Environmental Assessment

Crowley Communities Fuels Reduction Project

USDA Forest Service, Inyo National Forest
White Mountain and Mammoth Ranger Districts
and
USDI Bureau of Land Management
Central California District
Bishop Field Office
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Introduction

The USDA Forest Service and the Bureau of Land Management (BLM) have prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA). This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action. Additional documentation, including more detailed analyses of the project-area resources referenced in this document can be found in the Project Planning Record located at the Forest Service White Mountain Ranger District Office or the BLM Bishop Field Office in Bishop, CA.

The project is planned under of the Healthy Forest Restoration Act (Public Law 108-148) authority. The Community Wildfire Protection Plan (CWPP) community hazard ratings for the Crowley communities range from High to Extreme (Mono County 2009) (See map, Appendix A).

The project is located along the Highway 395 corridor around Crowley Lake from Tom's Place and Sunny Slopes to McGee Creek (See Figure 1). The communities in the project area are

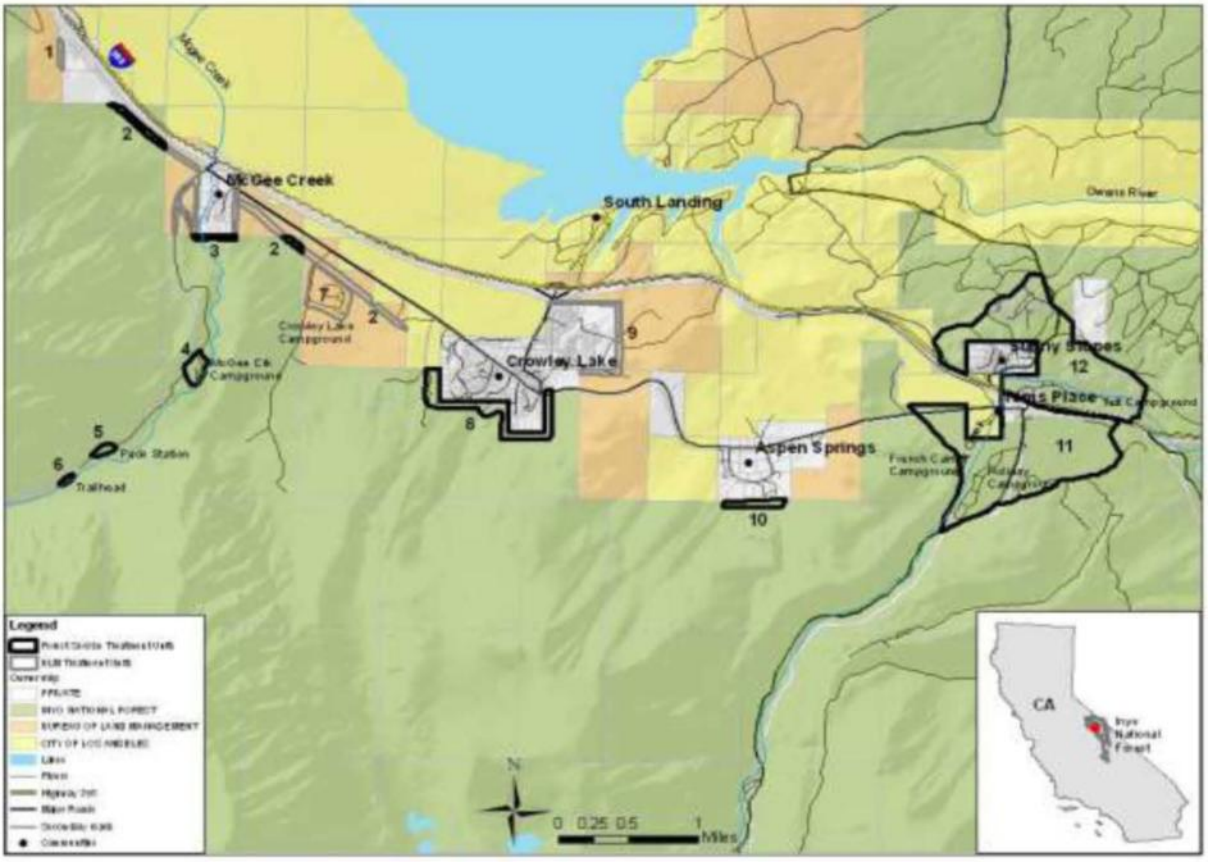

Figure 1. Project area. The project is an interagency project with units on both USDA Forest Service and USDI Bureau of Land Management (BLM) lands. This document analyses the effects of the project for both agencies. The units are numbered and detailed descriptions are included in the Proposed Action.

surrounded by a mix of Forest Service and BLM lands, so cooperation between both Agencies will facilitate more effective fuels treatments. The Inyo National Forest and the Bishop BLM's

fire and vegetation management programs work together in a Service First Interagency Organization. Each Agency retains the authority to make decisions for the lands they manage, so there will be two separate decisions made based on this Environmental Assessment (see Decision to Be Made, pg. 3).

Purpose and Need

The purpose of the project is to decrease the intensity of potential fires in strategic locations and move the landscape closer to the natural range of variability after a century of fire suppression. Each goal is described below with the purposes that it accomplishes and the description of the current conditions which create the need for the project.

1) **Decrease intensity of future fires in strategically located treatment areas to provide a location where fire suppression forces can work to control the fire**

Providing strategically located fuelbreaks meets multiple goals for both the local communities and for the management of the Forest Service and BLM lands in the area. The purpose of the fuel breaks is both to reduce the threat to communities from wildfires originating in the wildlands, and to protect the wildlands from fires that originate in developments as described in 1a and 1b respectively:

   a) **Protect human life and property from wildfire by increasing the safety of residents, visitors, and firefighters and reducing the risk to homes and facilities in the Wildland Urban Interface (WUI) due to wildfire.**

The areas proposed for treatment are immediately adjacent to homes, communities, and recreational facilities. All proposed treatment units are within the Wildland – Urban Interface (WUI), as defined in the Mono County Community Wildfire Protection Plan (CWPP) and most of the project area on the Forest Service is also within WUI or developed recreation sites as defined in the Sierra Nevada Forest Plan Amendment 2004 Record of Decision (USDA Forest Service 2004; Mono County 2009).

Fires that originate on the federal land can threaten local communities without adequate defensible space to protect homes, residents, visitors, and firefighting personnel. The communities in the project area are embedded in wildland vegetation that has become very dense after a century of fire suppression (see photos in Appendix B pg. 38). Fires can carry very quickly in these types of vegetation, and an area of reduced fuel near homes is necessary to provide defensible space. The purpose is to give fire suppression forces a place to hold the fire or anchor fire line by creating an area of reduced fire intensity. The treatments are not expected to stop a fire on their own.

The dense riparian vegetation that runs through several of these communities also presents a high risk to residents and homes during a wildfire. Many recent fires in the area have not only burned severely in upland shrub and pinyon pine vegetation, but have been carried more rapidly through riparian vegetation. In these arid eastern Sierra systems, some of the highest fuel loads are in the riparian corridors with disturbance adapted species such as aspen, willow and waterbirch. This fire behavior in riparian vegetation was observed in local wildfires in very similar vegetation types including the Inyo Complex (2007), Birch (2002), Piute (2002), and Laurel (1987) Fires (pers. comm., Jeff Iler, Interagency Fire Management Officer). There is a need to reduce the

continuity of the riparian vegetation to reduce the risk of fire carrying rapidly through these riparian corridors while maintaining the ecological integrity of the riparian system.

b) Reduce the risk of impacts to ecosystems and cultural resources from fires that can become severe or uncharacteristic landscape scale fires by reducing the number of human ignitions that escape into the wildlands.

Fires that originate in the WUI can easily escape into wildlands without adequate defensible space and there is a risk of these fires becoming uncharacteristically severe or large and disproportionately affecting wildlife habitat, watershed conditions and cultural resources compared to a fire within the range of natural variability.

