

Environmental Assessment

EA-NV-030-03-028

**Alpine County
California
Fuels Treatment**

August 28, 2003

U.S. Department of Interior
Bureau of Land Management
Carson City Field Office
5665 Morgan Mill Road
Carson City, NV 89701

I. - INTRODUCTION/PURPOSE AND NEED

Introduction

Several new fuel reduction treatments are proposed in Alpine County, California in the vicinity of Markleeville, Woodfords and the Woodfords Indian Community (attachment 1). The proposed treatments are part of a nation-wide initiative to protect homes, private property and natural resources from wildfires in the wildland urban interface. Under provisions of the National Fire Plan (2000), governments, communities and fire professionals have been tasked with identifying communities at risk and proposing fuels treatments to reduce the potential for wildfire damage in the urban interface. Federal Register Vol. 66 No. 160 includes a list of urban wildland interface communities in the vicinity of federal lands that are at high risk from wildfire. Markleeville, Woodfords, and the Woodfords Indian Community, are on the list of communities at risk.

More than 93% of the land base in Alpine County is either state land or public land managed by the federal government. Consequently, the County is dependant on public lands to support economic growth and viability. Public lands in Alpine County are recognized for their high recreational values. Approximately 19,000 acres of public land in Alpine County are administered by the Bureau of Land Management. Included is the popular 7,044-acre Indian Creek Recreation Area. The desire to enhance and protect recreation, natural resource and private property values guide management actions on BLM lands in the County.

The vegetation community on BLM lands in this area is typical of the eastern Sierra Nevada and consists of a diverse mix of Jeffrey pine, white fir, pinyon pine, mountain mahogany, bitterbrush, manzanita, ceanothus, sagebrush, grasses and forbs. In some areas, the fuel load in this vegetation community is very high. Winds in Alpine County can be strong and typically blow from the southwest or west. These factors combined with substantial recreation use, frequent summer lightning events, rugged terrain, and limited access, increase the risk of large, intense wildfires developing under hot and windy weather conditions. Periodic severe crown fires in this fire prone landscape are considered inevitable. In fact, Alpine County has a history of large intense wildfires (attachment 2). In 1984 and 1985, 19,000 acres burned. Then in 1986 and 1987, there were two more 6,000-acre fires and 24 residences were destroyed near Woodfords.

The Carson City Field Office, Alpine County and local residents remain concerned that future intense wildland fires will cause substantial damage to public and private property values. In recent years, BLM has acted in cooperation with Alpine County and the U.S. Forest Service to complete several fuel reduction treatments in the County. Since 1990, 720 acres of BLM land in Alpine County have been treated using prescribed fire and mechanical treatments in strategic locations to reduce the severity of potential wildfires and improve timber stand health, vigor, and resistance to fire, insects, and disease.

Purpose and Need

The purposes of the proposed fuels reduction treatments on BLM lands in Alpine County are to: 1) reduce the threat of wildfire damage to homes, private property and developed recreation sites, 2) reduce the threat of wildfire damage to natural resources, 3) provide a safer area for fire fighters to conduct suppression operations, and 4) improve timber stand health, vigor and resistance to fire, insects and disease. The need for the proposed action is generated by the desire to protect private and public property values, protect natural resources and increase firefighter and public safety.

Land Use Plan Conformance Statement

The proposed action and alternative described below are consistent with the Carson City Field Office Consolidated Resource Management Plan (2001), page FIR-3. The proposed action is located in Fire Category B. “Hazardous fuels will be reduced in order to reduce the threat of rapid fire spread and escaped fires. Major considerations are wildland-urban interface, threatened, endangered, or sensitive species habitat, or areas that have experienced so much fire in the last 10 to 15 years that special consideration is warranted.”

II. - PROPOSED ACTION AND ALTERNATIVES

PROPOSED ACTION

Location T10N, R20E, S 4,8,9,17,22,27,28

General

Fuel reduction treatments are proposed on up to 475 acres of BLM Lands in nine units over three to six years in Alpine County, California (attachment 3). Vegetation height and density within the treatment units would be modified by utilizing a combination of three treatment activities to reduce the severity of future wildfires by modifying fire behavior and enhancing fire suppression capabilities. The proposed treatments include a combination of thinning, biomass removal, hand piling, mastication, understory prescribed burning, and pile prescribed burning (attachment 4).

Treatment Activities

Treatment Activity #1 – (Low intensity understory prescribed fire).

Fire specialists would implement an approved prescribed fire plan, targeting only the surface fuels; pine litter, brush, and grasses. The burning would be accomplished by hand crews and engine crews under low to moderate spread potential conditions in the spring or fall of the year. Fireline would be constructed by hand on those portions of the unit boundary determined necessary.

Where existing, a minimum of 2 snags per acre would be protected by constructing handline around the base.

Areas of important Jeffrey pine regeneration would be protected by constructing fireline by hand or applying foam prior to ignition.

Treatment Activity #2 – (Hand thinning of identified trees, removal of logs greater than 5” in diameter through public or commercial log or fuelwood sale, hand piling of residual slash and winter/spring pile prescribed burning or off-site transportation)

Tree stands would be thinned by hand cutting (with chainsaws) and removing identified trees from the stand. Bureau personnel would select trees to leave standing and would mark selected trees for removal, based on an assessment of the fuels and ecological situation around each tree. Leave trees would be selected based on spacing for reduced crown fire potential, vigor, size, shape, and freedom from disease, insects, and genetic defects.

No Jeffrey pine trees greater than 24” diameter at breast height (DBH) would be marked for removal.

Trees identified for removal greater than 5 inches in diameter would be made available for public or commercial fuelwood sale.

Where existing, a minimum of 2 snags per acre would be left standing. Where existing, a minimum of 2 downed logs per acre greater than 12 inches in diameter would be retained.

Slash piles would be constructed a minimum of 15 feet away from seasonally flowing ephemeral streams. Every effort would be made to burn the slash piles created in the fall before the following late spring/early summer; Or, If practical and funding allows, residual slash could be collected using tractor mounted mechanized equipment, loaded into haul trucks and hauled off site to a biomass processing or storage facility as an alternative to hand piling and pile burning.

