



FIRE MANAGEMENT

Prescribed Fire

As the helicopter hovers, the pilot triggers the ignition device slung beneath it. A stream of burning gel drops to the ground. A wisp of smoke, followed by flames, rises from the forest below. Meanwhile, a kilometre away, park staff burn out a guard using hand held drip torches. This helps control the spread of the main fire. For several hours, the area buzzes with activity, the roar of the heat and wind in the background. By late afternoon, the fire is almost out. Most of the crew goes home, except the few left to keep a watchful eye on the embers.

This is a typical "planned" or "prescribed" fire in one of Canada's national parks. Setting fires in parks seems like an unusual idea. After all, for years, we vigorously suppressed fire in wilderness areas. In the early 1900's, park staff bulldozed roads and packed pumps on horses to fight fires in remote areas. In the following decades, park wardens pitted the technology of the day against fire.

However, by the 1970's, scientists realized that fire plays a vital role in nature. Shutting out fire was shutting down ecosystems that depend on it for renewal. Fire suppression has also created dangerous buildups of forest fuels in some areas.

For both the environment and public safety, there must be fires. While national parks still suppress fires that endanger people and property, they also restore fire to the landscape.

How are prescribed fires conducted?

Teams of trained specialists plan prescribed fires well before ignition. The "prescription" describes the conditions and procedures necessary to burn



safely and effectively. Fire managers use computer models and information networks, as well as experience, to guide their decisions. They analyze weather, fuel conditions (how well the vegetation will burn) and topography to predict fire behavior. Natural barriers such as cliffs and wetlands are combined with roads and prepared fire breaks to

contain the fire.

Some lightning fires are allowed to burn under conditions decided beforehand. However, most prescribed fires are ignited by park staff. This is done by helicopter and by hand. As much as possible, prescribed fires are conducted in weather that disperses smoke away from developed areas.

A prescribed fire may take many forms, depending on the purpose of the burn. It can be a low intensity surface fire or a high intensity crown fire, cover a small or large area, burn for hours or weeks, but is always under careful supervision.



Why do we need prescribed fire?

Ecological Reasons:

Fire is essential to both grasslands and forests. It recycles nutrients, helps plants reproduce and creates a mosaic of vegetation types that provides habitat for a variety of animals. Without fire, the landscape begins to lose its diversity. Trees slowly invade meadows and shrublands. Moose, deer, bear and other species that favour open spaces may decline.

Fire is natural and necessary, but today we can rarely let it burn freely across the landscape. Remote parks may permit lightning fires to burn under observation. However, southern parks contain and are surrounded by developed areas and private lands. Here, carefully planned prescribed fire is the safest way to restore the flames.

Safety reasons:

Without fire, the forest may accumulate dead wood, branches and other debris that burns easily. These conditions favor more intense fires which are difficult to control and can threaten people and property. Many parks use prescribed fire to reduce fuel loads and the risk of dangerous fires.

Fire Knowledge

Parks Canada manages fire "adaptively". Our knowledge of ecosystems is incomplete, but steadily growing. As we learn more, the program is adjusted or "adapted" to use this new information.

Understanding the fires of the past helps us plan fire today. Fire history researchers examine fire scarred trees, peat bog cores, lake sediments and tree rings for clues of previous fires. Other studies use oral history and archaeology to assess how Aboriginal peoples used fire. Evidence indicates that they burned to herd game, attract grazers to new growth, and keep trails open. So prescribed fire is not new!

Scientists also monitor the distribution of plants and animals before and after a burn. This helps to assess the effect of prescribed fire on ecosystem health and biodiversity.

Park managers compare the risk of prescribed fire with other actions. For example, a recent study concluded that suppressing all fire presents more risk to human communities and the environment than a program that includes prescribed fire.

Fire and You

Parks Canada uses prescribed fire to restore ecosystems and reduce the chances of severe, damaging wildfires. Prescribed fire is part of our overall fire management policy that includes responsibility for fire protection and prevention. Residents and visitors can learn more about fire and national parks through open houses, interpretive programs and publications. We welcome your comments on the fire program. Contact the Warden Office at your nearest national park for more information.