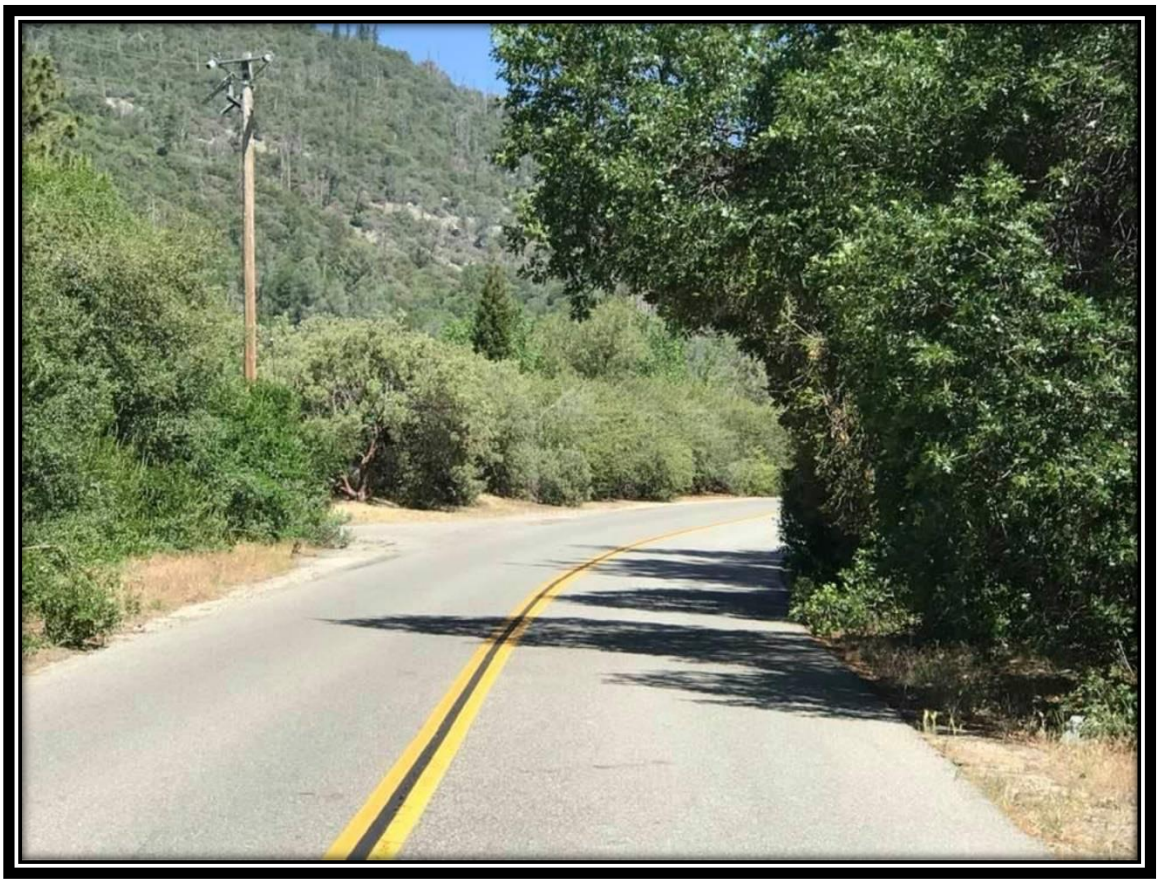
United States Department of Agriculture

Sierra National Forest

Bass Lake Ranger District

Madera County Roads Buffer Fuels Treatment Project

Public Scoping



For More Information Contact:

Burt Stalter
Team Leader
Phone: (559) 877-2218
Email: burt.stalter@usda.gov

Cover Photo: Existing conditions along Madera County roadway buffers following hazard tree work in 2020. Credit: Paul Vind

Introduction

The Sierra National Forest has experienced historic tree mortality in recent years. The extent and intensity of the tree mortality from fallen trees has created substantial fuel loading along roadways on the Bass Lake Ranger District. These roadway areas are being heavily utilized, in recent wildfires as safe anchor points for firefighters to safely engage in wildland fire suppression operations. These road buffers provide an increased opportunity for managing fire into the future by keeping areas where fuel levels are within the natural range of variability and are utilized to alter wildland fire behavior around communities by reducing the potential for adverse effects from high intensity and high severity wildfire.

