season, the Victorian production of dried currants, sultanas and lexias amounted to 56,750 tons, and exceeded by some 6,800 tons the previous record output which was established in 1933. The Australian crop of these fruits totalled 92,000 tons, and was approximately 14,000 tons greater than the highest quantity previously harvested, viz., 78,000 tons in 1933; thus the irrigation districts of Victoria provided approximately 62 per cent. of the total Commonwealth production of dried vine fruits for the 1937-38 season.

Sales have proceeded satisfactorily in the United Kingdom and totalled 36,500 tons to date. It is anticipated that the total exports to the United Kingdom will aggregate 52,000 tons, leaving a balance of 15,500 tons to be sold during the remaining six months before the 1938-39 season's fruit is available in London. The demand is reported to be steady, and it is anticipated that no undue difficulty will be experienced in clearing the unsold balance of the present year's record crop. The prices realized have, generally speaking, been below those ruling last year. Shipments to other export markets have been well maintained.

A record output comprising 3,030,000 cases of canned apricots, peaches and pears was processed by Australian Canneries during the 1937-38 season. This production represented the substantial increase of 30 per cent. on the previous highest record which was established in the preceding year.

The Victorian pack for 1937-38 comprised 2,218,000 cases, which is equivalent to 73 per cent. of the total Australian output. The Shepparton, Ardmona, and Kyabram Co-operative Canneries again processed the major portion of the Victorian pack, their production being 1,438,000 cases, which is equivalent to 65 per cent. of the Victorian output and 47 per cent. of the Australian total.

Exports of Australian canned fruits during the first nine months of this season comprised 1,462,000 cases, as compared with the record total export of 1,660,000 cases which was established during the whole of the previous year. Further shipments of Australian fruits have yet to be made, and these will absorb a substantial portion of the balance of stocks at present held by Australian canners. The market for canned peaches in the United Kingdom experienced a set back during the middle of the year owing to the processing of exceptionally large quantities of fruit by Californian canners during this season, and it was consequently necessary to reduce the price of Australian peaches in London. It is anticipated that this position will be reflected in the prospects for sale of the 1938-39 season's pack.

It is gratifying to record that the consumption of canned apricots, peaches and pears within the Commonwealth during 1937 reached a total of 963,000 cases, which represented the highest consumption recorded since 1929.

In order that facilities might be provided for the processing of the increasing production of canning apricots, peaches and pears in the Goulburn Valley, extensions are being made to the cool storage accommodation at the Ardmona and Kyabram Co-operative Canneries. These extensions will be in operation during the coming season and will ensure more economical and efficient treatment of the fruit which previously had to be transported to privately owned cool stores whilst awaiting processing.

The production of citrus fruits in Victoria for the 1937-38 season amounted to 879,000 bushels as compared with 762,000 bushels in 1936-37. As in previous years, the principal irrigation districts of the State provided approximately 90 per cent. of the total Victorian production.

The dairy herds grazed on irrigated pastures again obtained prominent positions in the Standard Herd Test conducted by the Department of Agriculture for 1937-38. In the competition for herds of from 10 to 14 cows, first, second and third places were secured by herds from irrigation districts. In the section for herds of over 25 cows also, first place was secured by a herd from the Swan Hill Irrigation District. Other herds which were grazed on irrigated pastures occupied prominent positions in the averages of production for all sections.

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### PART III.—ADMINISTRATION AND FINANCE.

#### COMMISSION.

During the year the terms of office of Mr. L. R. East, M.C.E., M.Inst.C.E., M.Am.Soc.C.E., M.I.E. Aust., as Chairman of the Commission and as Victorian Representative on the River Murray Commission were extended for a period of three years ending 31st January, 1941.

The term of office of Mr. W. A. Robertson, M.C.E., M.Inst.C.E., M.I.E. Aust., as a Commissioner was also extended to 31st January, 1941, and a direction was made by Order in Council that any reference to the Chief Engineer of Water Supply or the Chief Engineer of the Department of Water Supply should, for administrative purposes, be deemed and taken to refer and apply to Mr. Robertson. Mr. Robertson was also appointed as one of the two representatives of the Victorian Government on the Power Survey Committee and the Australian National Committee of the World Power Conference.

The third member of the Commission is now Mr. H. Hanslow, a successful irrigator from Tongala, who was appointed by the Government as a Commissioner from 1st March, 1938, until the 31st January, 1941.

#### LEGISLATION.

Following the reports of the Royal Commission appointed to inquire into the Expediency of Amending the *Water Act* 1928, an Act No. 4513 was passed during the year. This Amending Act, which came into operation on 1st February, 1938, provides, inter alia, for—

- (1) the adjustment of arrears of water rates and charges (other than Urban rates and charges) owing to Commission as on 30th June, 1936;
- (2) the adjustment, between the various Districts and the State, of liability for the cost of works controlled by the Commission;
- (3) the continuation of water supply to districts where the revenue to the Commission is insufficient to cover maintenance and management expenses;
- (4) the investment (subject to the approval of the Treasurer of Victoria) of sums paid into the Water Supply Works Depreciation Fund;
- (5) the appointment, when required, of District Appeal Boards to hear appeals by irrigators against the water rights apportioned to their lands; and
- (6) the Commission to have power to cut off water for the non-payment of irrigation charges.

In connexion with (1) the period allowed for the lodging of applications for the adjustment of arrears of water rates and charges expired on 30th April, 1938. The total number of applications received by the Commission was 2,993, representing approximately 8½ per cent. of the aggregate number of rate assessments made annually in rural districts. These applications are now being investigated and dealt with by the Commission.

In regard to items (2) and (3), the necessary Orders in Council have been obtained and copies thereof are reproduced as appendices to this Report.

Dealing with the question of the Adjustment of Capital Liabilities, the Minister of Water Supply, Honorable F. E. Old, M.L.A., issued the following explanatory statement.

“The *Water Act* 1937, No. 4513, provided for an adjustment of the outstanding liability, as at 31st December, 1937, for the cost of works serving:—

- (a) each irrigation and water supply district and each urban division thereof;
- (b) each waterworks district and each urban district thereof;
- (c) each flood protection district; and
- (d) each drainage district.

The Act provided for this adjustment to be made by the Governor in Council within six months after the commencement of the Act, i.e., by the 31st July, 1938, and the liabilities for the cost of the works allocated to each such district or division and to the State were to be such amounts as the Governor in Council thought fit.

The Governor in Council may, however, from time to time, make further adjustments, as districts or divisions develop, by transferring from the State to these districts or divisions additional amounts of the outstanding liability at 31st December, 1937.

The adjustment having been made, all capital expenditure in respect to works, whether in existing or new districts, incurred after 31st December, 1937, must be charged against the district or division served by the works, unless an Act of Parliament expressly provides otherwise.



After adjustment, districts and divisions will be required to meet all annual operating costs as well as provide for depreciation of perishable assets and for interest and redemption in respect of the capital liability allotted to them in this adjustment. The only exception to this provision is where the Commission operates a district or division at a loss under specific direction of either Parliament or the Governor in Council.

#### BASIS FOR ADJUSTMENT.

The Royal Commission on Water Supply recommended that:—

‘The capital allotted to the various irrigation and water supply districts, waterworks districts, and flood protection districts in the books of the Commission should be adjusted in each instance to a figure which represents the estimated surplus of revenue over expenditure on maintenance, water distribution, depreciation, and management chargeable to the district, capitalized at the rate of 4 per cent. per annum.’

In the allocation approved by the Government, this principle has been adopted as a basis with the modification that the surplus of revenue over expenditure has been capitalized at the rate of  $4\frac{1}{4}$  per cent. per annum, in order to provide for the statutory redemption contribution in respect to the capital allotted to the districts or divisions.

The estimated surplus of revenue for the 153 separate districts and divisions concerned has been based on initial rates and charges which have been approved by the Government with a view to removing existing anomalies as far as possible.

The rates and charges upon which the present adjustment of Capital Liabilities has been based are as set out in the following statement, which indicates the rates and charges which will apply for the financial year, 1938–39. Rates and charges must be reviewed in accordance with the Water Acts each year, and for the future may vary with variations in interest rates and operating costs.

#### IRRIGATION DISTRICTS.

##### *Basis of Capital Adjustment.*

| District.                              |                  |    |    |    |    | Rate in £1. | Irrigation Charge. |                            |
|--|------------------|----|----|----|----|-------------|--------------------|----------------------------|
|  |                  |    |    |    |    | s. d.       | s. d.              |                            |
| <i>Goulburn System.</i>                |                  |    |    |    |    |             |                    |                            |
| 1.                                     | North Shepparton | .. | .. | .. | .. | 1 0         | 7 0                | per acre foot              |
| 2.                                     | Katandra         | .. | .. | .. | .. | 1 0         | 7 0                | ” ”                        |
| 3.                                     | Shepparton       | .. | .. | .. | .. | 1 0         | 6 0                | ” ”                        |
| 4.                                     | South Shepparton | .. | .. | .. | .. | 1 0         | 6 0                | ” ”                        |
| 5.                                     | Rodney           | .. | .. | .. | .. | 1 0         | 6 0                | ” ”                        |
| 6.                                     | Tongala          | .. | .. | .. | .. | 1 0         | 6 0                | ” ”                        |
| 7.                                     | Stanhope         | .. | .. | .. | .. | 1 0         | 6 0                | ” ”                        |
| 8.                                     | Rochester        | .. | .. | .. | .. | 1 0         | 6 0                | ” ”                        |
| 9.                                     | Echuca North     | .. | .. | .. | .. | 1 0         | 6 0                | ” ”                        |
| 10.                                    | Deakin           | .. | .. | .. | .. | 1 8         | 6 0                | ” ”                        |
| <i>Loddon-Goulburn System.</i>         |                  |    |    |    |    |             |                    |                            |
| 11.                                    | Dingee           | .. | .. | .. | .. | 1 0         | 7 0                | per acre foot              |
| 12.                                    | Calivil          | .. | .. | .. | .. | 1 0         | 7 0                | ” ”                        |
| 13.                                    | Tragowel Plains  | .. | .. | .. | .. | 1 0         | 7 0                | ” ”                        |
| 14.                                    | Boort            | .. | .. | .. | .. | 1 0         | 7 0                | ” ”                        |
| <i>Torrumbarry System.</i>             |                  |    |    |    |    |             |                    |                            |
| 15.                                    | Cohuna           | .. | .. | .. | .. | 1 9         | 6 0                | per acre foot              |
| 16.                                    | Leitchville      | .. | .. | .. | .. | 1 9         | 6 0                | ” ”                        |
| 17.                                    | Koondrook        | .. | .. | .. | .. | 1 9         | 6 0                | ” ”                        |
| 18.                                    | Third Lake       | .. | .. | .. | .. | 1 9         | 6 0                | ” ”                        |
| 19.                                    | Kerang           | .. | .. | .. | .. | 1 9         | 5 0                | ” ”                        |
| 20.                                    | Mystic Park      | .. | .. | .. | .. | 1 0         | 6 0                | ” ”                        |
| 21.                                    | Fish Point       | .. | .. | .. | .. | 1 0         | 6 0                | ” ”                        |
| 22.                                    | Swan Hill        | .. | .. | .. | .. | 1 0         | 6 0                | ” ”                        |
| <i>Murray River Pumping Districts.</i> |                  |    |    |    |    |             |                    |                            |
| 23.                                    | Merbein          | .. | .. | .. | .. | 0 6         | 62 6               | per acre for six waterings |
| 24.                                    | Red Cliffs       | .. | .. | .. | .. | 0 6         | 70 0               | ” ”                        |
| 25.                                    | Nyah             | .. | .. | .. | .. | 0 6         | 53 4               | ” ”                        |
| <i>Southern Districts.</i>             |                  |    |    |    |    |             |                    |                            |
| 26.                                    | Maffra-Sale      | .. | .. | .. | .. | 1 0         | 10 0               | per acre foot              |
| 27.                                    | Werribee         | .. | .. | .. | .. | 1 0         | 12 0               | ” ”                        |
| 28.                                    | Bacchus Marsh    | .. | .. | .. | .. | 1 0         | 22 6               | ” ”                        |
| <i>Miscellaneous.</i>                  |                  |    |    |    |    |             |                    |                            |
| 29.                                    | Tresco           | .. | .. | .. | .. | 2 6         | 20 0               | per acre foot              |

In the case of all Waterworks Districts, Urban Districts, and Urban Divisions, the Capital Liabilities are being adjusted on the basis of the present rates and charges.

For the North-West Mallee Districts substantial reductions have already been made in water rates in accordance with the recommendations of the Royal Commission, and for these Districts it will be necessary to transfer to the State not only the whole of the Capital Liabilities in respect of works, but also portion of the annual operating costs as well.

For Kooweerup and Cardinia Flood Protection Districts, the present revenues are insufficient to provide for adequate maintenance of the works, and the whole of the Capital Liability is being transferred to the State.

For the Loch Garry and Kanyapella Flood Protection Districts, adjustment is being made on the basis of the present charges.

The total Capital Liability of the State in respect of Country Water Supply and Flood Protection works, including local Waterworks Trusts and Local Governing Bodies, amounts to £26,175,196, of which £1,875,698 is in respect of advances to Waterworks Trusts and Local Governing Bodies, and £3,770,290 represents cost of Free Headworks, Capital Written Off over 30 years ago, and other expenditure already borne by the State.

The present Order in Council will transfer a further £17,104,026 to the State Account."

Steps are being taken to give effect to the other matters provided for in the Amending Act.

In connexion with the arrears of water rates, irrigation charges, water sales, and flood protection charges generally, it may be mentioned that a number of applications has been made for cancellation, under the *Farmers Debts Adjustment Act* 1935, of portion of amounts due to the Commission. For the period ending 30th June, 1938, the total number of these cases approved by the Governor in Council was 790. The total indebtedness amounted to £94,371, of which £47,522 was approved for writing off subject to the observance by the landholders of certain conditions, leaving a balance of £46,849 to be paid over extended terms.

#### IRRIGATION DISTRICTS ADVISORY BOARDS.

Following a suggestion by the Commission in 1926, Advisory Boards have been in operation in many Irrigation Districts. These Boards, consisting of representatives of irrigators with the Commission's District Engineer presiding, were formed to assist and advise the Commission to ensure that the supply and distribution of water for irrigation purposes would be carried out with the best results for all concerned. Many benefits have accrued from this procedure and, during the year, the Commission took steps to encourage the appointment of Advisory Boards in Districts where such bodies are not functioning.

#### ENGINEERS OF WATER SUPPLY—EXAMINATION.

The regulations governing the issue by the Board of Examiners of Engineers of Water Supply of Certificates of Qualification as Engineers of Water Supply have been amended. These amendments were rendered necessary by the development and expansion of water supply activities since the regulations were made on 26th July, 1910. The amended regulations were gazetted on 22nd September, 1937, and are to come into operation on 1st October, 1938.

#### STAFF.

On account of the dry weather conditions which prevailed, the year under review proved to be a very arduous one in connexion with the carrying out of important water supply operations throughout the State. The Commission, therefore, desires to make reference to the loyal and efficient services of its officers, and to express appreciation of their co-operation in dealing with the many important questions which were investigated and put in hand during the year.

The total number of officers on the Commission's staff at 30th June, 1938, was 621, comprising 158 professional officers, (130 permanent, 28 temporary), 133 clerical officers (97 permanent, 36 temporary), and 330 officers employed on work of a general nature (132 permanent, 198 temporary).

The Commission desires also to bring under notice the unsuitability and inadequacy of the accommodation available for its Head Office Staff. The offices occupied in the Main Public Offices have proved to be totally inadequate for the proper housing of the administrative staff of a major public utility, and as a result, several of the divisions and branches have had to be accommodated elsewhere, and the Head Office staff is now separated in four different buildings, viz:—Public Offices; 61 Spring Street; 100 Flinders Street; and Exhibition Building. It will therefore, be readily understood that the operations of Head Office cannot be as satisfactorily carried out as if all members were housed in one building. The lack of suitable additional accommodation has prevented the extension of the mechanised accounting and costing system introduced last year.

Mr. R. G. Knight, M.C.E., M.Inst.C.E., M.I.E.Aust., who had been acting in the position for some time, was appointed Chief Designing Engineer in charge of the Commission's Investigations and Designs Branch from 1st March, 1938.

On account of the increased work required in the supervision of Waterworks Trusts and Sewerage Authorities, a separate Division has been created with Mr. H. W. McCay, B.C.E., A.M.I.E.Aust., as Divisional Engineer.

The work of enlarging the Malmsbury Reservoir is being carried out by the Murray and Major Works Division under the direction of Mr. E. D. Shaw, M.C.E., M.Inst.C.E., M.I.E.Aust., Senior Divisional Engineer, with Mr. F. A. Nevill, A.M.I.E., Aust., as Executive Engineer.

Mr. C. Gallop, Works Superintendent, Mildura Drainage Works, has been transferred to a similar position in connexion with the construction of the Woorinen Drainage Works.

It is with pleasure the Commission records that Mr. T. A. Lang, Assistant Engineer on its staff, who was granted a Free Place at the Melbourne University in the year 1935, completed the course for Bachelor of Civil Engineering in November, 1937, and at the University examinations in February, 1938, obtained First Class Final Honors in Civil Engineering and Hydraulics and won the *Argus* Scholarship. Mr. Lang has since been awarded the Stawell Research Scholarship and the Bage Memorial Scholarship and has been temporarily released by the Commission to carry out fundamental hydraulic research at the Melbourne University.

Mr. A. D. Brown, L.I.C.A., Revenue Officer and Irrigation Products Officer, has been appointed Officer in Charge of Debts Adjustments under the provisions of the *Water Act*, 1937.

Mr. R. Long, who had been engaged for thirty years as part time officer of the Commission as District Secretary and Collector at Warracknabeal, resigned during the year, and the Commission desires to express appreciation of his long and efficient service.

As a result of a reorganisation of revenue collection in the Wimmera-Mallee Districts, the Commission closed its offices at Warracknabeal and Sea Lake and established a revenue collection centre at Hopetoun with Mr. B. L. Tonkin as District Secretary and Collector in addition to his duties as District Officer. Mr. E. P. Watson, previously engaged as District Secretary at Sea Lake, was transferred to Head Office.

By arrangement with the Auditor General, an Internal Auditor has taken up duties in the Commission's Head Office.

The following officers have retired since the publication of the last Annual Report :— Mr. G. F. Kellett and Mr. H. G. Squires, Water Bailiffs ; Mr. M. Doolan, Head Water Bailiff ; and Mr. S. Thomas, Turncock.

#### NEW DISTRICTS.

Many important works have been carried out with grants made by the Government from Unemployment Relief Funds. Amongst these must be placed the drainage of irrigated lands. These drainage schemes were formulated by the Commission and have been instrumental in increasing the production in Irrigation Districts as well as providing employment for a large number of men. The estimated total cost of schemes prepared is £1,285,465 and to the 30th June, 1938, the sum of £974,355 was expended, leaving a balance of £311,110 to be provided for the finalization of works under construction.

Nine Drainage Districts—Cohuna, Kerang East, Merbein, Red Cliffs, Rochester, Rodney, Shepparton, Tongala-Stanhope, and Werribee—were constituted to embrace those portions of Irrigation Districts benefited by drainage systems recently carried out.

The Shepparton Drainage District was extended to include some 4,700 acres benefited by remodelled drainage channels.

Steps have been taken for the constitution of the Normanville Waterworks District to include some 121,320 acres, portion of which was excised from the Waterworks District of the Loddon United Waterworks Trust.

#### FIRE INSURANCE.

The Commission has continued its policy of carrying the fire risk on its own buildings. The premiums thus saved now amount to £14,698.

## 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 general rates, drainage 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 in the new Drainage Districts of Cohuna, Kerang East, Merbein, Red Cliffs, Rochester, Rodney, Shepparton, Tongala-Stanhope, and Werribee.

In 48 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.

By direction of the Government, the temporary reduction by 10 per cent. in all rates in respect of domestic and stock supplies in Irrigation and Water Supply and Waterworks Districts, which has operated for the past two years, was continued, with the following exceptions:—

(1) In the Waterworks District of Hindmarsh where the rates were reduced in accordance with the recommendation of the recent Royal Commission.

(2) In the Waterworks Districts of Carwarp, Carwarp Central, Coreena, Millewa, Millewa Central, and Yelta where rates were made on a basis that would yield approximately £10 13s. 4d. per 640 acres, and thus generally comply with the recommendation of the Royal Commission that rates for the three divisions be made on an acreage basis, with £10 13s. 4d. per 640 acres as the rate for the first division; and in the Waterworks Districts of Dering, Eureka, and Walpeup Central where rates on a similar basis were also made.

Under the powers conferred by section 62 of the *Water Act* 1928, a minimum annual rate on the basis of £9 12s. per 640 acres was fixed by the Commission on the first division lands of the Birchip, Karkaroc, Long Lake, Sea Lake, Tyntynder, Tyrrell, Tyrrell West, Upper Western Wimmera, Upper Wimmera United, Wimmera United, and Wycheproof Waterworks Districts and in the Walpeup West (Bore) Waterworks District at £4 16s. per 640 acres, in all of which Districts the temporary reduction by 10 per cent. operated, while in the Carwarp, Carwarp Central, Coreena, Dering, Eureka, Hindmarsh, Millewa, Millewa Central, Walpeup Central, and Yelta Waterworks Districts, the minimum was fixed at £10 13s. 4d. per 640 acres.

In 22 Districts the Commission made and levied compulsory irrigation charges, in 5 Flood Protection Districts a rate or charge was made, and in 3 Waterworks Trusts Districts, taken over by the Commission, rates were 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, 1938, as reduced 10 per cent. (see also above). | Period of Rate. | Estimated Number of Persons dwelling in District. |
|---|--------------------------------------|--|-----------------|---|
|---|--------------------------------------|--|-----------------|---|

#### IRRIGATION AND WATER SUPPLY DISTRICTS.

|                          | Valuation by Commission. | Divisions.     |       |       | 1st July, 1937, to 30th June, 1938 |       |
|--------------------------|--------------------------|----------------|-------|-------|------------------------------------|-------|
|                          |                          | 1st.           | 2nd.  | 3rd.  |                                    |       |
|                          | £                        | s. d.          | s. d. | s. d. |                                    |       |
| 1. BACCHUS MARSH ..      | 14,696                   | 0 11           | 0 5½  | ..    |                                    | 650   |
| 2. BOORT ..              | 14,613                   | 1 9½           | 0 10¾ | ..    | " " "                              | 594   |
| 3. CALIVIL ..            | 14,515                   | 0 11           | ..    | ..    | " " "                              | 582   |
| 4. CAMPASPE ..           | 8,193                    | 1 9½           | 0 10¾ | 0 5¾  | " " "                              | 576   |
| 5. COHUNA ..             | 32,512                   | 1 9½           | 0 10¾ | 0 5¾  | " " "                              | 1,437 |
| 6. DEAKIN ..             | 45,238                   | 1 6            | 0 9   | 0 4½  | " " "                              | 1,500 |
| 7. DINGEE ..             | 3,070                    | 0 11           | ..    | ..    | " " "                              | 261   |
| 8. DRY LAKE ..           | 250                      | (No rate made) |       |       | " " "                              | 12    |
| Totals (carried forward) | £133,087                 |                |       |       |                                    | 5,612 |

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, 1938, as reduced 10 per cent. (See preceding page also.) | Period of Rate. | Estimated Number of Persons dwelling in District. |
|---|--------------------------------------|---|-----------------|---|
|---|--------------------------------------|---|-----------------|---|

IRRIGATION AND WATER SUPPLY DISTRICTS—*continued*.

|                         | Valuation by Commission. | Divisions. |       |       |                                    |        |
|-------------------------|--------------------------|------------|-------|-------|------------------------------------|--------|
|                         |                          | 1st.       | 2nd.  | 3rd   |                                    |        |
|                         |                          | s. d.      | s. d. | s. d. |                                    |        |
| Brought forward ..      | 133,087                  | ..         | ..    | ..    | 1st July, 1937, to 30th June, 1938 | 5,612  |
| 9. ECHUCA NORTH ..      | 5,171                    | 0 11       | 0 5½  | ..    |                                    | 568    |
| 10. FISH POINT ..       | 1,364                    | 0 11       | ..    | ..    |                                    | 44     |
| 11. KATANDRA ..         | 8,070                    | 0 11       | ..    | ..    |                                    | 465    |
| 12. KERANG ..           | 16,084                   | 2 1        | 1 0½  | 0 6¼  |                                    | 830    |
| 13. KOONDRICK ..        | 22,560                   | 1 9½       | 0 10¾ | ..    |                                    | 1,160  |
| 14. LEITCHVILLE ..      | 7,753                    | 1 9½       | 0 10¾ | ..    |                                    | 231    |
| 15. MAFFRA-SALE ..      | 51,551                   | 0 11       | 0 5½  | ..    |                                    | 2,145  |
| 16. MERBEIN ..          | 31,356                   | 0 11       | ..    | ..    |                                    | 3,000  |
| 17. MYSTIC PARK ..      | 3,177                    | 0 11       | ..    | ..    |                                    | 110    |
| 18. NORTH SHEPPARTON .. | 46,029                   | 0 11       | 0 5½  | ..    |                                    | 1,285  |
| 19. NYAH ..             | 7,203                    | 0 11       | ..    | ..    |                                    | 900    |
| 20. RED CLIFFS ..       | 23,799                   | 0 11       | ..    | ..    |                                    | 2,850  |
| 21. ROCHESTER ..        | 59,802                   | 0 11       | 0 5½  | 0 2¾  |                                    | 4,190  |
| 22. RODNEY ..           | 132,904                  | 0 11       | 0 5½  | 0 2¾  |                                    | 5,335  |
| 23. SHEPPARTON ..       | 34,649                   | 0 11       | ..    | ..    |                                    | 2,445  |
| 24. SOUTH SHEPPARTON .. | 14,635                   | 0 11       | 0 5½  | ..    |                                    | 430    |
| 25. STANHOPE ..         | 15,902                   | 0 11       | ..    | ..    |                                    | 800    |
| 26. SWAN HILL ..        | 22,136                   | 0 11       | ..    | ..    |                                    | 1,898  |
| 27. THIRD LAKE ..       | 2,184                    | 1 9½       | ..    | ..    |                                    | 100    |
| 28. TONGALA ..          | 27,484                   | 0 11       | ..    | ..    |                                    | 1,800  |
| 29. TRAGOWEL PLAINS ..  | 41,014                   | 0 11       | 0 5½  | 0 2¾  |                                    | 1,261  |
| 30. TRESKO ..           | 1,797                    | 2 3        | 1 1½  | ..    |                                    | 236    |
| 31. WERRIBEE ..         | 17,840                   | 0 11       | ..    | ..    |                                    | 1,390  |
| Totals (Irrigation)     | £727,551                 |            |       |       |                                    | 39,085 |

## WATERWORKS DISTRICTS.

|                          |            |      |       |      | 1st July, 1937, to 30th June, 1938 |        |
|--------------------------|------------|------|-------|------|------------------------------------|--------|
| 32. AXE CREEK ..         | 1,659      | 1 9½ | ..    | ..   | 1st July, 1937, to 30th June, 1938 | 260    |
| 33. BIRCHIP ..           | 38,020     | 2 1  | 1 0½  | 0 6¼ |                                    | 2,653  |
| 34. CARWAP ..            | 6,105      | 3 4  | 1 8   | 0 10 |                                    | 520    |
| 35. CARWAP CENTRAL ..    | 896        | 3 4  | 1 8   | 0 10 |                                    | 180    |
| 36. COREENA ..           | 8,700      | 3 4  | 1 8   | 0 10 |                                    | 250    |
| 37. DERING ..            | 2,361      | 3 4  | 1 8   | 0 10 |                                    | 225    |
| 38. EUREKA ..            | 1,706      | 3 4  | 1 8   | 0 10 |                                    | 110    |
| 39. HARCOURT ..          | 8,657      | 1 4  | ..    | ..   |                                    | 600    |
| 40. HINDMARSH ..         | 8,357      | 2 8  | 1 4   | 0 8  |                                    | 240    |
| 41. KARKAROOC ..         | 125,956    | 1 11 | 0 11½ | 0 5¾ |                                    | 4,750  |
| 42. KERANG N.W. LAKES    | 7,554      | 0 5  | ..    | ..   |                                    | 390    |
| 43. LONG LAKE ..         | 67,333     | 2 6½ | 1 3¼  | 0 7½ |                                    | 2,293  |
| 44. MILLEWA ..           | 21,362     | 3 4  | 1 8   | 0 10 |                                    | 1,320  |
| 45. MILLEWA CENTRAL ..   | 12,426     | 3 4  | 1 8   | 0 10 |                                    | 704    |
| 46. NARRE WARREN ..      | 2,744      | 0 11 | ..    | ..   |                                    | 130    |
| 47. SEA LAKE ..          | 61,217     | 2 5  | 1 2½  | 0 7¼ |                                    | 2,443  |
| 48. TYNTYNDER ..         | 49,364     | 3 0  | 1 6   | 0 9  |                                    | 2,400  |
| 49. TYRRELL ..           | 44,855     | 3 0  | 1 6   | 0 9  |                                    | 2,730  |
| 50. TYRRELL WEST ..      | 60,048     | 3 0  | 1 6   | 0 9  |                                    | 3,010  |
| 51. UPPER WEST'N WIMMERA | 61,882     | 1 1  | 0 8   | 0 4  |                                    | 1,716  |
| 52. UPPER WIMMERA UNITED | 99,951     | 1 1  | 0 8   | 0 4  |                                    | 2,750  |
| 53. WALPEUP CENTRAL ..   | 7,297      | 3 4  | 1 8   | 0 10 |                                    | 310    |
| 54. WALPEUP WEST ..      | 54,252     | 0 8  | 0 4   | ..   |                                    | 2,130  |
| 55. WERRIBEE ..          | 6,725      | 1 9½ | ..    | ..   |                                    | 160    |
| 56. WESTERN WIMMERA      | 265,527    | 1 0½ | 0 6¼  | 0 3½ |                                    | 8,838  |
| 57. WIMMERA UNITED ..    | 301,933    | 1 0½ | 0 6¼  | 0 3½ |                                    | 7,800  |
| 58. WYCHEPROOF ..        | 72,599     | 2 1  | 1 0½  | 0 6¼ |                                    | 2,972  |
| 59. YELTA ..             | 3,033      | 3 4  | 1 8   | 0 10 |                                    | 50     |
| Totals (Waterworks)      | £1,402,519 |      |       |      |                                    | 51,934 |

A.—VALUATIONS, RATES, AND FLOOD PROTECTION CHARGES—*continued.*

| Districts Supplied with Water<br>for Domestic and Ordinary<br>Use and for Watering Cattle<br>or other Stock. | Annual<br>Value<br>of Lands<br>and<br>Tenements. | Rate in the £1 made<br>during year ending<br>31st. December 1938. |       |       | Period of Rate.                              | Estimated<br>Number of<br>Persons<br>dwelling in<br>District. |
|--|--|---|-------|-------|--|---|
| WATERWORKS TRUSTS.   |  |   |       |       |  |   |
|  | Valuation by<br>Commission.                      |   |       |       |  |   |
|  | £  | s. d.   | s. d. | s. d. |  |   |
| 60. LODDON UNITED ..   | 78,189   | 0 8   | 0 4   | 0 2   | 1st January, 1938, to 31st<br>December, 1938 | 3,300   |
|  | Municipal<br>Valuation.                          |   |       |       |  |   |
|  | £  |   |       | s. d. |  |   |
| 61. CARRUM ..  | 21,645   | 1st Division  |       | 3 8   | " " "  | 1,470   |
|  |  | 2nd Division  |       | 1 10  |  |   |
|  |  | 3rd Division  |       | 1 0   |  |   |
|  |  | 4th Division  |       | 0 10  |  |   |
|  |  | 5th Division  |       | 0 3   |  |   |
| 62. MITIAMO (Urban) ..   | 910  | ..  | ..    | 4 0   | " " "  | 190   |
| Totals (Trusts) ..   | £100,744   |   |       |       |  | 4,960   |

| 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, 1938. | Sales of Water Charge per 1,000 gallons. | Period of Rate. | Estimated Number of Persons dwelling in District. |
|---|--------------------------------------|--|--|-----------------|---|
|---|--------------------------------------|--|--|-----------------|---|

## URBAN DIVISIONS AND DISTRICTS.

|  |    | Municipal<br>Valuation. |    |    |                                    |        |
|--|----|-------------------------|----|----|------------------------------------|--------|
|  |    | £                       | s. | d. | s.                                 | d.     |
| 63. ANGLESEA .. ..                     | .. | 2,760                   | 2  | 6  | 1                                  | 0      |
| 64. ANTWERP .. ..                      | .. | 197                     | 5  | 0  | 2                                  | 0      |
| 65. BACCHUS MARSH ..                   | .. | 16,020                  | 1  | 6  | 1                                  | 6      |
| 66. BARWON HEADS AND<br>OCEAN GROVE .. | .. | 10,668                  | 2  | 6  | 1                                  | 0      |
| 67. BERRIWILLOCK ..                    | .. | 1,340                   | 3  | 6  | 1                                  | 6      |
| 68. BERWICK .. ..                      | .. | 5,887                   | 2  | 1  | 1                                  | 0      |
| 69. BEULAH .. ..                       | .. | 2,864                   | 3  | 0  | 1                                  | 3      |
| 70. BIRCHIP .. ..                      | .. | 6,059                   | 1  | 8  | 1                                  | 3      |
| 71. BITTERN .. ..                      | .. | 641                     | 3  | 1  | 1                                  | 0      |
| 72. BRIM .. ..                         | .. | 1,089                   | 4  | 6  | 1                                  | 6      |
| 73. BUNYIP .. ..                       | .. | 2,882                   | 2  | 4  | 1                                  | 0      |
| 74. CARRUM .. ..                       | .. | 77,193                  | 1  | 5  | 1                                  | 0      |
| 75. CARWARP .. ..                      | .. | 191                     | 5  | 0  | 2                                  | 0      |
| 76. CHILLINGOLLAH ..                   | .. | 393                     | 5  | 0  | 2                                  | 0      |
| 77. CHINKAPOOK .. ..                   | .. | 578                     | 5  | 0  | 2                                  | 0      |
| 78. COHUNA .. ..                       | .. | 9,131                   | 2  | 0  | 1                                  | 3      |
| 79. COROP .. ..                        | .. | 190                     | 2  | 0  | 0                                  | 6      |
| 80. CRANBOURNE .. ..                   | .. | 3,236                   | 2  | 0  | 1                                  | 0      |
| 81. CRIB POINT .. ..                   | .. | 3,391                   | 3  | 1  | 1                                  | 6      |
| 82. CULGOA .. ..                       | .. | 1,325                   | 3  | 6  | 1                                  | 6      |
| 83. DANDENONG .. ..                    | .. | 61,884                  | 1  | 3  | 1                                  | 0      |
| 84. DIMBOOLA .. ..                     | .. | 13,410                  | 1  | 11 | 1                                  | 0      |
| 85. DINGEE .. ..                       | .. | 368                     | 4  | 0  | 1                                  | 3      |
| 86. DOOEN .. ..                        | .. | 169                     | 2  | 0  | 1                                  | 6      |
| 87. DRYSDALE .. ..                     | .. | 2,808                   | 2  | 6  | 1                                  | 0      |
| 88. FRANKSTON .. ..                    | .. | 59,895                  | 1  | 4  | 1                                  | 0      |
| 89. GARFIELD .. ..                     | .. | 2,349                   | 2  | 4  | 1                                  | 0      |
| 90. HASTINGS .. ..                     | .. | 2,134                   | 3  | 0  | 1                                  | 0      |
| 91. HEYFIELD .. ..                     | .. | 4,455                   | 2  | 6  | 1                                  | 0      |
| 92. HICKSBOROUGH .. ..                 | .. | 446                     | 3  | 9  | 1                                  | 6      |
| 93. HOPETOUN .. ..                     | .. | 5,199                   | 3  | 0  | 1                                  | 3      |
| 94. JEPARIT .. ..                      | .. | 7,609                   | 2  | 2  | 1                                  | 3      |
| 95. JUNG JUNG .. ..                    | .. | 928                     | 3  | 0  | 1                                  | 6      |
| 96. KOONDROOK .. ..                    | .. | 3,150                   | 2  | 9  | 1                                  | 3      |
| 97. LAKE BOGA .. ..                    | .. | 2,166                   | 3  | 0  | 1                                  | 3      |
| 98. LALBERT .. ..                      | .. | 847                     | 5  | 0  | 1                                  | 6      |
| 99. LASCELLES .. ..                    | .. | 698                     | 5  | 0  | 1                                  | 6      |
| 100. LEITCHVILLE .. ..                 | .. | 1,887                   | 3  | 7  | 1                                  | 6      |
| 101. LOCKINGTON .. ..                  | .. | 1,749                   | 3  | 0  | 1                                  | 6      |
| 102. LONGWARRY .. ..                   | .. | 1,608                   | 2  | 9  | 1                                  | 0      |
| Totals (carried forward)               |    | £319,794                |    |    |                                    |        |
|  |    |                         |    |    | 1st July, 1937, to 30th June, 1938 | 250    |
|  |    |                         |    |    | " " "                              | 74     |
|  |    |                         |    |    | " " "                              | 1,785  |
|  |    |                         |    |    | " " "                              | 1,148  |
|  |    |                         |    |    | " " "                              | 150    |
|  |    |                         |    |    | " " "                              | 950    |
|  |    |                         |    |    | " " "                              | 440    |
|  |    |                         |    |    | " " "                              | 850    |
|  |    |                         |    |    | " " "                              | 90     |
|  |    |                         |    |    | " " "                              | 180    |
|  |    |                         |    |    | " " "                              | 430    |
|  |    |                         |    |    | " " "                              | 6,600  |
|  |    |                         |    |    | " " "                              | 45     |
|  |    |                         |    |    | " " "                              | 70     |
|  |    |                         |    |    | " " "                              | 120    |
|  |    |                         |    |    | " " "                              | 1,030  |
|  |    |                         |    |    | " " "                              | 85     |
|  |    |                         |    |    | " " "                              | 250    |
|  |    |                         |    |    | " " "                              | 565    |
|  |    |                         |    |    | " " "                              | 150    |
|  |    |                         |    |    | " " "                              | 4,935  |
|  |    |                         |    |    | " " "                              | 1,698  |
|  |    |                         |    |    | " " "                              | 90     |
|  |    |                         |    |    | " " "                              | 30     |
|  |    |                         |    |    | " " "                              | 336    |
|  |    |                         |    |    | " " "                              | 5,620  |
|  |    |                         |    |    | " " "                              | 300    |
|  |    |                         |    |    | " " "                              | 468    |
|  |    |                         |    |    | " " "                              | 550    |
|  |    |                         |    |    | " " "                              | 100    |
|  |    |                         |    |    | " " "                              | 750    |
|  |    |                         |    |    | " " "                              | 872    |
|  |    |                         |    |    | " " "                              | 174    |
|  |    |                         |    |    | " " "                              | 480    |
|  |    |                         |    |    | " " "                              | 388    |
|  |    |                         |    |    | " " "                              | 146    |
|  |    |                         |    |    | " " "                              | 154    |
|  |    |                         |    |    | " " "                              | 250    |
|  |    |                         |    |    | " " "                              | 240    |
|  |    |                         |    |    | " " "                              | 250    |
|  |    |                         |    |    |                                    | 33,093 |



