

Summary

The Sierra National Forest, Bass Lake Ranger District proposes to create a network of strategically placed landscape area treatments (SPLATs) and defensible fuels profiles near key transportation corridors to reduce the intensity and spread of wildfires across the landscape and near communities. As part of the proposal, further treatments to improve forest health within and outside of the SPLATs are proposed to reduce inter-tree competition and improve tree vigor to provide an increased stand resistance to drought conditions, insect and disease attack.

The area affected by the proposal includes 5,416 total project boundary acres within two watersheds, Fresno River and Big Creek, in the Southern Sierra Nevada. The project is centered on the community of Sugar Pine (designated as Wildland Urban Intermix [WUI]), immediately east of State Highway 41. Vegetation types include ponderosa pine, mixed conifer, hardwood species, as well as areas dominated by brush, rock and steep slopes.

This action is needed, because under the amended Sierra National Forest Land and Resource Management Plan (Sierra Nevada Forest Plan Amendment [SNFPA], Record of Decision [ROD], USDA-FS 2004), an ecosystem approach to project development and planning was recommended. In July 2005, the Bass Lake Ranger District completed the Fresno River Landscape Analysis. This document measured the desired condition for key ecosystem elements against the landscape's current condition. Where there was a significant departure from the desired condition or potential for a loss in key ecosystem functions, opportunities for management actions to address this departure were developed. An emphasis on the inter-relationship of the major functional program goals was placed on these opportunities. Within this landscape analysis, of particular concern was the State Highway 41 Corridor with its high concentration of human habitation and activities, the Nelder Grove Historical Area of Giant Sequoias and the declining health of forest stands within and surrounding these areas.

The community of Sugar Pine is one of the communities of interest within the State Highway 41 Corridor and is considered highly vulnerable to and at risk from wildland fire. Current forest conditions, due to past management activities (including harvesting operations, fire exclusion/suppression, housing development, etc.) have been changed from one where fires were of frequent, low intensity to infrequent, moderate/high intensity. Forest structure and composition has developed, through the lack of fire in a fire dependent ecosystem, into an overabundance of shade-tolerant conifer species in the lower and mid-level canopies of the forested stands. Other areas converted from forested stands to brush species. This overstocking of conifers has led to a decline in forest health and high susceptibility of loss from insects, disease, drought conditions and wildland fire.

A variety of wildlife species are highly dependent on conditions provided by functioning ecosystems (Pacific fisher, California spotted owl and Northern goshawk, to name a few) and are susceptible to possible loss of viability if the degree of change in their habitat and the ecosystem in which they are dependent on is improperly balanced. There is uncertainty (due to gaps in information) surrounding what is the proper balance of change that can occur in these species habitat, where forest functionality and vulnerability can be improved and where human habitation's susceptibility to wildland fire can be reduced.

These issues led the agency to develop alternatives to the proposed action including:

- **Alternative 1 – No Action.** Under the No Action alternative, current management plans would continue to guide activities in the project area. This includes all ongoing activities with existing decisions or permits that would not be changed if this alternative were selected including: underburning, plantation maintenance, cattle grazing, recreation, and recreation residences.

- **Alternative 2 – Proposed Action.** Under Alternative 2, the development of Strategically Placed Area Treatments (SPLATs) would occur. Additional areas would be treated to provide a defensible fuels profile near key transportation corridors and within the defense zone of the wildland urban intermix. In addition to those treatments needed to meet fire and fuels objectives, treatments would be created to reduce stand densities (basal area) to such a level as to improve the growth and vigor of remaining trees. Treatments included in this alternative are: thinning from below in conifer stands, either by pre-commercially, commercially, biomassing and/or mastication of vegetation (conifers) to reduce lower and mid- level canopy stand densities; mastication of brush and shrub patches; prescribed burning, both understory and piles; manual reduction and/or prescribed burning of noxious weed infestations; and prepare and plant failed conifer plantations.
- **Alternative 3 – Lower and Limited Mid-level Canopy Treatments within Known Den Site Buffer.** Under Alternative 3, all treatment areas would be carried forward from Alternative 2, but in areas where there are known Pacific Fisher den sites, treatments within associated den site buffer would include only those treatments needed to achieve fire and fuels objectives (treatment of surface and ladder fuels). All other treatment areas would continue to treat for both fire/fuels and forest health (stand density) objectives.
- **Alternative 4 – Lower and Limited Mid-level Canopy Treatments, All Treatment Areas.** Under Alternative 4, all treatment areas would be carried forward from Alternative 2, but treatments would include only those needed to achieve fire and fuels objectives (treatment of surface and ladder fuels).