Equipment would be kept a minimum of 50' from all bodies of water and perennial streams.

Thinning operations would not be allowed in the vicinity of recreation sites on weekends during the season of highest recreational use, Memorial Day through Labor Day.

Treatment Activity #3 – (Mastication of small trees and brush using tractor mounted mechanized equipment).

Brush and tree stands would be thinned by mechanically shredding brush and identified trees in the stand. The Bureau would select trees to leave standing and would mark selected trees for removal, based on an assessment of the fuels and ecological situation around each tree. Leave trees would be selected based on spacing for reduced crown fire potential, vigor, size, shape, and freedom from disease, insects, and genetic defects.

No Jeffrey pine trees greater than 24" diameter at breast height (DBH) would be marked for removal.

Where existing, a minimum of 2 snags per acre would be left standing. Where existing, a minimum of 2 downed logs per acre greater than 12 inches in diameter would be retained.

Trees and brush would be left standing within the treatment units and the outside edges of the treatment units would be irregular in shape.

Shredded vegetation would be left in place to reduce wind generation of dust, stabilize the soil surface and recycle nutrients.

Mechanized equipment would be used only on dry ground to prevent soil surface damage.

Mechanized equipment would be washed down off site prior to entering treatment units to minimize the potential for the spread of noxious weeds and invasive species.

If the treatment were conducted during a time of high fire danger a fire engine and crew would be on site to suppress any inadvertent fire starts that may be caused by the use of mechanized equipment in hot, dry or windy weather conditions

Mechanical shredding operations would not be allowed in the vicinity of recreation sites on weekends during the season of highest recreational use, Memorial Day through Labor Day.

Treatment Unit Specifics

Turtle Rock –Treatment Activity #1(Low intensity understory prescribed fire). Up to 40 acres of the Jeffrey pine/mountain shrub plant community adjacent (north) to Turtle Rock County Park on Indian Creek Recreation Lands would be targeted for treatment. The unit is located along Hwy 89 and adjacent to a popular park where the potential for human caused wildfires is high. The unit is in a strategic location to slow or halt wildfire that starts along the highway or in the park from advancing towards the Manzanita Subdivision, Woodfords, and Turtle Rock County Park. A buffer of approximately 100' would be left untreated between the treatment unit and Hwy. 89. The unit was commercially thinned in the mid-1990s.

Summit Lake – Treatment Activities #2 (Hand thinning of identified trees, removal of logs greater than 5" in diameter for fuelwood use, hand piling of residual slash and winter/spring pile prescribed burning or off-site transportation) and/or #3 (Mastication of small trees and brush using tractor mounted mechanized equipment). Up to 100 acres of the Jeffrey pine/white fir/pinyon pine/mountain shrub plant community between Curtz and Summit Lakes on Indian Creek Recreation Lands would be targeted for treatment. The Jeffrey pine in the area is unhealthy, heavily infected with dwarf mistletoe, and numerous trees are dead or dying. The unit is located along the Summit Lake Trail, a popular hiking trail, where the potential for human caused wildfires is high. The Summit Lake Trail is in a strategic location to slow or halt wildfire advancing towards two private residents and the Indian Creek Campground from the windward west. A timber sale was completed in part in the unit in the mid-1990s.

Indian Creek Campground – Treatment Activity #3 (Mastication of small trees and brush using tractor mounted mechanized equipment). Up to 35 acres of the Pinyon pine/mountain shrub plant community in the Indian Creek Campground on Indian Creek Recreation Lands would be targeted for treatment. The brush in the area is very dense and contains a heavy dead component. The unit is located in a popular campground where the potential for human caused wildfires is high. The unit is in a strategic location to slow or halt wildfire that starts in the campground from advancing upslope to the west and to slow or halt a wildfire advancing from the west towards the campground which could destroy or damage campground improvements.

Millberry – Treatment Activity #3 (Mastication of small trees and brush using tractor mounted mechanized equipment). Up to 140 acres of the Mountain shrub plant community with scattered young Jeffrey pine adjacent (south) to Turtle Rock County Park would be targeted for treatment. The unit is in a strategic location to slow or halt wildfire that starts along Hwy 89 or near Markleeville from advancing towards the Manzanita Subdivision, Woodfords, and Turtle Rock County Park. The area is very rocky which would limit the areas treated.

Indian Creek 1 - Treatment Activity #1 (Low intensity understory prescribed fire). Up to 15 acres of the Jeffrey pine/mountain shrub plant community between Hwy 89 and Airport Road on Indian Creek Recreation Lands would be targeted for treatment. The unit is located along Hwy 89 and Airport Road where the potential for human caused wildfires is high. The unit is in a strategic location to slow or halt wildfire advancing towards two private residents and the Indian Creek Campground from the west. The unit was commercially thinned in the mid-1990s and broadcast burned in 1997 and 1998.

Indian Creek 3 - Treatment Activity #2 (Hand thinning of identified trees, removal of logs greater than 5" in diameter for fuelwood use, hand piling of residual slash and winter/spring pile prescribed burning or off-site transportation). Up to 10 acres of the Jeffrey pine plant community Just east of Hwy 89 and Airport Road intersection on Indian Creek Recreation Lands would be targeted for treatment. The unit is located along Hwy 89 and Airport Road where the potential

for human caused wildfires is high. The unit is in a strategic location to slow wildfire advancing towards two private residents and the Indian Creek Campground from the west. The unit was thinned once in the mid-1990s but the Jeffrey pine is still overstocked with closed canopy.

Indian Creek 4 - Treatment Activity #2 (Hand thinning of identified trees, removal of logs greater than 5" in diameter for fuelwood use, hand piling of residual slash and winter/spring pile prescribed burning or off-site transportation). Up to 30 acres of the Pinyon pine/mountain shrub plant community between Hwy 89 and Airport Road and above Airport Road on Indian Creek Recreation Lands would be targeted for treatment. The unit is located along Hwy 89 and Airport Road where the potential for human caused wildfires is high. The unit is in a strategic location to slow wildfire advancing towards two private residents and the Indian Creek Campground from the west.

