

2.—Forest Fire Protection.

The protection of forests from fire is undoubtedly the most urgent and most important part of the work of the different agencies administering forest lands in Canada. In the case of the Dominion Government, this duty falls chiefly on the Forestry Branch of the Interior Department for all Dominion Crown timber lands, whether within forest reserves or not. Certain officers of the various forest authorities are appointed *ex officio* officers of the Board of Railway Commissioners and are responsible for fire protection along railway lines through Dominion lands. These guards co-operate with the railway fire rangers employed by the various railway companies, the compulsory patrol of all lines throughout the country being a Dominion law. Other Dominion legislation regulates the use of fire for clearing and other legitimate purposes and provides for closed seasons during dangerous periods.

Each of the Provincial Governments maintains a fire protection organization which primarily covers unoccupied Crown timber lands, but frequently co-operates with owners and licensees for the protection of all timbered areas, the cost being distributed or covered by special taxes on timber lands. An interesting development in this connection in the province of Quebec is the organization of a number of co-operative protective associations among lessees of timber limits. These associations have their own staffs, which co-operate with those of the Board of Railway Commissioners and the Provincial Government. This latter contributes in the way of money grants and also pays for the protection of vacant Crown lands lying within the areas of the association's activities.

The simplest form of patrol is carried on by men, generally travelling in pairs, on foot, on horseback or in canoes. The fire protective systems in use throughout Canada have been improved by the following measures: the extension of roads, trails and portages, the building of telephone lines throughout the forest, the establishment of lookout towers and stations, the use of air craft for detecting and reporting incipient fires and carrying men and supplies to fires already started, patrol by automobiles, boats and railway speeders, maintenance at strategic points of cabins for accommodation of patrolmen and supplies for fire-fighting, the use of portable forest fire pumps and the establishment of fire lanes and cleared fire guards through the forest and around fire hazards. In addition to these, certain legislative enactments have tended to reduce the fire menace. The establishment of closed seasons for brush burning by settlers during the dangerous dry periods has proved efficient, and the recently enacted laws for Quebec and New Brunswick, whereby all travelling in the woods during the fire season is regulated and restricted, have been of enormous value as preventive measures.

3.—Scientific Forestry.

The practice of forestry in Canada has consisted chiefly in the administration of existing forest areas. What little reforestation or afforestation has been done has been largely of an experimental nature. During recent years investigatory or forest research work has assumed considerable importance. The object of this work is to secure an inventory of Canada's timber resources, to ascertain the best methods of securing continuous production of desirable species by natural means, and the economic possibilities of establishing forests by artificial means. In addition to silvicultural research, investigations are being carried on for the purpose of determining the best methods of forest utilization or the converting of standing timber into saleable commodities.