

The work returned as completed under the various classes is generally a little less than that of last year, excepting the actual settlement survey—*i.e.*, rural and suburban—which is largely in excess ; and there is also a very considerable area the survey of which is drawing near completion.

TRIANGULATION.

Four hundred and sixteen square miles of minor triangulation in different districts have been completed in the field ; but, owing to the mapping of 162 square miles not having been finished, only 254 appear in the tables. The unreturned work is a revision of triangulation executed in the early days, when the standard of precision was low as compared with present-day requirements. It was found to be of no service as a check on surveys executed, as they now are, with greatly improved methods and appliances.

In my previous reports the pressing need for a major triangulation has been referred to, and I would again respectfully draw attention to its urgent necessity, and strongly advise its steady and continuous prosecution ; which, besides its immense value in other respects departmentally, will give great satisfaction to surveyors, both official and those in private practice, in simplifying their work ; for it means linking up and bringing into harmony the very numerous series or groups of uncontrolled minor work, with their various standards of length—a very serious disadvantage, for all other surveys throughout the Dominion are now invariably based on a uniform standard of length—*viz.*, the “Imperial.”

From Wellington to seventy miles north of New Plymouth, a total stretch of two hundred miles, the permanent signals have been erected, and, with a few exceptions, the angular work completed over 10,000 square miles of country, and it now only requires the bases to be measured and a comparatively small amount of instrumental work to be done—the extent of which is shown on a map appended—to make it serviceable in controlling the minor triangulation now covering the area. Unfortunately, in the Taranaki portion, what with the unfavourable conformation of the country, combined with its densely wooded nature, the sides of the triangles have been unavoidably restricted to from ten to twelve miles in length. An improvement in this respect will no doubt be obtainable in years to come when the country has been cleared of the existing heavy forest. It is, however, very gratifying to report that under recent instructions this particular section of the work, which was suspended six years ago, has been resumed, and an excellent base of a little over eight miles in length at the south end, in the Wairarapa, has been selected and measured, particulars of which are published as a separate paper.

SETTLEMENT SURVEYS.

The survey of 374,273 acres into 1,169 sections, averaging 320 acres each, has been completed during the year ; but if the subdivision of Native land under Maori Land Boards for the purpose of offering it on lease to the public, comprising 49,193 acres, be added, the surveys executed for settlement purposes total 423,466 in 1,244 sections.

The Auckland District takes the lead in this particular class of work with 92,243 acres of sectionised Crown land, and 34,855 acres of Maori Land Board subdivisions ; the Wellington District returns 53,678 acres of Crown land subdivided, and 14,338 acres for Maori Land Boards ; Otago supplies 50,478 acres ; and the remaining districts from 39,374 in the Nelson District to 11,446 in the Hawke's Bay District, all Crown lands.

Besides the foregoing, there has been the subdivision of a pastoral run into small grazing-runs, amounting to 27,550 acres, so that surveys for settlement purposes in one way or another, exclusive of pastoral runs, have been completed during the year of 451,016 acres.

At the close of the year there were in the hands of the surveyors, together with unsurveyed selections, 615,000 acres of settlement surveys, 90,000 acres of which is finished in the field, but mapping not yet done, though it is hoped that during the winter season the plan-work will be mostly if not fully completed.

The surveys of “unsurveyed selections” are greatly in arrear, particularly in the Nelson District, where there are 68,565 acres of them in the hands of the surveyors, and a further 65,335 of similar selections awaiting survey ; in all 133,900 acres, of which, however, the survey of about 20,000 has lately been completed in the field, but not yet mapped. In view of this it is evident that the field staff in this particular district needs strengthening, more especially as two of the surveyors there have lately retired ; it would also be advisable to give private surveyors contracts, so as to speedily reduce the accumulation of arrears, and place the selectors in possession.