Environmental Assessment

Piute Fire Roadside Hazard Tree Removal Project

Kern River Ranger District, Sequoia National Forest
Kern County, California
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Figure 1. Location of the Piute Fire Roadside Hazard Tree Removal Project

Kern River Ranger District
Introduction

Document Structure

The document is organized into four chapters:

- **Introduction:** This chapter includes information on the history of the project proposal, the purpose of and need for the project, and the agency’s proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.

- **Comparison of Alternatives, including the Proposed Action:** This chapter provides a description of alternative methods for achieving the agency’s stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes project design features. Finally, this chapter provides a summary table of the environmental consequences associated with each alternative.

- **Environmental Consequences:** This chapter describes the environmental effects of implementing the proposed action and other alternatives. This section focuses on effects relative to significant issues and disclosures necessary to support a Finding of No Significant Impact (FONSI).

- **Consultation and Coordination:** This chapter provides a list of preparers and agencies consulted during the development of the environmental assessment.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Kern River Ranger District Office in Kernville, California.

Location

The Piute Fire Roadside Hazard Tree Removal (Piute Roadside Hazard) Project is located in Kern County, California approximately seven air miles southeast of Lake Isabella, California (see Figure 1). The project is in the Kern River Ranger District of the Sequoia National Forest. The legal description is T. 28 S., R. 33 E., Sections 11, 14, 22-26, and 36; T. 28 S., R. 34 E., Sections 8, 9, 16-20, and 29-32; T. 29 S., R. 34 E., Section 6; Mount Diablo Base and Meridian. The project includes all or portions of Forest Service System roads 28S27, 28S27A, 28S25, 28S24, 28S17, 28S17B, 27S02, 28S23, 28S18, 28S18A, 28S47, 28S47A, and 28S47B, and a portion of the Piute Mountain Road (County Road 501; see Figure 2).
Figure 2. Roads where treatments are proposed in the project area
Background

The Piute Fire began on the Sequoia National Forest (SQF) in the vicinity of Piute Mountain Road on June 28, 2008. Over the next month, the fire burned approximately 37,000 acres of SQF and Bureau of Land Management public lands. The Piute Fire was contained by July 25, 2008. As a result of the fire, many trees along roads used by the public, Forest Service personnel, and Forest Service contractors were damaged or killed and could fall into the roadway, posing a safety and access risk. In addition to the fire-affected trees, there are unburned trees that are dead or have damage and/or defects that predispose them to breaking apart or falling down. These additional trees are both within the fire perimeter and along roads that access the burned area and the water source for this project; they pose a safety risk similar to that of the burned trees.

The Piute Fire burned approximately 1,700 acres of the Clear Creek Forest Health Improvement and Fuels Reduction Project area. A decision notice regarding that project was issued in 2007 and subsequently withdrawn during litigation over the project. A revised environmental assessment (EA) was prepared during 2008 to clarify some of the issues associated with that project. Prior to a new decision being issued, however, the Piute Fire significantly changed the condition of the project area. As a result, the Clear Creek analysis is no longer accurate and a new National Environmental Policy Act (NEPA) compliance process will be required before any further actions are implemented in the Clear Creek Project area.

Purpose and Need

The Forest Service routinely removes potential hazard trees along roads, in campgrounds, at trailheads, and in other areas where the public or forest workers may be at higher risk. The higher than normal number of dead, dying, and damaged trees as a result of the Piute Fire, has increased the need to manage this routine maintenance in an expeditious and cost efficient manner. There is a need to reduce safety hazards to the public and forest workers from falling trees along approximately 32 miles of roads in and around the burned area.

Approximately 13.5 miles of the 32 miles of roads proposed for treatment under this project were included in the Clear Creek Forest Health Improvement and Fuels Reduction Project. This EA constitutes the NEPA compliance for removal of hazard trees along these roads.

To meet the need for reduced safety hazards to the public and forest workers from falling trees, the following purposes must be met:


2. Protect known cultural resources per the LRMP and according to standard protection measures outlined in II (A) of the First Amended Programmatic Agreement among the
USDA Forest Service, Pacific Southwest Region, the Advisory Council on Historic Preservation, and the California State Historic Preservation Officer, Regarding the Process for Compliance with Section 106 of the National Historic Preservation Act for Undertaking on the National Forests of the Pacific Southwest Region (Region 5 Programmatic Agreement, 2001).

3. Minimize impacts to Region 5 Forest Service sensitive botanical species and their habitat areas.

4. Reduce potential for the introduction and/or spread of noxious weed species in the project area.

5. Protect watershed resources and water quality by employing best management practices. Retain adequate soil cover while minimizing a hazardous fuel loading through activity-created slash treatment.

The Piute Roadside Hazard Tree Removal Project EA implements the Sequoia National Forest LRMP as amended by the SNFPA. The action alternatives described in this document respond to significant issues developed through the scoping and public involvement process. The proposed action and alternatives are designed to carry out treatments that will respond to agency goals described in the LRMP as amended by the SNFPA. Specific goals associated with this project include:

Treating fuels in a manner that significantly reduces wildland fire intensity and rate of spread, thereby contributing to more effective fire suppression and fewer acres burned (Management Goals, SNFPA ROD, Appendix A).

Design projects to recover the value of timber killed or severely injured by the disturbance. Examples are activities that would: (1) conduct timber salvage harvest in a timely manner to minimize value loss; (2) minimize harvest costs within site-specific resource constraints; and (3) remove material that local managers determine is not needed for long-term resource recovery needs (Management Goals, SNFPA ROD, Appendix A).