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, 1938. | Sales of Water Charge per 1,000 gallons. | Period of Rate.                    | Estimated Number of Persons dwelling in District. |
|---|--------------------------------------|--|--|------------------------------------|---|
| <b>URBAN DIVISIONS AND DISTRICTS—<i>continued.</i></b>  |                                      |  |  |                                    |   |
|   | <b>Municipal Valuation.</b>          |  |  |                                    |   |
|   | £                                    | s. d.  | s. d.                                    |                                    |   |
| Brought forward ..  | 319,794                              |  |  |                                    | 33,093  |
| 103. MANANGATANG ..   | 2,309                                | 3 6  | 2 0                                      | 1st July, 1937, to 30th June, 1938 | 310   |
| 104. MARNOO ..  | 1,223                                | 5 0  | 1 3                                      | " " "                              | 250   |
| 105. MARONG ..  | 891                                  | 3 0  | 1 0                                      | " " "                              | 300   |
| 106. MERBEIN ..   | 10,635                               | 2 9  | 2 0                                      | " " "                              | 1,500   |
|   |                                      |  | up to amount of rate, excess             | " " "                              |   |
|   |                                      |  | 1 0                                      | " " "                              |   |
| 107. MERINGUR ..  | 312                                  | 5 0  | 2 6                                      | " " "                              | 75  |
| 108. MINYIP ..  | 6,134                                | 2 10   | 1 6                                      | " " "                              | 750   |
| 109. MORNINGTON ..  | 36,690                               | 1 6  | 1 0                                      | " " "                              | 2,260   |
| 110. MOUNT MARTHA ..  | 7,181                                | 2 1  | 1 3                                      | " " "                              | 210   |
| 111. MURRABIT ..  | 255                                  | 5 0  | 2 0                                      | " " "                              | 60  |
| 112. NANDALY ..   | 304                                  | 5 0  | 2 0                                      | " " "                              | 114   |
| 113. NATIMUK ..   | 3,245                                | 1 6  | 1 0                                      | " " "                              | 580   |
| 114. NEWSTEAD ..  | 2,806                                | 3 0  | 1 0                                      | " " "                              | 400   |
|   |                                      |  | up to amount of rate, excess             |                                    |   |
|   |                                      |  | 0 6                                      | " " "                              |   |
| 115. NORTH WONTHAGGI ..   | 3,780                                | 2 0  | 1 6                                      | " " "                              | 1,000   |
| 116. NULLAWIL ..  | 814                                  | 5 0  | 2 0                                      | " " "                              | 100   |
| 117. NYAH ..  | 699                                  | 2 6  | 1 3                                      | " " "                              | 140   |
| 118. NYAH WEST ..   | 3,970                                | 2 9  | 1 6                                      | " " "                              | 350   |
| 119. OUYEN ..   | 9,547                                | 3 0  | 2 0                                      | " " "                              | 1,083   |
| 120. PAKENHAM ..  | 5,261                                | 2 1  | 1 0                                      | " " "                              | 730   |
| 121. PATCHEWOLLOCK ..   | 429                                  | 5 0  | 2 0                                      | " " "                              | 165   |
| 122. PIANGIL ..   | 1,270                                | 3 6  | 1 6                                      | " " "                              | 220   |
| 123. PORTARLINGTON ..   | 3,359                                | 2 6  | 1 0                                      | " " "                              | 550   |
| 124. PYRAMID HILL ..  | 3,579                                | 3 0  | 1 6                                      | " " "                              | 520   |
| 125. QUAMBATOOK ..  | 3,205                                | 2 10   | 1 3                                      | " " "                              | 397   |
| 126. QUEENSCLIFF AND POINT LIONSDALE ..   | 21,598                               | 2 7  | 1 0                                      | " " "                              | 3,100   |
| 127. RAINBOW ..   | 8,078                                | 2 2  | 1 3                                      | " " "                              | 1,004   |
| 128. RED CLIFFS ..  | 15,250                               | 2 3  | 2 0                                      | " " "                              | 1,120   |
|   |                                      |  | up to amount of rate, excess             |                                    |   |
|   |                                      |  | 1 0                                      | " " "                              |   |
| 129. RUPANYUP ..  | 5,747                                | 2 10   | 1 6                                      | " " "                              | 650   |
| 130. SEA LAKE ..  | 7,180                                | 2 0  | 1 3                                      | " " "                              | 700   |
| 131. SOMERVILLE ..  | 1,918                                | 2 6  | 1 0                                      | " " "                              | 280   |
| 132. SOUTH FRANKSTON ..   | 13,734                               | 2 6  | 1 0                                      | " " "                              | 810   |
| 133. SPEED ..   | 324                                  | 5 0  | 2 0                                      | " " "                              | 90  |
| 134. SPRING VALE ..   | 34,911                               | 1 6  | 1 0                                      | " " "                              | 3,015   |
| 135. STANHOPE ..  | 1,327                                | 4 0  | 1 3                                      | " " "                              | 300   |
| 136. TEMPY ..   | 285                                  | 5 0  | 2 0                                      | " " "                              | 130   |
| 137. TORQUAY ..   | 5,927                                | 2 6  | 1 0                                      | " " "                              | 820   |
| 138. ULTIMA ..  | 2,387                                | 3 0  | 1 3                                      | " " "                              | 359   |
| 139. WAITCHIE ..  | 350                                  | 5 0  | 2 0                                      | " " "                              | 80  |
| 140. WALPEUP ..   | 876                                  | 4 6  | 2 0                                      | " " "                              | 165   |
| 141. WATCHEM ..   | 1,767                                | 3 3  | 1 6                                      | " " "                              | 318   |
| 142. WERRIMULL ..   | 707                                  | 5 0  | 2 6                                      | " " "                              | 140   |
| 143. WONTHAGGI ..   | 31,978                               | 1 6  | 1 6                                      | " " "                              | 8,000   |
| 144. WOOMELANG ..   | 1,731                                | 3 6  | 1 3                                      | " " "                              | 405   |
| 145. WOORINEN ..  | 571                                  | 4 0  | 1 6                                      | " " "                              | 81  |
| 146. WYCHEPROOF ..  | 7,542                                | 2 0  | 1 3                                      | " " "                              | 770   |
| 147. YAAPEET ..   | 236                                  | 5 0  | 2 0                                      | " " "                              | 104   |
| Totals ..   | £592,116                             |  |  | " " "                              | 67,598  |

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, 1938.   | Period of Rate.                    | Estimated Number of Persons dwelling in District. |
|---|--------------------------------------|--|------------------------------------|---|
| <b>COLIBAN SYSTEM.</b>  |                                      |  |                                    |   |
|   | Municipal Valuation.<br>£            | <i>s. d.</i><br>On Valuations<br>up to £300 .. 1 6<br>(Minimum 20s.)<br>From £301 up<br>to £700 .. 1 3<br>From £701 on .. 1 0<br>Vacant lands .. 1 6 | 1st July, 1937, to 30th June, 1938 |   |
| 148. COLIBAN .. ..  | 399,467                              |  |                                    | 60,500  |
| Totals (Urban) ..   | 991,583                              | .. ..  | .. ..                              | 128,098   |
| <b>Grand Totals</b> ..  | <b>£3,222,397</b>                    | .. ..  | .. ..                              | <b>224,077</b>                                    |

**DRAINAGE DISTRICTS.**

|                               | Valuation by Commission.<br>£ | Divisions—             |                         |                        |                                       |        |
|-------------------------------|-------------------------------|------------------------|-------------------------|------------------------|---------------------------------------|--------|
|                               |                               | First.<br><i>s. d.</i> | Second.<br><i>s. d.</i> | Third.<br><i>s. d.</i> |                                       |        |
| 149. COHUNA ..                | 34,698                        | 0 9                    | 0 4½                    | 0 2¼                   | 1st January, 1938, to 30th June, 1938 | 1,231  |
| 150. KERANG EAST ..           | 17,330                        | 0 10                   | 0 5                     | 0 2½                   | " " "                                 | 800    |
| 151. MERBEIN ..               | 43,595                        | 0 4½                   | 0 2¼                    | ..                     | " " "                                 | 3,000  |
| 152. RED CLIFFS ..            | 71,764                        | 0 4½                   | ..                      | ..                     | " " "                                 | 2,750  |
| 153. ROCHESTER ..             | 24,456                        | 0 9                    | 0 4½                    | 0 2¼                   | " " "                                 | 1,608  |
| 154. RODNEY ..                | 13,503                        | 0 8                    | 0 4                     | 0 2                    | " " "                                 | 475    |
| 155. SHEPPARTON ..            | 56,792                        | 0 7                    | 0 3½                    | 0 1¾                   | " " "                                 | 3,450  |
| 156. TONGALA-STAN-<br>HOPE .. | 48,423                        | 0 9                    | 0 4½                    | 0 2¼                   | " " "                                 | 2,300  |
| 157. WERRIBEE ..              | 21,664                        | 0 4                    | 0 2                     | ..                     | " " "                                 | 1,337  |
| Totals (Drainage) ..          | £332,225                      |                        |                         |                        |                                       | 16,951 |

**FLOOD PROTECTION DISTRICTS.**

|                           | Valuation by Commission.<br>£ | <i>s. d.</i>      |        |                                    |
|---------------------------|-------------------------------|-------------------|--------|------------------------------------|
|                           |                               |                   |        |                                    |
| 158. ECHUCA (HIGH-ST.) .. | 1,466                         | .. ..             | 0 11   | 1st July, 1937, to 30th June, 1938 |
| 159. CARDINIA .. ..       | 35,137                        | Acres.            |        |                                    |
|                           |                               | 1st Div. (p. ac.) | 3 0    | " " "                              |
|                           |                               | 2nd Div. (p. ac.) | 1 6    | " " "                              |
|                           |                               | 3rd Div. (p. ac.) | 0 9    | " " "                              |
| 160. LOWER KOOWEERUP      | 56,458                        | 1st Div. (p. ac.) | 2 0    | " " "                              |
|                           |                               | 2nd Div. (p. ac.) | 1 0    | " " "                              |
|                           |                               | 3rd Div. (p. ac.) | 0 6    | " " "                              |
| 161. KANYAPELLA ..        | 14,494                        | 1st Div. (p. ac.) | 0 7    | " " "                              |
|                           |                               | 2nd Div. (p. ac.) | 0 3½   | " " "                              |
| 162. LOCH GARRY ..        | 40,886                        | Per acre          | .. 0 5 | " " "                              |
| Totals .. ..              | 146,975                       | .. ..             |        | 4,050                              |

**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 ..                   | 6,677                      | 3,354                               | 3,354   | 22s. 6d.  | 1st October, 1937, to 30th April, 1938   |
| 2. COHUNA ..                          | 71,912                     | 35,779                              | 35,923  | 6s.   | 15th August, 1937, to 15th May, 1938     |
| 3. DINGEE ..                          | 8,844                      | 4,404                               | 4,346   | 7s.   | " " " "                                  |
| 4. ECHUCA NORTH ..                    | 13,793                     | 5,382                               | 5,433   | 7s. 6d.   | " " " "                                  |
| 5. FISH POINT ..                      | 6,327                      | 3,834                               | 1,884   | 8s.   | " " " "                                  |
| 6. KOONDROOK ..                       | 81,340                     | 23,410                              | 23,378  | 6s.   | " " " "                                  |
| 7. LEITCHVILLE ..                     | 13,853                     | 11,979                              | 4,201   | 7s.   | " " " "                                  |
| 8. MAFFRA-SALE ..                     | 43,741                     | 18,961                              | 18,961  | 10s.  | 1st September, 1937, to 30th April, 1938 |
| 9. MERBEIN ..                         | 8,522                      | 7,738                               | 19,346  | 22s.  | 1st August, 1937, to 30th April, 1938    |
| 10. MYSTIC PARK ..                    | 20,260                     | 7,759                               | 2,634   | Min. 55s. per acre<br>6s.                       | 15th August, 1937, to 15th May, 1938     |
| 11. NYAH ..                           | 3,805                      | 2,996                               | 7,437   | 20s.  | 1st August, 1937, to 30th April, 1938    |
| 12. RED CLIFFS ..                     | 30,946                     | 11,191                              | 27,977  | Min. 50s. per acre<br>28s.                      | " " " "                                  |
| 13. ROCHESTER ..                      | 172,045                    | 54,351                              | 54,456  | Min. 70s. per acre<br>6s.                       | 15th August, 1937, to 15th May, 1938     |
| 14. RODNEY ..                         | 267,991                    | 190,827                             | 61,199  | 6s.   | " " " "                                  |
| 15. SHEPPARTON ..                     | 24,574                     | 21,449                              | 21,449  | 6s.   | " " " "                                  |
| 16. SOUTH SHEPPARTON                  | 33,615                     | 18,143                              | 4,337   | 8s.   | " " " "                                  |
| 17. STANHOPE ..                       | 26,044                     | 17,914                              | 17,605  | 6s.   | " " " "                                  |
| 18. SWAN HILL ..                      | 36,478                     | 21,871                              | 21,871  | 6s.   | " " " "                                  |
| 19. THIRD LAKE ..                     | 11,488                     | 3,882                               | 2,587   | 7s.   | " " " "                                  |
| 20. TONGALA ..                        | 45,469                     | 27,321                              | 27,422  | 6s.   | " " " "                                  |
| 21. TRAGOWEL PLAINS                   | 216,875                    | 148,401                             | 31,052  | 7s.   | " " " "                                  |
| 22. WERRIBEE ..                       | 10,156                     | 8,163                               | 8,164   | 12s.  | 1st October, 1937, to 30th April, 1938   |
| <b>Totals ..</b>                      | <b>1,154,755</b>           | <b>649,109</b>                      | <b>404,716</b>  |   |  |

**C.—SALES OF WATER CHARGES.**

| Irrigation and Water Supply District. | Area of District in Acres. | Unit Charge per Acre foot for Water Supplied as Sales.  | Period of Charge.                  |
|---------------------------------------|----------------------------|---|------------------------------------|
| 1. BOORT .. ..                        | 79,458                     | 7s.   | 1st July, 1937, to 30th June, 1938 |
| 2. CALIVIL .. ..                      | 61,142                     | 10s.  | " " " "                            |
| 3. DEAKIN .. ..                       | 163,970                    | 6s.   | " " " "                            |
| 4. KATANDRA .. ..                     | 14,171                     | 10s.  | " " " "                            |
| 5. KERANG .. ..                       | 85,230                     | 4s.   | " " " "                            |
| 6. NORTH SHEPPARTON                   | 120,703                    | 10s.  | " " " "                            |
| 7. TRESCO .. ..                       | 3,482                      | 20s.  | " " " "                            |
| 8. CAMPASPE .. ..                     | 19,767                     | Charge per acre<br>per watering<br>when supplies<br>available, with<br>minimum 10s.<br>per watering<br>(Half rates 1st June to 30th August) | " " " "                            |
| <b>Total .. ..</b>                    | <b>547,923</b>             | Lucerne 1s.<br>Grass 1s.<br>Crop 2s.<br>Orchard 2s.<br>Fodder 2s.   | " " " "                            |

## FINANCE.

(W. Lambert, B. Com. D.P.A., A.F.I.A., Accountant.)

### REVENUE.

The Revenue Collections for the financial year 1937-38 exceeded the previous record high level attained in 1936-37. The respective amounts collected were £560,241 for 1937-38, and £549,785 for 1936-37.

#### ARREARS OF RATES AND CHARGES.

The arrears of rates and charges outstanding on 30th June, 1938, amounted to £787,353, an increase of £26,133 on the amount of £761,220 outstanding as at 1st July, 1937. The increase is due, partly, to the record quantity of water delivered during the long dry period towards the close of the last irrigation season. These extra sales were debited to water users before the 30th June, 1938, and will be reflected in the revenue to be collected during the 1938-39 financial year.

Furthermore, large sums are involved in adjustments that will be made to water users' accounts in accordance with the provisions of the Farmers' Debts Adjustment Act and the *Water Act* 1937, No. 4513, respectively. When plans of adjustment approved under the provisions of the Farmers' Debts Adjustment Act have been confirmed, substantial sums now outstanding as arrears, will be waived. Some 3,000 applications for adjustment of rates have been received pursuant to the provisions of the *Water Act*, 1937. In the latter adjustment, the ability of the applicant to pay is taken into consideration. However, in some cases substantial amounts will be waived and extended time given to pay the indebtedness outstanding. This will tend to hold the arrears at a comparatively high figure.

With the object of facilitating the administration of districts, and the collection of revenue, the Commission has re-grouped some of its districts so that both the engineering and revenue work will be administered from the one centre.

An amount of £46,295 was written off the books of the Commission for the financial year 1937-38. For the year 1936-37 and 1935-36 the respective amounts waived were £89,424 and £89,640. In each of these years, the amounts written off on account of Crown Lands previously held on Conditional Purchase Lease, but vacated by lessees who left no assets, comprised over 60 per cent. of the total amount written off.

### EXPENDITURE.

The Vote Estimates for 1937-38 submitted by the Commission would have required an appropriation of £446,125. The amount included in the Parliamentary Vote Appropriation, however, was £340,316. Approved Supplementary Estimates increased the amount actually expended from Vote funds to a total of £357,373.

In addition to the expenditure from Vote Funds, an amount of £55,831 has been expended on maintenance works from grants made available from Unemployment Relief (Taxation) Funds.

The expenditure for the year on maintenance, water distribution, and management, and the comparative figures for 1936-37, are set out hereunder:—

|   |       | £<br>1937-38. |       | £<br>1936-37. |
|---|-------|---------------|-------|---------------|
| From Annual Vote Appropriation            | .. .. | 357,373       | .. .. | 356,136       |
| From Unemployment Relief (Taxation) Funds | .. .. | 55,831        | .. .. | 44,863        |
|   |       | <hr/> 413,204 | .. .. | <hr/> 400,999 |

The total expenditure for the year on capital construction works, reconstructions and replacements, and river improvements, was £712,156 from funds provided as under:—

|   |       | £             |
|---|-------|---------------|
| Ordinary Loan Funds                       | .. .. | 353,606       |
| Unemployment Relief Loan Funds (Act 4097) | .. .. | 358,550       |
|   |       | <hr/> 712,156 |

The total expenditure by the Commission for the year 1937–38 from all sources, is listed hereunder :—

|  | £       | £                 |
|--|---------|-------------------|
| Vote Funds .. .. .                                 | 357,373 |                   |
| Unemployment Relief (Taxation) Funds .. .. .       | 55,831  |                   |
|  | <hr/>   | 413,204           |
| Ordinary Loan Funds—                               |         |                   |
| Commission .. .. .                                 | 309,858 |                   |
| Waterworks Trusts and Local Bodies .. .. .         | 43,748  |                   |
|  | <hr/>   | 353,606           |
| Unemployment Relief Loan Funds (Act 4097) .. .. .  |         | 358,550           |
| Drainage Trust Funds .. .. .                       |         | 23,146            |
| From Water Supply Works Depreciation Fund .. .. .  |         | 1,602             |
| Add Special Appropriations .. .. .                 |         | 3,350             |
|  |         | <hr/>             |
| Total Expenditure for the Year .. .. .             |         | 1,153,458         |
| Add Total Revenue Collected .. .. .                |         | *560,241          |
|  |         | <hr/>             |
| <b>Turnover for 1937–38 Financial Year .. .. .</b> |         | <b>£1,713,699</b> |

\* This figure does not include payments to State Loans Repayment Fund, Trust Funds, Suspense Account, Interest and Redemption payments by Waterworks Trusts and Local Governing Bodies, and other repayments.

### CAPITAL ADJUSTMENT.

Pursuant to the provisions of the *Water Act* 1937, No. 4513, the Capital Liability of the State for Works of Water Supply as at 31st December, 1937, was adjusted by transferring to an account in the books of the Commission, called the “Capital Expenditure Borne by the State Account,” such Capital as could not be borne by the respective districts and divisions under the control of the Commission.

The Capital Liability of works debited to country water supply at that date was £26,175,196; of this amount £17,104,026 was transferred in accordance with the provisions of the Act to the “Capital Expenditure Borne by the State Account,” and represented the amount over and above that which could be borne by water users on the basis of the water rates and charges adopted.

An amount of £3,770,290, which was included in the books of the Commission and represented the cost of Free Headworks and Capital Written Off by authority of Parliament over 39 years ago, was also transferred to the “Capital Expenditure Borne by the State Account”.

The adjusted Capital Liability borne by water users, therefore, amounted to £5,300,880, comprised of £1,875,696 debited to Waterworks Trusts and Local Governing Bodies, and £3,425,184 borne by water users in respect of works under the jurisdiction and control of the State Rivers and Water Supply Commission. On this latter sum, the rates and charges adopted will be sufficient to provide for interest and redemption in addition to administration charges, operating expenses and depreciation.

As the total capital expenditure on country water supply works had not been, at any time, charged direct to water users, the Commission has prepared the Annual Statement of Accounts, in respect of the districts, on the basis of the Capital allotted as at 1st July, 1937, plus district expenditure to 31st December, 1937, and thence on the Capital as adjusted from 1st January, 1938, to 30th June, 1938. The districts, therefore, will not obtain the full advantage of the Capital Adjustment in the financial year 1937–38. The Commission, in the interest of economy, does not propose to publish detail balance-sheets of all districts until 1938–39, when the full effect of the Capital Adjustment can be shown. Particulars of receipts and expenditure of the respective districts, however, are shown on the following pages.

It is proposed to seek Parliamentary Authority to transfer an additional amount of £125,272 ls. 6d. to the “Capital Expenditure Borne by the State Account”. This sum represents expenditure, subsequent to 1st January, 1938, on Capital works not chargeable to districts under authority of the *Water Supply Loans Application Act* 1937, No. 4503. Of this amount £66,500 is in respect of River Murray Works and £35,488 5s. 10d. in respect of Murray Valley Main Channels.

The net loan liability of the State for works of Water Supply at 30th June, 1938, was £25,270,314, involving an interest payment including exchange payment on overseas interest of £1,152,694.

### INTEREST.

The amount available from the Commission's Revenue towards interest and exchange was £181,703. The payments to the Treasury as interest on loans for water supply purposes by Waterworks Trusts and Local Governing Bodies were £81,742, bringing the total amount available from all sources towards interest and exchange to £263,445. The amount of interest charges borne by the State was, therefore, £889,249.

The following statement sets out the interest liability during the past five years on capital expenditure for water supply purposes, and the amounts borne respectively by the water users and the State.

| Year.         | Total Interest Liability. | Average Interest Rate on Water Supply Loans—per cent. | Proportion Borne by— |             |         |             |
|---------------|---------------------------|---|----------------------|-------------|---------|-------------|
|               |                           |   | Water Users.         | Percentage. | State.  | Percentage. |
|               | £                         | £ s. d.   | £                    | £ s. d.     | £       | £ s. d.     |
| 1933-34 .. .. | 1,187,556                 | 4 13 10   | 320,763              | 1 5 4       | 866,793 | 3 8 6       |
| 1934-35 .. .. | 1,138,329                 | 4 8 10  | 241,303              | 0 18 10     | 897,026 | 3 10 0      |
| 1935-36 .. .. | 1,132,286                 | 4 7 8   | 287,206              | 1 2 3       | 845,080 | 3 5 5       |
| 1936-37 .. .. | 1,137,207                 | 4 7 1   | 258,437              | 0 19 10     | 878,770 | 3 7 3       |
| 1937-38 .. .. | 1,152,694                 | 4 7 3   | 263,445              | 0 19 11     | 889,249 | 3 7 4       |

### DEPRECIATION.

The *Water Act* 1937 provides for the payment of amounts raised by means of rates and irrigation charges for purposes of depreciation to Consolidated Revenue, or, to such extent as the Treasurer of Victoria so directs, to the Water Supply Works Depreciation Fund. The Act further provides that the sums so raised shall be credited with interest in the books of account of this Commission.

A sum of £10,415 was paid into Consolidated Revenue as depreciation for the year 1937-38 of which sum an amount of £4,000 was transferred by direction of the Treasurer to the credit of the Water Supply Works Depreciation Fund. This sum has been invested by the Treasury at 3 per cent. per annum.

It is estimated that, in future years, an annual amount of £40,504 should be provided for depreciation, of which, on the basis of rates and charges adopted, an amount of £31,890 will be paid to Consolidated Revenue as depreciation from district revenues. All such payments will be credited with interest to the respective districts in the books of account of the Commission.

During past years, a nominal sum of £500 has been paid to the Water Supply Works Depreciation Fund which, at 1st July, 1937, was in credit to the extent of £11,680. This amount has now been allocated over the various districts which have contributed, and, therefore, have an equity in the fund.

### MECHANIZED ACCOUNTING AND COSTING SYSTEMS.

The mechanized accounting and costing systems which were introduced on 1st July, 1937, have operated very satisfactorily.

The mechanized work so far has been confined to expenditure. Preliminary steps, however, have been taken towards the ultimate objective of also mechanizing revenue work. The delay in introducing the full scheme has been caused by lack of accommodation and the pressure of other duties on the limited staff available.

If the present system of appropriation of funds were amended to afford the Commission an increase of control over the revenue from its districts, the mechanized system could be adopted to operate, with added advantage, in the control of finance and in the efficiency of the Commission's operations generally.

### STORES SUSPENSE ACCOUNT.

The Public Account Advances Act, No. 3341, was amended during the year by Act No. 4514 to increase the Commission's advance for the purchase of stores, material and plant from £50,000 to £100,000. This has enabled the Commission to modernize its methods of handling and charging plant and materials used in respect of works.

A further increase of this account to £150,000 is proposed to be sought to facilitate the purchase of large plant required for excavating work, particularly drains in the Kooweerup Flood Protection Areas.



### ESTIMATES 1938-39.

The original Estimates submitted to the Treasury by the Commission for the financial year 1938-39 amounted to £484,404. The amount, however, included in the Budget Estimate was £358,120—a reduction of £126,284. This large reduction has rendered impossible the carrying out of very urgent maintenance work. The inability on account of lack of funds adequately to maintain works during past years is being reflected in increased costs of distribution and loss of revenue caused by the longer periods engaged in watering and, in addition, loss of water in delivery by leakage from defective channels and structures. Unless the appropriation is increased, it may not be possible to deliver water to some districts during the 1938-39 financial year.

Grants of £20,000 and £10,000 have been approved from Unemployment Relief (Taxation) Funds for expenditure during 1938-39 on sand drift removal and water distribution in the Wimmera-Mallee areas, and for reconstruction and belated repairs in Irrigation Districts respectively.

### CONTROL OF REVENUE.

The *Water Act* 1937, No. 4513, provides that Parliament or the Governor in Council may direct the Commission to maintain any works which will not produce sufficient revenue to cover the expense of the maintenance or management thereof. The loss on such districts is to be transferred in the books of the Commission to an account to be called the "Revenue Expenditure Chargeable to the State Account."

In all other districts, the Capital Liability to be borne by the districts has been determined, and the rates and charges adopted will be sufficient to meet all operating charges in addition to interest, redemption and depreciation.

The Commission is of opinion that the management and control of the important country water supply undertakings and the ramified functions administered by the State Rivers and Water Supply Commission, would be greatly facilitated if the Commission were given control of revenues received from its districts, subject to the payment to the Treasury of interest and redemption obligations.

## RESULT OF OPERATIONS IN DISTRICTS

Disbursements, 1937-38.

|  | Operating<br>Expenses. | Interest on<br>Capital Allotted. | Depreciation<br>Charged. | Redemption<br>Charged. | Total<br>Disbursements. |
|--|------------------------|----------------------------------|--------------------------|------------------------|-------------------------|
|  | £ s. d.                | £ s. d.                          | £ s. d.                  | £ s. d.                | £ s. d.                 |
| Coliban Works .. .. .                    | 21,145 16 4            | 41,130 15 5                      | 33 9 10                  | ..                     | 62,310 1 7              |
| Irrigation Districts .. .. .             | 171,734 12 0           | 141,253 4 8                      | 3,027 7 0                | 2,811 0 0              | 318,826 3 8             |
| Irrigation Urban Divisions .. .. .       | 2,408 10 1             | 2,413 13 1                       | 500 8 1                  | 67 0 0                 | 5,389 11 3              |
| Waterworks Districts .. .. .             | 150,730 17 4           | 85,995 3 6                       | 522 4 5                  | 77 10 5                | 237,325 15 8            |
| Waterworks Urban Districts .. .. .       | 26,514 13 10           | 35,762 2 3                       | 6,331 10 7               | 732 2 8                | 69,340 9 4              |
| Flood Protection Districts .. .. .       | 7,083 18 7             | 3,424 0 2                        | ..                       | 400 14 10              | 10,908 13 7             |
| Drainage Districts .. .. .               | 9,395 15 6             | ..                               | ..                       | ..                     | 9,395 15 6              |
|  | 389,014 3 8            | 309,978 19 1                     | 10,414 19 11             | 4,088 7 11             | 713,496 10 7            |
| Expenditure not chargeable to Districts— |                        |                                  |                          |                        |                         |
| Free Headworks .. .. .                   | 6,011 1 4              | ..                               | ..                       | ..                     | 6,011 1 4               |
| Other .. .. .                            | 21,529 1 0             | ..                               | ..                       | ..                     | 21,529 1 0              |
|  | 416,554 6 0            | ..                               | ..                       | ..                     | 741,036 12 11           |

## SUMMARY OF OPERATIONS FOR YEAR 1937-38.

|  | £ s. d.     | £ s. d.        | £ s. d.  | £ s. d.     | £ s. d.        |
|--|-------------|----------------|--|-------------|----------------|
| REVENUE, 1937-38—  |             |                | EXPENDITURE, 1937-38—  |             |                |
| From Districts and other activities under the control of the Commission .. .. .      | 560,241 9 1 |                | From Annual Votes .. .. .  | 357,373 7 3 |                |
| Less transfers to—   |             |                | Special Ap-<br>propriation .. .. .   | 3,350 8 4   |                |
| (a) Depreciation Fund .. 4,000 0 0   |             |                | Unemployment Relief Funds .. .. .  | ..          | 55,830 10 5    |
| (b) State Loans Repayment Fund .. 390 14 10  |             |                |  |             | 416,554 6 0    |
|  | 4,390 14 10 |                | Surplus carried down .. .. .   | ..          | 195,126 18 8   |
|  |             | 555,850 14 3   |  |             |                |
| Add amount made available from Unemployment Relief Funds towards maintenance .. .. . |             | 55,830 10 5    |  |             |                |
|  |             | 611,681 4 8    |  |             | 611,681 4 8    |
| Surplus brought down .. .. .   |             | 195,126 18 8   | Amount debited by Treasury for Pensions and Gratnities .. .. .                   |             | 13,423 14 1    |
| Interest on Loans paid to Treasury by Waterworks Trusts and Local Bodies .. .. .     |             | 81,742 4 6     | Balance available towards payment of Interest and Exchange, carried down .. .. . |             | 263,445 9 1    |
|  |             | 276,869 3 2    |  |             | 276,869 3 2    |
| Balance available towards Interest and Exchange brought down .. .. .                 |             | 263,445 9 1    | Interest on total Loan Liability .. .. .   | ..          | 1,051,007 18 8 |
| Deficiency, being amount of Interest and Exchange borne by Treasury .. .. .          |             | 889,249 2 6    | Exchange on Interest Payments .. .. .  | ..          | 101,686 12 11  |
|  |             | 1,152,694 11 7 |  |             | 1,152,694 11 7 |

## ANALYSIS OF DEFICIENCY, 1937-38.

|  | £ s. d.      |   | £ s. d.     |
|--|--------------|---|-------------|
| Interest and Exchange on Free Headworks and other Capital not chargeable to Districts .. .. .                                    | 164,760 1 10 | Deficiency, being amount of Interest and Exchange borne by Treasury, brought down .. .. . | 889,249 2 6 |
| Interest and Exchange on Capital Liability of Districts transferred to "Capital Borne by the State Account" .. .. .              | 373,754 12 1 |   |             |
| Loss, resulting from operation of certain districts, chargeable to "Revenue Expenditure Chargeable to the State Account" .. .. . | 10,891 6 1   |   |             |
| Non-revenue-producing Services of a National Character .. .. .   | 17,874 14 8  |   |             |
| Difference between Rate of Interest and Exchange thereon, charged by Treasury and Rate charged to Districts .. .. .              | 26,493 0 11  |   |             |
| Loss on Coliban System, due to limited statutory Rate .. .. .  | 17,109 11 6  |   |             |
| Net Deficiency on operation of Irrigation, Waterworks, Flood Protection, and Drainage Districts .. .. .                          | 278,365 15 5 |   |             |
|  | 889,249 2 6  |   | 889,249 2 6 |

## UNDER CONTROL OF COMMISSION.

*Receipts, 1937-38.*

|                                  | Total Receipts. |       | Less Transfers to—<br>(a) Depreciation Fund;<br>(b) State Loans Repayment Fund. |       | Total Collections Paid to Consolidated Revenue. |       | Excess.                      |                              |
|----------------------------------|-----------------|-------|---|-------|---|-------|------------------------------|------------------------------|
|                                  |                 |       |   |       |   |       | Receipts over Disbursements. | Disbursements over Receipts. |
|                                  | £               | s. d. | £   | s. d. | £   | s. d. | £                            | s. d.                        |
| Coliban Works .. ..              | 45,200          | 10 1  | ..  | ..    | 45,200  | 10 1  | ..                           | 17,109 11 6                  |
| Irrigation Districts .. ..       | 275,250         | 7 3   | (a) 1,468   | 0 0   | 273,782   | 7 3   | ..                           | 43,575 16 5                  |
| Irrigation Urban Divisions .. .. | 7,062           | 6 11  | (a) 90  | 0 0   | 6,972   | 6 11  | 1,672 15 8                   | ..                           |
| Waterworks Districts .. ..       | 138,301         | 17 9  | (a) 115   | 0 0   | 138,186   | 17 9  | ..                           | 99,023 17 11                 |
| Waterworks Urban Districts .. .. | 72,681          | 18 7  | (a) 2,327   | 0 0   | 70,354  | 18 7  | 3,341 9 3                    | ..                           |
| Flood Protection Districts .. .. | 7,790           | 6 9   | (b) 390   | 14 10 | 7,399   | 11 11 | ..                           | 3,118 6 10                   |
| Drainage Districts .. ..         | 987             | 9 9   | ..  | ..    | 987   | 9 9   | ..                           | 8,408 5 9                    |
|                                  | 547,274         | 17 1  | (a) 4,000   | 0 0   | 542,884   | 2 3   | 5,014 4 11                   | 171,235 18 5                 |
|                                  |                 |       | (b) 390   | 14 10 |   |       |                              |                              |
| Free Headworks .. ..             | 3,378           | 7 2   | ..  | ..    | 3,378   | 7 2   | ..                           | ..                           |
| Miscellaneous .. ..              | 9,588           | 4 10  | ..  | ..    | 9,588   | 4 10  | ..                           | ..                           |
|                                  | 560,241         | 9 1   | (a) 4,000   | 0 0   | 555,850   | 14 3  | ..                           | ..                           |
|                                  |                 |       | (b) 390   | 14 10 |   |       |                              |                              |

**Capital Expenditure 1937-38**

|   | £  | s. d. | £       | s. d. |
|---|----|-------|---------|-------|
| Expenditure during year on Capital Works of Water Supply— |    |       |         |       |
| From Loan Funds .. ..                                     | .. | ..    | 353,606 | 5 5   |
| From Unemployment Relief Funds .. ..                      | .. | ..    | 358,549 | 18 11 |
|   |    |       | 712,156 | 4 4   |

**Loan Capital Liability—**

|  |            |     |
|--|------------|-----|
| Net Loan Liability of State for works of Water Supply at 30th June, 1938 .. .. | 25,270,314 | 4 9 |
|--|------------|-----|

*Represented by—*

|  |           |     |
|--|-----------|-----|
| Works at Debit of Authorities—                     |           |     |
| Commission Districts .. ..                         | 3,601,609 | 3 3 |
| Waterworks Trusts and Local Governing Bodies .. .. | 1,897,243 | 3 1 |
|  | 5,498,852 | 6 4 |

*Capital Expenditure borne by the State—*

|  |            |      |
|--|------------|------|
| Free Headworks .. ..   | 1,226,359  | 10 2 |
| Capital Works and Charges not apportionable to Districts .. .. | 1,298,567  | 7 0  |
| Headworks and Distributary Works .. ..                         | 17,096,557 | 3 9  |
| Waterworks Trusts and Local Governing Bodies .. ..             | 1,101,005  | 10 9 |
| Free Grants to Local Authorities in early years .. ..          | 142,356    | 4 11 |
|  | 20,864,845 | 16 7 |

|   |            |      |
|---|------------|------|
| Less net amount from National Debt Sinking Fund .. .. | 26,363,698 | 2 11 |
|   | 1,093,383  | 18 2 |

|                          |            |     |
|--------------------------|------------|-----|
| Net Loan Liability .. .. | 25,270,314 | 4 9 |
|--------------------------|------------|-----|

**Interest and Exchange**

|   |           |       |
|---|-----------|-------|
| The Total Interest due on the Loan Liability for 1937-38 is .. ..   | 1,051,007 | 18 8  |
| To which is to be added Exchange payable on overseas Interest .. .. | 101,686   | 12 11 |
|   | 1,152,694 | 11 7  |

*Debitable to—*

|  |         |      |
|--|---------|------|
| Works at Debit of Authorities—                               |         |      |
| Commission (allotted to Districts) .. ..                     | 336,472 | 0 0  |
| Commission (Unallotted prior to adjustment of Capital) .. .. | 194,755 | 2 0  |
|  | 531,227 | 2 0  |
| Trusts .. ..   | 82,952  | 15 8 |
|  | 614,179 | 17 8 |

*Capital Expenditure Borne by the State—*

|  |         |       |
|--|---------|-------|
| Free Headworks .. ..   | 53,619  | 17 2  |
| Capital works and charges not apportionable to Districts .. ..                   | 56,776  | 19 9  |
| Headworks and Distributary works not debited to Districts .. ..                  | 373,754 | 12 1  |
| Free Grants to Local Authorities and amounts written off over 39 years ago .. .. | 51,363  | 4 11  |
|  | 538,514 | 13 11 |

|  |           |      |
|--|-----------|------|
|  | 1,152,694 | 11 7 |
|--|-----------|------|

## RECEIPTS AND DISBURSEMENTS.

STATEMENT of Moneys received and disbursed during the year ended 30th June, 1938.

| Works.   | Receipts (Exclusive of Credits for Urban Water). |  |                               | Disbursements (exclusive of Interest, Redemption, and Depreciation Charges, and Charges for Rural Water). |                                 |              |
|--|--|--|-------------------------------|---|---------------------------------|--------------|
|  | Total.   | Paid to —<br>(a) Depreciation Fund;<br>(b) State Loans Repayment Fund. | Paid to Consolidated Revenue. | From Annual Votes and Special Appropriations.   | From Unemployment Relief Funds. | Total.       |
|  | £ s. d.  | £ s. d.  | £ s. d.                       | £ s. d.   | £ s. d.                         | £ s. d.      |
| Coliban Works .. ..  | 45,200 10 1                                      | ..   | 45,200 10 1                   | 20,677 17 6   | 467 18 10                       | 21,145 16 4  |
| Free Headworks—  |  |  |                               |   |                                 |              |
| Broken River Works .. ..   | ..   | ..   | ..                            | 16 13 1   | ..                              | 16 13 1      |
| Goulburn River Works .. ..   | 648 12 1   | ..   | 648 12 1                      | 2,788 6 6   | 1,124 1 3                       | 3,912 7 9    |
| Kow Swamp Works .. ..  | 1,669 7 1  | ..   | 1,669 7 1                     | 1,706 18 11   | ..                              | 1,706 18 11  |
| Lake Lonsdale Reservoir .. ..  | 21 17 6  | ..   | 21 17 6                       | 79 8 3  | ..                              | 79 8 3       |
| Loddon River Works .. ..   | 76 7 0   | ..   | 76 7 0                        | 185 13 11   | ..                              | 185 13 11    |
| North-West Lakes Works .. ..   | 962 3 6  | ..   | 962 3 6                       | 109 19 5  | ..                              | 109 19 5     |
| Irrigation Districts .. ..   | 275,250 7 3                                      | (a) 1,468 0 0  | 273,782 7 3                   | 170,231 14 2  | 1,502 17 10                     | 171,734 12 0 |
| Irrigation Urban Divisions .. ..   | 7,062 6 11                                       | (a) 90 0 0   | 6,972 6 11                    | 2,408 10 1  | ..                              | 2,408 10 1   |
| Waterworks Districts .. ..   | 138,301 17 9                                     | (a) 115 0 0  | 138,186 17 9                  | 99,725 17 4   | 51,005 0 0                      | 150,730 17 4 |
| Waterworks Urban Districts .. ..   | 72,681 18 7                                      | (a) 2,327 0 0  | 70,354 18 7                   | 26,514 13 10  | ..                              | 26,514 13 10 |
| Flood Protection Districts .. ..   | 7,790 6 9  | (b) 390 14 10  | 7,399 11 11                   | 5,383 6 3   | 1,700 12 4                      | 7,083 18 7   |
| Drainage Districts .. ..   | 987 9 9  | ..   | 987 9 9                       | 9,395 15 6  | ..                              | 9,395 15 6   |
| Miscellaneous Expenditure (not chargeable to Districts)—                   |  |  |                               |   |                                 |              |
| Drainage Works .. ..   | ..   | ..   | ..                            | 3,111 0 11  | 10 10 9                         | 3,121 11 8   |
| Cobungi Research Grant .. ..   | ..   | ..   | ..                            | 200 0 0   | ..                              | 200 0 0      |
| Eppalock Reservoir .. ..   | ..   | ..   | ..                            | 11 9 10   | ..                              | 11 9 10      |
| Loch Garry (proportion of maintenance borne by State) .. ..                | ..   | ..   | ..                            | 75 8 10   | ..                              | 75 8 10      |
| Murray Valley Districts .. ..  | ..   | ..   | ..                            | 6 8 1   | ..                              | 6 8 1        |
| Pykes Creek Reservoir .. ..  | ..   | ..   | ..                            | 108 19 8  | 19 9 5                          | 128 9 1      |
| River Murray Commission—   |  |  |                               |   |                                 |              |
| State contribution towards maintenance .. ..                               | ..   | ..   | ..                            | 7,700 0 0   | ..                              | 7,700 0 0    |
| Rivers and Reclamation Division—Surveys, Investigations, &c. .. ..         | ..   | ..   | ..                            | 5,132 19 1  | ..                              | 5,132 19 1   |
| Waterworks Trusts and Sewerage Authorities .. ..                           | ..   | ..   | ..                            | 1,802 6 1   | ..                              | 1,802 6 1    |
| Miscellaneous Collections (Diversion Permits, Rents, &c.) .. ..            | 9,588 4 10                                       | ..   | 9,588 4 10                    | ..  | ..                              | ..           |
| Special Appropriation Act, No. 3801, sections 19, 20, Administration .. .. | ..   | ..   | ..                            | 3,350 8 4   | ..                              | 3,350 8 4    |
| Totals .. ..   | 560,241 9 1                                      | (a) 4,000 0 0<br>(b) 390 14 10   | 555,850 14 3                  | 360,723 15 7*   | 55,830 10 5                     | 416,554 6 0  |

|   |              |
|---|--------------|
|   | £ s. d.      |
| Total Receipts paid to Consolidated Revenue .. ..                           | 555,850 14 3 |
| Total Disbursements from Votes and Special Appropriations .. ..             | 360,723 15 7 |
| Surplus available towards meeting Interest and other Treasury Charges .. .. | 195,126 18 8 |

\* Included in the above figures is an amount of £17,874 14s. 8d. not directly charged to water users. This sum is comprised:—Administration charges under Special Appropriation (£3,350 8s. 4d.); Administration of Waterworks Trusts and Sewerage Authorities (£1,802 6s. 1d.); Maintenance of Free Headworks (£1,508 12s. 11d.); Proportion of Maintenance of Loch Garry Flood Protection District borne by State under Agreement (£75 8s. 10d.); Contribution by State towards maintenance of River Murray Works (£7,700); Other Expenditure (£3,437 18s. 6d.).

