

These schemes and the Omakau Scheme are operated on a demand basis, and the continued fall in revenue is mainly due to the shortage of labour on the farms, aggravated by the unavailability of materials needed to put intensive farming methods into practice. It is significant, however, that the development is on sound and permanent lines. More than 60 per cent. of the farmers using water have established lucerne for winter feed, and many are going into seed-production.

Downs Water-supply Scheme: With the exception of maintenance of the area at present served, over 140,000 acres, this work has been at a standstill during the year owing to the shortage of galvanized pipes and fittings. An area of 10,543 acres, wholly in Waimate County, is still to be reticulated, but the reservoir and trunk main for this area have been installed.

SCHEMES UNDER CONSTRUCTION

Ashburton-Lyndhurst and Mayfield-Hinds Schemes.—These schemes have remained static during the year on account of the transfer of labour and plant to urgent defence works.

Rangitata Diversion Race.—Although some progress was made during the year, work was severely retarded by the transfer of men and equipment to urgent defence works. Some of the more important of these are nearing completion, and consequently I hope to increase the speed of the diversion race and Highbank Power-house construction so as to have the plant ready for service in the winter of 1944. The capacity of the station will be 36,000 h.p., and sufficient to relieve much of the strain on the generating capacity of the South Island system.

Canterbury Irrigation Investigations.—The collection of data from meteorological and river-flow stations has continued, but much important detail work has been suspended for the duration of the war.

CONSTRUCTION AND IMPROVEMENT OF ROADS

The roading programme has remained greatly curtailed, and the activities under this heading were confined mainly to the completion of works which had already been in hand.

Many proposed works which in normal times would have been undertaken as part of the ordinary programme have been deferred until more favourable conditions obtain, particularly in respect of man-power and materials.

The following is a summary of the works completed during the past year: Formation, 28 miles; metalling, 69 miles; bridging, 3,164 lineal feet; culverting, 3,616 lineal feet. In addition, over 70 miles of road in process of construction were maintained, to preserve the work already executed.

HYDRO-ELECTRIC DEVELOPMENT: CONSTRUCTION WORKS

Karapiro.—This work has been virtually at a standstill due to shortage of man-power and plant. Preparations are, however, well in hand for diverting the river from the dam and power-house sites.

Taupo Control.—Steady progress has been made towards deepening the river channel up and down stream of the control gates.

Waikaremoana Lower.—All essential headworks are complete; there is, however, a good deal of cleaning up to be done. One generating-set is now in operation; the other still lacks a few parts before it can be completed.

Waikaremoana Upper.—Boring and preliminary work on the camp and power-house sites are in hand.

Cobb River.—Cleaning and lining the tunnel are nearing completion. On account of the steel shortage, second-hand pipes were obtained from Waipori, and these, and some steel plates taken over from the company, are being assembled. Heavy steel plates for the high-pressure section are not yet available.

Highbank.—The power-house and staff cottages have been completed, and the erection of the plant and steel penstock is in hand.

Tekapo.—This work has been closed throughout the year, and only supervision and maintenance have been attended to.

LANDS-IMPROVEMENT

Swamp Drainage.—The work of enlarging and raising stop-banks at Ruawai and Naumai has been steadily proceeded with, and a contract for culverts and flood-gates is well in hand.

Sand-dune Reclamation.—Only a limited amount of work has been carried out on the various areas—additional trees have been planted out and general maintenance attended to.

Manawatu River (Whirokino Cut).—Very little progress has been made here, the men and plant having been diverted to defence works. The contractors resumed towards the end of the period, but very little effective work has been completed.