### Proposed Action

The Kern River Ranger District proposes to use a commercial timber sale to remove hazard trees for safety purposes along approximately 32 miles of roads affected by the 2008 Piute Fire and along roads necessary for access during this project. The following roads would be included: 28S27, 28S27A, 28S25, 28S24, 28S17, 28S17B, 27S02, 28S23, 28S18, 28S18A, 28S47, 28S47A, 28S47B, and a portion of the Piute Mountain Road (County Road 501). This proposal could produce approximately 1 million board feet of timber to benefit the local economy.

Hazard trees proposed for cutting will be identified using the SQF Hazard Tree Identification Guidelines (2004). These trees include fire-damaged and fire-killed trees that meet the above guidelines, as well as unburned hazard trees that are dead or have damage and/or defects that meet the above guidelines. (For specific provisions, see the Silviculture Report.) These trees are located within 200 feet of each side of the road prism (top of cut bank to bottom of road fill).
Trees marked as hazards by Forest Service personnel would be manually cut; those with commercial value may be removed under a timber sale contract using ground-based equipment. Activity-created slash\(^1\) would be treated by lop and scatter\(^2\), pile and burn, chipping, or a combination of these methods to retain adequate soil cover while reducing hazardous fuel loading. Approximately 10 miles of the project area are proposed for treatment by piling activity generated fuels where slope and safety permit and burning the piles; the other approximately 22 miles of treatments would consist of lop and scatter to 18 inches or less, with jackpot burning\(^3\) employed in areas where fuel loading exceeds 10 tons/acre.

**Decision Framework**

Given the purpose and need, the deciding official reviews the proposed action and the other alternatives in order to make the following decisions:

- Whether to select the proposed hazard tree removal actions as proposed or modified, as described in an alternative, or to defer any action at this time
- What project design features are needed
- What monitoring is required

The proposed action is consistent with the Sequoia National Forest LRMP as amended by the SNFPA.

**Public Involvement**

The Piute Roadside Hazard Project was listed in the SQF Schedule of Proposed Actions on January 1, 2009. During scoping from November 20 to December 19, 2008, the proposal was provided for review and comment to 113 neighboring landowners; local tribal organizations; Federal, State, and local agencies; individuals; and groups and organizations potentially interested in or affected by this project. Eighteen responses were received; all respondents wished to remain on the mailing list. Sixteen respondents offered comments—five of these comment letters contained specific resource concerns, one of them was simply a critique of the agency, and the rest were statements of general support for the proposal. The public involvement file contains copies of the scoping letter and responses and is part of the project record.

Using the comments from the public, other agencies, and groups and organizations, the interdisciplinary team developed a list of issues to address.

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\(^1\) Activity created slash consists of branches, tops, and unwanted boles left on the ground at the conclusion of a silvicultural treatment.

\(^2\) Lop and scatter treatments include cutting branches and tops so that they will lie close to the ground and then spreading them evenly across an area.

\(^3\) Jackpot burning involves igniting concentrations of fuels on the forest floor, whether they are natural fuels or fuels resulting from treatments.
Issues

An issue is a point of debate, dispute, or disagreement regarding anticipated effects of implementing the proposed action. The Forest Service separates potential issues into two groups: significant and non-significant issues. Significant issues can be addressed by project design features that mitigate the potential effects or through the development and consideration of alternatives to the proposed action. Non-significant issues are identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, “…identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)…” A list of non-significant issues and reasons regarding their categorization as non-significant may be found in the Scoping Comment Analysis in the project record. The Forest Service identified one significant issue raised during scoping.

Issue #1: Mechanical harvesting and tree skidding actions may lead to soil disturbance, erosion, and impacts on sensitive plants.

This issue prompted the interdisciplinary team to develop an alternative to cut hazard trees and leave them on site to conserve soils and avoid erosion or other disturbances caused by their removal. In addition, specific design features would be developed to minimize potential environmental effects.

Alternatives

Alternatives Considered but Eliminated from Detailed Study

One respondent requested an “imminent threat of immediate falling” alternative. The SQF has policy, direction, and guidelines for determining high risk hazard trees and removing them to preserve public safety. The proposed action, in this case, follows that direction and those guidelines.

One respondent suggested topping or pruning hazards such that they would be less likely to fall and less hazardous. This is a dangerous and very expensive technique used in high-value wildlife areas with a deficient number of snags. The Piute Fire area is not deficient in snags. The incremental wildlife value of additional snags along the road corridor would not justify the expense, or the additional risk to workers performing the task.

Finally, this same respondent suggested an alternative that would adopt the National Park Service’s policies for disposing of hazard trees. The primary reason for this suggested alternative was that the respondent felt that following a Park Service procedure would be unlikely to result in a commercial timber sale—the downed wood would be left in place or used...
for firewood, etc. While Yosemite, Sequoia, and Kings Canyon National Parks do sell hazard trees as a means of maintaining roads and providing for public safety, this suggested alternative was not analyzed in detail because it is duplicative of an alternative already included in this analysis. Alternative C, described below, proposes to cut hazard trees and leave them in place; Alternative C does not include a commercial timber sale.

For these reasons, these alternatives were eliminated from detailed study.

**Alternative A – No Action**

Under the no action alternative, diligent effort would be made to provide public access and maintain safe conditions. However, current road maintenance budgets are not adequate to clear and maintain all roads currently open in light of the anticipated number and volume of falling trees. Roads currently open to the public may be subject to temporary closure during unsafe conditions such as high winds, delays in seasonal opening, or complete closure if hazards are not removed.

