



# SUCCESS STORIES



Western Bark Beetle Initiative

Region 5

## A WINNING STRATEGY

### A Partnership between Forest Health Protection and the Sierra National Forest



Figure 1 Before treatment.

The Bass Lake Ranger District on the Sierra National Forest is proactive in following policies mandated in 2004 by the Regional Forester to reduce forest stand densities to protect multiple resources, improve forest health, and reduce the risk of catastrophic wildfire. Since 2006, the District has treated 870 acres of overstocked, variable-aged pine plantations with partnership funding from Forest Health Protection. Treatments were completed as five projects over three years. Targets for resulting stocking and basal areas were such that re-entries would not be needed for another twenty years. Cooperative project development amongst District fuels, wildlife, silviculture units and local neighborhood steward groups results in successful and timely project implementation. Project objectives benefit many aspects of forest health and community safety.

Similar to most forests in the Sierra Nevada, the Sierra National Forest experiences protracted drought periods where competition for water resources can be growth limiting and increase trees susceptibility to bark beetles. White leaf manzanita, white thorn *Ceanothus* sp., and bitter cherry are predominant brush species in the understory of most these plantations. Historically, frequent wildfires would have kept brush and smaller understory trees to lower densities than currently exist, however, past management strategies (e.g. fire suppression) have resulted in high fuel loads and stand densities that are ripe for bark beetle attack.



Figure 2. After treatment.

Plantation thinning treatments included mechanical mastication and hand-piling of residual large brush. Removal of large brush and poor vigor trees were primary treatment tactics used to reduce inter-tree competition and release residual trees. Decreasing stand density in plantations has improved tree growth, reinvigorated stagnant conditions, and reduced susceptibility to insects/diseases. The project area will be monitored for efficacy in reducing long-term susceptibility to bark beetles.

The Sierra Nevada Forest Plan Amendment (SNFPA) direction for the management of plantations is “to apply silvicultural and fuel reduction treatments in plantations to accelerate development of old forest characteristics, increase stand heterogeneity, and reduce the risk of wildfire loss.” Forest Health Protection-funded projects on the Sierra National Forest have been parts of larger analyses areas designed to achieve those goals as well as reduce/prevent insect and disease incidence to increase beyond acceptable levels. Projects have improved growth and vigor of plantations and decreased fuels. Other benefits include improved Fisher habitat, wildfire protection of nearby housing communities, and enhanced stand resilience in the face of impending climate change.

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