Successful fire suppression over the past 80+ years has allowed unnatural levels of surface, ladder, and aerial fuels to accumulate both immediately adjacent to homes and throughout the landscape. These are the fuel conditions which can quickly lead to wildland fires escaping initial containment efforts and becoming high-intensity, stand-replacing fires, which are both difficult and dangerous to control. This was the type of fire behavior exhibited during the nearby Birch Fire of 2002 which started from a power line.

The risk of human ignitions escaping into the wildlands from the communities and developments in the project area is high because of the lack of defensible space described above. In particular, dense vegetation or ladders into the canopy close to ignition sources such as power lines, campground fire pits, and backyard barbecues has the potential result in a wildland fire. For example, there are hiker campsites at the McGee Creek trailhead with underbrush and dead and down fuels less than 1 meter from fire pits and tent pads.

2) Move fire adapted systems back towards their natural range of variability after a century of fire suppression.

Because of the history of fire suppression, the ecosystems in the project area are outside of their natural range of variability and vulnerable to high intensity fire. The project will introduce more areas of early seral vegetation and open stand structures, bringing the landscape closer to the natural range of variability close to homes and developments where the probability of ignition is higher and the need to protect nearby homes and structures requires fire suppression.

Decision to be Made

The decision to be made by each Agency is whether or not to implement fuels reduction activities as described in the Proposed Action on the lands they manage. The Forest Service and the BLM will issue separate decisions based on this Environmental Assessment consistent with their authority and the laws, regulations, and policies specific to each agency and unit.

Public Involvement

The Forest Service and the BLM sent a scoping letter on April 8, 2009 to interested parties, adjacent landowners, and local agencies requesting input and announcing a public meeting to encourage collaboration on the project proposal. A news release regarding the project proposal and the public meeting was sent to the Inyo Register on April 10, 2009 to local news outlets. The announcement was broadcast on the Sierra Wave radio station. The public collaborative meeting

was held in Crowley Lake on April 29, 2009 and was attended by approximately 20 individuals. Sixteen comment letters or calls were received from the public regarding the proposal.

The Forest Service and the BLM collaborated with the local fire district (Long Valley Fire Protection District) in developing the proposal and several changes were made based on input from the Fire Chief, Fred Stump. The Forest Service and BLM also contacted the City of Los Angeles Department of Water and Power and invited them to participate as an adjacent landowner.

Issues

An issue, as it relates to the NEPA process, is a point of disagreement, debate, or dispute with the proposed action based on some anticipated effect. Nine issues were identified from the public comments. Like comments were grouped together in the issues, so a single issue may encapsulate comments from several individuals or groups. The issues are listed below:

1. There may be a risk of prescribed burning or pile burning going out of control and damaging structures or killing mature Jeffery pines.
2. Smoke from prescribed burning may impact air quality causing impacts to local outdoor recreation and visibility.
3. Mechanical treatment methods may have an adverse impact on cultural resources.
4. The proposed methods of fuel reduction may have an effect on water rights, diversions, or springs.
5. There may be adverse impacts to wildlife due to loss of too many large trees, project activities during bird breeding season or in deer migration corridors and habitat for other locally observed wildlife including bear, mountain lions, and coyotes.
6. Aesthetics of area may be negatively affected if large Jeffery pines and aspen that are valued by residents are clear cut or if large slash piles are covered with paper or plastic or are left unburned after they are cured. The visual effects of piles with paper or plastic may affect the Inventoried Roadless Area portion of the project, especially if left for longer than necessary.
7. Public fuel wood gathering may result in route proliferation having negative effects especially on the Inventoried Roadless Area if fuel wood gathers are allowed to drive off road.
8. Operations when soils are saturated in the spring may have a negative impact on the emergence of annual plants and perennial grasses.
9. Operations may conflict with recreational use during the limited operational season for the permitted pack station at the McGee Creek trailhead.

Each of these issues is analyzed in the Environmental Consequences section. The issues were also used to modify the proposed action and design features and in one case, develop an additional alternative that was eliminated from detailed study because it does not meet the purpose and need. A summary of the public comments, how they were combined into the issues, and what changes or additional analysis were used to address them is in Appendix C. The complete comments and documentation of the determination of issues from these comments are available in the project file at the White Mountain Ranger Station or the Bishop Field Office.

Plan Conformance

The Proposal conforms to both the Bishop BLM Resource Management Plan (RMP) as Amended to Incorporate Fire Management Plan Strategies and Objectives (US Department of the Interior 1993; US Department of Interior 2004) and the Inyo National Forest Land and Resource Management Plan as Amended by the Sierra Nevada Forest Plan Amendment (USDA Forest Service 1988; USDA Forest Service 2004).

The project is within the Bishop BLM RMP Long Valley Management Area. The project is consistent with the 2004 Amendment to Incorporate Fire Management Plan Strategies and Objectives. The project is consistent with the prescribed fire and non-fire treatment emphasis on WUI for the protection and enhancement of sensitive plant and animal species (Fire Management Plan pgs. 81-82). The new fuelbreak acreage treated is 35% of the 10 year maximum for non-fire treatment acres in the Long Valley Fire Management Unit (FMU). The FMU has the highest possible priority rating in the Fire Management Plan and the project will support this priority by helping to prevent wildfire from escaping from the WUI. With the design features, the Proposed Action is consistent with the RMP requirements for seasonal protection of sage grouse (RMP pg. 37) and yearlong protection of mule deer migration corridor (RMP pg. 39) and the Visual Resource Management level II standards (RMP pg. 37).

The project falls primarily in two Management Areas (MAs) in the Inyo National Forest Land and Resource Management Plan, the Convict-McGee MA and the Rock Creek-Pine Creek MA with a small area within the Benton-Casa Diablo MA. The management prescriptions include Rx12: Concentrated Recreation Area, Rx17: Semi-Primitive Recreation, Rx4: Mule Deer Habitat Emphasis, and a small area of Rx11: Range Emphasis. The Proposal is consistent with the direction to maintain the integrity of the key mule deer habitat and the viewshed from 395 (pgs 202-203), to maintain and develop vegetative mosaics (pg. 206). The Mule Deer Habitat Emphasis calls for the use of prescribed fire for habitat improvement (pg 117). The Proposal has been designed to be consistent with the direction for each management prescription. It is also designed to be consistent with the Sierra Nevada Forest Plan Amendment, which puts a high priority on fuels treatments in the Wildland Urban Interface (USDA Forest Service 2004).

Alternatives

Alternative 1 – Proposed Action (Non-commercial Funding Alternative)

The proposed action is to use one of four treatment methods, singly or in combination, to strategically reduce hazardous fuels consisting of brush and trees around communities and recreational sites in the Crowley Lake and Toms Place areas on both Forest Service and BLM lands (See Figure 1). The proposal includes periodic maintenance of the treatments as needed. The treatment methods and prescriptions for specific vegetation types are described below. This is a non-commercial alternative for the Forest Service portion in accordance with regional direction (R5 Guidance on Meeting Judge England's November 4, 2009 Order to Include a Noncommercial Funding Alternative at the Project Level for Sierra Nevada Framework Forests Fuel Reduction Projects, December 11, 2009) because there will be no commercial forest products produced from the project. The only material removed will be for personal-use fuelwood. All the treatments will be accomplished using a mix of Agency crews and contracts. The proposed project area includes 1,267 acres managed by the Inyo National Forest (FS) and

318 acres managed by the Bishop Field Office (BLM). Total acreage for both agencies is 1,585 acres. The individual units are described below followed by the methods to be used and the prescriptions for each vegetation type.

1. ***Long Valley Community*** (BLM 3 acres): Up to a 200 ft. fuelbreak will be constructed and maintained behind the community. The vegetation is primarily shrubland.

2. ***Power line road*** (FS 16 acres, BLM 45 acres): Up to a 200 ft. fuelbreak will be constructed and maintained on the federal land along the power line access road from the Long Valley Community to the Crowley Community. The vegetation is shrubland.

3. ***McGee Creek Community*** (FS 7 acres, BLM 27 acres): Up to a 250 ft. fuelbreak will be constructed and maintained on the federal land on the west side of the McGee Creek Community, along roads in the unit, and across McGee Creek. The fuelbreak along the south and east sides of the private land boundary would be treated as needed (The homes planned for this area have not yet been built). The vegetation is primarily shrubland but also includes the McGee Creek aspen and waterbirch vegetation.

