

On the upper Tarawera nothing further has been done: the river is still lowering and scouring out its own bed. These works have been most successful, the main coach-road across the swamp, previously flooded by this river, being perfectly dry throughout last winter.

Considerable attention is, of course, given to the groynes, &c., at the headworks near the lakes.

RANGITAIKI RIVER DIVERSION CONTRACT.

As mentioned previously, this contract has been abandoned. The contractors (Messrs. Rich and Jeffreys), pursued by misfortune, met with unlooked-for difficulties throughout, and finally, before bringing their suction plant into an efficient state, abandoned the work. Acting on your instructions I took charge of the contract (11th March, 1913). No time was lost in mapping out a scheme of operations and getting the works into going-order again. A Priestman grab dredge, as before mentioned, was at once taken up to the site and started on the excavation of the channel. The erection of the necessary stop-banks and the cutting-away of the sandhills are now in hand, and all works will be fully manned at an early date.

The importance of this work is fully recognized, and no effort will be spared in bringing it to a speedy and, I feel sure, successful finish. It is expected that the channel will be through within thirteen months or less.

TE RAHU-MANGAROA OUTFALL.

A preliminary cut with 10 ft. bottom and a depth of 4 ft. above the final bottom has been made throughout this outfall. This, besides carrying off a large volume of water, which previously percolated through the swamp, has considerably settled the country and rendered it excellent dredging. As mentioned before, a Priestman grab dredge is now at work on this outfall, having just started, and excellent work is being done. This excavation will take the best part of fifteen months to complete, and the dredge will then commence the cutting of the Kopeopeo outfall.

OMEHU DRAIN.

The old Omehu watercourse has been straightened, cleaned, and deepened throughout, and this work has brought about a marked improvement in the adjoining country. A large area in its upper reaches is now permanently dry, and settlers are busily engaged "breaking in" and grassing their land.

SNAGGING RANGITAIKI RIVER.

This river, from Kokohinau to Te Teko, a distance of 4 miles 10 chains, has been snagged to a width of 33 ft., and made navigable for launches and punts, thus providing a through waterway from Te Teko to Matata Harbour.

MINOR WORKS, OUTLET DRAINS, ETC.

Recognizing the delay that must necessarily occur in completing the main outfalls, it was decided to proceed as far as possible with the minor works. This departure from the systematic method of working a drainage scheme has resulted in the southern half of the swamp being practically fully drained at least two years earlier than would otherwise have been the case, whereas the northern and low-lying portion has not been noticeably affected. Consequently, now, as the main outfalls are advanced, results will come doubly quick.

These minor portions of the scheme are all well advanced and showing good results. During the year 15 miles 13 chains of new drains have been cut and 8 miles 68 chains cleared and deepened.

AWAITI BEND DIVERSION.

This work, started last season and discontinued owing to winter floods, is now well on to completion. Wheel scoops have been used with great success, and the excavation is now complete, and the willows on the river-bank at intake and outlet are now being blown out preparatory to opening the intake.

For some considerable time this channel will act as a spillway, and can if necessary be deepened by dredging later on. The total amount excavated to date is 13,720 cubic yards.

FLOATING PLANT.

This consists of two Priestman grab dredgers, one Hammond bucket dredge, one suction dredge (incomplete), one oil-launch, three pontoons, one ferry punt, and sundry small punts. All are in good order and condition.

I intend very shortly transferring one of the Hauraki Plains launches to these works, as one launch is now not able to cope with the work of towing, &c.

BARGES AND PONTOONS.

During the year two large pontoons were built in readiness to receive the Priestman dredging machinery, that built at Matata being 55 ft. by 24 ft. by 6 ft., and the one built inland at Mangaroa being 55 ft. by 22 ft. by 6 ft.

Two coal-punts and one barge for river-snagging were also built. All this work was done by our workmen.

TELEPHONE.

A private telephonic connection has been made between Matata and the Engineer's quarters at the "outlet," and is most useful.

BUILDINGS.

These consist of an office, Engineer's and men's quarters at the "outlet," men's quarters at Mangaroa, and a smithy and engineering workshop at Matata. This workshop is fitted with a 4½ h.p. standard oil-engine, lathe, drills, and general engineering workshop tools, it having been found necessary to do so owing to the inaccessibility of these works and the consequent delays, inconveniences, and expenses that occurred in effecting machinery repairs at Auckland.