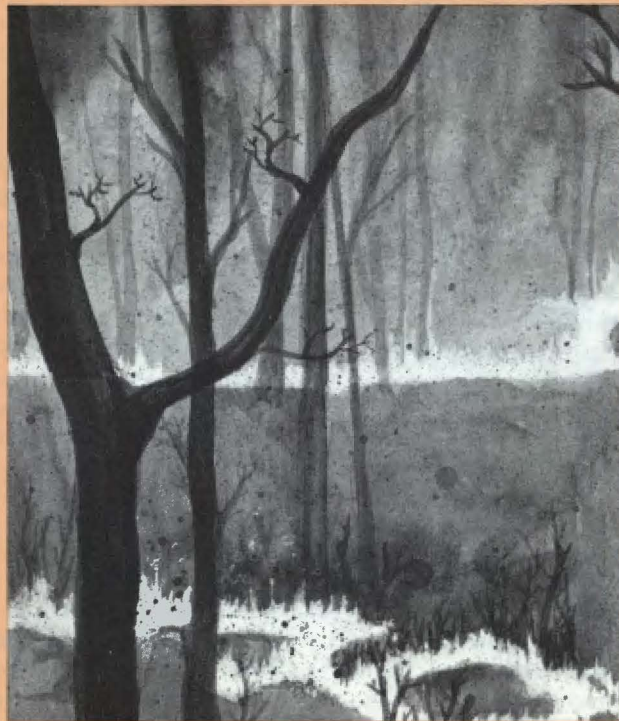


# Wildlife and Wildfires: *Clearing away the Smoke*



By Dave Kelleyhouse

**Forest fire!** The very words evoke feelings of fear and revulsion among most people. Yet, the future abundance and diversity of Alaskan wildlife may very well depend upon fires and the willingness of Alaskan landowners and managers to use and manage wildland fires for wildlife in the coming years.

After decades of fire prevention education, Smokey the Bear, and other anti-fire media campaigns, one may reasonably ask why fires can be positive for wildlife. To most people a green forest appears to be much better wildlife habitat than a blackened, recently burned area. The value of fires to wildlife, however, is not in the initial removal of the forest, but, rather, in the regrowth of young and sometimes different vegetation on the burned site.

Without periodic forest fires or other types of disturbance, many forested areas in Interior Alaska would not support healthy populations of the bears, moose, beavers and other creatures depicted in the anti-fire promotions.

Because of Alaska's short summers and long, cold winters, natural decomposition of dead plant material occurs very slowly. As dead plant material builds up, a thick insulating blanket covers the ground and the permafrost layer—if present—gets ever closer to the surface. This causes soil temperatures to drop and inhibits the percolation of water through the soil. Under such cold and wet soil conditions, hardwood trees and many shrubs are

unable to survive, and black spruce and larch often become the dominant forest species. Such mature forests generally support fewer species of wildlife than areas with a rich diversity of vegetation types created and maintained by fires.

Forest fires kill the spruce and larch and often consume much of the dead plant material on the forest floor. In this way fires restore to the soil as ash, plant nutrients locked up for decades. This fertilizes the ground for new plant growth. Because the thick layer of dead plant material is burned away and

because more sun hits the blackened ground, the permafrost level recedes further down in summer, causing the ground to become warmer and better drained. With warmer, more fertile and better drained soil conditions, young willows, spruce and, often, birch or aspen seedlings are then able to grow. As a result of these changes in soil and vegetation characteristics following fire, habitat conditions for many species of wildlife are greatly improved.

Although spruce trees provide food for a relatively small number of species, the plants which are common after a fire produce food for a wide variety of species. Red squirrels, spruce grouse, and goshawks do well in mature spruce forests, but moose, beavers, sharp-tailed grouse, and many other game and nongame species do better on such sites after they have burned. The richest wildlife habitats are those which include mature spruce forests, young



hardwood forests, open meadows, and brushfields all in one area. This is called a habitat mosaic and fires help maintain such diverse mosaics. A rich variety of species are found in areas having such fire-maintained mosaics.

Therefore, as a burned area revegetates and progresses through the brushland, hardwood and spruce stages, it is able to meet the habitat needs of a wide variety of wildlife species, each requiring habitat conditions associated with different stages of forest regeneration. The continued, near-natural occurrence of forest fires throughout the Interior guarantees that this dynamic process and the variety and abundance of wildlife species it fosters will be perpetuated.



If fires are continually suppressed in an area, young forests are allowed to mature, open areas eventually become forests, and the once-rich habitat mosaic is lost to expansive, monotonous, and relatively unproductive spruce forests. As the mosaic is lost, so are wildlife species, diversity, and abundance.

Many game species considered common today may become scarce in the future as Alaskan habitat conditions slowly change under a greatly altered "fire regime." The floral and faunal patterns of Interior Alaska, which many take for granted today, are actually the result of a very active fire history in the recent past. An estimated 1,500,000 to 2,500,000 acres burned each year during the period from 1900 to 1940, approximately one percent of the acreage in the region. At that rate, any randomly selected site would have burned once every 100 years.

Patterns of land ownership and use in Alaska are changing at an ever-accelerating pace. The recent passage of an Alaskan National Interest Lands bill by Congress will hasten the rate of land conveyances to the State and to the Native Corporations, and set in motion a land use planning process unprecedented in magnitude. This process will involve millions of acres of Federal, State, and private lands. For better or worse, Alaska wildlife habitat is being parceled out, and the question of fire control is becoming more complicated.

