

Fire in the forest

Although Canadians are spared most of nature's great calamities, they are more than familiar with one of the most spectacular — wildfire. Fires caused by lightning preceded man's arrival on the North American continent some 20,000 years ago. Evidence of extensive and repeated fires is found in the presence of charcoal in soil profiles, fire scars on old trees, and the reports of early explorers.

Indians caused many forest and prairie fires, sometimes when using fire for protection against insects, or while burning vegetation to expose wildlife or to improve grazing. Early explorers, missionaries, fur traders and land surveyors contributed to a further increase in the number of wildfires.

The most dramatic increase in fires took place in the nineteenth and early twentieth centuries, as waves of settlers, prospectors, lumbermen and railway builders moved west and north. Finding the forest a serious hindrance to settlement and cultivation, they often had a somewhat irresponsible attitude towards fire. In addition, the accumulation of logging debris and the construction of railway rights-of-way greatly increased fire hazards.

A number of catastrophic fires during this period gave impetus to the development of organized forest-fire control in Canada.



At June 8, the largest aerial forest firefighting operation in the history of Ontario was being waged as the Ministry of Natural Resources battled 161 fires in the northern part of the province. Some 42 planes, equipped to drop water or fire-retardants, 46 helicopters and more than 30 small aircraft were being used.

Officials said this year's forest fires may destroy more than one million acres in Ontario alone and could

In New Brunswick, the Great Miramichi Fire of 1825 burned over 6,000 square miles and took 160 lives. A very dry summer in 1901 set the scene for a fire in Northern Ontario that claimed one life and destroyed 3,000 square miles of timber. Fernie, British Columbia, was destroyed by a fire in 1908 that took 25 lives and cost \$5 million in property damage. In 1911, the Porcupine-Cochrane fire killed 73 and covered an area of 864 square miles. Five years later another conflagration in Northern Ontario, the disastrous Matheson fire, burned over 1,000 square miles and took 223 lives.

Fires today

Every region of Canada below the tree-line has experienced vast and destructive forest fires during the past 200 years; many areas have been burnt over more than once. Destructive wildfires continue to occur, but organized fire control, using modern technology, has greatly reduced their extent, especially in easily accessible areas.

Today, lightning starts 25 per cent of all forest fires in Canada, and accounts for more than half the total area burned. The remaining 75 per cent of fires are caused by human carelessness. Although woods operations, land-clearing and railroads are important sources of man-caused fires, recreationists — campers, hunters, fishermen — are the major offenders.

The period from April to October is generally regarded as the forest-fire season, but practically all the fires occur from May to August. In a typical year, most of the damage is caused by a small number of very large fires.

Protection

The provinces are responsible for fire protection on their own terrain —

be worse than in 1974, when 1,294,000 acres of forest were destroyed.

In Nova Scotia, a ban was placed on the lighting of open fires in the woodlands, which will continue until October 15. This year so far, 274 fires have destroyed 34,000 acres in Nova Scotia, compared to about 6,000 acres in 1975. At press time, the provinces of New Brunswick, Newfoundland and Manitoba and Quebec were also fighting fires in the forests.

altogether, this constitutes about 80 per cent of Canada's productive forests. In addition, 200,000 square miles of federally-administered land is protected, most of it in the northern territories. Only some of the remote northern regions are not yet entirely covered by systematic detection and suppression capabilities.

Organized forest-fire protection in Canada can be traced back to the early 1900s. Its effectiveness was at first limited by lack of manpower, inade-



The Canso, veteran aircraft of the Second World War, still serves firefighters as an efficient water bomber.

quate equipment, poor communications and the inaccessibility of much of the forested land. But, by the Twenties, aircraft were being used for detection, transportation and, to a limited extent, for water bombing.

The effectiveness of aircraft in fire-control operations increased dramatically after the Second World War, when military aircraft such as the *PBY Canso* and B-26 bomber were converted for dropping water and retardant chemicals. The postwar years really mark the beginning of the modern era of