Hangmans - Treatment Activities #2 (Hand thinning of identified trees, removal of logs greater than 5" in diameter for fuelwood use, hand piling of residual slash and winter/spring pile prescribed burning or off-site transportation) and/or #3 (Mastication of small trees and brush using tractor mounted mechanized equipment). Up to 55 acres of the Jeffrey pine/pinyon pine/mountain shrub plant community located west of Hangmans Bridge off of Poor Boy Road would be targeted for treatment. The unit is in a strategic location to slow wildfire advancing towards Markleeville from the south.

Poor Boy – Treatment Activities #1 (Low intensity understory prescribed fire) and/or #2 (Hand thinning of identified trees, removal of logs greater than 5" in diameter for fuelwood use, hand piling of residual slash and winter/spring pile prescribed burning or off-site transportation) and/or #3 (Mastication of small trees and brush using tractor mounted mechanized equipment). Up to 25 acres of the Jeffrey pine/pinyon pine/mountain shrub plant community located west of Hangmans Bridge off of Poor Boy Road would be targeted for treatment using treatment activity #1 and up to 35 acres using treatment activity #2. The unit is in a strategic location to slow wildfire advancing towards Markleeville from the south. The unit was commercially thinned in the mid-1990s. Treatment activity #2 and/or #3 would be completed prior to initializing treatment activity #1.

Maintenance The units where treatment activity #3 is utilized may require periodic maintenance to remain effective. Monitoring would be conducted periodically to assess changes in fuel loads in the treatment areas. When fuel loads increase to unacceptable levels maintenance actions would be initiated.

Pre-Treatment Notification Notice would be provided to Alpine County, cooperative agencies, and local residents regarding the date treatments are expected to occur. Public Notices would also be posted during the fall and spring months on the east side of Indian Creek Reservoir, Curtz Lake and at the Indian Creek Campground gate.

Monitoring Monitoring would be conducted within the treatment areas before, during, and after treatment implementation. Monitoring would consist of surveys to:

1. Ensure that the initial fuel treatment objectives are met,
2. Evaluate fuel load recovery,
3. Identify invasive species for subsequent treatment

Post Treatment Management The treatment areas would be managed to prevent excessive generation of dust, soil erosion, and protect reseeding efforts. In order to achieve these objectives the following management actions would be enacted.

1. If invasive species are found in the project area after treatment, the sites would be identified for treatment in the Field Office Annual Weed Treatment Plan.
2. If accelerated soil erosion rates are anticipated or discovered in burned areas appropriate erosion control measures such as water baring, contour furrowing, straw bales or straw mulch would be used, if necessary to control soil erosion.
3. Slash and tree boles would be removed or destroyed by burning, chipping or peeling to prevent pine engraver and bark beetles from using them for breeding material.

ALTERNATIVES

No Action Under the No Action Alternative the fire hazard fuel treatment projects identified in the proposed action to reduce the high risk of catastrophic wildfire would not be implemented.

III. - AFFECTED ENVIRONMENT/ ENVIRONMENTAL CONSEQUENCES

SCOPING AND ISSUE IDENTIFICATION

The Carson City Field Office Fuels Program Manager identified the proposed action. Carson City Field Office management reviewed the proposed project and an interdisciplinary team was assigned in April 2003. The environmental assessment was reviewed by the interdisciplinary team of Bureau specialists in July 2003.

Scoping letters were mailed out on May 14, 2003. Letters were sent to Alpine County Board of Supervisors, key Alpine County departments, Alpine Fire Safe Council, Humbolt-Toiyabe National Forest, CDF Amador-EI Dorado Unit, California Department of Fish and Game, Great Basin Unified Air Pollution Control District, Washoe Tribe of Nevada and California and interested individuals living in Alpine County. A public open house was held at Turtle Rock County Park on June 9, 2003. Two comments were received. No major issues were identified.

PROPOSED ACTION AND ALTERNATIVES

The description of the affected environment for the (No Action or other) alternative would be the same as that for the proposed action.

General Setting The proposed treatment units are in the eastern Sierra Nevada in a diverse mix of vegetation consisting of Jeffrey pine, white fir, pinyon pine, mountain mahogany, bitterbrush, manzanita, ceanothus, sagebrush, grasses and forbs. Elevation ranges between 5600 and 6600 feet. Aspect varies. Slope ranges between 0% and 40%. Average precipitation is 24 inches per year.

Critical Elements of the Human Environment

The following critical elements of the human environment have been reviewed by BLM resource specialists and are either not present or are not affected by the proposed action or alternatives in this EA:

ACEC
Environmental Justice
Floodplains
Hazardous Wastes

Paleontology
Prime or Unique Farm Lands
Wetlands/Riparian Zones
Wilderness

Cultural Resources – Prehistoric and historic subsistence activities in the Northern Sierra Front were plant procurement (seeds, roots, medicine, basketry), hunting (deer and mountain sheep), fishing and trade. Cultural resources associated with these types of activities would be lithic scatters, hunting blinds and isolated artifacts. Many of these activities may not result in any visible cultural resources, however based upon previous surveys; all observable cultural resources have been identified.

Historically the area has been settled (Markleeville) and logged since the mid-19th century. Cultural resources associated with settlement patterns and logging are historic refuse, roads, milling refuse, and architectural features (foundations and privies).

Prehistoric and historic cultural resources are known to occur in the vicinity of the nine treatment areas. During a Class III Cultural Resource Inventory for the Indian Creek Recreation Area Fuels Management Project, Alpine County, California (CR3-2053) conducted by Western Cultural Resource Management, Inc, August 28, 2001, 11 new archaeological sites and two previously recorded sites were recorded and evaluated for eligibility. However, Class III cultural resource surveys of Indian Creek #1, #3 and #4 treatment areas indicate no cultural resources exist in these areas. During a Class III survey of Summit Lake and Turtle Rock cultural resources were identified, however they will be avoided during the implementation of this proposed project. Additional surveys of a segment of the Indian Creek Campground, Millberry, Hangmans, and Poor Boy treatment areas would be completed prior to implementation. If cultural resources were discovered in any of these areas they would be avoided or projected impacts would be mitigated. If avoidance or mitigation were not feasible implementation would not occur.

