

1939.
NEW ZEALAND.

DEPARTMENT OF LANDS AND SURVEY.

RANGITAIKI LAND DRAINAGE.

REPORT FOR THE YEAR ENDED 31st MARCH, 1939, TOGETHER WITH STATEMENTS OF ACCOUNTS

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

SIR,—

Department of Lands and Survey, Wellington, 1st July, 1939.

I have the honour to submit herewith the report of the Chief Drainage Engineer on drainage operations in the Rangitaiki Plains for the year ended 31st March, 1939, pursuant to the provisions of the Rangitaiki Land Drainage Act, 1910.

I have, &c.,

R. G. MACMORRAN,

Under-Secretary for Lands.

The Hon. Frank Langstone, 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 the report on the work carried out during the year ending 31st March, 1939.

The unusual weather conditions of the past season have been responsible for a general decline in farm-production in which the Rangitaiki District has participated. A rainfall of over 15 in. in February, 1938, was followed by a wet autumn and winter on the Rangitaiki Plains. The following summer was unusually dry, and in March, 1939, the rainfall was only half an inch. These extremes of wet and dry weather have affected the pastures and reduced the returns of the settlers.

The quantity of butter manufactured by the Rangitaiki Plains Dairy Co., which handles a large portion of the dairy-produce of the district, was 4,256 tons for the fiscal year ending 31st March, 1939, a decrease of 437 tons on the output for last year.

The rainfall at Thornton for the period of twelve months, April, 1938, to 31st March, 1939, inclusive, was 51.10 in. Rain fell on 124 days. The wettest month was July, with a fall of 11.13 in. and the driest month was March, when the rainfall was 0.55 in. The average rainfall for the past twenty-one years has been 52.9 in.

The programme of maintenance dredging of the main drainage canals which was commenced last year has been continued and a new light drag-line excavator has recently been added to the plant to be employed on this work. Good progress has been made with the work of raising the stop-banks on the right bank of the Tarawera River, but the unsatisfactory condition of the stop-bank on the left bank of this river has caused anxiety. Two serious breaks in this stop-bank occurred during the winter, and either of these breaks could have been the cause of the river leaving its present course. The construction of the stop-bank on the left side of the river was not part of the Rangitaiki Drainage Scheme, and the bank is not maintained. The bed of the Tarawera River is above the level of the land lying between the river and the western hills, and the soil of the river-bank is easily eroded pumice sand. Originally the overflow during floods was of shallow depth and distributed along several miles of bank. Now when the inadequate stop-bank breaks, flood-water passes through the breach with considerable volume and velocity, and should the efforts to close one of these breaks fail the resulting flooding may cause loss of stock and disorganization of road and rail communication within the district, and it may prove very difficult to return the river to its original course. This matter is of sufficient importance to warrant early attention. Legislation passed last session gives the Minister of Lands power to prohibit the construction of drains where they cause seepage under the Tarawera stop-banks.

In this connection for their protection the settlers on the river-banks should communicate with the Drainage Office at Thornton before constructing any drains within a distance of 5 chains from the Tarawera River stop-banks.

Dredges.—No. 17 Monighan drag-line excavator after completing 48 chains of maintenance dredging in Reid's Central Drain commenced the deepening of the Kopeopeo Canal, and at the end of the year had completed 182 chains between the junction of Reid's Central Drain and a point 14 chains east of the Eastern Road Bridge. This machine excavated approximately 84,700 cubic yards of material during the year.

No. 30 Bay City drag-line excavator was engaged in raising the eastern Tarawera stop-banks during April and May. In June the machine was transferred to the western bank of the river to repair breaks in the stop-bank, and was engaged on this work and improving 100 chains of Withy's Drain and 12 chains of the Upper Awakaponga until October, when, after overhaul it resumed work on the eastern stop-banks. Approximately 56,400 cubic yards of material was placed in raising this stop-bank for a distance of 166 chains above the railway bridge. The total output for this machine was approximately 62,100 cubic yards for the year.