4. ***McGee Creek Campground*** (FS 18 acres): Fuel loads will be reduced and maintained within the McGee Creek Campground with treatment focused on buffers around campsites and roads and in a fuelbreak approximately 50 ft wide around the campground. Vegetation that will be treated is primarily shrubland with some small areas of aspen stands. There is no need to do any treatment in the meadow vegetation within the unit.

5. ***McGee Creek Pack Station*** (FS 6 acres): Up to 150 ft. fuel break will be created and maintained around the pack station permit boundary. The permittee is responsible for maintaining vegetation within the permit boundary. The vegetation treated includes shrubland and riparian woodland.

6. ***McGee Creek Trailhead*** (FS 3 acres). Fuel loads will be reduced and maintained in a buffer approximately 50 ft. wide around the trailhead including the campsites within the cottonwood riparian woodland on the north side of McGee Creek. Rocky talus slopes already provide fuelbreaks on the southern hillside. Some shrublands will be treated on the northwest side of the trailhead.

7. ***Crowley Lake Campground*** (BLM 55 acres). The mowed areas around campsites and roads within the campground will be extended and maintained and a fuelbreak up to 200 ft. wide will be created along the access roads. Not every acre in the unit will be treated.

8. ***Crowley Lake Community, South side*** (FS 70 acres): Includes the Whiskey Creek Recreation Residence Tract. Up to a 200 ft. fuelbreak will be constructed and maintained on the federal land from the Hilton Creek trailhead around the south side of the community including treatment around the Whiskey Creek Recreation Residence Tract. The vegetation is a mosaic of shrubland, pinyon pine woodland, and aspen dominated riparian woodland.

9. ***Crowley Lake Community, North side*** (BLM 29 acres): Up to a 100ft. fuelbreak would be created and maintained along the private land boundary around the community as needed. Currently the homes planned for the area have not been built. The vegetation is primarily shrubland.

10. ***Aspen Springs Community*** (FS 15 acres): Up to a 250 ft. fuelbreak will be created and maintained above the community. The vegetation is a mix of pinyon woodland and shrubland with a small area of aspen on the west end of the unit.

11. ***Tom's Place*** (FS 485 acres): Includes Toms Place Resort, French Camp and Holiday Campgrounds, the Rock Creek Fire Guard Station, a sewage treatment plant and a power substation. Up to a 250 ft. fuelbreak will be created and maintained around the developments. Enough vegetation would be left to provide screening of the developments from the highway. Not every acre in the unit will be treated. Vegetation is primarily pinyon woodland with some shrubland and riparian woodland.

12. ***Sunny Slopes*** (FS 302 acres): Includes Tuff Campground and Lower Rock Creek and Pine Glade Recreation Residence Tracts. Vegetation is primarily open Jeffrey pine and pinyon savannah with some areas of shrubland and riparian along lower Rock Creek. A fuelbreak will be created and maintained around the Sunny Slopes Community and the vegetation would be treated and maintained within the Tuff Campground, Pine Glade and Lower Rock Creek Recreation Residence tracts (outside the area the permit holders are responsible for treating). Further from developments in the Jeffery pine forest, prescribed burning would be used to reduce and maintain fuel loading and restore and maintain the natural fire regime. Not every acre in the unit will be treated.

The four fuels reduction treatment methods proposed for use in this project include:

1) Mow and Mulch – Use a Bobcat™, ASV™ (a compact track loader), or similar-sized machine equipped with a mower or other appropriate attachment to mow and mulch shrubs and small trees. This treatment method is best used in gently sloping (<15%), non-rocky units needing treatment of shrubs and small trees.

2) Hand-cut, Pile, and Burn – Use chainsaws to hand-cut or prune shrubs and trees. Shrubs and tree limbs and stems would be hand- or machine-piled, and the piles burned when safe, favorable conditions permit. Where access allows, larger-sized tree stems could be made available for firewood. This treatment method could be used on any terrain in the proposed project area. Pile burning will be avoided where possible to limit smoke impacts to the nearby communities (see the limitations on the hand-cut and chip method below).

3) Hand-cut and Chip – Use chainsaws to hand-cut or prune shrubs and trees. Shrubs and tree limbs and stems would be mechanically chipped, and the chips scattered on-site. Where access allows, larger-sized tree stems could be made available for personal-use firewood. This treatment method could be used on most of the terrain in the proposed project area. Chipping of material will be favored to minimize smoke impacts from burning, but steep or rocky terrain may limit access for a mechanical chipper. The size of the material and amount of biomass may also limit the use of chipping.

4) Prescribed Fire – Use underburning or broadcast burning techniques to consume surface and ladder fuels. This treatment method could theoretically be used on any terrain, but would not be used in close proximity to structures and communities. It will be used where the Fire Management Officer determines that it can be done safely.

Prescriptions will depend on the vegetation type, proximity to structures, slope, and visual sensitivity. The treatments in the major vegetation types are described below:

1. Shrublands: Any method may be used where appropriate. Shrubs will be cut. In areas of visual concern, the width of the treated area will vary to create a sinuous boundary that has a more natural appearance and where possible, a mosaic of untreated islands will be left to break up the visual impact.

2. Pinyon pine woodlands: Potential methods include hand cutting, and chipping or piling and burning. Woodlands will be thinned and remaining trees may be pruned especially close to structures. The density of trees left will be graduated to reduce visual impact by blending the fuelbreak with the untreated woodland. The edges of the fuelbreak will also be sinuous in areas visible from key view points. For areas where shrublands and Jeffery pine savanna are mixed with pinyon, see those habitat treatment descriptions.

3. Riparian woodland (aspen, waterbirch, and cottonwood). Hand methods will be used to create a shaded fuelbreak that maintains 90-100% canopy cover. Small encroaching conifers will be removed. Large overstory Jeffrey pine will maintained. Encroaching smaller conifers, dead and down material and ladder fuels (smaller water birch, aspen and shrubs) will be removed. All the material will be taken outside the riparian area to be chipped or piled and burned. Down logs will not be removed from the stream channel to maintain large woody debris and channel complexity.

4. Open Jeffery pine savanna. Prescribed burning or hand methods will be used to treat surface and ladder fuels. Large mature trees will be maintained. Overstory canopy cover will not be reduced. Hand cutting and pruning will be used in close proximity to structures to thin from below and reduce surface and ladder fuels. Material will be chipped or piled and burned. Further away from structures where the Fire Management Officer determines that it can be done safely, broadcast burning will be used to reduce the surface and ladder fuels especially heavy needle cast under the Jeffery pines, smaller trees and shrubs.

The anticipated effects of this proposed action are that the treatments would decrease the intensity of future wildland fires in the treated areas, and increase the safety of residents, recreationists, and firefighters working to protect human life and property, and suppress fires. In order for these treatments to retain their effectiveness over time, maintenance treatments are anticipated as often as every 3 to 5 years or longer depending on the rate at which vegetation re-grows.

Design Features

The following describes the design features that will be used to implement the Proposed Action Alternative:

Visuals

- Stumps will be low cut to make them less visible.
- Treatments in pinyon woodlands will be designed to fade or blend into untreated areas to reduce visual contrast where possible. Fuelbreaks will be feathered and not a constant

width in areas of high visual sensitivity. Mosaics and natural appearing patterns will be used as much as possible.

- Staff will work with neighboring landowners or recreation residence permit holders to preserve shrubs and trees they feel are important while still meeting fuel prescriptions.
- Visual screening and views from homes will be considered in marking units for treatment.
- Marking on trees will be done on the opposite side of the tree from where it is seen from the road and other travelways.
- Piling slash or chip piles adjacent to areas that are visible from high use areas will be avoided. Piles may have paper about 1/3 of the way from the top of the pile to protect them from snow penetration and to make it possible to burn them during high moisture conditions when the risk of spread is very low. Plastic will not be used and the piles will be burnt within one or two seasons after they have cured.