Major conclusions are demonstrated in the following table:

Table S-1. Major Conclusions

Resource Area	Indicator	Alt 1	Alt 2	Alt 3	Alt 4
Cultural Resources (page 28)	Degree to which historic property values are diminished	<p>18 sites that have the potential to be affected</p> <p>Direct/Indirect Adverse Effects could occur if a conflagration was to occur especially to wooden components of sites.</p> <p>Cumulative effects are unlikely.</p>	<p>18 sites that have the potential to be affected</p> <p>Through Sierran PA, All of these cultural resource sites and historic features will be protected through avoidance.</p> <p>By implementing the Standard Protection Measures outlined in the Sierran PA, no historic values would be diminished as a result of implementing this alternative.</p>	<p>18 sites that have the potential to be affected</p> <p>Through Sierran PA, All of these cultural resource sites and historic features will be protected through avoidance.</p> <p>By implementing the Standard Protection Measures outlined in the Sierran PA, no historic values would be diminished as a result of implementing this alternative.</p>	<p>18 sites that have the potential to be affected</p> <p>Through Sierran PA, All of these cultural resource sites and historic features will be protected through avoidance.</p> <p>By implementing the Standard Protection Measures outlined in the Sierran PA, no historic values would be diminished as a result of implementing this alternative.</p>
<p>Botanical TES (page 33)</p> <p>*Other plant species do not have habitat within the project area, therefore will not be impacted by any of the alternatives.</p>	Determinations for TES species				
	No effect	<p>1 Threaten species</p> <p><i>Calyptridium pulchellum</i></p>	<p>1 Threaten species</p> <p><i>Calyptridium pulchellum</i></p>	<p>1 Threaten species</p> <p><i>Calyptridium pulchellum</i></p>	<p>1 Threaten species</p> <p><i>Calyptridium pulchellum</i></p>
	May affect but is not likely to adversely affect	N/A	N/A	N/A	N/A

Resource Area	Indicator	Alt 1	Alt 2	Alt 3	Alt 4
	May affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability	4 Sensitive species <i>Epilobium howellii</i> <i>Peltigera hydrothyria</i> <i>Hulsea brevifolia</i> <i>Cypripedium montanum</i>			
Noxious Weeds (page 33)	Potential for Noxious Weed Spread	Increased risk of spread if wildfire was to occur in the area and fireline equipment does not follow Noxious Weed Prevention Practices.	Low risk of spread through use of design criteria for prevention of spread.	Low risk of spread through use of design criteria for prevention of spread.	Low risk of spread through use of design criteria for prevention of spread.
Soils/Geology (page 39)	Potential for reduction in Soil porosity due to compaction	Compacted soils (in 6.71% of the project area) will continue to recover over time with no additional disturbance.	Design Measures will minimize detrimental compaction of soils.	Design Measures will minimize detrimental compaction of soils.	Design Measures will minimize detrimental compaction of soils.
	Soil Cover Remaining (Large Woody Debris)	Meets and/or exceeds current Regional Standards	Reduction, but will continue to meet and/or exceed Regional Standards	Reduction, but will continue to meet and/or exceed Regional Standards	Reduction, but will continue to meet and/or exceed Regional Standards
Lands/Special Uses (page 51)	Effects to Special Uses Permitted in Project Area.	No Effect	With implementation of Design Criteria minimal to No effect	With implementation of Design Criteria minimal to No effect	With implementation of Design Criteria minimal to No effect

Resource Area	Indicator	Alt 1	Alt 2	Alt 3	Alt 4
Terrestrial Wildlife TES (page 53)	Determination for TES Species	(T)=Endangered (E)=Proposed (C)=Candidate (FSS)=FS Sensitive			
*Listed are species that do not have habitat within or adjacent to the project area, nor are directly, indirectly or cumulatively effected by this project therefore the project will have no effect on them:	No effect	Townsend's big- eared bat Western red bat	Townsend's big-eared bat Western red bat	Townsend's big-eared bat Western red bat	Townsend's big-eared bat Western red bat
	May affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability (S)	California spotted owl (CASPO), Northern Goshawk (NOGO), Great gray owl (GGO), American Marten (AMMA), Pacific Fisher (PAFI), Pallid bat (PABA)	CASPO, NOGO, GGO, AMMA, PAFI, PABA	CASPO, NOGO, GGO, AMMA, PAFI, PABA	CASPO, NOGO, GGO, AMMA, PAFI, PABA
<i>Democerus californicus</i> <i>Hailealetus leucocephalus</i> <i>Gulo gulo</i> <i>Falco peregrinus</i> <i>Vulpes vulpes necator</i> <i>Empidonax trailli</i>					

