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Southern California Cooperators Thin Forests to Protect Pines and People

The Esperanza Firefighters Memorial Highway, located between Banning and Idyllwild, provides elegant views of mixed conifer forests, oak woodlands, and wildlife habitats, prominent features in southern California landscapes. This frequently traveled road leads to picturesque mountain communities, and serves as an escape route from wildfire for communities of over 50,000 people.

Densely spaced trees in the San Jacinto Mountains and the San Bernardino National Forest previously crowded the highway corridor, obstructing views and serving as a dangerous source of fuels for fires. Stressed and weakened trees competed for limited water and nutrients and were susceptible to attack by bark beetles. When drought conditions peaked, so did tree mortality caused by bark beetles. Conifer mortality was extreme in some areas in 2002 and 2003. In some campgrounds, only a few trees remained to provide shade and animal shelter.

To protect communities and preserve scenic vistas, Southern California Forest Health Protection (So Cal FHP) and Wildland Fire, both with USDA Forest Service, joined the Natural Resources Conservation Service (NRCS) and CAL FIRE to thin trees to reduce susceptibility to bark beetles and reduce fire risk. So Cal FHP provided funds to the forest to thin on federal lands, while NRCS and CAL FIRE assisted with thinning and fuel reduction on state and private lands.

This project is a model for surrounding landowners of the effectiveness of thinning and is a legacy of collaboration, responsible stewardship and accountability in maintaining the health and beauty of California wildlands. This collaborative effort reduced ponderosa pine density, increased tree vigor, and decreased forest susceptibility to western pine beetle attack (Figure 1). Stands were thinned to a 20 ft spacing between crowns. Tree stumps were immediately dusted with borax to prevent root disease establishment (Figure 2). Low-lying shrubs were masticated and left on site to promote nutrient cycling (Figure 3). Woody vegetation, too large for mastication, was shipped to local biomass markets.



Figure 1. A stand of ponderosa pine thinned to prevent bark beetle attacks.



Figure 2. A thinned stand with stumps treated to prevent root disease.



Figure 3. Masticated shrubs (at tree line) contrast with dense untreated shrubs (foreground).

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