Wildlife

- Project activities (excluding activities that do not have a high potential to disturb nests such as tree marking and hand-piling small diameter slash) would not occur during the primary nesting period for resident and neotropical migratory birds (May 15th thru July 30th). This LOP may be adjusted during any year if a Forest Service Wildlife Biologist determines that the breeding chronology does not coincide with these dates.
- In Unit 1 (Long Valley Community), no work will be done between May 1st and June 30th because it is within 2 miles of a sage grouse lek.

Soils and Hydrology

- All applicable Best Management Practices (BMPs) for timber management, vegetative manipulation practices, and fuels management will be implemented. The Waterbody Buffer Zone in the project area is 75ft from a waterbody because all slopes are less than 30%. BMPs and Timber waiver criteria have been selected and combined to create a set of watershed mitigation measures for this project including the following:
- Equipment proximity to waterbodies: No equipment within 25 feet of waterbody; only low ground pressure equipment (<10 psi) in the Water Body Buffer Zone (75ft. from perennial water) except on existing roads.
- Mechanized equipment will be used when the soil is dry to at least 6 inches (BMP practice 2-24, considering local soil conditions).
- Mechanized equipment will not be used on slopes over 30 percent.
- Trees will be directionally felled away from swales, if any are found within the project area.
- Slash piles and burning will be excluded from within 25 feet of any watercourse. Piles will also be located outside of the 100 year floodplain, and no more than 10% of the area within the project's Waterbody Buffer Zone (75 feet in this area) will be covered with piles. Piles will be limited to no more than 10 feet in diameter and 5 feet in height at the time of burning.
- Within waterbody buffer zones, > 3 inch dbh trees for removal will be designated by written prescription, and all trees to be removed greater than 14 inches will be marked by a natural resource professional or supervised designee.
- Broadcast burning will not include active ignition within Waterbody Buffer Zones (75 ft. in this case).

- Chipped material will not be discharged to waterbodies, or be deposited in locations where such material may discharge to a waterbody. Within Waterbody Buffer Zones, chipped and masticated material will not exceed an average of two inches in depth, with a maximum of four inches.
- All areas disturbed by vegetation management activities will be stabilized at the conclusion of operations or before the winter period.
- The project will not involve construction of new or widening of existing roads or watercourse crossings.
- Public wood gathering will not allow for driving off road. Personal Fuel Wood collection will be managed by a lottery system to control traffic and all wood will be decked in previously disturbed areas with good access.
- No landings will be constructed. All landings will be located by Forest Staff in previously disturbed areas (roads and parking lots).
- Prescribed fire prescriptions will include objectives for water, soil and riparian conditions after the burn (see Appendix B).
- Water bars will be constructed in prescribed burn control lines where necessary.
- Fire lines or trails created by treatment activities will be blocked with natural materials (trees, shrubs, logs, rocks, etc.) or rehabilitated so that OHV users are not encouraged to use them as roads.
- No pesticides will be used as part of this project. No Sporax will be used because no Jeffery pine stumps are expected over 14 inches at the cut.

Air Quality

- Prior to prescribed fire operations, appropriate permits would be obtained from Great Basin Unified Air Pollution Control Board (GBUAPCB).
- "Burn" or "No Burn" day conditions would be adhered to, as determined by the California Air Resources Board (CARB).
- Degradation of air quality in Class I Airsheds would be minimized by conducting prescribed fire operations when meteorological conditions favor smoke dispersal away from these areas.
- Prescribed fire operations would be conducted when meteorological conditions favor minimal nuisance smoke in the communities of Crowley Lake, Tom's Place and Aspen Springs, as well as campgrounds and nearby recreational areas.

Cultural Resources

- All known National Landmarks, National Register properties and potentially eligible properties have been identified within the proposed project area. Protection of cultural resources will be ensured throughout planning and implementation phases with special emphasis placed on proto-historic and historic era sites with wood components in areas of broadcast burning.
- Inyo National Forest: A complete survey for unrecorded Resources of interest and determination of treatment methods, within the proposed project area will be applied on a site specific basis prior to project implementation, as per the Sierra Nevada Programmatic agreement among the USDA Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the identification, Evaluation and Treatment of Historic Properties Managed

by the National Forests of the Sierra Nevada, California (USDA Forest Service 2004). Most of the area has already been surveyed, and any areas that did not receive complete survey will be surveyed before project implementation.

- Bishop BLM: A complete survey for unrecorded Resources of interest and determination of treatment methods, within the proposed project area will be applied on a site specific basis prior to project implementation, as per the State Protocol Agreement (SPA) between The California State Director of the Bureau of Land Management and The California State Historic Preservation Officer regarding the manner in which the Bureau of Land Management will meet its Responsibilities under the National Historic Preservation Act and the National Programmatic Agreement among the BLM, Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (SPA, 2007).
- Inyo National Forest Supplement to Prescribed Fire and the Protection of Heritage Resources, a Heritage Resource Management Module for the National Forests of the Sierra Nevada (Forest Supplement) will be applied on a site specific basis.
- California Bureau of Land Management Supplemental Procedures for Protection of Cultural Resources from Prescribed Fire Effects, a Cultural Resource Amendment to The State Protocol between California Bureau of Land Management and The California State Historic Preservation Officer and the Nevada State Historic Preservation Officer, will be applied on a site specific basis (SPA, 2007).
- Standard procedures for protecting cultural resources will be followed for activities that are located immediately adjacent to cultural resources (Sierra PA, 2001 Amendment, Attachment B, II A) and (CA BLM, SPA, 2007, Protocol Supplemental Procedures for Prescribed Fire, Standard Protection Measures for Cultural Resources in Prescribed Fire Areas, Attachment 1, E) including such techniques as flagging and avoiding, directional felling and non-mechanized fuels reduction treatments.
- The Standard Go-No-Go check list will be adhered to prior to any prescribed fire operations.
- Post fire survey needs will be determined prior to prescribe fire operations, and will be based on projected site sensitivity.
- All access routes will be clearly flagged and identified in order to avoid Cultural sites.
- Tribal concerns regarding fuels treatment within the pinyon-juniper will be addressed prior to, and during planning phases of proposed project activity.

Weeds

- Equipment will be cleaned between locations, particularly the mower. If possible work will be completed in areas with few weeds before areas with dense infestations.
- If burning is used where cheat grass is present, it will conducted in the spring when possible.
- Campground sites and the McGee Creek trailhead will be monitored after implementation for introduction of new weeds. Prior to maintenance treatments, sites will be assessed to document changes in weed densities and extent. If an agency botanist determines that increases in weed densities and extent are a problem, the treatment method used will be adjusted from methods analyzed or new NEPA will be done for weed treatment before maintenance can be done.

- Because of the Russian thistle present in the Crowley Lake campground, Russian thistle seedlings will be removed the spring following treatment, at a minimum.

Recreation

- Coordinate with and notify the campground hosts or concessionaires and pack station permittee in advance of any activity in campgrounds or at the McGee Creek trailhead and pack station area.
- To the extent possible, avoid working on holidays or weekends in the recreation facilities.
- Limit the work at the pack station and trailhead in McGee canyon to before Memorial Day or after Labor Day as much as practical to reduce the conflict with pack station and recreational use.

Monitoring Plan:

- A Vegetation Management specialist or qualified representative will visit the sites after implementation to verify that project specifications were met and to qualitatively assess if desired conditions were achieved.
- Each year the accomplished project activities will be included in the pool for random selection of Watershed BMP Effectiveness Monitoring sites to be conducted one winter season after treatments are implemented.
- The accomplished activities will be entered into the pool for selection of a subset of project sites for fuel treatment effectiveness monitoring as a part of the Interagency Inyo National Forest and Bishop BLM Fuels Programmatic Monitoring Program.
- Post treatment noxious weed monitoring will be conducted in the recreation sites after implementation and in any treatment site scheduled for maintenance treatments (see Noxious Weed Design Features above).

Alternative 2 – No Action

Under the No Action alternative, no fuels treatments would occur. Vegetation densities would be allowed to remain high and outside the natural range of variability for the ecosystems in the project area. Surface and ladder fuels would not be treated. Efforts at fire suppression would continue because of the high risk to developments and resources at risk, but under extreme conditions, there would be a risk of severe uncontained wildfire and risks to homes and structures.

