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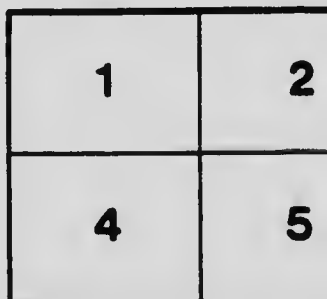
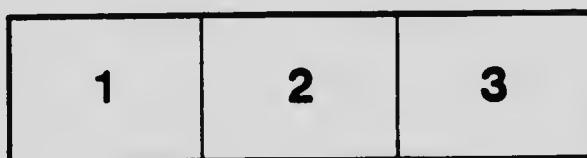
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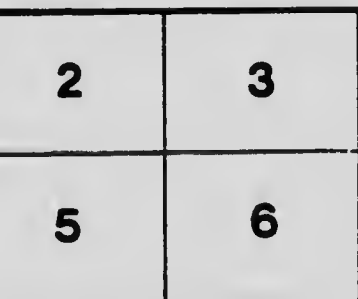
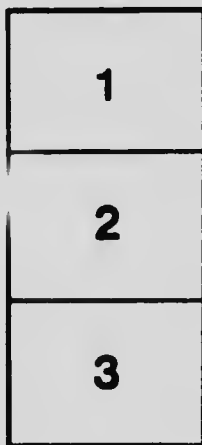
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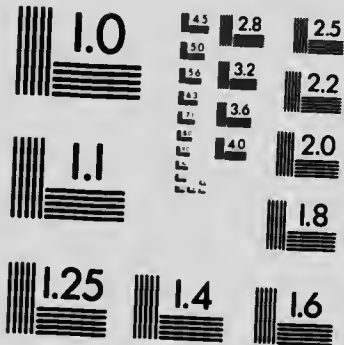
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Commission of Conservation
CANADA

COMMITTEE ON FORESTS

Fire Protection from the Standpoint
of the Railways

By
A. D. MACTIER
*General Manager, Canadian Pacific Railway,
Eastern Lines*

Reprinted from the Sixth Annual Report of the
Commission of Conservation

OTTAWA—1915

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Fire Protection from the Standpoint of the Railways

BEFORE I proceed to read some of the notes that I have prepared I would like to take the opportunity of endorsing, from the point of view of the Canadian Pacific railway as far as I know it on the eastern lines, the Chairman's remarks with regard to Mr. Leavitt. I do not mean to say for a moment that Mr. Leavitt and I have always seen eye to eye. My memory carries me back to one or two occasions when we did not ; but I will say that Mr. Leavitt has tried, or at least he has been clever enough to give me the impression that he tried to be fair about the propositions, and that, I think, is all the Commission desires of him.

The realization and appreciation of the value of the Canadian forests has brought to our attention the necessity of their conservation, through fire protection. There is also the growing realization that only through proper handling will forests reproduce themselves ; and the vital factor in conservation is the elimination of the causes which result in the enormous damage done by fire. No other agency has affected the growth of Canada's forests as has fire. Various statistics show that the amount of timber destroyed by forest fires has been from two to five times the value of that used for commercial purposes.

Railways and Forest Fires

For many years practically all fires, and the resultant damage, were attributed to the railways.

In the reports showing "causes of fires" railways were always at the top, and led the rest by a wide margin. This analysis was not combatted by the railways, and little attempt was made to show the relative amount of damage done by fires caused by different agencies. Any indifference on the part of railway officials and employees, which may possibly have existed years ago, has been eradicated, and the attitude to-day of those responsible for the management of the Canadian Pacific railway is entirely different.

To enable a proper diagnosis of the railway fire situation to be made, a study was made of the fires which occurred on or within five miles of the Canadian Pacific Railway Company's lines during the

fire season of 1914. The results show that, of the fires reported, sixty-five per cent started on, or along the company's lines within the 600-foot liability zone. Of the fires which had their origin on, or near, the rights-of-way, more than ninety-five per cent were immediately put out without having caused any damage. In only one case of absolutely known company origin was any material damage occasioned outside of the rights-of-way. This was caused by sectionmen burning *débris* and refuse when the weather conditions were unfavourable. All fires within the zone of the railway company's responsibility were extinguished, regardless of whether started by the railway or not.

