



Fire Management



Introduction

Wildfire is one of the most powerful and creative natural processes on our planet. For thousands of years, this force has been shaping the environment on a large and widespread scale. Plants and animals have evolved with, and many depend on, the role fire plays in creating a diversity of habitats. The National Park Service and Zion National Park have recognized the important role that fire plays in maintaining healthy ecosystems on our federal lands, and in so doing, are utilizing this force to perpetuate natural landscapes wherever safely possible.

Wildfire History in North America

Wildfires had been burning across North America long before humans were on the scene. They were in large part responsible for the landscape that the first Native Americans encountered when they crossed the Bering Land Bridge thousands of years ago. These first people lived closely with their environment and saw first hand the power of wildfire. They also saw the benefits that wildfire provided, such as improved grazing for wildlife and the open nature of woodlands. Many tribes actually began successfully igniting fires to achieve these desired results. Fire was another tool for them to utilize.

When Europeans arrived in North America though, they brought with them the view that fire was only a destructive force, something that wasted vital resources and threatened property and lives.

In the early part of the 20th Century, major wildfires across North America resulted in the burning of

millions of acres of land and the loss of thousands of lives. War was declared upon wildfire. All wildfires were to be suppressed, regardless of location. At first, this method of dealing with wildfire worked. America's firefighters became the best in the world as they suppressed thousands of fires through the years. Eventually though, this disruption of the fire process, along with the practices of overgrazing and excessive logging, had unintended impacts on our lands. Unnatural fuel loads built up in our forests creating conditions that in recent years have spawned huge wildfires which no amount of money could control. More fires were burning more land than ever before.

Scientific research has now enlightened land managers as to the ecological importance of fire in wild ecosystems. New policies have been enacted that actually utilize fire as a management tool, thus attempting to restore it to its natural role in our environment.

Wildfire History in Zion

As in the rest of North America, wildfire has helped shape the landscape of Zion National Park. Native American inhabitants of the area used fire for various needs, but the amount and significance of its use in Zion cannot be determined. Before European settlers arrived in the area, the forested ponderosa pine plateaus of the park had regular fire frequency intervals of 4-7 years, with fires of over 1000 acres occurring nearly every three years. Studies found a complex interrelationship between fire frequency, human land use and vegetation structure. Fire scars on trees clearly showed a dramatic decline in fires after 1882, when fire frequency became irregular and limited in size, due to suppression, logging and grazing activities.

These activities brought about major structural changes in the vegetation of Zion's plateaus. What was once a grassland dominated ecosystem with scattered trees became a closed forest in places, dominated by saplings and shrubs. This, in conjunction with suppression, led to an unnatural buildup of fuels.

After the park was established in 1909, the official policy was suppression of all wildfires. This was the case in all our national parks throughout the country at the time. This policy continued in Zion until 1985, when the park began to manage some natural fires (lightning caused) for resource benefits. In 1992, the park conducted its first major prescribed burn, attempting to return fire to areas from where it had been excluded for generations.

Zion Fire Facts

- Zion averages 8-10 wildfires annually, the vast majority being ignited by lightning.
- Since 1931 there have been 625 wildfires in the park, burning nearly 13,000 acres.
- From 1993-2000, 104 fire use fires (prescribed and natural) have accounted for 8,512 acres burned.
- The 1996 lightning ignited Wildcat Fire is the largest one in the park's history, burning 7,919 acres.

Fire Management Policy

Each unit in the National Park Service with burnable vegetation is required to prepare a Fire Management Plan. This plan gives specific direction to the park in all aspects of its wildland fire-related activities. The Fire Management Plan is, in turn, guided by numerous federal policies and regulations that address the environmental effects of wildland fire, both positive and negative.

Wildland fire management within the National Park Service is conducted to support resource management objectives. The full range of strategic options is available to managers provided selected options to not compromise firefighter and public

safety, cost effectiveness, benefits and values to be protected. Suppression of unwanted, potentially environmentally damaging wildland fires is guided by fire management plan direction. Fire use activities may include fire as either a natural process or as a management tool.

Fire use objectives include, but are not limited to: restoring, mimicking or replacing the ecological influences of natural fire, maintaining historic scenes, reducing hazardous fuels, eliminating exotic/alien species, disposal of vegetative waste and debris, and preserving endangered species.

Fire Management in Zion

Zion National Park maintains a very active wildland fire program under the direction of its Fire Management Plan. The management of Zion's natural resources has begun to change from custodial management to that of allowing natural processes to shape the landscape, while also taking restoration actions to conserve native biological communities and species.

Fire management works in conjunction with resource management at Zion to establish program goals that are consistent with the park's overall General Management Plan.

Zion's Fire Management Program Goals

- Provide for firefighter and public safety.
- Restore fire to its natural role in the ecosystem wherever safely possible.
- Study the role of fire effects on park resources.
- Protect structures, both private and public, from fire.
- Reduce hazardous fire conditions.

Zion utilizes a variety of fire management techniques to achieve these resource goals, including prescribed fires (management ignited fire under controlled conditions), hazard fuel reduction (thinning and chemical control), fire use (managing naturally-ignited fires for resource benefits) and suppression of unwanted wildfires. Public education and information is also an important aspect of Zion's fire program.

The fire management program at Zion consists of a varied staff of both permanent and seasonal employees who manage the day to day operations. These include a fire effects crew (supervised by the fire ecologist), a fuels crew (supervised by a fuels specialist), two wildland fire engine crews, a fire use module (a crew who specializes in prescribed fires), a helicopter module, an information and education specialist, program support personnel and a fire management officer who oversees the program. All of these individuals work closely together and overlap in their duties as the selected fire management technique dictates.

Prescribed Fire

Prescribed fire means not only controlled burns used to meet management objectives, but also includes natural fires ignited by lightning that fall within a "prescription" and are allowed to burn as an ecosystem process. A prescription is a set of conditions that considers the safety of the public and fire staff, weather, and probability of meeting the burn objectives. Natural ignitions are sometimes called "fire-use fires" or "fires for resource benefits."

Some parks have areas designated as "Natural Fire Zones" in which natural ignitions are closely monitored but allowed to burn as a natural process without intervention. In some mountainous western parks, many lightning-caused fires have been allowed to burn and die naturally each year.

In most parks, management ignited prescribed fires are used to manage vegetation instead of lightning-caused fires. Prescribed burns have been ignited to reduce hazardous fuel loads near developed areas, manage landscapes, restore natural woodlands and for research purposes. Before any prescribed or wildland fire-use fires

are permitted, the park must complete a Fire Management Plan and burn plans. Each planned fire must meet all the conditions identified in a no go checklist before ignition. When fire cannot be used, most hazard fuel reduction is accomplished with saws and manual removal.

Zion maintains an active prescribed fire program. The first large prescribed fire in the park was ignited in 1992. Since that time, fire management has utilized prescribed fire (both natural and management-ignited) on over 8,000 acres in the park.

The goal of the prescribed fire program in Zion is to use management-ignited prescribed fire, where appropriate, for the restoration of fire-dependent ecosystems and species-specific resource management goals. Prescribed fire projects are to be conducted in a manner consistent with land and resource management plans, public health considerations, and approved prescribed fire plans. The policy of using fire as a tool will help decrease risks to life, property, and resources.