Resource Area	Indicator	Alt 1	Alt 2	Alt 3	Alt 4
<p>Aquatic Wildlife TES (page 63)</p> <p>*Listed are species that do not have habitat within or adjacent to the project area, nor are directly, indirectly or cumulatively effected by this project therefore the project will have no effect on them:</p>	No effect	<p>California Red Legged Frog (T)</p> <p>Foothill Yellow-Legged Frog (FSS)</p> <p>Western Pond Turtle(FSS)</p> <p>Moutain Yellow Legged Frog (C/FSS)</p> <p>Yosemite Toad (C/FSS)</p>	<p>California Red Legged Frog (T)</p> <p>Yosemite Toad (C/FSS)</p>	<p>California Red Legged Frog (T)</p> <p>Yosemite Toad (C/FSS)</p>	<p>California Red Legged Frog (T)</p> <p>Yosemite Toad (C/FSS)</p>
<p><i>Central Valley Steelhead (T)</i></p> <p><i>Delta smelt (T)</i></p> <p><i>Hardhead (FSS)</i></p> <p><i>Limestone Salamander (FSS)</i></p> <p><i>Relictual slender salamander (FSS)</i></p>	May affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability	N/A	<p>Foothill Yellow-Legged Frog (FSS)</p> <p>Western Pond Turtle(FSS)</p> <p>Moutain Yellow Legged Frog (C/FSS)</p>	<p>Foothill Yellow-Legged Frog (FSS)</p> <p>Western Pond Turtle(FSS)</p> <p>Moutain Yellow Legged Frog (C/FSS)</p>	<p>Foothill Yellow-Legged Frog (FSS)</p> <p>Western Pond Turtle(FSS)</p> <p>Moutain Yellow Legged Frog (C/FSS)</p>
<p>Aquatic Management Indicator Species (page 63)</p>	Habitat conditions or alteration and their effects on species	<p>Macro-inverttebrates and Pacific Tree Frog=</p> <p>No expected direct, indirect or cumulative effects</p>	<p>Macro-inverttebrates and Pacific Tree Frog=</p> <p>Project Design Criteria expected to eliminate or minimize effects</p>	<p>Macro-inverttebrates and Pacific Tree Frog=</p> <p>Project Design Criteria expected to eliminate or minimize effects</p>	<p>Macro-inverttebrates and Pacific Tree Frog=</p> <p>Project Design Criteria expected to eliminate or minimize effects</p>

Resource Area	Indicator	Alt 1	Alt 2	Alt 3	Alt 4
Terrestrial Management Indicator Species (page 89)	Habitat conditions or alteration and their effects on species	Largest effect on some species habitat would be loss or alteration created by uncontrolled wildland fire.	Although there would be alterations to habitat, not any one particular habitat would be adversely affected or cause effects on species dependent on that habitat.	Although there would be alterations to habitat, not any one particular habitat would be adversely affected or cause effects on species dependent on that habitat.	Although there would be alterations to habitat, not any one particular habitat would be adversely affected or cause effects on species dependent on that habitat.
Hydrology (page 105)	Cumulative Watershed Effects (CWE's) Threshold Levels Reached	One watershed (Lewis-Red Rock 503.0055) is considered at or near CWE threshold prior to field investigation, showed little potential for CWE post investigation.	From field investigations and protections from Best Mgmt Practices, Stream Mgmt Zones and wildlife Design Criteria, CWE's not expected. See No Action for only at or near CWE consideration and result.	From field investigations and protections from Best Mgmt Practices, Stream Mgmt Zones and wildlife Design Criteria, CWE's not expected. See No Action for only at or near CWE consideration and result.	From field investigations and protections from Best Mgmt Practices, Stream Mgmt Zones and wildlife Design Criteria, CWE's not expected. See No Action for only at or near CWE consideration and result.
Air Quality (page 144)	Degree of degradation of Air Quality from Smoke	High degree of long lasting unhealthy to severe graded air quality from potential uncontrolled wildfire(s).	With prescribed burning occurring on Air District designated affirmative Burn Days, only short-term impacts to air quality would occur in isolated areas. Potential air quality impacts from wildfires would be reduced with less ground fuels available.	With prescribed burning occurring on Air District designated affirmative Burn Days, only short-term impacts to air quality would occur in isolated areas. Potential air quality impacts from wildfires would be reduced with less ground fuels available.	With prescribed burning occurring on Air District designated affirmative Burn Days, only short-term impacts to air quality would occur in isolated areas. Potential air quality impacts from wildfires would be reduced with less ground fuels available.

Resource Area	Indicator	Alt 1	Alt 2	Alt 3	Alt 4
Transportation System (page 149)	Effects of Transportation System	With minimal maintenance there is a continued potential for loss of infrastructure investment from erosion, wet weather use and brush encroachment.	<p>Roads not meeting acceptable Standards will be required to be have maintenance, or reconstruction done for project implementation.</p> <p>This can have the potential to reduce potential erosion problems caused by transportation corridors.</p> <p>0.2 miles of new road will need to be built.</p> <p>0.5 miles of temporary road will need to be built.</p> <p>Implementation of BMP and erosion control measures will reduce the impacts of such construction.</p>	See Alternative 2.	See Alternative 2.

For a summary of Forest Vegetation/Silviculture and Fire/Fuels major conclusions please refer to Table 2, Comparison of Alternatives on page 19.