



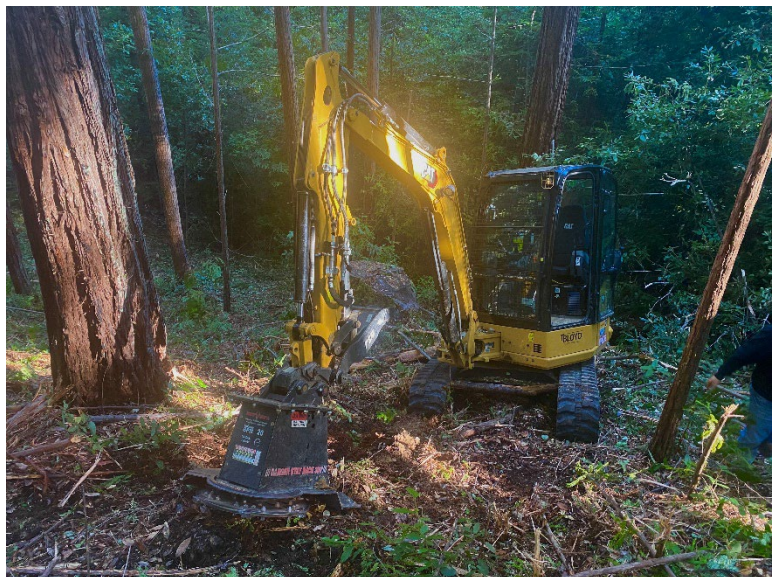
Preparing for Climate Change in the Redwoods

Redwood forests have historically been fire-resilient and have infrequently experienced large, high severity fires. However, due to increased temperature, growth leading to fuel loading, and drought conditions, these forests are at risk for greater damage without pre-fire fuel treatments. To help public landowners learn how to effectively manage their redwood forests for future wildfires, university researchers have designed a Greenhouse Gas Fire Fuels Mitigation experiment. This project is funded by a competitive [Forest Health Research grant](#).

Redwoods have thick bark and are high in tannins which makes them naturally fire resistant. However, these defense mechanisms may not be enough to survive against the unprecedented climate-change driven fires we've seen recently. In the past few years, fires in Sonoma, San Mateo, and Santa Cruz counties spanned hundreds of thousands of acres of state parks and timberlands. These events indicate that all the redwood range may be vulnerable to high severity wildfires. To decrease forest damage from large wildfires, fuels treatments like prescribed fire, mastication, and lop and scatter may be important management tools for landowners to utilize. These treatments will allow researchers to measure and compare different fire fuel mitigation methods for cost, vegetation change, wildlife use, as well as short and long-term benefits.

The Greenhouse Gas Fire Fuels Mitigation project will look at which of these fuels management techniques— or which combination— will be most effective in the redwood region. The study takes place on six sites across JDSF and will test six different treatment combinations. The treatments are:

1. Lop and scatter then controlled burn
2. Only lop and scatter
3. Mastication then controlled burn
4. Only mastication
5. Only controlled burning
6. No treatment, no burning (control group)



Mastication is done by an excavator with a mobile head that shreds small

trees and vegetation (see image). Lop and scatter is done by a crew that manually thins small trees and vegetation and scatters the debris.



JDSF staff accompanied Dr. Berrill (Cal Poly Humboldt), Dr. York (Berkeley Forests), and Dr. Jones (UCCE) to observe the lop and scatter work that was done. The vegetation in the image has been cut by a chainsaw crew and scattered around the area.

All required California Environmental Quality Act (CEQA) analysis is complete. Crews have started mastication and lop and scatter in many areas of the forest. Burning will take place in the fall after the downed material has dried.

Research like the Greenhouse Gas Fire Fuels Mitigation project continue to provide valuable examples of JDSF's importance a living laboratory for forest health and resiliency in the coastal redwood ecosystem.

Learn more about research at JDSF by visiting the [forest webpage](#) and viewing the 'Research' dropdown.