## DISTRICTS HELD IN TRUST BY THE COMMISSION.

STATEMENT of Receipts and Disbursements for the year ended 31st December, 1937.

## Receipts.

| Name of Trust.                      | Bank Balance at 1st January, 1937. | 1937.  |              |                             |        | Grand Total for Year 1937. |
|-------------------------------------|------------------------------------|--------|--------------|-----------------------------|--------|----------------------------|
|                                     |                                    | Rates. | Water Sales. | Interest and Miscellaneous. | Total. |                            |
|                                     | £                                  | £      | £            | £                           | £      | £                          |
| Carrum .. ..                        | Dr. 736                            | 1,770  | ..           | 286                         | 2,056  | 1,320                      |
| Loddon United .. ..                 | Dr. 334                            | 1,884  | 337          | 28                          | 2,249  | 1,915                      |
| Loddon United (Mitiamo Urban) .. .. | Dr. 58                             | 226    | 200          | 66                          | 492    | 434                        |
| Totals .. ..                        | Dr. 1,128                          | 3,880  | 537          | 380                         | 4,797  | 3,669                      |

## Disbursements.

| Name of Trust.                      | Capital Debit, 31st December, 1937. | 1937.                               |             |        |           |                                      | Grand Total for Year 1937. | Bank Balance Carried Forward 1st January, 1938. |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------|--------|-----------|--------------------------------------|----------------------------|---|
|                                     |                                     | Maintenance and Water Distribution. | Management. | Total. | Interest. | (A) Depreciation;<br>(B) Redemption. |                            |   |
|                                     | £                                   | £                                   | £           | £      | £         | £                                    | £                          | £   |
| Carrum .. ..                        | 24,937                              | 853*                                | 209         | 1,062  | 250       | ..                                   | 1,312                      | Cr. 8   |
| Loddon United .. ..                 | 2,331                               | 894                                 | 129         | 1,023  | 112       | (A) 421                              | 1,556                      | Cr. 359   |
| Loddon United (Mitiamo Urban) .. .. | 4,832                               | 119                                 | 16          | 135    | 206       | (B) 28<br>(B) 26                     | 395                        | Cr. 39  |
| Totals .. ..                        | 32,100                              | 1,866                               | 354         | 2,220  | 568       | {(A) 449<br>(B) 26}                  | 3,263                      | Cr. 406   |

\* Includes £400 Compensation Flood Damages, £25 Purchase of Land.

## COLIBAN SYSTEM.

STATEMENT of Moneys received and disbursed during the year ended 30th June, 1938 ; and of Interest charged at the rates of 4 and 3·978 per cent. on Capital Debits.

| District.          | Receipts.   | Disbursements.      |               |             |             | Excess.<br>Disbursements<br>over Receipts. |
|--------------------|-------------|---------------------|---------------|-------------|-------------|--|
|                    |             | Operating<br>Costs. | Depreciation. | Interest.   | Total.      |  |
|                    | £   s   d.  | £   s   d.          | £   s   d.    | £   s   d.  | £   s   d.  | £   s   d.                                 |
| 1. Coliban .. ..   | 43,676 10 4 | 19,969 10 0         | ..            | 40,439 8 0  | 60,408 18 0 | 16,732 7 8                                 |
| 2. Axe Creek .. .. | 156 7 10    | 124 4 1             | ..            | 97 4 9      | 221 8 10    | 65 1 0                                     |
| 3. Harcourt .. ..  | 1,217 14 1  | 984 13 1            | ..            | 529 13 6    | 1,514 6 7   | 296 12 6                                   |
| 4. Marong .. ..    | 149 17 10   | 67 9 2              | 33 9 10       | 64 9 2      | 165 8 2     | 15 10 4                                    |
| Totals .. ..       | 45,200 10 1 | 21,145 16 4         | 33 9 10       | 41,130 15 5 | 62,310 1 7  | 17,109 11 6                                |

## FLOOD PROTECTION DISTRICTS.

STATEMENT of Moneys received and disbursed from 1st July, 1920, to 30th June, 1938 ; and of Interest charged at the rates of 4 and 3·978 per cent. on Capital Debits ; and also of Depreciation and Redemption charged as at 30th June, 1938.

## RECEIPTS.

| District.                | 1st July, 1920 to<br>30th June, 1937. | 1937-38.    |                                |            | Grand Total at<br>30th June, 1938. |
|--------------------------|---------------------------------------|-------------|--------------------------------|------------|------------------------------------|
|                          |                                       | Charge.     | Interest and<br>Miscellaneous. | Total.     |                                    |
|                          | £   s   d.                            | £   s   d.  | £   s   d.                     | £   s   d. | £   s   d.                         |
| 1. Cardinia .. ..        | 23,121 0 0                            | 2,312 19 11 | 128 19 5                       | 2,441 19 4 | 25,562 19 4                        |
| 2. Echuca .. ..          | 1,815 0 0                             | 65 9 8      | 0 1 0                          | 65 10 8    | 1,880 10 8                         |
| 3. Kanyapella .. ..      | 3,065 0 0                             | 448 13 7    | ..                             | 448 13 7   | 3,513 13 7                         |
| 4. Kooweerup Lower .. .. | 53,783 0 0                            | 3,762 17 5  | 263 9 6                        | 4,026 6 11 | 57,809 6 11                        |
| 5. Loch Garry .. ..      | 10,876 0 0                            | 789 3 0     | 18 13 3                        | 807 16 3   | 11,683 16 3                        |
| Totals .. ..             | 92,660 0 0                            | 7,379 3 7   | 411 3 2                        | 7,790 6 9  | 100,450 6 9                        |

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

| District.        | Disbursements.                      |                          |                   |            |             |                           |                                     |                                     | Interest Charged.         |            |         | Redemption paid to—<br>(A) Redemption Funds;<br>(B) Revenue. | Grand Total at 30th June, 1938. |
|------------------|-------------------------------------|--------------------------|-------------------|------------|-------------|---------------------------|-------------------------------------|-------------------------------------|---------------------------|------------|---------|--|---------------------------------|
|                  | 1st July, 1920, to 30th June, 1937. | 1937-38.                 |                   |            |             | Total at 30th June, 1938. | 1st July, 1920, to 30th June, 1937. | 1st July, 1937, to 30th June, 1938. | Total at 30th June, 1938. |            |         |  |                                 |
|                  |                                     | Repairs and Maintenance. | Adminis- tration. | Total.     |             |                           |                                     |                                     |                           |            |         |  |                                 |
|                  | £ s. d.                             | £ s. d.                  | £ s. d.           | £ s. d.    | £ s. d.     | £ s. d.                   | £ s. d.                             | £ s. d.                             | £ s. d.                   | £ s. d.    | £ s. d. | £ s. d.  |                                 |
| 1. Cardinia ..   | 5,867 0 0                           | 1,017 15 10              | 769 6 10          | 1,787 2 8  | 7,654 2 8   | 25,528 0 0                | 901 1 2                             | 26,429 1 2                          | ..                        | ..         | ..      | 34,083 3 10  |                                 |
| 2. Echuca ..     | 338 0 0                             | ..                       | 4 7 5             | 4 7 5      | 342 7 5     | 352 0 0                   | 1 15 6                              | 353 15 6                            | (A) 1,169 9 1             | ..         | ..      | 1,865 12 0   |                                 |
| 3. Kanyapella .. | 1,168 0 0                           | 5 0 0                    | 40 1 10           | 45 1 10    | 1,213 1 10  | 1,804 0 0                 | 137 10 8                            | 1,961 10 8                          | (B) 10 0 0                | ..         | ..      | 3,184 12 6   |                                 |
| 4. Kooweerup ..  | 1,047 0 0                           | 2,575 1 6                | 2,596 16 3        | 5,171 17 9 | 6,218 17 9  | 56,968 0 0                | 2,001 3 2                           | 58,969 3 2                          | ..                        | ..         | ..      | 65,188 0 11  |                                 |
| 5. Loch Garry .. | 9,629 0 0                           | 30 5 8                   | 45 3 3            | 75 8 11    | 9,704 8 11  | 5,587 0 0                 | 362 9 8                             | 5,949 9 8                           | (A) 3,549 5 9             | ..         | ..      | 19,203 4 4   |                                 |
| Totals ..        | 18,049 0 0                          | 3,628 3 0                | 3,455 15 7        | 7,083 18 7 | 25,132 18 7 | 90,239 0 0                | 3,424 0 2                           | 93,663 0 2                          | (A) 4,718 14 10           | (B) 10 0 0 | ..      | 123,524 13 7   |                                 |

## DRAINAGE DISTRICTS.

STATEMENT OF RECEIPTS AND DISBURSEMENTS FOR THE YEAR ENDED 30TH JUNE, 1938.

| District.                 | Receipts.  |            | Disbursements.              |                 |            | Excess.<br>Disbursements<br>over<br>Receipts. |
|---------------------------|------------|------------|-----------------------------|-----------------|------------|---|
|                           | Rates.     | Total.     | Repairs and<br>Maintenance. | Administration. | Total.     |   |
|                           | £   s   d. | £   s   d. | £   s   d.                  | £   s   d.      | £   s   d. | £   s   d.                                    |
| 1. Cohuna .. ..           | 141 19 10  | 141 19 10  | 989 8 3                     | 144 0 7         | 1,133 8 10 | 991 9 0                                       |
| 2. Kerang East .. ..      | 59 3 9     | 59 3 9     | 621 15 8                    | 88 9 1          | 710 4 9    | 651 1 0                                       |
| 3. Merbein .. ..          | 116 18 0   | 116 18 0   | 713 15 7                    | 161 7 4         | 875 2 11   | 758 4 11                                      |
| 4. Red Cliffs .. ..       | 113 8 0    | 113 8 0    | 954 11 10                   | 173 0 8         | 1,127 12 6 | 1,014 4 6                                     |
| 5. Rochester .. ..        | 71 14 2    | 71 14 2    | 1,267 4 0                   | 178 17 6        | 1,446 1 6  | 1,374 7 4                                     |
| 6. Rodney .. ..           | 38 10 10   | 38 10 10   | 548 0 1                     | 76 11 6         | 624 11 7   | 586 0 9                                       |
| 7. Shepparton .. ..       | 241 7 6    | 241 7 6    | 1,208 3 8                   | 271 1 1         | 1,479 4 9  | 1,237 17 3                                    |
| 8. Tongala-Stanhope .. .. | 38 12 6    | 38 12 6    | 1,445 19 3                  | 245 12 6        | 1,691 11 9 | 1,652 19 3                                    |
| 9. Werribee .. ..         | 165 15 2   | 165 15 2   | 267 17 3                    | 39 19 8         | 307 16 11  | 142 1 9                                       |
| Totals .. ..              | 987 9 9    | 987 9 9    | 8,016 15 7                  | 1,378 10 11     | 9,395 15 6 | 8,408 5 9                                     |

## IRRIGATION AND WATER SUPPLY DISTRICTS.

STATEMENT of Moneys received from 1st May, 1906, to 30th June, 1938.

## RECEIPTS.

| District.            | 1st May, 1906, to 30th June, 1937. |    |    | Rates. | Compulsory Irrigation Charge. |    |         | Water Sales. |    |        | Interest and Miscellaneous. |    |        | Total. | Urban Water. |         |    | Grand Total at 30th June, 1938. |       |    |    |           |    |    |
|----------------------|------------------------------------|----|----|--------|-------------------------------|----|---------|--------------|----|--------|-----------------------------|----|--------|--------|--------------|---------|----|---------------------------------|-------|----|----|-----------|----|----|
|                      | £                                  | s. | d. |        | £                             | s. | d.      | £            | s. | d.     | £                           | s. | d.     |        | £            | s.      | d. |                                 |       |    |    |           |    |    |
| 1. Bacchus Marsh     | 128,019                            | 0  | 0  | 665    | 2                             | 9  | 3,750   | 13           | 7  | 1,049  | 19                          | 2  | 70     | 3      | 3            | 5,535   | 18 | 9                               | 545   | 0  | 0  | 134,099   | 18 | 9  |
| 2. Boort             | 99,399                             | 0  | 0  | 1,238  | 14                            | 1  | ..      | ..           | .. | 4,496  | 17                          | 8  | 283    | 19     | 5            | 6,019   | 11 | 2                               | ..    | .. | .. | 105,418   | 11 | 2  |
| 3. Calvil            | 23,204                             | 0  | 0  | 582    | 4                             | 4  | ..      | ..           | .. | 2,766  | 19                          | 3  | 80     | 0      | 1            | 3,429   | 3  | 8                               | ..    | .. | .. | 26,633    | 3  | 8  |
| 4. Campaspe          | 23,262                             | 0  | 0  | 574    | 1                             | 0  | ..      | ..           | .. | 51     | 18                          | 0  | 4      | 14     | 9            | 630     | 13 | 9                               | ..    | .. | .. | 23,892    | 13 | 9  |
| 5. Cohuna            | 389,246                            | 0  | 0  | 2,837  | 9                             | 8  | 9,862   | 7            | 1  | 1,958  | 9                           | 9  | 619    | 7      | 1            | 15,277  | 13 | 7                               | 76    | 0  | 0  | 404,599   | 13 | 7  |
| 6. Deakin            | 128,168                            | 0  | 0  | 2,811  | 5                             | 4  | ..      | ..           | .. | 1,186  | 0                           | 9  | 31     | 10     | 11           | 4,028   | 17 | 0                               | 3     | 0  | 0  | 132,199   | 17 | 0  |
| 7. Dingee            | 40,090                             | 0  | 0  | 168    | 9                             | 5  | 1,596   | 3            | 2  | 172    | 19                          | 3  | 231    | 16     | 2            | 2,169   | 8  | 0                               | 5     | 0  | 0  | 42,264    | 8  | 0  |
| 8. Dry Lake          | 898                                | 0  | 0  | ..     | ..                            | .. | ..      | ..           | .. | ..     | ..                          | .. | 57     | 10     | 6            | 57      | 10 | 6                               | ..    | .. | .. | 955       | 10 | 6  |
| 9. Echuca North      | 28,795                             | 0  | 0  | 193    | 10                            | 5  | 1,403   | 0            | 5  | 304    | 1                           | 10 | 194    | 4      | 7            | 2,094   | 17 | 3                               | ..    | .. | .. | 30,889    | 17 | 3  |
| 10. Fish Point       | 8,357                              | 0  | 0  | 36     | 9                             | 7  | 562     | 18           | 11 | 184    | 5                           | 11 | 78     | 14     | 7            | 862     | 9  | 0                               | ..    | .. | .. | 9,219     | 9  | 0  |
| 11. Katandra         | 12,167                             | 0  | 0  | 260    | 0                             | 9  | ..      | ..           | .. | 1,875  | 9                           | 4  | 37     | 10     | 1            | 2,173   | 0  | 2                               | ..    | .. | .. | 14,340    | 0  | 2  |
| 12. Kerang           | 162,088                            | 0  | 0  | 1,651  | 5                             | 8  | ..      | ..           | .. | 7,252  | 13                          | 1  | 248    | 2      | 7            | 9,152   | 1  | 4                               | ..    | .. | .. | 171,240   | 1  | 4  |
| 13. Koorndrook       | 223,578                            | 0  | 0  | 1,778  | 15                            | 0  | 5,836   | 18           | 8  | 1,268  | 19                          | 9  | 338    | 15     | 1            | 9,223   | 8  | 6                               | 84    | 0  | 0  | 232,885   | 8  | 6  |
| 14. Leitchville      | 27,779                             | 0  | 0  | 708    | 9                             | 0  | 1,456   | 11           | 9  | 1,134  | 8                           | 1  | 110    | 18     | 9            | 3,410   | 7  | 7                               | ..    | .. | .. | 31,189    | 7  | 7  |
| 15. Maffra-Sale      | 95,934                             | 0  | 0  | 2,359  | 12                            | 2  | 8,803   | 19           | 11 | 2,091  | 19                          | 10 | 580    | 15     | 7            | 13,836  | 7  | 6                               | 100   | 0  | 0  | 109,870   | 7  | 6  |
| 16. Merbein          | 499,572                            | 0  | 0  | 1,439  | 15                            | 6  | 20,759  | 13           | 0  | 1,204  | 12                          | 8  | 1,191  | 15     | 6            | 24,595  | 16 | 8                               | 300   | 0  | 0  | 524,467   | 16 | 8  |
| 17. Mystic Park      | 15,206                             | 0  | 0  | 153    | 14                            | 9  | 963     | 12           | 7  | 312    | 16                          | 2  | 55     | 1      | 11           | 1,485   | 5  | 5                               | ..    | .. | .. | 16,691    | 5  | 5  |
| 18. North Shepparton | 29,956                             | 0  | 0  | 2,005  | 17                            | 10 | ..      | ..           | .. | 3,373  | 0                           | 0  | 79     | 10     | 11           | 5,458   | 8  | 9                               | ..    | .. | .. | 35,414    | 8  | 9  |
| 19. Nyah             | 151,785                            | 0  | 0  | 331    | 17                            | 5  | 7,509   | 13           | 3  | 355    | 1                           | 6  | 315    | 9      | 9            | 8,512   | 1  | 11                              | 187   | 0  | 0  | 160,484   | 1  | 11 |
| 20. Red Cliffs       | 465,375                            | 0  | 0  | 1,061  | 16                            | 9  | 36,182  | 7            | 1  | 311    | 15                          | 5  | 947    | 18     | 7            | 38,503  | 17 | 10                              | 348   | 0  | 0  | 504,226   | 17 | 10 |
| 21. Rochester        | 377,977                            | 0  | 0  | 2,641  | 18                            | 11 | 16,027  | 3            | 2  | 5,410  | 5                           | 2  | 1,497  | 11     | 9            | 25,576  | 19 | 0                               | 15    | 0  | 0  | 403,568   | 19 | 0  |
| 22. Rodney           | 693,460                            | 0  | 0  | 5,924  | 5                             | 10 | 17,879  | 11           | 2  | 5,946  | 0                           | 4  | 900    | 16     | 8            | 30,650  | 14 | 0                               | ..    | .. | .. | 724,110   | 14 | 0  |
| 23. Shepparton       | 169,646                            | 0  | 0  | 1,541  | 12                            | 0  | 5,793   | 12           | 4  | 487    | 3                           | 11 | 299    | 18     | 10           | 8,122   | 7  | 1                               | ..    | .. | .. | 177,768   | 7  | 1  |
| 24. South Shepparton | 28,185                             | 0  | 0  | 594    | 6                             | 11 | 1,552   | 10           | 8  | 341    | 17                          | 4  | 94     | 7      | 0            | 2,583   | 1  | 11                              | ..    | .. | .. | 30,768    | 1  | 11 |
| 25. Stanhope         | 79,512                             | 0  | 0  | 603    | 6                             | 5  | 3,623   | 13           | 3  | 728    | 17                          | 7  | 170    | 18     | 6            | 5,126   | 15 | 9                               | 20    | 0  | 0  | 84,658    | 15 | 9  |
| 26. Swan Hill        | 193,050                            | 0  | 0  | 1,014  | 19                            | 4  | 6,677   | 11           | 10 | 2,940  | 9                           | 1  | 1,332  | 5      | 5            | 11,965  | 5  | 8                               | ..    | .. | .. | 205,015   | 5  | 8  |
| 27. Third Lake       | 11,213                             | 0  | 0  | 157    | 10                            | 6  | 715     | 10           | 6  | 28     | 8                           | 4  | 21     | 10     | 9            | 923     | 0  | 1                               | ..    | .. | .. | 12,136    | 0  | 1  |
| 28. Tongala          | 159,194                            | 0  | 0  | 1,193  | 12                            | 7  | 6,195   | 10           | 6  | 1,339  | 8                           | 1  | 172    | 19     | 0            | 8,901   | 10 | 2                               | ..    | .. | .. | 168,095   | 10 | 2  |
| 29. Tragowel Plains  | 320,771                            | 0  | 0  | 1,699  | 2                             | 8  | 10,027  | 14           | 9  | 1,955  | 15                          | 7  | 554    | 3      | 0            | 14,236  | 16 | 0                               | 42    | 0  | 0  | 335,049   | 16 | 0  |
| 30. Tresco           | 28,337                             | 0  | 0  | 250    | 19                            | 11 | ..      | ..           | .. | 1,465  | 15                          | 1  | 132    | 15     | 2            | 1,849   | 10 | 2                               | ..    | .. | .. | 30,186    | 10 | 2  |
| 31. Werribee         | 128,615                            | 0  | 0  | 779    | 5                             | 7  | 5,204   | 13           | 6  | 2,589  | 4                           | 5  | 284    | 5      | 7            | 8,857   | 9  | 1                               | ..    | .. | .. | 137,472   | 9  | 1  |
| Totals               | 4,742,838                          | 0  | 0  | 37,259 | 12                            | 1  | 172,385 | 11           | 1  | 54,585 | 12                          | 4  | 11,019 | 11     | 9            | 275,250 | 7  | 3                               | 1,725 | 0  | 0  | 5,019,813 | 7  | 3  |

## IRRIGATION AND WATER SUPPLY DISTRICTS.

STATEMENT of Moneys disbursed from 1st May, 1906, to 30th June, 1938; and of Interest charged at the rates of 4 and 3·978 per cent. on Capital Debits; and also of Depreciation and Redemption charged as at 30th June, 1938. (Free Headworks excluded).

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

| District.            | 1st May, 1906,<br>to 30th<br>June, 1937. |    |    | Disbursements.               |    |    | Interest Charged.                        |    |    | Depreciation. | Redemption<br>Paid to—<br>(A) Redemption<br>Funds.<br>(B) Revenue. |    |         | Grand Total<br>at 30th June,<br>1938. |    |           |    |    |
|----------------------|--|----|----|------------------------------|----|----|--|----|----|---------------|--|----|---------|---------------------------------------|----|-----------|----|----|
|                      | 1937-38.                                 |    |    | Total at<br>30th June, 1938. |    |    | 1st May, 1906,<br>to<br>30th June, 1937. |    |    |               | Total at<br>30th June, 1938.                                       |    |         |                                       |    |           |    |    |
|                      | £  | s. | d. | £                            | s. | d. | £  | s. | d. |               | £  | s. | d.      |                                       | £  | s.        | d. |    |
| 1. Bacchus Marsh     | 31,389                                   | 0  | 0  | 1,346                        | 10 | 4  | 868                                      | 13 | 8  | 2,910         | 10   | 5  | 34,299  | 10                                    | 5  | 135,988   | 7  | 7  |
| 2. Boort             | 48,314                                   | 0  | 0  | 1,300                        | 16 | 2  | 1,324                                    | 10 | 10 | 55,217        | 0  | 0  | 52,067  | 12                                    | 1  | 111,062   | 14 | 7  |
| 3. Calvil            | 9,967                                    | 0  | 0  | 659                          | 17 | 6  | 434                                      | 5  | 8  | 1,839         | 17   | 3  | 11,806  | 17                                    | 3  | 51,265    | 16 | 11 |
| 4. Campaspe          | 13,694                                   | 0  | 0  | 192                          | 1  | 5  | 96                                       | 9  | 11 | 14,097        | 4  | 0  | 17,856  | 16                                    | 11 | 27,806    | 13 | 10 |
| 5. Coluna            | 211,104                                  | 0  | 0  | 2,474                        | 12 | 1  | 2,140                                    | 6  | 0  | 6,752         | 16   | 11 | 217,836 | 11                                    | 11 | 434,053   | 8  | 10 |
| 6. Deakin            | 47,638                                   | 0  | 0  | 351                          | 18 | 7  | 440                                      | 0  | 2  | 49,093        | 3  | 0  | 49,093  | 3                                     | 0  | 140,238   | 0  | 11 |
| 7. Dingee            | 20,494                                   | 0  | 0  | 288                          | 15 | 1  | 197                                      | 7  | 8  | 21,471        | 8  | 10 | 26,877  | 8                                     | 11 | 49,230    | 17 | 9  |
| 8. Dry Lake          | 11,721                                   | 0  | 0  | 808                          | 7  | 8  | 300                                      | 17 | 8  | 1,556         | 15   | 11 | 13,277  | 15                                    | 11 | 34,914    | 10 | 4  |
| 9. Echuca North      | 5,909                                    | 0  | 0  | 304                          | 10 | 0  | 246                                      | 1  | 9  | 6,415         | 9  | 10 | 6,355   | 9                                     | 10 | 34,914    | 10 | 4  |
| 10. Fish Point       | 7,499                                    | 0  | 0  | 549                          | 19 | 7  | 1,381                                    | 6  | 1  | 36,879        | 0  | 0  | 3,010   | 7                                     | 4  | 48,769    | 13 | 5  |
| 11. Katandra         | 88,077                                   | 0  | 0  | 1,660                        | 16 | 2  | 2,222                                    | 17 | 9  | 93,143        | 0  | 11 | 3,929   | 3                                     | 5  | 183,005   | 4  | 4  |
| 12. Kerang           | 121,840                                  | 0  | 0  | 1,277                        | 4  | 0  | 1,339                                    | 9  | 5  | 4,282         | 9  | 10 | 126,122 | 9                                     | 10 | 259,385   | 10 | 0  |
| 13. Koondrook        | 8,356                                    | 0  | 0  | 344                          | 15 | 10 | 251                                      | 11 | 8  | 931           | 0  | 11 | 9,287   | 0                                     | 11 | 27,771    | 0  | 4  |
| 14. Leitchville      | 46,682                                   | 0  | 0  | 2,447                        | 15 | 5  | 3,326                                    | 15 | 3  | 6,326         | 15   | 3  | 53,008  | 15                                    | 3  | 122,652   | 11 | 0  |
| 15. Mafra-Sale       | 338,490                                  | 0  | 0  | 8,383                        | 17 | 4  | 5,117                                    | 14 | 1  | 380,328       | 17   | 7  | 69,275  | 15                                    | 9  | 371,177   | 2  | 2  |
| 16. Merbein          | 10,277                                   | 0  | 0  | 270                          | 7  | 0  | 276                                      | 4  | 9  | 11,034        | 2  | 9  | 6,097   | 4                                     | 7  | 20,353    | 0  | 0  |
| 17. Mystic Park      | 12,152                                   | 0  | 0  | 999                          | 4  | 10 | 757                                      | 2  | 9  | 496           | 0  | 0  | 5,087   | 15                                    | 8  | 17        | 0  | 0  |
| 18. North Shepparton | 115,924                                  | 0  | 0  | 772                          | 7  | 0  | 1,181                                    | 15 | 2  | 14,838        | 5  | 9  | 167,413 | 16                                    | 8  | 20,239    | 5  | 11 |
| 19. Nyah             | 281,909                                  | 0  | 0  | 3,263                        | 19 | 6  | 5,805                                    | 19 | 7  | 31,324        | 2  | 1  | 10,410  | 19                                    | 11 | 82,270    | 1  | 5  |
| 20. Red Cliffs       | 165,006                                  | 0  | 0  | 3,829                        | 10 | 7  | 2,625                                    | 2  | 7  | 172,915       | 0  | 0  | 10,410  | 19                                    | 11 | 203,362   | 16 | 3  |
| 21. Rochester        | 287,432                                  | 0  | 0  | 6,177                        | 14 | 2  | 4,049                                    | 3  | 8  | 312,435       | 3  | 8  | 12,041  | 11                                    | 3  | 349,980   | 9  | 0  |
| 22. Rodney           | 66,706                                   | 0  | 0  | 1,243                        | 19 | 11 | 3,710                                    | 13 | 5  | 276,682       | 0  | 0  | 12,041  | 11                                    | 3  | 528,631   | 12 | 8  |
| 23. Shepparton       | 40,860                                   | 0  | 0  | 400                          | 13 | 8  | 1,519                                    | 5  | 11 | 302,435       | 0  | 0  | 17,075  | 13                                    | 3  | 244,130   | 4  | 7  |
| 24. South Shepparton | 101,110                                  | 0  | 0  | 1,331                        | 7  | 7  | 3,699                                    | 14 | 7  | 171,410       | 0  | 8  | 178,104 | 13                                    | 3  | 466,901   | 9  | 0  |
| 25. Stanhope         | 3,627                                    | 0  | 0  | 2,351                        | 1  | 11 | 1,243                                    | 3  | 4  | 26,371        | 0  | 0  | 28,103  | 13                                    | 3  | 135,069   | 5  | 7  |
| 26. Swan Hill        | 12,172                                   | 0  | 0  | 106                          | 3  | 0  | 3,497                                    | 6  | 11 | 68,322        | 0  | 0  | 3,705   | 18                                    | 4  | 222,464   | 14 | 3  |
| 27. Third Lake       | 384,6                                    | 0  | 0  | 2,744                        | 6  | 3  | 6,925                                    | 16 | 10 | 104,841       | 0  | 0  | 4,947   | 7                                     | 8  | 229,359   | 0  | 0  |
| 28. Tongala          | 41,761                                   | 0  | 0  | 357                          | 0  | 6  | 5,498                                    | 7  | 5  | 11,715        | 0  | 0  | 6,075   | 10                                    | 11 | 114,404   | 1  | 5  |
| 29. Tragowel Plains  | 23,684                                   | 0  | 0  | 1,119                        | 4  | 0  | 8,554                                    | 4  | 7  | 154,792       | 0  | 0  | 9,558   | 1                                     | 1  | 238,825   | 18 | 3  |
| 30. Treco            | 23,684                                   | 0  | 0  | 357                          | 0  | 6  | 8,265                                    | 16 | 7  | 274,838       | 0  | 0  | 1,824   | 18                                    | 3  | 303,725   | 10 | 3  |
| 31. Werribee         | 23,684                                   | 0  | 0  | 1,119                        | 4  | 0  | 828                                      | 3  | 0  | 45,026        | 16   | 7  | 1,824   | 18                                    | 3  | 95,183    | 14 | 0  |
| Totals               | 2,388,072                                | 0  | 0  | 50,997                       | 14 | 1  | 41,860                                   | 2  | 5  | 171,734       | 12   | 0  | 141,253 | 4                                     | 8  | 5,944,336 | 18 | 11 |
|                      |  |    |    |                              |    |    |  |    |    | 3,159,064     | 15   | 3  |         |                                       |    | (A) 4,100 | 0  | 0  |
|                      |  |    |    |                              |    |    |  |    |    |               |  |    |         |                                       |    | (B) 2,811 | 0  | 0  |



WATERWORKS DISTRICTS.

STATEMENT of Moneys received from 1st May, 1906, to 30th June, 1938.