Alternatives developed but eliminated from detailed study – No Burning Alternative

Under the No Burning Alternative, the same areas would be treated as in the Proposed Action, but only mechanical methods would be used (Methods 1 and 3 in the Proposed Action) and all activity fuels would be treated by chipping or removal for personal-use fuel wood. There would be no pile or broadcast burning.

Rationale for elimination from detailed study

The No Burning Alternative was eliminated from detailed study because it would not meet the purpose and need. Treatment would not be complete in all the units because the fuels in some of the treatment areas are too heavy or large to chip on site and not desirable for fuel wood. For example, treatment in the riparian areas at McGee, Hilton and Whiskey Creek will generate large

size material that cannot be chipped and is not desirable fuel wood. Restricted access to some units across private land makes it impossible to remove all the fuel wood sized material. Steeper slopes on some units such as the Aspen Spring Unit would also prevent use of the chipper. Some of the fuels such as the heavy needle cast under the Jeffery pines in the Sunny Slopes unit cannot be treated except by burning. Because of these constraints, all the surface and ladder fuels in the some of the treatment units would not be treated and the purpose of reducing potential fire intensity would not be accomplished. Many studies have shown that fuels treatments that do not treat the surface and ladder fuels by burning, chipping, or removing fuels are not effective (Omi and Martinson 2002; Pollet and Omi 2002; Martinson and Omi 2003; Agee and Skinner 2005; Raymond and Peterson 2005; Cram, TT et al. 2006; Fites, Campbell et al. 2007; Ritchie, Skinner et al. 2007; Strom and Fule 2007; Thompson, Spies et al. 2007; Safford, Schmidt et al. 2009; Wimberly, Cochrane et al. 2009). Multiple studies have also shown that burning, alone or in combination with other mechanical treatments, is the most effective treatment when the treated area burns in a wildfire (Stephens 1998; Ritchie, Skinner et al. 2007; Stephens, Moghaddas et al. 2009).

Environmental Consequences

This section summarizes the physical, biological, social, and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It describes the environmental impacts of the proposal in relation to whether there may be significant environmental effects as described in 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. These reports contain more detailed data, methodologies, analyses, conclusions, maps, references, and technical documentation that the resource specialist relied upon to reach the conclusions in this EA (Lutrick 2009; Lutrick 2009; Sims 2009; Swartz 2009; Weis 2009; Weis and Nelson 2009; Halford 2010; Kerwin 2010; Murphy 2010; Murphy and Sims 2010; Nelson and Johnson 2010).

Effects Relative to Issues

The effects related to the issues identified in public scoping are discussed below.

Issue #1: There may be a risk of prescribed burning or pile burning going out of control and damaging structures or killing mature Jeffery pines.

Under the Proposed Action, the risk of prescribed burning going out of control will be reduced as much as possible by setting prescriptions for weather conditions, control measures and contingency resources that must be met in order for burning to be implemented. A Prescribed Burn Plan will be written for all burning activities. Using fire behavior modeling of weather conditions that will result in cool, optimum and hot prescriptions combined with extensive local experience from past prescribed burns, the plan will determine the conditions under which burning will be conducted in order to achieve the desired conditions and prevent an escaped burn. The acceptable ranges of relative humidity, wind speed and direction, temperature, fuel moistures and other weather conditions will be set. Control measures will be specified to keep the burn within the prescribed area and the personnel needed to burn safely will be determined including contingency resources on call if needed. The post fire monitoring procedures will also be identified. The plan will be written by experienced fire personnel with the required experience

and training for the Interagency Qualifications and Certification System position of Burn Boss. The plan must undergo technical review by another qualified Burn Boss. The final plan will be approved by the responsible official. A series of fail-safe procedures are included when the burn is scheduled and the weather is closely monitored before, during, and after the burn.

Pile burning has very low risk to other resources because fuel conditions are controlled by building piles and burning will be done under high moisture conditions or with snow on the ground. Broadcast burning will be limited to areas at a greater distance from homes and facilities where it is much more efficient and effective to do broadcast burning than mechanical treatment and where the risks to structures and other values at risk are judged to be acceptable by the Fire Management Officer.

Burning similar to that proposed here has been done successfully for a decade in the Casa Diablo area. The local fire organization has experience and a proven track record in managing these kinds of fires without causing undesired mortality in the mature Jeffery pines. Jeffrey pine forests are adapted to frequent low intensity fire and the use of prescribed burning will improve the health of the forest and help prevent its complete loss in a more intense wildfire due to unnatural build up of fuels under fire suppression (Stephens 1998; Stephens 2001; Pollet and Omi 2002; Noss, Franklin et al. 2006; Ritchie, Skinner et al. 2007; Strom and Fule 2007; North, Van de Water et al. 2009; Safford, Schmidt et al. 2009; Stephens, Moghaddas et al. 2009).

Once the initial treatments are implemented, maintenance prescribed burning that may occur periodically will have an even lower risk. The initial treatments will provide improved defensible space around developments and lower fuel loads which will result in lower fire intensities.

Under the No Action Alternative there is a risk of unplanned wildfires damaging the cabins and other developments, but it much more likely that the damage would be severe under the No Action Alternative where the fuel loads would be much higher, strategic fuelbreaks to reduce the fire intensity and give an opportunity for control would not exist, and the fire would occur under much more severe fire weather conditions.

Issue #2: Smoke from prescribed burning may impact air quality causing impacts to local outdoor recreation and visibility.

The effects to air quality were analyzed in the Air Quality Report which is incorporated by reference and the conclusions are discussed here (Lutrick 2009). Under the Proposed Action, thinning, slash treatment and prescribed burning would add dust and emission (fossil fuel burning) into the atmosphere. There is potential for persons adjacent to or downwind from the units to be affected by dust or smoke, however, due to the small size of the units, a multiple year implementation plan, and air quality design features, adverse effects are not expected to be more than minor and short-term, on the order of hours (Lutrick 2009). A maximum of 153 acres will be broadcast burned due to the constraints of working near homes and structures. Pile burning is an option on 800 acres, but mechanical methods will be used wherever possible, so the actual acreage of pile burning will be a fraction of that area. The treatments will need to be maintained through time, but the fuel loads should be lower for the maintenance treatments resulting in less impact to air quality. Implementing design features would greatly minimize these effects and reduce the threat to public health and safety from the heat, flames, and the smoke of future wildland fires (Lutrick 2009).

The project area is located approximately 1 mile (at its closest) east of the John Muir Wilderness, which is a Class I Airshed (US EPA 1999). Class I Airsheds are granted special air quality protections under Section 162 (a) of the federal Clean Air Act (US EPA 1999). The project area is outside of any "non attainment" areas for PM_{10}. Regulation of air quality falls under the jurisdiction of the Great Basin Unified Air Pollution Control District (GBUAPCD). The GBUAPCD and U.S. Environmental Protection Agency (EPA) implement State and Federal Standards for PM_{10} and $PM_{2.5}$.

Because the project area lies less than one mile from the John Muir Wilderness, smoke from the control burn could enter this Class I Airshed under unfavorable meteorological conditions. The communities of Tom's Place, Aspen Springs and Crowley are adjacent to the project area. Smoke from prescribed burning could potentially create a nuisance to the residents. Other people potentially affected from the broadcast burning include those recreating near the project area, especially at night when smoke could settle near the creeks and in other low-lying areas. Further, because burns will occur mainly on days when the wind is blowing to the east, people recreating or otherwise present east of the burn area would have a higher risk of increased smoke (Lutrick 2009).

Due to the concerns about smoke and its impacts to air quality, the amount of prescribed burning in the proposed action has been reduced to a minimum. The only fuels that will be burned are the ones that cannot be effectively treated mechanically (see No Burning Alternative - Rationale for elimination from detailed study - page 12). Design criteria are included to take maximum advantage of weather and fuel conditions to control burning operations and limit emissions to the extent practicable (see page 10). Advance notification to the public and the GBUAPCD of upcoming prescribed burning is required in all burn plans. This should further reduce potential for nuisance smoke because the GBUAPCD determines whether the plan will meet their smoke and PM10 standards (Lutrick 2009).

