

that no relaxation can be permitted in the efforts to maintain and increase the effectiveness of the fire preventive service. This is strongly emphasized by the loss that has occurred in the Western United States, particularly Oregon and Washington, where half a million acres were fire swept and the loss totalled up to about twelve million dollars. Contrasted with this the prevention work done in the Railway Belt in British Columbia, part of it contiguous to the burned area in Washington State, with a comparatively small staff, is a subject for congratulation.

Advance in British Columbia is marked by the adoption by the Legislature of the penalty clause of the Bush Fire Act as suggested by this Association and the setting apart of Long Lake timber reserve and Yoho Park in the Railway Belt, the latter of which with the Rocky Mountains Park of Canada on the eastern slope of the Rocky Mountains, which has been extended to include an approximate area of 2,880,000 acres, form one of the most magnificent forest parks in the world and one of which Canadians may well be proud.

The setting apart of forest reserves is a decided step forward, but the question of their administration is one that is far from being finally determined. The Province of Ontario during the past year formulated regulations for the administration of its reserves, but these regulations did not deal with the cutting of timber for lumber purposes, and it seems advisable that this subject should be fully discussed by this Association in order that the Government may be assisted in determining the proper policy to be pursued.

At the last session of the Legislature of Quebec a Commission was appointed to enquire into Forestry and Colonization. Unfortunately through uncontrollable causes this Commission became disorganized and it has been necessary to reconstitute it. It is sincerely to be hoped that a fair and thorough examination on the lines laid down for this Commission will be made by the Province of Quebec, for in the proper adjustment of the relations of these two interests lies one of the most important problems that the Province has to face and one which will have a far-reaching influence on its future prosperity.

In the Province of New Brunswick an Act has been passed authorizing the setting apart of a Forest Park, but its location has not as yet been determined.

In the Province of Nova Scotia information is being gathered as to the forest lands under control of the Crown, and it is altogether probable that some important advance in the administration of Crown Lands will be made in the near future.

The work of cooperation with the farmers in forest tree culture on the treeless prairies of Manitoba and the North-West Territories which was started a couple of years ago by the Department of the Interior is now assuming large proportions, and promises to prove very successful. Besides about 700 pounds of maple and ash seed there will be distributed this spring over 600,000 trees to 827 farmers. This gives an average of over 1400 trees to each farmer, and the applications received from those desiring to have their farms visited by the supervisors next season with a view of obtaining trees the next spring are more than double that number.

The total distribution when this spring's supply is finished will be 1,424,500 trees and 1400 pounds of maple and ash seed. The reports received from the supervisors of the condition of the trees planted in the spring of 1901 and 1902 were very satisfactory both in the Province and in the Territories.

The report of the Board of Directors was referred to the Committee on Resolutions, composed of Messrs. Hiram Robinson, Thomas Southworth, Dr. Saunders, Professor Macoun, E. Stewart, R. H. Campbell and George Johnson. The report of the treasurer, then presented, was referred to the auditors.

Mr. R. H. Campbell gave notice of motion to change the date of the annual meeting from the first to the second Thursday in March.

The following paper on the "Forests of New Brunswick" was then submitted:

The Forests of New Brunswick.

By HON. J. B. SNOWBALL.

The subject given me to deal with is Forestry in New Brunswick. In forestry proper there is nothing whatever being done in the Province, beyond the work of a few wood rangers, whose duties it is during two or three summer months to protect the forest from fires, or rather to prevent settlers from burning their newly cleared land in these the most dangerous months for fires.

Such fires on several occasions have been very destructive. The Saxby gale (known as such), which occurred in October, 1869, swept across the province from south-west to north-east, and blew down a section of well timbered forest on the tributaries of the South-west Miramichi river forty to fifty miles long by fifteen miles wide. The following year fire got into it, and the whole district was burned over. For some reason this district has been unfortunate, as it has again been burned over since 1870 and the fire attributed to carelessness of settlers. Spots were missed by the blow-down and subsequent fires, these spots being mostly hardwood ridges. The lumber blown down consisted largely of rough pine, and was all on Crown Lands. The loss to the province and the district of this large section, over seven hundred square miles, is not less than a quarter of a million dollars annually, and the loss must continue unless some system of reforestation and better protection is adopted.

All woods natural to our soil are manufactured and utilized for export. There is very little hardwood square timber exported from this province. This wood is now mostly sawn into deals, furniture squares or spool-wood squares and shipped in contract sizes. The cedar is manufactured into shingles, and exported largely to the United States. There is very little pulp wood shipped. It is manufactured within the province and shipped as pulp. The export value of the above commodities, including spruce and pine deals, is estimated to amount to ten million dollars per annum.

There are different computations by various authorities on the area of the Province of New Brunswick, but it may be stated at 28,200 square miles; or a little over 18,000,000 acres. About two-thirds of this, or 12,000,000 acres, is forest lands. Of this forest area about 60 per cent. is estimated as spruce land; 10 per cent. pine; 5 per cent. hemlock; 5 per cent. cedar, and 20 per cent. hardwoods, which latter consist principally of birch, beech, ash and maple.

