

The Truth About Ontario's Forest Protection System

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In the face of the appalling forest fire tragedy in Northern Ontario, press and public are inquiring diligently as to the causes of forest fires, the methods of fire prevention, and are asking very frankly if the Provincial Government can entirely shake off responsibility for the heavy harvest of death and destruction.

The sacrifice of timber wealth, of entire towns, of maturing crops, has been a severe blow, particularly at a time when the guarding and developing of national wealth are accepted as keys to victory in the World War, but the conscience of the public has been far more deeply affected by the sacrifice of unreplaceable lives.

The time to block forest conflagrations is, paradoxically, before they commence. Well-organized forest protection systems in British Columbia, Nova Scotia and sections of Quebec, as well as in the United States and Europe, have demonstrated the comparative ease of preventing fires from starting. After the fire is well under way, the same carefully organized systems can usually succeed in isolating the flames and greatly reducing the damage. Success in preventing and in fighting forest fires pre-supposes a condition of affairs to which the Ontario Department of Lands and Forests is yet a stranger. Nothing but a radical overhauling of the forest service of the province can give the people any assurance that 1917 will not witness a catastrophe even more violent.

In the first place, the forest service of Ontario is built on a very old model. While spending \$300,000 a year on "protection" not more than a portion of that sum is represented in "value received."

The patrol of areas such as the "Claybelt" makes no pretense at thoroughness; educational work in fire prevention has been very slight,

and the flimsiest provision made against such fearful onslaughts of flames as have now taken their ghastly toll.

Ontario, outside the Reserves, possesses very little equipment as telephone lines, trails, highways, lookout towers and cabins, such as are absolutely essential to any effective system of defence against fire.

Real "Rights" of Settlers.

One particular point of deficiency, emphasized by the recent fires, is in the ability to control settlers' burning operations. Quebec, British Columbia and Nova Scotia empower their fire guardians to penalize a settler who starts a clearing fire without written permission from a qualified ranger. In dry hot spells fires of all kinds may be absolutely prohibited in prescribed areas, and at all times, even of comparative safety, slash is piled properly or fire lines cut around the clearing. Ontario takes no such precautions, although representations to that effect have been energetically made to the Government year after year. The settler is allowed to burn precisely as carelessness or ignorance may dictate and annual holocausts will remain possible until that "liberty" is sensibly curtailed.

The settlers going into Northern Ontario have a perfect right to demand that their lives and property shall be guarded by the Government to the best of its power. The recent fires doubtless helped to clear some land for agriculture, but for every acre so assisted, probably four or five acres of non-agricultural tree-growing land were affected disastrously. Certainly the danger of future fires has increased, as the areas of fire-killed timber widen, so that in a year or two, a mass of windfallen debris will present a perfect target for fresh conflagrations. If forest protection was needed early in 1916, to prevent the tragedy that has now occurred, it will be needed vastly more to offset a recurrence on a far worse scale in years to come.

If evidence were needed that the

forest protection system of Ontario requires a far-reaching and determined overhauling, that evidence will be found in a perusal of the 1915 report of the Ontario Department of Lands, Forests, and Mines. Both by what the report states and by what it neglects to state, may be judged the wisdom of the Canadian Forestry Association's efforts to cause a re-organization of the Ontario ranger service, and place forest guarding among the creditable performances of the provincial government.

Two or three facts stand forth clearly: Neither the Ontario Government, the wood-using industries, nor the general public have more than a remote knowledge of the annual losses from forest fires. Only in patches of the forested area, mostly along the railways, is any consistent effort made to more than note the number of fires. The character of the timber destroyed, its acreage, etc., are immeasurably the most important features and under the present system are not reported on by the rangers and supervisors in anything even approaching an adequate way.

Why This Difference?

The Ontario limit holders are paying for their fire ranging considerably more than twice as much per acre as the limit holders included in the St. Maurice or Lower Ottawa Protective Associations of Quebec, although the protection afforded the latter is superior.

