

Forestry Progress in British Columbia

A Policy of Development—Revenue and Expenditure

The forests of British Columbia contain approximately one-half the standing timber of Canada. The utilization of this vast body of forest wealth is yet in its veriest infancy. The annual growth of the forests of the Province is even now, before they are either adequately protected from fire or from waste, certainly not less than five times the present annual lumber cut.

The declared policy of the newly-established Forest Branch, Department of Lands, is the development of a greater lumber industry for British Columbia, along lines which will provide for the prompt utilization of mature timber, and for safeguarding the forest against unnecessary waste, in such a way as to ensure a good second crop upon logged-off lands.

During the fiscal year 1912 the forest revenue was \$2,753,579. One-tenth of this amount was expended for forest administration and protection, aside from the direct contribution for fire protection made by lessees and licensees. Thus, while one dollar in every four of Provincial revenue was derived from the forests, but one in every fifty expended was devoted to the forests. The plans of the Forest Branch for the coming year contemplate a material strengthening of the fire-protective organization, although the forest fire loss during 1912 was the smallest in the history of the Province, the loss was nevertheless large in the aggregate, and a determined effort will be made in the form of larger appropriations and better organization, to the end that such loss may be reduced to the lowest possible figure in the future. The Provincial Government is thus acting on the thoroughly-established principle that the permanence of forest revenues depends upon a reasonable expenditure for protection and development.—C. L.

Trained Men For Fish Hatcheries

The public are taking a warm interest in the work of fish culture, and any measures for the improvement of this branch of work will be sure to call forth public approval. That the methods of conducting it that have been adopted thus far, do not give satisfaction in all quarters was intimated at the last annual meeting of the Commission of Conservation by Dr. George Bryce, of the University of Manitoba, who said:

"For years we have been endeavouring to save our inland fisheries, and to increase them. Our fish hatcheries are one of the most important means by which we seek to accomplish this. I wish to call attention to the fact that those who are in charge of these hatcheries are often very lacking in expert knowledge. For ex-

ample, sometimes in sending the small fish or the material for propagation from one place to another it is carried in the most irregular way. In one instance, a man put the can against the car-heater so that the fry or ova were all dead before reaching their destination. Things like that occur too often. They show that there is a real necessity for giving expert instruction to those who have charge of these hatcheries. It is absolutely necessary that instruction be given so that the men in charge of this very important matter of the propagation of fish and the study of their habits should be scientifically trained for their work."

On the same occasion, Prof. E. E. Prince, Dominion Commissioner of Fisheries, said that the Biological Board, had recently been given control of its own affairs, and would take up the matter of training men for fish-culture work. He stated further that while splendid work had been done here in fish culture, there had never been a single technically trained man except himself in the fish-culture service of Canada.

Forestry as a Profession

During the last decade forestry in the United States has developed with remarkable rapidity. The adoption of forest management in the National Forests, the activity of various states in public forestry, and the increasing interest of private owners in timber growing and protection have resulted in a marked demand for trained foresters.

When active work in forestry first began there were no forest schools in the country, and those entering upon the work were obliged to go to Europe for technical training. In anticipation of the need of foresters, and in order to aid in the development of forestry, several progressive institutions established schools of forestry, even before the demand for any considerable number of men was definitely assured.

FIRST PROFESSIONAL SCHOOL.

The first professional school was established at Cornell University in 1898. This was followed in 1900 by the Yale Forest School. Private instruction in forestry was given at Biltmore, North Carolina, by Doctor Schenck, in connection with his work on the Vanderbilt estate as early as 1897, and a school for rangers was started by the State of Pennsylvania at Mont Alto, Pennsylvania, in 1903. Since that time instruction in forestry has been introduced in a large number of institutions. To-day there are twenty-two institutions which give courses leading to a degree in forestry, and about forty others which include it in their curricula. It is estimated that there are fully 500 foresters in the United States with a greater or less degree of technical training, in addition to 1500 forest rangers who began without a knowledge of the technical side of forestry, but many of whom through their experience in National and State forest work have, under technical direction, acquired considerable knowledge of

certain phases of the subject. There are probably about 1,000 young men studying in the forest schools. Forestry may therefore be considered an established profession in the United States.

