

present quite considerable aerial cover of New Zealand is largely confined to non-forest areas, necessitating the placing of large orders for further photography. In spite of excellent co-operation from the authorities concerned, however, the supply of photographs is slow to come forward. The main contributory causes are priority work for other Government Departments, unsuitable flying weather, and recently in the North Island haze from the Ruapehu eruptions and smoke from the Taupo fires. The ground-sampling phase of the forest survey has been designed on a statistical basis, and every effort has been made to control the sampling errors which will unavoidably arise. Definite standards of accuracy have been set, and it is believed that by use of the two tools of aerial photography and statistical method they will be obtained with less field work and at a smaller cost than has been envisaged in the past.

The project is a monumental one representing the first large-scale attack upon the scientific management of the indigenous forest resources and constituting the most comprehensive national forest survey yet undertaken in any country of the English-speaking world.

4. *Indigenous Forest Management.*—The continuing emphasis both upon timber-production and exotic forestry has led to a general uneasiness that the future role of the indigenous forest is insufficiently appreciated by the Forest Service. Rather the reverse. Ever since its inception the Forest Service has realized that grave dangers are attached to a policy of either complete or heavy dependence upon exotic species for the long-term provision—as measured by centuries—of the country's future timber-supplies. The first large-scale investigative project undertaken by the Department was a national forestry reconnaissance. When this was completed in 1924, it had been established beyond all doubt that the remaining indigenous resources were so limited and the growth of all commercial species was so slow, requiring rotations ranging between one hundred and fifty and four hundred years, that the only means of managing the indigenous forests to meet future timber requirements was to conserve the remaining supplies by establishing supplementary exotic forest resources of rapidly growing species. At that time, of the 300-odd million board feet of timber being produced annually, only about eight million, or little more than 2 per cent., consisted of exotic softwood, principally insignis pine, and it was obvious that unless a very much greater production of this timber could be secured within a relatively short period, then it would be only a matter of twenty or thirty years before New Zealand would be faced with the necessity of making relatively large importations of foreign timbers, and any hope of dependence upon domestic supplies would be deferred for many centuries.

The wisdom of developing extensive exotic forests has been amply justified by subsequent events. Exotic softwood production has now increased to 100 million board feet per annum, equivalent to 28 per cent. of the total annual cut of 350 million board feet, the total production for the intervening period being almost 800 million board feet, representing five times the pre-1925 level of production. It is estimated that although within three years the total annual demand for timber will have risen to over 400 million board feet, 30 per cent. above the pre-1925 level, the consumption of indigenous timber will have decreased to only 80 per cent. of the pre-1925 figures. The net effect of this development is that the life of the Dominion's remaining indigenous resources has already been increased by 60 per cent. and will eventually be trebled. As a result of this policy of conservation, the Forest Service has a much more favourable opportunity of bringing the indigenous forests under management, and the national forest survey, already reviewed, will ensure the orderly planning of indigenous forest management.

5. *Indigenous Silviculture.*—Concurrently with the establishment and exploitation of extensive exotic forests, investigations have been made into the silviculture of the principal commercial indigenous species. Long-continued observations allow it to be stated with confidence that choice of silvicultural systems for kauri and beech will not present much difficulty, but the opposite is still the case with rimu, the most common indigenous timber tree. Its much longer maturing period, its habit of bearing pollen and seed on different trees, and generally the novel problem it presents—unassisted by any