**Alternative B - The Proposed Action**

Alternative B is the proposed action as described on pages 4-5.

**Project Design Features Associated with Alternative B**

1. Implement appropriate limited operating periods to protect threatened, endangered, and sensitive (TES) species as outlined in the SQF LRMP, as amended by the SNFPA. (For details of limited operating periods, see wildlife objective on page 9.)

2. Protect known cultural resources per the SQF LRMP, and according to standard protection measures outlined in II (A) of the First Amended Programmatic Agreement among the USDA Forest Service, Pacific Southwest Region, the Advisory Council on Historic Preservation, and the California State Historic Preservation Officer, Regarding the Process for Compliance with Section 106 of the National Historic Preservation Act for Undertaking on the National Forests of the Pacific Southwest Region (Region 5 Programmatic Agreement 2001).

3. Protect all known and discovered Region 5 sensitive plant populations and habitats with high likelihood of sensitive plant occurrence within the project area by flagging and avoiding use of mechanical ground-disturbing equipment in those areas.

4. Reduce potential for the introduction and/or spread of noxious weed species in the project area by avoiding infestations discovered during implementation, by using weed-free erosion control materials, and by requiring equipment that operates off-road to be free from weeds and soil before coming to the project area.

5. Protect watershed resources and water quality by employing best management practices (BMPs).
6. Increase soil cover while minimizing hazardous fuel loading (maintain <3” diameter size class at less than 3-5 tons/acre) through activity-created slash treatment.

7. Retain up to 10 tons per acre of large (> 12” diameter class) downed woody debris per acre over the treatment unit, starting with the largest available.

8. Apply riparian conservation objective (RCO) widths by stream type. Conduct surveys for sensitive amphibian species prior to any management activities in suitable habitat. Removal of hazard trees marked for treatment in these areas will be evaluated on a case-by-case basis.

9. Limit cross-country motorized travel and the development of new routes by scattering slash and cull logs where appropriate and practicable.

10. French Meadow, Piute Peak, Cold Springs, and Brown Meadow dispersed camping areas may be closed to public use during treatment activities to provide for public safety, and will be rehabilitated to accommodate public use as soon as possible at the completion of project activities.

11. Use traffic control or closures on roads and trails as needed during treatment activities for public safety.

12. Unless agreed otherwise, no log hauling will occur on Saturdays and Sundays, the Memorial Day, Fourth of July, and Labor Day holidays, and the Friday preceding the general deer season opening.

13. Protect or re-establish system trails if impacted. All safety hazards associated with management activities will be removed.

Alternative C - Retain Cut Trees

This alternative would meet the purpose and need by cutting, limbing, and leaving trees that pose a hazard. This addresses concerns regarding potential soil and vegetation disturbance if cut trees are removed as described under the proposed action. Hazard trees would be felled, secured from rolling, and left on site. (Mechanical equipment would not be used under this alternative except where necessary to aid in securing large trees.) Hazard trees are defined as described in the proposed action. Activity created fuels would not be treated under this alternative. Hazard trees would be cut using service contracts or Forest Service crews depending on availability of funding and personnel.

Project Design Features Associated with Alternative C

1. Implement appropriate limited operating periods to protect threatened, endangered, and sensitive (TES) species as outlined in the SQF LRMP, as amended by the SNFPA. (For details of limited operating periods, see wildlife objective on page 9.)

2. Protect known cultural resources per the LRMP, and according to standard protection measures outlined in II (A) of the First Amended Programmatic Agreement among the
USDA Forest Service, Pacific Southwest Region, the Advisory Council on Historic Preservation, and the California State Historic Preservation Officer, Regarding the Process for Compliance with Section 106 of the National Historic Preservation Act for Undertaking on the National Forests of the Pacific Southwest Region (Region 5 Programmatic Agreement 2001).

3. Reduce potential for the introduction and/or spread of noxious weed species in the project area by avoiding infestations discovered during implementation, by using weed free erosion control materials, and by requiring equipment that operates off-road to be free from weeds and soil before coming to the project area.

4. Limit cross-country motorized travel and the development of new routes using cut trees and limbs where appropriate and practicable.

5. French Meadow, Piute Peak, Cold Springs, and Brown Meadow dispersed camping areas may be closed to public use during treatment activities to provide for public safety, and will be rehabilitated to accommodate public use as soon as possible at the completion of project activities.

6. Use traffic control or closures on roads and trails as needed during treatment activities for public safety.

7. Protect or re-establish system trails if impacted. All safety hazards associated with management activities will be removed.

Comparison of Alternatives

This section compares how the alternatives meet the need for providing public safety as well as the project purposes and agency goals.

Meeting the Purpose and Need

Need to Provide Public Safety and Access. Under the no action alternative, public and administrative access would be restricted due to hazards and inadequacy of the existing road maintenance budget to manage the volume of falling trees. Roads may be subject to closures due to unacceptable hazards and lack of funding for clearing fallen trees and debris. There would be greater danger to forest users as trees fail unpredictably and without warning. The proposed action and Alternative C would cut hazard trees along all identified roads. Under Alternative C, there would be a slight risk to the public from rolling logs.

Wildlife Protection. The no action alternative would not affect wildlife. Under the action alternatives, potential for direct disturbance is limited by compliance with Forest Plan and SNFPA limited operating periods. (California spotted owl: March 1 – August 15 for activity within ¼-mile of a documented activity center. This may be modified if surveys indicate “non-reproduction confirmed” status for that year. Northern goshawk: February 15- September 15 for activity within one-quarter of a mile of an activity center. This may be modified if it is confirmed
that goshawks are not nesting.) A wildlife biological evaluation and biological assessment (BEBA), management indicator species (MIS) report, and migratory bird analysis have been completed for this project.

