



United States
Department of
Agriculture

**Forest
Service**

Pacific
Southwest
Region

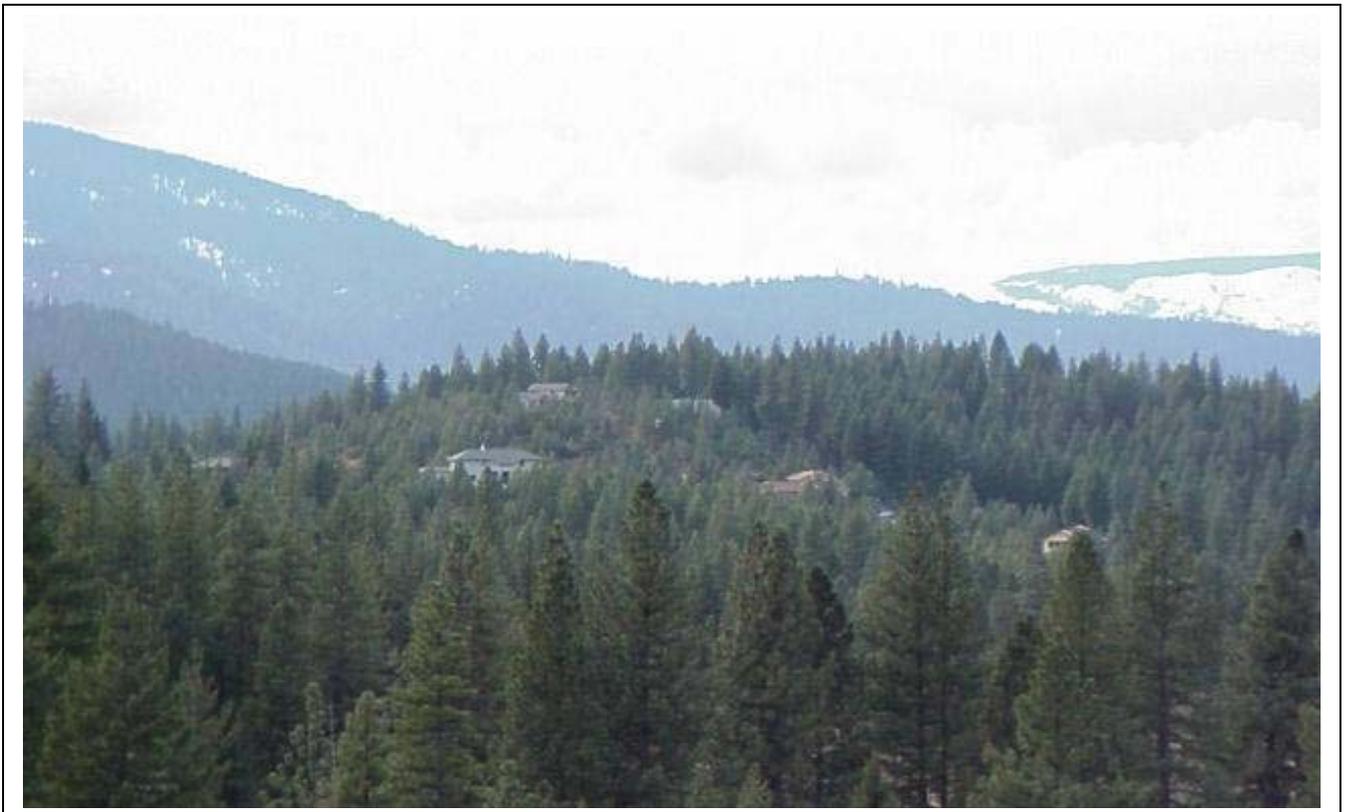
R5-MB-000
May 2003

Environmental Assessment for

Last Chance Fuels Reduction Project



Eldorado National Forest



The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

INTRODUCTION

The goal of the Last Chance Fuels Reduction Project is to effect an immediate change in potential wildfire behavior by reducing the rate of spread and intensity of fire; and to maintain vegetation conditions that allow fires to burn with lower intensities, in ground fuels, providing a good opportunity for fire crews to stop the fire spread quickly. The Project would reduce the amount of hazardous fuels on approximately 1700 acres of the Eldorado National Forest in the wildland urban interface around Grizzly Flat, Leoni Meadow, and Henry's Diggings in El Dorado County, California. This Project is designed to protect the communities from wildland fires, as well as to minimize the spread of fires that originate in urban areas by establishing a system of fuel reduction zones that would strategically connect to existing fuels reduction projects along Caldor Railroad Grade, Plummer Ridge, and Clear Creek.

NEED FOR ACTION

There is a need for reduced fuel loading in the wildland urban interface zone around the community of Grizzly Flat.

The National Fire Plan and the Cohesive Strategy, developed after the severe wildfire season in 2000, provide direction to the Forest Service to reduce the amount of fuel in fire-prone forests to protect people and sustain resources. The wildland-urban interface, areas where flammable wildland fuels are near homes and communities, is one of the highest priorities for treatment. Grizzly Flat was included in a national list (Federal Register: January 4, 2001, Vol. 66, Number 3, pages 751-777) of urban-interface communities that are at high-risk from wildfire.

Additionally, the Record of Decision (ROD) for the Sierra Nevada Forest Plan Amendment (SNFPA) (<http://www.fs.fed.us/r5/snfpa/library/index.html>), which amended the Eldorado National Forest's Land and Resource Management Plan (LRMP) in January 2001, sets priorities for management activities that will restore natural ecosystem processes while minimizing the threat fire poses to lives, structures, and resources. The amendment was designed to bring greater consistency to fire and fuels management across the eleven Sierra Nevada National Forests. Following this direction, the Placerville Ranger District of the Eldorado National Forest has identified specific wildfire hazards to the community of Grizzly Flat and outlying residences. In the event of a wildfire originating within or outside the community, threats to both life and property are anticipated.

The SNFPA ROD describes the desired condition for the Urban Wildland Intermix Zones to be a zone where fuel conditions allow for efficient and safe suppression of all wildland fire ignitions. In addition, fires are controlled through initial attack under all but the most severe weather conditions. Specifically, under high fire weather conditions, wildland fire behavior in treated areas is characterized as follows: (1) flame lengths at the head of the fire are less than four feet, (2) the rate of spread at the head of the fire is reduced to at least 50 percent of pre-treatment levels for a minimum of five years, (3) hazards to firefighters are reduced by keeping snag levels to two per acre (outside of California spotted owl and Northern goshawk Protected Activity Centers (PACs) and forest carnivore den site buffers), and (4) production rates for fire line construction are doubled from pre-treatment levels. (SNFPA ROD page 9)

The project area has not directly experienced a large wildfire within the last 42 years. The lack of fire has allowed dense vegetation and surface fuels to accumulate. The potential for a wildfire start is high due to residential development, recreational use, and lightning. The proximity to the major river canyon of the Middle Fork Cosumnes River exposes the area to an increased threat from fire starts down-canyon. The steep canyons, and dense fuels adjacent to this community have the potential to burn hot enough to prevent safe deployment of suppression resources for the protection of individual homes. Predicted fire behavior modeling of timber stands and fuel types that are representative of current conditions, indicates that high intensity fire with rapid rates of spread would be likely under moderate weather conditions (Fuels & Fire Analysis, in the project file).

