

duction conditions and factors. They also direct any planting or nursery work and direct the regulation of commercial logging operations along forestry lines.

The Research Division of the Dominion Forest Service has established permanent forest experiment stations at Petawawa, Ont.; Coulter's Siding, N.B.; Valcartier, Que.; Duck Mountain Forest Reserve, Man.; and Kananaskis, Alta., aggregating 237.9 sq. miles. They are under joint administration of the Department of National Defence and the Forest Service of the Department of the Interior and other experimental work is being carried on at other points throughout Canada. A considerable amount of this work is done in co-operation with provincial forest services and with pulp and lumber companies. In 1935 a conference was called by the National Research Council to consider forest research and a committee representing the various governmental forest services and the forest industries was appointed to promote and co-ordinate forest research throughout the Dominion.

The Forest Service of the Department of the Interior is now conducting a National Forest Inventory in co-operation with the various Provincial Governments (see p. 288). An important feature is that the Forest Service is carrying on special rate-of-growth surveys in each province to determine the nature and extent of the natural reproduction and the annual increment now being secured under varying conditions of site and type, following cutting or forest fires. The valuable silvical data thus obtained will provide a sound basis for future forest policies.

Forest Products Laboratories.—In order to assist wood-using industries in their technical problems, the Forest Products Laboratories of Canada were organized in 1913 as a part of the Forest Service of the Department of the Interior. For some years they operated at Montreal in co-operation with McGill University. Developments have since taken place until at present the main Laboratories are located at Ottawa, a branch laboratory is located in Vancouver, B.C., and works in co-operation with the University of British Columbia, and the Pulp and Paper Division is located in Montreal, and works in co-operation with the Pulp and Paper Association of Canada and McGill University.

The Laboratories work in close association with industry. A Research Committee of the Canadian Lumbermen's Association was set up several years ago to act as a liaison body between the industry and the Forest Products Laboratories, and to provide advice to the Laboratories on the problems confronting the industry. The work of the Pulp and Paper Division is assisted by a grant from the Canadian Pulp and Paper Association and a special committee consisting of representatives of the Government and the pulp and paper industry meet periodically to review the work being conducted and to arrange future programs. Close co-operation is maintained by the Vancouver Laboratory with the British Columbia Lumber and Shingle Manufacturers' Association and the wood-using industries of British Columbia.

Since the Forest Products Laboratories were organized, many advances have been made in the technique of wood utilization, generally by the joint effort of the Laboratories and the industries concerned. Improvements in treating railway ties, telephone poles and other timbers used in exposed situations have resulted in prolonging the life of these timbers and have permitted using species not previously considered suitable for such purposes. Reductions in the cost of manufacture of