

services rendered by the streams to agriculture, commerce and health, demand it. The question of increasing the area of timber lands under direct control of the Government is one worthy of full discussion, and opens up the whole subject of the future of the lumber trade, the system of management to be adopted, training of forest officials, etc. Though the recommendation of the Commission is only that the Government should take over such lands, in addition to the water sheds, as the holders have shown by failure to pay the ground rent that they do not wish to retain, yet this practically covers the greater portion of the white pine lands. If the Government would show its faith in forestry by its works, and demonstrate by the management of some of the tracts under its control the practicability as a business proposition of the adoption of a system which would give more consideration to the preservation of a future supply than those now generally followed do, it would take a long step forward towards convincing the public that a large government control would be the most beneficial and in the end the most profitable. It would also give some ground for urging the lumbermen to adopt a similar system. No government in Canada has so far made sufficient effort in this direction to give a clear view of the situation. General experience points to the conclusion that government ownership gives the best permanent results, but the interests of those now holding timber lands should not be overlooked in any policy that is adopted.

The other conclusions relate to lands under license and recommend that suitable regulations should be enforced to prevent too rapid or too close cutting on such lands, and that license holders should not be allowed to cut any trees for logs smaller than would measure twelve inches across the stump two feet from the ground, except by special permission from the Department of Crown Lands and under supervision of the district forest ranger. In the preliminary report of 1895 the Commissioners called attention to the advantages of allowing the trees to reach a fair maturity before cutting, and made the following comparison:

"A young tree which would cut only one log eight inches in diameter and sixteen feet long, measuring sixteen feet board measure, would, if allowed to stand for thirty years, grow in diameter at the rate of one inch in five years—in some cases growth is as rapid as an inch in two years—and hence would give a butt log of fourteen inches diameter sixteen feet long, or one hundred feet of lumber, board measure. In addition to this, however, this tree would have grown in height sufficient to give two more logs, one say of eleven inches and one of eight inches diameter, both sixteen feet long, and measuring respectively forty-nine feet and sixteen feet board measure. Thus a tree that requires, perhaps, forty years to make its first sixteen feet of merchantable timber would in thirty years more have increased to one hundred and sixty-four feet. This may be considered the period of greatest relative growth; after attaining a diameter sufficient to make a fourteen inch butt log, your Commissioners estimate that the tree would continue to gain at the rate of three and one-half per cent per annum. This bare statement of the case shows the necessity of protecting the young growth of pine in the interests of the Province. The advantage to the lumberman in holding his trees till they have reached the larger diameter is still more marked because of the greater price per thousand feet commanded by lumber cut from the larger logs."

The investigations of the Division of Forestry in the United States, in connection with certain spruce areas in the Adirondacks, which were placed under their management, led them to decide upon a diameter of twelve inches as the most

profitable for cutting, and to that extent the conclusion of the Ontario Commissioners is fortified.

The production of seed in profusion also depends on the trees reaching a considerable development—about a diameter of six inches in the pine—and as the pine does not produce seed every year the reproduction of the crop may be very seriously hindered by too early cutting. The observations of the Commissioners as to the area of distribution of the seed from pine trees did not lead to any definite conclusion. It was found that seed had probably been carried a mile or two from trees in exposed or elevated situations, while in other cases the distance was evidently very much less. The provision of the seed supply should not be overlooked in the cutting of timber, and this phase of the forestry problem is deserving of very careful study.

One of the points mentioned in the preliminary report as under investigation was that of a remunerative market for the waste and refuse of lumber operations, as well as for trees not at present commercially valuable, which it might be well to remove. It was thought that much of this material could be utilized in the manufacture of pulp and small wood goods, or for the production of charcoal for smelting ores, etc., but in the final report there is only a hint that the future may bring about such conditions as to make what is now useless of some value, so that apparently no satisfactory method of dealing with such products was found to be feasible at present. If this refuse could be made of value, one of the causes which assist in the propagation of fires would be removed.

We again submit to the members of the Canadian Forestry Association the question as to how far they are prepared to advocate the adoption for the Province of Ontario or for the other Provinces of the Dominion, of the principles laid down by the Ontario Forestry Commission. An old Malagasy proverb says, "One tree does not make a forest, but the thoughts of many make a government," or, we may add, an Association. We will be glad to have the opinions of any of the members on the question raised by this report.

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Forestry in British Columbia.

At the meeting of the British Columbia Forestry Association on the 7th of August last a paper was read by Mr. J. R. Anderson, Deputy Minister of Agriculture for Victoria, a portion of which is as follows:—

"The question of the proper conservation of the forest wealth of a country has long since engaged the attention of the older governments in Europe, with the consequence that the forests of those countries are now engaging the paternal solicitude of the governments and, instead of diminishing, are actually in many instances increasing. The wasteful policy pursued in the Eastern States of America and in our own country is now being made apparent, and frantic efforts are being made to recover lost ground. We in British Columbia have been accustomed to look upon our forests as practically inexhaustible, and every effort has been put forth to destroy them, to get rid of the timber at any price so as to make room for other purposes, agriculture and so on. Now, however laudable it is for the struggling settler, and I say emphatically he should be assisted in every way possible, to clear his land, the means employed should be such as not to endanger the neighboring forest. The loss through the agency of fire every year is beyond calculation, and whilst the provisions of the Bush Fire Act are good as far as they go, they do not go far enough and, like those of many other Acts, the difficulties of enforcing them are so great that