

FOREST RESOURCES

3. *Land*.—There are two categories of State Forest land : permanent State forest and provisional State forest land : the former may be alienated only by Act of Parliament, but the latter may be withdrawn from reservation by proclamation for settlement purposes or for public reserves. In addition, certain lands which are not State forest lands are administered under various statutes as State forest lands.

Figures for the past year are as follows :—

	Acres.
Land placed under reservation	84,201
Land withdrawn from reservation	5,453
Provisional State forest land permanently reserved ..	14,406
Total area of State forest land at 31st March, 1950 ..	9,433,632
Non State forest land administered as State forest land at 31st March, 1950.	27,552
The areas of land withdrawn from reservation were—	
For settlement.	5,362
For scenic reserves	91

The proportion of State forest land to the total land area is 14.2 per cent. Detailed figures for past years analysed into conservancies are given in Appendix I.

SILVICULTURE

4. *General*.—Progress with silvicultural operations has been good, although the programmes that were practicable were still restricted by the shortage of labour to less than the targets which had been set. The aggregate acreage dealt with by planting, pruning, and thinning was 10 per cent. greater than that of 1948-49 ; Appendix II summarizes the silvicultural operations for the year. The labour force has improved numerically, but the men offering were not on the whole up to the desired standard of suitability. Immigrant labour of various nationalities relieved the shortage to some extent and is providing some good forest workers. To economize in manpower, mechanical saws are being used to fell thinnings in Kaingaroa State Forest, as the investigation mentioned in last year's report showed that this method was satisfactory under favourable topographic conditions on the Kaingaroa Plains. In the case of stands in the older age-classes thinning and pruning are concentrated largely on those stands which are likely to give the best response to these treatments.

5. *Natural Regeneration*.—Some of the more commonly grown exotic species regenerate freely after a sufficient opening of the canopy, but so far no shelterwood systems are being practised. Prolific natural regeneration occurs at Rotorua on the large areas of insignis pine clear felled each year for timber ; for instance, on felled areas left untouched for two years after the logging crews had passed, counts revealed stockings ranging from 200 seedlings an acre on bare exposed ground to 10,000 seedlings an acre where seedlings had received shade from slash and vegetation. Germination resulting after an accidental fire in a nineteen-year-old stand of insignis pine, on count two years later, showed a stocking of up to 65,000 seedlings an acre, 18 in. in height. Every endeavour is made to bring about successful establishment by natural restocking because it obviates costly nursery work and planting, and is expected to provide crops which are better both in form and growth. Very high stocking has its disadvantages, however, and has given rise to problems concerning thinning procedure. The various treatments which have been tried have yielded evidence that from the combined silvicultural and economic points of view the first thinning should be in the third or fourth year, and should leave a stand spaced approximately 6 ft. by 6 ft. Costing of such treatment indicates that it is considerably cheaper than artificial re-establishment. The total area in exotic forests now classed as fully stocked by natural regeneration is 1,059 acres.