**Rights-of-Way
Used as Highways** It must also be remembered that, in the more thickly wooded districts, and in those sections where settlement is more or less scattered, the railway rights-of-way are used as highways by farmers, settlers, hunters, fishermen, and others, who travel back and forth constantly. Then too, the tramp nuisance is always with us. These people have the reputation of being extremely careless, and there is little doubt that to this carelessness may be traced the origin of many fires on the railway rights-of-way.

The remaining thirty-five per cent of reported fires were started outside of the 600-foot zone, and away from the railway rights-of-way, their origin being due probably to the carelessness of settlers, lumbermen and others, and were in very few cases handled by any local bodies or by forest rangers. No Government organizations exist apparently to handle fires which occur in the districts now being settled, and which are situated immediately between our lines and vast bodies of merchantable timber.

Two examples of these fires may be cited: On or about May 18th, 1914, a fire was started three miles north of the track in the direction of Blind river, near mileage 52—Algoma subdivision. This fire caused a loss of over \$20,000 as shown by the owners. There is little doubt but that this fire had its origin along a river driver's trail. The timber holders themselves put it out, but at an excessive cost.

On the same day, May 18th, 1914, another fire was started by a farmer, near Campeau, on the Laurentian subdivision, to burn some brush. The fire got beyond his control and did a tremendous amount of damage. Our section-house at Campeau was destroyed, together with the household effects of the sectionmen's families. The appraisal of the loss has not yet been received. Rain alone put this fire out, though we endeavoured to protect our property.

The activities of the Canadian Pacific Railway Company in providing for fire protection along its lines may be briefly summarized as follows :

1. All inflammable *débris* and brush have been cleared from the rights-of-way and the company's property. This not only reduces the possibilities of fires getting started, but it also assists in limiting their progress, in case a fire is started.

2. A system of inspection of front ends and ash-pans of locomotives guarantees the maintenance of this equipment up to standard specifications. This inspection, which is very thorough, reduces to a minimum the possibility of fire from locomotives.

3. Engine employees are not allowed to drop live coals, ashes and fire, except in specially provided pits. Care must be taken with burning and smouldering waste.

4. Special authority is required from the roadmaster before burning is allowed on the rights-of way.

5. Regular patrols are provided in the thickly wooded districts. These men constantly patrol their districts, keeping close watch over the company lines, as well as adjoining lands. Special patrols are added in certain districts when droughts occur.

6. All sectionmen, extra gang-men, trainmen, bridge-tenders, track-walkers, etc., are constantly on guard against fire.

7. Fires of any magnitude are immediately reported to the superintendent, who makes provision for their handling. The local inspector of the band is notified if a fire threatens to cause any considerable amount of damage. The superintendent also advises the local provincial fire officer.

8. On sighting a fire, engine-men must notify the next section-gang passed of its existence, by a series of whistles. This section-crew will immediately go to the scene of the fire, and use every effort to put it out.

9. A system of inspection of patrols furnished, takes place regularly.

10. By bulletins, supplements and by letters, a campaign of education is carried on among officers and employees, with the idea of making clear the importance of reducing the fire loss.

11. Lumbermen and other timber-owners have been requested to clear up *débris* and slash adjacent to the company rights-of-way.

As has been already mentioned, in spite of an unprecedentedly long, dry season following immediately after the snow had disappeared, the results of our fire-prevention service for the past year show that but one fire proven to have originated on the property of the railway company, got off the right-of-way and did any considerable damage. We are, however, settling some claims where our records are not good, and our liability, therefore, doubtful, and we have yet one large claim in dispute.

**Difficulties to
be Overcome**

The condition of the country which adjoins the company's lines, caused by frequent fires, lumbermen, road-builders, etc., renders difficult any system of economical fire-fighting, after a fire is once under way. Slash and *débris* have been allowed to accumulate for years, and no attempt has ever been made to handle it. Timber properties are being logged by the same methods that have been in use for years. Every attempt at legislation along this line has been fought off by settlers and lumbermen; the claim has always been that the lumber business could not stand the extra expense necessary to pile or burn brush. This hardly seems justified, in the face of the increasing value of stumpage accruing to the Governments concerned.