RECEIPTS.

|     | District.               | 1937-38.                              |         |    |           |       |              |         |                                |    |        | Grand Total at<br>30th June, 1938. |              |        |       |    |         |    |        |       |   |   |           |    |   |
|-----|-------------------------|---------------------------------------|---------|----|-----------|-------|--------------|---------|--------------------------------|----|--------|------------------------------------|--------------|--------|-------|----|---------|----|--------|-------|---|---|-----------|----|---|
|     |                         | 1st May, 1906, to<br>30th June, 1937. |         |    | Rates.    |       | Water Sales. |         | Interest and<br>Miscellaneous. |    | Total. |                                    | Urban Water. |        |       |    |         |    |        |       |   |   |           |    |   |
|     |                         | £                                     | s.      | d. | £         | s.    | d.           | £       | s.                             | d. | £      |                                    | s.           | d.     | £     | s. | d.      |    |        |       |   |   |           |    |   |
| 1.  | Bellarine Peninsula     | }                                     | 21,981  | 0  | 0         | 5,000 | 0            | 0       | 478                            | 12 | 0      | 127                                | 15           | 2      | 5,606 | 7  | 2       | }  | 27,587 | 7     | 2 |   |           |    |   |
| 2.  | Birchip                 |                                       | 4,441   | 0  | 2         | 9,305 | 12           | 10      | 239                            | 9  | 10     | 4,680                              | 10           | 0      | 185   | 0  | 0       |    |        |       |   |   |           |    |   |
| 3.  | Sea Lake                |                                       | 639,393 | 0  | 0         | 7,632 | 16           | 2       | 130                            | 5  | 2      | 429                                | 2            | 9      | 4,734 | 15 | 7       |    | 287    | 0     | 0 |   |           |    |   |
| 4.  | Tyrell                  |                                       |         |    | 7,790     | 1     | 1            | 56      | 17                             | 11 | 512    | 17                                 | 7            | 8,275  | 18    | 11 | 86      | 0  | 0      |       |   |   |           |    |   |
| 5.  | Tyrell West             |                                       |         |    | 8,281     | 4     | 0            |         |                                |    | 195    | 1                                  | 11           | 8,042  | 0     | 11 | 1,027   | 0  | 0      |       |   |   |           |    |   |
| 6.  | Wycheproof              |                                       |         |    | 332       | 8     | 10           | 263     | 12                             | 0  | 392    | 12                                 | 1            | 8,673  | 16    | 1  | 207     | 0  | 0      |       |   |   |           |    |   |
| 7.  | Carwarp                 |                                       |         |    | 60        | 2     | 0            |         |                                |    | 2      | 1                                  | 5            | 598    | 2     | 3  |         |    |        |       |   |   |           |    |   |
| 8.  | Carwarp Central         |                                       |         |    | 503       | 11    | 6            | 33      | 17                             | 4  |        |                                    |              | 60     | 2     | 0  | 16      | 0  | 0      |       |   |   |           |    |   |
| 9.  | Coreena                 |                                       |         |    | 529       | 17    | 0            |         |                                |    | 3      | 9                                  | 2            | 540    | 18    | 0  |         |    |        |       |   |   |           |    |   |
| 10. | Dering                  |                                       |         |    | 143       | 13    | 11           |         |                                |    | 11     | 5                                  | 5            | 541    | 2     | 5  |         |    |        |       |   |   |           |    |   |
| 11. | Eureka                  |                                       |         |    | 1,293     | 12    | 11           |         |                                |    | 3      | 6                                  | 9            | 147    | 0     | 8  |         |    |        |       |   |   |           |    |   |
| 12. | Hindmarsh               |                                       |         |    | 13,895    | 5     | 7            |         |                                |    | 77     | 17                                 | 11           | 1,371  | 10    | 10 |         |    |        |       |   |   |           |    |   |
| 13. | Karkaroc                |                                       |         |    | 149       | 16    | 4            | 33      | 16                             | 1  | 537    | 13                                 | 0            | 14,466 | 14    | 8  |         |    |        |       |   |   |           |    |   |
| 14. | Korang North-West Lakes |                                       |         |    | 7,380     | 16    | 10           | 5       | 9                              | 7  | 2      | 0                                  | 5            | 157    | 6     | 4  |         |    |        |       |   |   |           |    |   |
| 15. | Long Lake               |                                       |         |    | 3,951     | 0     | 0            |         |                                |    | 239    | 1                                  | 7            | 7,619  | 18    | 5  |         |    |        |       |   |   |           |    |   |
| 16. | Millewa                 |                                       |         |    | 203,327   | 0     | 0            |         |                                |    |        |                                    |              | 4,285  | 7     | 1  |         |    |        |       |   |   |           |    |   |
| 17. | Millewa Central         |                                       |         |    | 20,103    | 0     | 0            | 3,515   | 14                             | 1  | 154    | 6                                  | 10           | 2,435  | 8     | 6  |         |    |        |       |   |   |           |    |   |
| 18. | Mornington Peninsula    |                                       |         |    | 10,445    | 0     | 0            | 2,232   | 1                              | 5  | 54     | 15                                 | 0            | 2,435  | 8     | 6  |         |    |        |       |   |   |           |    |   |
| 19. | Narre Warren            |                                       |         |    | 58,333    | 0     | 0            | 3,000   | 0                              | 0  | 59     | 0                                  | 0            | 3,059  | 0     | 0  |         |    |        |       |   |   |           |    |   |
| 20. | Newstead                |                                       |         |    | 3,007     | 0     | 0            | 185     | 5                              | 3  |        |                                    |              | 615    | 11    | 5  |         |    |        |       |   |   |           |    |   |
| 21. | Tyntynder               |                                       |         |    |           |       |              |         |                                |    | 103    | 18                                 | 0            | 15     | 0     | 0  |         |    |        |       |   |   |           |    |   |
| 22. | Upper Western Wimmera   |                                       |         |    | 113,383   | 0     | 0            | 7,680   | 2                              | 7  |        |                                    |              | 15     | 0     | 0  |         |    |        |       |   |   |           |    |   |
| 23. | Upper Wimmera United    |                                       |         |    | 96,556    | 0     | 0            | 3,669   | 15                             | 0  | 236    | 12                                 | 9            | 8,266  | 15    | 9  |         |    |        |       |   |   |           |    |   |
| 24. | Walpeup Central         |                                       |         |    | 158,941   | 0     | 0            | 7,158   | 7                              | 10 |        |                                    |              | 3,825  | 15    | 0  |         |    |        |       |   |   |           |    |   |
| 25. | Walpeup West            |                                       |         |    | 5,652     | 0     | 0            | 989     | 12                             | 8  | 2      | 0                                  | 0            | 7,306  | 13    | 6  |         |    |        |       |   |   |           |    |   |
| 26. | Werribee                |                                       |         |    | 33,668    | 0     | 0            | 1,552   | 0                              | 8  | 30     | 0                                  | 0            | 1,031  | 5     | 0  |         |    |        |       |   |   |           |    |   |
| 27. | Western Wimmera         |                                       |         |    | 11,868    | 0     | 0            | 600     | 9                              | 7  | 21     | 12                                 | 2            | 1,625  | 8     | 5  |         |    |        |       |   |   |           |    |   |
| 28. | Wimmera United          |                                       |         |    | 338,634   | 0     | 0            | 11,749  | 8                              | 5  | 10     | 17                                 | 1            | 624    | 1     | 1  |         |    |        |       |   |   |           |    |   |
| 29. | Yelta                   |                                       |         |    | 380,334   | 0     | 0            | 15,530  | 12                             | 7  | 4,911  | 11                                 | 1            | 17,116 | 4     | 4  |         |    |        |       |   |   |           |    |   |
|     |                         |                                       |         |    | 6,590     | 0     | 0            | 278     | 19                             | 1  | 1,435  | 15                                 | 7            | 17,251 | 5     | 3  |         |    |        |       |   |   |           |    |   |
|     |                         |                                       |         |    |           |       |              | 18      | 0                              | 8  |        |                                    |              | 327    | 18    | 2  |         |    |        |       |   |   |           |    |   |
|     | Totals                  |                                       |         |    | 2,404,686 | 0     | 0            | 124,882 | 8                              | 4  | 8,759  | 5                                  | 10           | 4,660  | 3     | 7  | 138,301 | 17 | 9      | 3,674 | 0 | 0 | 2,546,661 | 17 | 9 |





|                                       |         |   |   |        |    |    |        |    |    |       |    |    |        |    |    |           |    |    |
|---------------------------------------|---------|---|---|--------|----|----|--------|----|----|-------|----|----|--------|----|----|-----------|----|----|
| 39. Mornington ..                     | 43,126  | 0 | 0 | 2,748  | 1  | 9  | 293    | 5  | 3  | 121   | 2  | 10 | 3,162  | 9  | 10 | 46,288    | 9  | 10 |
| 40. Mount Martha ..                   | 6,152   | 0 | 0 | 772    | 6  | 0  | 60     | 17 | 1  | 35    | 3  | 2  | 868    | 6  | 3  | 7,020     | 6  | 3  |
| 41. Nandaly ..                        | 1,574   | 0 | 0 | 133    | 16 | 2  | 1      | 12 | 3  | 6     | 19 | 2  | 142    | 7  | 7  | 1,716     | 7  | 7  |
| 42. Natimuk ..                        | 13,665  | 0 | 0 | 259    | 7  | 7  | 171    | 11 | 4  | 54    | 16 | 2  | 485    | 15 | 1  | 14,150    | 15 | 1  |
| 43. Newstead ..                       | 1,982   | 0 | 0 | 515    | 15 | 0  | 50     | 0  | 0  | 2     | 0  | 10 | 567    | 15 | 10 | 2,549     | 15 | 10 |
| 44. North Wonthaggi ..                | 4,090   | 0 | 0 | 396    | 11 | 8  | 3      | 11 | 9  | 18    | 0  | 3  | 418    | 3  | 8  | 4,508     | 3  | 8  |
| 45. Nullawil ..                       | 2,542   | 0 | 0 | 258    | 18 | 1  | 10     | 3  | 5  | 26    | 12 | 5  | 295    | 13 | 11 | 2,837     | 13 | 11 |
| 46. Nyah ..                           | 1,734   | 0 | 0 | 87     | 1  | 9  | 6      | 13 | 9  | 0     | 13 | 10 | 94     | 9  | 4  | 1,828     | 9  | 4  |
| 47. Nyah West ..                      | 9,135   | 0 | 0 | 647    | 19 | 1  | 148    | 6  | 0  | 9     | 9  | 1  | 805    | 14 | 2  | 9,940     | 14 | 2  |
| 48. Ouyen ..                          | 31,622  | 0 | 0 | 1,410  | 12 | 11 | 645    | 0  | 2  | 79    | 7  | 10 | 2,135  | 0  | 11 | 33,757    | 0  | 11 |
| 49. Pakenham ..                       | 9,754   | 0 | 0 | 547    | 9  | 5  | 19     | 0  | 11 | 19    | 0  | 11 | 1,016  | 2  | 4  | 10,770    | 2  | 4  |
| 50. Patchewollock ..                  | 1,597   | 0 | 0 | 134    | 0  | 0  | 0      | 14 | 10 | 0     | 14 | 10 | 134    | 14 | 10 | 1,731     | 14 | 10 |
| 51. Piangil ..                        | 6,094   | 0 | 0 | 264    | 17 | 5  | 161    | 5  | 0  | 4     | 1  | 6  | 430    | 3  | 11 | 6,524     | 3  | 11 |
| 52. Portarlington ..                  | 1,575   | 0 | 0 | 526    | 13 | 10 | 33     | 18 | 8  | 18    | 11 | 4  | 579    | 3  | 10 | 2,154     | 3  | 10 |
| 53. Pyramid Hill ..                   | 6,792   | 0 | 0 | 554    | 5  | 5  | 83     | 3  | 6  | 41    | 15 | 6  | 679    | 4  | 5  | 7,471     | 4  | 5  |
| 54. Quambatook ..                     | 1,897   | 0 | 0 | 404    | 6  | 11 | 32     | 17 | 1  | 32    | 17 | 1  | 531    | 0  | 3  | 2,428     | 0  | 3  |
| 55. Queenscliff and Point Lonsdale .. | 15,543  | 0 | 0 | 2,977  | 1  | 10 | 486    | 3  | 6  | 54    | 10 | 1  | 3,517  | 15 | 5  | 19,060    | 15 | 5  |
| 56. Rainbow ..                        | 24,937  | 0 | 0 | 915    | 11 | 11 | 279    | 8  | 4  | 68    | 11 | 1  | 1,263  | 11 | 4  | 26,200    | 11 | 4  |
| 57. Rupanyup ..                       | 17,703  | 0 | 0 | 749    | 16 | 8  | 93     | 4  | 5  | 45    | 1  | 11 | 888    | 3  | 0  | 18,591    | 3  | 0  |
| 58. Sea Lake ..                       | 21,105  | 0 | 0 | 720    | 9  | 2  | 232    | 18 | 9  | 80    | 15 | 6  | 1,034  | 3  | 5  | 22,139    | 3  | 5  |
| 59. Somerville ..                     | 3,988   | 0 | 0 | 249    | 1  | 0  | 84     | 10 | 0  | 22    | 5  | 8  | 355    | 16 | 8  | 4,343     | 16 | 8  |
| 60. South Frankston ..                | 20,716  | 0 | 0 | 1,881  | 15 | 0  | 258    | 8  | 1  | 94    | 16 | 1  | 2,234  | 19 | 2  | 22,950    | 19 | 2  |
| 61. Speed ..                          | 1,652   | 0 | 0 | 143    | 16 | 3  | ..     | .. | .. | 6     | 9  | 2  | 150    | 5  | 5  | 1,802     | 5  | 5  |
| 62. Spring Vale ..                    | 30,468  | 0 | 0 | 2,990  | 4  | 10 | 1,473  | 14 | 7  | 275   | 0  | 11 | 4,739  | 0  | 4  | 35,207    | 0  | 4  |
| 63. Tempy ..                          | 1,507   | 0 | 0 | 140    | 2  | 3  | 1      | 0  | 0  | 5     | 11 | 1  | 146    | 13 | 4  | 1,653     | 13 | 4  |
| 64. Torquay ..                        | 2,081   | 0 | 0 | 819    | 4  | 10 | 53     | 16 | 6  | 22    | 5  | 7  | 895    | 6  | 11 | 2,976     | 6  | 11 |
| 65. Ultima ..                         | 9,910   | 0 | 0 | 348    | 18 | 5  | 38     | 1  | 9  | 32    | 15 | 2  | 419    | 15 | 4  | 10,329    | 15 | 4  |
| 66. Waite ..                          | 974     | 0 | 0 | 86     | 17 | 9  | 2      | 0  | 0  | 5     | 1  | 9  | 93     | 19 | 6  | 1,067     | 19 | 6  |
| 67. Walpeup ..                        | 353     | 0 | 0 | 189    | 9  | 3  | ..     | .. | .. | 6     | 11 | 10 | 196    | 1  | 1  | 549       | 1  | 1  |
| 68. Watchem ..                        | 7,505   | 0 | 0 | 295    | 1  | 4  | 39     | 16 | 4  | 54    | 3  | 6  | 389    | 1  | 2  | 7,894     | 1  | 2  |
| 69. Werrimull ..                      | 3,177   | 0 | 0 | 266    | 2  | 4  | 38     | 8  | 0  | 11    | 10 | 5  | 316    | 0  | 9  | 3,493     | 0  | 9  |
| 70. Wonthaggi ..                      | 104,605 | 0 | 0 | 2,477  | 4  | 0  | 1,796  | 12 | 0  | 86    | 17 | 0  | 4,360  | 13 | 0  | 108,965   | 13 | 0  |
| 71. Woomelang ..                      | 16,548  | 0 | 0 | 328    | 18 | 7  | 220    | 14 | 5  | 43    | 5  | 6  | 592    | 18 | 6  | 17,140    | 18 | 6  |
| 72. Woorinen ..                       | 1,419   | 0 | 0 | 177    | 14 | 9  | 13     | 3  | 6  | 6     | 16 | 2  | 197    | 14 | 5  | 1,616     | 14 | 5  |
| 73. Wycheproof ..                     | 20,908  | 0 | 0 | 777    | 12 | 10 | 237    | 3  | 10 | 92    | 8  | 1  | 1,107  | 4  | 9  | 22,015    | 4  | 9  |
| 74. Yaapeet ..                        | 1,140   | 0 | 0 | 182    | 10 | 1  | 10     | 9  | 0  | 12    | 16 | 2  | 205    | 15 | 3  | 1,345     | 15 | 3  |
| Totals ..                             | 952,284 | 0 | 0 | 55,915 | 10 | 10 | 13,293 | 5  | 0  | 3,473 | 2  | 9  | 72,681 | 18 | 7  | 1,024,965 | 18 | 7  |





## URBAN DIVISIONS.

STATEMENT of Moneys received and disbursed from 1st May, 1906, to 30th June, 1938; and of Interest charged at the rates of 4 and 3·978 per cent. on Capital Debts; and also of Depreciation and Redemption charged as at 30th June, 1938 (Free Headworks excluded).

## RECEIPTS.

| Division.        | 1937-38.                              |       |        |       |              |       |                                |       |        |       | Grand Total at<br>30th June, 1938. |      |         |      |
|------------------|---------------------------------------|-------|--------|-------|--------------|-------|--------------------------------|-------|--------|-------|------------------------------------|------|---------|------|
|                  | 1st May, 1906, to<br>30th June, 1937. |       | Rates. |       | Water Sales. |       | Interest and<br>Miscellaneous. |       | Total. |       |                                    |      |         |      |
|                  | £                                     | s. d. | £      | s. d. | £            | s. d. | £                              | s. d. | £      | s. d. |                                    |      |         |      |
| 1. Bacchus Marsh | ..                                    | ..    | 38,882 | 0 0   | 1,249        | 19 6  | 524                            | 1 8   | 54     | 16 7  | 1,828                              | 17 9 | 40,710  | 17 9 |
| 2. Cohuna        | ..                                    | ..    | 18,462 | 0 0   | 965          | 12 7  | 124                            | 12 3  | 89     | 12 6  | 1,179                              | 17 4 | 19,641  | 17 4 |
| 3. Corop         | ..                                    | ..    | 784    | 0 0   | 23           | 8 3   | ..                             | ..    | —      | 5 10  | 23                                 | 14 1 | 807     | 14 1 |
| 4. Dingee        | ..                                    | ..    | 1,093  | 0 0   | 89           | 7 10  | ..                             | ..    | —      | 17 1  | 90                                 | 4 11 | 1,183   | 4 11 |
| 5. Heyfield      | ..                                    | ..    | 3,358  | 0 0   | 598          | 16 7  | ..                             | ..    | 9      | 15 7  | 608                                | 12 2 | 3,966   | 12 2 |
| 6. Leitchville   | ..                                    | ..    | 4,559  | 0 0   | 363          | 15 10 | 25                             | 4 3   | 24     | 8 11  | 413                                | 9 0  | 4,972   | 9 0  |
| 7. Lockington    | ..                                    | ..    | 3,718  | 0 0   | 289          | 11 2  | 31                             | 2 4   | ..     | 1 0   | 320                                | 13 6 | 4,038   | 13 6 |
| 8. Murrabit      | ..                                    | ..    | 485    | 0 0   | 66           | 3 9   | ..                             | ..    | —      | 1 0   | 66                                 | 4 9  | 551     | 4 9  |
| 9. Red Cliffs    | ..                                    | ..    | 20,601 | 0 0   | 1,826        | 9 2   | 227                            | 8 0   | 133    | 12 11 | 2,187                              | 10 1 | 22,788  | 10 1 |
| 10. Stanhope     | ..                                    | ..    | 2,552  | 0 0   | 272          | 12 2  | 66                             | 14 0  | 3      | 17 2  | 343                                | 3 4  | 2,895   | 3 4  |
| Totals ..        | ..                                    | ..    | 94,494 | 0 0   | 5,745        | 16 10 | 999                            | 2 6   | 317    | 7 7   | 7,062                              | 6 11 | 101,556 | 6 11 |

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

| Division.           | 1st May, 1906,<br>to<br>30th June, 1937. |     | Disbursements.              |       |                        |       |                 |       |        |       |              |       | Interest Charged. |     |       |       | Total at<br>30th June, 1938. |       |       |     | Total at<br>30th June, 1938. |     |     |         | Depreciation. |  |  |  | Redemption<br>Paid to—<br>(A) Redemption<br>Funds,<br>(B) Revenue. |  |  |  | Grand Total<br>at<br>30th June, 1938. |  |  |  |
|---------------------|--|-----|-----------------------------|-------|------------------------|-------|-----------------|-------|--------|-------|--------------|-------|-------------------|-----|-------|-------|------------------------------|-------|-------|-----|------------------------------|-----|-----|---------|---------------|--|--|--|--|--|--|--|---------------------------------------|--|--|--|
|                     |  |     | 1937-38.                    |       |                        |       |                 |       |        |       |              |       |                   |     |       |       |                              |       |       |     |                              |     |     |         |               |  |  |  |  |  |  |  |                                       |  |  |  |
|                     |  |     | Repairs and<br>Maintenance. |       | Water<br>Distribution. |       | Administration. |       | Total. |       | Rural Water. |       |                   |     |       |       |                              |       |       |     |                              |     |     |         |               |  |  |  |  |  |  |  |                                       |  |  |  |
|                     |  |     | £                           | s. d. | £                      | s. d. | £               | s. d. | £      | s. d. | £            | s. d. |                   |     |       |       |                              |       |       |     |                              |     |     |         |               |  |  |  |  |  |  |  |                                       |  |  |  |
| 1. Bacchus Marsh .. | 8,808                                    | 0 0 | 117                         | 3 11  | 6                      | 4 6   | 202             | 11 3  | 545    | 0 0   | 325          | 19 8  | 30,384            | 0 0 | 1,021 | 11 8  | 31,405                       | 11 8  | 436   | 0 0 | (A)                          | 250 | 0 0 | 41,830  | 11 4          |  |  |  |  |  |  |  |                                       |  |  |  |
| 2. Cohuna ..        | 5,085                                    | 0 0 | 53                          | 15 11 | 262                    | 5 0   | 114             | 0 9   | 51     | 0 0   | 130          | 1 8   | 12,351            | 0 0 | 352   | 8 10  | 12,703                       | 8 10  | 643   | 0 0 | (A)                          | 350 | 0 0 | 19,234  | 10 6          |  |  |  |  |  |  |  |                                       |  |  |  |
| 3. Corop ..         | 388                                      | 0 0 | ..                          | ..    | 10                     | 5 0   | 7               | 17 7  | 3      | 0 0   | 398          | 17 7  | 415               | 0 0 | 4     | 12 10 | 419                          | 12 10 | 65    | 0 0 | (B)                          | 22  | 0 0 | 884     | 10 5          |  |  |  |  |  |  |  |                                       |  |  |  |
| 4. Dingee ..        | 432                                      | 0 0 | 9                           | 5 6   | 218                    | 13 11 | 4               | 1 11  | 5      | 0 0   | 23           | 12 5  | 715               | 0 0 | 29    | 0 5   | 744                          | 0 5   | 140   | 0 0 | ..                           | ..  | ..  | 1,344   | 12 10         |  |  |  |  |  |  |  |                                       |  |  |  |
| 5. Heyfield ..      | 1,494                                    | 0 0 | 9                           | 12 9  | 78                     | 4 4   | 79              | 15 9  | 100    | 0 0   | 1,902        | 2 5   | 2,054             | 0 0 | 124   | 18 0  | 2,178                        | 18 0  | 117   | 8 1 | ..                           | ..  | ..  | 4,198   | 8 6           |  |  |  |  |  |  |  |                                       |  |  |  |
| 6. Leitchville ..   | 2,166                                    | 0 0 | 1                           | 6 5   | 34                     | 12 2  | 49              | 4 8   | 25     | 0 0   | 2,310        | 14 9  | 2,063             | 0 0 | 111   | 15 2  | 2,176                        | 15 2  | 297   | 0 0 | (B)                          | 1   | 0 0 | 4,767   | 9 11          |  |  |  |  |  |  |  |                                       |  |  |  |
| 7. Lockington ..    | 714                                      | 0 0 | 11                          | 6 9   | 44                     | 12 2  | 20              | 8 0   | 15     | 0 0   | 814          | 5 7   | 2,398             | 0 0 | 91    | 8 6   | 2,399                        | 8 6   | 466   | 0 0 | (B)                          | 5   | 0 0 | 3,684   | 14 1          |  |  |  |  |  |  |  |                                       |  |  |  |
| 8. Murrabit ..      | 279                                      | 0 0 | ..                          | ..    | 39                     | 8 9   | 25              | 1 7   | 5      | 0 0   | 343          | 9 6   | 317               | 0 0 | 20    | 10 0  | 337                          | 10 0  | 820   | 0 0 | (B)                          | 33  | 0 0 | 1,500   | 19 6          |  |  |  |  |  |  |  |                                       |  |  |  |
| 9. Red Cliffs ..    | 8,427                                    | 0 0 | 124                         | 4 11  | 566                    | 8 9   | 255             | 1 7   | 348    | 0 0   | 9,720        | 15 3  | 9,925             | 0 0 | 599   | 14 0  | 10,524                       | 14 0  | 481   | 0 0 | (B)                          | 33  | 0 0 | 20,759  | 9 3           |  |  |  |  |  |  |  |                                       |  |  |  |
| 10. Stanhope ..     | 786                                      | 0 0 | 10                          | 1 6   | 48                     | 3 1   | 35              | 6 8   | 20     | 0 0   | 899          | 11 3  | 1,512             | 0 0 | 57    | 13 8  | 1,569                        | 13 8  | 35    | 0 0 | (B)                          | 3   | 0 0 | 2,507   | 4 11          |  |  |  |  |  |  |  |                                       |  |  |  |
| Totals ..           | 28,589                                   | 0 0 | 336                         | 17 8  | 1,273                  | 17 6  | 797             | 14 11 | 1,117  | 0 0   | 2,408        | 10 1  | 62,046            | 0 0 | 2,413 | 13 1  | 64,459                       | 13 1  | 3,501 | 8 1 | (A)                          | 600 | 0 0 | 100,742 | 11 3          |  |  |  |  |  |  |  |                                       |  |  |  |
|                     |  |     |                             |       |                        |       |                 |       |        |       |              |       |                   |     |       |       |                              |       |       |     | (B)                          | 67  | 0 0 |         |               |  |  |  |  |  |  |  |                                       |  |  |  |



## CAPITAL EXPENDITURE.

STATEMENT OF MONEYS EXPENDED FROM WATER SUPPLY LOANS AND UNEMPLOYMENT RELIEF FUNDS FOR  
THE YEAR ENDED 30TH JUNE, 1938.

| Works.   | Unemployment<br>Relief Funds,<br>Act 4097,<br>£357,034 18s. 5d.;<br>Other Funds,<br>£1,515 0s. 6d. | Water Supply<br>Loans Application<br>Acts 4457 and<br>4503, and<br>Treasurer's<br>Advance. | Works.   | Unemployment<br>Relief Funds,<br>Act 4097,<br>£357,034 18s. 5d.;<br>Other Funds,<br>£1,515 0s. 6d. | Water Supply<br>Loans Application<br>Acts 4457 and<br>4503, and<br>Treasurer's<br>Advance. |
|--|--|--|--|--|--|
|  | £ s. d.  | £ s. d.  |  | £ s. d.  | £ s. d.  |
| <i>Free Headworks.</i>   |  |  |  |  |  |
| Laanecoorie Weir ..  | 4 6 2  | ..   | Brought forward ..   | 28,634 18 11   | 172,635 5 9  |
| <i>River Murray Waters<br/>Acts—Works.</i>   |  |  | <i>Urban Divisions of<br/>Irrigation and Water<br/>Supply Districts.</i> |  |  |
| Storages, weirs and locks ..   | ..   | 102,000 0 0  | Bacchus Marsh ..   | ..   | 0 5 0  |
| <i>Main Supply Works.</i>  |  |  | Cohuna ..  | 423 3 11   | 762 18 9   |
| Eildon Reservoir ..  | 2 17 2   | 7,257 15 11  | Leitchville ..   | ..   | 100 0 0  |
| Waranga Reservoir ..   | 486 10 1   | 33 7 0   | Red Cliffs ..  | ..   | 138 2 7  |
| Pine Lake Reservoir ..   | ..   | 68 17 4  | <i>Waterworks Districts.</i>   |  |  |
| Pykes Creek Reservoir  | 4,690 6 1*   | 35 6 0   | Bellarine Peninsula,<br>including headworks                              | 692 2 11   | 11,051 18 3  |
| Melton Reservoir ..  | ..   | 153 7 1  | Birchip ..   | ..   | 189 14 6   |
| Eppalock Reservoir ..  | ..   | 281 18 0   | Hindmarsh ..   | ..   | 16 10 8  |
| Goulburn — Waranga<br>Channel ..   | 180 10 1   | ..   | Karkaroc ..  | ..   | 155 0 2  |
| Waranga — Western<br>Channel ..  | ..   | Cr. 64 13 6  | Kerang North-west<br>Lakes ..  | ..   | 234 12 3   |
| East Goulburn Channel  | 81 8 1   | 87 12 6  | Long Lake ..   | ..   | 109 11 9   |
| Goulburn Main Channels   | 250 14 3   | ..   | Mornington Peninsula,<br>including headworks                             | 10,480 14 11   | 34,607 18 9  |
| Wimmera Main Channels  | ..   | 5,472 1 8  | Normanville (under con-<br>struction) ..                                 | ..   | 1,921 4 11   |
| <i>Irrigation and Water<br/>Supply Districts.</i>  |  |  | Otway (under construc-<br>tion) ..                                       | 60,294 18 5  | 73,227 9 8   |
| Bacchus Marsh ..   | 308 9 11   | 297 8 8  | Sea Lake ..  | 346 5 4  | 8 0 0  |
| Boort ..   | 368 0 11   | 49 14 0  | Tyntynder ..   | 15 17 5  | 18 12 10   |
| Calivil ..   | ..   | 1 10 0   | Tyrrell ..   | ..   | 1 2 6  |
| Campaspe ..  | 124 10 6   | ..   | Tyrrell West ..  | 1,614 2 0  | 83 3 5   |
| Cohuna ..  | ..   | 792 7 9  | Upper Western Wimmera  | ..   | 11 0 0   |
| Cohuna and Leitchville   | 2,246 7 2  | ..   | Upper Wimmera United   | ..   | 20 12 0  |
| Deakin ..  | 72 1 4   | 131 19 11  | Western Wimmera ..   | 4,641 18 1   | 1,128 3 7  |
| Dingee ..  | ..   | 10 14 6  | Wimmera United ..  | 409 17 8   | 175 15 8   |
| Echuca North ..  | 451 2 0  | ..   | Wycheproof ..  | ..   | 3 2 6  |
| Fish Point ..  | ..   | 32 13 0  | <i>Urban Districts of<br/>Waterworks Districts.</i>                      |  |  |
| Katandra ..  | 525 1 7  | 1 2 6  | Anglesea ..  | ..   | 22 12 9  |
| Kerang ..  | 2,551 11 10  | 2,648 9 0  | Barwon Heads and<br>Ocean Grove ..                                       | ..   | 169 13 1   |
| Koondrook ..   | 1,521 12 10  | 860 9 6  | Berwick ..   | ..   | 362 14 2   |
| Leitchville (Unemploy-<br>ment Relief Expendi-<br>ture included with<br>Cohuna above) .. | ..   | 162 16 3   | Carrum ..  | ..   | 56 0 10  |
| Maffra-Sale ..   | 455 18 2   | 1,974 10 4   | Chillingollah ..   | 193 8 5  | ..   |
| Merbein ..   | 278 5 3  | 6,591 2 8  | Chinkapook ..  | 110 13 0   | ..   |
| Murray Valley (under<br>construction) ..   | ..   | 36,322 16 4  | Coliban ..   | 58,612 3 2   | 3,092 12 11  |
| Mystic Park ..   | ..   | 4 13 0   | Cranbourne ..  | ..   | 95 14 10   |
| North Shepparton ..  | 881 19 5   | 1,484 2 0  | Dandenong ..   | ..   | 199 4 6  |
| Nyah ..  | ..   | 142 18 2   | Dimboola ..  | ..   | 350 8 5  |
| Red Cliffs ..  | 848 14 8   | 1,146 1 5  | Drysdale ..  | ..   | 10 9 4   |
| Rochester ..   | 1,177 4 7  | 842 7 9  | Frankston ..   | ..   | 915 19 1   |
| Rodney ..  | 1,557 0 3  | 1,489 14 7   | Hopetoun ..  | 46 14 0  | ..   |
| Shepparton ..  | 529 9 6  | 994 7 1  | Jeparit ..   | ..   | 70 17 11   |
| South Shepparton ..  | 618 10 5   | 25 17 4  | Lalbert ..   | 310 8 2  | ..   |
| Stanhope ..  | ..   | 424 19 0   | Lascelles ..   | 319 0 9  | ..   |
| Swan Hill ..   | 5,993 1 10   | 404 4 3  | Longwarry ..   | ..   | 2,437 18 1   |
| Tongala ..   | 408 18 10  | 232 9 9  | Manangatang ..   | ..   | 163 16 4   |
| Tragowel Plains ..   | 1,720 6 0  | 51 6 8   | Merbein ..   | ..   | 51 8 2   |
| Werribee ..  | ..   | 188 18 4   | Minyip ..  | 165 15 4   | 365 9 10   |
| Carried forward ..   | 28,634 18 11   | 172,635 5 9  | Carried forward ..   | 167,312 2 5  | 304,965 5 9  |

## CAPITAL EXPENDITURE—continued.

STATEMENT OF MONEYS EXPENDED FROM WATER SUPPLY LOANS AND UNEMPLOYMENT RELIEF FUNDS FOR THE YEAR ENDED 30TH JUNE, 1938—continued.

| Works.  | Unemployment Relief Funds, Act 4097, £357,034 18s. 5d.; Other Funds, £1,515 0s. 6d. | Water Supply Loans Application Acts 4457 and 4503, and Treasurer's Advance. | Works.  | Unemployment Relief Funds, Act 4097, £357,034 18s. 5d.; Other Funds, £1,515 0s. 6d. | Water Supply Loans Application Acts 4457 and 4503, and Treasurer's Advance. |
|---|---|---|---|---|---|
|   | £ s. d.   | £ s. d.   |   | £ s. d.   | £ s. d.   |
| Brought forward ..  | 167,312 2 5   | 304,965 5 9   | Brought forward ..                                      | 185,297 18 11   | 309,858 7 6   |
| <i>Urban Districts of Waterworks Districts—continued.</i> |   |   | <i>Drainage Districts.</i>                              |   |   |
| Mount Martha ..   | ..  | 1,234 15 2  | Cohuna ..   | 13,286 12 0   | ..  |
| Natimuk ..  | 13 0 7  | 74 4 10   | Kerang East ..  | 7,485 9 1   | ..  |
| Newstead ..   | ..  | 81 11 3   | Merbein ..  | 24,679 4 11   | ..  |
| Nyah West ..  | ..  | 43 3 5  | Red Cliffs ..   | 1,474 15 2  | ..  |
| Ouyen ..  | 892 0 8   | 923 16 2  | Rochester ..  | 6,880 12 7  | ..  |
| Piangil ..  | 630 16 4  | ..  | Rodney ..   | 7,002 8 1   | ..  |
| Portarlinton ..   | ..  | 197 1 3   | Shepparton ..   | 11,495 2 2  | ..  |
| Pyramid Hill ..   | ..  | 68 9 7  | Tongala-Stanhope ..                                     | 111 0 0   | ..  |
| Quambatook ..   | 126 13 3  | 464 12 11   | Werribee ..   | 223 8 3   | ..  |
| Queenschiff and Point Lonsdale ..                         | ..  | 130 11 3  |   |   |   |
| Rupanyup ..   | 150 0 0   | 166 14 11   | <i>Proposed Drainage Districts.</i>                     |   |   |
| Sea Lake ..   | ..  | 171 6 1   |   |   |   |
| Somerville ..   | ..  | 217 3 8   | Maffra-Sale ..  | 3,948 12 6  | ..  |
| South Frankston ..  | ..  | 170 18 4  | Nyah ..   | 515 7 8   | ..  |
| Speed ..  | 360 7 2   | ..  | Woorinen ..   | 6 12 8  | ..  |
| Spring Vale ..  | ..  | 812 17 7  |   |   |   |
| Tempy ..  | 10 14 3   | ..  | First Mildura Irrigation Trust, Sub-surface Drainage .. | 61,336 5 2  | ..  |
| Waitchie ..   | 321 11 8  | ..  |   |   |   |
| Werrimull ..  | 151 13 5  | ..  | Waterworks Trusts and Local Governing Bodies ..         | ..  | 43,747 17 11  |
| Wonthaggi ..  | 55 17 0   | 23 16 4   |   |   |   |
| Woomelang ..  | 495 11 1  | ..  | <i>Miscellaneous.</i>                                   |   |   |
| Woorinen ..   | 576 16 10   | 0 14 3  |   |   |   |
| Wycheproof ..   | ..  | 0 10 0  | Carrum ..   | 3,082 8 4†  | ..  |
| Yaapeet ..  | 176 16 2  | ..  | River Improvements ..                                   | 31,724 1 5  | ..  |
| <i>Flood Protection Districts.</i>                        |   |   |   |   |   |
| Cardinia ..   | 6,244 16 5  | 53 1 3  |   |   |   |
| Kooweerup Lower ..  | 7,779 1 8   | 57 13 6   |   |   |   |
| Carried forward ..  | 185,297 18 11   | 309,858 7 6   | <b>Totals ..</b>  | <b>358,549 18 11</b>  | <b>353,606 5 5</b>  |

\* Includes £983 1s.  
† Includes £531 19s. 6d. } 1,515 0s. 6d. from Unemployment Relief (Taxation) Fund.

# CONTRACTS.

STATEMENT OF CONTRACTS ENTERED INTO DURING THE YEAR ENDED 30TH JUNE, 1938.

| No.                                  | Name of Contractor.                                  | Work or Supply.  | Amount<br>(Loan and Vote). |       |
|--------------------------------------|--|--|----------------------------|-------|
|                                      |  |  | £                          | s. d. |
| 3055                                 | Australian Cement Ltd. ..                            | 2,500 tons cement, works generally ..                                | 10,104                     | 3 4   |
| 3056                                 | Wm. Adams and Co. Ltd. ..                            | One "Crawler" type tractor, works generally ..                       | 1,092                      | 0 0   |
| 3057                                 | Hume Pipe Co. (Aust.) Ltd. ..                        | Reinforced concrete pipes, Cranbourne-Bittern Reservoir pipe line .. | 28,886                     | 19 9  |
| 3058                                 | Australian Wood Pipe Co. Ltd. ..                     | Wood-stave pipes, Cranbourne-Bittern Reservoir pipe line ..          | 13,397                     | 19 0  |
| 3059                                 | J. W. and J. P. Condon ..                            | Broken stone, Camperdown Storage Reservoir ..                        | 1,327                      | 11 0  |
| 3060                                 | Davies Shephard Pty. Ltd. ..                         | "Orifice" type water-meter, Horsham ..                               | 921                        | 8 3   |
| 3061                                 | Rocla Ltd. ..  | Reinforced concrete pipes, Mildura North (drainage) ..               | 2,826                      | 18 4  |
| 3062                                 | Hume Pipe Co. (Aust.) Ltd. ..                        | Reinforced concrete pipes, Mildura North (drainage) ..               | 1,995                      | 19 0  |
| 3063                                 | G. D. Guthrie and Co. Pty. Ltd. ..                   | Salt-glazed ware pipes, Mildura North (drainage) ..                  | 1,690                      | 2 1   |
| 3064                                 | Martin Stoneware Pipe Ltd. ..                        | Salt-glazed ware pipes, Mildura North (drainage) ..                  | 771                        | 7 6   |
| 3065                                 | Rocla Ltd. ..  | Reinforced concrete pipes, Camperdown Branch Main Pipe Line ..       | 5,052                      | 13 9  |
| 3066                                 | Mephian Ferguson Pty. Ltd. ..                        | Mild Steel pipes, Camperdown Branch Main Pipe Line ..                | 9,621                      | 11 3  |
| 3067                                 | C. G. Batson ..                                      | Broken stone, Waurin Ponds Reservoir ..                              | 1,237                      | 10 0  |
| 3068                                 | Trehwella Bros. Pty. Ltd. ..                         | Ten power grubbing winches, works generally ..                       | 1,450                      | 15 10 |
| 3069                                 | Aggregate Contracting Co. Pty. Ltd. ..               | Stone spalls, &c., Yarrowonga Weir ..                                | 4,669                      | 16 11 |
| 3070                                 | Marfleet and Weight Pty. Ltd. ..                     | Twenty sets of gate assemblies, Yarrowonga Weir ..                   | 4,015                      | 0 0   |
| 3071                                 | Australian Wood Pipe Co. Ltd. ..                     | Wood-stave pipes, Cranbourne-Bittern Reservoir pipe line ..          | 5,325                      | 3 5   |
| 3072                                 | M. B. John Pty. Ltd. ..                              | Cast-iron valves, Bendigo Reticulation ..                            | 749                        | 7 0   |
| 3073                                 | Reinforced Concrete and Monier Pipe Co. Pty. Ltd. .. | Reinforced concrete pipes, Nyah (drainage) ..                        | 708                        | 6 8   |
| 3074                                 | Hume Pipe Co. (Aust.) Ltd. ..                        | Reinforced concrete pipes, Nyah (drainage) ..                        | 906                        | 5 0   |
| 3075                                 | James Hardie and Co. Pty. Ltd. ..                    | Fibrolite pipes, Bendigo and Castlemaine Reticulation ..             | 15,008                     | 13 8  |
| 3076                                 | Rocla Ltd. ..  | Reinforced concrete pipes, Camperdown Storage to Service Basin ..    | 1,396                      | 18 11 |
| 3077                                 | Thompsons Engineering and Pipe Co. Ltd. ..           | Pumping plant, Merbein ..  | 1,010                      | 0 0   |
| 3078                                 | A. Challingsworth Pty. Ltd. ..                       | Ten sets of spillway gates, Yarrowonga Weir ..                       | 25,853                     | 6 0   |
| 3079                                 | Australian Wood Pipe Co. Ltd. ..                     | Wood-stave pipes, Terang Storage to Terang Offtake ..                | 9,994                      | 6 7   |
| 3080                                 | Hume Steel Ltd. ..                                   | Mild steel pipes, Terang Storage to Terang Offtake ..                | 5,187                      | 12 0  |
| 3081                                 | Hume Steel Ltd. ..                                   | Mild steel pipes, Terang Offtake to Tank Hill ..                     | 17,381                     | 13 0  |
| 3082                                 | Australian General Electric Ltd. ..                  | One 1,100-K.V. Alternator, Merbein Pumps ..                          | 3,501                      | 0 0   |
| 3083                                 | Australian General Electric Ltd. ..                  | Two 1,000-K.V.A. Transformers, Merbein Pumps ..                      | 1,879                      | 10 0  |
| 3084                                 | British General Electric Co. Pty. Ltd. ..            | One 600-H.P. Motor, Merbein Pumps ..                                 | 2,251                      | 17 0  |
| 3085                                 | James Hardie and Co. Pty. Ltd. ..                    | Fibrolite pipes, Terang Offtake to Tank Hill ..                      | 5,695                      | 18 11 |
| 3086                                 | James Hardie and Co. Pty. Ltd. ..                    | Fibrolite pipes, Cobden Reticulation ..                              | 1,498                      | 17 3  |
| 3087                                 | James Hardie and Co. Pty. Ltd. ..                    | Fibrolite pipes, Terang Reticulation ..                              | 3,891                      | 14 2  |
| 3088                                 | Australian Cement Ltd. ..                            | 2,500 tons cement, works generally ..                                | 10,104                     | 3 4   |
| 3089                                 | Austral Otis Engineering Co. Ltd. ..                 | Offtake Regulator Gates, Murray Valley Districts ..                  | 1,788                      | 0 0   |
| <i>Contracts at Piecework Rates—</i> |  |  |                            |       |
|                                      | Channel Construction ..                              | Murray Valley District ..  | 8,500                      | 0 0   |
|                                      | Firewood Supplies ..                                 | Pumping Plants and Excavators ..                                     | 15,000                     | 0 0   |
|                                      | Miscellaneous ..                                     | .. .. .  | 3,600                      | 0 0   |
| Total .. .. .                        |  |  | 230,294                    | 8 11  |

## DIRECT LABOUR 1937-38.

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.<br>£ | Unemployment<br>Relief Funds.<br>£ |
|--|------------------|------------------------------------|
| River Murray Storages (Yarrowonga Weir) .. .. .                              | 84,116           | ..                                 |
| Western District Towns (Camperdown, Terang, Warrnambool, Cobden) ..          | 3,861            | 57,383                             |
| Merbein, Mildura and Red Cliffs Districts .. .. .                            | 1,896            | 53,891                             |
| Coliban System .. .. .   | 588              | 29,080                             |
| River Improvements .. .. .   | ..               | 24,834                             |
| Deakin, Rochester, Rodney, Shepparton, Stanhope, and Tongala Districts ..    | 2,304            | 14,860                             |
| Mornington Peninsula District .. .. .  | 4,871            | 8,536                              |
| Murray Valley District (Yarrowonga and Murray Valley Main Channels) ..       | 12,367           | ..                                 |
| Wimmera Mallee System .. .. .  | 5,311            | 5,524                              |
| Cohuna, Kerang, Kerang Lakes, Koondrook, Mystic Park and Tresco Districts .. | 2,262            | 8,526                              |
| Boort, Tragowel Plains, Nyah and Swan Hill Districts .. .. .                 | 119              | 10,272                             |
| Bellarine Peninsula District .. .. .   | 7,574            | 210                                |
| Kooweerup, Cardinia and other Flood Protection Districts .. .. .             | ..               | 7,087                              |
| Bacchus Marsh and Werribee Districts .. .. .                                 | 220              | 3,907                              |
| Maffra-Sale District .. .. .   | 1,171            | 2,458                              |
| Other Districts .. .. .  | 31               | 1,014                              |
|  | 126,691          | 227,582                            |
| Grand Total .. .. .  | £354,273         |                                    |

### WATER SUPPLY WORKS DEPRECIATION ACCOUNT.

The *Water Act* 1937, No. 4513, provides that sums raised for the purpose of depreciation shall be paid into consolidated revenue, or, if the Honorable the Treasurer so directs, shall to such extent as directed, be placed to the credit of a fund to be kept in the Treasury to be called the Water Supply Works Depreciation Fund.