The biological assessment (BA) found that there are no federally-protected species within the project area. The biological evaluation (BE) addressed potential effects on the northern goshawk, the California spotted owl, and the yellow-blotched ensatina. There is a low potential for adverse effects to individuals of these species but the effects are not significant and would not cause a trend in population viability or habitat availability that would lead to a need for federal protection of these species. The MIS report addresses snags in burned and unburned forest habitats as well as in early seral conifer habitat. The proposal’s effects on habitat availability are small relative to the available habitat and would not significantly limit availability of these habitats or affect the population of the indicator species. The Piute Roadside Hazard Tree Removal Project Biological Assessment and Biological Evaluation, and the Piute Roadside Hazard Tree Removal Project Management Indicator Species Report are part of the project record and are incorporated by reference. In addition, they can be viewed on the project’s website at: http://www.fs.fed.us/r5/sequoia/projects

Protect Cultural Resources. Under the no action alternative, there would be no new undertaking or actions taken that could potentially impact cultural resources. Under the action alternatives, the known cultural resource sites in the vicinity would be flagged for avoidance and protected from ground disturbing activities during project implementation. In addition, ground disturbing operations located within 150 feet of historic properties will receive archaeological monitoring. In the event a new site is discovered, several standard procedures would be taken to ensure it is protected, including an immediate stop to work activities until the site can be evaluated. Therefore, the risk of impacts to cultural resources would be low under either of the action alternatives. An Archaeological Reconnaissance Report and Cultural Resources Analysis have been completed for this project. Those documents show that project design and application of appropriate mitigation measures outlined within applicable Programmatic Agreements would minimize the possibility of disturbing heritage properties during project implementation. The Archaeological Reconnaissance Report and Cultural Resources Analysis are part of the project record and are incorporated by reference. In addition, the Cultural Resources Analysis can be viewed on the project’s website at: http://www.fs.fed.us/r5/sequoia/projects

Minimize Impacts to Sensitive Plant Species. The no action alternative would not directly affect sensitive plants. Under the action alternatives, the potential for direct disturbance would be limited by compliance with a flag and avoid strategy for ground disturbance by mechanical equipment in all areas with high-likelihood habitat. A biological evaluation for sensitive plants completed for this project found that the proposal would have no effect on mountain moonwort, water fan lichen, broad-nerved hump-moss, or San Bernardino aster. The proposal may affect undiscovered individuals but is not likely to result in a trend toward federal listing or loss of viability for Palmer’s Mariposa lily, unexpected larkspur, or Piute buckwheat. The Biological
Assessment for Federally Listed Threatened or Endangered Plant Species and Biological Evaluation for Forest Service Sensitive Plant Species for Piute Fire Roadside Hazard Tree Removal Project are part of the project record and are incorporated by reference. In addition, it can be viewed on the project’s website at: http://www.fs.fed.us/r5/sequoia/projects

**Reduce the Spread of Noxious Weeds.** Under the no action alternative, there would be no change from the current condition. Under the action alternatives, the potential for spread would be limited by compliance with project design features. The Biological Assessment for Federally Listed Threatened or Endangered Plant Species and Biological Evaluation for Forest Service Sensitive Plant Species for Piute Fire Roadside Hazard Tree Removal Project are part of the project record and are incorporated by reference.

**Soil and Watershed.** The action alternatives would reduce sedimentation by increasing the amount of woody debris in contact with the soil. This effect would be maximized under Alternative C, the cut and leave alternative. Under the proposed action, skidding and endlining logs to the road would cause some disturbance to soil. This disturbance has the potential to concentrate water and increase sedimentation if not mitigated. With standard implementation of mitigation measures, including Best Management Practices (BMPs 1-3, 1-5, 5-2), it is unlikely that increased sediment would be delivered off site as a result of either action alternative. Moreover, since equipment use off of roads or other hardened surfaces would be limited, compaction would not likely be significant. The Piute Roadside Hazard Tree Removal Project Soil Resource Report, Piute Roadside Hazard Tree Removal Project Hydrology Report, and Riparian Conservation Objectives Consistency Analysis: Piute Roadside Hazard Tree Removal Project consider the effects of the no action alternative and both action alternatives on soil and watershed resources; they are part of the project record and are incorporated by reference. In addition, they can be viewed on the project’s website at: http://www.fs.fed.us/r5/sequoia/projects
Table 1. Comparison of each alternative’s ability to meet the project purpose and need

<table>
<thead>
<tr>
<th>Purpose and Need</th>
<th>Alternative A—No Action</th>
<th>Alternative B—Proposed Action</th>
<th>Alternative C—Retain Cut Trees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need to Provide Public Safety and Access</td>
<td>Potential for injury from falling trees may result in road closures.</td>
<td>Hazardous trees removed and access maintained.</td>
<td>Hazard trees cut to provide access; limited potential for injury due to rolling.</td>
</tr>
<tr>
<td>Wildlife Protection</td>
<td>No effect.</td>
<td>Reduces availability of down logs and snags adjacent to roads. Effect negligible. Potential for disturbance mitigated by LOP.</td>
<td>Increases down logs. Potential for disturbance mitigated by LOP.</td>
</tr>
<tr>
<td>Protect Cultural Resources</td>
<td>No adverse impacts to heritage resources.</td>
<td>Standard protection and mitigation measures are included in this proposed action. No adverse impacts to heritage resources.</td>
<td>Standard protection and mitigation measures are included in this proposed action. No adverse impacts to heritage resources.</td>
</tr>
<tr>
<td>Minimize Impacts to Sensitive Plants</td>
<td>No ground disturbance; no direct impacts.</td>
<td>The project area has potential habitat for sensitive plant species; these areas will be flagged for equipment restrictions prior to implementation.</td>
<td>Minimal ground disturbance; no direct impacts.</td>
</tr>
<tr>
<td>Reduce the Spread of Noxious Weeds</td>
<td>No change over current condition.</td>
<td>Compliance with project design reduces risk.</td>
<td>Compliance with project design reduces risk.</td>
</tr>
<tr>
<td>Soil and Watershed Concerns</td>
<td>Very little down woody material on ground for first several years. Active erosion would affect water quality.</td>
<td>Increases down woody material on ground would immediately aid in the stabilization of actively eroding areas.</td>
<td>Maximizes down woody material. Some potential benefit from increased woody debris in contact with soil.</td>
</tr>
</tbody>
</table>

