

King Fire

BAER SPECIALIST REPORT – Hazard Trees

Resource Specialty: Hazard Tree Inspector

Fire Name: King Fire

Month and Year: October 2014

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Report

I. Resource Condition Assessment

- A. Resource Setting - The King Fire burn area covers approximately 97,717 acres. The burn area is within the Pacific and Georgetown Districts of the Eldorado National Forest and the American River District in the Tahoe National Forest. Forest tree species that are present across the burn area are predominantly mixed conifer/ hardwood which include: Ponderosa Pine (*Pinus ponderosa*), Douglas Fir (*Pseudotsuga menziesii*), Incense Cedar (*Libocedrus decurans*), White Fir (*Abies concolor*), Red Fir (*Abies magnifica*), California Black Oak (*Quercus kelloggii*), Aspen (*Populus tremuloides*), and Lodgepole Pine (*Pinus contorta*). Understory shrub species include: Mountain Manzanita (*Arctostaphylos regismontana*), Canyon Live Oak (*Quercus chrysolepis*), and Whitethorn (*Ceanothus cordulatus*).
- B. Findings of the On-The-Ground Survey
1. Values At Risk – The potential values at risk are human safety, roads, utility lines, power generation, and structures (campgrounds and private residences) that could be directly damaged or impacted by falling trees. The primary focus of this assessment is severely fire damaged trees that pose an immediate threat to life, property, and power production facilities within the burn area.
 2. Condition of Values At Risk – Values at risk in this assessment include the possible loss of life, damage to property, domestic water supply, and loss of power production as a result of falling hazard trees. This natural hazard exists in all forest environments, but the King fire has amplified the hazards from the trees that are burned. These hazards cannot be eliminated from the burn area. Along roadways, pullouts, campgrounds, and property boundaries trees have been killed and many hazards exist. Many of the obvious hazard trees have been felled or otherwise mitigated during the fire suppression efforts. Some hazard trees still pose an immediate threat to life and property in areas that will be undergoing emergency stabilization work, along roads and trails, along private property boundaries, and in campgrounds.
 - Within the Big Meadow Campground many trees have also been killed or significantly damaged as a result of the fire. These trees have a very high probability of failure in the immediate future in areas of high exposure time (overnight exposure). (See Appendix A, Photo A1-A6).

- Much of the shared boundary between private property and Forest Service land was burned. No Immediate threat from hazard trees to private infrastructure is present along this shared boundary.
- Along the 11 Pines Road hazard trees are present in catch basins and near drainages that will undergo emergency stabilization. These trees present an immediate threat to people working in the area on these stabilization efforts.
- 336 miles of forest service road system fall inside the burn area. Hazard trees along these roads and pullouts throughout the burn area present a threat to life and property of forest users traveling and stopping along these routes.
- Fire damaged trees are present at the site of the Pacific Ranger District Office which pose a threat to human safety and infrastructure.
- Fire damaged trees along the El Dorado Irrigation District (EID) ditch portions in the burn area pose a threat to infrastructure that could directly affect domestic water supply.
- Power production is threatened at the Tramway, Jaybird, Camino penstocks, powerhouses, and switchyards by hazard trees in strike range of communication lines running to those facilities.

II. Emergency Determination

- Immediate removal of several intermediate and large diameter Incense Cedar, Ponderosa Pine, Douglas-Fir, and Sugar Pine trees should be implemented before the Big Meadow campground should be reopened to the public.
- Removal of hazard trees from catch basins and drainage work areas should occur before emergency stabilization efforts commence along the 11 Pines Road.
- Hazard tree mitigation at the Pacific Ranger District Office, burned sections of the EID ditch, and all penstock, powerhouse, and switchyard locations should be initiated as threats are identified.
- Roads and pullouts throughout the burned area should be monitored to identify potential threats to forest users presented by hazard trees.

III. Treatments to Mitigate the Emergency

- Intermediate hazard trees have been flagged in the Big Meadow campground loop and entry road and should be immediately mitigated before public use of the campground is to continue.
- Hazard tree removal along the 11 Pines Road in drainages and catch basins is addressed in the engineering report of the King Fire BAER.
- Hazard tree mitigation for the Pacific Ranger District Office should be managed by internal resources.
- Hazard tree mitigation at the power production facilities should be performed in coordination with the local co-operators of those facilities with district oversight.
- Hazard trees along the section of the EID ditch within the burn area should be mitigated in coordination with the local co-operators with district oversight.
- Monitor roads and pullouts in the burn area for threats to life and property resulting from hazard trees as long as they persist.

IV. Discussion/Summary/Recommendations

- The King fire, encompasses 97,717 acres, has created an environment of increased risk for forest users. Forest users, employees, and contractors are now exposed to increased risk and potential injury due to hazard trees falling in and along roads, pullouts, and trail corridors as well as private infrastructure, campground facilities, and dispersed camp sites.
- Hazard tree mitigation should be completed prior to reopening campgrounds or employees and/or contractors commencing emergency stabilization activities in the burned area.
- The threat to power production at hydroelectric facilities due to hazard trees should be mitigated in coordination with the local co-operators of those facilities.

- The threat to municipal water supply from the burned portion of the EID ditch from hazard trees should be mitigated in coordination with the local co-operators of the facility.
- Hazard trees threatening the Pacific Ranger District Office should be mitigated as they are identified using internal resources.
- Roads and pullouts throughout the burned area should be monitored for risks to life and property of forest users from hazard trees until the hazard trees are removed as a threat.

Recommendations

- Prior to re-opening the Big Meadows campground hazard trees within 1 1/2 tree lengths of high exposure areas should be felled to remove the immediate threat to loss of life and property.
- Hazard trees within 1 1/2 tree lengths of drainages and catch basins undergoing emergency stabilization work should be mitigated prior to commencement of operations.
- Hazard trees within 1 1/2 tree lengths of the Pacific Ranger District Office should be felled as they are identified.
- Hazard trees inside the strike zone of communication lines at power production facilities should be felled as they are identified.
- Hazard trees inside the strike zone of the burned portion of the EID ditch should be felled as they are identified.
- Current no hazard trees are present along the shared private/Forest Service boundary, no mitigation is necessary.
- As long as hazard trees persist along roadways and pullouts in the burned area monitoring should occur to determine imminent threats to the life and property of forest users.

Long Term Recommendations

- Fire damaged trees will continue to die off as additional stressors are introduced to this fragile ecosystem, such as drought, insects, and diseases. Long term mitigations and monitoring will be needed in moderate to high burn severity areas.

V. Appendices

Appendix A – Photos

Appendix A



Photo A1



Photo A2



Photo A3



Photo A4



Photo A5



Photo A6