

1943.

NEW ZEALAND.

DEPARTMENT OF LANDS AND SURVEY.

RANGITAIKI LAND DRAINAGE.

REPORT FOR THE YEAR ENDED 31st MARCH, 1943.

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 May, 1943.

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, 1943, 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 compliance with the provisions of the Rangitaiki Land Drainage Act, 1910, I have the honour to submit the following report on the work carried out during the year ended 31st March, 1943.

The call for men for service with the armed forces is causing increased difficulties in carrying out drain-maintenance work, which is essential if farm production from the Rangitaiki district is to continue. The main industry is dairy-farming, and an idea of its value can be obtained from the fact that the yearly output of the Rangitaiki Dairy Co., which handles a large portion of the production from the district, has exceeded 5,000 tons for a good season. Farm production for the 1942-43 season is expected to be of normal volume.

The most important of the 158 miles of maintained drains and canals have been cleared of growth at least once during the year. Though the normal programme of work, which includes reconditioning and removing silt from some drains each year, could not be carried out entirely, much benefit is being derived from the extensive maintenance dredging of main canals which has been carried out during recent years.

The summer was dry with useful rainfall of about 3 in. per month, heavy rainfall during four winter months causing wet conditions in the spring. After one storm early in September the rivers rose to exceptionally high stages, causing some local flooding, which would have been more extensive if the flood crest had not been exceptionally brief.

The 1942 rainfall recorded at Thornton was 37·85 in., rain falling on 101 days. The wettest month was August, with a fall of 6·47 in., and the driest month June, with a fall of 0·23 in. The average rainfall at Thornton over a period of twenty-five years has been 50·42 in.

At a time when almost all available earth-moving plant was engaged on defence work, this district was fortunate to retain two drag-line excavators throughout the year for drain-maintenance work. Brief particulars of the work carried out by these machines are given below:—

No. 17 Monaghan Drag-line Excavator was employed throughout the year on the lower Omeheu Canal, which has now been reconditioned by this plant for a distance of three miles down-stream from the railway. At a point 15 chains from the junction of the Awaite Stream and Omeheu Canal, preparations are now being made for transferring the machine from the left to the right bank of the Omeheu Canal, when it will continue down the canal and Awaite Stream, deepening the channel and removing willows.

No. 30 Bay City Drag-line Excavator.—Because labour was not available, the regular work of this machine was interrupted to carry out flood-damage repairs and the urgent work which, under normal conditions, would have been done by the labour force. In April, after completing the stop-bank on the eastern bank of the Tarawera River at the railway and road bridges, this machine commenced work on the Te Rahu Canal upstream from the railway. From September to January the machine was engaged in opening the mouth of the Rangitaiki River, removing silt from Western Kopeopeo Canal, repairing a break in a temporary stop-bank on the left bank of the Kopeopeo Canal, and straightening the mouth of the Tarawera River. Following an overhaul at the Thornton Depot, this machine travelled to the upper end of the Kapua Drain, which is to be deepened and connected through a floodgate with the Kopeopeo Canal.

No. 32 Kuston Bucyrus Drag-line Excavator was released from defence work in February for urgent protective work on the Tarawera River. As the machine travelled by road trailer from Tauranga, the opportunity was taken to remove 350 cubic yards of metal and 420 cubic yards of spoil that had been washed from the road into the White Pine Drain. The trailer was then used to deliver the machine to the railway bridge over the Tarawera River. From this point the excavator travelled under its own power down-stream for a distance of approximately 100 chains, where it was employed closing a dangerous break in the left bank of the Tarawera River.

RANGITAIKI RIVER.

On the 4th September flood stages in the Rangitaiki River from Edgecumbe down-stream were 1 ft. to 2 ft. above the 1925 flood levels, and the fact that the recent flood passed down the river with only slight overflow above Edgecumbe can be attributed principally to the fact that the lower reaches of the river have been recently cleared of willows. This form of improvement gives the best possible results for the expenditure on rivers similar to the Rangitaiki, but maintenance is essential for lasting results. There may be uncertainty as to the economic soundness of a comprehensive stop-banking scheme for the Rangitaiki River, but there can be no doubt that the annual expenditure necessary to control the willow growth along the river-bank provides a protection against medium floods which the district cannot afford to be without. It is to be expected that a flood of this magnitude would cause bank erosion, and where this has been harmful protective work should be carried out as soon as it is possible to obtain the necessary labour.