It is a well-established fact that railways, taken as a whole, are no longer the main source of timber losses throughout the Dominion. This is, to a very large extent, directly due to the increased efficiency of the railway fire protective organization, working under the regulations of the Railway Commission. These regulations impose stringent requirements in the direction of fire protective appliances on locomotives, control of right-of-way clearing operations, patrol of forest sections, action by all regular railway employees in reporting and extin-

guishing fires, etc. As a result of all this, both the number of fires caused by locomotives and employees and the amount of property destroyed is decreasing rapidly.

Having regard to these facts, note the representations of the Ontario Department of Lands and Forests, which should be an accurate and complete mirror of forest losses and their causes during the year under consideration, 1915.

Out of a total of 430 fires of all kinds, reported to the Department by its own patrolmen and rangers in 1915, 317 fires were reported by rangers patrolling just two railways—both government-owned and operated—the Transcontinental and the T. and N. O.

The Private Owned Lines.

What about the record of the four other railways—non-Government-owned—in Ontario? The patrolmen on these lines are appointed direct by the companies, subject to the regulations of the Board of Railway Commissioners of Canada. A total of 110 fires was ascribed to the railway zone of the C. P. R., C. N. R., G. T. R. and Algoma Central, but only 59 of these were of "known railway causes," doing a total damage of \$4,156.25.

With our attention focused upon the foregoing piece of information, that on the four company-owned railways in Ontario fires from "known railway causes" accounted for damage amounting to \$4,156.25, and being anxious to learn the origin of the really serious timber losses sufficient by Ontario in an average year, we peruse the department's declaration that 57 per cent of all fires in Ontario forest lands in 1915 were reported by rangers patrolling the Government-owned railway lines.

The year 1915 was, of course, a period of comparatively small damage by forest fires. Then what of 1914, a bad fire year? The Ontario Department of Lands and Forests declared that 95 per cent of all fires known to the Department were reported by rangers patrolling railway lines, though only 30 of these caused damage to timber.

A False Impression.

The impression given to the reader by these annual reports is wholly inaccurate. He would assume, naturally, that the railways

were indulging in a carnival of destruction, whereas, by the Department's own figures, the "known railway fires" of four of the six railways, did a little over \$4,000 damage to Ontario forest growth in 1915.

Resolving into the plainest possible form all the information received in 1915 in regard to Ontario's forest guarding we learn that:

One hundred and twenty-nine men, employed by the province to patrol the Transcontinental and the Temiskaming and Northern Ontario railways reported 317 fires, while the C. P. R., G. T. R., C. N. R. and Algoma Central reported through the twelve government inspectors 110 fires.

One hundred and sixty-six men on Ontario's forest reserves reported 52 fires.

One hundred and seven men on unlicensed Crown lands reported 61 fires.

Two hundred and eighty-six men ranging the Crown lands under license reported 56 fires, "37 doing no damage."

On the face of this showing, 559 rangers, working in districts back from the railways managed to report about half as many fires as 129 rangers working along two public-owned railway lines.

These figures, undoubtedly, are not capable of disclosing more than a confused fraction of the actual story.

Who will credit for a moment that 95 per cent of the forest fires in Ontario in 1914 originated within the railway zones? or that 286 men diligently patrolling 10,000,000 acres in 1915 could discover only 19 fires causing damage? or that 107 men can give even the shadow of real protection to 50,000,000 acres of unlicensed Crown Lands containing more or less merchantable timber?

A Few Explanations.

How, then, are these puzzling pieces of information to be accepted?

One obvious explanation of the high percentage of timber losses ascribed to the railway zones is that railway patrol is intensive and fairly well supervised. On the Transcontinental and Temiskaming and Northern Ontario lines (Government owned) the rangers are paid by the province and are hence under closer control.

The meagre information concerning losses on unlicensed lands is the

reasonable product of a small staff of rangers, plus poor supervision.

The failure of the Government statistics from licensed lands to uncover more than a small part of the annual fire record proceeds from the fact that rangers on the berths are not paid by the province but by the licensees and therefore not subject to the same degree of control. In addition, the supervision of these men is such as, applied to a modern manufacturing plant, would breed laxness and waste at every turn.