Native American Religious Concerns – A letter of consultation including Maps and a description of the proposed treatments have been provided to the Washoe Tribe of Nevada and California. There were no concerns expressed for this project. As always respect for all cultural resources would be maintained especially in the case of human remains that may be inadvertently discovered in the process of conducting the proposed treatments.

Threatened, Endangered and Sensitive Species - No federally listed (plant or animal) Threatened or Endangered Species, or any Bureau listed Sensitive species, has been documented or is known to exist within the project areas. No impacts to Threatened or Endangered Species are expected to result from implementation of the proposed action.

Wild and Scenic Rivers - Although the East Fork of the Carson is not a nationally designated W&SR it is a California State W&SR. In the future the Forest Service will be completing a study to see if it should be one nationally. The proposed action would not have any impacts on the on the river or affect the criteria used to determine eligibility or suitability.

Water Quality/Resources – Three bodies of water; Indian Creek Reservoir, Summit Lake, and Curtz Lake, and two perennial streams; Indian Creek and Millberry Creek, are located adjacent to treatment units. Review by BLM hydrologists and watershed specialists indicate no impacts to these water resources are expected to result from implementation of the proposed action.

Resources Present but not Affected

Bureau specialists have further determined that the following resources, although present in the project area, are not affected by the proposed action:

Livestock Grazing – The proposed treatments are located in the Harvey Flat and Hangman grazing allotments. Given the small areas targeted for treatment, grazing would not be affected.

Socioeconomic – Review of the proposed action by a BLM economist indicates socioeconomics would not be affected by the proposed fuel treatments.

Water Rights – Review of the proposed action by a BLM hydrologist indicates no water rights would be affected by the proposed fuel treatments.

Resources/Issues Present and Brought Forward for Analysis

Air Quality - The proposed project sites are located in the California Great Basin Unified Air Pollution Control District. The sites typically have good air quality. The Mokelumne Wilderness Area, a Federal Class I Area, is 2.5 miles west/southwest from the nearest treatment unit where prescribed fire is proposed. The predominant transport wind direction in the area is southwest. Sensitive receptors to smoke and dust in the area would be Turtle Rock County Park, Markleeville, Highway 89, Airport Rd., two residences on Airport Rd., and the Indian Creek Campground.

Impacts Proposed Action - Air quality in the immediate vicinity of an active treatment area would experience short-term decreases due to dust on mechanical treatment days and smoke on burn days. No long-term impact due to dust or smoke accumulation is anticipated. The dust and smoke dispersal area is sparsely populated. The predominant transport wind direction, conditions under which treatments would take place, and size of areas treated at any given time would minimize impacts to any sensitive areas. It is anticipated that nearby communities would not experience substantial or long-term impacts to air quality.

Fire Management - The project area is comprised of Eastern Sierra Nevada fuel types that are highly susceptible to burning. Fuel loadings vary but generally fire exclusion aided by historic grazing and logging has produced accumulations of highly flammable fuel well outside historical norms.

The proposed project area is susceptible to human and natural fire ignition. Existing fuel loads and common weather conditions have the potential to result in severe wildfires once ignition occurs. Historically wildfires have burned thousands of acres in this area (see attachment 2). In the last 15 years several large wildfires have burned east and northeast of Indian Creek Reservoir and north and northeast of Woodfords. More recently wildfire activity, caused by lightning and human ignitions, has occurred in and adjacent to the project areas.

Fire management direction for the project area found in the BLM Carson City Field Office Fire Management Plan (1998) (attachment 5) is to aggressively initial attack any wildland fire start with the intent of holding all unplanned ignitions to 10 acres or less, 90% of the time in timber and pinyon-juniper vegetative types; and to 25 acres or less, 90% of the time in brush and grass vegetative types. Prescribed fire and fuels management are desired to reduce potential for catastrophic fire, increase the manageability of wildfire and maintain or improve ecosystem condition.

Wildfire starts in this area are handled by BLM and Forest Service resources stationed along the Sierra Front.

Impacts Proposed Action - The proposed action would open up the overstory canopy, reduce ladder fuels and reduce the accumulation of surface fuels, thus reducing surface fire intensity and crown fire potential. This would result in improved manageability of potential wildfires that start or burn through the area and an overall reduction in the potential for catastrophic fire. Treatment activity #1 would also reintroduce fire into a fire dependant ecosystem and improve ecological conditions in the treatment areas in the medium to long-term.

Burning under low spread conditions under treatment activities #1 and #2 would allow the target fuels to be burned with minimal potential of the fire escaping containment and threatening life and property. There is a slight risk of the equipment conducting the mechanical treatment under treatment activity #3 starting a wildland fire by hitting rocks and causing sparks. However, this same equipment can be used effectively to contain or suppress any resulting small fire.

Lands and Realty – Overhead utility rights-of-ways are present along Highway 89 where the treatment areas approach the highway right-of-way and in the south half of Section 22 and the north half of Section 27.

Impacts Proposed Action – Appropriate measures would need to be taken to closely monitor any activities that might adversely impact the rights-of-way.

Noxious/Invasive/Nonnative Species – There are two known species of noxious weeds at Indian Creek Reservoir in the northeast corner by the dam: yellow star thistle and tall white top (perennial pepperweed). There also is a small population of diffuse knapweed at the Turtle Rock County Park. All of the known noxious weed populations are currently being treated. Cheatgrass is not known to exist in the vicinity of the treatment units to a limited degree on open south and west slopes.

Impacts Proposed Action - The proposed fuel treatments would not introduce noxious weeds or invasive, nonnative species to the treatment areas. Disturbed sites would be susceptible to invasive, nonnative species invasion, primarily cheatgrass on dry south and west slopes. Invasive, nonnative species may compete with native species and contribute to a decline in ecological conditions within treatment units for a short period until the native species once again dominate.

