

the younger generation as to the value of the forests, the devastation caused by fire, and the means of preventing such destruction.

Prepared lectures illustrated by slides and films are distributed to volunteer lecturers and other educational work is carried on in schools and at public meetings. The various governmental forest authorities also carry on forest conservation publicity work independently and in co-operation with the Canadian Forestry Association.

Another important advance in forest protection is the development by the Dominion Forest Service of methods for the daily measurement of the actual degree of forest fire hazard which is expressed in the form of an index computed from the weather factors. In the forest types and regions in which the necessary research has been completed the forest authorities are able, not only to gauge the trend of increasing hazard at any given time, but, by the aid of weather forecasts, they can anticipate the trend one or two days in advance and so regulate their activities to meet hazardous conditions as they develop.

### Subsection 3.—Scientific Forestry.

Up to the present, the practice of forestry in Canada has consisted chiefly in the administration and protection of existing forest areas. About 35 square miles is now being planted out annually, largely in connection with farmers' woodlots, shelter belts, and reclamation work, while several commercial reforestation projects have been carried on by paper companies and by Provincial Governments on denuded Crown lands. The great forestry problem in Canada, however, is the management of Crown forests, first under provisional and later more intensive working plans, so as to ensure a sustained yield. To this end, forest research activities are now assuming great importance. Silvicultural investigations are receiving marked attention both from the Dominion services and some of the provincial services.

About 400 technically-trained foresters are employed by the Dominion or provincial forest services or by paper and lumber companies. A considerable number of foresters are actively engaged in commercial logging operations. In addition to administrative work, these men carry on forest surveys either for the estimation of timber stands and making of maps, or to determine natural growth and reproduction conditions and factors. 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.

**Dominion Forest Service.**—The activities of the Dominion Government in forest research are centred in the Dominion Forest Service, which is a bureau of the Lands, Parks, and Forests Branch of the Department of Mines and Resources. Until the time of transfer of the natural resources of the Prairie Provinces, and the Railway Belt and Peace River Block in British Columbia, to provincial control in 1930, the Forest Service was primarily concerned with the administration of forest reserves and the protection from fire of all forests on Crown lands. In addition silvicultural research work had been carried on at the Petawawa Experiment Station in the Ottawa valley since 1918. Since the transfer of the resources, the Service has been entirely devoted to investigations in the fields of forest economics, silvicultural research, forest protection research, and forest products research.

In co-operation with the provincial forest authorities, the Forest Service assembles the available information respecting the forest resources of the Dominion