**Meeting Agency Goals**

**Fuel Loading.** In the Piute Fire area, falling trees will contribute to high fuel loading in some areas. Heavy fuels (down logs over 10 inches in diameter) will not contribute to rates of spread immediately but, as they decay, they become very receptive fuelbeds that can ignite easily from sparks. They also constrain the ability of fire crews to suppress fires (high resistance to control) and have a high potential for emitting sparks or embers that contribute to long-distance spotting. High fuel loading along roads is inconsistent with direction in the SNFPA and conflicts with the use of roads as anchor points or control lines for future fire and fuel management use. Under Alternatives A and C, heavy fuels associated with falling or cut trees would remain untreated as described above.

The proposed action (Alternative B) would reduce slash and debris from cut hazard trees to less than 10 tons/acre. Fuel loading could remain high due to non-hazard trees that would fall within the area adjacent to the road. Trees not cut through hazard abatement might contribute more than 10 tons/acre in down woody material over time, but this would be substantially less
than under the other alternatives. Fuel treatments in high soil erosion hazard areas would be
designed to retain litter and woody material for soil protection and stabilization. *The Fire and
Fuels Analysis Piute Roadside Hazard Tree Removal Project* considers the effects of each
alternative on hazardous fuel loading; that analysis is part of the project record and is
incorporated by reference. In addition, it can be viewed on the project’s website at:
http://www.fs.fed.us/r5/sequoia/projects

**Cost to Implement.** Costs for hazard abatement under the no action alternative would be
spread out over several years. The no action alternative would incur greater costs of travel to
and from sites to treat hazard trees on an as-needed basis. Alternative A does not include the
potential liability costs for injuries, property damage, or future fuel reduction needs. The
estimated cost of $388,000 would be spread over five to 10 years.

The proposed action (Alternative B) would cost approximately $365,000 to implement. This
includes project costs of $375,000 that would be offset by $10,000 in receipts from the value of
salvaged timber. Alternative C would cost the Forest Service approximately $380,000 to mark
and cut hazard trees. This does not include costs for future fuel reduction if needed or clean up
of debris. No timber would be sold to offset the cost of treatment under this alternative.
Moreover, effects to the local economies include a present net value (PNV) of $916,668 for
society from Alternative B (Proposed Action), or a loss of $379,356 for the federal government
for Alternative C (cut and leave), with no residual benefit in today’s raw material market. The
*Piute Fire Roadside Hazard Tree Removal Project Economic Analysis* supports these findings; it
is part of the project record and is incorporated by reference. In addition, it can be viewed on the
project’s website at: http://www.fs.fed.us/r5/sequoia/projects

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td><strong>Hazardous Fuel Loading</strong></td>
<td>Untreated fuel loads up to and exceeding 20 tons/acre over the long term. High risks to fire suppression personnel.</td>
<td>Activity created fuels reduced to ~ 10 tons/acre along roads. Likely to exceed 10-15 tons/ac in pockets with adjacent naturally falling material.</td>
<td>Untreated fuel loads up to and exceeding 20 tons/acre post project. High risks to fire suppression personnel.</td>
</tr>
<tr>
<td><strong>Cost to Implement</strong></td>
<td>Estimated cost of $388,000 over 10 years.</td>
<td>Estimated cost of $375,000. Minimal additional cost to cut small trees or treat fuels.</td>
<td>Estimated cost of $379,000.</td>
</tr>
<tr>
<td><strong>Societal PNV</strong></td>
<td>($388,000)</td>
<td>$917,000</td>
<td>($379,000)</td>
</tr>
</tbody>
</table>
Environmental Consequences

This section focuses on effects relative to significant issues and disclosure necessary to support a Finding of No Significant Impact (FONSI). The Council on Environmental Quality regulations (40 CFR Parts 1500-1508) for implementing the National Environmental Policy Act (NEPA) define “significantly.” This definition supports a finding of no significant impact when an action would not have a significant effect on the human environment and is therefore exempt from requirements to prepare an environmental impact statement (EIS). “Significant impact” as used in the NEPA requires consideration of context and 10 elements of intensity.

The only significant issue raised in scoping and analyzed in this section is the effects of the proposed action and the alternatives on soil and watershed resources. The interdisciplinary team also analyzed potential effects on a number of other resources. Those analysis documents—including sensitive plants, wildlife, fuels, recreation, cultural resources, and silviculture—are incorporated by reference, but are not included in the body of this document.

Soil, Watershed, and Sensitive Plant Issue

Issue #1: Mechanical harvesting and tree skidding actions may lead to soil disturbance, erosion, and impacts on sensitive species.

