

# Fuel treatments reduce wildfire severity, tree mortality in Washington forests

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A study conducted by U.S. Forest Service and University of Washington (UW) scientists has found that fuel treatments—even of only a few acres—can reduce fire severity and protect older trees desirable for their timber, wildlife, and carbon-storage value. The finding is part of a three-year study of the 175,000-acre Tripod Fire and is published in the August issue of *Canadian Journal of Forest Research*.

"This study provides the most definitive evidence yet of the effectiveness of fuel treatments in dry forests of the Pacific Northwest," said Susan Prichard, a UW research scientist and senior author of the study. "If dense forests are thinned and the surface fuels are removed, then ponderosa pine and Douglas-fir trees have a better chance of surviving an intense wildfire."

Prichard and her Forest Service colleagues quantified [tree mortality](#) on the Okanogan-Wenatchee National Forest in an area affected by the 2006 Tripod Fire, which burned through forested areas managed to reduce potential fire hazard. Because of the management history of the area, the researchers were able to compare untreated stands, stands that were thinned, and stands that were thinned and then underwent prescribed burns to remove surface fuels.

Results of the comparison revealed that the Tripod Complex fires killed over 80% of trees in stands without treatment and in stands with thinning only. Nearly 60% of trees survived in stands with thinning plus fuel treatment, and three-quarters of larger trees—those with diameters

larger than 8 inches—survived.

"It's all about fuels—dead fuels on the ground add energy to wildfire and carry it across the landscape and dense stands of live trees and shrubs act as fuel ladders, moving fire into the canopy," said Dave Peterson, a research biologist with the Forest Service's Pacific Northwest Research Station who coauthored the study. "The objective of fuel treatments is not to eliminate wildfires, but to reduce their intensity in areas where we want to protect resources."

If, as expected, a warmer climate causes an increase in wildfire in future decades, conducting fuel treatments in [forest](#) ecosystems will be an important tool for reducing damage from fire and increasing resilience to climate change.

"If we implement treatments across large areas and place them strategically, we can manage these low-elevation forests sustainably, even in a warmer climate," Peterson said.

**More information:** To view the article's abstract online, visit [this page](#)

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Provided by USDA Forest Service

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