Under the No Action Alternative, there would be no effect to air resources from treatment activities. However, there would be a higher risk of stand replacing wildfire under this alternative. A stand replacing wildfire has the potential to result in higher amounts of smoke for longer periods during the season when air is more stagnant and less atmospheric mixing occurs. Smoke from past large fires has negatively affected the public health and safety of nearby residents and visitors, and prompted health warnings from the local air pollution control office (Lutrick 2009).

Issue #3: Mechanical treatment methods may have an adverse impact on cultural resources.

The majority of the project area has been surveyed for cultural resources. Before any treatments are implemented in any area that has not already been surveyed, a complete survey of the cultural resources will be done. Any sites that are vulnerable to damage by mechanical treatment will be avoided and protected during implementation and during any maintenance treatments on Inyo National Forest lands as per the Sierra Nevada Programmatic agreement among the USDA Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the identification, Evaluation and Treatment of Historic Properties Managed by the National Forests of the Sierra Nevada, California (Sierra PA, 2004). On BLM lands cultural sites will also be protected during implementation and maintenance as per the State Protocol Agreement (SPA) between The

California State Director of the Bureau of Land Management and The California State Historic Preservation Officer regarding the manner in which the Bureau of Land Management will meet its Responsibilities under the National Historic Preservation Act and the National Programmatic Agreement among the BLM, Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (SPA, 2007) (Kerwin 2010).

There is a higher risk of damage to cultural resources under the No Action Alternative due to the greater risk of higher intensity wildfire. Fire suppression activities over the past 100 years have increased fuel loading, increasing potential for high intensity fires to occur, which can adversely affect cultural sites. A No Action Alternative would have a greater potential to affect the reliability of data reflective of past human behavior, and in some cases the permanent loss of prehistoric and historic era sites and associated data and components (Kerwin 2010).

Wildland fire suppression activity such as heavy equipment and hand crews for control line construction and back-firing for fire breaks has potential to affect or destroy cultural resources. Current fuel loading within the proposed treatment units has departed from historical ranges allowing the possibility of stand replacing fires, posing unmanageable threats to the cultural resources within and adjacent the project area (Kerwin 2010).

Issue #4: The proposed methods of fuel reduction may have an effect on water rights, diversions, or springs.

Water diversion structures and any other structure or permitted facility within the project area will be identified and protected from mechanical damage during project implementation and when treatments are maintained in the future. The Agencies will work with permittees and adjacent landowners who identify specific structures that should be protected.

Water rights should not be affected by the Proposed Action because the activities are not predicted to affect stream or spring flow. In some cases, removal of vegetation can cause temporary increases in stream or spring flow; however, this project, with its relatively small area of fuelbreaks, should not remove enough trees to alter stream or spring flows. Maintenance treatments likewise are not expected to alter stream or spring flows. Therefore, beneficial uses related to flow, such as aquatic habitat and domestic or agricultural use of water should not be affected by this action (Lutrick 2009).

For Forest Service projects, the Sierra Nevada Forest Plan Amendment (2004 and 2001) requires that a Riparian Conservation Objective (RCO) analysis be completed. The RCO analysis applies to Riparian Conservation Areas (RCAs), which are the areas within 300 feet of perennial streams, springs, and other special aquatic features, or 100 feet of intermittent and ephemeral streams. The analysis determines effects to water quality, water quantity and aquatic habitat. This analysis was done for the entire project area, and the hydrologist found that the Proposed Action would likely have only minor and short term negative effects to water quality and soil quality, with implementation of the watershed design features (see page 9). The project should not affect water temperature, because the riparian treatments are shaded fuelbreaks that will retain large shade trees. Because there may be some use of ATVs or mowers within 100 feet of streams (never closer than 25 ft), and removal of vegetation within RCAs, there could be a very minor increase in bare soil for up to 3 years. This could allow for slightly increased runoff and slightly increased sediment into the creeks. Implementation of Best Management Practices (BMPs),

along with the minor ground disturbing nature of this project, should prevent any measurable water quality effects to beneficial uses (Lutrick 2009). Maintenance treatments are expected to have less effect because the treatments can be lighter due to the already reduced fuel loads and lack of decadent vegetation.

Under the Proposed Action, there would be a decrease in the chance for stand replacing wildfire. Therefore, it reduces potential for loss of all riparian areas along McGee, Hilton, Whiskey and Rock Creeks and other spring and wetland areas (Lutrick 2009). Without implementation of this project, the area would become more susceptible to a stand-replacing wildfire starting in the WUI. A stand-replacing wildfire and associated fire suppression actions would have the potential to increase soil hydrophobicity and erosion. This area also has extensive riparian vegetation along the perennial streams, and the loss of all this vegetation could decrease bank stability and increase fine sediment input into the creeks. This could affect beneficial uses, including cold water habitat and domestic water supply. The effect would be medium term, likely only one to three years, because riparian vegetation grows back within months after a wildfire (Lutrick 2009).

Issue #5: There may be adverse impacts to wildlife due to loss of too many large trees, project activities during bird breeding season or in deer migration corridors and habitat for other locally observed wildlife including bear, mountain lions, and coyotes.

Impacts to wildlife habitat were analyzed for both BLM and Forest Service to ensure that the direction in their Land and Resource Management Plans is being met. The analysis includes Biological Evaluations for sensitive and endangered species, a Management Indicator Species Report (FS), a Neotropical Migratory Bird Report and additional analysis for the species mentioned in the public comments (deer, bear, mountain lion and coyotes) (Murphy 2010; Murphy and Sims 2010; Nelson and Johnson 2010). The wildlife reports are incorporated by reference and the conclusions relative to Issue #5 are summarized here.

Wildlife habitat effects due to the removal of large trees are not expected because the Proposed Action will only thin from below and no large trees will be cut unless they are a hazard tree (see Proposed Action, pg. 5). Some larger trees may need to be removed if they are a hazard to the public, residents, or personnel implementing the project, however, hazard trees are not abundant in the project area so the removal of enough large trees to have a noticeable impact on wildlife is not expected.

The Neotropical Migratory Bird report concludes that while a small portion of the habitat will be affected due to the removal of understory cover, there is abundant similar habitat nearby. The treatments will reduce the likelihood of much larger and more severe habitat loss in the event of a wildfire (Murphy and Sims 2010).

Any direct impacts to migratory birds from fire or mechanical treatment within their habitats will be limited because the proposed vegetation treatments will not occur during the nesting season, reducing impacts to nests, young, or juveniles. Implementation activities must cease after May 15th, before nesting is initiated. This Limited Operating Period (LOP) may be adjusted during any year if a Forest Service wildlife biologist determines that the breeding chronology does not coincide with these dates. Disturbance due to human presence or noise will be of short duration repeated periodically as needed for maintenance treatments, as fire crews and equipment will

only be present for a few days at each treatment site. After treatments are complete, bird species may re-enter the site (Murphy and Sims 2010).

The project includes potential sage grouse habitat. Sage grouse have not been reported within the project area itself. Sage grouse use has a higher potential to occur adjacent to the project area, outside of the road and power line areas. Several units are within key habitat, as identified by BLM. Only the northern-most unit (Unit 1: Long Valley Community - see Figure 1) lies within 2 miles of a known lek. The Bishop RMP mandates Yearlong Protection of sage grouse habitat and Seasonal Protection within 2 miles of active sage grouse leks. There will be no work done in this unit between May 1st and June 30th (Murphy and Sims 2010; Nelson and Johnson 2010).

Large-scale, high-intensity wildfire poses one of the single largest threats to sage grouse and sage grouse habitat. The Proposed Action provides for strategically located fuelbreaks around communities, under power lines, and along roads which would not only reduce wildfire threats to human populations, but also reduce the risk of a human-caused wildfire from spreading into nearby important sage grouse habitat as compared to the No Action Alternative (Nelson and Johnson 2010).

