

APPENDIX III.—LAND-DRAINAGE OPERATIONS.

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THE past year has again been a very busy one in this branch of the Department, and the work has steadily increased, taxing to the utmost the energies of the small staff. The work in connection with the various swamp and land reclamation schemes has been pushed on at a greater rate than in past years, principally owing to the new dredging machinery procured in America. The greater part of this machinery came to hand during the year, and the receiving and despatching of same materially added to the work of the office staff. I am pleased to record that this work was admirably carried out, and all the plants reached their destination intact and without any hitch.

Separate reports, as required by the special Acts under which they are administered, have been made on the Hauraki Plains, Rangitaiki Plains, Kaitaia, Waihi, Poukawa, and Hikurangi land-reclamation areas. Many special reports and inspections have been made, including Kawakawa Swamp, Kaituna River, Matata water-supply, Kiokio drainage area, Kawa drainage area, Hungahunga drainage area, Hereford Park Settlement, Mangakawa drainage area, Kopuku Settlement, Kumeti drains, Streamlands Settlement, Mangawai Kauri-gum Reserve, Kokatahi Swamp, and other small works. Works done by local bodies out of subsidies and grants have been passed after approval of plans and specifications, the sum of £1,753 19s. 1d. being accounted for in this connection.

The following is a short report on works carried out under direction of the branch :—

Awairi Canal and Road.—This is an important work on the Hauraki Plains. A Priestman dredge has been continuously employed during the year on the canal, and has to date dredged a distance of 1 mile 74 chains. The amount of spoil shifted during the year was 61,757 cubic yards. Expenditure, £1,112 3s. 1d.

Seaward Moss Engineering Surveys.—The preliminary field-work was continued until July of last year, after which all the data which had been obtained was plotted for record purposes. The following field-work was carried out during the year: 23½ miles traverse, 23½ miles levelling, 30 miles check levelling. Owing to the reduction in staff, further work on this area has been postponed, and until such time as easier finance is available the investigation of this area is not likely to be proceeded with. This swamp is approximately 18 miles in length, with an average width of 5 miles, and practically throughout all that area the land is covered with peat and moss varying in depth from 2 ft. to 17 ft. This peaty growth overlies a strata of blue-coloured gravel, which is impervious to water and consequently prevents the surface water from soaking away. The area is intersected by several streams, which have a fall per mile varying from 6 in. to 10 ft. The average rainfall for the district is 45.12 in., varying from 61 in. in 1891 to 33 in. in 1893, whilst the heaviest fall recorded in twenty-four hours was 3.29 in. Expenditure during year, £286 12s. 3d.

Westland Swamps.—The engineering surveys of the swamp areas on the west coast of the South Island were taken in hand during the past year. The La Fontaine-Harihari Block was commenced first, and a scheme of drainage has been prepared along with all necessary plans and estimates. The total area in this block, which is Crown land, is 1,515 acres. Later the survey work of the swamps in the Kokatahi Valley was commenced, and all data pertaining to an area of 2,700 acres was obtained, whilst the field-work of a further 2,850 acres is well in hand. In connection with the pakihi lands, which are practically peculiar to the West Coast, a survey of a small area was carried out near Kumara Junction with a view to certain experiments being carried out so as to improve the drainage of this class of land. Arrangements have been made for the carrying-out of the construction work on some of the above areas as soon as finance has been provided. Expenditure during the year was £553 7s. 4d.

Orongo Settlement.—The drainage-works on this settlement were completed during the last financial year, but in order to make ploughing possible a good deal of subsidiary drainage has had to be provided. Maintenance works have been expensive owing to the heavy deposition of silt, particularly in the middle outlet into the Waihou River. Some 3½ miles of roads have been formed up from spoil won from the road-drains, and of this 1¼ miles have been levelled. The soft nature of the country and the wet season have delayed this work. In this connection two temporary metal jetties with overhead tramways have been constructed—one at either end of this settlement. These are also most useful to the settlers, who are using them as cream-depots. The road-formation works will be completed this season, but the metalling will not be completed till next summer. Artesian bores to the number of sixteen have been sunk on the settlement. The fescue-eradication work has been particularly difficult and disappointing. The nature of the work is such that it should be carried on only in the driest months of the dry season; but for many reasons it was impossible to adopt this procedure. This season being an exceptionally wet one has made progress and results somewhat disappointing. To date 743 acres have been ploughed, and of this 309 acres have been sown in grasses, and a further 150 acres have been cultivated preparatory to sowing. Of this total area ploughed 308 acres have been ploughed a second time. The draining and stop-banking of the settlement, and the subsequent unwatering of the flooded lands, has resulted in a most prolific growth of fescue practically throughout the whole area, and this will necessitate the treating of the whole of the remaining area prior to settlement. Altogether twenty-eight sections have been opened for selection and disposed of, and a further fourteen sections, comprising 805 acres, remain to be disposed of later. For maintenance purposes this settlement should be brought within the boundaries of either the Hauraki Plains or the Hauraki Drainage Board. Total expenditure for the year has been £7,246 12s. 11d.