Sensitive Plant Effects Relative to the Issue

Direct and Indirect Effects. Under the no action alternative, no positive or negative direct effects to sensitive plant species would occur. However, by not implementing the Piute Fire Roadside Hazard Tree Removal Project, indirect negative effects to undiscovered individuals and potential habitat for R5 sensitive plants might occur. Without treatment, dead trees would be left in place. Fires in the future might be more intense and widespread than without treatment. Over time, Alternative A would create heavy fuel loading (down trees) that would cause a longer residence time and more intense soil heating from future fires. This could cause light soil disturbance and erosion which could be detrimental to habitat for the perennial, non-rock outcrop, mid-seral Palmer’s mariposa lily. Unexpected larkspur and Piute buckwheat are late-seral rock outcrop species and would not be subject to indirect effects under the no action alternative.

Under the proposed action alternative, all known, discovered, and mapped Region 5 (R5) sensitive plant populations and high likelihood habitat within the project area would be flagged and avoided by mechanical ground-disturbing activities. Therefore, there would be no positive or negative direct effects to known sensitive plant species under the proposed action. It is possible that individual R5 sensitive plants were missed in past surveys of the proposed treatment units. Small numbers of undiscovered R5 sensitive plants might be negatively affected
Environmental Assessment

by the proposed action, but that alternative would not have any significant negative direct effects on R5 sensitive plant species.

The proposed action would not have any indirect effects on known populations of sensitive plant species. It does, however, have the potential to indirectly affect potential sensitive plant habitat. Ground skidding of logs has the potential to cause a small portion of the activity units to experience moderate to severe soil disturbance. With soil conservation BMPs in place, log skidding will not lead to unnatural erosion of potential habitat for Palmer’s mariposa lily. There would be less potential for unexpected larkspur and Piute buckwheat to be indirectly effected because of their rock outcrop habitat. In addition, noxious weed infestations are a threat to sensitive plants and their habitats. Design criteria to prevent the introduction and spread of noxious weeds into the proposed treatment areas have been built into the project and would greatly reduce the risk of negative indirect effects from noxious weeds on sensitive plants under the proposed action.

Under the cut and leave alternative, all known, discovered, and mapped R5 sensitive plant populations and high likelihood habitat within the project area would be flagged and avoided by mechanical ground-disturbing activities. Under Alternative C, hazard trees would be hand felled, secured from rolling, and left on site with no skidding involved; however, to secure large trees, minimal use of equipment may be necessary. As such, there would be no positive or negative direct effects to known sensitive plant species. It is possible that individual R5 sensitive plants were missed in past surveys of the proposed treatment units. Small numbers of undiscovered R5 sensitive plants might be negatively affected by Alternative C, but there would not be any significant negative direct effects on R5 sensitive plant species.

Indirect effects from Alternative C would be similar to the no action alternative. By implementing Alternative C, indirect negative effects to undiscovered individuals and potential habitat for R5 sensitive plants might occur. Dead trees would be hand felled and left in place. This could mean fires in the future may be more intense and widespread. Over time, Alternative C would create heavy fuel loading (downed trees) that would cause a longer residence time and more intense soil heating from future fires. This could cause light soil disturbance and erosion which could be detrimental to habitat for the perennial, non-rock outcrop, mid-seral Palmer’s mariposa lily.

Cumulative Effects. The area of analysis for cumulative effects is larger than for the project area, and consists of the entire range of each R5 sensitive plant species with potential to be found within the project area. The current conditions (population trends) of these R5 sensitive species are either unknown or presumed stable. Plant ecology is not known in any level of detail for most R5 sensitive plants on the Sequoia National Forest, including the species with potential to occur in the Piute Fire Roadside Hazard Tree Removal Project area. Many sensitive plant habitats in the forest have a long history of disturbance, and an undisturbed
reference habitat is often lacking. Most, if not all, populations and habitats of these species occur on federal land.

The Piute Fire in the summer of 2008 did directly affect individuals and the habitat of each of these R5 sensitive species. In general, wildfire is a natural landscape process, with which these plant species have evolved in the past, although fires of this size and intensity were relatively infrequent. The Piute Fire burned through the majority of unexpected larkspur and Piute buckwheat populations in the project area, but these species grow on marble outcrops (where natural fuel loading is extremely low) so effects were minimal to these species. Palmer’s mariposa lily grows in open forest environments and some populations were affected by the Piute Fire. However, this bulb species was dormant at the time of the fire, having already fruited and died back to the ground. So again, effects were minimal to positive for the Palmer’s mariposa lily.

Management activities that have impacted sensitive plants within the analysis area for each species include grazing, fire suppression, silvicultural planting and release, mining, development, and recreational use. These cumulative impacts have altered the present landscape to various degrees. However, on federal lands (where the total or majority of populations of these species exists) all current and future management activities with the potential to affect these species include prescriptions to minimize or eliminate affects to these R5 sensitive plant species. Minimizing changes to sensitive plants and their habitats (across the entire distribution of each species) is the most effective way of reducing cumulative impacts. If adverse effects have been minimized at the local level, cumulative effects will not occur.

Past and current activities on National Forest System lands have altered potential habitats for the following sensitive plant species: mountain moonwort, Palmer’s mariposa lily, unexpected larkspur, Piute buckwheat, water fan lichen, broad-nerved hump-moss, and San Bernardino aster. Because direct and indirect effects would be minimized through implementing mitigations, the positive or negative cumulative effects from both action alternatives would be minimal. The no action alternative would have minimal adverse cumulative effects due to the potential effects of future fires burning through the resulting heavy fuels.