Impacts to sage grouse may include disturbances leading to avoidance or dispersal from the area during initial implementation or maintenance. However, sage grouse use within these narrow portions of the project area is likely limited due to the presence of power lines, roads, and other man-made features which reduce habitat quality. The proposed mowing treatments would reduce sagebrush and other brush cover, however, after mowing treatments foraging potential would still occur in these areas, as forbs and younger brush would recover. These small treatment areas would not measurably reduce the overall availability of sage grouse habitat within the Long Valley sage grouse population (Murphy and Sims 2010; Nelson and Johnson 2010).

The project area is within the transition range used as deer migrate during the spring and fall. This range usually consists of high desired foraging species and cover. Transitional range for the Round Valley herd is generally located in the Sherwin Creek area near the town of Mammoth Lakes, CA. However, deer also move through the project area during migration and there is potential for fawning in the general area of the proposed project (Murphy 2010; Nelson and Johnson 2010).

A series of large-scale, high-intensity wildfires over the past 15 years in the Round Valley and Toms Place areas has greatly diminished available forage for wintering/migrating mule deer from the Round Valley herd. Minimizing additional losses of forage to wildfire in and near the project area would be beneficial to wintering/migrating mule deer. Like the sage grouse analysis above, the analysis of mule deer habitat found that the fuelbreaks would benefit mule deer by reducing the risk of a human-caused wildfire from spreading into important mule deer habitat (Murphy 2010; Nelson and Johnson 2010).

Project activities would result in short-term direct impacts to mule deer during implementation and maintenance. These short-term impacts would not result in mule deer altering their use of this transition range. Mule deer foraging habitat may be altered, but the suitability of this habitat would be maintained. Aspen within the project area has the potential to be enhanced, increasing

foraging, cover, and fawning suitability within the riparian corridors (Murphy 2010; Nelson and Johnson 2010).

The additional species mentioned in the comments were Mountain lion, bear and coyote. These species are considered habitat generalists. They may disperse or avoid the project area while mechanical treatments are occurring due to noise and human presence. Prescribed fire activities may result in a larger avoidance of the area. However, this impact would be short in duration (a few days at a time) and would occur once and then periodically during maintenance. These species have the potential to return to the area after implementation activities have ceased. Project activities may lead to alteration or removal of some suitable habitat; however, there would not be an overall decline in suitable habitat due to the amount of habitat found throughout these species ranges (Murphy 2010).

Under the No Action Alternative, no fuels reduction activities would occur and habitat conditions would remain at their current level and would continue to provide habitat for neotropical birds, mule deer, mountain lion, coyote, and black bear, and potential habitat for sage grouse. There may be an increased risk of loss to this habitat and to habitat in the area outside of the project boundaries if a stand-replacing fire were to occur. Habitat loss due to high severity fire is one of the greatest concerns for mule deer winter habitat and for sage grouse (Murphy 2010; Nelson and Johnson 2010).

Issue #6: Aesthetics of area may be negatively affected if large Jeffery pines and aspen that are valued by residents are clear cut or if large slash piles are covered with paper or plastic or are left unburned after they are cured. The visual effects of piles with paper or plastic may affect the Inventoried Roadless Area portion of the project, especially if left for longer than necessary.

The effects of the project on aesthetics were analyzed in the Visual Specialist Report which is incorporated by reference and the conclusions are summarized here as they relate to the issues raised in public comment (Oliver 2009). The treatments under the Proposed Action will not involve cutting a large number of large overstory Jeffrey pines or aspen that are dominate visual features on the landscape. The overstory cover will not be reduced in Jeffery pine and aspen stands and larger trees generally will not be cut unless they are a hazard. The prescription is to thin from below and reduce surface and ladder fuels. Therefore the iconic Jeffery pine and aspen will not be affected.

Piles may have paper about 1/3 of the way from the top of the pile to make it possible to burn them during high moisture when the risk of spread is very low. Plastic will not be used and the piles will be burnt within one or two seasons after they have cured.

The Visual Quality Analysis found that there would be immediate short-term impacts to visual resources because of the contrast between treated and untreated areas. The short-term impacts are greater in open sage/bitterbrush than pine/pinyon pine landscapes and will vary for each proposed unit and are dependent on landscape visibility and sensitivity. For all proposed units within 1 to 3 growing seasons the contrast between treated and untreated areas will decrease and should not be visually evident to the casual observer because of the re-growth of vegetation. Upon the repeat of the vegetative treatments the cycle will repeat with short-term impacts to visual resource, followed by re-growth of vegetation. The project areas will meet the requirements of partial retention (FS), retention (FS) and Visual Resource Management Class 2

(BLM) visual direction (Oliver 2009). The design features incorporated into the Proposed Action will mitigate most of the visual impacts (see pg. 8).

The analysis of effects to visual quality in the IRA portions of the project found that there would be no lasting adverse effects because there would be no new road building or maintenance, the piles and disturbances due to implementation activities would be temporary and the treatments would help to protect the ecological aspects of the IRA by returning the forest to a structure within the natural range of variability for the fire adapted Jeffery pine system and allowing for safer natural fire to occur within the wilderness and IRA (Swartz 2009). Consistency with IRA direction is discussed on pg. 27.

If there is no action taken and the proposed fuel treatment and habitat improvement project does not take place there would be no direct effect to landscape character associated with the project areas and therefore no change in scenic integrity of the project areas from current conditions.

Potential indirect effects to the landscape character of the proposed treatment areas, if the No Action Alternative is selected and no treatment occurs there, would be the potential for loss of vegetation and land scarring associated with catastrophic wildfire, which would be beyond expected disturbance levels for this ecological system. This alternative could potentially have a long term major adverse effect and be more damaging to the scenic integrity of the project areas. Because of the unnatural fuel buildup an unmanaged wildfire could burn hotter and destroy native plants, changing the vegetation composition of the forest resulting in scenery with negative appearance for up to 10 years and a different type of scenic expression thereafter. This could potential decrease the ability of the forest lands to meet the Visual Quality Objective levels (Oliver 2009).

Issue #7: Public fuel wood gathering may result in route proliferation having negative effects especially on the Inventoried Roadless Area if fuel wood gathers are allowed to drive off road.

If personal fuel wood permits are offered, permit holders will not be allowed to drive off designated roads in this project area due to the congestion and the proximity to heavily used areas. The wood will be stock piled in previously disturbed sites (like parking lots and old roads). If those areas are in heavily used recreational areas or congested areas, permits will be offered on a lottery basis with assigned dates for wood retrieval to minimize the traffic conflicts. Any skid trails or fire lines created during operations will be rehabilitated so that soil cover objectives are met and to discourage use as Off Highway Vehicle trails. Because of these design features, there should be no effect to the number of routes in the area and there should be no difference from the No Action Alternative. Under the No Action Alternative there would be no effect to route proliferation because there would be no treatment activities in the project area.

Issue #8: Operations when soils are saturated in the spring may have a negative impact on the emergence of annual plants and perennial grasses.

Best Management Practices (BPMs) incorporated in the Proposed Action require that operations for both initial implementation and maintenance treatments only be conducted when soils are dry to 6 inches in the uplands or with adequate snow cover will protect soils from compaction. Low pressure ground equipment will be used in Water Body Buffer Zones. These BMPs will prevent soil compaction and negative impacts to the emergence of annual plants and perennial grasses. The watershed specialist's analysis incorporated here by reference found that operations could

slightly increase soil compaction, but likely at such a low level that the effects would be immeasurably small (Lutrick 2009). Past monitoring of similar soils on the Inyo National Forest has shown that detrimental soil compaction is limited to main skid trails and landings. Secondary skid trails that retain soil cover disperse the weight of the equipment to effectively mitigate detrimental soil compaction. These soils are non-cohesive, with a sandy surface texture and drain very quickly after snow melt or rainfall event. The soils have high soil strength when dry and have a low susceptibility to adverse compaction. Using existing roads, designating skid trails and maintaining slash on the secondary skid trails would prevent measurable increases in soil compaction as compared to the No-Action Alternative where no soil compaction would occur (Lutrick 2009).