If post treatment monitoring identifies invasive, nonnative species in the treatment areas, invasion sites would be included in the Carson City BLM Field Office annual weed treatment plan. This would lead to treatment and control of these species in the project area. No uncontrollable invasions of these species are expected .

Recreation - The lands in Alpine County are recognized for their high recreational values. Six of the nine treatment units are located within Indian Creek Recreation Lands. Recreational use in the area includes camping, fishing, hiking, horseback riding and mountain biking.

Impacts Proposed Action - The sounds of chainsaws, heavy mastication equipment and vehicles related to the proposed treatments would be audible to the public in the vicinity of the treatment areas while work is being performed. However, seasonal limitations on the use of chainsaws, and mechanical shredders in the vicinity of developed recreation sites during the high use period of Memorial Day through Labor Day would limit noise impacts on the public. In areas where concentrated use by the public exists, modifying vegetation densities can affect traffic and use patterns for a given area.

Soils - The soils in the treatment unit areas can be generally classified in the Bly Variant-Stemilt Variant association. The Bly Variant is predominant in practically all of the treatment units. Runoff is rated as medium, and the hazard of water erosion is slight to medium.

Impacts Proposed Action - The proposed treatments would result in reduced vegetative cover and some surface disturbance. In some situations these factors could expose more bare soil to the effects of wind and water and lead to accelerated soil erosion. The potential for accelerated soil erosion rates depends on factors such as soil type, steepness of slopes in the treated areas, exposure to high volumes of precipitation or high wind speeds, the degree of vegetative cover reduction, and the size and shape of the opening created in the existing soil cover.

The three types of proposed treatments combined with post treatment management measures have features designed to reduce or control soil erosion. For instance, in treatment areas utilizing mechanical shredding equipment, shredded vegetation would be left in place. The shredded vegetation forms mulch that protects the soils surface from excessive wind and water erosion. In burned areas appropriate erosion control measures such as water baring, contour furrowing, straw bales or straw mulch would be used, if necessary to control soil erosion. And in the case of hand clearing little or no soil surface would be exposed to the effects of wind and rain.

In any case, revegetation of bare spots in the treatment areas is expected to occur relatively rapidly. This would limit the potential for accelerated soil erosion impacts to the short-term.

Since the treatment areas are primarily located on relatively gentle slopes, the soil types are only slightly to moderately susceptible to erosion, some vegetative cover would remain in place, areas of bare soil created by the treatments would not be large or continuous, treatments would be spread over a 3-6 year time period, and appropriate post treatment management soil erosion control measures would be implemented where needed, soil erosion is not expected to increase substantially on a project wide basis.

Vegetation - The vegetation community in the project area is composed of a diverse mix of Jeffrey pine, white fir, pinyon pine, mountain mahogany, bitterbrush, manzanita, sagebrush, grasses and forbs common to this area of the eastern Sierra Nevada. Many of the pines are infested with dwarf mistletoe, a parasitic plant that spreads from tree to tree mainly by means of seed ejection. Pine engraver and bark beetles are also present in some pine stands and when combined with drought have been causing some tree mortality. Jeffrey pine regeneration is absent in most of the area proposed for treatment, because seedling establishment requires exposure to full sunlight and bare mineral soil. Pinyon pine seedlings, on the other hand, are shade tolerant and therefore growing abundantly in the understory. No threatened, endangered or special status species are known to inhabit the area. Historic logging and grazing, and other human disturbances have impacted the vegetation community.

Impacts Proposed Action - The proposed treatments are expected to improve the health of the existing vegetation community and help protect it from destruction caused by high intensity wildfire events.

Removal of understory vegetation and dead or diseased trees would decrease fuel loads in the treated areas. Reduced fuel loads would modify fire behavior in these areas would decrease the potential for crown fires and result in less intense wildfire events. Since the Jeffrey Pine

vegetation community is adapted to occurrence of low or moderate intensity fire events it would benefit from the implementation of the proposed action. Implementation of the proposed action would help prevent destruction of the existing vegetation community by intense wildfire events.

Low intensity prescribed fire would help control beetle and mistletoe infestations in the treated Jeffrey pine stands. It would also kill small pinyon pines currently invading existing Jeffrey Pine stands. Thus, the invasion of pinyon pine into Jeffrey pine stands would be set back.

Underbrush clearing and stand thinning would reduce the potential for Jeffrey pine dwarf mistletoe spreading into adjacent trees and stands.

Clearing underbrush and prescribed burning would create additional Jeffrey pine regeneration sites. Jeffrey pine regeneration would be improved in the treated areas.

However, Treatment activity # 2 could potentially propagate pine engraver and bark beetles if the slash and tree boles are not treated properly and in a timely manner. Jeffrey pine slash and boles may act as a beetle sink and create problems when the beetles emerge, if not removed from the site before late spring/early summer. The slash and tree boles must be removed to get rid of any breeding material by burning, chipping or peeling.

The existing vegetation community is expected to benefit in the short, medium and long-term from implementation of the proposed action.

Visual Resources - The proposed project area is situated within BLM Class II & III Visual Resource Management (VRM) zones. A VRM Class II means that change in the landscape due to management activities can be visible but does not attract attention. A VRM Class III means that change in the landscape due to management activities can attract attention but is not dominant.

VRM Class II zones within the project area include the viewscape around Indian Creek Reservoir, Indian Creek Campground and Curtz and Summit Lakes. Major developments within or in proximity to the Class II areas include paved and unpaved roads, a reservoir with earthen dam and a campground. The balance of the project area is VRM Class III. Some of the treatment units are within the viewing foreground of travelers on Airport Road and Highway 89, a state designated scenic highway.

Impacts Proposed Action - Changes to the landscape by management activities related to vegetation treatments are typically temporary in nature. Most vegetative treatments result in short term visual impacts, both positive and negative, that moderate within a couple of years of treatment. Some vegetative treatments can result in long term visual impacts (+, -) that may take years to moderate if appropriate mitigation is not incorporated into the prescription.

