

responsible to the administrative officer in Calgary; his decisions are based on policies formed by the Board which comprises one federal and two provincial members. This Reserve includes the headwaters of the main prairie river system.

Research in general is carried out by the Forestry Branch of the federal Department of Northern Affairs and National Resources (which maintains the Kananaskis Experiment Station) and by the Research Branch of the federal Department of Agriculture.

**British Columbia.**—The productive forest land of British Columbia in 1958 was inventoried at 208,411 sq. miles and in addition there were 59,227 sq. miles of forest land classed as non-productive. Of the productive area, immature timber occurred on 95,739 sq. miles; 84,275 sq. miles carried matured timber with a total volume of 318,000,000,000 cu. feet; 28,397 sq. miles, including areas of recent burn, cut-over or windfall not yet re-stocked, were unclassified.

For administrative purposes, the province is divided into five Forest Districts with regional headquarters at Vancouver, Prince Rupert, Prince George, Kamloops and Nelson. Further decentralization of authority is effected by subdivision of the Forest Districts into Ranger Districts. There are approximately 25 Ranger Districts in each Forest District. Twelve directional, servicing or policy-forming divisions constitute the head office of the Forest Service at Victoria.

Vigorous efforts are being made to bring British Columbia's forest resources under sustained-yield management and the forest industries are making definite progress toward total utilization of their raw materials. The problem is urgent despite the fact that, with a present annual cut of approximately 1,100,000,000 cu. feet, the total inventory would appear sufficient to support present needs in perpetuity. One of the more spectacular results of sustained-yield administration has been to swing a greater proportion of the annual forest harvest to the interior of the province. For many years, the over-cut coast (wet belt) forests have accounted for from 65 p.c. to 80 p.c. of the total forest cut each year. More recently, however, the interior percentage has risen and in 1959 at least 50 p.c. of the total cut originated there. For all practical purposes, the entire interior forest is publicly owned; the great majority of the privately owned, leased or licensed forests are on the coast.

Several systems of timber disposal are in effect. The most publicized is the Tree Farm Licence which constitutes a contract between the government and a company or individual whereby the latter agrees to manage, protect and harvest an area of forest land for the best possible return, in exchange for the right to the timber crop on the area in perpetuity. Provincial Forests, Public Working Circles, and Sustained Yield Units are the governmental equivalent of the Tree Farm Licence with the timber, when it is ready for cutting, being disposed of by public auction. Management, silviculture, road-building and protection on such areas are the responsibility of the Forest Service. Other tenures of lesser importance are Tree Farms, Farm Woodlot Licences, and Timber Sales.

Protection of the forest, particularly from fire, is still a major problem although the public is becoming more cautious. Improved fire fighting techniques, the use of aircraft for patrol and transportation, employment of helicopters, and a gradually expanding system of lookouts were steadily cutting down fire losses until the disastrous 1958 fire season, which was the worst on record. Close liaison with the Research Branch of the federal Department of Agriculture, which maintains laboratories in Vernon and Victoria provides information about insect and fungal enemies of the forest.

### Subsection 3.—The Pulp and Paper Research Institute of Canada \*

The Pulp and Paper Research Institute of Canada is a centre of research and learning concerned with virtually every aspect of the production and use of pulp and paper products. It was established in 1913 as a branch of the Dominion Forest Products Laboratories

\* Prepared by B. W. Burgess, Secretary, Pulp and Paper Research Institute of Canada, Montreal, Que.