Forests in this area were historically subject to frequent low intensity fires that resulted in open fire-resistant stands of trees. Fire suppression, starting in the early 1900s, has changed these historic fire intervals. The result has been a change in species composition, structure, and density. Dense, closed canopies tend to favor shade tolerant white fir, incense cedar, and Douglas fir, and to exclude shade intolerant ponderosa pines, oaks, and sugar pines. The shade tolerant species generally are more susceptible to mortality from fire, and form dense understories, which act as fuel ladders to the larger overstory trees.

Topography, vegetation (fuels) and weather are three factors influencing fire behavior. In this area, the three are aligned for a potential catastrophic fire to occur. Topography is steep and inaccessible within the Steely Fork Cosumnes, Clear Creek, and Middle Fork Cosumnes drainages. Fuels are dense, and will readily support crown fires over much of the area, and the Mediterranean climate assures numerous days of weather conditions capable of fueling high intensity wildfires each year. The only factor we are able to affect is the fuel condition through modification of the vegetation.

There is a need for a defensible fuel profile zone in the vicinity of Grizzly Flat, Henry's Diggings, and Leoni Meadow.

The SNFPA ROD directs us to give highest priority to fuel reduction activities in the urban wildland intermix zone (where human habitation is mixed with areas of flammable wildland vegetation) where fuel treatments will provide a buffer between developed areas and wildland. Fuel reduction treatments will protect human communities from wildland fires, as well as minimize the spread of fires that originate in urban areas. Fuel treatments will modify (reduce) fire behavior, thus increasing the efficiency of firefighting efforts and reducing risks to firefighters, the public, facilities and structures, and natural resources. (SNFPA ROD page 9)

The topography, access, and weather patterns in the Grizzly Flat area dictate that, in the event of a large wildfire, primary fire fighting efforts would be focused along the major ridges and roadways. These are the areas where it becomes critical to thin and reduce fuel loadings to provide safer areas for firefighters. While fuel treatments do not "fire proof" an area, strategically placed treatments can change stand structure and reduce surface fuels, the two factors that contribute most to crown fire initiation and spread.

There is high interest in the community to expand treatments of private property, working in conjunction with the California Department of Forestry and Fire Protection (CDF) and the El Dorado County Fire Safe Council (Scoping Comment Summary, project record). Fuels have

been reduced on both private and public lands in this vicinity. The owners of Leoni Meadow have treated approximately 400 acres of their property. Individual landowners in Grizzly Flat have removed vegetation around their own homes, in compliance with State fire prevention laws.

Recent fuels reduction work has been accomplished on National Forest System lands in the vicinity. This includes work associated with the Rigerunner, Tie Die, Nelly, Last Fiddle, Second Fiddle, and Lincoln Log timber sales which has accomplished 585 acres of understory burning, 1,140 acres of mastication and piling, and 2,235 acres of understory thinning. These treatments are primarily located on the ridges and south to west facing slopes. Other projects are planned to provide increased plantation protection from wildfires, in the form of brush reduction on approximately 630 acres of conifer plantations within the Last Chance project area.

The existing fuel treatments on public and private lands are effective locally, yet they do not provide a cohesive defensible fuel profile across the landscape. Without additional Strategically Placed Area Treatments to link the fuel reduction projects, the risk of catastrophic wildfire remains high (North Fork Cosumnes Landscape and Roads Analysis, Hazardous Fuels Conditions).

There is a need for secure critical habitat for California Spotted Owls and Northern Goshawks.

The conservation strategies for California spotted owls and Northern goshawks outlined in the SNFPA ROD represent a balance between providing environmental conditions necessary to sustain spotted owl habitat and the need to provide treatments to protect human life and property and owl habitat from catastrophic wildfire. The intensity of vegetation treatments designed to reduce surface and ladder fuels will vary between the land allocations. The desired condition for California spotted owl PACs and home range core areas (HRCAs) is to have (1) at least two tree canopy layers, (2) trees in the dominant and co-dominant crown classes averaging at least 24 inches diameter at breast height (dbh), (3) at least 70 percent tree canopy cover (including hardwoods), (4) a number of very large (greater than 45 inches dbh) old trees, and (5) higher than average levels of snags and down woody material. The desired condition for Northern goshawk PACs is similar to California spotted owl PACs except that only one to two canopy layers are desired. (SNFPA ROD pages 9 and 37)

Within the Last Chance project area, there are 935 acres designated as PACs for the California Spotted Owl, and 455 acres of PACs for the Northern Goshawk (for more information about PACs see SNFPA ROD, pages A-33 to 37). Treatment of fuels adjacent to these critical wildlife habitats is important to reduce the potential for high intensity wildfire to devastate these areas, until they can be restored to a more fire resilient condition, by removing dense undergrowth. The PACs that are located in close proximity to developed areas are within the urban wildland intermix zone. It is critical to reduce fuels within strategic portions of these PACs to provide greater protection for the community and for the untreated portions of the PACs.

There is a need for reduced risk of catastrophic wildfire in the watersheds of Clear Creek, Dogtown Creek, Lower Lower Middle Fork Cosumnes River, Upper Steely Fork Cosumnes River, and Lower Steely Fork Cosumnes River.

The desired condition for riparian management areas, as described in the SNFPA ROD, is to meet the water quality goals of the Clean Water Act and Safe Drinking Water Act. The streams will be fishable, swimmable, and suitable for drinking after normal treatment. (SNFPA ROD page 10, LMRP page 4-4)

The entire Steely Fork Cosumnes area is highly susceptible to catastrophic fire. It is highly unlikely that a wildfire would stop at the watershed boundary, but it would continue burning into adjacent areas. Fire research indicates that the Sierra Nevada Range is at extreme risk for catastrophic wildfire (Sierra Nevada Ecosystem Project 1996). In the 1992 Cleveland Fire, the highest percentage of a whole watershed impacted was about 77 percent, with about 52 percent of that area burned at high intensity levels (Cleveland Fire Area Recovery Project EIS, 1993).

Vegetation cover is critical for maintaining the hydrological functioning of any watershed. A large, high intensity fire within any of the watersheds in the Last Chance project area would have severe impacts on water quality. Hill slope stability would likely be reduced, with resulting increases in turbidity from fine, suspended sediment. Aquatic systems and habitat may be temporarily degraded. Water temperatures would be affected in stream reaches where riparian vegetation mortality is high and tree canopy is consumed by fire.

There is a need for improved wildlife habitat, improved watershed conditions, and reduced risk of human caused fire to the degree these are affected by unneeded roads.