The most significant changes to the existing viewscape would be related to the isolated blackish-gray discoloration that would result from the burning and the contrast between the mechanically treated areas and the untreated areas adjacent. Impacts to scenic quality as viewed from Highway 89 and from Airport Road would temporarily result from slash piles, vehicle tracks, and other visible effects associated with the proposed treatments. These temporary visual changes could be noticeable but would not dominate the view by casual observers. Disruptions to the existing viewscape would be minimal due to the relative small size of the individual treatment areas. Over a period of several years, the disruptions to the existing viewscape would diminish, or lessen with time. Over the course of time the treated areas can possess higher visual appeal

than the previously untreated area. The reduced timber stocking would present a more open, park like appearance that would approximate Jeffrey pine stands under a more natural or primeval conditions.

The proposed activity would meet the criterion of Class II and III zones without undue impairment.

Wildlife - The wildlife utilizing the project areas comprise a fairly diverse assemblage of species typical of the mid-elevational zone of the eastside Sierra. The mix of woodland, shrub field and grassland habitats, along with the diversity provided by topographic and elevational differences, provides habitat for a wide variety of species. The seasonally severe climate and scarcity of water, however, tend to keep any one species from becoming abundant. The major wildlife assemblages in the project areas are:

Migratory Birds (under provisions of the Migratory Bird Treaty Act all native bird species in North America are considered "migratory", whether or not there is any migratory behavior in their life cycle)

Turkey Vulture	Northern Flicker	Black-billed Magpie
Sharp-shinned Hawk	Lewis Woodpecker	Common Raven
Cooper's Hawk	Yellow-bellied Sapsucker	Mountain Bluebird
Red-tailed Hawk	Williamson Sapsucker	Townsend's Solitaire
American Kestrel	Hairy Woodpecker	Black-capped Chickadee
Prairie Falcon	Downy Woodpecker	Mountain Chickadee
Golden Eagle	Western Kingbird	Red-breasted Nuthatch
California Quail	W. Wood-Pee-wee	Brown Creeper
Mourning Dove	Willow Flycatcher	Bewick's Wren
Barn Owl	Western Flycatcher	House Wren
Great Horned Owl	Tree Swallow	American Robin
Long-eared Owl	Violet-green Swallow	Yellow-rumped Warbler
Poorwill	Stellar's Jay	Black-throated Gray Warbler
Common Nighthawk	Scrub Jay	Western Tanager
Calliope Hummingbird	Pinyon Jay	Black-headed Grosbeak
Spotted Towhee	Chipping Sparrow	Western Meadowlark
Green-tailed Towhee	Fox Sparrow	Brewer's Blackbird
White-crowned Sparrow	Golden-crowned Sparrow	Cassin's Finch
American Tree Sparrow	Dark-eyed Junco	Purple Finch

Mammals

Broad-footed mole	Pika	Northern Pocket Gopher	Badger
Dusky Shrew	Snowshoe Hare	Deer Mouse	Gray Fox
Little Brown Myotis	Nuttall's Cottontail	Pinon Mouse	Coyote
Long-eared Myotis	Yellow-bellied Marmot	Bushy-tailed Woodrat	Bobcat
Yuma Myotis	Least Chipmunk	Porcupine	Mule Deer
Fringed Myotis	Townsend's Chipmunk	Raccoon	
California Myotis	Long-eared Chipmunk	Ringtail	
Long-legged Myotis	Pocket Mouse	Long-tailed Weasel	
Silver-haired Bat	Kangaroo Rat	Spotted Skunk	

Reptiles and Amphibians

Sierra Nevada Salamander	Long-nosed Leopard Lizard	Rubber Boa
Great Basin Spadefoot	Sagebrush Lizard	Gopher Snake
California Toad	Western Skink	Kingsnake
Sierra Alligator Lizard	Great Basin Whiptail	Gartersnake
Northern Pacific Rattlesnake		

Impacts Proposed Action

Treatment Activity #1 (Low Intensity Understory Prescribed Fire)

Because of the spring/fall timing of this treatment, no adverse impacts to migratory birds are anticipated. The remaining wildlife species are generally mobile enough to escape a slow moving fire, however a few individual mice or lizards may be incinerated. The reproductive potential of these smaller species is more than sufficient to replace the losses. While this treatment may temporarily reduce the availability of ground-level habitats for all species, reducing the likelihood of a catastrophic wildfire that would destroy all wildlife habitats outweighs the negative impacts.

Treatment Activity #2 (Hand Thinning/Slash Piling/Burning or Removal)

The selection process for the trees to be removed will reduce impacts to wildlife to minimal levels. The burning or removal of slash piles will generate no impacts to wildlife.

Treatment #3 (Mastication)

The mastication of the smaller trees and shrub understory has the potential to destroy all of the active migratory bird nests if the treatment is conducted during the nesting season (mid-April to mid-June). Few of the migratory birds nesting in the project area have any tendency to re-nest when their first attempt is thwarted, thus one entire years production would be lost. For the remainder of the wildlife species, the impacts would not be appreciably different than those of Treatment #1.

NO ACTION ALTERNATIVE

Implementation of the No Action Alternative could adversely affect many critical elements and issues by increasing the risk of large catastrophic wildfire but it would not allow for any planned disturbance in the treatment units, therefore would have no direct affect on the following critical elements and issues:

Critical Elements - Areas of Critical Environmental Concern, Cultural Resources, Native American Religious Concerns, Environmental Justice, Floodplains, Paleontology, Hazardous Materials, Noxious and Invasive Species, Threatened and Endangered Species, Wilderness, Wild and Scenic Rivers, Prime and Unique Farmlands, Water Quality, Wetlands and Riparian Areas, and Migratory Birds.

Issues – Air Quality, Lands and Realty, Livestock Grazing, Recreation, Socioeconomics, Soils, Water Resources, Water Rights, Visual Resources, and Wildlife/Habitat Management.