**Soil and Watershed Effects Relative to the Issue**

**Direct and Indirect Effects.** Under the no action alternative, soil types that are actively eroding would continue to do so until they either erode to bedrock or until enough large woody debris falls in open areas and vegetation is established to stabilize the soil and resist erosion. These processes could take several years under the no action alternative. This active erosion would be a constant problem as it enters stream systems and degrades water quality. This would also potentially clog culverts and wash out roads.

Under the proposed action alternative, the retention and addition of slash and large woody debris onsite would mitigate negative effects to soil and watershed resources. This would immediately aid in the stabilization of actively eroding areas and increase soil productivity. All
relevant BMPs would be utilized to minimize disturbance from project activities. Given that there would be limited off-road mechanical entry and that increased slash would decrease erosion and stream sedimentation, it is unlikely that the proposed action would have detrimental effects to the watershed resource.

The BMPs described below have been used on both fire-related projects and standard timber sales. Forest monitoring of past activities has shown that, when properly implemented, BMPs are effective in minimizing sediment delivery off site. BMPs for the protection of soils include:

- **BMP 1-3** is a determination of surface erosion hazard for timber harvest unit design. The objective is to adjust treatment measures in high erosion hazard areas to prevent downstream water quality degradation. This is a preventive practice based on the California Soil Survey Committee erosion hazard rating. On-site evaluation determines the need for erosion control measures.

- **BMP 1-5** limits the operating period of timber sale activities. The objective is to ensure that timber purchasers conduct their operations, including erosion control work, in a timely manner. Contract Provision B6.311 applies to all timber sale contracts with two or more years between award date and termination date. This provision requires a plan of operations, including erosion work and slash treatment. Contract Clause B6.31 requires the purchaser to provide an annual schedule of activities, including erosion control. Contract Clause C6.315 limits the purchaser’s operating period to periods when adverse environmental effects are not likely. Contact Provision B6.6 can be used to close down operations under adverse operating conditions to protect resources.

- **BMP 5-2** provides slope limitations for mechanical equipment. The objective is to reduce erosion and sedimentation. This is a preventative measure to limit surface disturbance and keep surface water from concentrating. Equipment will be restricted to slopes less than 35 percent.

- An additional 22 BMPs for watershed protection have been selected for this project and are included as Appendix A in the Hydrology Report. These BMPs have been effective in protecting beneficial uses within the affected watersheds.

Under the cut and leave alternative, there would be immediate benefits to the watershed as large woody debris and slash would be available to stabilize eroding soils and add to soil productivity. All BMPs implemented in the proposed action would be implemented in this alternative, as needed. Because mechanical harvesting is not included in this alternative, there is less need for BMPs. Incidental use of equipment may, however, be required to stabilize large trees. This alternative would likely result in up to 20 tons per acre of down woody debris. This would be sufficient to realize the positive desired soil and watershed effects for slash and large woody debris.
Cumulative Effects. Erosion has the potential to occur from concentrated water in any skid pattern or path created during operations. Water barring and adding slash to skid trails where there is potential for these effects would eliminate this effect. The addition of slash from hazard trees would actually reduce the potential from erosion resulting from reduced ground cover associated with the fire and the effects of hazard operations could reduce existing potential for cumulative effects. A major concern in the project area as well as the fire as a whole is the lack of soil surface organic material. This material helps reduce erosion by breaking up water flow, increasing surface roughness, and providing increases in soil moisture. Removal of the hazard trees and leaving slash, which would be lopped and scattered to 18 inches, would improve soil conditions and decrease the potential for cumulative effects.

The cumulative watershed effects (CWE) process was modified for this project since the standard CWE process was dominated by the fire effects. There is only one watershed in which there is 100 acres of potentially affected ground. Within this watershed, the potential for project-related disturbance is a very small proportion of the watershed and the existing fire effects are a very large proportion of the watershed. As addressed above, project design features are expected to avoid sediment delivery to the stream and will help off set loss of groundcover due to the fire. This set of conditions makes the standard calculation of CWE for this watershed meaningless for this project. Modeling of CWE using the Sequoia National Forest methodology would occur during the analysis of the Piute Restoration EIS. It is expected that the extent of effects from hazard tree removal would be minimal relative to CWE as the implementation of this project would help increase organic material to the soil.

Effects Relative to Significance Factors

Context and Intensity

Context
Significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, affected interests, and the locality. Significance varies with setting. In the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

In this case, proposed hazard tree removals are limited to a narrow band along approximately 32 miles of road in the Sequoia National Forest. This is a site-specific action with minor localized effects on access (under the no action alternative), on the economy (under the proposed action), and on the resources of the area.

More than 100 scoping letters were mailed to interested parties. Eighteen responses or inquiries were received. Several responses questioned the extent of hazard tree removal needed, but none questioned the need for some level of treatment of hazard trees. The level of response
relative to the pool of forest users is small and reflects a low level of controversy among the
general public regarding this project.

Protections for cultural resources, water quality, and threatened, endangered, or sensitive
plant and animal species are included in the proposed action. In the context of short- or long-
term effects, there are a number of large fires within the Sequoia National Forest where similar
or more extensive post-fire treatments were proposed. Post-fire observation and anecdotal
evidence of the McNally (2001), Stormy (1990), Flat (1975), Bonita (1977), Bodfish (1984), Red
Mountain (1970), Boone (1950), and other fires show that there are long-term effects from those
fires but that hazard abatement alone has not resulted in long-term adverse effects.