No. 28 light Bay City drag-line was overhauled in April, and between May and October was engaged on maintenance-work on the Rangitaiki, Tarawera, and Whakatane Rivers. Since November this machine has been used for driving sheet piling and other work in connection with the Orini flood-gate. The material excavated by this machine was 9,400 cubic yards.

No. 32 light Diesel drag-line excavator commenced work in March, 1939, and constructed 11 chains of stop-bank at the upper end of the Mangaroa Drain. This machine, which operates a $\frac{3}{8}$ -cubic-yard bucket on 30 ft. boom, should prove an extremely useful addition to the excavating-plant.

Flood-gates.—A large outlet structure, comprising three 5-ft.-diameter flood-gates, was commenced in the mouth of the Orini Canal on the left bank of the Whakatane River in October, 1938. When completed these flood-gates will exclude tidal water from the drainage system of the low-lying area at the north-eastern corner of the district. A 4-ft.-diameter flood-gate is under construction on the Omeheu Canal to provide an additional outlet for the Omeheu Settlement. A 4-ft.-diameter flood-gate has been constructed on the Kopeopeo Canal, and a similar structure at the northern end of the eastern drain. Also one flood-gate of 4 ft. diameter and one of 3 ft. diameter have been completed on the Omeheu Canal.

Rangitaiki River.—A working party of three to five men has been engaged with a tractor throughout the year removing willows from the banks of the Rangitaiki River, and the channel has now been improved in this manner from Thornton to Edgecumbe, and the willows have been ring-barked for a further distance upstream. During the year 362 chains of river-bank was cleared of willows, and the trees after being cut into convenient sizes have been stacked on the river-bank for burning.

In June, after two unsuccessful attempts, the mouth of the Rangitaiki River was opened in the line of the river's direct approach to the sea, and, though the new mouth has subsequently moved about 15 chains eastward, conditions have been favourable for the drainage of the low-lying land along the lower reaches of the river.

Tauranga River. In addition to the work carried out in connection with raising and repair of stop-banks upstream from the railway bridge mentioned above, the right stop-bank has been raised for a distance of 9 chains upstream from the Whakatane Tauranga Main Highway bridge. The boulder groynes and other training works for fixing the river-mouth completed last year have produced excellent results.

Maintenance.—In addition to the removal of silt from the large drainage channels with mechanical excavators, a weed-cutting launch is used for removing aquatic growth from the waterways, and a very considerable mileage of smaller drains is cleaned annually by manual labour.

The total length of drains constructed or maintained by the Department is as follows :—

	Miles.	ch.
Dredged canals	68	28
Main drains	121	36
Road drains	30	46

Drains maintained by the Department comprise 112 miles 57 chains.

Summary of Work carried out during Year:—

	Miles.	ch.	
Drains and canals cleaned by manual labour	127	3	
Drains cleaned with weed-cutter	4	30	Cubic yd.
Drains widened and deepened by manual labour	4	53	8,440
Drains and canals improved with excavators	4	47	91,560
Stop-banks constructed or improved with excavators	2	21	60,490
Streams improved with excavators	0	48	5,450

Total excavation by machines 157,500

River-bank cleared of willows	4 miles 42 chains.
River-bank willows ring-barked	6 miles.
Flood-gates completed	Three 4 ft. diameter ; one 3 ft. diameter.
Flood-gates under construction	One 4 ft. diameter.
	One having three 5-ft.-diameter gates.

I have, &c.,
R. L. INNIS,
Chief Drainage Engineer.

The Under-Secretary for Lands, Wellington.

RANGITAIKI LAND DRAINAGE SCHEME.

RATE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 1939.