There are several dead end roads accessing National Forest System lands in this area that were built to provide temporary access for logging operations, and were not designed for permanent use. These roads were either not closed, or have been reopened, and now provide motorized access to remote sites, where illegal campfires and trash dumping (including household garbage, appliances, vehicles, tires, building materials, and large piles of yard waste) occur frequently. There is a need to close or gate these roads to reduce overall road densities to improve the watershed condition and wildlife habitat, and to limit vehicular traffic, which would reduce the potential for human caused wildfires and reduce trash-dumping opportunities. (North Fork Cosumnes Landscape and Roads Analysis; LRMP, page 4-69; Last Chance Road Closure Plan)

ALTERNATIVES

Alternative 1 - Proposed Action

The specific locations where each of these treatments are planned to occur are listed in Appendix A, and are shown on the attached map in Appendix B. For more detailed information about the treatments see the silvicultural prescriptions in the project record. Depending on the current fuel loading, one or more treatments may be required to achieve desired fuel loading. Map locations and acreages are estimates obtained from orthographic photos, maps and field reconnaissance. Actual acres typically change slightly, as final project layout is completed, and adjustments are made for site-specific conditions, although the total area treated is not likely to fluctuate more than 10 percent.

Remove fuels from approximately 1700 acres:

Masticate small trees (1” to 6”) and brush, using a variety of machinery to crush and/or shred the brush, on approximately 150 acres (Units: 121, 144, 146, 148, 150, 169, 229, 231, 257, 259, and 544)

Mechanically thin the understory vegetation, by cutting and removing trees between 8” and 30” diameter using commercial logging methods, on approximately 560 acres (Units: 169, 227, 228, 230, 231, 232, 234, 237, 246, 247, 248, 250, 254, 255, 256, 259, 263, 264, 268, 269, 274, 275, 277, 291, 292, 293, 296, 297, 298, and 299)

Hand thin small diameter trees located within 100 feet of private property (cut trees and branches with a chain saw, pile the debris, and burn the piles) on approximately 50 acres (Units: 144, 146, 169, 228, 229, 232, 237, 246, 254, 257, 291, 292, 296, 297, 298, 299, 302, 544, 616, 623, and 646)

Cut small trees (1” to 7”), pile them with bulldozers or similar equipment, and burn the piles, on about 400 acres (Units: 144, 146, 148, 150, 169, 227, 228, 230, 231, 232, 237, 246, 247, 248, 250, 254, 255, 256, 259, 263, 264, 268, 269, 274, 275, 277, 291, 292, 293, 296, 297, 298, and 299)

Light low intensity prescribed fires under specific weather and fuel conditions, to achieve underburning on approximately 1255 acres (Units: 144, 146, 169, 237, 246, 247, 248, 250, 254, 255, 256, 257, 259, 263, 268, 269, 274, 277, 290, 292, 293, 296, 297, 298, 299, 300, 301, 302, 303, 304, 544, 616, 623, and 646)

Close seven roads to vehicle traffic by gates, guardrail barricades, boulders and/or obliteration. Constructing waterbars or other erosion control measures to assure proper drainage, prior to closure, would stabilize these roads. (Roads: 9N57, 9N57A, 9N57B, 9N59B, 9N61A, 9N73B, and 9N73C) (Road Closure Plan, project record)

Rehabilitate two waterholes. (Waterhole located on 9N57 and drafting site on the Steely Fork Cosumnes River on 9N59) (Road Closure Plan, project record)

The Proposed Action would comply with the Eldorado National Forest Land and Resource Management Plan as amended by the Sierra Nevada Forest Plan Amendment Environmental Impact Statement, as described in the SNFPA Record of Decision. Specifically, the proposed action is designed to meet objectives based on Forest-wide standards and guidelines (ROD, pages A-25 to A-32), as well as land allocation standards and guidelines for northern goshawk and California spotted owl protected activity centers (ROD, pages A-33 to 37), and Urban Wildland Intermix Defense and Threat Zone standards and guidelines (ROD pages A-46 and A-47).

Design Criteria

To reduce air quality impacts from prescribed burning, emission reduction strategies would be used. Desirable meteorological conditions would be required in the project’s smoke management plan to facilitate venting and dispersion. Burn piles with larger materials would be cured for a

minimum of 90 days. Smaller sized material would cure for 30 to 45 days to reduce the duration of smoke emissions.

One year following prescribed burning, blackened brush skeletons would be cut by hand and left on the ground within the visible foreground of residences (units: 232, 247, 259, 268, 277, 296, 616, and 646).

There are 23 archaeological sites within the project boundary. They would be protected from ground disturbance associated with mechanical and hand treatments during all phases of this project. The 18 sites in units or near road maintenance/reconstruction projects would be identified with flagging and avoided during project activities. Sites that are flammable such as Henry's Diggings and Arctic Mine sites, historic logging features, and historic cabin sites would be protected during prescribed burning. All sites would be avoided during fire line construction.

A limited operating period (LOP) for California spotted owls would restrict most activities from March 1 through August 31, for units that are located within ¼ mile of spotted owl activity centers, unless surveys confirm that owls are not nesting. A LOP for northern goshawks would be in effect from February 15 through September 15, for units that are located within ¼ mile of goshawk nesting areas, unless surveys confirm that goshawks are not nesting. Surveys for California spotted owl and northern goshawk would be conducted following protocols.

A LOP for mule deer would be in effect from October 15 through April 15 within critical winter range. An exception to the mule deer LOP (March 15 versus April 15) would be used for the west end of the project area to accommodate burning conditions to treat decadent brush fields. If adverse winter conditions occur during the year(s) of the planned burn(s) and cause deer to remain in these areas past March 31, the LOP time frame would be re-evaluated by the wildlife biologist to assess if the standard LOP of April 15 is needed to avoid disturbance.

The 600-foot wide riparian conservation areas (RCAs) along Steely Fork Cosumnes and Clear Creek would be protected by allowing no mechanical treatments, hand piling or ignition for underburning to occur within these RCAs.

Five water holes in the vicinity of the project would be inspected annually by a fisheries biologist for existing frogs and tadpoles before water withdrawal for dust abatement.

Within the project area there are three known occurrences of Pleasant Valley mariposa lily (*Calochortus clavatus* var. *avius*), which would be monitored and flagged prior to implementation to ensure that the sites are not disturbed by equipment. If any other sensitive plant occurrences are discovered during project implementation, their habitat would also be flagged and avoided during project activities and the locations reported to the Forest botanist and Placerville District biologist. Lava caps, which provide unique habitat for rare plant species, would be protected by contract requirements that do not allow motorized vehicles and equipment to enter them.

The project area has been surveyed for noxious weeds. Two occurrences of skeletonweed (*Chondrilla juncea*) and a single scotch broom (*Cytisus scoparius*) site have been documented. (Noxious Weed Risk Assessment, project record). The prevention and eradication strategy includes the following:

Known weeds, and any newly discovered occurrences, would be treated by hand pulling or lopping in the late summer/early fall lopping treatments have been shown to minimize resprouting. Locations of any new infestations of noxious weeds would be mapped and documented for continued monitoring. Post-treatment surveys would be conducted at the documented sites. Where appropriate, seeding of weed-treated areas with native grass species would be done to reduce, through competition, further weed establishment or expansion of existing infestations.

