

In the Province of Quebec the rangers must use canoes which confines their routes to water courses from which they make excursions to high ground. As practically all travel is by water they are thus enabled to watch people going through their districts. Travel, however, is slow and it is difficult to get help rapidly in case of necessity.

In Maine high towers are erected, connected with each other and with the nearest source of aid by telephone, each tower has a watchman who has an accurate map of the country properly oriented, a powerful glass and a range finder. He is thus enabled easily to locate a fire and direct the fighters where to go. This system, while costly to install, is economical to maintain and operate and has proved successful.

It can be stated that almost all fires are started by man; lightning is responsible for so small a percentage as to be almost a negligible quantity. Fires set by settlers to clear their lands, those set by river drivers and smudge and cooking fires are the most common. Campers, trappers, hunters and fishermen are much more careful. All fires are the result of carelessness; a match thrown down after lighting a pipe, hot ashes dropped, failure to thoroughly extinguish a camp or smudge fire are frequent causes.

Settlers are the worst of all offenders, as they invariably start their fires in the dryest times of the year because, of course, the trees and stumps burn longer and more thoroughly. In the Province of Quebec they have an absolute contempt of the law, and as their votes are of value the Government is very loath to prosecute. Any person, however, setting a fire can be punished under the criminal code for wilful negligence and a fine of \$50.00 or three months in jail is the penalty.

Generally speaking there are two kinds of fires, ground fires and top fires, the former burning along the ground, destroying in whole or part the humus, young growth and bushes, and scorching the mature timber, some of which may die. The top fires only occur when there is much wind, and sweep through the forests with irresistible fury, completely destroying everything.

Fire travels most rapidly up narrow valleys running the same way as the wind, and up ridges, due to the suction caused by the rapid rise of the hot air and the fresh supply of air caused by this draft.

As is well known, fires die down at night-fall, and then and in the early morning hours are easiest to extinguish. They should be fought at the tops of ridges, either by cutting out a fire line, (that is, cutting out all trees and brush for a space in the path of the fire), by trenching and throwing up the fresh earth before the fire, or by raking away all leaves and inflammable material so as to make a space of bare ground. In dry weather when the