The sums so raised shall (with interest credited thereon) be shown in the books of account of the Commission to the credit of the respective districts and divisions in an account to be called the "Water Supply Works Depreciation Account."

The amounts paid by the districts and divisions for the year 1937-38, less any expenditure therefrom will be credited as from 1st July, 1938, at an interest rate to be agreed upon with the Treasury.

In arriving at the adjustment of the Capital liability for Water Supply Works, the amount set down for depreciation was £40,504 per annum. Certain districts however, will not meet the total cost of operation and cannot provide anything towards depreciation requirements which, in the case of these districts, amount to approximately £8,614 per annum. The estimated amount which would be paid by those districts meeting their operating cost would be £31,890, approximately.

The following table sets out the details in respect to the various districts and divisions :—

| District.                          | Depreciation Charged. | Depreciation that will be Paid (Estimated). | Estimated Deficiency. |
|------------------------------------|-----------------------|---|-----------------------|
|                                    | £                     | £   | £                     |
| Irrigation Districts .. .. .       | 12,120                | 11,703                                      | 417                   |
| Urban Divisions .. .. .            | 869                   | 715   | 154                   |
| Waterworks Districts .. .. .       | 6,920                 | 915   | 6,005                 |
| Urban Districts .. .. .            | 19,595                | 18,557                                      | 1,038                 |
| Flood Protection Districts .. .. . | 1,000                 | Nil   | 1,000                 |
|                                    | 40,504                | 31,890                                      | 8,614                 |

As the adjustment of the Capital liability did not take effect until 31st December, 1937, the districts had to bear interest on the larger amount of capital debited for the first half of the 1937-38 financial year, consequently, a sum of £10,414 19s. 11d. only was paid into consolidated revenue for depreciation purposes during the financial year 1937-38. Of this sum an amount of £4,000, has been invested by the Treasury at a rate of 3 per cent. per annum as from 1st July, 1938.

For many years prior to the 1937-38 financial year, nominal payments of £500 only had been made to the Depreciation Fund by Special Appropriation. From the year 1911-12 to 1936-37 a total sum of £17,182 13s. 9d. had been paid into the fund from which, over the same period, an amount of £5,502 9s. 2d. had been expended. The balance, therefore, at credit of the fund on 30th June, 1937, was £11,680 4s. 7d.

The following statement sets out in—

Column (1) the districts and divisions having an equity in the Water Supply Depreciation Fund as at 30th June, 1937, and the amount of such equity ;

Column (2) the amount of depreciation paid into consolidated revenue in respect of the districts as listed for the financial year 1937-38 ;

Column (3) a summary total of columns (1) and (2) ;

Column (4) the expenditure from the Water Supply Works Depreciation Fund for the financial year 1937-38 ;

Column (5) the amount at credit of each district and division as at 30th June, 1938

## DEPRECIATION ACCOUNTS AT 30th JUNE, 1938.

| Name of District.                      | 1                                |       | 2                           |       | 3      |       | 4                        |       | 5                                    |       |
|--|----------------------------------|-------|-----------------------------|-------|--------|-------|--------------------------|-------|--------------------------------------|-------|
|  | Equity as at<br>30th June, 1937. |       | Paid to Revenue<br>1937-38. |       | Total. |       | Expenditure,<br>1937-38. |       | Credit Balances,<br>30th June, 1938. |       |
|  | £                                | s. d. | £                           | s. d. | £      | s. d. | £                        | s. d. | £                                    | s. d. |
| IRRIGATION AND WATER SUPPLY DISTRICTS. |                                  |       |                             |       |        |       |                          |       |                                      |       |
| Boort .. .. .                          | ..                               | ..    | 27                          | 0 0   | 27     | 0 0   | ..                       | ..    | 27                                   | 0 0   |
| Calivil .. .. .                        | ..                               | ..    | 13                          | 0 0   | 13     | 0 0   | ..                       | ..    | 13                                   | 0 0   |
| Cohuna .. .. .                         | 193                              | 0 11  | ..                          | ..    | 193    | 0 11  | ..                       | ..    | 193                                  | 0 11  |
| Dingee .. .. .                         | ..                               | ..    | 10                          | 0 0   | 10     | 0 0   | ..                       | ..    | 10                                   | 0 0   |
| Echuca North .. .. .                   | ..                               | ..    | 12                          | 0 0   | 12     | 0 0   | ..                       | ..    | 12                                   | 0 0   |
| Maffra-Sale .. .. .                    | ..                               | ..    | 130                         | 0 0   | 130    | 0 0   | ..                       | ..    | 130                                  | 0 0   |
| Merbein .. .. .                        | 123                              | 11 9  | ..                          | ..    | 123    | 11 9  | ..                       | ..    | 123                                  | 11 9  |
| Red Cliffs .. .. .                     | 4,441                            | 14 0  | 2,146                       | 7 0   | 6,588  | 1 0   | ..                       | ..    | 6,588                                | 1 0   |
| Rochester .. .. .                      | ..                               | ..    | 111                         | 0 0   | 111    | 0 0   | ..                       | ..    | 111                                  | 0 0   |
| Rodney .. .. .                         | ..                               | ..    | 128                         | 0 0   | 128    | 0 0   | ..                       | ..    | 128                                  | 0 0   |
| South Shepparton .. .. .               | ..                               | ..    | 10                          | 0 0   | 10     | 0 0   | ..                       | ..    | 10                                   | 0 0   |
| Stanhope .. .. .                       | ..                               | ..    | 39                          | 0 0   | 39     | 0 0   | ..                       | ..    | 39                                   | 0 0   |
| Swan Hill .. .. .                      | 506                              | 6 6   | 340                         | 0 0   | 846    | 6 6   | ..                       | ..    | 846                                  | 6 6   |
| Tongala .. .. .                        | ..                               | ..    | 61                          | 0 0   | 61     | 0 0   | ..                       | ..    | 61                                   | 0 0   |
| Totals .. .. .                         | 5,264                            | 13 2  | 3,027                       | 7 0   | 8,292  | 0 2   | ..                       | ..    | 8,292                                | 0 2   |

|   |     |      |     |     |       |      |     |      |         |      |
|---|-----|------|-----|-----|-------|------|-----|------|---------|------|
| URBAN DIVISIONS OF IRRIGATION AND WATER SUPPLY DISTRICTS. |     |      |     |     |       |      |     |      |         |      |
| Cohuna .. .. .  | 105 | 19 3 | 99  | 0 0 | 204   | 19 3 | 415 | 7 2  | Dr. 210 | 7 11 |
| Corop .. .. .   | ..  | ..   | 6   | 0 0 | 6     | 0 0  | ..  | ..   | 6       | 0 0  |
| Dingee .. .. .  | 6   | 19 5 | 14  | 0 0 | 20    | 19 5 | ..  | ..   | 20      | 19 5 |
| Heyfield .. .. .  | ..  | ..   | 47  | 8 1 | 47    | 8 1  | ..  | ..   | 47      | 8 1  |
| Leitchville .. .. .                                       | 70  | 6 0  | 45  | 0 0 | 115   | 6 0  | 1   | 6 6  | 113     | 19 6 |
| Lockington .. .. .  | 112 | 19 8 | 61  | 0 0 | 173   | 19 8 | ..  | ..   | 173     | 19 8 |
| Red Cliffs .. .. .  | 228 | 15 0 | 193 | 0 0 | 421   | 15 0 | ..  | ..   | 421     | 15 0 |
| Stanhope .. .. .  | 80  | 6 11 | 35  | 0 0 | 115   | 6 11 | ..  | ..   | 115     | 6 11 |
| Totals .. .. .  | 605 | 6 3  | 500 | 8 1 | 1,105 | 14 4 | 416 | 13 8 | 689     | 0 8  |

|                               |     |      |     |     |     |      |    |    |     |      |
|-------------------------------|-----|------|-----|-----|-----|------|----|----|-----|------|
| WATERWORKS DISTRICTS.         |     |      |     |     |     |      |    |    |     |      |
| Carwarp Central .. .. .       | 6   | 19 7 | ..  | ..  | 6   | 19 7 | .. | .. | 6   | 19 7 |
| Hindmarsh .. .. .             | 195 | 5 7  | 139 | 0 0 | 334 | 5 7  | .. | .. | 334 | 5 7  |
| Narre Warren .. .. .          | ..  | ..   | 123 | 4 5 | 123 | 4 5  | .. | .. | 123 | 4 5  |
| Upper Western Wimmera .. .. . | 169 | 1 2  | ..  | ..  | 169 | 1 2  | .. | .. | 169 | 1 2  |
| Walpeup West .. .. .          | ..  | ..   | 260 | 0 0 | 260 | 0 0  | .. | .. | 260 | 0 0  |
| Totals .. .. .                | 371 | 6 4  | 522 | 4 5 | 893 | 10 9 | .. | .. | 893 | 10 9 |

|  |     |       |       |       |       |       |     |     |        |       |
|--|-----|-------|-------|-------|-------|-------|-----|-----|--------|-------|
| URBAN DISTRICTS OF WATERWORKS DISTRICTS. |     |       |       |       |       |       |     |     |        |       |
| Antwerp .. .. .                          | 5   | 0 5   | 2     | 0 0   | 7     | 0 5   | ..  | ..  | 7      | 0 5   |
| Barwon Heads and Ocean Grove .. .. .     | ..  | ..    | 68    | 11 0  | 68    | 11 0  | ..  | ..  | 68     | 11 0  |
| Berwick .. .. .                          | ..  | ..    | 179   | 7 1   | 179   | 7 1   | ..  | ..  | 179    | 7 1   |
| Beulah .. .. .                           | 22  | 11 11 | 22    | 1 10  | 44    | 13 9  | ..  | ..  | 44     | 13 9  |
| Birchip .. .. .                          | 27  | 17 10 | ..    | ..    | 27    | 17 10 | ..  | ..  | 27     | 17 10 |
| Bittern .. .. .                          | ..  | ..    | 34    | 0 0   | 34    | 0 0   | ..  | ..  | 34     | 0 0   |
| Brim .. .. .                             | 62  | 9 9   | 31    | 0 0   | 93    | 9 9   | ..  | ..  | 93     | 9 9   |
| Bunyip .. .. .                           | ..  | ..    | 111   | 17 6  | 111   | 17 6  | ..  | ..  | 111    | 17 6  |
| Carwarp .. .. .                          | 48  | 10 10 | ..    | ..    | 48    | 10 10 | ..  | ..  | 48     | 10 10 |
| Chillingollah .. .. .                    | 22  | 11 11 | ..    | ..    | 22    | 11 11 | ..  | ..  | 22     | 11 11 |
| Chinkapook .. .. .                       | 63  | 0 11  | ..    | ..    | 63    | 0 11  | ..  | ..  | 63     | 0 11  |
| Cranbourne .. .. .                       | ..  | ..    | 101   | 0 0   | 101   | 0 0   | ..  | ..  | 101    | 0 0   |
| Crib Point .. .. .                       | 80  | 18 1  | 104   | 5 10  | 185   | 3 11  | ..  | ..  | 185    | 3 11  |
| Culgoa .. .. .                           | 28  | 9 1   | ..    | ..    | 28    | 9 1   | ..  | ..  | 28     | 9 1   |
| Dandenong .. .. .                        | ..  | ..    | 748   | 12 10 | 748   | 12 10 | ..  | ..  | 748    | 12 10 |
| Dimboola .. .. .                         | ..  | ..    | 125   | 11 5  | 125   | 11 5  | 214 | 9 5 | Dr. 88 | 18 0  |
| Frankston .. .. .                        | ..  | ..    | 1,118 | 0 0   | 1,118 | 0 0   | ..  | ..  | 1,118  | 0 0   |
| Garfield .. .. .                         | ..  | ..    | 61    | 15 0  | 61    | 15 0  | ..  | ..  | 61     | 15 0  |
| Hicksborough .. .. .                     | 13  | 19 0  | 6     | 0 0   | 19    | 19 0  | ..  | ..  | 19     | 19 0  |
| Hopetoun .. .. .                         | ..  | ..    | 61    | 0 0   | 61    | 0 0   | ..  | ..  | 61     | 0 0   |
| Jeparit .. .. .                          | 30  | 2 6   | 39    | 0 0   | 69    | 2 6   | ..  | ..  | 69     | 2 6   |
| Koondrook .. .. .                        | 37  | 18 10 | ..    | ..    | 37    | 18 10 | ..  | ..  | 37     | 18 10 |
| Lake Boga .. .. .                        | 165 | 8 6   | ..    | ..    | 165   | 8 6   | ..  | ..  | 165    | 8 6   |
| Lalbert .. .. .                          | ..  | ..    | 12    | 16 5  | 12    | 16 5  | ..  | ..  | 12     | 16 5  |
| Longwarry .. .. .                        | ..  | ..    | 113   | 0 0   | 113   | 0 0   | ..  | ..  | 113    | 0 0   |
| Carried forward .. .. .                  | 608 | 19 7  | 2,939 | 18 11 | 3,548 | 18 6  | 214 | 9 5 | 3,334  | 9 1   |

DEPRECIATION ACCOUNTS AT 30TH JUNE, 1938—*continued.*

| Name of District.                    | 1                                |       | 2                           |       | 3      |       | 4                       |       | 5                                   |       |
|--------------------------------------|----------------------------------|-------|-----------------------------|-------|--------|-------|-------------------------|-------|-------------------------------------|-------|
|                                      | Equity as at<br>30th June, 1937. |       | Paid to Revenue<br>1937-38. |       | Total. |       | Expenditure<br>1937-38. |       | Credit Balances<br>30th June, 1938. |       |
|                                      | £                                | s. d. | £                           | s. d. | £      | s. d. | £                       | s. d. | £                                   | s. d. |
| Brought forward ..                   | 608                              | 19 7  | 2,939                       | 18 11 | 3,548  | 18 6  | 214                     | 9 5   | 3,334                               | 9 1   |
| Manangatang .. ..                    | 181                              | 6 7   | 33                          | 0 0   | 214    | 6 7   | ..                      | ..    | 214                                 | 6 7   |
| Marnoo .. ..                         | 158                              | 3 6   | 33                          | 0 0   | 191    | 3 6   | ..                      | ..    | 191                                 | 3 6   |
| Marong .. ..                         | ..                               | ..    | 33                          | 9 10  | 33     | 9 10  | ..                      | ..    | 33                                  | 9 10  |
| Merbein .. ..                        | 5                                | 6 0   | 137                         | 0 0   | 142    | 6 0   | ..                      | ..    | 142                                 | 6 0   |
| Meringur .. ..                       | 41                               | 16 11 | 5                           | 1 9   | 46     | 18 8  | ..                      | ..    | 46                                  | 18 8  |
| Minyip .. ..                         | 145                              | 16 2  | 75                          | 0 0   | 220    | 16 2  | 390                     | 15 7  | Dr. 169                             | 19 5  |
| Mornington .. ..                     | 139                              | 9 8   | 685                         | 0 0   | 824    | 9 8   | ..                      | ..    | 824                                 | 9 8   |
| Mount Martha .. ..                   | ..                               | ..    | 163                         | 0 0   | 163    | 0 0   | ..                      | ..    | 163                                 | 0 0   |
| Nandaly .. ..                        | 60                               | 5 2   | 9                           | 0 0   | 69     | 5 2   | ..                      | ..    | 69                                  | 5 2   |
| Natimuk .. ..                        | ..                               | ..    | 50                          | 0 0   | 50     | 0 0   | ..                      | ..    | 50                                  | 0 0   |
| Newstead .. ..                       | ..                               | ..    | 51                          | 0 0   | 51     | 0 0   | ..                      | ..    | 51                                  | 0 0   |
| North Wonthaggi .. ..                | 89                               | 5 5   | 44                          | 0 0   | 133    | 5 5   | ..                      | ..    | 133                                 | 5 5   |
| Nullawil .. ..                       | 27                               | 1 2   | 10                          | 0 0   | 37     | 1 2   | ..                      | ..    | 37                                  | 1 2   |
| Nyah .. ..                           | 7                                | 16 2  | 5                           | 0 0   | 12     | 16 2  | ..                      | ..    | 12                                  | 16 2  |
| Nyah West .. ..                      | 217                              | 11 11 | ..                          | ..    | 217    | 11 11 | ..                      | ..    | 217                                 | 11 11 |
| Ouyen .. ..                          | 221                              | 4 5   | 111                         | 0 0   | 332    | 4 5   | ..                      | ..    | 332                                 | 4 5   |
| Pakenham .. ..                       | 221                              | 10 0  | 231                         | 0 0   | 452    | 10 0  | ..                      | ..    | 452                                 | 10 0  |
| Patchewollock .. ..                  | 76                               | 19 10 | ..                          | ..    | 76     | 19 10 | ..                      | ..    | 76                                  | 19 10 |
| Piangil .. ..                        | 189                              | 13 11 | ..                          | ..    | 189    | 13 11 | ..                      | ..    | 189                                 | 13 11 |
| Pyramid Hill .. ..                   | 150                              | 12 10 | 39                          | 0 0   | 189    | 12 10 | 12                      | 2 4   | 177                                 | 10 6  |
| Quambatook .. ..                     | 205                              | 18 5  | 43                          | 0 0   | 248    | 18 5  | 204                     | 0 4   | 44                                  | 18 1  |
| Queenscliff and Point Lonsdale .. .. | ..                               | ..    | 60                          | 17 0  | 60     | 17 0  | ..                      | ..    | 60                                  | 17 0  |
| Rainbow .. ..                        | ..                               | ..    | 48                          | 0 0   | 48     | 0 0   | ..                      | ..    | 48                                  | 0 0   |
| Rupanyup .. ..                       | 50                               | 16 11 | 57                          | 0 0   | 107    | 16 11 | ..                      | ..    | 107                                 | 16 11 |
| Sea Lake .. ..                       | 397                              | 4 11  | 75                          | 0 0   | 472    | 4 11  | ..                      | ..    | 472                                 | 4 11  |
| Somerville .. ..                     | ..                               | ..    | 59                          | 0 0   | 59     | 0 0   | ..                      | ..    | 59                                  | 0 0   |
| South Frankston .. ..                | 139                              | 9 8   | 312                         | 0 0   | 451    | 9 8   | ..                      | ..    | 451                                 | 9 8   |
| Speed .. ..                          | 100                              | 8 4   | ..                          | ..    | 100    | 8 4   | ..                      | ..    | 100                                 | 8 4   |
| Spring Vale .. ..                    | ..                               | ..    | 865                         | 0 0   | 865    | 0 0   | ..                      | ..    | 865                                 | 0 0   |
| Tempy .. ..                          | 82                               | 11 7  | ..                          | ..    | 82     | 11 7  | ..                      | ..    | 82                                  | 11 7  |
| Ultima .. ..                         | 76                               | 14 2  | ..                          | ..    | 76     | 14 2  | ..                      | ..    | 76                                  | 14 2  |
| Walpeup .. ..                        | ..                               | ..    | 13                          | 0 0   | 13     | 0 0   | ..                      | ..    | 13                                  | 0 0   |
| Watchem .. ..                        | 30                               | 13 9  | 20                          | 17 2  | 51     | 10 11 | ..                      | ..    | 51                                  | 10 11 |
| Werrimull .. ..                      | 61                               | 7 5   | ..                          | ..    | 61     | 7 5   | ..                      | ..    | 61                                  | 7 5   |
| Wonthaggi .. ..                      | 1,405                            | 12 8  | ..                          | ..    | 1,405  | 12 8  | 363                     | 17 4  | 1,041                               | 15 4  |
| Woorinen .. ..                       | 37                               | 18 11 | 16                          | 0 0   | 53     | 18 11 | ..                      | ..    | 53                                  | 18 11 |
| Wycheproof .. ..                     | 234                              | 12 2  | 140                         | 15 9  | 375    | 7 11  | ..                      | ..    | 375                                 | 7 11  |
| Yaapect .. ..                        | 72                               | 10 8  | ..                          | ..    | 72     | 10 8  | ..                      | ..    | 72                                  | 10 8  |
| Totals .. ..                         | 5,438                            | 18 10 | 6,365                       | 0 5   | 11,803 | 19 3  | 1,185                   | 5 0   | 10,618                              | 14 3  |
| GRAND TOTALS .. ..                   | 11,680                           | 4 7   | 10,414                      | 19 11 | 22,095 | 4 6   | 1,601                   | 18 8  | 20,493                              | 5 10  |

## RECONCILIATION OF WATER SUPPLY WORKS DEPRECIATION ACCOUNT WITH WATER SUPPLY WORKS DEPRECIATION FUND (ACT 3801) AS AMENDED BY ACT 4513.

| <i>Water Supply Works Depreciation Account.</i> |               |             | <i>Water Supply Works Depreciation Fund in Treasury Account.</i>                            |        |                    |
|---|---------------|-------------|---|--------|--------------------|
|   | £             | s. d.       |   | £      | s. d.              |
| Credit Balance as at 30th June, 1938            | 20,493        | 5 10        | Credit Balance as at 30th June, 1937 ..   | 11,680 | 4 7                |
|   |               |             | Less Expenditure 1937-38  | 1601   | 18 8               |
|   |               |             |   |        | 10,078 5 11        |
|   |               |             | Amount paid to credit of Fund in accordance with Act 4513 for 1937-38 financial year ..     | ..     | 4,000 0 0          |
|   |               |             | Balance—being additional amount paid to revenue and not yet credited to Fund by Treasury .. | ..     | 6,414 19 11        |
|   | <u>20,493</u> | <u>5 10</u> |   |        | <u>20,493 5 10</u> |

STATEMENT OF REVENUE SETTING OUT ARREARS AS AT 1st JULY, 1937, AND AS AT 30th JUNE, 1938, RESPECTIVELY.

|   | Total.<br>2 | General Rate. |                | Irrigation Charge. |                | Drainage Rate.<br>(First Rate made this Year.) |                | Flood Protection Charge. |                 | Sales of Water.<br>11 | Meter Rent.<br>12 | Miscellaneous.<br>13 |
|---|-------------|---------------|----------------|--------------------|----------------|--|----------------|--------------------------|-----------------|-----------------------|-------------------|----------------------|
|   |             | Rate.<br>3    | Interest.<br>4 | Charge.<br>5       | Interest.<br>6 | Rate.<br>7                                     | Interest.<br>8 | Charge.<br>9             | Interest.<br>10 |                       |                   |                      |
| Arrears at 1st July, 1937 ..  | £ 761,220   | £ 375,519     | £ 77,392       | £ 194,146          | £ 28,757       | £ ..   | £ ..           | £ 16,604                 | £ 3,751         | £ 59,817              | £ 715             | £ 4,519              |
| Assessment, 1937-38, plus additional water sales, meter rents, and interest charges to 30th June, 1938 .. | 631,728     | 255,388       | 21,825         | 183,231            | 11,988         | 7,714  | ..             | 8,276                    | 976             | 114,580               | 3,873             | 23,877               |
| Total amount due, 1937-38   | 1,392,948   | 630,907       | 99,217         | 377,377            | 40,745         | 7,714  | ..             | 24,880                   | 4,727           | 174,397               | 4,588             | 28,396               |
| Deduct revenue collected, 1937-38, after adjusting credits absorbed and amounts overpaid ..               | 559,300     | 255,413       | 5,234          | 172,343            | 3,486          | 984  | ..             | 7,385                    | 279             | 87,457                | 3,715             | 23,004               |
| Gross arrears at 30th June, 1938 ..   | 833,648     | 375,494       | 93,983         | 205,034            | 37,259         | 6,730  | ..             | 17,495                   | 4,448           | 86,940                | 873               | 5,392                |
| Deduct amounts written off, 1937-38 ..  | 46,295      | 25,156        | 8,747          | 7,410              | 1,649          | 1  | ..             | 1,191                    | 389             | 1,656                 | 41                | 55                   |
| Net arrears at 30th June, 1938 ..   | 787,353     | 350,338       | 85,236         | 197,624            | 35,610         | 6,729  | ..             | 16,304                   | 4,059           | 85,284                | 832               | 5,337                |

This Statement is subject to Audit and minor adjustments.



# LOAN CAPITAL LIABILITY.

## WORKS UNDER CONTROL OF COMMISSION.

The following statement gives a brief description, summary of Loan Liability for expenditure under Loan Application Acts, and other particulars relative to the undermentioned works.

| A.—FREE HEADWORKS.   |     | Expenditure. | Net Loan Capital Liability at 30th June, 1938. |       |
|--|-----|--------------|--|-------|
|  |     | £ s. d.      | £  | s. d. |
| <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  | ... | 14,852 15 0  |  |       |
| <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)   | ... | 739,525 8 1  |  |       |
| <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 | ... | 26,619 17 3  |  |       |
| <b>Kow Swamp Works.</b> —Intake from the Murray River with regulator, at the effluence of the Gumbower 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 11 9 |  |       |
| <b>Lake Lonsdale Reservoir.</b> —Reservoir at Lake Lonsdale, on the Little Wimmera River, near Ledcourt  | ... | 49,054 15 2  |  |       |
| <b>Loddon River Works.</b> —Launcecorrie Weir, on the Loddon; Bridgewater Weir, on the Loddon; Kinypanial Weir, on the Loddon  | ... | 172,351 14 3 |  |       |
| <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 16 5  |  |       |
| <b>Lower Wimmera Compensation Works.</b> —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 12 3   |  |       |
|  |     |              | 1,226,359                                      | 10 2  |
| B.—CAPITAL WORKS AND CHARGES NOT APPORTIONABLE TO DISTRICTS.   |     |              |  |       |
| <b>Geelong</b> (inclusive of Loan Flotation Expenses)  | ... | 160,588 0 5  |  |       |
| <b>Eppalock Reservoir</b>  | ... | 111,712 6 4  |  |       |
| <b>Goulburn Levees</b>   | ... | 30,797 0 4   |  |       |
| <b>Lang Lang River Works</b>   | ... | 48,543 8 9   |  |       |
| <b>Surveys and Preliminary Investigations</b>  | ... | 195,006 16 8 |  |       |
| <b>Loan Flotation Expenses</b>   | ... | 751,919 14 6 |  |       |
|  |     |              | 1,298,567                                      | 7 0   |



**LOAN CAPITAL LIABILITY—continued.**

**Net Loan Capital  
Liability at  
30th June, 1938.**

|            |    |    |
|------------|----|----|
| £          | s. | d. |
| 12,483,491 | 2  | 4  |

| Name of District.                         | Loan Liability<br>(including Treasurer's Advance, £690 10s. 5d.). |       |                     |       | Total.     | Allotted to District. | Capital Expenditure borne by the State Account. |                     |           |        |            |       |
|---|---|-------|---------------------|-------|------------|-----------------------|---|---------------------|-----------|--------|------------|-------|
|   | Headworks.  |       | Distributory Works. |       |            |                       | Headworks.                                      | Distributory Works. |           | Total. |            |       |
|   | £   | s. d. | £                   | s. d. |            |                       |   | £                   | s. d.     |        | £          | s. d. |
| D.—IRRIGATION AND WATER SUPPLY DISTRICTS. |   |       |                     |       |            |                       |   |                     |           |        |            |       |
| 1. Bacchus Marsh                          | 82,311  | 12 8  | 96,814              | 12 8  | 179,126    | 5 4                   | 96,852  | 5 4                 | 82,286    | 0 0    | 82,274     | 0 0   |
| 2. Boort                                  | 170,671   | 0 0   | 80,119              | 8 3   | 250,790    | 8 3                   | 14,675  | 12 1                | 170,342   | 0 0    | 236,114    | 16 2  |
| 3. Calivil                                | 81,834  | 0 0   | 112,215             | 18 0  | 194,049    | 18 0                  | 8,491   | 2 6                 | 81,676    | 0 0    | 185,558    | 15 6  |
| 4. Campaspe                               | 5,043   | 0 0   | 12,263              | 7 0   | 17,306     | 7 0                   | 10 0  | 0 0                 | 5,033     | 0 0    | 17,296     | 7 0   |
| 5. Coloma                                 | 407,563   | 0 0   | 290,123             | 17 4  | 697,686    | 17 4                  | 202,327   | 12 0                | 399,352   | 0 0    | 495,359    | 5 4   |
| 6. Deakin                                 | 37,300  | 0 0   | 58,899              | 16 3  | 96,199     | 16 3                  | 29,179  | 19 11               | 37,228    | 0 0    | 67,019     | 16 4  |
| 7. Dingo                                  | 58,409  | 0 0   | 15,531              | 7 5   | 73,940     | 7 5                   | 11,425  | 0 0                 | 58,297    | 0 0    | 62,515     | 7 5   |
| 8. Dry Lake                               | 1,875   | 0 0   | 719                 | 0 0   | 2,594      | 0 0                   | 757   | 0 0                 | 1,837     | 0 0    | 1,837      | 0 0   |
| 9. Echuca North                           | 73,026  | 0 0   | 24,423              | 13 11 | 97,449     | 13 11                 | 141   | 0 0                 | 72,885    | 0 0    | 97,308     | 13 11 |
| 10. Fish Point                            | 20,484  | 0 0   | 15,799              | 19 5  | 36,283     | 19 5                  | 413   | 0 0                 | 20,071    | 0 0    | 35,870     | 19 5  |
| 11. Katandra                              | 76,440  | 0 0   | 106,518             | 16 9  | 182,958    | 16 9                  | 14,077  | 2 6                 | 76,293    | 0 0    | 168,881    | 14 3  |
| 12. Kerang                                | 235,473   | 0 0   | 130,742             | 19 8  | 366,215    | 19 8                  | 67,271  | 14 10               | 230,729   | 0 0    | 298,944    | 4 10  |
| 13. Koondrook                             | 233,902   | 0 0   | 218,093             | 14 0  | 451,995    | 14 0                  | 91,426  | 3 8                 | 229,190   | 0 0    | 360,569    | 10 4  |
| 14. Leitchville                           | 64,743  | 8 1   | 42,815              | 6 2   | 107,558    | 14 3                  | 32,210  | 1 6                 | 63,439    | 8 1    | 75,348     | 12 9  |
| 15. Maffra-Sale                           | 678,353   | 4 5   | 577,189             | 5 11  | 1,255,542  | 10 4                  | 95,573  | 15 4                | 678,318   | 4 3    | 1,159,968  | 15 0  |
| 16. Merbein                               | 184,733   | 0 0   | 250,594             | 13 8  | 435,327    | 13 8                  | 55,886  | 16 0                | 181,011   | 0 0    | 379,440    | 17 8  |
| 17. Mystic Park                           | 37,199  | 0 0   | 17,384              | 9 4   | 54,583     | 9 4                   | 7,490   | 3 0                 | 36,450    | 0 0    | 47,093     | 6 4   |
| 18. North Shepparton                      | 157,507   | 0 0   | 195,877             | 18 11 | 353,384    | 18 11                 | 68,344  | 6 8                 | 157,204   | 0 0    | 285,040    | 12 3  |
| 19. Nyah                                  | 70,641  | 0 0   | 111,405             | 13 8  | 182,046    | 13 8                  | 5,851   | 4 1                 | 69,218    | 0 0    | 176,195    | 9 7   |
| 20. Red Cliffs                            | 267,202   | 0 0   | 777,289             | 17 3  | 1,044,491  | 17 3                  | 51,098  | 5 6                 | 261,819   | 0 0    | 993,393    | 11 9  |
| 21. Rochester                             | 813,742   | 0 0   | 332,878             | 1 1   | 1,146,620  | 1 1                   | 195,911   | 19 11               | 812,175   | 0 0    | 950,708    | 1 2   |
| 22. Rodney                                | 909,989   | 0 0   | 576,279             | 17 2  | 1,486,268  | 17 2                  | 157,542   | 11 9                | 908,236   | 0 0    | 1,328,726  | 5 5   |
| 23. Shepparton                            | 288,069   | 0 0   | 196,459             | 16 1  | 484,528    | 16 1                  | 71,214  | 8 1                 | 287,514   | 0 0    | 413,314    | 8 0   |
| 24. South Shepparton                      | 59,067  | 19 10 | 59,641              | 4 9   | 118,709    | 4 7                   | 17,783  | 19 3                | 58,954    | 15 5   | 100,925    | 5 4   |
| 25. Stanhope                              | 239,218   | 0 0   | 120,028             | 12 4  | 359,246    | 12 4                  | 54,705  | 13 6                | 238,757   | 0 0    | 304,540    | 18 10 |
| 26. Swan Hill                             | 276,907   | 0 0   | 187,414             | 19 2  | 464,321    | 19 2                  | 74,159  | 0 4                 | 271,328   | 0 0    | 390,162    | 18 10 |
| 27. Third Lake                            | 24,194  | 0 0   | 25,224              | 8 10  | 49,418     | 8 10                  | 5,157   | 0 0                 | 23,707    | 0 0    | 44,261     | 8 10  |
| 28. Tongala                               | 367,184   | 0 0   | 159,427             | 15 6  | 526,611    | 15 6                  | 91,192  | 13 5                | 366,477   | 0 0    | 435,419    | 2 1   |
| 29. Tragowel Plains                       | 508,745   | 0 0   | 260,400             | 10 5  | 769,145    | 10 5                  | 117,830   | 0 0                 | 507,765   | 0 0    | 651,315    | 10 5  |
| 30. Tresco                                | 24,499  | 0 0   | 91,049              | 1 11  | 115,548    | 1 11                  | 494   | 0 0                 | 24,005    | 0 0    | 115,054    | 1 11  |
| 31. Werribee                              | 179,960   | 7 4   | 119,275             | 3 2   | 299,235    | 10 6                  | 119,336   | 1 6                 | 179,899   | 9 0    | 179,899    | 9 0   |
| 32. Murray Valley                         | 6,636,285   | 12 4  | 5,262,903           | 6 0   | 11,899,188 | 18 4                  | 1,758,829                                       | 12 8                | 6,591,496 | 16 9   | 10,140,359 | 5 8   |
| Totals                                    | 846,749   | 4 6   | 141,292             | 17 8  | 988,042    | 2 2                   | 40,591  | 7 5                 | 829,691   | 4 6    | 947,450    | 14 9  |
| Less Treasurer's Advance                  | 7,483,034   | 16 10 | 5,404,196           | 3 8   | 12,887,231 | 0 6                   | 1,799,421                                       | 0 1                 | 7,421,188 | 1 3    | 11,087,810 | 0 5   |
| Loan Liability                            | ..  | ..    | 5,403,606           | 15 4  | 12,886,641 | 12 2                  | 1,798,831                                       | 11 9                | ..        | ..     | 5,403,606  | 15 4  |

5,403,606 15 4

E.—URBAN DIVISIONS OF IRRIGATION AND WATER SUPPLY DISTRICTS.

