

*Fire in Southwestern Ponderosa Pine Forests:
Areas of Agreement and Uncertainty*
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<https://www.youtube.com/watch?v=fK5hRRocfml&feature=youtu.be>
starts at 6:20

There is widespread agreement among ecologists that historically ponderosa pine forests experienced low/moderate intensity fires with a significant high-intensity fire component. Today there is significantly less high-intensity fires than before widespread fire suppression.

High-severity patches of various sizes within fire perimeters are natural in dry ponderosa pine forests. There is evidence in the geological record of very large (over 2500 acres) high-severity fires but it's uncertain whether they occurred historically.

Recent fires in the Southwestern ponderosa pine forests are primarily low-severity with scattered moderate/high-severity patches.

The local post-fire environment is characterized by pockets of surviving conifers, stands of dead trees (snags), aspen, gambel oak and New Mexico locust. Aspen requires high-severity fires to regenerate and is abundant in the Las Conchas burn. Ponderosa pines are beginning to regenerate in Las Conchas from the seed of nearby surviving trees.

Many species of wood boring beetles are attracted by the smoke and heat of recently burned forests. They require fire killed trees to reproduce and survive. Woodpeckers in turn feed on beetle larva and build nests by creating cavities in fire killed trees. These cavities then provide nests for many species of birds and mammals.

Native wildflowers and flowering shrubs germinate after high-severity fire attracting butterflies, moths, dragon flies and native beetles. Shrub nesting birds and bats are then attracted by flying insects. Many shrub nesting birds associated with high severity fires are declining.

Mexican spotted owls forage on abundant rodent populations in burned areas while nesting in patches of surviving trees. If there is no post-fire logging spotted owl populations thrive following mixed-severity fires.

Native fish and aquatic ecosystems thrive on nutrients flowing into streams and improved spawning habitat following high-severity fire.

“Snag forest habitat” where most of the trees are killed by high-intensity fire is comparable to the native biodiversity and wildlife abundance of old growth forests.

Drought-tolerant shrubs and reduced ponderosa pine populations found in post-fire forests may be more resilient to climate change.

Burned acreage is still below historical averages. There is no significant increase in high-severity burned areas within larger fires.

The effectiveness of tree clearing (“thinning”) in controlling wildfire is limited because the odds are very low that treated areas will experience a wildfire. Repeated clearing and burning to reduce fuels results in a substantial loss of forest carbon storage and net increase in carbon emissions.

Reducing the threat of high severity fire in remote areas is unwise given the deficiency of high-severity fires and the ecological benefits of snag forests.

Weather conditions (i.e. high wind) is more important than fuels in determining fire behavior.

The increase in water flowing from cleared areas comes as increased flooding during wet years, not better flow during dry years. Runoff from high-severity patches has a wetland-like effect that provides stable water yields over time.

Prescribed burning does not create habitat diversity like natural mixed-severity fires. Wood boring beetles are not active during during wet times when prescribed burning is typically done. Woodpeckers show up but there is no food causing populations to plummet, resulting in a cascade of adverse ecological effects.

The focus should be on protecting homes from wildfire instead of clearing projects in remote roadless areas. Home can be made fire safe by installing fire resistant roofing, rain gutter guards, plugging exterior vents and creating defensible space by removing small trees, shrubs and grasses within 100 feet of structures. Clearing and burning beyond 100 feet provides no addition home protection.

Forests are more than live green trees. Snags, down logs, shrubs and understory trees are required for diverse habitats and wildlife abundance.