

Stock Taking of the Forests of British Columbia Is Completed

Commission of Conservation Has Finished Tremendous Task
Immensely Forest Area in Province Although Two-thirds
of Acreage Once Forested Has Been Destroyed
by Fire—Billions of Cords of Pulpwod
Material

The exhaustive investigation of the forest resources of British Columbia by the Commission of Conservation, extending over a period of three years, discloses the fact that of the total land area of the province, 355,855 sq. miles, approximately 200,000 sq. m. is incapable of producing forests of commercial value. About 145,000 sq. m. lie above the merchantable timber-line, and on 55,000 sq. m., though below timber-line, the soil is either too rocky or wet, or the forests have been so completely destroyed by fire that there is no hope for the natural re-establishment of forest conditions for centuries to come.

Of the remaining 155,855 sq. m. which is capable of producing forests only about 28,000 sq. m.—less than one-fifth—carries sufficient timber to be classified as statutory timberland. (The Land Act defines "timberland" as that which, when situated west of the Coast mountains, carries at least 8,000 b.f. per acre; when east of the Coast mountains, 5,000 b.f. per acre.) In the interior of the province, there are areas of forest land, aggregating 23,800 sq. m. which, though not reaching this standard, carry between 1,000 b.f. and 5,000 b.f., part of which may be utilized. Only very meagre data have been obtained, as yet, as to the area of land which can be used for agricultural purposes. It appears from our forest land classification that somewhat over 5,000 sq. m. is grass

SAW TIMBER IN BRITISH COLUMBIA

| SPECIES | COAST | | INTERIOR | | TOTAL | |
|------------------------|------------------------|-----------|------------------------|-----------|------------------------|-----------|
| | Million ft. b. measure | Per cent. | Million ft. b. measure | Per cent. | Million ft. b. measure | Per cent. |
| West. red cedar..... | 59,000 | 27.4 | 18,019 | 13.2 | 77,019 | 22.1 |
| Douglas fir..... | 64,000 | 29.4 | 12,573 | 9.2 | 76,573 | 21.8 |
| Spruce..... | 14,000 | 6.7 | 68,375 | 42.8 | 82,375 | 20.6 |
| West. hemlock..... | 52,000 | 24.3 | 12,154 | 9.9 | 64,154 | 18.3 |
| Balsam..... | 19,000 | 9.2 | 13,838 | 10.2 | 32,838 | 9.5 |
| Lodgepole pine..... | 20 | 1 | 12,130 | 8.9 | 12,150 | 3.5 |
| West. yellow pine..... | — | — | 4,208 | 3.1 | 4,208 | 1.2 |
| Yellow cypress..... | 3,700 | 1.9 | — | — | 3,700 | 1.1 |
| Western larch..... | — | — | 2,152 | 2.2 | 2,152 | .9 |
| White pine..... | 1,100 | .5 | 1,617 | 1.2 | 2,717 | .8 |
| Black cottonwood..... | 400 | .2 | 272 | .2 | 672 | .2 |
| | 213,220 | 100.0 | 136,348 | 100.0 | 349,568 | 100.0 |

*Includes Sitka spruce, Engelmann spruce, white spruce and black spruce.
†Includes alpine fir, lowland fir and amabilis fir.

land or very open forest, some of which is suitable for cultivation, but the greater proportion is of value only for grazing. In addition, there is, perhaps, from 12,000 to 15,000 sq. m. cleared or under forest which is, or may be more valuable for agriculture than for forest production. Deducting this potential agricultural land, say 20,000 sq. m., from the land capable of producing commercial timber, there is 135,855 sq. m. of absolute forest land which should be devoted permanently to forest production.

The timber on about 100,000 sq. m., or two-thirds of the land once forested, has been totally destroyed by fire, and on over half of the remaining 55,855

sq. m. has been seriously damaged. Using the timber still standing as a basis, it is estimated that the province has lost, through forest fires, at least 665 billion feet board measure. When one considers that the total stand of saw material in the whole Dominion probably does not greatly exceed this amount now, the seriousness of this loss, which can be attributed very largely to public carelessness, becomes apparent.

The total stand of saw timber and pulpwod material, in British Columbia, as ascertained by the survey of the Commission of Conservation, is 366 billion board feet. The accompanying table indicates the composition of the present stand of saw material.

It will be seen from this that, of the species which are used in the manufacture of pulp and paper (hemlock, balsam, spruce and cottonwood), there is 170 billion feet, equivalent to 243 million cords of pulpwod, which may be increased to 250 million cords by utilizing smaller-sized timber. In view of the fact that the limited supply of pulpwod is becoming a very serious matter in eastern North America, it is of interest to know that so considerable a supply may be obtained in British Columbia.

The estimate of the forest resources of the province submitted in the report of the Commission of Conservation is based on a much higher percentage of

detailed timber cruises than any forest report of a similar nature heretofore issued. It is believed, therefore, that the information will be valuable, not only to the governments, which control the forest policy in the province, but also to timber owners and financial interests, on whom the development of industry so largely depends.—R. D. C.