The Sierra National Forest-Bass Lake Ranger District is initiating an environmental analysis of the proposed roadway buffer treatment zone project, referred to as the FY 20 Madera County Roads Buffer Fuels Treatment Project. The project proposes to apply fuel reduction treatments to living and dead fuels on 200 feet of each side of the identified county road buffers 223, 274, 420 and 426 within the Bass Lake Ranger District Sierra National Forest. These roads are listed as priority roads for ingress/egress during emergency events in the 2008 Madera County Community Wildfire Protection Plan. This analysis would provide a range of fuels treatment opportunities that can be prioritized and scheduled as necessary in any given year based on priority and need. Fuels treatments would be conducted within established guidelines law, regulation, and policy and consistent with the Forest Plan.

This document describes the need for the project and our initial proposed action. It is intended to give the public the opportunity to provide feedback on our proposal.

Purpose, Need, and Objectives

Current Conditions

Figure 1: - Photos of fuels conditions along county road buffers following hazard tree removal work completed in 2018-2019. Notice the dense ladder fuel conditions. Photo credit: P Vind 2020.

Fire risk and associated fire hazard have led to concerns over fire behavior in and adjacent to private property and fire effects to resource values on National Forest lands. In addition, smoke from large fires that does not disperse has the potential to negatively impact residents of and visitors to the area. Many of these concerns have been validated by recent wildfires, such as the Creek, Ferguson, Railroad and

Detwiler fires. Tree mortality fuels accumulation, weather conditions, rugged terrain and other factors contributed to extreme fire behavior in most of these recent events. During these fires, structures were lost, members of the community were displaced for extended periods due to evacuations, and air quality impacts adversely affected human health and exceeded the National Ambient Air Quality Standards. In addition, areas where high fire severity was experienced has led to soil erosion, loss of wildlife habitat and degraded visual quality.

Recent wildfires on the Sierra National Forest Bass Lake RD are listed in Table 1 below.

Fire Name	Year of Fire	Acres Burned	Community Impacts
French	2014	13, 382	Smoke and forest visitors evacuated.
Courtney	2014	320	33 homes destroyed
Willow	2015	5702	Evacuations of communities
Railroad	2017	12,300	Several homes destroyed; communities threatened
Mission	2017	1,000	Destroyed 3 homes and threatened several communities
Ferguson	2018	96,901	Threatened several communities and killed 2 firefighters.
Creek	2020	379,895 in 2 counties	Destroyed 855 structures and displaced 30,000 people

It is expected that future fire behavior will see increased intensities with increased severity with the level of heavy live and dead fuels buildup as trees from drought and beetle induced mortality continue to fall to the ground over time and increasing ladder fuels of live shrub and young vegetation as it fills in the forest openings from tree mortality loss.

Fuel treatments such as those proposed with this project will provide areas of reduced live and dead fuel loadings while allowing a heterogeneous mixture of mature trees to establish and become stable refugia for future events. Decisions on a fine scale will help to break up areas of homogeneity created by large, contiguous areas of high tree mortality (North et al. 2009).

Desired Condition

The desired condition is to keep live and dead fuel loads along these road buffers within the natural range of variability to allow ecosystems to function in a healthy and sustainable manner. These buffers are integral in providing anchor points for fire managers during wildfires and prescribed fires and will increase the efficiency of fire management across the landscape.

In addition, there is a desire to manage live and dead fuel levels to reduce threats to communities and improve public health and safety, as well as enhance the social values of the Forest. This includes the desire to reduce fire threat in areas where hazardous fuel conditions currently pose the highest threat to communities and community assets. Fire management activities should minimize the risk of loss of life and damage to property.

Figure 2: Left photo shows before treatment conditions and right photo shows the desired conditions after treatments. Piles would be burned in winter months.