Mulch or straw used for vegetative soil stabilization would be certified weed free. All off-road equipment would be cleaned to insure it is free of soil, seeds, vegetative matter or other debris before entering National Forest system land if it is known to have most recently operated in an area infested with noxious weeds, or if the last operating location is unknown.

Measures to ensure protection of soil resources and long-term soil productivity (R5 Soil Quality Standards) are derived from "Best Management Practices" (BMPs) (<http://fsweb.r5.fs.fed.us/unit/ec/water/water-best-mgmt.pdf>) and input provided by the Forest Soils Scientist for this project. A listing of the BMPs, to be implemented, is in the project record. Wet areas or seeps would be avoided by, and buffered from, all mechanical and fuels treatment activities.

Large woody material requirements would be satisfied by meeting SNFPA standards for down log retention. Where possible, these large down logs would be protected during mechanical treatment activities, and underburning.

Ground cover and fine organic matter would be maintained as follows: a minimum of 40 percent on units with less than 15 percent slope, 60 percent on units with 15 to 30 percent slopes, and 70 percent on units with slopes over 30 percent and in RCAs. Mechanical treatment activities would be restricted and/or controlled during high soil moisture conditions.

Landings would be constructed outside of RCAs. Existing landings within RCAs would not be used if they are on unstable ground. After use, landings would be scarified, shaped, and ditched as needed to minimize soil displacement, and facilitate revegetation; and replanted.

For seasonal streams the RCA would be 150 feet on each side of the stream. Mechanical treatments are allowed in the outer 100 feet of the RCA. No pile burning would occur within the inner 50 feet of RCAs. Underburning may occur in RCAs as long as fire is allowed to back down toward the stream, and no ignition occurs within riparian vegetation. Avoid constructing hand lines within the RCA if possible, however if needed to control the fire, then hand lines should be raked over to cover bare soil and reduce runoff.

For perennial streams the RCA would be 300 feet on either side, or to the top of the inner gorge. Only hand cutting of vegetation would occur within the RCA; with no ground disturbing activities or pile burning. Underburning would occur within the Steely Fork Cosumnes RCA. The fire would be ignited above the RCA, and allowed to back down toward the stream, when fuels are moist.

Access to unit 291 is dependent on the Forest Service acquiring rights of way from private landowners. No new road construction needs have been identified. Short temporary roads (low standard roads, which are obliterated after use) may be needed where landings are located away

from existing roads. No temporary roads would be constructed within RCAs without consultation with a hydrologist. Maintenance of system roads used by this project would generally consist of the following: brushing, installing drainage features, and abating dust.

Alternative 2 – No Action

No actions would be initiated for treatment of vegetation on National Forest System lands in the analysis area. Current management practices, such as road maintenance, firewood cutting, and fire suppression, would continue. Public scoping and education programs have been initiated in the Grizzly Flat area, in conjunction with the CDF and the El Dorado County Fire Safe Council. Increased fuels treatments on private lands are anticipated as an indirect result.

No significant issues were identified; therefore, no alternatives other than the proposed action and the no action alternative have been fully developed and analyzed.

ENVIRONMENTAL CONSEQUENCES

This section describes the environmental impacts of the proposal in relation to whether there may be significant environmental effects as described at 40 CFR 1508.27. Further analysis and conclusions about the potential effects are available in resource specialist reports and other supporting documentation located in the project record. The following are discussions of resources that have relevance to a determination of significance.

Wildlife: Management Indicator Species, Terrestrial Wildlife Species, Migratory Birds, and Aquatic Species

Management Indicator Species: Quail, mule deer, cavity nesters, and black bear would benefit from an increase in forage where openings are created (especially along ridge tops) after understory thinning, masticating, and prescribed burning. In addition, thinning and burning would aid in the recruitment of new oaks, shrubs and forbs and increase the vigor of existing brush fields by reducing conifer thickets and competition. Habitat capability would continue to improve (less disturbance/displacement and less potential for illegal kill) through road density reduction. In the long-term, trout would benefit from less sediment and less intrusion by vehicles in the Steely Fork Cosumnes River.

Localized down log and snag reduction would occur, but would not reduce habitat capability for black bear and cavity nesters because down log and snag requirements would be met. There would be a short-term (less than 5 years) adverse effect to black bear and mule deer from a reduction of security cover on approximately 560 acres (10% of project area) within mastication and thinning units. A short-term loss of forage for mule deer would occur on approximately 150 acres (3% of project area) within mastication units. A potential short-term adverse effect to trout would occur where fines and substrates are stirred up in the water during waterhole rehabilitation. (Management Indicator Species (MIS) report pages 12 - 30, project record)

Based on analysis of past, present, and reasonably foreseeable activities within the Clear Creek, Dogtown Creek, Lower Lower Middle Fork Cosumnes, Lower Steely, and Upper Steely Fork watersheds: habitat for mule deer would be maintained at low capability: escape cover patches are less than 30 acres in size, deer travel over .8 miles to water, and road densities are 3+ miles

per square mile. Habitat for black bear would be maintained at high capability: abundant diverse seasonal vegetation, road densities are less than .5 miles per square mile, it is less than .25 miles to open water, and there are 15 to 30 downed logs per acre. Habitat for cavity nesting birds would be maintained at medium capability: 1.5 to 5 snags per acre over 15 inches dbh with a most snags at Class IV or V. (MIS report pages 12 - 30, project record)

Based on analysis within the Clear Creek, Dogtown Creek, and Lower Lower Middle Fork Cosumnes watersheds, habitat for mountain quail would be maintained at medium capability: abundant mature stands of conifer/oak, distances of between .25 to .5 miles to water, brush fields with 5-10 or 30-100 foot openings, and 5-10 square feet of oaks per acre. Habitat for mountain quail would be maintained at high capability: abundant young conifer/oak stands, less than 0.25 miles to water, brush fields with 10-30 foot openings, and at least 10 square feet of oaks per acre within Lower Steely and Upper Steely Fork watersheds. Habitat capability across the watersheds for mule deer, black bear, cavity nesting birds, and mountain quail would be maintained through localized improvement. (MIS report pages 12 - 30, project record)

Terrestrial Wildlife Species: Suitable habitat is not available or not affected for valley elderberry longhorn beetle, western red bat, Sierra Nevada red fox, California wolverine, American bald eagle, willow flycatcher, American peregrine falcon, great gray owl, and American marten. (Terrestrial Wildlife BE/BA page 2, project record)

In the short-term, a potential reduction in foraging habitat quality may occur for California spotted owl, northern goshawk, pacific fisher, pallid bat, and Townsend's big-eared bat due to a slight reduction in canopy closure and disturbance of the ground litter, potentially disrupting prey habitats. These effects would be expected to recover within one to five years as new litter falls and herbaceous and shrub vegetation returns. The proposed action would improve habitat in the long term for all five species by reducing the threat of wildfire and making the habitat more sustainable over time. The change in forest floor vegetation may increase prey habitat, particularly as pockets of shrubs provide habitat for wood rats, and oaks provide habitat for flying squirrels. Canopy closure would recover within 10 to 20 years, potentially quicker where young hardwoods are released from competition. Restoration activities would improve habitat for all five species by improving movement corridors, reducing road density, and removing/reducing the threat of vegetation alteration by evasive species. (Terrestrial Wildlife BE/BA pages 19 - 27, project record)

