

and the Railway Belt of British Columbia. However, by reason of the transfer of natural resources from Dominion to provincial control, their administration is now a matter of provincial concern.

With the exception of the small province of Prince Edward Island, each of the Provincial Governments now administering its own forests, maintains a fire protection organization which co-operates with owners and licensees for the protection of all timbered areas, the cost being in part distributed or covered by special taxes on timber lands. In each province, with the exception just mentioned, provincial legislation regulates the use of fire for clearing and other legitimate purposes and provides for closed seasons during dangerous periods. 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. The latter contributes in the way of money grants and also pays for the protection of vacant Crown lands lying within the area of the associations' activities.

In the matter of forest fire protection along railway lines, the provincial services are assisted by the Dominion Railway Act administered by the Board of Railway Commissioners. This Act gives to that body wide powers relating to fire protection along railway lines under its jurisdiction in Canada. Certain officers of the various forest authorities are appointed *ex officio* officers of the Board of Railway Commissioners. These officers co-operate with the railway fire-ranging staffs employed by the various railway companies, the compulsory control of all lines coming under the jurisdiction of the Board being one of the requirements of the Dominion Railway Act.

The most important single development in forest fire protection in late years has been in the use of aircraft for the detection and suppression of incipient forest fires. Where lakes are numerous, flying boats can be used for detection and for the transportation of fire fighters and their equipment to fires in remote areas. Where safe landing places are few and no other lookout system has been developed, as in northern Alberta, land machines are used for the detection and inspection of fire only; but in the Laurentian area where lakes are numerous, flying boats are used both for observation and control. Specially developed aircraft equipped with wireless are employed on forest fire-protection operations, which thus enable the observer to report the location of the fire as soon as it has been detected. Aircraft are now being used extensively for exploring remote areas and mapping forest lands by means of aerial photography. Waste lands and the various forest types can be mapped more accurately and more economically by this means than by ground surveys. As a general rule aircraft are used in the more remote districts, while lookout towers connected by telephone lines or equipped with wireless are established in the more settled and more travelled forest areas. While these agencies have to a large extent supplanted the old canoe, horseback and foot patrol for detection of fires, a large ground staff with its equipment stored at strategic points will always be necessary for the fighting of larger fires, and the maintenance of systems of communication and transportation and of fire lanes and fire guards in the forest.

The most important improvement in forest fire-fighting equipment has been the portable gasoline pumps. These pumps, which each weigh from 45 to a little