Purpose and Need for the Project

The overarching purpose of the project is to restore and maintain a healthy, diverse, fire-resilient forest structure in the Sierra National Forest. The Bass Lake Ranger District has identified the need to address increased live and dead fuel loads on the existing compromised county road buffers.

The objectives of the project are to:

- Minimize the potential for uncharacteristically severe wildfires by reducing surface and ladder fuels and breaking up contiguous vegetation, especially in areas of recent tree mortality.
- Address public health and safety impacts from wildfires, including reducing risk for fire-fighters, reducing major impacts to air quality, and reducing risk to communities and community assets. Increase the efficiency for this infrastructure to serve as effective ingress and egress areas for emergency personnel and public during extreme weather events such as winter storms or fires.
- Provide defensible features to promote the use of the prescribed fire and managed wildfires that burn within the natural range of variability.

Proposed Action

The proposed action is to reduce live and dead fuels within the proposed project area up to 533 acres using a suite of treatment methods listed below.

Felling of unmerchantable trees

Where harvesting of dead trees is not economically feasible excessive dead trees not needed for wildlife habitat within treatment units would be hand felled or felled with a feller/buncher type machine. Felled trees would be piled for burning either with a feller/buncher or as described under tractor/grapple pile.

Precommercial Thinning/Fuel ladder reduction

Heavily stocked areas of live advance conifer regeneration, shrubs, and oaks that create ladder fuel conditions (trees generally less than 10 inches diameter at breast height) within treatment units would be hand or mechanical thinned to reduce fire hazards and the likelihood of surface fire transiting to a crown fire and to improve or maintain stand vigor and health.

Tractor / Grapple Pile

High concentrations of existing live or dead fuels would be either tractor, skid steer or grapple piled and burned. Slash concentrations would be hand piled in areas that are too steep for mechanical operations or in sensitive areas.

Prescribed Burn

Piles generated from hand and mechanical treatments would be burned. Jackpot and/or underburning of scattered vegetation and dead fuels would also occur in areas not accessible by equipment. These burns would be completed during winter and spring months when fire danger and risk of escape is low.

