

An ornamental shelter-belt was also planted with 500 *Araucaria excelsa*; 5,000 *Agathis australis* were used for blanking an area of approximately 9 acres, and 53 acres were cleared in readiness for planting.

Road-maintenance and silvicultural treatment to the growing trees were carried out as required.

#### 9. FOREST ATLAS.

Proclamations dealing with State forests necessitated fifty-three additions to the forest registers and affected areas totalling 446,256 acres, while the recording of these and State Forest Service privileges, &c., required 638 additions to the record plans in head and regional offices. Cruise plans totalling 91, and 115 sawmill licenses were prepared and forwarded to Head Office in addition to the usual number of grazing, tramway, and sawmill site licenses, splitting permits, &c., while four sixteen-mile-to-an-inch maps showing the forested areas of New Zealand as at 1850, 1880, 1910, and 1939 were compiled for inclusion in the Centennial Atlas.

In recording planting operations forty-four additions were made to the species and topographical tracings and sixty-nine species plans were prepared for departmental use. Four new topographical plans of part of Kaingaroa Forest were compiled and one of Omahuta.

One forest atlas sheet and a map of the Taupo-Rotorua fire districts (Plate No. 16), were prepared for lithography, and 200 and 1,000 copies respectively were printed. A second edition of that popular text book "Trees of New Zealand" was printed, 1,024 copies being received, and over 1,000,000 "fire-prevention" stickers were printed and 700,000 distributed. Helio and photostat prints prepared for this Service totalled 1,491, of which 282 were for regional use, while the number of negatives added to the photographic record was 447, making the present total 14,224.

The draughting staff of the Service experienced a busy year in keeping records up to date and in good condition, the Hokitika Office in particular requiring the services of a Head Office draughtsman for two months to cope with arrears of work.

### CHAPTER II.—FOREST PROTECTION.

#### 1. GENERAL.

The year's weather again held more than its share of surprises and catastrophes for the forester. Last year's report ended in the middle of an ideal autumn, and no fires were recorded thereafter until the ensuing spring. The dry autumn weather continued far into the winter in the South resulting in prolonged growth and, fortunately, not followed by any severe destroying frosts.

The spring and summer were, however, long delayed; and very severe local storms were experienced as late as February. The station that suffered worst damage from these was again Rotoehu State Forest in the Bay of Plenty. Persistent wind and stormy weather here prevented nursery sowings from being completed until 4th January, although the operation was begun as early as mid-October. The final week of January ushered in a steady gale in the valley, culminating at the end of the week in a particularly violent storm which completely destroyed 65 acres of tobacco and some acres of nursery trees, both in lines and under frames. The very light pumice soil at this station piled inches deep over the frames, and cut both germinating trees and planted tobacco to ground level.

This storm virtually ended the unseasonable weather except in the far South, and a drought period ensued with abnormal fire danger in Rotorua, Wellington, and Nelson Conservancies. Nelson in particular experienced the driest January-March period since 1883, the rainfall for that quarter being only 1.24 in. Fortunately, in that district, the latter part of this drought was marked by almost complete absence of wind. Very numerous fires occurred there, mainly from settlers' burns in the heavy fern and other growth accumulated from the preceding run of wet seasons; but the incredible exertions of the field staff, together with the almost universal voluntary assistance undertaken by the whole local rural population, kept fire damage down to a figure much below what might have been expected. No fires entered planted areas and no commercial stands of timber were burned, though 1,700 acres of forest country were lost through fire. It is also worthy of note that the drought was so severe that numerous patches of native beech on rocky faces in protection forest died out completely.