

purposes, and another devoted to forestry experiments and the cultivation of trees for reforestation or ornamentation. More recently, the Grandes Piles nursery and the Gaspé nursery were organized and there are also nurseries in the following counties: Abitibi-East, Témiscamingue, Saguenay, Îles de la Madeleine, Rimouski, Roberval, Rivière du Loup, Témiscouata and Chicoutimi. Their object is the preparation of plants for reforesting nearby districts. 'Floating' nurseries, supervised by the engineers of the Forest Extension Bureau and intended especially for growing reforestation plants for private properties, are located at Pont Rouge, Sherbrooke, Scott, St. Hyacinthe, Victoriaville, Mont Joli and St. Pascal. The plants are supplied free of charge on request. A dynamic reforestation program is now under way in the province, with an ultimate objective of 10,000,000 plants yearly on private grounds.

The Bureau of Silviculture and Botany and the Forestry Products Laboratory, both subsidized by the Department, are actively engaged in scientific research work in the forestry field. The Bureau studies the possibilities of utilizing spoil-heaps of gold and asbestos mines, tests the fertility of soils in the spruce groves, classifies forests according to type of vegetation, and studies growth and yields of stands in the timber limits by means of permanent research spots. The Forestry Products Laboratory, located at the Duchesnay Forestry Station, studies developments in the field of chemical conversion of wood and in the use of forestry by-products.

**Ontario.**—Steady advancement in the management of the province's natural resources continued during 1961 with a progressive revision of the management plans for the forested land under the jurisdiction of the Department of Lands and Forests. The forested land, including 42 agreement forests of 147,297 acres and five nursery forests of 9,000 acres, was divided into 202 areas, each covered by a management plan. This was a decrease of 18 units from the previous year as a result of consolidation. Seventy-six Crown management units, with plans prepared by departmental staff, made up 53,695,819 acres. Of these, 65 plans were in operation covering 50,219,541 acres and 11 plans were under revision. Also included were 79 company management units with an area of 62,069,120 acres, for which plans were prepared by licensees; 64 of these plans were in operation, covering 47,057,280 acres.

The volume of wood of all species cut from Crown land during the year ended Mar. 31, 1961 showed an increase of approximately 52,500,000 cu. feet over the volume cut during the previous fiscal year; this represented an increase of 15.4 p.c. in the cut of softwood species and 12.5 p.c. in the cut of hardwoods. The primary pulpwood species (spruce, balsam and jack pine) showed an increase in the volume cut of about 41,200,000 cu. feet, which accounted for 78.5 p.c. of the increased production.

During the 1961 fire season, 1,305 forest fires were reported in Ontario. These fires burned a total area of 1,184,998 acres. The greatest incidence of fires and area burned occurred during the last two weeks of June and the first two weeks of July in the north-western Ontario fire districts of Sioux Lookout and Kenora where extreme drought conditions were caused by a deficiency of rain and winter snowfall. A succession of lightning storms during this period resulted in a large number of fires which accounted for over 99 p.c. of the area burned. During 1961, lightning caused 34 p.c. of the total number of fires and human causes accounted for the remainder. More than 90 p.c. of the 1961 timber loss was located in the northern portion of the Sioux Lookout district; inaccessibility makes the timber in this area of little economic value at present.

The Department's fleet of 44 aircraft played a major role in fire fighting operations and the use of aircraft for water-dropping very often restricted the losses. This technique was employed on 104 fires during the 1961 season and 843,000 gal. of water were discharged. The fleet was supplemented by the use of five leased helicopters. Over the whole season, Department aircraft logged 12,568 hours of flight time, 5,000 of which were on fire fighting operations. The remainder included flying for fishery, wildlife, timber management, administrative and mercy services.