

standard traverse-work in the Wellington District. He will also complete the standard survey of a portion of the Borough of Hamilton, which was commenced in 1907 and left in an incomplete state.

It is important that a staff be organized to conduct the standard survey, so that in the near future it may be undertaken in a more uniform and comprehensive manner.

Pressing demands for these surveys have been received from Auckland, Christchurch, Dunedin, Invercargill, and Wellington, principally in connection with the extension of the standard surveys into the newer suburbs. Whangarei and Petone have been promised standard surveys as soon as experienced surveyors can be spared from the more urgent settlement-work. There is agitation by local bodies and others to have this class of work carried out at Hawera, Picton, Nelson, Hokitika, and many other places. The Chief Inspector, in his report appended hereto, gives a description of the methods employed by him at Dunedin on the standard survey there.

*Topographical Survey.*—If it is approved by the Government it is proposed to start this work in a small way as soon as equipment arrives from England. A surveyor in charge of four assistants should constitute the first party. When these assistants become familiar with the work and have gained sufficient experience they could in turn be given charge of a party. By this means the full number of parties proposed to be engaged on this work would be made up in three or four years' time.

The map of the Dunedin centre extending along the coast from the Waikouaiti to the Taieri Rivers will be published early in the year. The field-work of this survey was done by Mr. W. T. Neill, District Surveyor, twenty years ago.

*Settlement Surveys.*—At the close of the year there were in the hands of the staff and private surveyors 669,231 acres of settlement lands, 162,487 acres of Native lands, 61.5 acres of town allotments, and 125 miles of road surveys. Table 4 shows the allocation of this work among the several land districts.

The work now on hand and the survey of estates that from time to time will be acquired for soldiers' settlements and for ordinary settlements, and of Crown lands to be offered for settlement, will fully occupy the staff surveyors for the ensuing year.

#### HEAD OFFICE DRAFTING BRANCH.

The year in which peace has come has been rendered notable in the history of the Head Office of the Department by the retirement of the last two of the little band of first-class men who made the Department's map publications second to those of no other similar office in the world. As reported last year, the state of the map publications and the loss of staff made it necessary to face the whole subject of reorganizing this branch of the work. The volume of work requiring attention and the staff necessary to carry it out have been considered and decided upon, and several of the new appointments rendered necessary by the many losses of staff have been made, bringing the total up to nearly half the number of officers estimated necessary to carry out the work.

The volume of work required to bring the publications into line with the demands of the community is practically as follows: New drawings are required for 90 boroughs, 65 town districts, and 530 small centres; new drawings are required for over 400 survey districts; new drawings are required for 178 two-mile cadastral sheets.

None of the above numbers has ever been drawn at all, and no account is taken here of the numbers already drawn and requiring revision. The most useful map at present is the Department's one-mile county map, which is used in large quantities. Of the 130 counties in New Zealand, four or five are not more than about three or four years behindhand—the rest are from twenty years old upwards. This map, however, is to be superseded by the new series of two-mile cadastral on a better system and with more copious information.

Of the four cities, only Wellington and Dunedin are drawn, and neither is now up to date. The other two are in hand, and may take two years to finish.

General maps of New Zealand are fairly up to date, but several new scales and classes are required.

Of the four- and eight-mile maps, seven new drawings are required on the old system, but the new cadastral will supersede them. Six new drawings have been waiting the printer's convenience for nearly two years.

The most pressing work is the patching-up of the old county maps to meet the immediate call for statistical maps and other requirements, but permanent work is not proposed on them; their present condition is a danger and expense.

Briefly, over 1,250 quite new maps require to be drawn, and in addition the revision to date of many hundred more, merely in order to meet the ordinary demands made over the counters of the Department every day. It is estimated that twice the present staff might bring this work up in about five to seven years' time.

In addition, the topographical military survey maps—178 sheets—will require drawing when that survey is begun.

During the year very large numbers of maps of electorates were prepared, over £200 worth of lithographs being used for this purpose.

A preliminary part of the reorganization scheme is the preparation of an index to the map publications. The indexes to the survey districts and to the two-mile cadastral have been drawn, but not published. It is intended to have a published index to all sheets and classes of maps, with specimens of each kind.

During the year publication has been greatly hindered by the amount of sale-plan publication in connection with returned-soldier blocks, which necessarily take precedence. The Government Printer making no provision for the extra work, the regular publications are greatly delayed.

The descriptions, maps, &c., made for other Departments during the year amounted to £210.

Lithographs issued without charge to other Departments were about 900 to 1,000 in number and of considerable value.

Town schemes for the Minister's approval have, as was anticipated, increased in numbers.