The proposed action includes fuels reduction and commercial harvest within California spotted owl PACs and HRCAs. These treatments would reduce canopy closure to 50 percent on 21 acres in the short-term (5-10 years). Reductions in canopy cover would be short-term due to an increase in oak in the over- and under-stories and increased vigor in the mature conifers. Canopy closure would still provide suitable foraging habitat for California spotted owls and potential nesting habitat in pockets within the stands that maintain higher canopy levels. The LOPs for California spotted owls and northern goshawks would prevent disturbance to both species. Understory thinning would provide openings for foraging northern goshawks to fly through. No goshawk PACs would be rendered unsuitable because of adherence to SNFPA guidelines. Pacific fisher would benefit from an increase in hardwood components that provide additional resting platforms. Enhancement of oaks along the ridgetops and restoration of riparian areas

would contribute to improvement of potential movement corridors by improving habitat attributes important to Pacific fisher. (Terrestrial Wildlife BE/BA pages 19-27, project record)

Pallid and Townsend's big-eared bats habitat would improve in the long-term from an increase in hardwoods (black oak), protection of man-made structures, and open stands. Harvest activities and prescribed burning smoke could affect bats in the short-term by disturbing or temporarily displacing bats that use large hardwoods and large snags within the treatment units, increasing risk of predation and exposure. (Terrestrial Wildlife BE/BA pages 27-28, project record)

Analysis of past, present, and reasonably foreseeable actions shows that habitat connectivity and quality would be maintained for movement of California spotted owls and northern goshawk. An increase in the hardwood component along ridges would enhance connectivity by improving habitat at a larger scale. The proposed action is not expected to contribute to adverse cumulative effects to California spotted owls or northern goshawks because of compliance with the SNFPA to maintain large old trees, associated snags, and down logs. The project would not remove habitat that appears to be critical for maintaining distribution of habitat for California spotted owls or northern goshawks or increase landscape level fragmentation. (Terrestrial Wildlife BE/BA pages 22-25, project record)

Habitat identified as critical for maintaining distribution options for Pacific fisher would not be removed. The proposed action would retain and improve the current and future amount of large trees, snags, and down logs. This would maintain and provide for habitat for future recovery options for the Pacific fisher. (Terrestrial Wildlife BE/BA pages 26-27, project record)

Cumulative effects analysis indicates there would be a positive effect to pallid and Townsend's big-eared bat habitat through short- and long-term enhancement of hardwood stands across the watersheds by improving habitat at a larger scale. Given the presence of preferred roosting and maternity sites (mines, caves, and old buildings), it is possible that disturbance may occur at individual roost sites, but the proposed action would not contribute to adverse cumulative effects across the forest or species range. (Terrestrial Wildlife BE/BA pages 27-28, project record)

The proposed action would have no effect on American bald eagle, valley elderberry longhorn beetle, peregrine falcon, great gray owl, willow Flycatcher, American marten, Sierra Nevada red fox, California wolverine, and western red bat. (Terrestrial Wildlife BE pages 28-29, project record) Although individual California spotted owl, northern goshawk, Pacific fisher, pallid bat, Townsend's big-eared bat, western pond turtle, and foothill yellow-legged frog, may be affected, it has been determined that effects to those individuals would not lead to a trend toward federal listing. (Terrestrial Wildlife BE/BA pages 28-29, Aquatic Species BE/BA pages 10-37; project record) It has further been determined that the proposed action would not measurably affect the quality or quantity of wildlife habitats and is consistent with Endangered Species Act.

Migratory Birds: Understory thinning within migratory bird habitat would benefit species dependent on hardwoods, late-seral stage, and riparian habitats and increase population viability through the removal of competing understory conifers. The project would improve existing habitat for mature forest and riparian species by enhancing foraging habitat and over time would expand nesting habitat as stand vigor and growth increases.

Species that forage outside the riparian buffers could be affected negatively in the short-term (1 year or less) as brush, conifer thickets, and forbs are consumed by mastication or prescribed burning. Harvest, mastication, and prescribed burning during the nesting season (April through July) could cause disturbance to adults, abandonment of the nest and/or displacement or loss of young. (Wildlife Report-Migratory Birds, pages 5-7, project record)

Aquatic Species: Implementation of the proposed action would have no effect on the California red-legged frog (CRLF) or its habitat because CRLF do not reside in the project area. Foothill yellow-legged frogs (FYLF) would benefit in the long-term from reduced sedimentation into waterways. Western pond turtles would potentially benefit from an increase in solar radiation for nesting and an increase in migration access from removal of brush and thickets. Prior to waterhole rehabilitation, surveys would be done for FYLF, but one could be crushed by heavy equipment during implementation. There is a low probability that turtles or their eggs would be crushed by heavy equipment or burned when moving through the project area for over-wintering (May – July) because treatment units are not located near the most likely nesting sites, are not within 500 meters of the 1995 pond sightings, and few turtles have been observed in this area. (Aquatic Species BE/BA pages 12 - 23, project record)

Within the last 10 years, thinning projects have implemented stream protection measures and BMPs that minimize sedimentation and loss of riparian vegetation. Recent management, future protection, and restoration measures in RCAs would improve CRLF, FYLF, trout and western pond turtle habitats and water quality in the five watersheds by contributing large woody debris into RCAs and reducing sediment delivery to RCAs. Proposed road closures in association with existing closures would further reduce access to the public for collecting western pond turtles and reduce the risk of a vehicle crushing a turtle. (Aquatic Species BE/BA pages 12 - 23, and MIS report pages 25 - 30; project record)

Sensitive Plants: No direct, indirect, or cumulative effects are expected to occur to any Eldorado National Forrest sensitive plant species from management activities proposed. There are three occurrences of Pleasant Valley mariposa lilies within the project area. No adverse effects to Pleasant Valley mariposa lilies are expected to occur because surveys are complete, the occurrences are outside of treatment units, and the occurrences are flagged for avoidance. Implementation of the proposed action has a very slight potential to affect individual Pleasant Valley mariposa lilies, but is not likely to result in a trend toward federal listing. (Sensitive Plant BE pages 7 - 10, project record)

Noxious Weeds: Implementation of the proposed action would reduce the existing populations of skeletonweed and scotch broom within the project area. Removal of the existing populations and monitoring to identify any new infestations would provide a benefit of reducing noxious weeds in the area. There would be a low-moderate risk for introducing/enhancing new or existing weed populations because design criteria built into the project reduce opportunities for weed spread and expansion. (Noxious Weed Risk Assessment pages 2 - 4, project record)

Fuels: Reduction of ladder and surface fuels, reduced canopy bulk density, and raised canopy base height would result in reduced fire behavior and reduced potential for a crown fire in the event of a wildfire. Mastication would change the arrangement of fuels by crushing shrubs and small trees, reducing ladder fuels that can cause scorch and torching in prescribed burns and

wildfire. Mastication of brush fields would reduce fuel bed bulk depth, thereby reducing flame height, from 6 feet down to 2 feet, where fire behavior would be similar to a light slash model. Thinning would remove ladder fuels resulting in a change in fire behavior, from a crown fire to a surface fire.