Intensity
Intensity refers to the severity of impact. The following factors are considered in evaluating
intensity:

**Impacts both beneficial and adverse. A significant effect may exist even if the federal
agency believes that on balance the effect will be beneficial.**
Disturbances to sensitive plants and soils, with the potential for increased erosion, were
identified as possible short-term effects. By incorporating the design features, the potential for,
and intensity of, adverse effect is considered low (see EA, pages 13-17). There would likely be
some beneficial economic effects from the proposed action, but these would not generally be
considered “intense” (see EA, page 12).

**The degree to which the proposed action affects public health or safety.**
Alternatives B and C would have the effect of reducing potential adverse conditions for public
health and safety by removing trees considered hazardous to the public. Alternative A (no
action), on the other hand, would lead to greater risks to public health and safety, as well as
forest workers (see EA, page 9).

**Unique characteristics of the geographic area such as proximity to historic or cultural
resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically
critical areas.**
No parklands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas
would be adversely affected by proposed treatments. The project area has been surveyed and
analyzed for historical and cultural resources. Cultural sites would be flagged and protected (see
EA, page 10).

**The degree to which the effects on the quality of the human environment are likely to be
highly controversial.**
The effects of any alternative on the quality of the human environment are not likely to be highly
controversial. The project area has already been impacted by a wildfire; the proposal is limited
in scope; and the project design features, including standard management requirements, are demonstrably effective in reducing impacts to national forest resources (see EA, pages 9-11).

**Degree to which possible effect on the human environment is highly uncertain or involves unique or unknown risks.**

The conditions present within the project area and the proposed action are similar to fire recovery projects that have been implemented on the Sequoia National Forest in the past. BMPs have been shown to be effective in minimizing or eliminating off-site sediment transport when properly implemented. These effects have been monitored for several years and are displayed in annual forest reports (see EA, pages 15-17).

**The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about future consideration.**

The precedent for removing trees that may become a hazard along roads and other points of public access has been well established in the Forest Service Manual and the Forest Plan. This action is considered routine and is usually covered under a category of actions excluded from further documentation under NEPA. As such, this action does not set a precedent for future actions or represent a decision in principle about a future consideration. Future actions will be analyzed on their own merits in compliance with NEPA.

**Whether this action is related to other actions with individually insignificant but cumulatively significant impacts.**

A cumulative effect is the effect on the environment that results from the incremental effect of an action when added to the effects of other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes the other actions and regardless of land ownership in which the actions occur.

Design features included in the proposed action would avoid or minimize adverse effects and protect plants, wildlife, aquatic species, and other sensitive resources to the extent that residual effects would not be significant. As a result, there would not be any significant direct or indirect effects associated with this proposal; without direct effects, there can be no cumulative effects (see EA, pages 9-17).

This roadside hazard tree removal project constitutes the minimum necessary action to maintain open roads and public safety in the project area. The incremental impact of the action alternatives is low in context, scale, and intensity. The Piute Fire Restoration Project, which is currently in the public scoping phase, could include up to 2,200 acres of treatment, including salvage logging and additional fuels reduction. The potential of these effects and their impacts in terms of context, scale, and intensity will be reviewed in that analysis.
The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

A record search, field survey, resource inventory, and Cultural Resource Analysis have been completed for this project, under provisions of the programmatic agreement with the Advisory Council on Historic Preservation and the California State Historic Preservation Office (SHPO), and in compliance with Section 106 of the Historic Preservation Act. Assessment of historical and cultural resources in the project area indicates implementation of this project would neither affect any heritage resource eligible for listing in the National Register of Historic Places, nor cause loss or destruction of any significant cultural or historical resources. If any new heritage resources were discovered during project implementation, operations would cease in the area of new discovery until adequate protection measures were agreed upon with SHPO (see EA, pages 7-10).

The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

A biological assessment (BA) has been completed to document analysis of potential effects of this project on endangered, threatened, and proposed species and their critical habitats. No known federally-listed threatened, endangered, or proposed plant or animal species occur or have the potential to occur in the project area. The project does not remove suitable habitat or otherwise adversely affect any listed species (see EA, pages 9-11).

Whether the actions threaten a violation of federal, state, or local law or requirements imposed for the protection of the environment.

The action alternatives would not violate federal, state, or local laws or requirements. They are fully consistent with the 1988 Sequoia National Forest Land and Resource Management Plan as amended by the Sierra Nevada Forest Plan Amendment. This EA is in full compliance with the National Environmental Policy Act of 1969 and is consistent with the National Forest Management Act of 1976 (see EA, pages 9-12).
Consultation and Coordination

The Forest Service consulted the following individuals, federal, state, and local agencies, tribes and non-Forest Service persons during the development of this EA.

Interdisciplinary Team Members

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Michael Price, Forester
Judy York, Writer/Editor

Federal, State, and Local Agencies

Bureau of Land Management
California Department of Fish and Game
California Department of Parks and Recreation
California State Attorney General
Kern County APCD
Kern County Roads Department

Tribes

Tule River Tribal Council
Kern Valley Indian Council
Kern River Paiute Council

Others

Center for Biological Diversity
Sierra Nevada Forest Protection
Californians for Alternatives to Toxics
Stewards of the Sequoia
California Cattlemen’s Association
California Native Plant Society
Sierra Club-Sequoia Task Force
Sequoia ForestKeeper
The Wilderness Society
California Wilderness Coalition
Phantom Duck Club
American Motorcycle Association
Sierra Forest Products
American Forest Resource Council
Kern River Valley Fire Safe Council
High Desert Multiple Use Coalition
California Lands Commission
Private landowners (92) in the Valley View and Claraville area

Kern River Ranger District