



SUCCESS STORIES



Western Bark Beetle Initiative Funding

Region 5

Forest Thinning Protects Communities and Enhances Wildlife Habitat

In 2007, the American River Ranger District, Tahoe National Forest, thinned 175 acres of overstocked ponderosa pine plantations near the community of Michigan Bluff utilizing Forest Health Protection, US Forest Service funds. This 47 year old plantation was established after the 1960 Volcano Fire and included dense ponderosa pine (ranging from 4” to 20” DBH) in the overstory and evergreen shrubs, laced with years of dead pine needles, in the understory (Figure 1). Native black oaks found throughout the plantation were declining due to overtopping and overcrowding from plantation pines. Tree density exceeded 500 trees per acre and western pine beetle activity was increasing. These conditions, in addition to causing tree stress and increasing the risk of bark beetle attacks, were reducing habitat values for hardwood dependant species such as black-tailed deer and contributing to a very high risk of catastrophic wildfire that could threaten adjacent private land, including the community of Michigan Bluff.

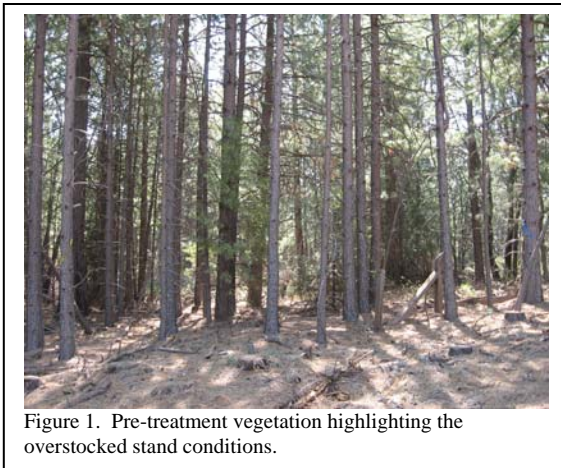


Figure 1. Pre-treatment vegetation highlighting the overstocked stand conditions.

The “Mad Skunk” thinning project was an integral part of a larger, ~ 900 acre, thinning and fuels reduction effort. The thinning was accomplished through a service contract with an embedded timber sale at \$704 per acre. The contractor first removed saw logs with mechanized equipment that were later processed at a local mill. The shrubs, smaller trees and surface fuels were then masticated using a low ground pressure machine with a masticating cutting head (Figure 2).

The largest, healthiest trees were retained at 25’ to 30’ spacing which reduced susceptibility to

successful bark beetle attacks. Residual tree density was reduced to 70 to 100 trees per acre (Figure 3). Clumps of black oak and other hardwood species were retained and provided with additional growing space by the removal of adjacent conifers. In addition to improving the health and vigor of the plantation trees, the surface fuels and crown density were reduced and the average live crown base height was increased; all essential elements to successfully altering fire behavior.



Figure 2. Mastication equipment opening up the forest by removing small trees and shrubs

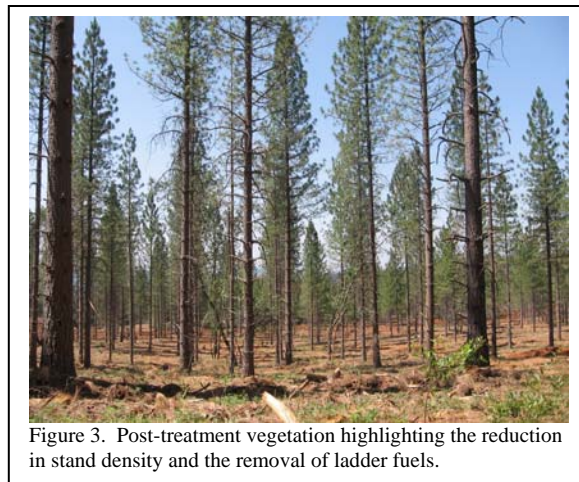


Figure 3. Post-treatment vegetation highlighting the reduction in stand density and the removal of ladder fuels.

This area is managed as a wildland urban intermix zone (WUI) emphasizing fuel treatments that will reduce fire spread and intensity. In June of 2008, an early season down slope wildfire threatened Michigan Bluff and the Interagency Fire Team determined that the 2007 thinning and mastication work funded by FHP modified the fuel profile enough to provide an excellent defensible area. This thinning project not only met the goals of creating a healthy forest by improving individual tree vigor and reducing susceptibility to bark beetles, but served as a strategic fuel reduction area and reduced the wildfire risk to the upslope community.

This thinning operation was developed with an interdisciplinary approach that included the wildlife biologist, fire and fuels specialist, silviculturist and Forest Health Protection staff. This project was aligned with the

Regional Forester’s policy on density management, the Fireshed Assessment Process strategy, and met multiple resource objectives (reduced bark beetle activity, fuel reduction, stand density reduction, watershed protection, and wildlife habitat improvement).