Reductions in fuel loading and stand density, changes in species composition, and rising of the canopy base height would reduce torching and the probability that a fire would move into the crowns. The proposed project would connect previous fuel treatments and produce a strategic landscape wide fuel treatment. Increased treated acres lead to reduced fire behavior and increased opportunities for fire suppression.

Underburning alone (Units: 290, 300, 301, 302, 303, 304, 616, 623, and 646) would reduce 0- to 3-inch surface fuel loading, burn bearclover, top-kill brush, and kill small conifers and hardwoods temporarily reducing fire behavior. Shrub species and hardwoods (in underburn only units) would re-sprout within one growing season but would have a shorter flame length for 5 to 10 years until plants reach full size and produce a significant amount of dead branches.

Wind has a direct effect on fire behavior. Wind is also affected by vegetation and terrain and varies within an area for any given fire. The Proposed Action removes vegetation to create a more open space between the ground and crown base. Modeling illustrates a slight increase in mid flame wind speed, however, this wouldn't significantly change flame lengths or rates of spread which affect suppression tactics. (Fuels and Fire Analysis pages 1-7, project record)

Air: Pile burning and understory burning would not have a significant impact on air quality standards because of adherence to a Smoke Management Plan and a Burn Plan (consistent with the Clean Air Act). Fugitive dust would not have a significant impact on air quality standards because of required dust abatement. (Air Quality analysis pages 3 - 5, project record)

Hydrology: Rehabilitation of closed roads, restoration of waterholes, and reduction of roaded acres in the Lower Steely watershed would improve watershed conditions and reduce sediment into the channels and watershed in the long term. There would be a short-term impact from ripping roads due to disturbance and possibility of sediment transport but would not result in loss of productivity or hydrologic function within the RCAs. All the watersheds would potentially benefit from a reduction of risk of high severity burn acres (lowering the temperature and intensity of wildfire reduces the impact to soil properties). The proposed action would reduce the potential effects from a catastrophic wildfire. (Lower Steely Fork Cosumnes River, Upper Steely Fork Cosumnes River, Clear Creek, Dogtown Creek, and Lower Lower Middle Fork Cosumnes River CWE reports and the RCO analysis; project record)

The Lower Steely Fork Cosumnes River watershed is characterized as having a "high" natural sensitivity, and a corresponding Threshold of Concern (TOC) of 10 to 12 percent Equivalent Roaded Acres (ERAs). The current level of land disturbance is 9.8 percent ERA, which is near the TOC. Comparison of the current ERA with the TOC would normally suggest a high risk of adverse Cumulative Watershed Effects (CWE - the combined effects of past, present, and future land management activities within a watershed that may affect the watershed's structure or process). However, private development (71 percent of watershed) is located along the upper slopes and ridge tops and does not pose a risk of increased sediment runoff or water runoff.

Based on site visits to previously harvested areas, the hydrologist has determined that harvested areas within the watershed have recovered at a rate that is faster than the CWE model predicted. There are no indications to suggest degradation of the aquatic habitat within the watershed and along the Lower Steely Fork.

With implementation of this project, the Lower Steely watershed would numerically reach the very high-risk category for adverse cumulative watershed effects since the ERA is over the threshold. The CWE report for the Lower Steely Fork Cosumnes River watershed attributes the high risk of cumulative watershed effects from the sensitivity of the moderate to steeper hill slopes to erosion especially those adjacent to roads and the amount of impermeable areas from roads and development. However, there are no indications to suggest degradation of the aquatic habitat along the Lower Steely Fork and tributaries within the watershed. Results of the stream survey in 1998 indicate that the Lower Steely Fork is in good condition, the overall stream system is mostly stable with a low sensitivity to disturbance and the channel is in good condition. Design criteria (obliteration and rehabilitation of roads, skid trails, and landings) would reduce the compaction within the watershed. In addition, the design criteria incorporated appropriate LRMP standards and guidelines for protection of aquatic and watershed resources. These protection measures are expected to adequately protect watershed and channel conditions over the long term and beneficial uses within the Lower Steely Fork Cosumnes River watershed and not contribute to adverse cumulative watershed effects. Implementation of the project over a three to five year period would prevent a large peak of disturbance to occur in any one year, thereby allowing the system time to adapt and recover from proposed activities. (Lower Steely Fork Cosumnes River CWE Report and supplement, project record)

The Clear Creek watershed would increase from moderate to high risk of CWE until 2008 due to project implementation time frames. Design criteria for riparian conservation areas would protect perennial and seasonal streams. In addition, the design criteria incorporated appropriate LRMP standards and guidelines for protection of aquatic and watershed resources. These protection measures are expected to adequately protect watershed and channel conditions over the long term and beneficial uses within the Clear Creek watershed and not contribute to adverse cumulative watershed effects. (Clear Creek CWE supplement pages 1-4)

The Upper Steely Fork Cosumnes River watershed is in the low risk category and would remain at low risk because the project activities are limited in area and extent and located along ridgetops and moderate upper slopes. Both the Dogtown Creek and Lower Lower Middle Fork Cosumnes River watersheds would remain at moderate risk for CWE because the project activities are limited in area and extent and located along ridgetops and moderate upper slopes. Protection measures are expected to adequately protect watershed and channel conditions over the long term and beneficial uses within the Upper Steely Fork Cosumnes River, Dogtown Creek, and Lower Lower Middle Fork Cosumnes River watersheds, and not contribute to adverse cumulative watershed effects. (Upper Steely Fork Cosumnes River, Dogtown Creek, and Lower Lower Middle Fork Cosumnes River CWE reports and the RCO analysis; project record)

The proposed action follows the RCOs and associated standards and guidelines applicable to the Last Chance project. The project is consistent with the Aquatic Management Strategy for the Sierra Forests, as required by the SNFPA ROD. In addition, based on the conclusion that the five watersheds would not contribute to adverse cumulative watershed effects and the conclusion

that the riparian objectives would be met, the proposed action is consistent with the Clean Water Act.

Cultural Resources: The proposed action has the potential to affect 23 historic and prehistoric sites. Eighteen sites have been identified within or adjacent to proposed ground disturbing activities. Design criteria have been developed to protect the known sites from potential adverse impacts of implementing the proposed action. If previously unknown sites are encountered during project activities, contract provisions would protect them.

AGENCIES AND PERSONS CONSULTED

California Department of Forestry and Fire Protection

El Dorado County Fire Safe Council

Adjacent property owners in Grizzly Flat (list in project record)

Helen Baumann – Board of Supervisors

Petra Taylor-Vandormael – Californians for Alternatives to Toxics

Chad Hanson – John Muir Project

Craig Thomas – Center for Sierra Nevada Conservation

Vivian Parker – California Indian Basket Weavers Association

On August 22, 2002, President Bush announced the Healthy Forests Initiative (HFI) for Wildfire Prevention and Stronger Communities. The Healthy Forests Initiative implements core components of the consensus 10-year Implementation Plan agreed to by states, tribes, and Stakeholders. These proposed treatments further the goals of the President's initiative. They will reduce the threat of catastrophic wildfires to protect communities, firefighters, wildlife and forest health.

