

Reconsidering Forest Fire: Historical Suppression, Today's Dilemma, and Where We Need to Head



Lick Fire on the Umatilla National Forest burning at night, [Photo](#): Brendan O'Reilly

By Susan Mates

Fire: The Threat We Instinctively Fear

Some of your favorite forested places may now lie blackened by wildfire. Perhaps your heart races when you hear about a fire burning nearby. Most of us instinctively fear fire—and for good reason. For thousands of generations, fire posed a direct threat to human survival. It could destroy shelter, consume food supplies, and endanger lives. Even today, the sight of flames and smoke triggers a deeply rooted fight-or-flight response.

Because of that instinct, many of us view wildfire as a disaster that should always be prevented. For much of the last century, that belief shaped forest management across the American West. But a growing body of research is challenging some of our long-held assumptions and asking us to reconsider what wildfire actually means in forest ecosystems.

How Fire Became the Enemy

For much of the twentieth century, wildfire was viewed almost entirely as a destructive force. Following a series of devastating fires in the early 1900s, including the enormous “Big Burn” of 1910, federal agencies adopted an aggressive policy of fire suppression. Every fire was considered a threat, and every fire was expected to be extinguished as quickly as possible.

The message reached generations of Americans through the familiar image of Smokey Bear and the slogan, “Only You Can Prevent Forest Fires.” The campaign successfully reduced many human-caused ignitions, but it also reinforced the idea that all fire was harmful.



As communities expanded into forested landscapes, concerns about wildfire grew. More homes, roads, and infrastructure meant greater risks when fires occurred. In response, managers increasingly turned to interventions intended to reduce fire danger: thinning forests, removing underbrush, constructing roads, salvage logging after fires, clear-cutting in some areas, and planting trees to speed recovery.

These efforts were generally based on a straightforward assumption: dense forests and dead trees create dangerous fuel, so removing them should reduce severe fire. Yet the results have often been more complicated than expected.

What New Research Is Revealing



Over the past several decades, ecologists have developed a much more nuanced understanding of wildfire. Research in western mixed-conifer forests suggests that severe fires are not unusual departures from nature. They have been occurring for thousands of years and are an essential part of forest development.

One of the leading voices in this research is wildlife ecologist Richard Hutto, whose work has focused on post-fire ecosystems. Hutto and others have documented that severely burned forests create habitat conditions found nowhere

else. Rather than representing ecological devastation, many burned forests become biological hotspots that support specialized plants, insects, birds, and mammals.

This research challenges the traditional view that forests progress in a straight line toward an ideal mature condition. Instead, forests exist in a constantly changing cycle. Young forests, mature forests, recently burned forests, and recovering forests all contribute different ecological values. Biodiversity depends on the presence of all of these stages across the landscape.

Researchers have also found that some commonly accepted ideas about wildfire behavior deserve closer examination. While surface fuels and underbrush can influence fire behavior, many of the most destructive wildfires are spread by wind-driven embers that can travel long distances ahead of a fire front. In these situations, weather conditions, drought, and extreme winds often play a greater role than the amount of underbrush on the forest floor.

The Reality of Fire Today

Wildfire remains a serious challenge. The total area burned across the West has increased in recent decades, and many fires are larger than those recorded during much of the twentieth century.

Several factors contribute to this trend. A warming climate has lengthened fire seasons, increased drought stress in forests, and created conditions that allow fires to burn longer and more intensely. At the same time, a century of fire suppression has altered forest conditions in many areas, particularly forests that historically experienced frequent, low-intensity fire.

Human development has also expanded into fire-prone landscapes. More people now live in what fire scientists call the wildland-urban interface—the zone where homes and forests meet. As a result, more communities are exposed to wildfire risk than ever before.

The challenge we face today is not simply “too much fire.” It is the interaction of climate change, historical management decisions, and increasing development in fire-prone environments.

What This Means for Forest Management



The emerging understanding of wildfire suggests that management should focus less on eliminating fire and more on learning to value and coexist with it. Richard Hutto acknowledges that this is a controversial idea, since it is so different from current practice.

Forest management should reflect the most current concepts of forest ecology and succession related to fire. Managers can communicate these concepts to legislators and the public to build support for updating management practices.

That does not mean abandoning active management. In some forest types, carefully designed thinning and prescribed burning can help restore historical fire patterns and reduce risks near communities. But increasingly, scientists emphasize that management objectives should be tailored to specific ecosystems rather than applying the same approach everywhere. Forest conditions also play a considerable

role in causing severe fire. High winds and severe drought rather than the quantity of fuels on the forest floor exert the greatest influence on fire behavior.

The research also suggests caution regarding large-scale salvage logging after fires. While often intended to recover economic value or reduce future hazards, salvage logging can remove many of the ecological features that make burned forests valuable habitat. Tree-planting, which often follows salvage logging, converts an ever-growing number of forest patches into “tree farms” that do not offer the biological diversity that supports the plants and animals that need to exist there.

Fire suppression outside the wildland-urban interface is another management practice that may not often be necessary. Studies show that suppression efforts do not keep tiny fires from becoming huge conflagrations. The proportion of fires belonging to the largest fire size were found to be nearly identical in controlled and uncontrolled areas.

Most importantly, reducing wildfire losses may depend less on changing distant forests and more on making communities themselves more resilient. Fire-resistant building materials, ember-resistant vents, defensible space immediately around homes, and thoughtful community planning can dramatically reduce wildfire risk

Learning to Live with Fire

Wildfire will remain a part of western landscapes. It always has been. As scientific understanding grows, so must our management approaches.

The growing scientific consensus is not that fire is harmless, nor that every wildfire should simply be allowed to burn. Rather, it is that fire is a natural ecological process that forests have evolved with for millennia. Attempts to eliminate it entirely have often produced unintended consequences.

Richard Hutto has argued that we can continue to live safely alongside forests while recognizing the ecological importance of wildfire. Doing so requires a shift in perspective. Instead of viewing every burned forest as a failure, we can begin to see fire as one stage in an ongoing cycle of renewal, diversity, and change.



The challenge ahead is not learning how to eliminate fire from our forests. It is to find a thoughtful balance—one that recognizes the dangers of fire and its essential role in creating resilient, diverse, and healthy forests. It is learning how to live more wisely with a force of nature that has always been part of them

Resources and Further Reading

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