Resources/Issues Present and Brought Forward for Analysis

Fire Management Impacts No Action – Fuel loads would continue to increase over time. The severity of a potential wildfire in the area would remain moderate to high. The density of the forest canopy, presence of ladder fuels and continuous surface fuels would increase crown fire potential and fire intensity and therefore resistance to control of any wildfire that may start in or burn through the area. Eventually catastrophic wildfires would occur, and the adverse impacts on many of the resources addressed under the proposed action could be would be much more severe and long lasting.

Vegetation Impacts No Action – The overstocked forest condition that now exists, with the attendant wildfire hazard, infestation of dwarf mistletoe, and bark beetle potential, would continue to increase. Insects and disease would kill more trees. Pinyon pine invasion into Jeffrey pine stands would continue, and Jeffrey pine regeneration would continue to decline in

the absence of favorable conditions.

Mitigation Measures

The Carson City Field Office (CCFO) would send an inspector to the treatment units to ensure conformance with BLM standards.

Conduct mastication operations outside of the mid-April to mid-June bird nesting season.

Excavation- Discovery of Cultural/Paleontological Resources. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on their behalf, on public or Federal Land would be immediately reported to the authorized officer. Holder would suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery would be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder would be responsible for the cost of evaluation and any decision, as the proper mitigation measures would be made by the authorized officer after consulting with the holder.

Where practical, vegetation along roads, trails and key observation points (KOP) such as parking lots, pull outs, trailheads, etc. should be maintained at a higher density (basal area) than in the interior of the treatment area. Vegetative “edges” should be irregular in shape with varying degrees of vegetation density. All tree stumps located within 50’ of an access feature or KOP should be 8” or less in height with the cut slightly angled so that the cut face is angled away from KOP. Stumps beyond the 50’ threshold should be no more than 12” in height.

Residual Impacts

All impacts to the resources identified in the environmental consequences of the proposed action are considered residual impacts.

Cumulative Impacts

All resource values and issues affected by the proposed Alpine Fuels Treatment have been evaluated for cumulative impacts. Examination of the environmental consequences section of this environmental assessment reveals that the proposed action would not affect ACEC, cultural resources, paleontological resources, environmental justice, floodplains, hazardous wastes, livestock, migratory birds, native American religious concerns, prime or unique farm lands, socioeconomic, threatened or endangered plants or animals, water resources, water quality, wetlands/riparian zones, wild and scenic rivers, or wilderness and thus can not contribute to cumulative impacts on these issues and resources. These issues would not be considered further.

Further examination of the environmental consequences section of this environmental assessment reveals that the proposed action may affect air quality, fire management, invasive, nonnative species, recreation, soils, vegetation, visual resources and wildlife and therefore may contribute to cumulative impacts on the issues and resources. Thus these issues and resources would be considered in the following cumulative impacts analysis.

Past, Present, and Reasonable Foreseeable Future Actions

In considering cumulative impacts, past, present and reasonably foreseeable future events and actions were analyzed. Impacts resulting from the proposed action are considered within the context of other actions and trends in Alpine County and the Carson City Field Office.

Development -Growth and development is a common trend in the region and locally in Alpine County around the towns of Markleeville and Woodfords. What was once undeveloped forestland has been and continues to be converted to residential developments on private land. Many other locations throughout the region are experiencing the same growth and development. It is anticipated that this trend would continue and possibly accelerate in the future.

Prescribed Fire - The BLM, US Forest Service (USFS) and California Division of Forestry (CDF) have conducted prescribed burns, broadcast and pile, in the past in Alpine County. The BLM averages two projects a year on 20 acres in Alpine County and a total of 4 projects a year on 150 acres on the Carson City Field Office. The USFS averages a similar number of prescribed fire projects and acres in Alpine County annually and CDF has conducted one known project to date at Turtle Rock County Park. It is anticipated that prescribed fire activity by all agencies in Alpine County and by the BLM on the Carson City Field Office would remain the same in the future.

Vegetation Treatment - The BLM, USFS and Alpine County have conducted mechanical vegetation treatment projects in the past in Alpine County. The BLM averages two projects a year on 40 acres in Alpine County and a total of 4 projects a year on 100 acres on the Carson City Field Office. The USFS conducts more projects and on more acres than the BLM in Alpine County annually and Alpine County conducts small-scale projects annually typically related to infrastructure maintenance. Approximately 500 acres of Jeffrey pine and pinyon pine have been thinned to date by the BLM in Alpine County in the Indian Creek Recreation Area, Poor Boy area and Markleeville Village, since 1990.

It is anticipated that forest thinning for fuels management, forest health, fuelwood, and Christmas trees would remain the same in Alpine County and throughout the Carson City Field Office in the future. It is anticipated that mechanical fuels reduction activity in the brush fuel types would increase over what has been done in recent years, to approximately 250 acres per year, in the future.

Wildfire - Historically, wildfires have burned in the Carson City Field Office including Alpine County. The Carson City Field Office averages approximately 60,000 acres of wildfire activity per year with 100 ignitions (1991-2000). Approximately 50% of the ignitions are human caused and 50% lightning. Evidence of past large wildfires is found throughout Alpine County, and near the proposed action. It is anticipated wildfire activity in Alpine County and on the Carson City Field Office would remain the same in the future.

Combining anticipated wildfire activity and reasonably foreseeable vegetative manipulation/fuels reduction projects, approximately 61,000 acres, about 1% of the 5,200,000 acre area managed by the Carson City Field Office, would be impacted a year. The Carson City Field Office Fire Management Plan Amendment (1998) analyzed this level of impact and it was determined to not be significant.

Cumulative Impacts

Air Quality - Air quality may be adversely affected by wildfire, prescribed fire and mechanical vegetation treatment that introduce particulates into the atmosphere. On average, wildfires occur on about 60,000 acres annually in the Carson City Field Office usually during the summer and early fall. These fires may have adverse impacts on local and regional air quality that last for weeks. Prescribed fires are completed on about 150 acres each year in the Carson City Field Office. They are normally conducted outside the wildfire season and do not contribute to the

adverse impacts wild fires may have on regional air quality. The proposed action is a prescribed fire to be conducted on less than 45 acres. Since the proposed action would be conducted outside the wildfire season it would not contribute to regional air quality impacts generated by wildfires. On the local level it is unlikely that the proposed action would be implemented when either wildfires are affecting the local air quality or when another prescribed fire is being conducted in the local area. Thus the proposed action would not contribute to cumulative impacts on local air quality.