|                           |        |    |    |        |    |    |        |    |    |    |        |    |    |        |    |    |
|---------------------------|--------|----|----|--------|----|----|--------|----|----|----|--------|----|----|--------|----|----|
| 1. Bacchus Marsh ..       | 14,094 | 4  | 5  | 14,094 | 4  | 5  | 10,965 | 0  | 0  | .. | 3,129  | 4  | 5  | 3,129  | 4  | 5  |
| 2. Colthuna ..            | 8,818  | 1  | 1  | 8,818  | 1  | 1  | 8,818  | 1  | 1  | .. | ..     | .. | .. | ..     | .. | .. |
| 3. Corop ..               | 231    | 15 | 6  | 231    | 15 | 6  | ..     | .. | .. | .. | 231    | 15 | 6  | 231    | 15 | 6  |
| 4. Dingee ..              | 1,452  | 4  | 5  | 1,452  | 4  | 5  | ..     | .. | .. | .. | 1,452  | 4  | 5  | 1,452  | 4  | 5  |
| 5. Heyfield ..            | 12,244 | 18 | 4  | 12,244 | 18 | 4  | ..     | .. | .. | .. | 12,244 | 18 | 4  | 12,244 | 18 | 4  |
| 6. Leitchville ..         | 3,922  | 1  | 5  | 3,922  | 1  | 5  | 1,767  | 0  | 0  | .. | 2,155  | 1  | 5  | 2,155  | 1  | 5  |
| 7. Lockington ..          | 2,286  | 16 | 1  | 2,286  | 16 | 1  | 2,286  | 16 | 1  | .. | ..     | .. | .. | 1,024  | 19 | 11 |
| 8. Murrabit ..            | 1,024  | 19 | 11 | 1,024  | 19 | 11 | ..     | .. | .. | .. | 3,372  | 15 | 10 | 3,372  | 15 | 10 |
| 9. Red Cliffs ..          | 16,683 | 8  | 4  | 16,683 | 8  | 4  | 1,443  | 3  | 0  | .. | ..     | .. | .. | ..     | .. | .. |
| 10. Stanhope ..           | 1,443  | 3  | 0  | 1,443  | 3  | 0  | ..     | .. | .. | .. | ..     | .. | .. | ..     | .. | .. |
| Totals, Loan Liability .. | 62,201 | 12 | 6  | 62,201 | 12 | 6  | 38,590 | 12 | 8  | .. | 23,610 | 19 | 10 | 23,610 | 19 | 10 |

62,201 12 6

F.—WATERWORKS DISTRICTS.

|                                |           |    |           |           |    |           |           |    |         |         |    |         |           |    |    |           |    |    |
|--------------------------------|-----------|----|-----------|-----------|----|-----------|-----------|----|---------|---------|----|---------|-----------|----|----|-----------|----|----|
| 1. Axe Creek ..                | ..        | .. | 4,894     | 0         | 0  | 4,894     | 0         | 0  | 3,129   | 0       | 0  | ..      | 1,765     | 0  | 0  | 1,765     | 0  | 0  |
| 2. Bellarine Peninsula ..      | 279,986   | 5  | 2         | ..        | .. | 279,986   | 5         | 2  | 88,670  | 15      | 9  | 191,315 | 9         | 5  | .. | 191,315   | 9  | 5  |
| 3. Birchip ..                  | 36,387    | 10 | 2         | 102,989   | 6  | 10        | 139,376   | 17 | 0       | 25,671  | 0  | 0       | 36,157    | 10 | 2  | 77,548    | 6  | 10 |
| 4. Carwarp ..                  | ..        | .. | 40,996    | 10        | 6  | 40,996    | 10        | 6  | ..      | ..      | .. | ..      | 40,996    | 10 | 6  | 40,996    | 10 | 6  |
| 5. Carwarp Central ..          | ..        | .. | 2,353     | 10        | 2  | 2,353     | 10        | 2  | ..      | ..      | .. | ..      | 2,353     | 10 | 2  | 2,353     | 10 | 2  |
| 6. Coreena ..                  | ..        | .. | 45,916    | 11        | 10 | 45,916    | 11        | 10 | ..      | ..      | .. | ..      | 45,916    | 11 | 10 | 45,916    | 11 | 10 |
| 7. Harecourt ..                | ..        | .. | 17,223    | 0         | 0  | 17,223    | 0         | 0  | 15,529  | 0       | 0  | ..      | 1,694     | 0  | 0  | 1,694     | 0  | 0  |
| 8. Hindmarsh ..                | 3,928     | 10 | 8         | 15,491    | 16 | 1         | 19,420    | 6  | 9       | 5,894   | 0  | 0       | 3,903     | 10 | 8  | 13,526    | 6  | 9  |
| 9. Karkaroc ..                 | 91,048    | 0  | 0         | 219,651   | 3  | 3         | 310,699   | 3  | 3       | 688     | 3  | 4       | 90,473    | 0  | 0  | 219,537   | 19 | 11 |
| 10. Kerang North-West Lakes .. | ..        | .. | 2,416     | 9         | 5  | 2,416     | 9         | 5  | 233     | 15      | 9  | ..      | 2,182     | 13 | 8  | 2,182     | 13 | 8  |
| 11. Long Lake ..               | 60,405    | 0  | 0         | 106,515   | 13 | 11        | 166,920   | 13 | 11      | 8,623   | 13 | 3       | 60,023    | 0  | 0  | 98,274    | 0  | 8  |
| 12. Milleva ..                 | 98,512    | 0  | 0         | 380,272   | 6  | 1         | 478,784   | 6  | 1       | 1,984   | 0  | 0       | 96,528    | 0  | 0  | 380,272   | 6  | 1  |
| 13. Milleva Central ..         | 34,684    | 0  | 0         | 133,892   | 0  | 0         | 168,576   | 0  | 0       | 699     | 0  | 0       | 33,985    | 0  | 0  | 133,892   | 0  | 0  |
| 14. Mornington Peninsula ..    | 270,866   | 8  | 7         | ..        | .. | 270,866   | 8         | 7  | 92,680  | 18      | 1  | 178,185 | 10        | 6  | .. | 178,185   | 10 | 6  |
| 15. Narre Warren ..            | 2,733     | 9  | 11        | 10,280    | 10 | 3         | 13,014    | 0  | 2       | 13      | 15 | 11      | 2,719     | 14 | 0  | 10,280    | 10 | 3  |
| 16. Newstead ..                | ..        | .. | 4,636     | 6         | 10 | 4,636     | 6         | 10 | ..      | ..      | .. | ..      | 4,636     | 6  | 10 | 4,636     | 6  | 10 |
| 17. Sea Lake ..                | 44,279    | 0  | 0         | 144,009   | 9  | 1         | 188,288   | 9  | 1       | 286     | 0  | 0       | 43,999    | 0  | 0  | 144,003   | 9  | 1  |
| 18. Tyntvnder ..               | 112,148   | 0  | 0         | 257,798   | 7  | 4         | 369,946   | 7  | 4       | 726     | 12 | 10      | 111,440   | 0  | 0  | 257,779   | 14 | 6  |
| 19. Tyrell ..                  | 80,409    | 0  | 0         | 166,047   | 14 | 6         | 246,456   | 14 | 6       | 508     | 12 | 6       | 79,901    | 0  | 0  | 166,047   | 2  | 0  |
| 20. Tyrell West ..             | 141,257   | 0  | 0         | 279,613   | 13 | 5         | 420,870   | 13 | 5       | 894     | 16 | 11      | 140,365   | 0  | 0  | 279,610   | 16 | 6  |
| 21. Upper Western Wimmera ..   | 26,712    | 5  | 9         | 57,694    | 5  | 4         | 84,406    | 11 | 1       | 126     | 9  | 7       | 26,543    | 5  | 9  | 57,736    | 15 | 9  |
| 22. Upper Wimmera United ..    | 41,991    | 0  | 0         | 75,912    | 6  | 2         | 117,903   | 6  | 2       | 63,881  | 12 | 0       | 41,726    | 0  | 0  | 12,295    | 14 | 2  |
| 23. Walpeup West ..            | ..        | .. | 36,244    | 12        | 2  | 36,244    | 12        | 2  | ..      | ..      | .. | ..      | 36,244    | 12 | 2  | 36,244    | 12 | 2  |
| 24. Werribee ..                | ..        | .. | 11,581    | 18        | 10 | 11,581    | 18        | 10 | 5,468   | 0       | 0  | ..      | 6,113     | 18 | 10 | 6,113     | 18 | 10 |
| 25. Western Wimmera ..         | 110,104   | 6  | 9         | 233,524   | 15 | 7         | 343,629   | 2  | 4       | 155,174 | 0  | 1       | 109,408   | 6  | 9  | 79,046    | 15 | 6  |
| 26. Wimmera United ..          | 92,561    | 2  | 8         | 177,393   | 16 | 4         | 269,954   | 19 | 0       | 262,165 | 13 | 8       | 7,834     | 10 | 4  | Cr. 45    | 5  | 0  |
| 27. Wycheproof ..              | 60,368    | 9  | 8         | 167,656   | 4  | 5         | 228,024   | 14 | 1       | 78,618  | 14 | 2       | 59,986    | 18 | 0  | 89,419    | 1  | 11 |
| 28. Yelta ..                   | ..        | .. | 6,143     | 15        | 10 | 6,143     | 15        | 10 | ..      | ..      | .. | ..      | 6,143     | 15 | 10 | 6,143     | 15 | 10 |
| <i>Under Construction.</i>     |           |    |           |           |    |           |           |    |         |         |    |         |           |    |    |           |    |    |
| 29. Otway ..                   | 158,831   | 9  | 4         | 2,701,150 | 4  | 2         | 4,289,531 | 13 | 6       | 811,667 | 13 | 10      | 1,314,494 | 15 | 7  | 2,163,369 | 4  | 1  |
| 30. Normanville ..             | 161,086   | 11 | 5         | ..        | .. | ..        | 161,086   | 11 | 5       | 32,485  | 19 | 6       | 128,600   | 11 | 11 | ..        | .. | .. |
| Totals ..                      | 1,749,468 | 0  | 9         | 2,703,876 | 0  | 5         | 4,453,344 | 1  | 2       | 846,074 | 18 | 3       | 1,443,095 | 7  | 6  | 2,164,173 | 15 | 5  |
| Less Treasurer's Advance ..    | ..        | .. | 101       | 11        | 1  | 101       | 11        | 1  | 101     | 11      | 1  | ..      | ..        | .. | .. | ..        | .. | .. |
| Loan Liability ..              | ..        | .. | 2,703,774 | 9         | 4  | 4,453,242 | 10        | 1  | 845,973 | 7       | 2  | ..      | ..        | .. | .. | ..        | .. | .. |

2,703,774 9 4

20,653,073 19 6

LOAN CAPITAL LIABILITY—continued.

Net Loan Capital Liability at 30th June, 1938.

£ s. d.  
20,653,073 19 6

| Name of District.                           | Loan Liability |       |                     |       | Allotted to District. |         | Capital Expenditure Borne by the State Account. |        |                     |         |        |   | Brought forward .. |       |
|---|----------------|-------|---------------------|-------|-----------------------|---------|---|--------|---------------------|---------|--------|---|--------------------|-------|
|   | Headworks.     |       | Distributary Works. |       |                       |         | Headworks.                                      |        | Distributary Works. |         | Total. |   |                    |       |
|   | £              | s. d. | £                   | s. d. | £                     | s. d.   | £   | s. d.  | £                   | s. d.   |        | £ |                    | s. d. |
| G.—URBAN DISTRICTS OF WATERWORKS DISTRICTS. |                |       |                     |       |                       |         |   |        |                     |         |        |   |                    |       |
| 1. Anglesea ..                              | 8,455          | 8 2   | 9,654               | 11 5  | 26 6 7                | 8,434   | 2 2   | 9,649  | 10 10               | 18,083  | 13 0   |   |                    |       |
| 2. Antwerp ..                               | ..             | ..    | 711                 | 7 7   | 711 7 7               | ..      | ..  | ..     | ..                  | ..      | ..     |   |                    |       |
| 3. Barwon Heads and Ocean Grove ..          | 31,459         | 6 6   | 7,010               | 17 5  | 15,763 19 3           | 22,706  | 4 8   | ..     | ..                  | 22,706  | 4 8    |   |                    |       |
| 4. Berrivilloek ..                          | ..             | ..    | 5,205               | 19 6  | 1,953 0 0             | ..      | ..  | 3,252  | 19 6                | 3,252   | 19 6   |   |                    |       |
| 5. Berwick ..                               | 13,803         | 1 8   | 8,639               | 19 3  | 2,013 14 0            | 13,778  | 18 3  | 6,650  | 8 8                 | 20,429  | 6 11   |   |                    |       |
| 6. Beulah ..                                | ..             | ..    | 7,578               | 4 5   | ..                    | ..      | ..  | 7,578  | 4 5                 | 7,578   | 4 5    |   |                    |       |
| 7. Birchip ..                               | ..             | ..    | 12,498              | 1 9   | 1,671 0 0             | ..      | ..  | 10,827 | 1 9                 | 10,827  | 1 9    |   |                    |       |
| 8. Bittern ..                               | 1,680          | 1 8   | 1,207               | 0 0   | 3 8 8                 | 1,676   | 13 0  | 1,207  | 0 0                 | 2,883   | 13 0   |   |                    |       |
| 9. Brim ..                                  | ..             | ..    | 3,513               | 2 11  | 3,027 0 0             | ..      | ..  | 486    | 2 11                | 486     | 2 11   |   |                    |       |
| 10. Bunyip ..                               | 5,409          | 12 6  | 5,719               | 11 6  | 16 7 6                | 5,393   | 5 0   | 5,719  | 11 6                | 11,112  | 16 6   |   |                    |       |
| 11. Carrum ..                               | 171,516        | 5 4   | 42,881              | 0 8   | 41,293 12 10          | 171,280 | 6 0   | 1,823  | 7 2                 | 173,103 | 13 2   |   |                    |       |
| 12. Carwarp ..                              | ..             | ..    | 641                 | 8 6   | ..                    | ..      | ..  | 641    | 8 6                 | 641     | 8 6    |   |                    |       |
| 13. Chillingollah ..                        | ..             | ..    | 2,482               | 3 1   | 1,529 0 0             | ..      | ..  | 953    | 3 1                 | 953     | 3 1    |   |                    |       |
| 14. Chinkapook ..                           | ..             | ..    | 2,551               | 11 7  | 588 0 0               | ..      | ..  | 1,963  | 11 7                | 1,963   | 11 7   |   |                    |       |

[illegible]

Net Loan Capital  
Liability at  
30th June, 1938.

£ s. d.  
23,223,093 4 2

| LOAN CAPITAL LIABILITY—continued.  |    | Brought forward .. |       |
|--|----|--------------------|-------|
| WORKS UNDER GENERAL SUPERVISION OF COMMISSION.   |    |                    |       |
| I.—WATERWORKS TRUSTS AND LOCAL GOVERNING BODIES.   |    |                    |       |
|  |    | £                  | s. d. |
| Waterworks Trusts and First Mildura Irrigation Trust ..                                    | .. | 1,345,995          | 12 7  |
| Local Governing Bodies for Construction of Mallee Tanks ..                                 | .. | 930                | 18 1  |
| Local Governing Bodies for Construction of Other Waterworks ..                             | .. | 550,316            | 12 5  |
| Total Loan Liability on which Interest is payable by Trusts and Local Bodies ..            | .. | 1,897,243          | 3 1   |
| Amounts Written-off—Acts Nos. 1625, 1651, 2016, 4002, 4175, 4176 —                         |    |                    |       |
| Trusts prior to absorption in Commission Irrigation Districts ..                           | .. | 575,152            | 0 0   |
| Trusts prior to absorption in Commission Waterworks Districts ..                           | .. | 175,055            | 0 0   |
| Existing Trusts including First Mildura Irrigation Trust ..                                | .. | 111,489            | 15 11 |
| Waterworks Trusts Abolished and Advances Completed ..                                      | .. | 73,438             | 16 2  |
| Existing Local Governing Bodies ..   | .. | 164,884            | 16 0  |
| Local Governing Bodies Advances Completed ..   | .. | 985                | 2 8   |
| Total Amount Written-off ..  | .. | 1,101,005          | 10 9  |
| Free Grants to Local Authorities ..  | .. | 142,356            | 4 11  |
| Grand Total Net Loan Capital Liability (Exclusive of equity in National Debt Sinking Fund) | .. | 3,140,604          | 18 9  |
|  |    | 26,363,698         | 2 11  |



# SUMMARY STATEMENT OF LOAN LIABILITY AS AT 30th JUNE, 1938.

| Reference to<br>Preceding<br>Statements. | Works.  | Total Loan Capital<br>Expenditure. |    |    | Deduct Redemption Paid. |    |    | Net Loan Capital<br>Liability. |          |          | At Debit of Authorities<br>and Allotted to Districts. |    |    | Capital Expenditure,<br>Borne by the State. |    |    |
|--|---|------------------------------------|----|----|-------------------------|----|----|--------------------------------|----------|----------|---|----|----|---|----|----|
|  |   | £                                  | s. | d. | £                       | s. | d. | £                              | s.       | d.       | £   | s. | d. | £   | s. | d. |
| A  | Free Headworks .. .. .  | 1,226,809                          | 10 | 2  | 450                     | 0  | 0  | 1,226,359                      | 10       | 2        | ..  | .. | .. | 1,226,359                                   | 10 | 2  |
| B  | Capital Works and Charges not Apportionable to Districts .. .. .              | 1,618,515                          | 10 | 5  | 319,948                 | 3  | 5  | 1,298,567                      | 7        | 0        | ..  | .. | .. | 1,298,567                                   | 7  | 0  |
| C  | Headworks Costs Apportioned to Districts .. .. .                              | 10,008,780                         | 18 | 7  | 50,216                  | 13 | 5  | 9,958,564                      | 5        | 2        | 529,534   | 16 | 1  | 9,429,029                                   | 9  | 1  |
| D  | Irrigation and Water Supply Districts, exclusive of Headworks Costs .. .. .   | 5,456,569                          | 6  | 0  | 52,962                  | 10 | 8  | 5,403,606                      | 15       | 4        | 1,736,984   | 16 | 2  | 3,666,621                                   | 19 | 2  |
| E  | Urban Divisions of Irrigation Districts .. .. .                               | 62,996                             | 0  | 0  | 794                     | 7  | 6  | 62,201                         | 12       | 6        | 38,590  | 12 | 8  | 23,610                                      | 19 | 10 |
| F  | Waterworks Districts, exclusive of Headworks Costs .. .. .                    | 2,742,126                          | 11 | 8  | 38,352                  | 2  | 4  | 2,703,774                      | 9        | 4        | 539,600   | 13 | 11 | 2,164,173                                   | 15 | 5  |
| G  | Urban Districts of Waterworks Districts, exclusive of Headworks Costs .. .. . | 2,222,144                          | 17 | 1  | 16,387                  | 18 | 2  | 2,205,756                      | 18       | 11       | 744,107   | 5  | 6  | 1,461,649                                   | 13 | 5  |
| H  | Flood Protection Districts .. .. .  | 369,122                            | 6  | 1  | 4,860                   | 0  | 4  | 364,262                        | 5        | 9        | 12,790  | 18 | 11 | 351,471                                     | 6  | 10 |
| I  | Waterworks Trusts and Local Governing Bodies .. .. .                          | 3,745,105                          | 14 | 0  | 604,500                 | 15 | 3  | 3,140,604                      | 18       | 9        | 1,897,243   | 3  | 1  | 1,243,361                                   | 15 | 8  |
|  |   | 27,452,170                         | 14 | 0  | 1,088,472               | 11 | 1  | 26,363,698                     | 2        | 11       | 5,498,852   | 6  | 4  | 20,864,845                                  | 16 | 7  |
|  |   |                                    |    |    |                         |    |    |                                |          |          |   |    |    |   |    |    |
|  | Deduct National Debt Sinking Fund .. .. .                                     | ..                                 | .. | .. | 1,289,526               | 11 | 5  |                                |          |          |   |    |    |   |    |    |
|  | Less Redemption credited to Revenue .. .. .                                   | ..                                 | .. | .. | 196,142                 | 13 | 3  |                                |          |          |   |    |    |   |    |    |
|  |   |                                    |    |    |                         |    |    | 1,093,383                      | 18       | 2        |   |    |    |   |    |    |
|  | <b>Net Loan Liability of State for Works of Water Supply</b> .. .. .          | ..                                 | .. | .. | ..                      | .. | .. | <b>25,270,314</b>              | <b>4</b> | <b>9</b> |   |    |    |   |    |    |

## ESTIMATES 1938-39.

**PROPOSED DISBURSEMENTS.**

|  | Estimated<br>Requirements | Amount<br>provided<br>in Budget. |
|--|---------------------------|----------------------------------|
|  | £                         | £                                |
| Coliban Works .. .. .                            | 20,854                    | 18,023                           |
| Free Headworks .. .. .                           | 6,526                     | 4,791                            |
| Irrigation Districts .. .. .                     | 182,780                   | 114,817                          |
| Waterworks Districts .. .. .                     | 173,023                   | 124,794                          |
| Flood Protection Districts .. .. .               | 9,416                     | 4,253                            |
| Drainage Districts .. .. .                       | 13,000                    | 12,040                           |
| Administration* .. .. .                          | 38,309                    | 35,859                           |
| General Expenditure* .. .. .                     | 27,502                    | 30,549                           |
| Rivers and Reclamation .. .. .                   | 5,444                     | 5,444                            |
| River Murray Works—Contribution by State .. .. . | 7,550                     | 7,550                            |
|  | <hr/> 484,404             | <hr/> 358,120                    |

\* To be apportioned over the above Districts.

**ESTIMATED RECEIPTS.**

|  | £              |
|--|----------------|
| Coliban Works .. .. .  | 42,000         |
| Waterworks Districts .. .. .   | 197,000        |
| Irrigation Districts .. .. .   | 265,000        |
| Flood Protection and Drainage Districts .. .. .  | 19,000         |
| Other .. .. .  | 15,000         |
|  | <hr/> 538,000  |
| Estimated amount available to meet Interest .. .. .  | 179,880        |
| Add estimated Revenues from Other Authorities—   |                |
| Waterworks Trusts .. .. .  | 57,300         |
| Local Bodies .. .. .   | 23,000         |
|  | <hr/> 80,300   |
| Total Estimated amount available from Revenues of all Authorities to meet Interest .. .. . | <hr/> £260,180 |

Dated at the Office of the State Rivers and Water Supply Commission, Treasury Gardens, Melbourne, the 5th day of December, 1938.

L. R. EAST, Chairman.

H. HANSLOW, Commissioner.

P. J. O'MALLEY, Acting Commissioner.

P. J. DESCRIMES, Acting Secretary.

*Note.*—Mr. W. A. Robertson, M.C.E., M.Inst.C.E., M.I.E.Aust., Commissioner, left Victoria on 31st August, 1938, for America and Great Britain to investigate overseas developments in dam design and construction and in irrigation practice, and Mr. P. J. O'Malley, Secretary of the Commission, was appointed as Acting Commissioner from 6th September, 1938.

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APPENDIX A(1).

[Extract from the *Victoria Government Gazette*, No. 165, dated 3rd August, 1938.]

Water Acts.

STATE RIVERS AND WATER SUPPLY COMMISSION.

*At Government House, Melbourne, the 30th day of July, 1938.*

PRESENT :

His Excellency the Lieutenant-Governor of Victoria.

Mr. Old | Mr. Mackrell.

WHEREAS by Section 4 of the *Water Act* 1937 (No. 4513) it is provided that within six months after the commencement of the said Act the Governor in Council after consultation by the Minister with the Commission may by Order adjust the outstanding liability as on the thirty-first day of December, One thousand nine hundred and thirty-seven, for the cost of works (excluding free headworks) under the jurisdiction and control of the Commission serving each Irrigation and Water Supply District and each Urban Division thereof, each Waterworks District and each Urban District thereof, each Flood Protection District, and each Drainage District by allocating to each such District and Division the liability for such amount of the cost of such works serving such District or Division as he thinks fit and by allotting to the State the liability for the remainder of the cost thereof: Now therefore His Excellency the Lieutenant-Governor of the State of Victoria, acting by and with the advice of the Executive Council thereof and in pursuance of the provisions of the said section, doth hereby allot as at 31st December, 1937, to each of the under-mentioned Districts, a liability of the amount set out in the statement hereunder and doth allot to the State the balance of the liability in respect of each of the said Districts as is set out in the said statement and doth hereby direct that each such balance of liability be transferred to an account in the books of the Commission to be called the "Capital Expenditure Borne by the State Account".

| Name of Disarict.                      | Total Liability for Cost of Works. |       |                     |       |            |       | Amount of Liability Allotted to District. | Amount of Liability Allotted to State and to be Transferred to the Capital Expenditure Borne by the State Account. |           |                     |           |        |            |       |
|--|------------------------------------|-------|---------------------|-------|------------|-------|---|--|-----------|---------------------|-----------|--------|------------|-------|
|  | Headworks.                         |       | Distributory Works. |       | Total.     |       |   | Headworks.   |           | Distributory Works. |           | Total. |            |       |
|  | £                                  | s. d. | £                   | s. d. | £          | s. d. |   | £  | s. d.     | £                   | s. d.     | £      | s. d.      |       |
| IRRIGATION AND WATER SUPPLY DISTRICTS. |                                    |       |                     |       |            |       |   |  |           |                     |           |        |            |       |
| 1. Bacchus Marsh                       | 82,290                             | 0 0   | 96,744              | 12 11 | 179,034    | 12 11 | 96,744                                    | 12 11  | 82,290    | 0 0                 | ..        | ..     | 82,290     | 0 0   |
| 2. Boort ..                            | 170,522                            | 0 0   | 80,148              | 16 2  | 250,670    | 16 2  | 14,376                                    | 0 0  | 170,522   | 0 0                 | 65,772    | 16 2   | 236,294    | 16 2  |
| 3. Calivil ..                          | 81,762                             | 0 0   | 112,235             | 15 6  | 193,997    | 15 6  | 8,353                                     | 0 0  | 81,762    | 0 0                 | 103,882   | 15 6   | 185,644    | 15 6  |
| 4. Campaspe ..                         | 5,038                              | 0 0   | 12,263              | 7 0   | 17,301     | 7 0   | ..  | ..   | 5,038     | 0 0                 | 12,263    | 7 0    | 17,301     | 7 0   |
| 5. Cohuna ..                           | 399,372                            | 0 0   | 290,195             | 5 4   | 689,567    | 5 4   | 194,188                                   | 0 0  | 399,372   | 0 0                 | 96,007    | 5 4    | 495,379    | 5 4   |
| 6. Deakin ..                           | 37,267                             | 0 0   | 58,850              | 16 4  | 96,117     | 16 4  | 29,059                                    | 0 0  | 37,267    | 0 0                 | 29,791    | 16 4   | 67,058     | 16 4  |
| 7. Dingee ..                           | 58,359                             | 0 0   | 15,559              | 7 5   | 73,918     | 7 5   | 11,341                                    | 0 0  | 58,359    | 0 0                 | 4,218     | 7 5    | 62,577     | 7 5   |
| 8. Dry Lake ..                         | 1,837                              | 0 0   | 719                 | 0 0   | 2,556      | 0 0   | 719                                       | 0 0  | 1,837     | 0 0                 | ..        | ..     | 1,837      | 0 0   |
| 9. Echuca North ..                     | 72,962                             | 0 0   | 24,423              | 13 11 | 97,385     | 13 11 | ..  | ..   | 72,962    | 0 0                 | 24,423    | 13 11  | 97,385     | 13 11 |
| 10. Fish Point ..                      | 20,072                             | 0 0   | 15,799              | 19 5  | 35,871     | 19 5  | ..  | ..   | 20,072    | 0 0                 | 15,799    | 19 5   | 35,871     | 19 5  |
| 11. Katandra ..                        | 76,374                             | 0 0   | 106,517             | 14 3  | 182,891    | 14 3  | 13,929                                    | 0 0  | 76,374    | 0 0                 | 92,588    | 14 3   | 168,962    | 14 3  |
| 12. Kerang ..                          | 230,741                            | 0 0   | 130,286             | 4 10  | 361,027    | 4 10  | 62,071                                    | 0 0  | 230,741   | 0 0                 | 68,215    | 4 10   | 298,956    | 4 10  |
| 13. Koondrook ..                       | 229,202                            | 0 0   | 218,296             | 5 8   | 447,498    | 5 8   | 86,706                                    | 0 0  | 229,202   | 0 0                 | 131,590   | 5 8    | 360,792    | 5 8   |
| 14. Leitchville ..                     | 63,442                             | 8 1   | 42,874              | 4 8   | 106,316    | 12 9  | 30,965                                    | 0 0  | 63,442    | 8 1                 | 11,909    | 4 8    | 75,351     | 12 9  |
| 15. Maffra-Sale ..                     | 678,431                            | 5 11  | 576,662             | 10 9  | 1,255,093  | 16 8  | 95,012                                    | 0 0  | 678,431   | 5 11                | 481,650   | 10 9   | 1,160,081  | 16 8  |
| 16. Merbein ..                         | 181,020                            | 0 0   | 249,253             | 17 8  | 430,273    | 17 8  | 50,824                                    | 0 0  | 181,020   | 0 0                 | 198,429   | 17 8   | 379,449    | 17 8  |
| 17. Mystic Park ..                     | 36,452                             | 0 0   | 17,396              | 6 4   | 53,848     | 6 4   | 6,753                                     | 0 0  | 36,452    | 0 0                 | 10,643    | 6 4    | 47,095     | 6 4   |
| 18. North Shepparton ..                | 157,370                            | 0 0   | 195,415             | 12 3  | 352,785    | 12 3  | 67,529                                    | 0 0  | 157,370   | 0 0                 | 127,886   | 12 3   | 285,256    | 12 3  |
| 19. Nyah ..                            | 69,222                             | 0 0   | 111,283             | 9 7   | 180,505    | 9 7   | 4,306                                     | 0 0  | 69,222    | 0 0                 | 106,977   | 9 7    | 176,199    | 9 7   |
| 20. Red Cliffs ..                      | 261,832                            | 0 0   | 776,711             | 17 7  | 1,038,543  | 17 7  | 45,129                                    | 0 0  | 261,832   | 0 0                 | 731,582   | 17 7   | 993,414    | 17 7  |
| 21. Rochester ..                       | 813,034                            | 0 0   | 333,051             | 1 2   | 1,146,085  | 1 2   | 194,518                                   | 0 0  | 813,034   | 0 0                 | 138,533   | 1 2    | 951,567    | 1 2   |
| 22. Rodney ..                          | 909,197                            | 0 0   | 575,765             | 12 5  | 1,484,962  | 12 5  | 155,271                                   | 0 0  | 909,197   | 0 0                 | 420,494   | 12 5   | 1,329,691  | 12 5  |
| 23. Shepparton ..                      | 287,818                            | 0 0   | 196,105             | 7 9   | 483,923    | 7 9   | 70,188                                    | 0 0  | 287,818   | 0 0                 | 125,917   | 7 9    | 413,735    | 7 9   |
| 24. South Shepparton ..                | 59,017                             | 6 6   | 59,664              | 9 11  | 118,681    | 16 5  | 17,694                                    | 0 0  | 59,017    | 6 6                 | 41,970    | 9 11   | 100,987    | 16 5  |
| 25. Stanhope ..                        | 239,010                            | 0 0   | 119,971             | 18 10 | 358,981    | 18 10 | 54,188                                    | 0 0  | 239,010   | 0 0                 | 65,783    | 18 10  | 304,793    | 18 10 |
| 26. Swan Hill ..                       | 271,342                            | 0 0   | 187,493             | 18 10 | 458,835    | 18 10 | 68,659                                    | 0 0  | 271,342   | 0 0                 | 118,834   | 18 10  | 390,176    | 18 10 |
| 27. Third Lake ..                      | 23,708                             | 0 0   | 25,236              | 8 10  | 48,944     | 8 10  | 4,682                                     | 0 0  | 23,708    | 0 0                 | 20,554    | 8 10   | 44,262     | 8 10  |
| 28. Tongala ..                         | 366,865                            | 0 0   | 159,554             | 2 1   | 526,419    | 2 1   | 90,612                                    | 0 0  | 366,865   | 0 0                 | 68,942    | 2 1    | 435,807    | 2 1   |
| 29. Tragowel Plains ..                 | 508,302                            | 0 0   | 260,398             | 17 5  | 768,700    | 17 5  | 116,847                                   | 0 0  | 508,302   | 0 0                 | 143,551   | 17 5   | 651,853    | 17 5  |
| 30. Tresco ..                          | 24,006                             | 0 0   | 91,059              | 10 5  | 115,065    | 10 5  | ..  | ..   | 24,006    | 0 0                 | 91,059    | 10 5   | 115,065    | 10 5  |
| 31. Werribee ..                        | 179,910                            | 9 0   | 119,135             | 11 8  | 299,046    | 0 8   | 119,135                                   | 11 8   | 179,910   | 9 0                 | ..        | ..     | 179,910    | 9 0   |
| Under Construction.                    |                                    |       |                     |       |            |       |   |  |           |                     |           |        |            |       |
| 32. Murray Valley ..                   | 829,734                            | 0 0   | 119,235             | 16 3  | 948,969    | 16 3  | ..  | ..   | 829,734   | 0 0                 | 119,235   | 16 3   | 948,969    | 16 3  |
| Totals ..                              | 7,425,511                          | 9 6   | 5,378,311           | 13 2  | 12,803,823 | 2 8   | 1,709,799                                 | 4 7  | 7,425,511 | 9 6                 | 3,668,512 | 8 7    | 11,094,023 | 18 1  |

URBAN DIVISIONS OF IRRIGATION AND WATER SUPPLY DISTRICTS.

|                     |    |        |       |        |       |        |      |    |    |        |       |        |       |
|---------------------|----|--------|-------|--------|-------|--------|------|----|----|--------|-------|--------|-------|
| 1. Bacchus Marsh .. | .. | 14,094 | 4 5   | 14,094 | 4 5   | 10,965 | 0 0  | .. | .. | 3,129  | 4 5   | 3,129  | 4 5   |
| 2. Cohuna ..        | .. | 8,820  | 1 9   | 8,820  | 1 9   | 8,820  | 1 9  | .. | .. | ..     | ..    | ..     | ..    |
| 3. Corop ..         | .. | 231    | 15 6  | 231    | 15 6  | ..     | ..   | .. | .. | 231    | 15 6  | 231    | 15 6  |
| 4. Dingee ..        | .. | 1,452  | 4 5   | 1,452  | 4 5   | ..     | ..   | .. | .. | 1,452  | 4 5   | 1,452  | 4 5   |
| 5. Heyfield ..      | .. | 12,244 | 18 4  | 12,244 | 18 4  | ..     | ..   | .. | .. | 12,244 | 18 4  | 12,244 | 18 4  |
| 6. Leitchville ..   | .. | 3,826  | 1 5   | 3,826  | 1 5   | 1,671  | 0 0  | .. | .. | 2,155  | 1 5   | 2,155  | 1 5   |
| 7. Lockington ..    | .. | 2,291  | 16 1  | 2,291  | 16 1  | 2,291  | 16 1 | .. | .. | ..     | ..    | ..     | ..    |
| 8. Murrabit ..      | .. | 1,024  | 19 11 | 1,024  | 19 11 | ..     | ..   | .. | .. | 1,024  | 19 11 | 1,024  | 19 11 |
| 9. Red Cliffs ..    | .. | 16,713 | 15 10 | 16,713 | 15 10 | 13,341 | 0 0  | .. | .. | 3,372  | 15 10 | 3,372  | 15 10 |
| 10. Stanhope ..     | .. | 1,446  | 3 0   | 1,446  | 3 0   | 1,446  | 3 0  | .. | .. | ..     | ..    | ..     | ..    |
| Totals ..           | .. | 62,146 | 0 8   | 62,146 | 0 8   | 38,535 | 0 10 | .. | .. | 23,610 | 19 10 | 23,610 | 19 10 |

# APPENDIX A (1)—continued.

## WATER ACTS—continued.

| Name of District.            | Total Liability for Cost of Works. |                     |                 | Amount of Liability Allotted to District. | Amount of Liability Allotted to State and to be Transferred to the Capital Expenditure Borne by the State Account. |                     |                 |
|------------------------------|------------------------------------|---------------------|-----------------|---|--|---------------------|-----------------|
|                              | Headworks.                         | Distributary Works. | Total.          |   | Headworks.   | Distributary Works. | Total.          |
|                              | £ s. d.                            | £ s. d.             | £ s. d.         | £ s. d.                                   | £ s. d.  | £ s. d.             | £ s. d.         |
| WATERWORKS DISTRICTS.        |                                    |                     |                 |   |  |                     |                 |
| 1. Axe Creek ..              | ..                                 | 4,894 0 0           | 4,894 0 0       | 3,129 0 0                                 | ..   | 1,765 0 0           | 1,765 0 0       |
| 2. Bellarine Peninsula       | 273,421 5 9                        | ..                  | 273,421 5 9     | 82,024 0 0                                | 191,397 5 9  | ..                  | 191,397 5 9     |
| 3. Birchip ..                | 36,166 10 2                        | 102,795 6 10        | 138,961 17 0    | 25,247 0 0                                | 36,166 10 2  | 77,548 6 10         | 113,714 17 0    |
| 4. Carwarp ..                | ..                                 | 40,996 10 6         | 40,996 10 6     | ..  | ..   | 40,996 10 6         | 40,996 10 6     |
| 5. Carwarp Central ..        | ..                                 | 2,353 10 2          | 2,353 10 2      | ..  | ..   | 2,353 10 2          | 2,353 10 2      |
| 6. Corcoena ..               | ..                                 | 45,916 11 10        | 45,916 11 10    | ..  | ..   | 45,916 11 10        | 45,916 11 10    |
| 7. Harcourt ..               | ..                                 | 17,223 0 0          | 17,223 0 0      | 15,529 0 0                                | ..   | 1,694 0 0           | 1,694 0 0       |
| 8. Hindmarsh ..              | 3,904 10 8                         | 15,504 16 1         | 19,409 6 9      | 5,882 0 0                                 | 3,904 10 8   | 9,622 16 1          | 13,527 6 9      |
| 9. Karkarooc ..              | 90,496 0 0                         | 219,544 9 11        | 310,040 9 11    | ..  | 90,496 0 0   | 219,544 9 11        | 310,040 9 11    |
| 10. Kerang North-West Lakes  | ..                                 | 2,182 13 8          | 2,182 13 8      | ..  | ..   | 2,182 13 8          | 2,182 13 8      |
| 11. Long Lake ..             | 60,038 0 0                         | 106,500 15 8        | 166,538 15 8    | 8,188 0 0                                 | 60,038 0 0   | 98,312 15 8         | 158,350 15 8    |
| 12. Millewa ..               | 96,533 0 0                         | 380,285 6 1         | 476,818 6 1     | ..  | 96,533 0 0   | 380,285 6 1         | 476,818 6 1     |
| 13. Millewa Central ..       | 33,987 0 0                         | 133,892 0 0         | 167,879 0 0     | ..  | 33,987 0 0   | 133,892 0 0         | 167,879 0 0     |
| 14. Mornington Peninsula     | 241,093 16 6                       | ..                  | 241,093 16 6    | 62,871 0 0                                | 178,222 16 6   | ..                  | 178,222 16 6    |
| 15. Narre Warren ..          | 2,724 0 0                          | 10,280 10 3         | 13,004 10 3     | ..  | 2,724 0 0  | 10,280 10 3         | 13,004 10 3     |
| 16. Newstead ..              | ..                                 | 4,636 6 10          | 4,636 6 10      | ..  | ..   | 4,636 6 10          | 4,636 6 10      |
| 17. Sea Lake ..              | 44,010 0 0                         | 144,008 14 1        | 188,018 14 1    | ..  | 44,010 0 0   | 144,008 14 1        | 188,018 14 1    |
| 18. Tyntynder ..             | 111,468 0 0                        | 257,800 14 6        | 369,268 14 6    | ..  | 111,468 0 0  | 257,800 14 6        | 369,268 14 6    |
| 19. Tyrrell ..               | 79,921 0 0                         | 166,047 2 0         | 245,968 2 0     | ..  | 79,921 0 0   | 166,047 2 0         | 245,968 2 0     |
| 20. Tyrrell West ..          | 140,400 0 0                        | 279,610 16 6        | 420,010 16 6    | ..  | 140,400 0 0  | 279,610 16 6        | 420,010 16 6    |
| 21. Upper Western Wimmera .. | 26,550 5 9                         | 57,736 15 9         | 84,287 1 6      | ..  | 26,550 5 9   | 57,736 15 9         | 84,287 1 6      |
| 22. Upper Wimmera United ..  | 41,737 0 0                         | 75,895 14 2         | 117,632 14 2    | 63,600 0 0                                | 41,737 0 0   | 12,295 14 2         | 54,032 14 2     |
| 23. Walpeup West ..          | ..                                 | 36,244 12 2         | 36,244 12 2     | ..  | ..   | 36,244 12 2         | 36,244 12 2     |
| 24. Werribee ..              | ..                                 | 11,595 18 10        | 11,595 18 10    | 5,482 0 0                                 | ..   | 6,113 18 10         | 6,113 18 10     |
| 25. Western Wimmera ..       | 109,436 6 9                        | 232,658 5 6         | 342,094 12 3    | 153,576 0 0                               | 109,436 6 9  | 79,082 5 6          | 188,518 12 3    |
| 26. Wimmera United ..        | 91,999 2 8                         | 177,270 7 8         | 269,269 10 4    | 261,412 0 0                               | 7,857 10 4   | ..                  | 7,857 10 4      |
| 27. Wycheproof ..            | 60,001 18 7                        | 167,654 1 11        | 227,656 0 6     | 78,235 0 0                                | 60,001 18 7  | 89,419 1 11         | 149,421 0 6     |
| 28. Yelta ..                 | ..                                 | 6,143 15 10         | 6,143 15 10     | ..  | ..   | 6,143 15 10         | 6,143 15 10     |
| <i>Under Construction.</i>   |                                    |                     |                 |   |  |                     |                 |
| 29. Otway ..                 | 128,610 11 11                      | ..                  | 128,610 11 11   | ..  | 128,610 11 11  | ..                  | 128,610 11 11   |
| 30. Normanville ..           | ..                                 | 804 11 4            | 804 11 4        | ..  | ..   | 804 11 4            | 804 11 4        |
| Totals ..                    | 1,672,498 8 9                      | 2,700,477 8 1       | 4,372,975 16 10 | 765,175 0 0                               | 1,443,461 16 5   | 2,164,339 0 5       | 3,607,800 16 10 |

