

## IRRIGATION.

## CENTRAL OTAGO.

## OPERATION AND MAINTENANCE OF IRRIGATION SCHEMES.

There are now twelve schemes in operation on a trading basis, as enumerated in the table below.

The total area irrigated last season was 38,027 acres, water being supplied to 402 irrigators, as against an area of 36,353 acres and 395 irrigators in the 1933-34 season. The area that should have been supplied with water was 41,886 acres, but owing to non-payment of outstanding rates water was refused to an area of 4,533 acres.

The total area commanded by the distribution races and which could be irrigated is 46,597 acres, but owing to the undoubted inability of some irrigators to carry out their contracts it was deemed advisable to cancel their agreements until such time as the returns from farming improve or the properties concerned change hands. Generally speaking, all the operating schemes were this year carried on successfully, although the summer was an exceedingly dry one.

Schemes operating on storage were not inconvenienced, but some of those depending entirely on stream-flow were somewhat short towards the end of the season. This shortage, however, was not very acute.

Thunderstorms occasioned three breaks in main races, two in the Manuherikia and one in the Tarras scheme. Repairs were carried out without much diminution in the supply.

The completed schemes now in operation are shown in the following table, which also indicates the areas actually irrigated, the area that should have been irrigated if the settlers had paid their arrears of rates, and the number of irrigators in each scheme:—

Scheme.	Area actually irrigated.	Area that could be irrigated.	Number of Irrigators.
	Acre.	Acre.	
Arrow River .. ..	2,432	3,421	39
Ardgour .. ..	1,322	1,400	12
Bengerburn .. ..	114	144	13
Earnsclough .. ..	1,992	2,101	44
Galloway .. ..	2,542	2,653	22
Hawkdun .. ..	5,918	8,242	50
Idaburn .. ..	565	615	8
Ida Valley .. ..	10,908	11,761	55
Last Chance .. ..	1,432	2,231	21
Manuherikia .. ..	4,710	6,090	72
Tarras .. ..	2,727	3,952	16
Teviot River .. ..	3,365	3,987	50
Totals .. ..	38,027	46,597	402

The financial results of the year's operations are as follows: Revenue, £21,385; working-expenses, £14,004; gross profit on working, £7,831.

As far as possible water rates were collected in advance where irrigators were in arrears with their payments. Since the 31st March, £11,513 has been collected, and for the year under review, £18,144.

Work in connection with stream-gauging, lake-level recording, and meteorological records was carried out as usual.

## SCHEMES UNDER CONSTRUCTION.

*Omakau Scheme.*—Falls Dam: This is nearing completion, the only work of any magnitude remaining being the completion of the spillway, plugging the river-diversion tunnel, and the installation of the outlet valves. The spillway was excavated and concreted during the year, and the access drive to the valves completed.

About 35,000 cubic yards of stone were required to complete the dam at the end of last year, and this has now been placed, making the total stone-fill 174,000 cubic yards.

The reinforced-concrete slabs on the upstream face of the dam were completed, as well as the concrete in cut-off wall. Grouting underneath the cut-off wall was carried out.

*Race-system.*—During the year  $2\frac{1}{2}$  miles of main race was cut, making a total length of main race of  $23\frac{1}{4}$  miles. Fifteen miles of branch and distributary races were also completed. In addition to the race-cutting, the following lengths and sizes of concrete siphons were built: 54 in. diameter, 1,190 ft.; 48 in. diameter, 224 ft.; 45 in. diameter, 433 ft.; 42 in. diameter, 5,290 ft.; 36 in. diameter, 838 ft.; 18 in. diameter, 524 ft.; 15 in. diameter, 120 ft.; and steel concrete pipes, 1,260 ft., 36 in. diameter. Fifty-eight road-crossings and race-bridges were constructed. The intake weir for the main race is nearly completed, and the intake-gates and sluiceway are in hand.

The weir for the intake on Thompson's Creek for the Matakanui section was completed. One byewash and one siphon spillway were completed, and another siphon spillway is in hand. Twenty-one concrete drops were installed, in capacity from 70 to 5 cusecs. A small water-drive 151 ft. long was driven. It is expected that water will be supplied next season for this scheme.