Perhaps the most important of all explanations is that Ontario is the only province owning a large area of Crown Lands which does not require all rangers to submit individual reports of each fire on special forms. The Department depends upon the vague, happy-go-lucky and incomplete entries in the rangers' diaries which are not turned in until the end of the season. The rangers' diaries pay little attention to the really important information connected with forest fires—the extent and character of destroyed areas. This system may give the Department some knowledge of the numbers of timber fires, but is an entirely unreliable index of the annual loss.

The Timber Berths.

The reader will not require more argument than a reproduction of the Department's own statements to recognize a very pronounced lack of business efficiency on the timber lands under license. Eight supervisors only were made responsible for the inspection of 286 men. The meagreness of this managing force is a bid for poor discipline. Ontario has about 10,000,000 acres under license by lumber and pulp companies. The cost of patrol and fire fighting is borne entirely by the licensees. The salaries of the eight supervisors appointed by the Government, are also paid ultimately by the licensees. This 10,000,000 acres represents, obviously, the most accessible and valuable timber remaining to the province. Yet in providing protection against fire, the Government, as trustee, requires the eight supervisors to assume the direction of an average of 36 men each. The Ontario Government in the Missisaga Forest Reserve gives four supervising officers to 40 rangers and this ratio of one officer to ten men is the least that can be done

without throwing efficiency to the winds. Eight supervisors cannot get the maximum service from 286 men over such an immense territory as 10,000,000 acres, and the best proof of this statement is the annual report of the Department of Lands and Forests.

Is 300,000 Adequate?

Ontario spends over \$300,000 annually for forest patrol, including expenditures by the province and by limit-holders. Is this adequate?

The inadequacy is not in the amount expended, but in the thing it buys. Money can be wasted with as much facility in a forest as in a town. Ontario is not getting, by any means, all that it is paying for in the way of forest fire protection.

The best protected forest area in Eastern Canada is probably the 24,000 square miles in Quebec under the care of the St. Maurice and the Lower Ottawa Forest Protective Associations. These were organized by limit holders on business lines, with competent managers, and a plan whereby one inspector is assigned to about ten men.

Their patrol, including time and money spent on building lookout towers, trails, camp fire places, repairing telephone lines, etc., costs about a quarter of a cent per acre per year. Relatively speaking, the results are excellent, and justify a much heavier expenditure for a correspondingly more complete fire protection service. With the expenditure per acre incurred in Ontario, practically complete protection from fire can be secured.

At a quarter of a cent per acre, the entire 10,000,000 acres said to be under license in Ontario could be patrolled for \$25,000 and patrolled about as thoroughly as the lands of the private associations in Quebec. The Ontario licensees now pay \$70,000 annually for a protective service that, frankly speaking, is not in the same class. The Quebec associations are far from full-grown, but they avoid at least the costly overlapping incident to the "every man for himself" plan to which the Ontario licensees are bound. Some of the Ontario licensees pay as high as \$5 per square mile for fire patrol per year. The highest assessment yet made against the members of the St. Maurice Forest Protective Association in Quebec is \$1.92 per square

mile, but that low rate is obtained by unification of ranger control, the mapping of patrol districts on economical and proper lines, and improved methods of communication and transportation, through the construction of trails, telephone lines and lookout stations. In Ontario, however, every licensee shifts for himself. Co-ordination of patrol service is practically unknown, and the limit holder pays dearly for a small degree of protection, or sometimes fails to get it at all on account of the fire ranger being used primarily for other work. Apparently only in the parks and in some of the reserves has even a small beginning been made in the construction of trails, telephone lines and lookout stations. And yet this mechanical foundation is absolutely essential to any well-organized forest fire protection service. Surely the interests of the wood-using industries of present and future demand that the Ontario Government organize the licensed lands for patrol purposes. It does not seem an exaggeration to predict that if such action were taken, the amount of protection to the best timber in the province would be quadrupled, without a penny of additional cost to either licensee or taxpayer.

On Unlicensed Lands.