## URBAN DISTRICTS OF WATERWORKS DISTRICTS.

|                                 |             |               |               |             |             |               |               |
|---------------------------------|-------------|---------------|---------------|-------------|-------------|---------------|---------------|
| 1. Anglesca ..                  | 8,442 2 9   | 9,649 10 10   | 18,091 13 7   | ..          | 8,442 2 9   | 9,649 10 10   | 18,091 13 7   |
| 2. Antwerp ..                   | ..          | 713 7 7       | 713 7 7       | 713 7 7     | ..          | ..            | ..            |
| 3. Barwon Heads and Ocean Grove | 31,415 0 0  | 7,000 19 3    | 38,415 19 3   | 15,694 0 0  | 22,721 19 3 | ..            | 22,721 19 3   |
| 4. Berriwillock ..              | ..          | 5,205 19 6    | 5,205 19 6    | 1,953 0 0   | ..          | 3,252 19 6    | 3,252 19 6    |
| 5. Berwick ..                   | 13,786 9 3  | 8,626 8 8     | 22,412 17 11  | 1,976 0 0   | 13,786 9 3  | 6,650 8 8     | 20,436 17 11  |
| 6. Beulah ..                    | ..          | 7,578 4 5     | 7,578 4 5     | ..          | ..          | 7,578 4 5     | 7,578 4 5     |
| 7. Birchip ..                   | ..          | 12,498 1 9    | 12,498 1 9    | 1,671 0 0   | ..          | 10,827 1 9    | 10,827 1 9    |
| 8. Bittern ..                   | 1,679 0 0   | 1,207 0 0     | 2,886 0 0     | ..          | 1,679 0 0   | 1,207 0 0     | 2,886 0 0     |
| 9. Brim ..                      | ..          | 3,521 2 11    | 3,521 2 11    | 3,035 0 0   | ..          | 486 2 11      | 486 2 11      |
| 10. Bunyip ..                   | 5,397 0 0   | 5,719 11 6    | 11,116 11 6   | ..          | 5,397 0 0   | 5,719 11 6    | 11,116 11 6   |
| 11. Carrum ..                   | 171,354 0 0 | 42,858 7 2    | 214,212 7 2   | 41,035 0 0  | 171,354 0 0 | 1,823 7 2     | 173,177 7 2   |
| 12. Carwarp ..                  | ..          | 641 8 6       | 641 8 6       | ..          | ..          | 641 8 6       | 641 8 6       |
| 13. Chillingollah ..            | ..          | 2,482 3 1     | 2,482 3 1     | 1,529 0 0   | ..          | 953 3 1       | 953 3 1       |
| 14. Chinkapook ..               | ..          | 2,551 11 7    | 2,551 11 7    | 588 0 0     | ..          | 1,963 11 7    | 1,963 11 7    |
| 15. Coliban ..                  | ..          | 1,602,086 6 8 | 1,602,086 6 8 | 382,282 0 0 | ..          | 1,219,804 6 8 | 1,219,804 6 8 |
| 16. Cranbourne ..               | 6,640 0 0   | 2,410 10 8    | 9,050 10 8    | 3,200 0 0   | 5,850 10 8  | ..            | 5,850 10 8    |
| 17. Crib Point ..               | 8,811 0 0   | 3,029 0 0     | 11,840 0 0    | 6,518 0 0   | 5,322 0 0   | ..            | 5,322 0 0     |
| 18. Culgoa ..                   | ..          | 4,442 14 0    | 4,442 14 0    | 4,071 0 0   | ..          | 371 14 0      | 371 14 0      |
| 19. Dandenong ..                | 96,229 0 0  | 37,672 16 9   | 133,901 16 9  | 39,247 0 0  | 94,654 16 9 | ..            | 94,654 16 9   |
| 20. Dimboola ..                 | ..          | 17,984 3 3    | 17,984 3 3    | 17,984 3 3  | ..          | ..            | ..            |
| 21. Doon ..                     | ..          | 698 9 5       | 698 9 5       | ..          | ..          | 698 9 5       | 698 9 5       |
| 22. Drysdale ..                 | 11,055 0 0  | 1,331 7 3     | 12,386 7 3    | ..          | 11,055 0 0  | 1,331 7 3     | 12,386 7 3    |
| 23. Frankston ..                | 93,262 0 0  | 14,170 6 1    | 107,432 6 1   | 71,976 0 0  | 35,456 6 1  | ..            | 35,456 6 1    |
| 24. Garfield ..                 | 4,200 0 0   | 4,492 10 0    | 8,692 10 0    | 918 0 0     | 4,200 0 0   | 3,574 10 0    | 7,774 10 0    |
| 25. Hastings ..                 | 7,430 0 0   | 5,932 0 0     | 13,362 0 0    | 682 0 0     | 7,430 0 0   | 5,250 0 0     | 12,680 0 0    |
| 26. Hicksborough ..             | ..          | 988 2 9       | 988 2 9       | 329 0 0     | ..          | 659 2 9       | 659 2 9       |
| 27. Hopetoun ..                 | ..          | 10,308 3 5    | 10,308 3 5    | 1,929 0 0   | ..          | 8,379 3 5     | 8,379 3 5     |
| 28. Jeparit ..                  | ..          | 13,391 1 11   | 13,391 1 11   | 11,788 0 0  | ..          | 1,603 1 11    | 1,603 1 11    |
| 29. Jung Jung ..                | ..          | 3,348 12 8    | 3,348 12 8    | ..          | ..          | 3,348 12 8    | 3,348 12 8    |
| 30. Koondrook ..                | ..          | 5,606 2 7     | 5,606 2 7     | ..          | ..          | 5,606 2 7     | 5,606 2 7     |
| 31. Lake Boga ..                | ..          | 5,517 1 2     | 5,517 1 2     | ..          | ..          | 5,517 1 2     | 5,517 1 2     |
| 32. Lalbert ..                  | ..          | 4,582 15 1    | 4,582 15 1    | 4,329 0 0   | ..          | 253 15 1      | 253 15 1      |
| 33. Lascelles ..                | ..          | 4,263 3 4     | 4,263 3 4     | 1,059 0 0   | ..          | 3,204 3 4     | 3,204 3 4     |
| 34. Longwarry ..                | 6,761 0 0   | 3,010 9 5     | 9,774 9 5     | 8,941 0 0   | 833 9 5     | ..            | 833 9 5       |
| 35. Manangatang ..              | ..          | 4,970 6 0     | 4,970 6 0     | 4,970 6 0   | ..          | ..            | ..            |
| 36. Marnoo ..                   | ..          | 4,099 5 0     | 4,099 5 0     | 4,099 5 0   | ..          | ..            | ..            |
| 37. Marong ..                   | ..          | 2,100 0 0     | 2,100 0 0     | 1,129 0 0   | ..          | 971 0 0       | 971 0 0       |
| 38. Merbein ..                  | ..          | 18,402 3 5    | 18,402 3 5    | 14,965 0 0  | ..          | 3,437 3 5     | 3,437 3 5     |
| 39. Meringur ..                 | ..          | 1,794 8 0     | 1,794 8 0     | ..          | ..          | 1,794 8 0     | 1,794 8 0     |

## APPENDIX A(1)—continued.

## WATER ACTS—continued.

| Name of District.                                  | Total Liability for Cost of Works. |                     |                | Amount of Liability Allotted to District. | Amount of Liability Allotted to State and to be Transferred to the Capital Expenditure Borne by the State Account. |                     |                  |
|--|------------------------------------|---------------------|----------------|---|--|---------------------|------------------|
|  | Headworks.                         | Distributary Works. | Total.         |   | Headworks.   | Distributary Works. | Total.           |
|  | £ s. d.                            | £ s. d.             | £ s. d.        | £ s. d.                                   | £ s. d.  | £ s. d.             | £ s. d.          |
| URBAN DISTRICTS OF WATERWORKS DISTRICTS—continued. |                                    |                     |                |   |  |                     |                  |
| 40. Minyip ..                                      | ..                                 | 10,388 14 3         | 10,388 14 3    | 10,388 14 3                               | ..   | ..                  | ..               |
| 41. Mornington ..                                  | 43,198 0 0                         | 15,987 13 4         | 59,185 13 4    | 42,612 0 0                                | 16,573 13 4  | ..                  | 16,573 13 4      |
| 42. Mount Martha ..                                | 4,864 0 0                          | 9,286 15 11         | 14,150 15 11   | 9,035 0 0                                 | 4,864 0 0  | 251 15 11           | 5,115 15 11      |
| 43. Nandaly ..                                     | ..                                 | 1,754 16 11         | 1,754 16 11    | ..  | ..   | 1,754 16 11         | 1,754 16 11      |
| 44. Natimuk ..                                     | ..                                 | 4,891 3 11          | 4,891 3 11     | 3,929 0 0                                 | ..   | 962 3 11            | 962 3 11         |
| 45. Newstead ..                                    | ..                                 | 7,465 0 0           | 7,465 0 0      | 5,788 0 0                                 | ..   | 1,677 0 0           | 1,677 0 0        |
| 46. North Wonthaggi ..                             | ..                                 | 4,160 10 0          | 4,160 10 0     | 1,200 0 0                                 | ..   | 2,960 10 0          | 2,960 10 0       |
| 47. Nullawil ..                                    | ..                                 | 3,691 14 8          | 3,691 14 8     | 3,153 0 0                                 | ..   | 538 14 8            | 538 14 8         |
| 48. Nyah ..  | ..                                 | 340 11 8            | 340 11 8       | 165 0 0                                   | ..   | 175 11 8            | 175 11 8         |
| 49. Nyah West ..                                   | ..                                 | 5,649 3 7           | 5,649 3 7      | ..  | ..   | 5,649 3 7           | 5,649 3 7        |
| 50. Ouyen ..                                       | ..                                 | 20,603 10 8         | 20,603 10 8    | 5,388 0 0                                 | ..   | 15,215 10 8         | 15,215 10 8      |
| 51. Pakenham ..                                    | 10,582 0 0                         | 8,002 0 0           | 18,584 0 0     | 14,776 0 0                                | 3,808 0 0  | ..                  | 3,808 0 0        |
| 52. Patchewollock ..                               | ..                                 | 3,628 19 0          | 3,628 19 0     | ..  | ..   | 3,628 19 0          | 3,628 19 0       |
| 53. Piangil ..                                     | ..                                 | 6,042 13 7          | 6,042 13 7     | ..  | ..   | 6,042 13 7          | 6,042 13 7       |
| 54. Portarlington ..                               | 22,315 0 0                         | 2,227 16 2          | 24,542 16 2    | ..  | 22,315 0 0   | 2,227 16 2          | 24,542 16 2      |
| 55. Pyramid Hill ..                                | ..                                 | 5,033 8 8           | 5,033 8 8      | 5,033 8 8                                 | ..   | ..                  | ..               |
| 56. Quambatook ..                                  | ..                                 | 4,855 16 3          | 4,855 16 3     | 1,671 0 0                                 | ..   | 3,184 16 3          | 3,184 16 3       |
| 57. Queenscliff and Point Lonsdale ..              | 71,224 0 0                         | 9,836 13 7          | 81,060 13 7    | 31,671 0 0                                | 49,389 13 7  | ..                  | 49,389 13 7      |
| 58. Rainbow ..                                     | ..                                 | 8,229 16 1          | 8,229 16 1     | 8,229 16 1                                | ..   | ..                  | ..               |
| 59. Rupanyup ..                                    | ..                                 | 10,766 9 10         | 10,766 9 10    | 9,059 0 0                                 | ..   | 1,707 9 10          | 1,707 9 10       |
| 60. Sea Lake ..                                    | ..                                 | 7,622 15 9          | 7,622 15 9     | 7,622 15 9                                | ..   | ..                  | ..               |
| 61. Somerville ..                                  | 3,348 0 0                          | 1,887 19 10         | 5,235 19 10    | 3,906 0 0                                 | 1,329 19 10  | ..                  | 1,329 19 10      |
| 62. South Frankston ..                             | 13,773 0 0                         | 11,548 6 5          | 25,321 6 5     | 25,321 6 5                                | ..   | ..                  | ..               |
| 63. Speed ..                                       | ..                                 | 2,851 8 10          | 2,851 8 10     | ..  | ..   | 2,851 8 10          | 2,851 8 10       |
| 64. Spring Vale ..                                 | 68,268 0 0                         | 21,294 11 11        | 89,562 11 11   | 32,188 0 0                                | 57,374 11 11   | ..                  | 57,374 11 11     |
| 65. Tempy ..                                       | ..                                 | 2,621 15 5          | 2,621 15 5     | ..  | ..   | 2,621 15 5          | 2,621 15 5       |
| 66. Torquay ..                                     | 21,247 0 0                         | 9,748 2 6           | 30,995 2 6     | 3,959 0 0                                 | 21,247 0 0   | 6,689 2 6           | 27,936 2 6       |
| 67. Ultima ..                                      | ..                                 | 6,571 9 3           | 6,571 9 3      | ..  | ..   | 6,571 9 3           | 6,571 9 3        |
| 68. Waitchie ..                                    | ..                                 | 2,539 5 6           | 2,539 5 6      | ..  | ..   | 2,539 5 6           | 2,539 5 6        |
| 69. Walpeup ..                                     | ..                                 | 2,006 5 1           | 2,006 5 1      | 800 0 0                                   | ..   | 1,206 5 1           | 1,206 5 1        |
| 70. Watchem ..                                     | ..                                 | 5,123 5 1           | 5,123 5 1      | 2,776 0 0                                 | ..   | 2,347 5 1           | 2,347 5 1        |
| 71. Werrimull ..                                   | ..                                 | 4,862 7 6           | 4,862 7 6      | 635 0 0                                   | ..   | 4,227 7 6           | 4,227 7 6        |
| 72. Wonthaggi ..                                   | ..                                 | 67,585 17 5         | 67,585 17 5    | 15,906 0 0                                | ..   | 51,679 17 5         | 51,679 17 5      |
| 73. Woomelang ..                                   | ..                                 | 9,286 18 11         | 9,286 18 11    | 2,941 0 0                                 | ..   | 6,345 18 11         | 6,345 18 11      |
| 74. Woorinen ..                                    | ..                                 | 1,966 15 5          | 1,966 15 5     | 1,294 0 0                                 | ..   | 672 15 5            | 672 15 5         |
| 75. Wycheproof ..                                  | ..                                 | 10,897 11 1         | 10,897 11 1    | 682 0 0                                   | ..   | 10,215 11 1         | 10,215 11 1      |
| 76. Yaaapeet ..                                    | ..                                 | 2,285 6 8           | 2,285 6 8      | 753 0 0                                   | ..   | 1,532 6 8           | 1,532 6 8        |
| Totals ..  | 725,283 12 0                       | 2,200,429 6 3       | 2,925,712 18 3 | 898,594 3 0                               | 565,084 12 10  | 1,462,034 2 5       | 2,027,118 15 3   |
| FLOOD PROTECTION DISTRICTS.                        |                                    |                     |                |   |  |                     |                  |
| 1. Cardinia ..                                     | ..                                 | 99,774 4 3          | 99,774 4 3     | ..  | ..   | 99,774 4 3          | 99,774 4 3       |
| 2. Echuca, High-street ..                          | ..                                 | 44 9 1              | 44 9 1         | 44 9 1                                    | ..   | ..                  | ..               |
| 3. Kanyapella ..                                   | ..                                 | 3,949 5 7           | 3,949 5 7      | 3,949 5 7                                 | ..   | ..                  | ..               |
| 4. Koo-wee-rup Lower ..                            | ..                                 | 239,406 9 11        | 239,406 9 11   | ..  | ..   | 239,406 9 11        | 239,406 9 11     |
| 5. Loch Garry ..                                   | ..                                 | 21,377 17 0         | 21,377 17 0    | 9,087 4 4                                 | ..   | 12,290 12 8         | 12,290 12 8      |
| Totals ..  | ..                                 | 364,552 5 10        | 364,552 5 10   | 13,080 19 0                               | ..   | 351,471 6 10        | 351,471 6 10     |
| Grand Totals                                       | 9,823,293 10 3                     | 10,705,916 14 0     | 20,529,210 4 3 | 3,425,184 7 5                             | 9,434,057 18 9   | 7,669,967 18 1      | 17,104,025 16 10 |

And the Honorable Francis Edward Old, His Majesty's Minister of Water Supply for the State of Victoria, shall give the necessary directions herein accordingly.

J. C. MACGIBBON,  
Acting Clerk of the Executive Council.

## APPENDIX A(2).

[Extract from the *Victoria Government Gazette*, No. 165,  
dated 3rd August, 1938.]

Water Acts.

### STATE RIVERS AND WATER SUPPLY COMMISSION.

*At Government House, Melbourne, the thirtieth day of July,  
1938.*

PRESENT:

His Excellency the Lieutenant-Governor of Victoria.

Mr. Old

Mr. Mackrell.

WHEREAS by section 6 of the *Water Act* 1937 (No. 4513) it is provided that where Parliament or the Governor in Council directs the Commission to maintain any works in respect of which the Commission has submitted in writing a report that such works will not produce sufficient revenue to cover the expense of the maintenance and management thereof, the annual amount of the loss resulting from the maintenance and management of such works shall be transferred to an account in the books of the Commission to be called the "Revenue Expenditure Chargeable to the State Account," and whereas the Commission has submitted in writing a report that the works of the Carwarp, Carwarp Central, Coreena, Karkaroc, Kerang North-west Lakes, Millewa, Millewa Central, Narre Warren, Sea Lake, Tyntynder, Tyrrell, Tyrrell West, Upper Western Wimmera, Walpeup West, and Yelta Waterworks Districts, the Echuca North, Fish Point, and Tresco Irrigation and Water Supply Districts, the Corop, Heyfield, and Murrabit Urban Divisions, and the Anglesea, Benlah, Bittern, Carwarp, Drysdale, Jung Jung, Koondrook, Lake Boga, Meringur, Nyah West, Patchewollock, Piangil, Portarlinton, Speed, and Ultima Urban Districts will not produce sufficient revenue to cover the expense of the maintenance and management thereof: Now therefore His Excellency the Lieutenant-Governor of the State of Victoria, acting by and with the advice of the Executive Council thereof and in pursuance of the provisions of the said section, doth hereby direct the State Rivers and Water Supply Commission to continue to supply water in each of the said Districts, and doth hereby direct that the annual amount of loss resulting from the maintenance and management of the works of each of the said Districts and Divisions shall be transferred to an account in the books of the said Commission to be called the "Revenue Expenditure Chargeable to the State Account."

And the Honorable Francis Edward Old, His Majesty's Minister of Water Supply for the State of Victoria, shall give the necessary directions herein accordingly.

J. C. MACGIBBON,  
Acting Clerk of the Executive Council.



# APPENDIX B.

## SCHEDULE OF UNEMPLOYMENT RELIEF GRANTS TO 30TH JUNE, 1938.

Since the commencement of Relief Works in 1930, a total amount of £2,380,408 has been made available to this Commission from Unemployment Relief Funds for expenditure on works providing employment in country districts. Of this amount, £166,035 was allocated prior to the constitution of the Employment Council in July, 1932. Details are as follow :—

### SCHEDULE OF GRANTS, 1ST JUNE, 1930, TO 11TH JULY, 1932.

| Locality.                    | Works.                                 |    |    |    | Grant. |          |
|------------------------------|--|----|----|----|--------|----------|
|                              | HEADWORKS.                             |    |    |    | £      | £        |
| Goulburn Main Channels .. .. | East Goulburn .. ..                    | .. | .. | .. | 6,000  |          |
|                              | West Goulburn .. ..                    | .. | .. | .. | 5,000  |          |
|                              | East and West Goulburn .. ..           | .. | .. | .. | 5,100  |          |
| Mornington Peninsula .. ..   | Lysterfield Reservoir .. ..            | .. | .. | .. | 12,400 |          |
| Campaspe River .. ..         | Eppalock Weir .. ..                    | .. | .. | .. | 6,000  |          |
| Wimmera Mallee .. ..         | Lake Lonsdale Reservoir .. ..          | .. | .. | .. | 5,000  |          |
|                              |  |    |    |    |        | 39,500   |
|                              | IRRIGATION DISTRICTS.                  |    |    |    |        |          |
| Maffra-Sale .. ..            | Channel Lining .. ..                   | .. | .. | .. | 15,000 |          |
| Bacchus Marsh .. ..          | Channel Lining .. ..                   | .. | .. | .. | 19,000 |          |
| Cobuna .. ..                 | Channel Construction .. ..             | .. | .. | .. | 5,665  |          |
| Kerang .. ..                 | Channel Construction .. ..             | .. | .. | .. | 4,575  |          |
| Tragowel Plains .. ..        | Channel Construction .. ..             | .. | .. | .. | 2,260  |          |
|                              |  |    |    |    |        | 46,500   |
|                              | WATERWORKS DISTRICTS.                  |    |    |    |        |          |
| Coliban .. ..                | Channel Lining .. ..                   | .. | .. | .. | 20,000 |          |
| Millewa .. ..                | Channel Lining .. ..                   | .. | .. | .. | 10,000 |          |
| Northern Mallee .. ..        | Channel Construction .. ..             | .. | .. | .. | 14,000 |          |
|                              | Ironclad Catchments .. ..              | .. | .. | .. | 5,000  |          |
| Bellarine Peninsula .. ..    | Town Supplies .. ..                    | .. | .. | .. | 10,000 |          |
|                              |  |    |    |    |        | 59,000   |
|                              | FLOOD PROTECTION DISTRICTS.            |    |    |    |        |          |
| Kooweerup .. ..              | Drains .. ..                           | .. | .. | .. | 15,000 |          |
| Carrum .. ..                 | Drains and Banks .. ..                 | .. | .. | .. | 2,000  |          |
|                              |  |    |    |    |        | 17,000   |
|                              | MISCELLANEOUS.                         |    |    |    |        |          |
| Canned Fruits .. ..          | Shepparton—Processing .. ..            | .. | .. | .. | 4,035  |          |
|                              |  |    |    |    |        | 4,035    |
|                              | Total of Grants from 1.6.30 to 11.7.32 |    |    |    | ..     | £166,035 |

### SCHEDULE OF GRANTS, 12TH JULY, 1932, TO 30TH JUNE, 1938.

| Locality                      | Works.  |         |  |  | Grant. |        |
|-------------------------------|---|---------|--|--|--------|--------|
|                               | HEADWORKS.                                    |         |  |  | £      | £      |
| Wimmera-Mallee .. ..          | Lake Lonsdale—Increased Storage ..            | 1932-33 |  |  | 2,500  |        |
|                               | Mt. Zero Channel and Basin ..                 | 1932-33 |  |  | 6,000  |        |
|                               | Fyans Lake—Tree planting ..                   | 1932-33 |  |  | 350    |        |
|                               | Longerenong Weir ..                           | 1933-34 |  |  | 700    |        |
|                               | Moora Reservoir—Construction ..               | 1934-35 |  |  | 4,750  |        |
|                               | Pine Lake, Taylors Lake, &c. ..               | 1936-37 |  |  | 5,000  |        |
|                               |   |         |  |  |        | 19,300 |
| Loddon River .. ..            | Laanecoorie Weir ..                           | 1933-34 |  |  | 1,250  |        |
|                               | Serpentine Weir—Reconstruction ..             | 1935-36 |  |  | 800    |        |
|                               |   |         |  |  |        | 2,050  |
| Goulburn River .. ..          | Goulburn - Waranga Channel—Re-conditioning .. | 1934-35 |  |  | 5,000  |        |
|                               |   |         |  |  |        | 5,000  |
| Campaspe River .. ..          | Eppalock Weir ..                              | 1932-33 |  |  | 4,500  |        |
|                               |   |         |  |  |        | 4,500  |
| Werribee River .. ..          | Melton Dam—Raising ..                         | 1934-35 |  |  | 3,500  |        |
|                               |   |         |  |  |        | 3,500  |
| Kerang North-West Lakes .. .. | Main Channels, Swan Hill and Kerang           | 1932-33 |  |  | 14,500 |        |
|                               | Main Channels, Kerang and Kerang              |         |  |  |        |        |
|                               | North-West Lakes ..                           | 1933-34 |  |  | 10,350 |        |
|                               | Tutchewop Channel ..                          | 1934-35 |  |  | 3,000  |        |
|                               |   |         |  |  |        | 27,850 |
| Pykes Creek Reservoir .. ..   | Lining Tunnel ..                              | 1937-38 |  |  | 5,000  | 5,000  |
|                               | Total (Headworks) ..                          |         |  |  |        | 67,200 |

APPENDIX B—continued.

SCHEDULE OF GRANTS 12TH JULY, 1932, TO 30TH JUNE, 1938—continued.

| Locality.                      | Works.   |         |         |  |  |  |  |  | Grant.  |         |
|--------------------------------|--|---------|---------|--|--|--|--|--|---------|---------|
|                                |  |         |         |  |  |  |  |  | £       | £       |
|                                | IRRIGATION DISTRICTS—WATER SUPPLY.                     |         |         |  |  |  |  |  |         |         |
| Bacchus Marsh .. .. .          | Channel Lining .. .. .                                 | 1932-35 | 31,350  |  |  |  |  |  | 31,350  |         |
| Werribee .. .. .               | Channel Lining .. .. .                                 | 1932-35 | 38,700  |  |  |  |  |  | 38,700  |         |
| Mystic Park and Tresco .. .. . | Channels (also £2,000 for Tresco drains, q.v.) .. .. . | 1933-34 | 2,500   |  |  |  |  |  | 2,500   |         |
| Red Cliffs and Merbein .. .. . | Channel Construction, Red Cliffs and Merbein .. .. .   | 1932-35 | 15,000  |  |  |  |  |  | 15,000  |         |
| Maffra-Sale .. .. .            | Channel Construction .. .. .                           | 1932-34 | 7,850   |  |  |  |  |  | 7,850   |         |
| Rodney .. .. .                 | Channel Construction .. .. .                           | 1932-33 | 7,000   |  |  |  |  |  | 7,000   |         |
| Cohuna .. .. .                 | Channel Cleaning .. .. .                               | 1932-33 | 300     |  |  |  |  |  |         |         |
|                                | Channel Syphon .. .. .                                 | 1933-34 | 1,000   |  |  |  |  |  |         |         |
|                                | Channel Construction .. .. .                           | 1933-34 | 1,500   |  |  |  |  |  | 2,800   |         |
| Deakin .. .. .                 | Channel Construction .. .. .                           | 1934-35 | 2,405   |  |  |  |  |  | 2,405   |         |
| Nyah .. .. .                   | Channel Lining .. .. .                                 | 1934-35 | 540     |  |  |  |  |  | 540     |         |
| Swan Hill .. .. .              | Channel Lining, Woorinen .. .. .                       | 1935-36 | 650     |  |  |  |  |  | 650     |         |
| Districts Generally .. .. .    | Reconditioning Works .. .. .                           | 1934-37 | 80,000  |  |  |  |  |  |         |         |
|                                | Reconditioning Works .. .. .                           | 1937-38 | 20,000  |  |  |  |  |  | 100,000 |         |
|                                | Total (Irrigation Supply Works) ..                     |         |         |  |  |  |  |  |         | 208,795 |
|                                | IRRIGATION DISTRICTS—DRAINAGE.                         |         |         |  |  |  |  |  |         |         |
| Maffra-Sale .. .. .            | Drainage .. .. .                                       | 1933-37 | 25,800  |  |  |  |  |  |         |         |
|                                | Drainage .. .. .                                       | 1937-38 | 2,500   |  |  |  |  |  | 28,300  |         |
| Cohuna .. .. .                 | Drainage, Leitchville and Cohuna .. .. .               | 1932-37 | 30,500  |  |  |  |  |  |         |         |
|                                | Drainage, Cohuna .. .. .                               | 1937-38 | 12,000  |  |  |  |  |  |         |         |
|                                | Drainage, Cohuna and Leitchville .. .. .               | 1937-38 | 5,000   |  |  |  |  |  | 47,500  |         |
|                                | Barr Creek, Enlargement .. .. .                        | 1932-37 | 24,280  |  |  |  |  |  | 24,280  |         |
| Swan Hill .. .. .              | Drainage, Woorinen, and Swan Hill .. .. .              | 1933-36 | 10,095  |  |  |  |  |  |         |         |
|                                | Drainage, Woorinen .. .. .                             | 1937-38 | 10,000  |  |  |  |  |  | 20,095  |         |
| Rodney .. .. .                 | Drainage .. .. .                                       | 1933-37 | 61,455  |  |  |  |  |  |         |         |
|                                | Drainage .. .. .                                       | 1937-38 | 7,000   |  |  |  |  |  | 68,455  |         |
| Deakin .. .. .                 | Drainage .. .. .                                       | 1934-35 | 5,060   |  |  |  |  |  | 5,060   |         |
| Tongala-Stanhope .. .. .       | Drainage .. .. .                                       | 1932-36 | 69,500  |  |  |  |  |  | 69,500  |         |
| Nyah .. .. .                   | Drainage .. .. .                                       | 1933-34 | 1,500   |  |  |  |  |  |         |         |
|                                | Drainage .. .. .                                       | 1937-38 | 4,800   |  |  |  |  |  | 6,300   |         |
| Shepparton .. .. .             | Drainage .. .. .                                       | 1932-37 | 60,075  |  |  |  |  |  |         |         |
|                                | Drainage .. .. .                                       | 1937-38 | 10,500  |  |  |  |  |  | 70,575  |         |
| Werribee .. .. .               | Drainage .. .. .                                       | 1933-37 | 3,750   |  |  |  |  |  | 3,750   |         |
| Bacchus Marsh .. .. .          | Drainage .. .. .                                       | 1936-37 | 1,250   |  |  |  |  |  | 1,250   |         |
| Mildura .. .. .                | Subsurface Drainage .. .. .                            | 1934-37 | 169,416 |  |  |  |  |  |         |         |
|                                | Subsurface Drainage .. .. .                            | 1937-38 | 39,125  |  |  |  |  |  | 208,541 |         |
|                                | Carried forward .. .. .                                |         |         |  |  |  |  |  |         | 553,606 |

## APPENDIX B—continued.

## SCHEDULE OF GRANTS 12TH JULY, 1932, TO 30TH JUNE, 1938—continued.

| Locality.                      | Works.   | Grant.         |
|--------------------------------|--|----------------|
|                                | IRRIGATION DISTRICTS—DRAINAGE—continued.                                       | £      £       |
|                                | Brought forward .. .. .  | 553,606        |
| Red Cliffs and Merbein .. .. . | Subsurface Drainage, Red Cliffs, Merbein, and Mildura—Surveys, &c. .. 1933-34  | 10,000         |
|                                | Red Cliffs and Merbein Subsurface Drainage .. .. . 1933-37                     | 234,653        |
|                                | Merbein, Subsurface Drainage .. 1937-38  | 12,000         |
|                                |  | 256,653        |
| Tragowel Plains .. .. .        | Drainage .. .. . 1933-37   | 7,500          |
|                                | Drainage .. .. . 1937-38   | 9,500          |
|                                |  | 17,000         |
| Rochester .. .. .              | Drainage .. .. . 1933-37   | 58,920         |
|                                | Drainage .. .. . 1937-38   | 7,500          |
|                                |  | 66,420         |
| Kerang .. .. .                 | Drainage, Kerang East .. .. 1934-36  | 77,436         |
|                                |  | 77,436         |
| Tresco .. .. .                 | Drainage, see under Water Supply, £2,000 for drainage out of £4,500 .. 1933-34 | 2,000          |
|                                | Drainage .. .. . 1937-38   | 1,240          |
|                                |  | 3,240          |
|                                | <b>Total (Irrigation Drainage Works) ..</b>                                    | <b>974,355</b> |
|                                | WATERWORKS DISTRICTS.  |                |
| Wimmera-Mallee .. .. .         | Channel Construction .. .. 1932-33   | 15,000         |
|                                | Tanks and Bores .. .. . 1932-33  | 3,000          |
|                                | Mt. Zero Channel Construction .. 1932-33                                       | 9,000          |
|                                | Channels and tanks .. .. . 1932-33   | 1,250          |
|                                | Channels—Sand Drift .. .. . 1933-37  | 92,000         |
|                                | Channels—Sand Drift .. .. . 1937-38  | 20,000         |
|                                | Enlargement and Lining of Channels 1936-37                                     | 6,000          |
|                                | Urban Storages .. .. . 1936-37   | 4,500          |
|                                | Mallee Towns—Improvement .. 1937-38  | 3,000          |
|                                | Donald East Channel .. .. . 1937-38  | 780            |
|                                | Pimpinio High Lands .. .. . 1937-38  | 8,400          |
|                                |  | 162,930        |
| Millewa .. .. .                | Outlets, Clay Lining Channels .. 1932-33                                       | 4,000          |
|                                |  | 4,000          |
| Coreena .. .. .                | Clay Lining Channels .. .. . 1932-33   | 800            |
|                                |  | 800            |
| Yelta .. .. .                  | Watering .. .. . 1933-34   | 500            |
|                                |  | 500            |
| Long Lake .. .. .              | Channel Construction .. .. . 1934-35   | 1,230          |
|                                |  | 1,230          |
| Tyrrell West .. .. .           | Ironclad Catchments, Baring North and Patchewollock .. .. . 1933-34            | 3,500          |
|                                |  | 3,500          |
| Tyrrell West .. .. .           | Road Construction, Patchewollock North 1933-34                                 | 300            |
|                                |  | 300            |
| Loddon United .. .. .          | Serpentine Weir .. .. . 1933-34  | 765            |
|                                |  | 765            |
|                                | <b>Total (Rural Works) .. ..</b>   | <b>174,025</b> |
|                                | WATERWORKS DISTRICTS—URBAN.  |                |
| Newstead .. .. .               | Channel Construction .. .. 1932-33   | 2,000          |
|                                |  | 2,000          |
| Walpeup .. .. .                | Water Tower .. .. . 1933-34  | 1,250          |
|                                |  | 1,250          |
| Nyah .. .. .                   | Reticulation Improvements .. .. 1933-34  | 1,000          |
|                                |  | 1,000          |
| Koondrook .. .. .              | Reticulation Improvements .. .. 1935-36  | 230            |
|                                |  | 230            |
|                                | Carried forward .. .. .  | 4,480          |

## APPENDIX B—continued.

## SCHEDULE OF GRANTS 12TH JULY, 1932, TO 30TH JUNE, 1938—continued.

| Locality.                       | Works.  |    |    |         | Grant. |                |
|---------------------------------|---|----|----|---------|--------|----------------|
|                                 | WATERWORKS DISTRICTS—URBAN—continued.   |    |    |         | £      | £              |
|                                 | Brought forward   | .. | .. | ..      |        | 4,480          |
| Leitchville .. .. .             | Storage and Reticulation  | .. | .. | 1935-36 | 1,000  | 1,000          |
| Lake Boga .. .. .               | Improved Supply   | .. | .. | 1935-36 | 1,500  | 1,500          |
| Jeparit .. .. .                 | Reticulation Improvements   | .. | .. | 1935-36 | 2,500  | 2,500          |
| Rainbow .. .. .                 | Reticulation Improvements   | .. | .. | 1935-36 | 500    | 500            |
| Mornington Peninsula .. .. .    | Channel (Dromana-Sorrento)  | .. | .. | 1932-33 | 10,000 |                |
|                                 | Lysterfield Reservoir   | .. | .. | 1932-33 | 7,800  |                |
|                                 | Service Basin, Garfield   | .. | .. | 1932-33 | 2,300  |                |
|                                 | Cranbourne-Bittern Channel  | .. | .. | 1932-33 | 9,000  |                |
|                                 | Beaching Mornington Reservoir   | .. | .. | 1932-33 | 2,080  |                |
|                                 | Enlargement of Mornington Reservoir   | .. | .. | 1933-34 | 3,200  |                |
|                                 | Lysterfield Reservoir, Raising  | .. | .. | 1934-35 | 4,000  |                |
|                                 |   |    |    |         |        | 38,380         |
| Dromana-Sorrento Extension ..   | Instalment of £55,000   | .. | .. | 1935-36 | 5,000  |                |
|                                 | Instalment of £55,000   | .. | .. | 1937-38 | 25,000 |                |
|                                 |   |    |    |         |        | 30,000         |
| Bellarine Peninsula .. .. .     | Urban Supplies  | .. | .. | 1932-35 | 29,050 | 29,050         |
| Western District Scheme .. .. . | Instalment of £93,700   | .. | .. | 1935-37 | 62,750 |                |
|                                 | Instalment of £93,700   | .. | .. | 1937-38 | 30,950 |                |
|                                 |   |    |    |         |        | 93,700         |
| Coliban .. .. .                 | Channel Lining  | .. | .. | 1933-36 | 96,468 |                |
|                                 | River Diversion (Ashbourne)   | .. | .. | 1934-35 | 7,950  |                |
|                                 | Eaglehawk Main  | .. | .. | 1935-36 | 12,000 |                |
|                                 | Bendigo and Castlemaine Reticulation Improvements and Channel Lining (1st Instalment, £200,000) | .. | .. | 1936-37 | 66,000 |                |
|                                 | (2nd Instalment, £200,000)  | .. | .. | 1937-38 | 66,000 |                |
|                                 | Malmsbury Reservoir-Enlargement   | .. | .. | 1937-38 | 26,500 |                |
|                                 | New Storages  | .. | .. | 1937-38 | 15,000 |                |
|                                 |   |    |    |         |        | 289,918        |
|                                 | <b>Total (Urban Works)</b>  | .. | .. |         |        | <b>491,028</b> |
|                                 | FLOOD PROTECTION.   |    |    |         |        |                |
| Kooweerup and Cardinia .. .. .  | Drains and Levees   | .. | .. | 1932-33 | 22,000 |                |
|                                 | Drains and Levees   | .. | .. | 1934-35 | 65,000 |                |
|                                 | (Includes £25,000 from Commonwealth)  | .. | .. |         |        |                |
|                                 | Cardinia Outfall  | .. | .. | 1936-37 | 10,000 |                |
|                                 | Yallock Outfall   | .. | .. | 1936-37 | 5,000  |                |
|                                 | Yallock Outfall   | .. | .. | 1937-38 | 25,000 |                |
|                                 | Flood Relief  | .. | .. | 1937-38 | 2,000  |                |
|                                 |   |    |    |         |        | 129,000        |
| Lake Meering .. .. .            | Levees  | .. | .. | 1933-34 | 790    | 790            |
| Various Districts .. .. .       | 1934 Flood Damage—Repairs   | .. | .. | 1933-34 | 20,000 | 20,000         |
| Carrum .. .. .                  | Eastern Contour Drain   | .. | .. | 1932-33 | 8,000  |                |
|                                 | Drains and Levees   | .. | .. | 1933-36 | 17,450 |                |
|                                 | Pillars Bridge—Flooding   | .. | .. | 1936-37 | 2,000  |                |
|                                 | Flood Relief  | .. | .. | 1937-38 | 4,500  |                |
|                                 |   |    |    |         |        | 31,950         |
| Swan Hill and Kerang .. .. .    | Pental Island   | .. | .. | 1932-33 | 170    |                |
|                                 | Little Murray Levees, Fish Point  | .. | .. | 1933-34 | 6,430  |                |
|                                 | Little Murray Levees, Benjeroop   | .. | .. | 1933-34 | 7,500  |                |
|                                 | Murray River Levees, Swan Hill  | .. | .. | 1935-36 | 3,000  |                |
|                                 | Murray River Levees, Swan Hill  | .. | .. | 1937-38 | 4,000  |                |
|                                 | Murray River Levees   | .. | .. | 1937-38 | 3,000  |                |
|                                 | Loddon River Levees   | .. | .. | 1937-38 | 3,000  |                |
|                                 |   |    |    |         |        | 27,100         |
| Dandenong .. .. .               | Levee Bank, Stud Road   | .. | .. | 1934-35 | 700    | 700            |
|                                 |   |    |    |         |        |                |
|                                 | <b>Total (Flood Protection Works)</b>   | .. | .. |         |        | <b>209,540</b> |

APPENDIX B—continued.

