

categories of officers have already commenced, and only the inauguration of a full two-year post-graduate course for officers holding B.Sc. or equivalent degrees is required for the completion of the scheme, a fuller description of which is attached as Appendix XII to this report. The ultimate objective in connection with the post-graduate course is recognition by the University of New Zealand, to which suitable representations will be made during the current year.

The recruitment and training of the rank and file of the Forest Service has hitherto proceeded on a more or less fortuitous basis. For many years it has been customary to regard forestry largely as a means of absorbing seasonal workers and unemployed labour, with the result that most employees have been single and untrained workers. To this fact is attributed much of the poor planting technique reviewed elsewhere in this report. Correction of this state of affairs is therefore imperative, and in order to attract and retain an adequate complement of permanent trained employees a construction programme for the provision both of accommodation for married men and of single men's hostels, &c., complete with community amenities has been made a prominent feature of post war-planning. Eventually it is hoped to inaugurate a number of reception centres at which all rank and file will receive elementary training in safety measures and in fire-fighting, &c., before being assigned to the various forestry projects throughout the Dominion. Dependence upon untrained and inexperienced workmen must be reduced to an absolute minimum, whether in the case of casual or seasonal workers. Only by this means can a high degree of efficiency be obtained in forestry work.

3. *Indigenous Forest Resources.*—As foreshadowed in last year's report, an officer with specialized experience in large-scale forest survey work has returned to New Zealand after six months' duty in the United States of America, where the most recent developments in the theory and practice of forest surveys were studied. This officer is now charged with the prosecution of a national forest survey for New Zealand, and the organization necessary to its accomplishment has been developed. In spite of inevitable difficulties caused by shortages of staff, transport, and equipment, a start has been made on this project, and all the preliminary investigations which are essential to the formulation of a satisfactory field procedure have been finalized. The survey proper commenced in the Rotorua Conservancy in January of this year, and considerable progress has been made in the provision of a volume estimate for one of the most important reserves of timber left in the North Island, the western belt of the large continuous Urewera Forest.

The national forest survey has as its main objectives—

- (a) An estimate of the volume of available merchantable timber in the remaining non-protection indigenous forests in New Zealand, the estimate to be by major regions, and within each region by species and by diameter classes.
- (b) A revision of existing national forest inventory estimates in order to obtain more accurate figures for individual forests and minor land subdivisions.
- (c) The preparation of vegetation maps for all classes of forested land, based on broad vegetation and volume-per-acre classes.
- (d) Other objectives include a survey of the extent and degree of natural reproduction of forest, a survey of the extent and nature of deer and other animal damage occurring in all classes of forest, the superimposing of land-ownership boundaries on the vegetation maps, and a survey of all types of non-commercial and protection forests.

The data accumulated should go a long way towards providing a scientific basis for the orderly management of all classes of forested land. The survey, though primarily volumetric, is thus also botanical and ecological in nature, and for this reason a high degree of training is required in the staff who carry it out. The methods used depend largely on vertical air photographs, the interpretation of which enable accurate acreages to be obtained without detailed ground surveying. The rate of progress is thus directly dependent on the availability of photographs, and it is unfortunate, therefore, that the