Fire Management - Periodic wildfire is considered a natural event in the Carson City Field Office. On average wildfires occur on about 60,000 acres annually, usually during the summer and early fall. Approximately half of these fires are human caused. Growth and development is a common trend in the region and locally in Alpine County. As residential development occurs, the potential for wildfire to threaten lives and private property increases. As the residential population increases the potential for human activities to start fires also increases. The proposed action, if conducted by BLM fire management staff, would be conducted outside the wildfire season so not to impact firefighting resources ability to manage wildfires. In addition, it would provide long-term positive fire management impacts locally by reducing the potential for large wildfires in and adjacent to the project area and regionally by potentially allowing firefighting resources to concentrate their efforts in areas other than the proposed project site.

A small risk of increased fire danger may occur if cheatgrass invades the treatment areas to the point fine fuel loads become capable of supporting an intense fast burning fire. Monitoring of the treated areas and annual treatment of infested areas is expected to prevent an increase in fire danger in these areas. The proposed action can be viewed as helping to alleviate the cumulative adverse impacts to fire management, primarily wildfires, that threaten lives, property and resources.

Noxious Weeds/Invasive Species – Noxious and invasive weed species currently exist in the general vicinity of the project area. Although, the proposed project may create disturbed areas susceptible to invasion by noxious and invasive species monitoring and inclusion of any invaded sites in the field office annual weed treatment plan would prevent establishment and spread of these species in the treated areas. Therefore, the proposed action does not have the capability to contribute to cumulative impacts resulting from establishment and spread of these species in the vicinity of the proposed project.

Recreation – Camping, fishing, hiking, horseback riding and mountain biking would not be affected. The vast majority of BLM lands in the area would be undisturbed by the fuel treatments and recreation opportunities on these federal lands are expected to be preserved. The treated areas are expected to recover quickly and provide recreation opportunities similar to what they now provide. No adverse cumulative impacts to recreation opportunities in the vicinity are expected in the foreseeable future.

Soils – Minor impacts to soils would be caused by implementation of the proposed action and are identified in the environmental assessment. However, the impacts identified on the relatively small acres of treatment would be temporary. In addition thousands of acres of BLM lands in the general area would be undisturbed and are expected to retain existing soil characteristics. Since soils are common to the Eastern Sierra Nevada no cumulative impacts are anticipated.

Vegetation – Vegetation may be affected locally and regionally by activities and disturbances such as development, infestation and disease, wildfires, prescribed fires and vegetation treatments. Minor impacts to vegetation would be caused by implementation of the proposed action and are identified in the environmental assessment. The impacts identified on the relatively small acres of treatment would be temporary. A small risk of increased insect and disease activity may occur if the slash and tree boles are not treated properly and in a timely manner. The Jeffrey pine slash and boles, if not removed from the site before late spring/early summer, may act as a beetle sink and create problems when the beetles emerge. Monitoring of the treated areas and annual treatment of infested areas is expected to prevent an increase in insect and disease activity in these areas. Thousands of acres of BLM lands in the general area would be undisturbed and are expected to retain existing vegetation characteristics. Since vegetation is common to the Eastern Sierra Nevada no cumulative impacts are anticipated.

Visual Resources - Visual resources may be affected locally and regionally by activities and disturbances such as development, vegetative infestation and disease, wildfires, prescribed fires and vegetation treatments. Although the VRM Class II and III management classes apply only to BLM lands, the planning process leading to these classifications also takes into account uses on nearby private lands. Since the majority of lands in this area are public and managed by the BLM, the cumulative impacts on the visual quality of these lands are expected to be limited. Cumulative impacts to visual resources will be positive in the long term as healthy vegetation returns and management activities become muted over time. It has been determined that cumulative impacts would be negligible as a result of the proposed action.

Wildlife - Growth and development is a common trend in the region and locally in and around the towns of Markleeville and Woodfords in Alpine County. What was once undeveloped wildlife habitat has been and continues to be converted to residential development. Many other locations throughout the area are experiencing the same thing. As a result of this growth and development, wildlife habitat has been reduced which the proposed action responds to by improving habitat. Implementation of the proposed action can be viewed as helping to alleviate the cumulative impacts of growth and development in respect to the negative impact it has on wildlife habitat.

It has been determined that cumulative impacts would be negligible as a result of the proposed action.

Monitoring

The monitoring described in the Proposed Action is sufficient for this action.

IV. - CONSULTATION & COORDINATION

List of Preparers

_____ Tim Roide Lead, Air Quality, Fire Management	_____ Date
_____ Gabe Venegas Water Resources, Wetlands/Riparian	_____ Date
_____ Walt Devaurs Wildlife, T&E Animals, Migratory Birds	_____ Date
_____ Dean Tonenna Vegetation, T&E Plants, Invasive Species	_____ Date
_____ Arthur Callan Recreation, Visual Resources	_____ Date
_____ Susan McCabe Cultural Resources, Native American Religious Concerns	_____ Date
_____ Steep Weiss Vegetation	_____ Date
_____ Russell Suminski Livestock Grazing	_____ Date
_____ Terry Knight Wilderness, Wild and Scenic Rivers	_____ Date

Jim DeLaureal Soils, Invasive Species	Date
Ken Nelson Lands and Realty	Date
Desna Young Environmental Coordinator	Date

Persons, Groups or Agencies Consulted

Consultation was conducted with the Alpine Fire Safe Council and the Friends of Hope Valley.

V. – ATTACHMENTS

- Attachment 1 - Alpine Fuels Treatment, Vicinity Map
- Attachment 2 - Alpine Fuels Treatment, Fire History Map
- Attachment 3 - Alpine Fuels Treatment, Treatment Unit Map
- Attachment 4 - Alpine Fuels Treatment, Example Pictures of Mastication