

# Yosemite National Park

National Park Service  
U.S. Department of the Interior



## The Role of Natural Fire

Fire has been, and will continue to be, one natural process that shapes Yosemite's distinctive landscape. Just as glaciers and floods have contributed to the majestic splendor of the park, fire brings beautiful change.

### Fire in Yosemite

Prior to fire suppression by pioneers at the turn of the century, fire burned an average of 16,000 acres annually in Yosemite. The Sierra Nevada was typically hazy while fires burned throughout the summer. Historic accounts and old photographs show that the pristine mixed-conifer forests were more open and free of under-story vegetation and ground litter. Yosemite's

meadows were far more extensive than they are today. This condition was maintained by frequent lightning fires and those set by American Indians.

Around 1970, Yosemite National Park began to recognize the importance of fire and implemented a prescribed fire program.

### The Importance of Fire

Yosemite's plant and animal species have adapted to fire and, in some cases, depend on it.

Fire:

- Keeps dead vegetation from accumulating into enough fuel for a potentially destructive fire
- Exposes mineral soil and creates holes in the forest canopy so seeds have the space and sunlight necessary for germination and growth
- Thins out young vegetation, preventing forests from becoming overgrown and unhealthy
- Transforms dead vegetation into nutrient-rich ash that quickly returns to the soil to nourish new vegetation
- Controls diseases and insects

An example of fire's benefits can be found with the park's giant sequoias. They are not only fire-resistant, but depend on fire to reproduce. The oatmeal flake-sized seeds of giant sequoias need fire to clear away forest debris from mineral soil, to open up the forest canopy to let sunlight in, and to reduce the number of competing tree species.

Since the majority of natural fires in the Sierra Nevada are patchy, uneven, and move slowly, wildlife usually flees long before fire threatens them. In fact, natural fire benefits wildlife by maintaining a variety of habitats.

Illustration by Lawrence W. Duke

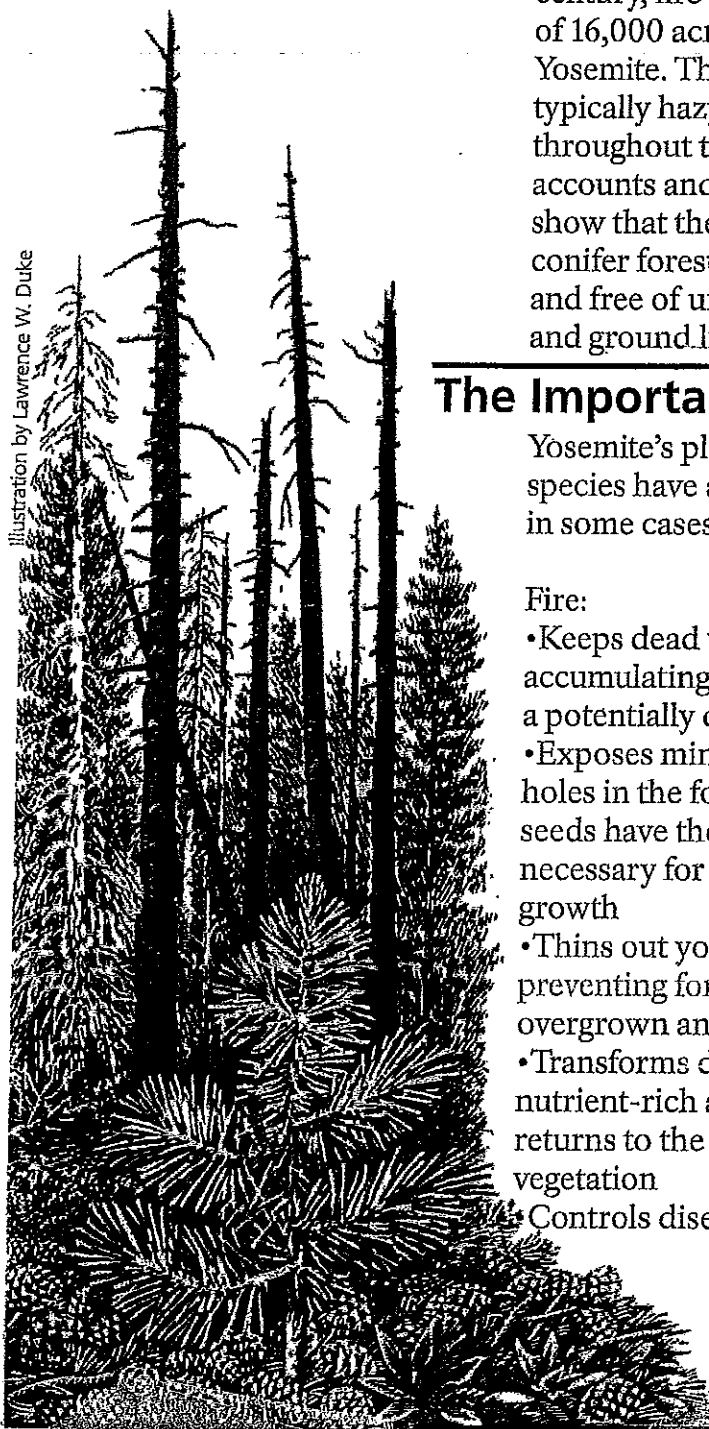


Illustration by Lawrence W. Duke

## Fighting Fire with Fire

In addition to impacting ecological processes, a century of fire suppression has led to dangerous conditions. The accumulation of woody debris, densely stocked forests with ladder fuels (which allow fire to move from the ground to the forest canopy), and stressed trees provide conditions for the destructive canopy fires of recent years. Several destructive

fires have occurred in the park, including the Ackerson Fire and the A Rock Fire. Visitors to the park will see these areas recovering from large canopy fires.

Wildland fire is a natural process, like a flood, that can not be prevented. Fire, under favorable conditions, can be utilized as a beneficial tool.

## Yosemite's Fire Management Plan



Yosemite's Fire Management Plan uses fire to restore and maintain park ecosystems and reduce the risk of destructive fires. Firefighter and public safety are the first priorities in every fire management activity. Before fire managers ignite a prescription fire or allow a lightning strike fire to be managed, conditions must be favorable. Wind, humidity, temperature, location, and availability of fire resources are considered before fire is used as a tool.

Fire managers utilize wildland fire use, prescribed fire, mechanical thinning, and fire suppression.

Wildland fire use is the management of lightning-strike fires in the park's wilderness areas.

Prescribed fires are used in areas where fire managers can not safely manage wildland fire use. A fire's prescription is the window within which a fire may be ignited. These conditions maximize the ability to control the fire and minimize smoke impacts on local communities.

Mechanical thinning is employed to reduce heavy accumulation of fuels and, ultimately, help prevent larger fires by removing ladder fuels. Mechanical thinning is used near communities and along roadsides in the park.

Human-caused wildfire and wildland fires that pose a threat to life or property, lack adequate firefighting resources, or threaten natural or cultural resources are suppressed.

## Where there's Fire, there's Smoke

Fire has been part of the natural system in Yosemite for thousands of years. Visitors to the park should expect to see smoke from natural, prescribed, or suppression fires from late spring to late fall in the park. Visibility may be intermittently reduced and views at park vistas temporarily obscured. Visitors with respiratory problems

may need to use caution when exerting themselves in smoky areas. Fire managers attempt to reduce the impacts of smoke to park visitors, park employees, and gateway communities so that visitors can enjoy the ever-changing beauty of Yosemite, a beauty that benefits from natural fire.