For comparison I would repeat. New Brunswick has 12,000,000 acres of forest lands, or 18,750 square miles; Norway 16 Sweden 58,000,000 square acres of forest lands, or 90,625 square miles; Russia in Europe 527,427,000 acres of forest lands or 844,104 square miles; Europe 687,000,000 acres of forest lands, or 1,073,000 square miles. 42 per cent. of Russia in Europe is under forest; 40 per cent. of Sweden in Europe is under forest; 24 per cent. of Prussia in Europe is under forest; 22 per cent. of Norway in Europe is under forest; 32 per cent. of Austria in Europe is under forest; 16 per cent. of France in Europe is under forest.

Every country of Europe has a large area of forest lands excepting Great Britain, which has less than 4 per cent. All these countries are seeking more or less legislation looking to the protection of their forests and the replanting of their denuded areas. Germany has taken the lead in wise forestry administration, and most of the other European countries have established forestry academies and now conservation of wood lands occupies prominent and studious attention.

The area of New Brunswick inland waters, including rivers and lakes, is about four hundred square miles, and the salmon, trout and other fishing on these waters is said to be equal to the best in the world. The forest lands of the province also cover one of the best game regions in North America, considered from the sportsman's point of accessibility from railways. Trappers also find New Brunswick forests rich in fur-bearing animals.

Persons desirous of settling on the Crown Lands of the Province, whether they are immigrants or residents, may acquire grants thereof, either under the Labor Act or by cash purchase. Under the Labor Act one hundred acres may be obtained by the performance of thirty dollars worth of work on the roads, or a payment

of twenty dollars cash in lieu thereof, the clearing and cultivation of ten acres of land, the building of a habitable house 16 feet by 16 feet, and the continuous residing therein for three years. The words "continuous residing" are liberally construed, and under the law the settler may be absent from his holding for certain months in the year to enable him to engage in wage-earning occupations.

Mr. Campbell read a paper on Forestry Conditions in Nova Scotia, of which the following is an abstract:

Conditions of Lumbering and Forestry in Western Nova Scotia.

By F. C. WHITMAN.

The writer outlined the conditions of forestry and settlement in Western Nova Scotia, and particularly in the Annapolis Valley. The forest growth in this district, discovered in 1505, was so dense that it was over 200 years before any roads were cut through it. The first trading was with the New England States, but exports of wood were very limited, then later a trading interest was developed with the West Indies and lumber was exchanged for sweets. The export to the West Indies still continues, as the markets developed the cutting of the forests became general. To-day the forests are well nigh depleted, and within the past year Provincial operators have gone north to Newfoundland and Labrador.

When cutting first began spruce, hemlock and hardwoods were scarcely touched; it began on the white pine until to-day it is commercially gone. The cutting of the spruce followed and is still going on at the rate of 1000,000,000 feet annually in this district. The pulp mills are eating up the small growth, and the saw mills cut from 1 inch by 2 inch up. There has been for many years past a very large export to South America of 1 inch by 3 inch and up, 2 inch by 3 inch and up, which also takes small and young growth wood. These South American orders call for a proportion of 12 inch wide stock, and great difficulty is now found to secure the proper proportion. The character of the cut of wood, and the increasing value of spruce lumber is tending toward absolute denudation. I believe that it is opportune to undertake a movement in the study of forestry and that an appeal to the people in the interests of the country would lead to a betterment before it is too late. The foot hills and the vast interior, although no longer a forest primeval, will always be more suitable for wood growth than for any other purpose.

The standing timber in the order of commercial value would be as follows:

White Pine—Nearly all cut, young growth scattering.

Spruce—Old growth confined to holdings of large operators, and in scattering bodies on farm lots, or remote sections. Young growth luxuriant everywhere, and will come to a size fit for commercial purposes in 30 years from breaking ground.

Hemlock—Abundant in many sections, now being cut where easily accessible, largely used for railway ties. Bark wasted.

Fir—Trees die early, much affected by insects. Used for cooperage.

Poplar—Quick growth but sound stock small in size, scattered through low lands or hillsides along streams. Used for pulp and staves.

Elm and Cedar—None.

Birch, White—Abundant.

Birch, Yellow—Abundant.

Birch, Redheart—Scarce.

Maple—Rock and softer kinds abundant, scattering bird's eye.

Beech—Abundant.

Oak—Scattering growth according to elevation, mostly red oak, coarse open grain. Used for car building.

Ash—Very scattering, kept under by basket and hoop makers.

All the hardwood grows mixed and would only pay to cut as it runs.

White pine was largely used for ship-building, the butt was often used and the top wasted, as can be seen in nearby woods to-day. Spruce and all the hardwoods are now used for shipbuilding, and the fishing fleet annually takes a very large quantity. It will be noted