Wildlife respects no property lines, but people do. While one landowner or manager may wish to provide

for some fires for the benefit of renewable resource management, a neighboring landowner may take a dim view of a fire which crosses the property line onto his land. Of major concern to Alaskan wildlife managers is the question of how we can best accommodate wildlife needs for fire and thus satisfy projected demands for the wildlife resource in the future. Conflicts between subsistence hunters, urban hunters, and nonconsumptive users of wildlife are warming now and will become downright hot in the future if the quality and extent of suitable wildlife habitat continues to decrease. Enlightened management of wildland fires, and the subsequent increases in wildlife, will be key to minimizing such conflicts.

In earlier, simpler times after the turn of the century, the question of suppressing wildland fires never came up because people simply were not able to control the spread of large fires, which are the rule and not the exception in Alaska. Gold mining activity and the custom of spring burning by some Native villages increased the frequency of wildland fires. Game species like moose, beaver, and sharp-tailed grouse flourished on the fresh, new vegetative growth following the fires.

Not until the 1940's did man begin to reduce the acreage burned by wildland fires. Throughout the late 1960s and the 1970s, fire control technology has been improved, and efficient fire control has begun to exact its toll on wildlife. The U.S. Department of the Interior Bureau of Land Management has developed and implemented policies dictating the immediate attack and control of all fires in Alaska. Unusually warm, dry summers in the mid-1960s and again in 1977 caused rashes of hot fires which exceeded the capabilities of firefighters to control them. However, most fires occurring during normal or wet fire years in the past decade have been quickly suppressed before much acreage could be burned.

Although it is proper that firefighters have impressive capabilities to control fires threatening human lives and property, one must question the wisdom of a blanket policy which dictates the suppression of even the most remote fires so necessary

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Federal and stage agencies tackled the problem of gathering statistics on which the decision would be based—whether or not to build Rampart. The United States Fish and Wildlife Service, supported by every fish and game department in the 50 states (who were worried about their ducks) compiled a comprehensive, objective report that showed a far greater loss than gain. No doubt other factors were involved in making the decision, but the project was dropped and Rampart Canyon Dam was not built.

**O**f course it is not all milk and honey in a democratic process with its sometimes abrasive confrontations in seeking checks and balances. But compared to some of the rough-shod practices of the past, the improvement is notable. Although the hour is late for many states, Alaska still possesses the opportunity to manage its virgin resources in a manner that will not kill the goose while getting the egg. Today, when state and federal agencies tackle an environmental problem, the main emphasis is to identify the issues, then follow them through the planning process, getting all the facts, pro and con, on the table before any decision is rendered.

Through public hearings, all citizens are invited to participate and present their opinions and to get their questions answered. A public official who disregards the public today can end up in court.

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for the future well-being of our Alaskan game resource. The Alaska Department of Fish and Game has challenged this policy and has been actively involved with various land managers in an attempt to change the present policy so that a transition may be made from an era of fire control to a new era of fire management.

Basically, fire management is the wise use as well as the efficient control of fires. Under a new fire management policy fires near human developments would continue to be suppressed aggressively while fires in remote areas could be allowed to burn under certain sets of environmental conditions. Where fire is needed in areas closer to human developments, but wildfires would be too dangerous, prescribed fires (controlled burns) may be conducted by trained personnel.

With the new land ownership pattern in Alaska wildland fires simply cannot be ignored and left to burn themselves out in all areas, nor can the use of prescribed fires be taken lightly. It is also true that fires should not be totally excluded from Alaskan lands to the detriment of our important game resources. To follow either course exclusively would be unwise and would cost tremendous amounts of money either in fire suppression dollars or in losses to human developments.

To aid in gathering the facts, some agencies have added hydrologists, sociologists, economists and archeologists as well as biologists to their staffs to cover the broad spectrum of public interest, both economic and social. Projects are studied in terms of water quality, soil, wildlife, fisheries, timber and social values. A generation ago the emphasis was often on a single, narrow objective to the exclusion of other values. Now all values are considered; the multiple-use concept is practiced.

For thousands of years man lived with primitive weapons and tools. It was not possible to harm the environment much with a club. Mankind had inherited the earth, but was not given an Owner's Manual. Page by page through the centuries, as mankind acquired knowledge, this Owner's Manual has been compiled. This information is important; it has been demonstrated that modern man has tools and techniques today which, if wrongly used, could destroy the very environment from which he derives support.

There has been an ever-growing and closer cooperation and understanding during the past decade between state and federal agencies and the public they serve in developing the process of making wiser decisions in the use of our natural resources. These advances in cooperation may well constitute the brightest and most hopeful pages in compiling mankind's ever expanding Owner's Manual. □

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Now that land ownership disputes are largely settled and the various tracts of Alaskan land have been assigned to their future owners/managers, it is time for work to begin on formulating truly effective fire management plans. It is time for Federal and State land managers to recognize the potential value of the right fire in the right place, and to provide for wildland fires in their planning efforts. It is also time for major private land owners to recognize that fires have a place in their land management schemes also.

Present fire control practices must be altered to keep pace with contemporary realities and future demands upon wildlife resources. All of the restrictive hunting seasons and subsistence priority laws on the books can do little to produce more moose and other game if habitat conditions continue to deteriorate due to the attempted exclusion of fire from Alaskan game ranges. □



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