

# Forestry in Saskatchewan

By ALEX DICKSON, Extension Forester, Prince Albert

**EDITOR'S NOTE:** This is the second in a series of articles on the conservation of our natural resources written especially for the BLUE JAY.

The face of Saskatchewan is slowly but inexorably changing. Time was when the province was wholly dependent upon its ability to produce first-rate milling wheat . . . and, to produce it in abundance! Today, the chemical, oil, mining and forest industries are assuming a greater and greater economic importance. That is perhaps as it should be. After all, three-fifths of the land area of the province consists of forest, water and rock.

The forest land north of Prince Albert supported one of the largest lumber mills in Western Canada at the turn of the century. At that time, river boats plied the North Saskatchewan River and logs were driven down many of the small tributaries. It is hard to imagine such happenings today: the forest boundary has receded so far that the nearest permanent sawmill is now located at Big River, some ninety miles northwest of the city, and so much debris has been deposited in the river that canoe travel is extremely difficult at certain times of the year. Saskatchewan's forests, like those of the rest of North America, suffered heavily at the end of the last century and the beginning of this. The trees that escaped the logger's axe ended their days on the funeral pyres of land clearing. To the men who wanted to till the soil, they represented only many months—even years—of hard, back-breaking labour. Thus the pioneer used any means he could to get rid of trees, sometimes needlessly destroying neighboring forest. Deterioration of the land, silted-up river beds and a lack of the larger type of timber have resulted.

Sad though the situation is, it is not hopeless. Since the end of World War II, steps have been taken to implement the provincial government's policy of "conserving, perpetuating and promoting the best ultimate use of Saskatchewan's forest wealth." The first task was that of taking stock. In 1947, the Inventory Division of the Forestry Branch, De-

partment of Natural Resources, was set up on the recommendations of a post-war Royal Commission on Forestry; it has since mapped and "assessed" the entire 23,000,000 acre Commercial Forest Zone besides reconnoitering a further 43,000 square miles north of the fifty-fifth parallel. Thousands of sample plots, a fifth of an acre in size, were measured to supply basic data on volumes and rates of growth, while 70,000 photos taken in the summer at altitudes of eight or nine thousand feet, provided the detail for the cover-type maps. Although objects appear small from that height, the skilled reader of photographs can determine the kind and height of trees and the density of stands by examining the aerial pictures carefully.

The great interest taken today in the province's forest reserve is the result of this mammoth stocktaking which has revealed that there is an abundant supply of raw material for a variety of industries using wood. Six billion cubic feet of pulpwood, as well as half as much again in the form of sawtimber, are ready to be converted to paper and lumber. Not only that, but this quantity of raw material from trees of all commercial species increases annually at the rate of 232,000,000 cubic feet. Theoretically, by cutting only the annual increment each year, the forest capital is never depleted.

Only careful, long-range planning, however, can bring this about; and it is the function of the Management Division to make practicable working plans. While it cannot truthfully be said that "sustained yield" is being achieved at the present time, cautious exploitation is at least reducing the number of over-age trees and giving a more favorable distribution of all actively growing ages.

The Silviculture and Extension Division performs many functions: the forests are aided in the regeneration of themselves by both natural and artificial means; land is assigned to its proper use, either for agriculture or forestry; private woodlan-



Sask. Gov't Photo by G. Savage

Inventory forester and assistant tally and mark trees in a sample plot during a stock-taking survey.

owners are given guidance in the management of their property; and even forest pastures are carefully assessed on the basis of their stock-carrying capacities.

The infant of the Forestry Branch in the Research Division. It is investigating the various problems connected with growth, yield, decay and regeneration, as well as testing the applicability of scientific findings to Saskatchewan conditions.

The harvesting and marketing of forest products each year are in the charge of the Saskatchewan Timber Card. This Crown Corporation assists with the building of access roads and insists on a high degree of utilization by the various sub-contractors. Thus a close check on the forests' annual yield is kept, and the operations are subjected to a degree of "quality control."

Saskatchewan forests are remarkably free from injurious insects and diseases. The major insect pests are the larch sawfly and the forest tent caterpillar. Both are leaf-eaters. The former attacks tamarack, and was responsible for the almost total

eclipse of that species in the 1920's; whereas the latter has several times in the last thirty years rendered vast stands of poplar leafless in the middle of summer. These defoliations, however, do more to reduce increment than to kill. Outbreaks of jack pine and spruce budworm have been recorded, but the damage done has given little cause for alarm.