SCHEDULE OF GRANTS 12TH JULY, 1932, TO 30TH JUNE, 1938—continued.

| Locality.                   | Works.  |                               |  |                 | Grant. |            |
|-----------------------------|---|-------------------------------|--|-----------------|--------|------------|
|                             | RIVER IMPROVEMENTS.   |                               |  |                 | £      | £          |
| Mitchell River .. .. .      | Snagging—Bairnsdale .. .. .   | 1932–33                       |  | 350             |        | 350        |
| Goulburn River .. .. .      | Cribwork—Acheron Breakaway .. .. .  | 1932–34                       |  | 1,000           |        | 1,000      |
| Rivers Generally .. .. .    | Snagging—<br>Avoca, West Barwon, Broken,<br>Fitzroy, Gellibrand, Goulburn,<br>King, Kiewa, Latrobe, Loddon,<br>Macalister, Mitchell, Ovens, .. .. .<br>Powlett, Rubicon, Snowy, Tambo,<br>Tarra, Tarwin, Thomson, and Yarra<br>Rivers; Gunbower and Woori<br>Yallock Creeks .. .. . | 1934–37<br>1937–38<br>.. .. . |  | 46,500<br>5,000 |        |            |
| Snowy River, Orbost .. .. . | Improvements .. .. .  | 1933–34                       |  | 5,580           |        | 51,500     |
|                             | Improvements .. .. .  | 1937–38                       |  | 12,000          |        |            |
|                             |   |                               |  |                 |        | 17,580     |
| Latrobe River .. .. .       | Improvements .. .. .  | 1936–37                       |  | 10,000          |        |            |
|                             | Improvements .. .. .  | 1937–38                       |  | 8,000           |        |            |
|                             |   |                               |  |                 |        | 18,000     |
|                             | Total (River Improvements) .. .. .  |                               |  | ..              |        | 88,430     |
|                             |   |                               |  |                 |        |            |
|                             | GENERAL.  |                               |  |                 |        |            |
| Districts Generally .. .. . | Noxious Weeds—Destruction .. .. .   | 1936–37                       |  | 1,000           |        | 1,000      |
|                             |   |                               |  |                 |        |            |
|                             | Total of Grants from 12.7.32 to 30.6.38 ..  |                               |  |                 |        | £2,214,373 |
|                             |   |                               |  |                 |        |            |
|                             | GRAND TOTAL OF GRANTS FROM<br>1.6.30 TO 30.6.38 .. .. .   |                               |  |                 |        | £2,380,408 |

NOTE.—The total expenditure of Unemployment Relief Funds as from 1st June, 1930, to 30th June, 1938, was £2,216,802, the total number of men to whom employment was provided being 37,541.

# APPENDIX C.

## Statements Giving General Particulars Relating to Districts Controlled By Commission.

### A—IRRIGATION AND WATER SUPPLY DISTRICTS.

#### SOURCES OF SUPPLY AND CHANNEL MILEAGES.

| District.                                     | Source of Supply.                        | Mileage of Irrigation Channels. |
|---|--|---------------------------------|
| Bacchus Marsh .. .. .                         | Werribee River and Tributaries .. .. .   | 47                              |
| Boort .. .. .                                 | Goulburn River .. .. .                   | 144                             |
| Calivil .. .. .                               | Goulburn River .. .. .                   | 102                             |
| Campaspe .. .. .                              | Campaspe River .. .. .                   | 24                              |
| Cohuna .. .. .                                | Murray River, Torrumbarry System .. .. . | 167                             |
| Deakin .. .. .                                | Goulburn River .. .. .                   | 85                              |
| Dingee .. .. .                                | Goulburn River .. .. .                   | 21                              |
| Echuca North .. .. .                          | Goulburn River .. .. .                   | 40                              |
| Fish Point .. .. .                            | Murray River, Torrumbarry System .. .. . | 15                              |
| Katandra .. .. .                              | Goulburn River .. .. .                   | 38                              |
| Kerang .. .. .                                | Murray River, Torrumbarry System .. .. . | 200                             |
| Koondrook .. .. .                             | Murray River, Torrumbarry System .. .. . | 198                             |
| Leitchville .. .. .                           | Murray River, Torrumbarry System .. .. . | 36                              |
| Maffra-Sale .. .. .                           | Macalister River .. .. .                 | 196                             |
| Merbein .. .. .                               | Murray River .. .. .                     | 54                              |
| Mystic Park .. .. .                           | Murray River, Torrumbarry System .. .. . | 32                              |
| North Shepparton .. .. .                      | Goulburn River .. .. .                   | 129                             |
| Nyah .. .. .                                  | Murray River .. .. .                     | 35                              |
| Red Cliffs .. .. .                            | Murray River .. .. .                     | 125                             |
| Rochester .. .. .                             | Goulburn River .. .. .                   | 294                             |
| Rodney .. .. .                                | Goulburn River .. .. .                   | 639                             |
| Shepparton .. .. .                            | Goulburn River .. .. .                   | 98                              |
| South Shepparton .. .. .                      | Goulburn River .. .. .                   | 48                              |
| Stanhope .. .. .                              | Goulburn River .. .. .                   | 94                              |
| Swan Hill .. .. .                             | Murray River .. .. .                     | 104                             |
| Third Lake .. .. .                            | Murray River, Torrumbarry System .. .. . | 33                              |
| Tongala .. .. .                               | Goulburn River .. .. .                   | 162                             |
| Tragowel Plains .. .. .                       | Goulburn River .. .. .                   | 398                             |
| Tresco .. .. .                                | Murray River .. .. .                     | 18                              |
| Werribee .. .. .                              | Werribee River and Tributaries .. .. .   | 48                              |
| Kerang North-West Lakes (Waterworks District) | Murray and Loddon Rivers .. .. .         | 25                              |
| Western Wimmera (Waterworks District)         | Grampians Reservoirs .. .. .             | 50                              |
| First Mildura (Irrigation Trust) ..           | Murray River .. .. .                     | 169                             |
| Main Channels .. .. .                         | Miscellaneous .. .. .                    | 233                             |
| <b>Total .. .. .</b>                          |  | <b>4,101</b>                    |

### B—DRAINAGE DISTRICTS.

#### AREAS, OUTFALLS, AND MILEAGES OF DRAINS.

| District.  | Area (Acres). | Outfall.   | Mileage of Drains. |            |
|--|---------------|--|--------------------|------------|
|  |               |  | Open.              | Pipe.      |
| Cohuna .. .. .                                     | 61,893        | Barr Creek .. .. .                                     | 125                | ..         |
| Kerang East .. .. .                                | 82,360        | Barr Creek .. .. .                                     | 110                | ..         |
| Merbein .. .. .                                    | 7,360         | Murray River and Drainage Reserves ..                  | 5                  | 53         |
| Red Cliffs .. .. .                                 | 10,470        | Murray River and Drainage Reserves ..                  | 5                  | 83         |
| Rochester .. .. .                                  | 42,226        | Murray and Campaspe Rivers .. .. .                     | 115                | ..         |
| Rodney .. .. .                                     | 32,668        | Goulburn River .. .. .                                 | 57                 | ..         |
| Shepparton .. .. .                                 | 70,050        | Goulburn River and Broken and Nine Mile Creeks .. .. . | 187                | ..         |
| Tongala-Stanhope .. .. .                           | 83,948        | Murray and Goulburn Rivers .. .. .                     | 244                | ..         |
| Werribee .. .. .                                   | 10,496        | Port Phillip Bay .. .. .                               | 42                 | ..         |
| Not yet included in constituted Drainage Districts | ..            | Various Outfalls .. .. .                               | 390                | 112        |
|  |               | <b>Totals .. .. .</b>                                  | <b>1,280</b>       | <b>248</b> |

APPENDIX C—continued.

STATEMENTS GIVING GENERAL PARTICULARS RELATING TO DISTRICTS CONTROLLED  
BY COMMISSION—continued.

C—FLOOD PROTECTION DISTRICTS.

AREAS, WORKS, AND MILEAGES OF DRAINS.

| District.                    | Area (Acres). | Nature of Works.  | Mileage of Drains. |
|------------------------------|---------------|---|--------------------|
| Cardinia .. .. .             | 36,040        | System of drainage channels with outfalls into Western Port Bay | 150                |
| Echuca (High-street) .. .. . | 20            | Protective Levee Bank .. .. .                                   | ..                 |
| Kanyapella .. .. .           | 17,012        | Protective Levee Bank with regulator .. .. .                    | ..                 |
| Loch Garry .. .. .           | 45,700        | Protective Levee Bank with regulator .. .. .                    | ..                 |
| Lower Kooweerup .. .. .      | 61,720        | System of drainage channels with outfalls into Western Port Bay | 280                |
| <b>Total .. .. .</b>         |               |   | <b>430</b>         |

D—WATERWORKS DISTRICTS.

(Rural Supplies.)

AREAS, SOURCES OF SUPPLY AND MILEAGES OF CHANNELS AND PIPES.

| District.                       | Area (Acres). | Source of Supply.                      | Mileage of—                                 |           |
|---------------------------------|---------------|--|---|-----------|
|                                 |               |  | Channels.                                   | Pipes.    |
| Axe Creek .. .. .               | 5,960         | Coliban Reservoirs .. .. .             | 13  | ..        |
| Birchip .. .. .                 | 261,860       | Grampians Reservoirs .. .. .           | 234   | ..        |
| Carwarp .. .. .                 | 147,000       | Murray River .. .. .                   | 155   | ..        |
| Carwarp Central .. .. .         | 14,535        | Murray River .. .. .                   | 12  | ..        |
| Coreena .. .. .                 | 133,280       | Murray River .. .. .                   | 103   | ..        |
| Dering .. .. .                  | 24,870        | Grampians Reservoirs .. .. .           | 24  | ..        |
| Eureka .. .. .                  | 24,330        | Grampians Reservoirs .. .. .           | 16  | ..        |
| Harcourt .. .. .                | 10,240        | Coliban Reservoirs .. .. .             | 28  | ..        |
| Hindmarsh .. .. .               | 39,430        | Grampians Reservoirs .. .. .           | 37  | ..        |
| Karkarooc .. .. .               | 720,730       | Grampians Reservoirs .. .. .           | 642   | ..        |
| Kerang North-West Lakes .. .. . | 49,640        | Murray and Loddon Rivers .. .. .       | (See Irrigation and Water Supply Districts) | ..        |
| Long Lake .. .. .               | 438,950       | Grampians Reservoirs .. .. .           | 437   | ..        |
| Millewa .. .. .                 | 319,170       | Murray River .. .. .                   | 492   | ..        |
| Millewa Central .. .. .         | 207,290       | Murray River .. .. .                   | 186   | ..        |
| Narre Warren .. .. .            | 1,880         | Bunyip River .. .. .                   | ..  | 10        |
| Sea Lake .. .. .                | 371,370       | Grampians Reservoirs .. .. .           | 373   | ..        |
| Tyntynder .. .. .               | 675,500       | Grampians Reservoirs .. .. .           | 614   | ..        |
| Tyrrell .. .. .                 | 530,720       | Grampians Reservoirs .. .. .           | 431   | ..        |
| Tyrrell West .. .. .            | 822,880       | Grampians Reservoirs .. .. .           | 620   | ..        |
| Upper Western Wimmera .. .. .   | 253,520       | Grampians Reservoirs .. .. .           | 209   | ..        |
| Upper Wimmera United .. .. .    | 409,880       | Grampians Reservoirs .. .. .           | 343   | ..        |
| Walpeup Central .. .. .         | 81,905        | Grampians Reservoirs .. .. .           | 75  | ..        |
| Walpeup West .. .. .            | 1,531,620     | Artesian Bores .. .. .                 | ..  | ..        |
| Werribee .. .. .                | 14,210        | Werribee River and Tributaries .. .. . | 24  | ..        |
| Western Wimmera .. .. .         | 1,009,080     | Grampians Reservoirs .. .. .           | 725   | ..        |
| Wimmera United .. .. .          | 832,030       | Grampians Reservoirs .. .. .           | 938   | ..        |
| Wycheproof .. .. .              | 439,000       | Grampians Reservoirs .. .. .           | 401   | ..        |
| Yelta .. .. .                   | 51,200        | Murray River .. .. .                   | 50  | ..        |
| Carrum (W.W.T.) .. .. .         | 14,800        | .. .. .                                | 10  | ..        |
| Loddon United (W.W.T.) .. .. .  | 324,620       | Goulburn and Loddon Rivers .. .. .     | 87  | ..        |
| Main Channels .. .. .           | ..            | .. .. .                                | 169   | ..        |
| <b>Totals .. .. .</b>           |               |  | <b>7,448</b>                                | <b>10</b> |

WATERWORKS DISTRICTS SUPPLYING URBAN DISTRICTS.

(For pipe reticulations, see under Urban Districts.)

| District.                        | Source of Supply.      | Mileage of—  |            |
|----------------------------------|------------------------|--------------|------------|
|                                  |                        | Channels.    | Pipes.     |
| Bellarine Peninsula .. .. .      | Barwon River .. .. .   | 92           | 35         |
| Mornington Peninsula .. .. .     | Bunyip River .. .. .   | 50           | 60         |
| Newstead .. .. .                 | Jim Crow Creek .. .. . | 18           | ..         |
| Otway .. .. .                    | Arkins Creek .. .. .   | ..           | 51         |
| Coliban .. .. .                  | Coliban River .. .. .  | 348          | ..         |
| <b>Totals .. .. .</b>            |                        | <b>508</b>   | <b>146</b> |
| <b>GRAND TOTALS (Waterworks)</b> |                        | <b>7,956</b> | <b>156</b> |



APPENDIX C—continued.

STATEMENTS GIVING GENERAL PARTICULARS RELATING TO DISTRICTS CONTROLLED  
BY COMMISSION—continued.

E—URBAN DISTRICTS AND DIVISIONS.

SOURCES OF SUPPLY, STORAGES AND RETICULATION MAINS.

| District or Division.           | Source of Supply.                 | Local Storages.                                       |             | Reticulation<br>Mains. |         |
|---------------------------------|-----------------------------------|---|-------------|------------------------|---------|
|                                 |                                   | Type.   | Capacity.   |                        |         |
|                                 |                                   |   | gallons.    | miles.                 | chains. |
| Anglesea .. ..                  | Barwon River .. ..                | Earthen storage .. ..                                 | 3,210,000   | 3                      | 14      |
| Antwerp .. ..                   | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 3,500,000   | 0                      | 23      |
| Bacchus Marsh ..                | Werribee River and<br>tributaries | Concrete-faced embankment<br>(Grant's Gully)          | 4,350,000   | 11                     | 0       |
| Barwon Heads and<br>Ocean Grove | Barwon River .. ..                | Concrete Tank .. ..                                   | 270,000     | 11                     | 58      |
| Berriwillock ..                 | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 9,800,000   | 0                      | 79      |
| Berwick .. ..                   | Bunyip River .. ..                | Concrete Basins (low level) ..                        | 264,000     | }                      | 5 45    |
|                                 |                                   | Concrete Tower (high level)                           | 100,000     |                        |         |
| Beulah .. ..                    | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 11,800,000  | 1                      | 39      |
| Birchip .. ..                   | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 24,300,000  | 4                      | 46      |
| Bittern .. ..                   | Bunyip River .. ..                | Earthen storages .. ..                                | 2,650,000   | 1                      | 10      |
| Brim .. ..                      | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 11,100,000  | 1                      | 76      |
| Bunyip .. ..                    | } Bunyip River .. ..              | Earthen storage .. ..                                 | 2,129,000   | }                      | 3 21    |
| Garfield .. ..                  |                                   |   |             |                        |         |
| Longwarry .. ..                 |                                   |   |             |                        |         |
| Carrum .. ..                    | Bunyip River .. ..                | Supplied from Frankston and<br>Lysterfield Reservoirs | ..          | 33                     | 36      |
| Carwarp .. ..                   | Murray River .. ..                | Earthen storage .. ..                                 | 1,300,000   | 0                      | 35      |
| Chillingollah ..                | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 9,400,000   | 0                      | 46      |
| Chinkapook .. ..                | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 3,200,000   | 0                      | 45      |
| Cohuna .. ..                    | Gunbower Creek .. ..              | Concrete tower .. ..                                  | 100,000     | 5                      | 13      |
| Corop .. ..                     | Goulburn River .. ..              | Gravitation pipe from<br>Waranga-Western Channel      | ..          | 0                      | 30      |
| Cranbourne .. ..                | Bunyip River .. ..                | Concrete basins .. ..                                 | 264,000     | 3                      | 42      |
| Crib Point .. ..                | Bunyip River .. ..                | Supplied from Bittern Service<br>Basins               | 2,650,000   | 4                      | 46      |
| Culgoa .. ..                    | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 9,900,000   | 0                      | 67      |
| Dandenong .. ..                 | } Bunyip River .. ..              | Earthen storage, also Lyster-<br>field Reservoir      | 35,000,000  | }                      | 25 64   |
| Spring Vale .. ..               |                                   |   |             |                        |         |
| Dimboola .. ..                  | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 52,200,000  | 11                     | 70      |
| Dingee .. ..                    | Goulburn River .. ..              | Elevated tank .. ..                                   | 20,000      | }                      | 1 16    |
|                                 |                                   | Earthen storage .. ..                                 | 250,000     |                        |         |
| Dooen .. ..                     | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 2,500,000   | 0                      | 74      |
| Drysdale .. ..                  | Barwon River .. ..                | Earthen storage .. ..                                 | 6,806,000   | 4                      | 60      |
| Frankston .. ..                 | Bunyip River .. ..                | Earthen storage .. ..                                 | 180,000,000 | 25                     | 13      |
| Garfield (see Bunyip)           |                                   |   |             |                        |         |
| Hastings .. ..                  | Bunyip River .. ..                | Earthen storage .. ..                                 | 1,730,000   | 2                      | 14      |
| Heyfield .. ..                  | Macalister River .. ..            | Earthen storage .. ..                                 | 5,380,000   | 5                      | 70      |
| Hicksborough ..                 | Lance Creek .. ..                 | Earthen storage .. ..                                 | 2,000,000   | }                      | 0 22    |
|                                 |                                   | Concrete tower .. ..                                  | 60,000      |                        |         |
| Hopetoun .. ..                  | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 65,300,000  | 2                      | 23      |
| Jeparit .. ..                   | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 33,500,000  | 3                      | 59      |
| Jung Jung .. ..                 | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 2,700,000   | 1                      | 40      |
| Koondrook .. ..                 | Murray River .. ..                | Concrete tower .. ..                                  | 63,000      | 2                      | 40      |
| Lake Boga .. ..                 | Lake Boga .. ..                   | Concrete lined storage basin                          | 200,000     | 1                      | 64      |
| Lalbert .. ..                   | Wimmera Mallee Channel<br>System  | Earthen storage .. ..                                 | 10,100,000  | 2                      | 42      |
| Lascelles .. ..                 | Wimmera-Mallee Channel<br>System  | Earthen storage .. ..                                 | 11,800,000  | 1                      | 7       |
| Leitchville .. ..               | Murray River .. ..                | Steel tower .. ..                                     | 25,000      | 1                      | 29      |
| TOTALS (carried forward)        | .. ..                             | .. ..   | 509,921,000 | 233                    | 7       |

## APPENDIX C—continued.

## E—URBAN DISTRICTS AND DIVISIONS—continued.

## SOURCES OF SUPPLY, STORAGES AND RETICULATION MAINS.

| District or Division.          | Source of Supply.      | Local Storages.              |    | Capacity.               | Reticulation Mains.     |
|--------------------------------|------------------------|------------------------------|----|-------------------------|-------------------------|
|                                |                        | Type.                        |    |                         |                         |
| Brought forward ..             | ..                     | ..                           | .. | gallons.<br>509,921,000 | miles. chains.<br>233 7 |
| Lockington ..                  | Goulburn River ..      | Elevated tank ..             | .. | 20,000                  | 1 70                    |
| Longwarry (see Bunyip)         | Wimmera-Mallee Channel | Earthen storage ..           | .. | 11,300,000              | 1 76                    |
| Manangatang ..                 | System                 |                              |    |                         |                         |
| Marnoo ..                      | Wimmera-Mallee Channel | Earthen storage ..           | .. | 10,100,000              | 1 74                    |
|                                | System                 |                              |    |                         |                         |
| Merbein ..                     | Murray River ..        | Pumped direct from river ..  | .. | ..                      | 6 43                    |
| Meringur ..                    | Murray River ..        | Earthen storage ..           | .. | 3,000,000               | 0 58                    |
| Minyip ..                      | Wimmera-Mallee Channel | Earthen storage ..           | .. | 15,150,000              | 3 54                    |
|                                | System                 |                              |    |                         |                         |
| Mornington ..                  | Bunyip River ..        | Earthen storage ..           | .. | 71,707,000              | 12 18                   |
| Mount Martha ..                | Bunyip River ..        | Earthen storage ..           | .. | 1,000,000               | 5 46                    |
| Murrabit ..                    | Murray River ..        | Earthen storage ..           | .. | 250,000                 | } 0 70                  |
|                                |                        | Elevated tank ..             | .. | 20,000                  |                         |
| Nandaly ..                     | Wimmera-Mallee Channel | Earthen storage ..           | .. | 33,700,000              | 0 53                    |
|                                | System                 |                              |    |                         |                         |
| Natimuk ..                     | Wimmera-Mallee Channel | Earthen storage ..           | .. | 10,600,000              | 4 72                    |
|                                | System                 |                              |    |                         |                         |
| Newstead ..                    | Jim Crow Creek ..      | Earthen storage ..           | .. | 9,946,000               | 5 3                     |
| North Wonthaggi ..             | Lance Creek ..         | Earthen storage ..           | .. | 1,393,000               | 4 34                    |
| Nullawil ..                    | Wimmera-Mallee Channel | Earthen storage ..           | .. | 5,300,000               | 0 52                    |
|                                | System                 |                              |    |                         |                         |
| Nyah ..                        | Murray River ..        | Earthen storage ..           | .. | 1,000,000               | 0 63                    |
| Nyah West ..                   | Murray River ..        | Earthen storage ..           | .. | 4,000,000               | } 2 48                  |
|                                |                        | Concrete tower ..            | .. | 120,000                 |                         |
| Ouyen ..                       | Wimmera-Mallee Channel | Earthen storage ..           | .. | 62,000,000              | 4 44                    |
|                                | System                 |                              |    |                         |                         |
| Pakenham ..                    | Bunyip River ..        | Earthen storage ..           | .. | 3,300,000               | 4 55                    |
| Patchewollock ..               | Wimmera-Mallee Channel | Earthen storage ..           | .. | 7,800,000               | 1 16                    |
|                                | System                 |                              |    |                         |                         |
| Piangil ..                     | Murray River ..        | Pumped direct from river ..  | .. | ..                      | 2 76                    |
| Portarlington ..               | Barwon River ..        | Concrete tank ..             | .. | 208,000                 | 6 70                    |
| Pyramid Hill ..                | Goulburn River ..      | Concrete stand pipe ..       | .. | 120,000                 | 2 26                    |
| Quambatook ..                  | Wimmera-Mallee Channel | Earthen storage ..           | .. | 21,300,000              | 2 43                    |
|                                | System                 |                              |    |                         |                         |
| Queenscliff and Point Lonsdale | Barwon River ..        | Earthen storage ..           | .. | 6,806,000               | 12 24                   |
| Rainbow ..                     | Wimmera-Mallee Channel | Earthen storage ..           | .. | 21,900,000              | 4 45                    |
|                                | System                 |                              |    |                         |                         |
| Red Cliffs ..                  | Murray River ..        | Pumped direct from river ..  | .. | ..                      | 7 40                    |
| Rupanyup ..                    | Wimmera-Mallee Channel | Earthen storage ..           | .. | 13,800,000              | 2 50                    |
|                                | System                 |                              |    |                         |                         |
| Sea Lake ..                    | Wimmera-Mallee Channel | Earthen storage ..           | .. | 66,700,000              | 2 27                    |
|                                | System                 |                              |    |                         |                         |
| Somerville ..                  | Bunyip River ..        | Supplied from main pipe line | .. | ..                      | 2 11                    |
| South Frankston ..             | Bunyip River ..        | Earthen storage ..           | .. | 2,442,000               | } 5 77                  |
|                                |                        | Concrete tower ..            | .. | 842,000                 |                         |
| Speed ..                       | Wimmera-Mallee Channel | Earthen storage ..           | .. | 6,900,000               | 1 45                    |
|                                | System                 |                              |    |                         |                         |
| Spring Vale (see Dandenong)    |                        |                              |    |                         |                         |
| Stanhope ..                    | Goulburn River ..      | Elevated tank ..             | .. | 20,000                  | 0 78                    |
| Tempy ..                       | Wimmera-Mallee Channel | Earthen storage ..           | .. | 8,400,000               | 1 16                    |
|                                | System                 |                              |    |                         |                         |
| Torquay ..                     | Barwon River ..        | Earthen storage ..           | .. | 5,445,000               | 5 24                    |
| Ultima ..                      | Wimmera-Mallee Channel | Earthen storage ..           | .. | 11,300,000              | 1 0                     |
|                                | System                 |                              |    |                         |                         |
| Waitchie ..                    | Wimmera-Mallee Channel | Earthen storage ..           | .. | 5,100,000               | 1 26                    |
|                                | System                 |                              |    |                         |                         |
| Walpeup ..                     | Wimmera-Mallee Channel | Earthen storage ..           | .. | 5,300,000               | 1 0                     |
|                                | System                 |                              |    |                         |                         |
| Watchem ..                     | Wimmera-Mallee Channel | Earthen storage ..           | .. | 13,500,000              | 1 62                    |
|                                | System                 |                              |    |                         |                         |
| TOTALS (carried forward)       | ..                     | ..                           | .. | 951,710,000             | 364 16                  |

APPENDIX C—*continued.*

E—URBAN DISTRICTS AND DIVISIONS—*continued.*

SOURCES OF SUPPLY, STORAGES AND RETICULATION MAINS.

| District or Division. | Source of Supply.                  | Local Storages.             |                      | Reticulation<br>Mains. |
|-----------------------|------------------------------------|-----------------------------|----------------------|------------------------|
|                       |                                    | Type.                       | Capacity.            |                        |
|                       |                                    |                             | gallons.             | miles. chains.         |
| Brought forward ..    | .. .. .                            | .. .. .                     | 951,710,000          | 364 16                 |
| Werrimull .. ..       | Murray River .. ..                 | Earthen storage .. ..       | 10,000,000           | 2 3                    |
| Wonthaggi .. ..       | Lance Creek .. ..                  | Earthen storage .. ..       | 421,045,000          | 19 22                  |
| Woomelang .. ..       | Wimmera-Mallee Channel<br>System   | Earthen storage .. ..       | 21,500,000           | 2 53                   |
| Woorinen .. ..        | Wimmera-Mallee Channel<br>System   | Earthen storage .. ..       | 7,600,000            | 1 17                   |
| Wycheproof .. ..      | Wimmera-Mallee Channel<br>System   | Earthen storage .. ..       | 21,900,000           | 4 54                   |
| Yaapeet .. ..         | Wimmera-Mallee Channel<br>System   | Earthen storage .. ..       | 29,300,000           | 1 23                   |
|                       |                                    | <b>Totals .. ..</b>         | <b>1,463,055,000</b> | <b>395 28</b>          |
| Coliban .. ..         | Coliban River and Main<br>Storages | 26 subsidiary storages ..   | 1,857,000,000        | 300 0                  |
|                       |                                    | <b>GRAND TOTALS (Urban)</b> | <b>3,320,055,000</b> | <b>695 28</b>          |

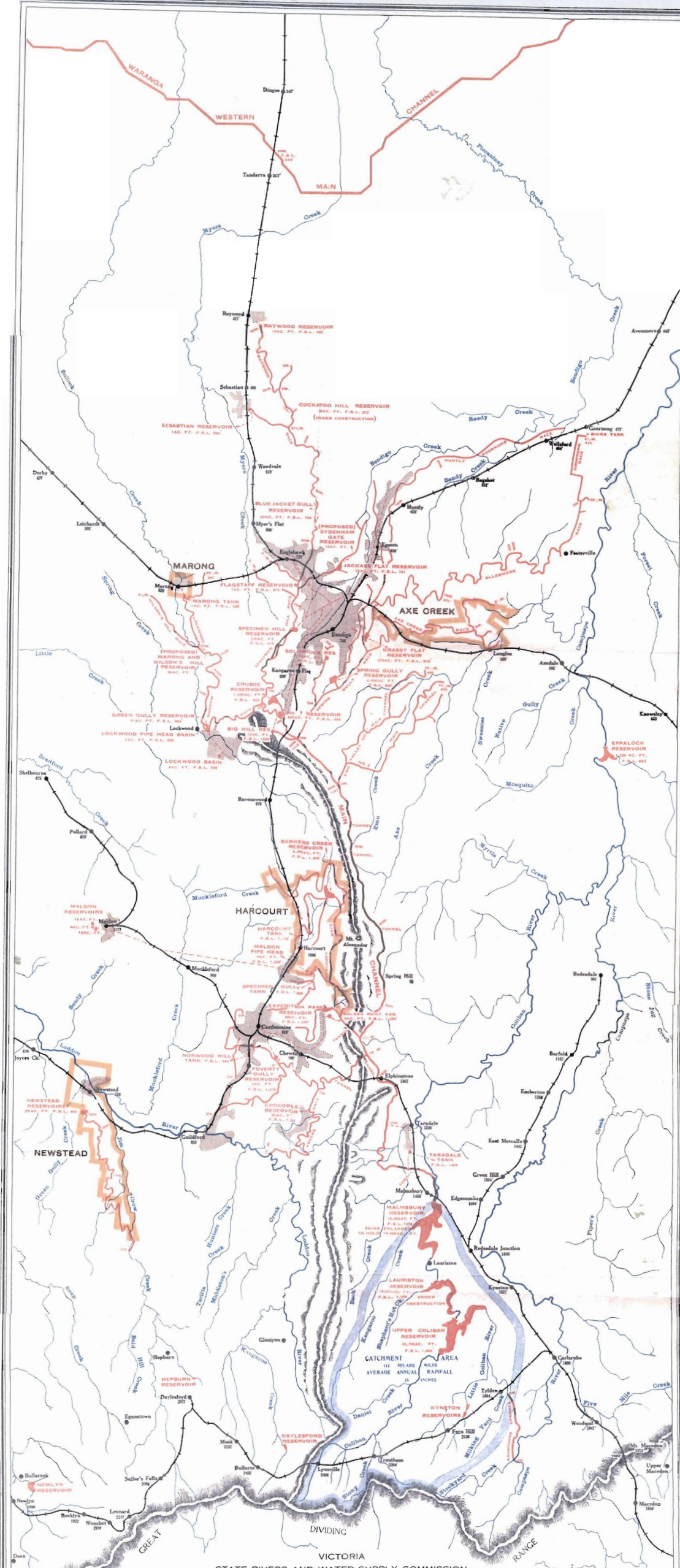
## APPENDIX D.

### STATE RIVERS AND WATER SUPPLY COMMISSION.

### WATER SUPPLY STATISTICS.

#### SUMMARY RELATING TO WATER SUPPLY IN VICTORIA.

|  |    |    |    |    |    |    |    |    |                        |
|--|----|----|----|----|----|----|----|----|------------------------|
| Victoria—Area  | .. | .. | .. | .. | .. | .. | .. | .. | 56,000,000 acres       |
| Rainfall   | .. | .. | .. | .. | .. | .. | .. | .. | 10 inches to 80 inches |
| Total Net Expenditure Country Water Supply to 30th June, 1938  | .. | .. | .. | .. | .. | .. | .. | .. | £25,270,314 4s. 9d.    |
| Channels—Length—   |    |    |    |    |    |    |    |    |                        |
| Irrigation Supply  | .. | .. | .. | .. | .. | .. | .. | .. | 4,101 miles            |
| Domestic and Stock Supply  | .. | .. | .. | .. | .. | .. | .. | .. | 7,956 miles            |
| Drainage   | .. | .. | .. | .. | .. | .. | .. | .. | 1,958 miles            |
| Total  | .. | .. | .. | .. | .. | .. | .. | .. | 14,015 miles           |
| Area of lands in Victoria artificially supplied with water for domestic and stock purposes by channels, tanks, and bores | .. | .. | .. | .. | .. | .. | .. | .. | 15,065,000 acres       |
| This represents over one-quarter of the total area of the State—actually two-fifths of the agricultural lands            |    |    |    |    |    |    |    |    |                        |
| Area commanded by irrigation channels  | .. | .. | .. | .. | .. | .. | .. | .. | 2,080,000 acres        |
| Area Irrigated—1937-38   | .. | .. | .. | .. | .. | .. | .. | .. | 590,112 acres          |
| Area benefited by Flood Protection Works   | .. | .. | .. | .. | .. | .. | .. | .. | 160,500 acres          |
| Storages—  |    |    |    |    |    |    |    |    |                        |
| Present capacity   | .. | .. | .. | .. | .. | .. | .. | .. | 1,903,450 acre feet    |
| Additional storage being provided by works in course of construction   | .. | .. | .. | .. | .. | .. | .. | .. | 28,610 acre feet       |
| Further storage which could be provided by completion of existing works  | .. | .. | .. | .. | .. | .. | .. | .. | 420,500 acre feet      |
| Districts administered by Commission—  |    |    |    |    |    |    |    |    |                        |
| Irrigated Districts—Water supplied for cultivation   | .. | .. | .. | .. | .. | .. | .. | .. | 31 districts           |
| Domestic and Stock Districts—Water supplied to fill excavated storage tanks  | .. | .. | .. | .. | .. | .. | .. | .. | 31 districts           |
| Flood Protection Districts   | .. | .. | .. | .. | .. | .. | .. | .. | 5 districts            |
| Waterworks Trusts and Local Governing Bodies supervised by Commission  | .. | .. | .. | .. | .. | .. | .. | .. | 133 districts          |
| Sewerage Authorities supervised by Commission  | .. | .. | .. | .. | .. | .. | .. | .. | 22 districts           |
| Country Towns—Reticulated pipe supplies for domestic use—  |    |    |    |    |    |    |    |    |                        |
| Administered by Commission   | .. | .. | .. | .. | .. | .. | .. | .. | 109 towns              |
| „ „ Waterworks Trusts  | .. | .. | .. | .. | .. | .. | .. | .. | 112 towns              |
| „ „ Local Governing Bodies   | .. | .. | .. | .. | .. | .. | .. | .. | 16 towns               |
| Total Population in Country Towns supplied with water  | .. | .. | .. | .. | .. | .. | .. | .. | 429,300 persons        |



**COLIBAN SYSTEM OF WATERWORKS**  
 SHOWING  
**CATCHMENT AREA, STORAGES, RACES, AND PIPE**  
**RETICULATED AREAS**

|                         |            |                         |            |
|-------------------------|------------|-------------------------|------------|
| CATCHMENT AREA          | shown thus | MAIN PIPE LINES         | shown thus |
| RESERVOIRS              | " "        | PIPE RETICULATED AREAS  | " "        |
| RACES —                 | " "        | WATERWORKS DISTRICTS    | " "        |
| CONCRETE LINED SECTIONS | " "        | RAILWAYS                | " "        |
| EARTHEN SECTIONS        | " "        | HEIGHTS ABOVE SEA LEVEL | " "        |
| NATURAL WATER RESOURCES | " "        |                         |            |

**SCALE OF MILES**



*Chairman*  
 CHAIRMAN

1-10-38