<i>Dr.</i>	Capital £ s. d.	Maintenance. £ s. d.	<i>Cr.</i>	Capital. £ s. d.	Maintenance. £ s. d.
Balance as at 1st April, 1938 ..	10,016 2 11	..	Balance as at 1st April, 1938	270 8 3
Rebate on 1937-38 and 1938-39 rates under Section 15, Finance Act, 1938	11,521 9 5	..	Rates struck for 1937-38 and 1938-39 10-per-cent. penalty on 1937-38 rates	20,995 15 10	13,339 12 5
Remissions	112 10 0	71 6 0	Adjustment of Reserve Account for repayment of capital	1,242 6 0	..
Interest on capital cost	4,500 0 0	..	Adjustment of overcharged interest for 1937-38	4,212 14 0	..
Cost of maintenance	8,302 16 5	Subsidy on maintenance-costs	2,767 12 2
Balance as at 31st March, 1939 ..	409 8 3	8,147 6 3			
	<u>£26,559 10 7</u>	<u>£16,521 8 8</u>		<u>£26,559 10 7</u>	<u>£16,521 8 8</u>

REVENUE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 1939.

<i>Dr.</i>	£ s. d.	<i>Cr.</i>	£ s. d.
Losses written off	5,976 1 8	Accrued rent	177 14 1
Law-costs remitted	0 15 0	Interest on capital cost recoverable by rates ..	4,500 0 0
Interest on Public Works Fund capital ..	19,566 14 9	Balance, transferred to Drainage Works Account ..	25,078 11 4
Adjustment of interest overcharged in Rate Account: Capital for 1937-38	4,212 14 0		
	<u>£29,756 5 5</u>		<u>£29,756 5 5</u>

RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 1939.

<i>Receipts.</i>	Consolidated Fund. £ s. d.	<i>Payments</i>	Consolidated Fund. £ s. d.
Rates	13,226 1 4	Maintenance, completed works	9,561 1 11
Rents	172 6 7	Refund rates	155 8 10
Law-costs	54 4 4	Transfer net receipts to Treasury Adjustment Account	18,202 2 10
Subsidy on maintenance-costs	2,409 2 3		
Sundries	2,495 17 2		
Transfer of expenditure to Treasury Adjustment Account	9,561 1 11		
	<u>£27,918 13 7</u>		<u>£27,918 13 7</u>

BALANCE-SHEET AS AT 31ST MARCH, 1939.

<i>Liabilities.</i>	£ s. d.	<i>Assets.</i>	£ s. d.
Public Works Fund	489,168 12 7	Drainage works—	
Free capital from Employment Promotion Fund ..	890 19 0	Recoverable: Capital expenditure (section 11, Finance Act, 1937 (No. 2))	205,000 0 0
Treasury Adjustment Account	280,338 5 6	Not recoverable—	
Unpaid purchase-money for land taken	210 1 1	Capital expenditure and capitalized interest ..	538,697 13 8
Sundry creditors—	£ s. d.	Plant and machinery	1,816 4 9
Departmental	892 11 5	Buildings	1,450 11 9
Miscellaneous	408 1 0	Loose tools	510 13 9
	<u>1,300 12 5</u>	Sundry goods	1,192 3 10
Rate Account—		Sundry debtors—	£ s. d.
Capital	409 8 3	Rates, capital	15,307 13 11
Maintenance	8,147 6 3	Rates, maintenance	14,710 18 6
	<u>8,556 14 6</u>	Law-costs	529 10 6
Writings-off in Suspense	5,976 12 1	Rents	6 16 0
Payments in advance—	£ s. d.	Miscellaneous	129 0 2
Rates	23 0 8	Departmental	15 5 6
Law-costs	0 3 0		<u>30,698 18 7</u>
	<u>23 3 8</u>	Cash in transit from Post-office	231 3 5
	<u>£786,465 0 10</u>	Expenditure from Employment Promotion Fund ..	890 19 0
		Losses in Suspense	5,976 12 1
			<u>£786,465 0 10</u>

R. G. MACMORRAN, Under-Secretary for Lands.
G. L. BEESON, Chief Accountant.

I hereby certify that the Rate and Revenue Accounts and Balance-sheet have been duly examined and compared with the relative books and documents submitted for audit, and correctly state the position as disclosed thereby, subject to the explanatory notes dealing with departmental accounts generally as appearing at commencement of parliamentary return B.-I [Pt. IV].—J. H. FOWLER, Controller and Auditor-General.

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