Only jack pine suffers from the "attentions" of a parasitic plant known as dwarf mistletoe. This plant deforms the trees, rendering them unsightly and worthless for timber and poles. Heart-rot fungi are prevalent to some degree in all species, and are a source of waste, both in time and material.

Forests are protected by a Fire Control Branch, which proudly boasts the only parachutist, fire-suppression unit in the British Commonwealth — the Saskatchewan Smokejumpers. Modelled on the world-famous group of American fire-fighters in Montana, the smokejumpers were organized in 1947 to stop the spread of fires while they were still small. Today, they may still be regarded as the shock-troops



Sask. Gov't Photo by G. Savag

Dwarf Mistletoe, an insidious parasite of jack pine, manifests itself here in witches' broom (unsightly clumps of branches). The only cure is removal of the infected trees.

of the fire-fighting force, "holding the line" until reinforcements arrive.

As soon as a "smoke" is spotted by any of the 80 fire towers, strategically located to provide almost complete coverage of the Commercial Forest Zone, or by aircraft of the special fleet which patrols during periods of high hazard, the men are flown from their base at Lac la Ronge and dropped from an altitude of approximately 2,000 feet. Owing to their special training and protective clothing, the parachutists can land among trees without injuring themselves. In fact, the jump-master says he is worried more about the equipment than the men. When the fire is out or when reinforcements arrive, the smokejumpers walk out to the nearest lake and radio for their plane to take them back to base.

Of course, prevention is superior to cure. A vigorous propaganda campaign reaches the province's far-flung population through motion pictures, press and radio. Each year a Forest Conservation Week is set aside to encourage every resident of the forest area to value the forest and what it contains. Speakers of national

renown who have come to address meetings in various communities at this time include C.B.C.'s John Fisher and Mrs. Kay Russenholt, the Canadian Forestry Association's J. L. Van Camp, and Weekend Magazine's editor and columnist, Gregory Clark. This year, the guest was Mr. Roderick Haig-Brown, noted conservation writer of Vancouver Island.

In Saskatchewan only nine species of trees are considered of commercial value. They are: white spruce (*Picea glauca*), black spruce (*P. mariana*), balsam fir (*Abies balsamea*), jack pine (*Pinus banksiana*), lodgepole pine (*P. contorta* var. *latifolia*) and tamarak (*Larix laricina*) from the conifers; and white poplar or aspen (*Populus tremuloides*), black poplar (*P. balsamifera*) and white birch (*Betula papyrifera*) from the broad-leaved trees. The distribution of these trees gives rise to the following zones:

(1) The Prairie Belt, where trees are noticeably lacking except in localities of high elevation such as the Cypress Hills.

(2) The Aspen Grove Belt, where aspen or white poplar predominate

- (3) The Mixedwood Belt, where species are present.
- (4) The Northern Coniferous Forest Belt, where the broad-leaved trees are entirely lacking or very much in the minority.
- (5) The Arctic Tundra Belt, where permanently frozen subsoil has caused stunted growth, making this region veritably "the land of little trees."

Forest management so far has mainly been put into effect in the Mixedwood Belt, because of its easy accessibility and the availability of the different species. Later, other regions will come under more intensive management.

The government of Saskatchewan is keenly aware of the province's great forest resources, and is eager to attract industries which will use them. Today, a small fibreboard plant nearing completion, a blockboard plant is committed to begin operations next year and an agreement has been signed with a pulp firm which intends to establish a \$60,000,000 plant near Prince Albert within the next two years. Two more pulp companies are negotiating for limits,

as well as a firm interested in the production of chipboard.

These industries are not to be established at the expense of our forest resources. Management plans based on sound forestry principles have to be prepared by the companies and submitted to the government for approval either before operations begin or a year or two after. Further assurance of proper management and accurate statement of production returns is the financial deposit required of the companies, and their compulsory employment of government licensed scalers.

No longer, it is hoped, will Saskatchewan be rated only as a "wheat province"; trees also are a valuable crop.

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Sask. Gov't Photo by G. Savage

White spruce occurs naturally under the beneficial shade of aspen. Here, in a typical mixedwood stand, the spruce is rapidly overtaking the poplar and will eventually gain the ascendancy.