Appendix A

Unit Acreages Proposed for Treatment and Prescriptive Land Allocations

Unit	Total Acres	Masticate or Crush Brush Ac	Mechanical Thin Ac	Hand Thin & Pile Ac	Small Tree Thin & Machine Pile Ac	Under Burn Ac	Defense Acres	Threat Acres	Owl PAC Acres	Goshawk PAC Acres *	Owl Home Range Core Area Acres
121	158	74					74	84	6		
144	25	12		X	12	25	9	16			
146	24	12		X	12	24	24				
148	16	8			8		16				
150	7	3			3		7				
169	30	10	15	X	10	30	30				
227	24		11		11		24		19		24
228	61		61	X	30		5	56			60
229	8	8		X			8				
230	28		8		20		28				28
231	9	3	6		3		9				
232	20		17	X	10		18	2		3	17
234	15		15				15				15
237	25		10	X	10	25	25		25		25
246	17		17	X	17	10	17		2		
247	9		5		5	9	9			9	9
248	44		44		11	44	44				40
250	11		6		6	11	11				2
254	54		25	X	25	54	54				
255	3		3		3	3	3				
256	24		16		12	24	24				
257	8	8		X		8	8				
259	30	10	10		10	30	30			6	10
263	25		20		10	25	25				
264	14		7		11		14				
268	14		7		7	5	14			14	7
269	37		18		18	37	37		2		
274	11		6		6	5	11				
275	10		5		5		10				
277	26		26		13	26	26		2		20
290	34					34		34	33		
291	64		64	X	30		64				64
292	48		24	X	24	48	48				
293	22		20		12	22	22				20
296	48		24	X	12	48	48				
297	14		7	X	7	14	14				
298	24		24	X	12	24	24				24
299	44		40	X	20	44	44				40
300	47					47	47		21		
301	21					21	21				
302	155			X		155	104	51	8		
303	110					110	30	80	40	66	
304	66					66		66	50		
544	15	5		X		15	15				
616	56			X		56	40	16	52		
623	55			X		55	28	27	47		
646	101			X		101	73	28	98		
Totals	1711	150	561		402	1255	1251	460	399	97	405

Appendix B

Map of Proposed Treatment Units

<http://www.fs.fed.us/r5/eldorado/projects/hfi.html>

Appendix C

Response to Comments

Response to Comments

The 30-day public comment period for the Environmental Assessment (EA) for the Last Chance Fuels Reduction closed on June 16, 2003. As of June 23, 2003, letters were received from the following:

Number	Name
1	Douglas Leisz Consulting
2	Helen K. Baumann, El Dorado County Board of Supervisors
3	Vicky Yorty, El Dorado County Fire Safe Council
4	Chad Hanson, The John Muir Project of Earth Island Institute

No significant issues were brought forward. No alternatives were developed in response to significant issues.

Support for this project.

Three letters were received supporting the project.

Clarification requested.

1. *Many people recreate in their cars and SUVs in the national forest. What about seasonal use? The bad apples that dump garbage and trash should not trigger road closures.*

Response to letter number 1: The proposed road closures and waterhole rehabilitation responds to the need to improve wildlife habitat, improve watershed conditions, and reduce the risk of human caused fires. The seven roads proposed for closure are short, dead end roads that were built to provide temporary access for logging operations, and were not designed for permanent use. (Refer to page 4, paragraph 4 of the EA)

2. *Page six states that blackened brush skeletons would be hand cut – within visible foreground of residences. Why not masticate these skeletons, breaking up the biomass and placing the fine material in contact with the soil?*

Response to letter number 1: The acres proposed for removal of blackened brush skeletons should be minimal (5 to 10 acres). Mastication on limited acres is costly so hand cutting of blackened skeletons was proposed, and the cut material will be left onsite.

3. *You state that removal of trees 30 inches in diameter is “understory thinning” yet these are among the largest 1% of the trees in the project area, and within the Eldorado National Forest. How can removal of the largest 1% of overstory trees be understory thinning?*

Response to letter number 3: Thinning prescriptions for this project are based on understory thinning to achieve the fuels objectives of increasing height to live crown, reducing fuel ladders, and restoring shade intolerant and fire adapted species. The silvicultural goals for the area are to protect large trees, increase growth of medium sized trees, and remove smaller trees to reduce fuel ladders (Silvicultural Prescriptions, page 2,

last paragraph). Forest wide stand structure standards and guidelines pertaining to large trees, canopy cover, snags, and large down wood apply in all land allocations, and would be met where they currently exist.

There are situations where trees greater than 20 inches would be removed to better meet the landscape purpose and need.

- Shade tolerant species (true fir, incense cedar, Douglas fir) tend to maintain live crowns closer to the ground than do shade intolerant pines and black oaks. Thus it may be preferential to harvest a 20” white fir with an 80% live crown ratio than a 14” ponderosa pine with a 50% live crown ratio.
- SNFPA FEIS Vol 1, pg1 states “These alternatives aim to: sustain lower westside hardwood ecosystems.” An arbitrary diameter limit of 10” or 12” would often preclude the survival of hardwoods, which are becoming over topped by shade tolerant conifers.
- Fuels objectives described in the ROD are based on the stand level, landscape level, and on a temporal scale. All stands within the wildland urban interface will not be treated; therefore reducing fuels to the absolute minimum on a stand basis would not achieve the larger landscape or temporal scale goals.

Outside the scope of this project.

1. The HFI is a de facto program which would affect many thousands of acres across many states. It is a major federal action under NEPA and an EIS must be prepared and implemented. Since no EIS has been prepared for the HFI, the Last Chance project is illegal under NEPA.

Response to letter number 3: President Bush announced the Healthy Forests Initiative in August, directing the Departments of Agriculture and the Interior and the Council on Environmental Quality to develop administrative and legislative measures that will help reduce the threat of catastrophic wildfire to America’s forests and rangelands. The Healthy Forests Initiative builds on an historic ten-year plan for reducing wildfire risks adopted last spring by federal agencies in cooperation with western and southern governors, county commissioners, state foresters, and tribal officials.

The Healthy Forests Initiative was created to provide land managers with the ability to effectively reduce the accumulation of hazardous fuels and restore wildfire-damaged areas. The initiative should enable managers to administer public supported projects in a more effective and timely manner. Under the Healthy Forests Initiative, the Departments of Agriculture and the Interior and the Council on Environmental Quality proposed several sensible steps to improve the regulatory processes guiding forest health activities and to ensure more timely decisions.

One step outlined was Improved and Clearer Process on Environmental Assessments. CEQ issued guidance to Interior and Agriculture establishing an improved and focused process for conducting environmental assessments under the National Environmental Policy Act (NEPA) for healthy forest projects. Agriculture and Interior provided senior

advisors to work with the field offices to immediately implement the new process. The two agencies undertook 10 pilot (demonstration) projects to establish the effectiveness of these expedited procedures.