The situation on unlicensed lands is far worse than on licensed lands. The Dominion Forestry Branch estimates that Ontario has 70 million acres of land, containing more or less merchantable timber, in addition to a very large area which is relatively non-productive on account of muskeg, repeated fires, climatic conditions, etc. Of this probably about 20 million acres are included in forest reserves, parks and timber limits, leaving something like 50 million acres of unlicensed Crown timber land not included in parks and reserves, and exclusive of non-productive areas such as muskegs, lakes, areas repeatedly burned, and lands too far north to produce timber of commercial value. On this vast area, there is a very large amount of merchantable timber, largely pulpwood, which has not been placed under license on account of relative inaccessibility to transportation or for other reasons. Enormous quantities of timber have been destroyed by fire, and great areas have been rendered unpro-

ductive by the great conflagrations which have swept over them time after time.

Each year, lands under license are surrendered by the limit-holders, usually because the timber has been cut out. In other cases, the area under license is reduced because of failure of the limit-holder to pay ground rent or stumpage dues. To a certain extent, these losses are made up by the issuance of licenses covering new areas. However, for years past, there has been a steady decrease in the total area of Crown lands held under license. The reports of the Department of Lands, Forests and Mines show, for instance, that in 1912 there was a net decrease of 996 square miles from the total area under license in 1911. The reduction in 1913 was 891 square miles and in 1914, 184 square miles. In 1915, the reduction was 1621 square miles.

The rapidity with which cut-over lands in Ontario are being surrendered to the Crown is shown by the statement of the Department that 307 square miles were surrendered, as cut out, in 1912. In 1913, 1914 and 1915, the areas so surrendered were 257, 1,111 and 602 square miles respectively. New licenses were issued in 1913, 1914 and 1915 covering 100, 500 and 312 square miles respectively.

A Losing Deal.

It is perfectly obvious that unless the burned-over and cut-over lands, including those surrendered by license holders, are allowed to restock naturally, so that they can in the course of time be cut over again, the lands fit for cutting and of reasonable accessibility will ultimately become exhausted or approximately so. When the pinch begins to be felt, to the extent that new areas of merchantable timber, of suitable accessibility to transportation, can not be located for the issuance of new licenses, there will be an increasing tendency toward the reduction of the forest revenue of the province. During the past ten years, these revenues, which go into the provincial treasury and relieve direct taxation to that extent, have averaged between a million and a half and two million dollars annually. During 1903, 1904 and 1905, due to the extensive sale of new timber limits, they ran well over two million dollars annually. Since Confederation,

in 1867, and up to October 31, 1915, the total revenue which the provincial treasury received from Crown timber has been upwards of \$52,850,000, an average for 48 years of more than \$1,100,000 annually.

In order to hold up provincial timber revenues, it is essential that new areas of timber suitable for cutting be constantly available, to replace areas surrendered as cut out. To safeguard this situation, it is absolutely essential that there be an adequate system of fire protection on unlicensed Crown Lands as well as on those under license. Any other policy will mean an ultimate decrease in the provincial timber revenues, as well as shortage of supplies for the many hundreds of wood-using industries in the province.

Yet, notwithstanding the above, we find, according to the report of the Department for 1915, that only 107 fire rangers (paid by the province) were assigned to the protec-

tion of the 50 million acres of unlicensed and unreserved Crown Lands containing merchantable timber, as compared with 286 men (paid by the licensees) for the protection of the 10 million acres of land under license. That it is impossible for this relatively small body of men to afford even partial protection on more than a small percentage of such a vast area goes without saying.

Thorough-going Action.

The situation in Ontario calls urgently for a complete reorganization of the whole fire-ranging system along modern and up-to-date lines, with adequate attention to the protection of unlicensed Crown lands as well as forest reserves and parks and lands under license. The Department of Lands and Forests of Ontario is entitled to the credit of having been the first governmental agency in Canada to recognize the necessity for an organized system

of forest fire protection. In 1885, a beginning was made in the organization of a fire-ranging service on licensed lands, and in succeeding years this organization has been developed and extended. However, on the whole, the organization has not kept pace with modern developments in some of the other sections of Canada or in the United States. The lack is very largely one of organization and supervision, both in the head office and in the field. The amount of money now being expended is sufficient, if handled according to modern business standards of organization, to provide a very much better degree of fire protection than is now secured. H. R. MacMillan, Chief Forester of British Columbia, has stated that more money is wasted in fire protection today than is used economically, because of lack of field supervision. The fire protection situation in Ontario is an illustration of this undeniable fact.