FORESTRY EDUCATION IN CANADA

In Canada, forestry education dates from the establishment of the Faculty of Forestry at the University of Toronto, under Dr. B. E. Fernow, in 1907. This is the leading forestry school in Canada at the present time. Instruction in forestry is also given at Laval University, Quebec, and at the University of New Brunswick, Fredericton. Lectures in farm forestry form a part of the course at Ontario Agricultural College, Guelph.—Ez.

Mine Explosions Due to Gas Wells Abandoned Gas Wells Should be Plugged and Recorded—Leg- islation Necessary

In order to prevent the waste of natural gas and to safeguard future coal mining operations, the Commission of Conservation has recommended in 1911, 1912 and 1913, that Dominion regulations make provisions for the plugging of gas wells (at the time of abandonment) and for the recording of all drill holes bored on Crown lands.

If holes are drilled through coal measures in order to reach the oil or gas zone below and, after natural gas is found, the casing is withdrawn and the well abandoned, the gas "feeders" will be of great danger in future coal-mining operations unless accurate records are kept of the location of the holes. In fact, not only should a record be kept of the hole, but the holes should be filled solidly and tightly from the bottom of the well to a firm stratum below the last string of casing set in above the producing oil or gas sands.

DANGER FROM ABANDONED WELLS

As an instance of the danger to coal mining operations arising from gas wells situated near the mines, the following examples from the United States may be noted:—

On Nov. 21, 1912, an explosion occurred in a coal mine near Shinnston, W. Va. The explosion was caused by the escape of gas from a well situated three or four hundred feet away.

An explosion occurred in two mines of the Consolidated Coal Co., in the Fairmont region, in 1910, which was proved to be directly caused by a capped gas well.

In June 1911, an explosion occurred in a mine near Clarksburg, through natural gas breaking through into the mine. This mine was situated 1500 feet away from the gas well.

Owing to the importance of this subject the National Fuel-Well Committee of the United States have prepared an act to regulate the drilling of oil and gas wells through coal.

Canada might well copy this act at once and place it on the statute books instead of waiting to learn from the loss of life which will eventually follow unless this is done.—W. J. D.

Quebec Is Conserving Its Waters Work of the Running Waters Commission

Great credit should be given the province of Quebec for the step it is taking for better conserving its waters. This policy was initiated about a year ago by the creation of the Running Waters Commission, consisting of three members, for the purpose of making regulations on the disposal, flow, storage and conservation of the running waters and to encourage and facilitate the utilization of the water-power in the Province.

The Commission's first report which has lately been published, gives a summary of its studies and recommendations and sets forth its views with regard to the necessity of controlling stream flow, the harmful effects of deforestation and the possibilities of water storage.

Several hearings were held by the Commission in connection with its work, one regarding the L'Assomption river with a view to interesting the power owners in a water-storage project; and another regarding spring floods of the Chaudière river. A delegation from the municipalities near Maddington fall was also heard regarding difficulties in connection with the prompt development of this water-power.

A very thorough study was made of a storage system for the St. Maurice river; engineers were sent out to make the necessary surveys and the result of their investigations is of great interest. The present minimum flow of 0.38 second-feet per square mile could be raised to 1.11 second-feet by adopting the proposed regulation system; and, by the regulated flow and storage dams, the water-power available on the St. Maurice would be increased from 361,320 h. p., as it is at present, to 1,055,652 h. p., an increase of 694,332 h. p.

Under recommendations on the need of accurate data, the report deplores the lack of information available on stream flow as, at present, such data exist only in a few instances. It urges the importance of establishing gauging stations at once on all the principal rivers. The Commission also recommends a complete inventory of all utilized water-powers, this to be supplemented by an accurate inventory of the water-powers not yet utilized.

The Department of Lands and Forests is also pursuing the investigation of the water-powers of the Province, and the recent issue of the annual report of this department includes the results of surveys of the Mistassini and Muskosibi (Mistassibi) rivers where discharges have been taken and heights of the different falls measured.—L. G. D

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