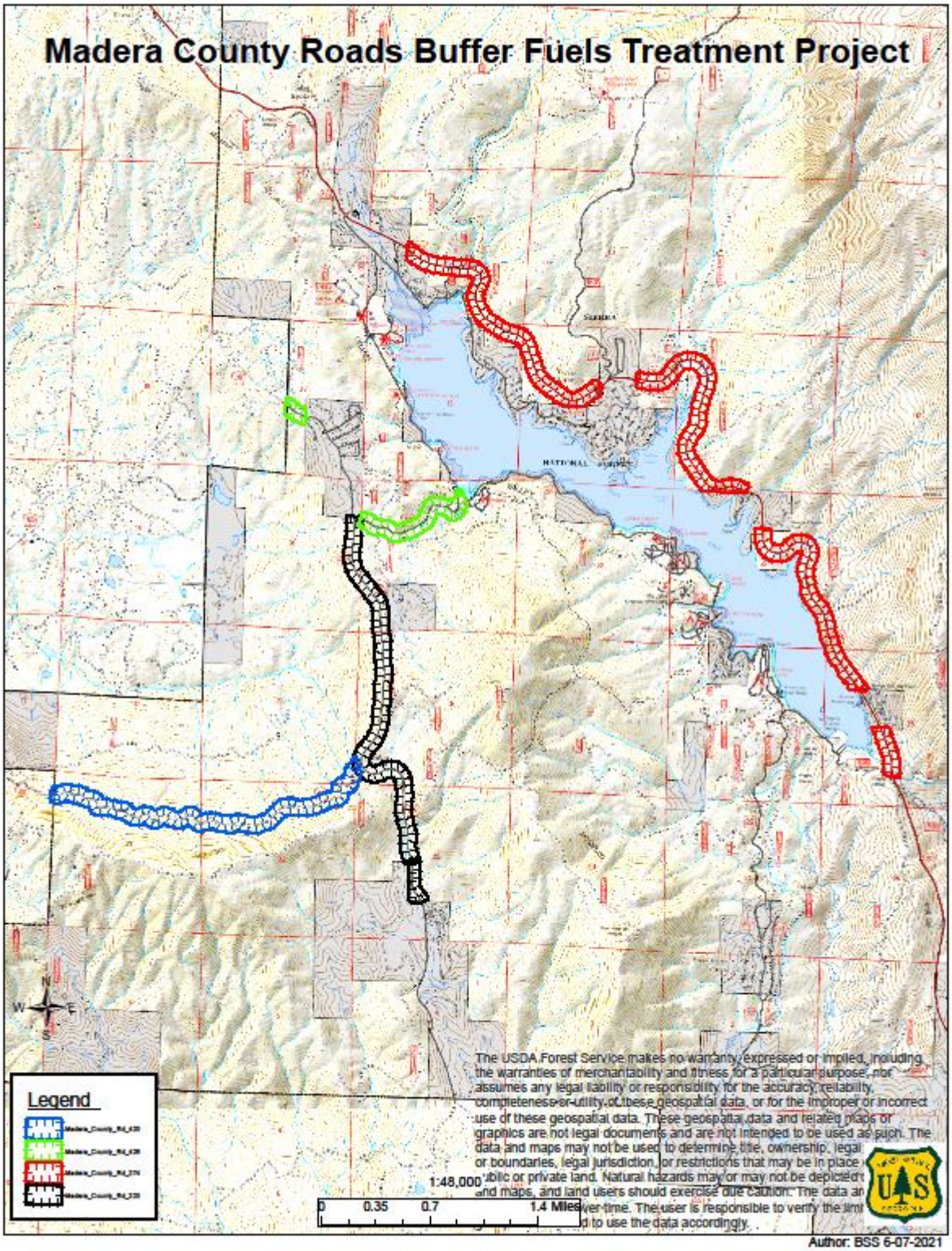


Figure 3. Map of proposed project analysis areas on the Bass Lake Ranger District Sierra National Forest.

Design features and protective measures

We anticipate that using the proposed vegetation and fuels management treatments as a restoration tool would provide benefits to many resources, such as wildlife habitat, native plants, and watershed health, especially when compared to the effects of an uncharacteristically severe wildfire. The implementation of design features would help us to avoid or reduce any unintended or negative effects of the project. Design features would be developed to protect the sensitive wildlife, plants, fish, habitats, soils, scenery, air quality, and historic and archaeological sites. Design features would incorporate applicable Forest Plan[1] standards and guidelines, best management practices, and conservation measures and Terms and Conditions from appropriate Biological Opinions for threatened and endangered species. Design criteria will be developed through an interdisciplinary process to minimize resource impact and to apply the Sierra National Forest Land and Resources Management Plan specifically to the Project conditions.

References

Heinbach, C. September 2008. Madera County Community Wildfire Protection Plan. Madera, CA: U.S. County of Madera, 124 p.

North, M., Stine, P.; O'Hara, K., Zielinski, W., Stephens, S., 2009. An ecosystem management strategy for Sierra mixed-conifer forests. General Technical Report, PSW-GTR-220 (Second printing, with addendum). Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 49 p.

Safford, H., Stevens, J., 2017. Natural Range of Variation for Yellow Pine and Mixed Conifer Forests in the Sierra Nevada, Southern Cascades, and Modoc and Inyo National Forests, California, USA. General Technical Report, PSW-GTR-256). Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 229 p.

USDA Forest Service.1991. Sierra National Forest Land and Resource Management Plan. USDA Forest Service Sierra National Forest, Clovis, CA.

USDA Forest Service. 2004. Record of Decision Sierra Nevada Forest Plan Amendment. USDA Forest Service Pacific Southwest Region, Vallejo, CA

USDA Forest Service. 2014. Final Sierra National Forest Assessment (Document number: R5-MB-269). USDA Forest Service, Pacific Southwest Region, Vallejo, CA.

[1] Sierra National Forest Land and Resources Management Plan (USDA Forest Service 1991), as amended by the 2004 Sierra Nevada Forest Plan Amendment Record of Decision (USDA Forest Service 2004).