

construction was suspended, and work in the quarries was stopped; dredging was reduced as much as possible consistent with the necessity to maintain the necessary depths, on the bar and in the channel, and all expenditure was reduced to a minimum. The average mean depths at the entrance and in the river have been maintained at the same figure as last year, and the maximum and minimum depths also compare favourably with the previous period.

The suction dredger "Eileen Ward" removed a total quantity of 392,654 cubic yards from the bar on which it was employed for 83 per cent. of its time, and the "Maui" was employed in the river and at the berthages till about half-way through the year, since when it has been laid up. Generally speaking, the total amount of dredging carried out shows a decrease of 111,070 cubic yards as compared with 1931.

The year was an exceptionally wet one, the rainfall totalling 114.55 in., and the number of wet days 178.

When work was discontinued at the breakwater, approximately 120 ft. of the projected 300 ft. extension had been raised above high-water level, but subsequent heavy seas have caused a slight flattening out of the batters; 7,751 tons of stone was quarried and tipped up to the time work was stopped, which, with the amount put in previously, gives a total amount placed in the western breakwater since recommencing of 30,148 tons.

A length of river-bank above the existing plantation which suffered erosion by the flood in April has been planted with willows and fenced off, while any gaps in the existing plantations have been made good.

All plant and material has been maintained, and the signal station, beacons, and harbour lights have all been painted.

*Karamea Harbour.*—I regret that the unfavourable state of the fairway has persisted during the year. Enormous quantities of fine earthquake debris are still being brought down by the river, and deposited in the tidal areas. A serious flood occurred on 3rd April, 1931, which considerably altered conditions in the harbour. Whereas previously approximately 60 per cent. of the water flowed over the Karamea bar, the remainder finding its way to the Otumahana Lagoon, after the flood only 20 per cent. flowed over the bar.

An attempt was made to encourage the river to return to its original course by means of a pile and netting wall at Bessies Straits, but this after a short period of usefulness, was breached by a flood. At times the river would appear to be clearing itself and the channel deepening, but such improvements were only of a temporary nature.

The rubble wall replacing the old timber-pile training-wall was completed to full height, and heavy stone was tipped at the end to take care of any scour and to enable it to stand up to heavy seas if required. A total of 10,960 tons of stone was quarried and tipped during the period.

Sufficient stone was quarried at Oparara to complete the training-wall when the quarry was closed down, and the plant is being overhauled.

The large accumulations of earthquake-debris which have been deposited at the lower reaches rendered the original wharf high and dry at low tide, so a temporary wharf was built at the outlet to the overflow channel.

The large shed at the Karamea Wharf, which was undermined and collapsed during the April flood was re-erected at the temporary wharf and an access road formed along the foreshore. Generally speaking, there has been sufficient depth for boats to work this wharf at spring tides, but the channel has been uncertain, and it has had practically no real use.

*Little Wanganui.*—Owing to the difficulty in working Karamea, the majority of the shipping for the surrounding districts has had to be dealt with at Little Wanganui, although since the loss of the "Kotiti" there has only been the one boat working the port.

The erosion of a large earthquake slip situated about a quarter of a mile above the wharf has been causing the formation of a sandbank at the upstream end of the wharf.

In order to turn the river on to the sandbank a permeable type timber groyne 114 ft. long was built, and this has had a beneficial effect in preventing further accretion.

*Waikokopu.*—The breakwater, which has been in course of erection during the past two years, has been completed, 7,506 tons of large stone having been deposited during the period. This breakwater has been very effective in stilling the range at the wharf, and it is now only very occasionally that boats cannot work the wharf.

The approach to the wharf has been protected with limestone rock, and the port facilities generally have been adequately maintained.

Shipping has been less this year than usual as the burning of the Wairoa Freezing-works, which have not yet been rebuilt, meant the loss of the frozen-sheep trade. At the same time considerable use was made of the port for the transport of fat sheep to the Hawke's Bay Freezing-works during the summer.

*Matiotitawa Wharf.*—The approach to this wharf has been metalled with limestone.

*Tikinui Wharf.*—A new wharf, 118 ft. long, has been constructed in hardwood and approach work is in hand.

*Ivydale Ramp.*—A complete survey and investigation of this proposal has been carried out.

*Whitianga Wharf.*—A contract for the erection of this wharf was let by the Coromandel County Council during the year, and the structure was almost completed at the end of the period. This wharf is of hardwood construction with turpentine-pile foundation, and is provided with a wharf-shed and also a cattle-run.

*Waitangi Wharf, Chatham Islands.*—Plans and specifications were prepared for the erection of a wharf at Waitangi. Tenders were called, but, owing to the financial position, the tenders were declined, and the matter has been held over until conditions improve.