The mouth of this river moves along the coast eastwards. A direct outlet to the sea was opened across the sand-spit which formed between the river and the sea in June, 1938. Unsuccessful attempts were made to reopen the original mouth in 1942. On 4th September, 1942, when the river was in high flood the mouth was reopened with very little trouble by a drag-line excavator a few chains east of the direct approach of the river to the sea. In a period of five years the eastward travel of the river mouth was approximately one mile.

TARAWERA RIVER.

Mention has been made in previous annual reports of the necessity for a substantial stop-bank along the left bank of the Tarawera River. This is required for the protection of the swamp area between the river and the western hills and also as a safeguard against the possibility of the river leaving its present channel. In 1942 the overflow scoured a channel through the natural river-bank at a point about 100 chains down-stream from the railway bridge which proved difficult to close, and another serious break in the same locality this year required the use of a drag-line excavator to close it.

The mouth of the Tarawera River moves westwards, and it is difficult to account for the fact that this movement is in the opposite direction to that of the Rangitaiki River mouth. The westerly movement of the mouth of the Tarawera River has been prevented for some years by a stone training-wall. During last winter the river breached this training-wall some distance from its seaward end and the river-mouth moved rapidly westwards, levelling the training-wall for a distance of about 300 ft. from its outer end. For the reconstruction of this section of wall 2,300 cubic yards of stone was required. The smaller stone was quarried near Matata, and the larger stone was collected at the base of the hills in the same locality.

SUMMARY.

The principal works carried out during the period of eleven months from 1st April, 1942, to 28th February, 1943, are summarized below:—

	Miles.	Ch.	Excavation. Cubic Yards.
Drains cleaned by manual labour	126	25	..
Drains cleaned by weed-cutting launch	7	29	..
Drains widened and deepened by manual labour ..	1	34	1,305
Drains and canals improved with excavators ..	3	66	70,883
Stop-banks, rivers, and streams improved with excavators			
Stone used for training-wall and floodgate protection ..		..	2,500
River-bank cleared of willows with tractor ..	0	27	..
Bridges constructed—			No.
Permanent (25 ft. span)			1
Temporary (135 ft. span)			1
Rates struck—			£
Special			10,435
General			5,986
Rates collected—			
Special			13,869
General			7,905

NATIVE RATING.

The problem of Native-rate collection is one that is causing great concern to rating authorities in the North Island. A scheme which is in operation in part of the Waiariki Maori Land District has proved to be most successful, and brief details of the system which was instituted, and the results as it affects this Department, are of interest.

In the Rangitaiki Drainage District there are approximately four hundred Native properties, on which the annual drainage rates amount to nearly £1,900. Up to 31st March, 1939, collections were practically nil and the Native arrears at that date were over £14,000. Charging orders had been obtained, but the position was becoming progressively worse, and in many individual cases the arrears of rates greatly exceeded the value of the land.

Attempts to enforce the charging orders by the appointment of a Receiver naturally raised strong protests from the Natives, and it was evident that the wholesale leasing of land would be detrimental not only to the Natives, but to the authorities themselves. Even had it been practical to lease the lands in order to meet rate arrears, there would be the danger that current rates would accumulate and the same difficulties would again arise in a few years.

Following a conference between the interested parties, it was unanimously agreed that the main object was to stem the tide of rising charges on Native lands—to inculcate the habit of paying current rates when due. With this in view, the rating authorities agreed to write off one year's arrears for each year of current rates paid. The representatives of the Native ratepayers realized that this was a most generous offer, and they gratefully accepted it. A Collector was appointed, and he is doing excellent work not only in collecting Native rates, but in obtaining necessary information regarding sections and occupiers. The total Native drainage rates paid since the scheme was instituted amounts to £5,300. For the years 1939–40, 1940–41, and 1941–42 approximately 80 per cent. of the Native rates levied have been collected. Such an excellent response would not have been possible without the co-operation of the Native Land Court, the Native Department, the Whakatane County Council, the Collector, and the Natives themselves. The thanks of the Department are due to the parties concerned.

I have, &c.,

R. L. INNIS,

Chief Drainage Engineer.

The Under-Secretary for Lands, Wellington.

STATEMENT OF ACCOUNTS.

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