1945

NEW ZEALAND

DEPARTMENT OF LANDS AND SURVEY

RANGITAIKI LAND DRAINAGE

REPORT FOR THE YEAR ENDED 31st MARCH, 1945

Presented to both Houses of the General Assembly in pursuance of Section 10 of the Rangitaiki Land Drainage Act, 1910

Department of Lands and Survey, Wellington, 1st June, 1945.

SIR,—

I have the honour to submit herewith the report of the Chief Drainage Engineer on drainage operations on the Rangitaiki Plains for the year ended 31st March, 1945, pursuant to the provisions of the Rangitaiki Land Drainage Act, 1910.

I have, &c.,
R. G. MACMORRAN,
Under-Secretary for Lands.

The Hon. the Minister of Lands.

REPORT OF THE CHIEF DRAINAGE ENGINEER

SIR,—

In accordance with the provisions of the Rangitaiki Land Drainage Act, 1910, I have the honour to submit a report on the work carried out during the year ended 31st March, 1945.

The outstanding feature of the year has been the resolute effort of the settlers in the district to repair the ravages of the floods of February and March, 1944. Pastures destroyed by the floods have been re-established, and dairy herds have returned to farms from which all stock had to be removed.

The butter manufactured at the Edgecumbe Dairy Factory, which is supplied by the farms of the district, was 4,482 tons and 4,711 tons for the years ending 31st March, 1944 and 1945, respectively. The peak output for this factory is over 5,000 tons per annum, and taking into consideration the destruction and disorganization on the farms caused by the floods, the production figures for these two seasons are remarkable.

Though no serious flooding occurred during the 1944–45 fiscal year, conditions were not favourable for high production. Some minor flooding occurred in July, 1944, and in 1945. An exceptional rainfall of 7·32 in. in twenty-four hours ending at 9 a.m. on the 6th March, 1945, did not cause serious flooding, though the drains were overtaxed. The total rainfall for 1944–45 was 44·46 in., which is below the average of 50·31 in. over a period of twenty-seven years. The wettest month was March, 1945, with a fall of 8·93 in., and the driest month February, when the rainfall was 1·28 in. Rain fell on eighty-seven days.

There is a considerable area of peat and marsh soil with intersecant ridges of silt or sand, generally formed by overflow along the banks of old watercourses. Many of these old watercourses have been and are still covered by peat, and as the peat subsides as the result of drainage the firm ridges appear, the contour of the land alters, and the drainage conditions change. To assist in determining the amount of subsidence to be expected in future and give an indication of the final contour of the country when subsidence ceases, a topographical and soil survey of the district has been commenced, and will proceed as fast as possible. Preliminary surveys of an area of 20 square miles have been made, involving 8,345 chains of levels, 2,830 chains of traverse, and 173 boreholes varying in depth from 6 ft. to 24 ft.

For several years small land-drainage pumping plants have been operated by individual farmers or groups of farmers for the better drainage of low-lying areas. With persistent subsidence of the land, the area requiring mechanical drainage is increasing, and this will necessitate greater pumping capacity and higher suction lifts. Adjustments will have to be made to existing pumping plants, and if duplication and conflict is to be avoided, pumping schemes must be designed to conform to an overall plan. With the information obtained by the survey now being carried out, this will be possible in future.

To cope with emergency repairs of flood damage, two additional drag-line excavators, released from defence work, arrived at Rangitaiki late in March, 1944, and four drag-line excavators have been employed on maintenance and repair work in the district throughout the year under review. Practically all construction equipment of this type now in New Zealand is well worn by years of forced wartime construction that did not allow time for regular overhaul, and the machines have now reached a stage where work is frequently interrupted by breakdowns, and delay is caused by difficulty in replacing worn-out parts. It will be apparent, however, from the details given below that the four machines have accomplished a very considerable amount of flood-damage repair and drain-maintenance work.

No. 17 Monighan Drag-line Excavator has been employed removing silt from the Awaiti Stream and reconstructing the right stop-bank with the spoil. Prior to 1st April, 1944, the plant had completed a reach of 100 chains downstream from the junction of the Omeheu Canal with the Awaiti Stream. During the following year the plant worked