**Settlers'
Responsibility**

Much of the work of forest fire prevention is in the hands of the settlers of the district. That they may accomplish this object two precautions are necessary. First, it is necessary that they use judgment in the time at which to burn the slash which has accumulated through clearing of property. Laws relative to this have been almost entirely disregarded in the past. Until 1914, notwithstanding that the existing laws were broken, prosecutions were rarely attempted. Fire protection associations, which are composed mainly of timber-holders, have done much more in this regard than any local government has.

Secondly, as the prosperity of many villages is tied up in the local lumber industry, this fact should be made plain to the surrounding settlers, and local organizations could be developed in the villages to fight fires. Some such system is now being devised in the state of Maine. In all villages within forest districts a small fire-fighting equipment should be kept in a convenient place. The police officer should also be an authorized fire warden and should take charge in case of fire.

**What the
Lumberman
Can Do**

The fact that logging operations are usually over in the spring and do not start until autumn is generally advanced to show that lumbermen are rarely responsible for forest fires. However, driving operations continue all through the spring and into the summer months, and it has been

absolutely proven that a number of the damaging fires in 1914 were started by men engaged in this work. Smudges are set out and small noon-day camp fires are made, which, unless carefully extinguished, are likely to cause trouble.

During extreme droughts men should not be allowed to smoke in the woods. This will not entail any great hardship ; it is already required of many wood-surveying parties. Where timber properties adjoin railways and highways, a strip of from one hundred to one hundred and fifty feet should be cleared on either side. Lumbermen should also educate their employees to the importance of fire protection of timber.

Small villages, which are situated in timber areas, and, consequently, in immediate danger from forest fires, should insist upon the clearing away of the *débris* and brush by which they are surrounded, and which constitute such a serious fire menace.

**What Can
Governments
Do ?**

It is necessary that the fire danger zone be localized and a definite and effective remedy be applied to the fire menace.

It is recommended that a proportion of the amount annually appropriated for forest fire protection purposes should be put into permanent improvements, such as telephone lines, trails and lookout stations. High points along the Laurentian mountains, especially in the vicinity of Mont Laurier and Nominig, connected up with the local villages, would prove a good investment. This policy is now being pursued by the Provincial Government in British Columbia, also in the western forests of the United States and in portions of the New England states. The state of Maine has a very fine system of lookout stations on the high mountains along the Canadian Pacific Railway Co.'s lines.

On the Ottawa river, near Timiskaming, exceptional advantages are offered for the location of lookout stations. Telephone lines could be constructed and maintained cheaply. Timber-lands are made accessible by the splendid water routes there, and mobile fire-fighting equipment, such as that provided by gasolene boats, could be brought into service.

The following legislation, which forces property holders to clean up their premises, is on the statute books in Minnesota, and similar legislation is to be attempted this winter in the state of Maine :

"Where and whenever in the judgment of the State Forester or District Ranger there is or may be danger of starting and spreading of fires from slashings and *débris* from the cutting of timber of any kind and for any purpose, the State Forester or District Ranger shall order the individual, firm or corporation, by whom the said timber

has been or is being cut, to dispose of the slashings and *débris* as he may direct. Where conditions do not permit the burning of the slashings and *débris* over the entire area so covered, the State Forester may require the person, firm or corporation by whom the timber was cut, to dispose of such slashings and *débris* in such a way as to establish a safe fire line around the area requiring such protection, the said fire line to be of a width and of a character satisfactory to the State."

"When any person, firm or corporation shall have been notified by the State Forester or *District Ranger* to dispose of slashings and *débris*, either by entirely consuming the same or establishing a fire line sufficient for the protection of adjoining property, and fails to comply with such instructions, the said person, firm or corporation shall be deemed guilty of a misdemeanour, and on conviction thereof, shall be punished by a fine of not less than *fifty dollars* (\$50.00) and not exceeding *one hundred dollars* (\$100.00) and costs of prosecution for each violation thereof or failure to comply therewith."

While the railways in the past may have been to blame, at the same time, they have done a very considerable amount of fire protection work. I believe it is now the duty of some one else to assist in the work, and it is really that point which I wish to bring out, namely : that somebody, possibly the Conservation Commission, should be able to bring pressure to bear in some direction on the governments interested to continue the work which has been started and of which we (the Canadian Pacific Railway Co.) think we have done our portion so far. I do not say that we are perfect ; I do not believe we are ; but I think we are ahead of some other interests in connection with fire protection.