To keep the public in touch with the activities of the Government, especially activities connected with the war, the Director of Public Information, Hope Chambers, Ottawa, has begun the publication of a weekly newspaper, called *The Official Record*. The subscription price is \$2 a year.

Farms Less Fertile Than 40 Years Ago

Member of Conservation Commission Says More Intelligent Farming Needed

Canada has about 28,000,000 acres in field crops of which probably 20,000,000 acres are in the three Western Provinces. In the fertility of the soil being kept up, is it being exhausted, is it being increased? To get an answer, the Commission of Conservation carried out a survey of 2,245 farms. We asked questions of 2,245 farmers located all over Canada. We took them in groups of about thirty or forty—in all about 60 groups, from British Columbia to Prince Edward Island. On this point, we made a definite enquiry of the farmer as to whether the fertility of his farm was being maintained or was deteriorating.

Here is the answer: 30 per cent of them reported about the same yield per acre as 20 years ago, 40 per cent reported some increase in yield, and 30 per cent reported some decrease. That is to say, the land, as used by 30 per cent of all the men reporting, was poorer in its power to produce crops, than it was 20 years before. From Manitoba, 32 per cent of the farmers reported about the same yield per acre as 10 years before; not one man reported an increase; and 46 per cent reported some decrease. That is a summary of the answers to the question when put under an intelligently conducted survey.

We want in Canada more serious and intelligently conducted surveys of our conditions in order that we may acquire real knowledge of facts as they are. Then we can come to conclusions and plan our course of action to deal with the facts discovered and properly interpreted. In the West, the lure of land was for a time similar to the lure of the Yukon; and the lure of the Yukon in the main led on to disappointed men, deteriorated health, and parts of the Yukon left with less material substance that could be called wealth than it had before. There is some excuse for the pioneers taking more than one generation's share of the fertility stored in soil by the beneficence of nature during long ages of preparation. In the pioneer days they needed and had some right to more than their share of this store of natural wealth while making the place ready for occupation; but, after that first need is satisfied, it becomes their duty to make the place more fertile while in their hands.

The history of other countries and other farmers sheds light on our problems; and we may be instructed, to our great advantage, by their experience. In central New York, wheat growing was followed successfully for 40 years. During 20 years more the success was doubtful. Then it became definitely unprofitable. With a climate favourable for agriculture and propitious for crop-growing, it took 40 years of exclusive grain growing to make that system unprofitable, and 20 years more to compel the farmers to stop that sort of practice. Ohio, Indiana, Illinois, Iowa and other Western States either have or are making

similar history. I have gone one time and talked to the old men; from 30 bushels of wheat to the acre the yield came down to 14.

We can afford to take a lesson from even our enemy. Germany is a country with a soil which on the whole is not naturally very fertile. With only 30 years she has been able to effect an increase of about 30 per cent in the yields per acre of her crops.

On the other hand, over large areas of Canada our methods of farming are exhausting the fertility of our farms to some extent; and there is danger that the fertility of considerable areas will be reduced below the point of profitable farming.—Dr. J. W. Robertson, Chairman of Lands Committee, Commission of Conservation

PRODUCING ALCOHOL FROM WOOD WASTE

Waste sulphite liquor is one of the most frequently quoted industrial wastes, as millions of gallons are returned into the rivers every day carrying half the original pulpwod substance together with most of the lime and sulphur used. Recovery of by-products is difficult and costly, but it is safe to say that Canada will begin to practice recovery in the near future. In Europe and the United States evaporated liquor is used quite extensively as a binder for briquetting fuel and a core binder in foundry work. Tannin-like substances are separately and incorporated with true tannins in preparing sole leather. Sweden has taken the lead in recovery of ethyl (grain) alcohol, and produced in 1909 over 500,000 Imperial gallons of 90 per cent alcohol for industrial purposes, motor fuel and potable spirits. It is reported that Germany has established this process in fourteen sulphite plants in order to conserve potatoes which are the usual source of alcohol in that country.

Waste sulphite liquor contains about 1.5 per cent of fermentable sugars which are produced from the wood during the cooking process, and these sugars are fermented to alcohol by yeast. The direct recovery of sugars and other organic matter makes available a fairly good cattle feed. Recent processes aim at the precipitation of the lignin content for use as fuel, and a number of new plants are going up in Norway. Minor processes are the recovery of destructive distillation products, fertilizer and materials for dyeing. There is also the possibility of recovering sulphur compounds which, however, do not originate in the wood.—Dr. J. S. Bates.

TO PREVENT POTATO ROT

Pick over your potatoes about the fourth or fifth week after you have stored them away. The wet weather of the season increases the tendency to rot and unless the diseased potatoes are at once separated from the healthy there will be heavy loss. Most potatoes that look good when harvested will decay after being in storage a few weeks.

Potatoes should be stored in a dry place. The cooler the atmosphere, providing, of course, freezing is not permitted, the better they will keep.