



Fire Management

Civilization owes fire a great deal of gratitude. With fire came warmth, energy, the ability to cook, a way of warning and celebrating. Even with all these benefits, it is a force that is more often feared than celebrated. Its ability to take away a house and the possessions and people within is what people often remember about fire. Fire can have both a positive and destructive effect on wildlands also. Yes, it can burn the scenery of a beautiful national park, but it can also make that park's environment healthier. Today, many parks use fire as a tool for maintaining the natural state of the ecosystem.

Fire Philosophy

Fire as a creator. Fire as a destroyer. People have been dealing with fire's dual identity ever since there was fuel, heat, and oxygen on earth to create ignition. Natural fires often ignited by lightning were a normal and essential part of many environments, from forest to grassland and even wetlands. American Indians set fires to herd wild animals, attract wildlife with new growth, mask signs of campground or trail use, and for warfare and ceremonies. Farmers used fire to clear pasture. We saw that fire had its uses.

People also saw the more destructive side of fire as it burned large amounts of land, especially in the arid West. Wildland fire management was born with the creation of public lands and the government agencies that oversaw them. Wildfires were seen as destroying the beautiful scenery and valuable resources of national parks and forests. As a result, early fire management consisted of fire suppression. Fires were suppressed in order to keep these protected landscapes from changing, but removing fire from these environments had the opposite effect—and the changes brought about by fire suppression are still being dealt with today.

Fire policy changed in the late 1960s and early 1970s as the benefits of fire were better understood and the consequences of suppression became evident. One dramatic problem was that fires were not performing their natural housekeeping duties, causing unnatural build-ups of fuels and leading to massive, destructive fires. Fire management evolved to include natural and prescribed fires to return the cycle of burning and growth.

Fire on the Prairie

While we may refer to much of the midwestern United States as prairie, after centuries of movement and transitions on the plains, there is only about 2% of native prairie remaining in the U.S. Badlands National Park protects one of the largest remnants of the mixed-grass prairie and works to restore it to as natural state as possible to keep this endangered ecosystem alive. This includes bringing fire back into the equation.

Before agriculture came to the prairie, lightning would cause fires every 3 to 4 years in a given area. These fires cleared away the old to make way for the new—they reduced the fuel build-up and broke down dead material to release nutrients back into the soil. Periodic fires also maintained the prairie's iconic sea of grass. Unlike trees, grasses and other non-woody prairie plants recover quickly after fires because of their very long roots. A grassland fire moves quickly, burning the dry grass tops and leaving the roots unharmed and ready to send up new shoots the following spring.

Wildlife are generally not harmed by fire either—the numerous ground dwelling animals of the Badlands are hardly affected as they wait out fires in their burrows and large grazers like bison and deer can outrun a fire. Even if a fire takes the lives of some wildlife, it will benefit the majority that remains through a rejuvenated ecosystem.

Writing the Prescription

Overtaken by invasive species that lessen biodiversity, littered with great accumulations of dead vegetation, losing plants that depend on the fire cycle—these are all ways in which land could be thought of as “unhealthy.” Just as people go to the doctor for a prescription when sick, prescribed fires are set to heal “unhealthy” land. Prescribed fires are set to remove accumulated fuels that create the risk of catastrophic fires, replicate the historic cycle of natural fire occurrence, and to let natural fires continue to perform their natural functions.

Great care and planning goes into a prescribed fire and a prescription is written in advance to define the burn's objectives, the fuel and environmental conditions, and the size of the fire. These fires are only allowed to burn under the right conditions to minimize unwanted damage or danger and are kept under close monitoring.

Battling Invasives

The problem of invasive species is an involved and complicated one in which prescribed burning is only one tool in the battle. Invasive species are those that were introduced to a new environment without the associated pests and parasites of their native environment, giving them the ability to spread rapidly and overtake native species. In the Badlands, problem invasive plant species include Canada thistle, yellow sweet clover, and several brome grass species.

Burning at a time when these plants are most vulnerable is useful for suppressing some undesirable species. However, fire is not a cure-all solution; burning creates disturbed areas that some invasives thrive on, trading the defeat of one invasive for the increased success of another. This means that research and monitoring must continue to get a better idea of how fire and invasives interact to improve control techniques.

The Fate of Fire

The ease and speed with which a grass fire can start and spread in the dry, windy Badlands is the reason why open fires are not permitted in the park. Even parking a car over tall grass can sometimes start a fire. While fire is recognized as an important force that needs to be brought back, it is being brought back into a different landscape—one where homes and ranches surround the park. Fires need to be controlled to prevent damage to surrounding properties. While a naturally caused fire in the middle of the wilderness area may be monitored and allowed to burn, any fires caused by human intent or accident or ones too close to park boundaries will be put out.

Even as our understanding and control of fire increases with more prescribed burns and studies, the idea of fire will remain tinged with the possibilities of danger and tragedy. It is a force that needs to be respected as something not always controllable. With the boundary between wild and residential lands becoming less defined, there may be less and less room for fire. How fire will be used in the future is subject to both our evolving understanding of fire and the future face of our American wildlands.