Under NEPA, CEQ regulations provide for concise environmental assessments of potentially significant effects of federal projects, which can be better focused to exclude unnecessary documentation. A memorandum from the Chair of the Council on Environmental Quality (CEQ) to the Secretaries clarifies policy on the preparation of Environmental Assessments (EAs), which includes the purpose and content of an EA, incorporation of information by reference, and analysis focused on potentially significant effects. This guidance was used to prepare a concise EA for determining whether to prepare an environmental impact statement or a finding of no significant impact for the Last Chance Fuels Reduction Project. The guidance emphasized the purpose and required contents of an EA and did not change policy.

California spotted owl and northern goshawk PACs

1. According to page 5 of the EA, trees up to 30 inches in diameter would be removed on about 50 acres of a spotted owl PAC and over 350 acres of the HRCA for this PAC, as well as about 32 acres of a goshawk PAC. This will severely degrade the habitat in these nest stands. You must prepare a full EIS to analyze the impacts to these species as a result of these actions.

Response to letter number 3: Specific locations of treatments are listed in Appendix A and shown on Appendix B as stated on page 4 of the EA. In addition, the EA states more detailed information about the treatments is contained in the silvicultural prescriptions (available on web site <http://www.fs.fed.us/r5/eldorado/projects/hfi.html>) in the project record. The EA states, on page 5, that the proposed action is designed to meet the objectives based on SNFPA standards and guidelines (ROD, pages A-25 to A-32) as well as land allocation standards and guidelines for northern goshawk and California spotted owl PACs (ROD, pages A33 to A-37), and Urban Wildland Intermix Defense and Threat Zones (ROD, pages A-46 to A47).

The silvicultural goals for the area are to protect large trees, increase growth of medium sized trees, and remove smaller trees to reduce fuel ladders (Silvicultural Prescriptions, page 2, last paragraph). Mechanical treatments within California spotted owl and northern goshawk PACs and defense zone are designed to achieve fuels reduction outcomes described for the general forest land allocation and do not occur within the 500' radius buffer around the activity center (Silvicultural Prescriptions, page 3, last paragraph). The diameter limit for the units that are within California spotted owl and northern goshawk PACs and defense zones is 20" inches (Silvicultural Prescriptions, page 7, Activity-related standards and guidelines for SNFPA land allocations table).

Analysis documented in the Biological Evaluation (BE) determined that the proposed understory thinning within PACs would not severely degrade the habitat in these nest stands. Analysis determined understory thinning would reduce canopy cover to 50% on 21 acres of California spotted owl PAC and 21 acres in northern goshawk PAC in the short-term. Reductions in canopy closure would be short-term due to an increase in oak

in the over- and under-stories and increased vigor in the mature conifers. Canopy closure would still provide suitable foraging habitat for California spotted owls and potential nesting habitat in pockets within the stands that maintain higher canopy levels. The LOPs for California spotted owls and northern goshawks would prevent disturbance to both species. (Terrestrial Wildlife BE/BA pages 19-27).

Analysis of past, present, and reasonably foreseeable actions shows that habitat connectivity and quality would be maintained for movement of California spotted owls and northern goshawk. An increase in the hardwood component along ridges would enhance connectivity by improving habitat at a larger scale. The proposed action is not expected to contribute to adverse cumulative effects to California spotted owls or northern goshawks because of compliance with the SNFPA to maintain large old trees, associated snags, and down logs. The project would not remove habitat that appears to be critical for maintaining distribution of habitat for California spotted owls or northern goshawks or increase landscape level fragmentation. (Terrestrial Wildlife BE/BA pages 22-25, project record)

Prescribed burning and thinning is proposed within 298 acres of HRCAs. Riparian Conservation Areas (RCAs) will protect any day roost along riparian areas with the exception of Lower Steely. Effects in Lower Steely should be minimal, if any, since no intentional lighting is proposed within the RCA. (Terrestrial Wildlife BE/BA pages 22-25, project record)

2. Your brief analysis of impacts to spotted owls and goshawks is insufficient.

Response to letter number 3: California spotted owl habitat degradation and abandonment of the territories is discussed on page 24 of the BE and page 9 of the EA. It is not likely that thinning of 21 acres of the PAC would result in abandonment of the PACs or lowered reproductive status due to the low acreage proposed for thinning and meeting Framework guidelines for historical and any new nest stands located during surveys. The use of the Framework Guidelines has provided for the maintenance of large, old trees, and associated snags and down logs, which have been identified as important elements of spotted owl habitat. Fuel reduction activities that are likely to result in disturbance during the nesting season are limited with an operating period. No PACs are expected to be rendered unsuitable as a result of the proposed action because of its adherence to Framework guidelines.

Northern goshawk habitat degradation and abandonment is discussed on page 26 of the BE and pages 9 and 10 of the EA. Understory thinning is expected to improve foraging habitat conditions by opening up the overstocked stands sufficiently to allow flight through the stands for foraging goshawks and by improving herbaceous vegetation within treated stands over time. Activity centers would be protected as defined in the Framework guidelines through close coordination with the wildlife biologist and the project implementers to insure microclimate conditions are met around existing day roosts and limited operating periods are adhered to. No PACs are expected to be rendered unsuitable as a result of this alternative because of adherence to Framework guidelines.

3. The Framework requires you to limit removal of trees to the amount necessary to meet the fuels objectives (see FEIS, Vol. 4, App. D-1)(i.e., if you could effectively achieve your fuels objectives in terms of crown base height, flame length, etc.) with a 12” diameter limit; for instance, you must not remove trees larger than this. You do not appear to be in compliance with this requirement.

Response to letter number 3: This project was developed to comply with the direction, standards and guidelines contained in the FEIS Record of Decision (ROD). Fuels treatments, including large tree retention, were designed to meet the standards on page 40 and on page A-25 and A-28 of the ROD. Conifers with a dbh of 30 inches or greater will be retained. The ROD also recognizes that timber removal to mills is important to the success of the fuel management objectives (ROD, page 28).

4. The EA is deficient under NEPA by failing to analyze or divulge its brush maintenance plan, including projected costs per acre. The removal of trees up to 30 inches dbh in the Defense Zone, and severe reduction of canopy cover in such areas, may increase the potential for severe fire behavior.

Response to letter number 3: Connected Actions are defined in 40 CFR 1508.25 as actions connected if they: automatically trigger other actions which may require environmental impact statements, cannot or will not proceed unless other actions are taken previously or simultaneously, are independent parts of a larger action and depend on the larger action for their justification. The connected actions analyzed in the Last Chance EA are understory thinning, mastication, prescribed burning, hand thinning along private property, and watershed rehabilitation (EA page 5, Appendix A and B, and Silvicultural Prescriptions). The proposed action list at least two fuels reduction methods for most units in order to accomplish the SNFPA goals. Based on results of similar understory thinning projects within the area (Plummer Ridge Fuelbreak), the proposed fuel reduction is projected to last at least 10 years at which time the units would be evaluated for additional treatments.