Issue #9: Operations may conflict with recreational use during the limited operational season for the permitted pack station at the McGee Creek trailhead.

Design features to reduce conflict with recreational use at the recreational facilities within the project area have been added to the Proposed Action. When possible, treatment activities including maintenance treatments would not be conducted on weekends in the campgrounds when they are open. Treatment activities at the McGee Creek Pack Station and Trailhead facilities would be limited as much as possible to before Memorial Day and after Labor Day. The Pack Station and campground concessionaires or hosts will be notified in advance of treatments, including maintenance treatments, so that they can notify their users.

With the Design Features incorporated into the Proposed Action, it is not anticipated that there will be more than a minor inconvenience for the visitors that may be using the recreational facilities on the days that crews or contractors are working due to noise, dust and the presence of crews working. The maintenance treatments will be shorter in duration because of reduced vegetation density. The crews will not block access to the facilities unless it is necessary for safety such as during tree felling. The project will improve all visitors' safety when using the facilities in the future.

Under the No Action Alternative, there would be no minor inconvenience to a few visitors, but the probability of a fire establishing at the recreational facilities and damaging them would be much greater and there would be a greater risk to visitors using the facilities in the event of a wildfire.

Comparison of Alternatives relative to Issues

Issue	Measure	Alternative 1: Proposed Action	Alternative 2: No Action
#1: Risk of prescribed burning or pile burning going out of control	Probability of wildfire (from prescribed burn or other ignition source)	**Low**	Moderate
#2: Prescribed burning impacts to air quality	Effects of smoke in areas of concern due to project activities	Intensity: Low Duration: Short term (1-2 days), repeated on maintenance interval	**None**
	Effects of smoke in areas of concern due to wildfire	Intensity: **Moderate** Duration: **Short term (a few days)**	Intensity: Major Duration: Medium term (days to months)
#3: Mechanical	Number of sites	**None**	**None**

treatment methods damaging cultural resources	damaged by project activities		
	Probability of sites being damaged by wildfire	**Low**	Moderate
#4: Water rights, diversions, and springs	Effects to water rights and diversions by project activities	**None**	**None**
	Effects to beneficial uses due to project activities	**Un-measurable**	**None**
	Effects to beneficial uses, water rights and diversions in the event of a wildfire.	Intensity: **Moderate** Duration: **Medium term (1-3 years)**	Intensity: Major Duration: medium term (1-3 years)
#5: Wildlife impacts	Effects to breeding birds, deer, mountain lion, coyote and bear due to project activities	Intensity: Minor Duration: Short term	**None**
	Effects to breeding birds, deer, mountain lion, coyote and bear in the event of a wildfire	Intensity: **None to Moderate** Duration: **Medium term**	Intensity: Major Duration: Medium term
#6: Visual/Aesthetic impacts	Effects on aesthetics	Intensity: Minor to moderate (depending on unit and vantage point) Duration: Short term	**None**
	Impacts to IRA character	Intensity: Minor Duration: Short term	**None**
	Impacts to aesthetics and IRA Character in the event of a wildfire	Intensity: **None to Moderate** Duration: **Medium term**	Intensity: Severe Duration: Medium to long term
#7: Route proliferation	Increase in routes within the project area	**None**	**None**
#8: Compaction and plant emergence	Increase in compaction	**Un-measurable**	**None**
	Impacts to plant emergence	**None**	**None**
#9: Conflicts with recreational users	Effects to users from project activities	Intensity: Minor Duration: Short term	**None**
	Effects to users in the event of a wildfire	**Intensity: Minor to Moderate Duration: Short term**	Intensity: Moderate to Severe Duration: Medium to long term

Effects Relative to Finding of No Significance (FONSI) Elements

In 1978, the Council on Environmental Quality published regulations for implementing the National Environmental Policy Act (NEPA). These regulations (40 CFR Parts 1500-1508) include a definition of "significant" as used in NEPA. The ten elements of this definition are critical to reducing paperwork through use of a finding of no significant impact (FONSI) when an action would not have a significant effect on the human environment, and is therefore exempt from requirements to prepare an environmental impact statement (EIS). Significance as used in

NEPA requires consideration of the following ten intensity factors in the appropriate context for that factor.

(1) Beneficial and adverse impacts

Mitigations and management requirements designed to reduce the potential for adverse impacts were incorporated into the proposed action (i.e. standards and guidelines outlined in the Inyo National Forest LRMP (USDA Forest Service 1988), as amended by the Sierra Nevada Forest Plan Amendment (USDA Forest Service 2004) and direction from the BLM's Bishop Resource Management Plan as Amended to Incorporate Fire Plan Strategies and Objectives (US Department of the Interior 1993; US Department of Interior 2004). These mitigations and management requirements would minimize or eliminate potential adverse impacts caused by fuels reduction treatments.

A discussion of potential effects is summarized below from supporting analysis (Lutrick 2009; Lutrick 2009; Oliver 2009; Sims 2009; Swartz 2009; Weis 2009; Weis and Nelson 2009; Halford 2010; Kerwin 2010; Murphy 2010; Murphy and Sims 2010; Nelson and Johnson 2010). All analyses prepared in support of this document considered both beneficial and adverse effects of the proposed action; however all effects determinations were made on the basis of only adverse effects. None of the potential adverse effects of the proposed action or no action alternative would be significant, even when considered separately from the beneficial effects that occur in conjunction with those adverse effects.

Wildlife

Summarized from the Biological Evaluation/Assessment, Project Management Indicator Species Report, Neotropical Migratory Bird Report, and Supplementary Wildlife Reports which are hereby incorporated by reference (Sims 2009; Murphy 2010; Murphy and Sims 2010; Nelson and Johnson 2010).

Impacts to specific wildlife species raised as issues in the public comment are analyzed in Issue #5 above, including neotropical migratory birds. The predicted adverse effects are minor and short term and the predicted beneficial effects are moderate and long term due to the lowered risk of human caused wildfires escaping the WUI (see pg. 17).

Habitat within and adjacent to the proposed project area was analyzed for suitability for all threatened, endangered, proposed, and sensitive (TEPS) animal species potentially occurring on the Inyo National Forest and Bishop BLM based on maps, aerial photos and field surveys. Two Forest Service species were found to have potential habitat in the project area, the northern goshawk and the greater sage grouse (Murphy and Sims 2010). One of these species is also a BLM sensitive species, the greater sage grouse (Nelson and Johnson 2010).

Northern goshawk habitat occurs within the Tom's Place portion of the project area. This area offers approximately 65 acres of potential goshawk habitat. However, after survey efforts in the area, no goshawk sign, nests, or occurrences were observed; therefore impacts to nesting goshawks would not occur. Furthermore, although habitat may be altered by the removal of understory cover, the removal of smaller trees would still allow for suitable goshawk habitat to be present within the project area. Therefore, the wildlife biologist's determination is the proposed action may impact individuals, but would not lead toward federal listing or a loss of

viability for northern goshawk (Murphy and Sims 2010).

There is potential sage grouse habitat within a small portion of the project area but use of the project area has not been documented. See Issue #5 (pg. 17) for the analysis of impacts to sage grouse. No adverse impacts to sage grouse are predicted, but long term beneficial impacts are anticipated because of the reduced risk of wildfire originating in the WUI.

The No Action Alternative would not have any direct effects on goshawk or sage grouse habitat, however, in the event of a wildfire a much greater proportion of their habitat could be lost without strategically placed fuels treatments (Murphy and Sims 2010; Nelson and Johnson 2010).

Forest Service Management Indicator species for Lacustrine/Riverine Habitat, Riparian, and sagebrush habitats were also analyzed. The sagebrush indicator species is the greater sage grouse which is discussed in Issue #5 (pg. 17).

The management indicator species for lacustrine/riverine habitat are macroinvertebrates. No changes are expected for the macroinvertebrate communities within the treated areas. The riparian vegetation along the banks of the streams will not be removed or treated. The remaining large conifer trees will still provide shade to the creek, so warming of the water in the streams will most likely not be measurable. The riparian vegetation along the creek will continue to retain the sediment buffering and thermal buffering properties of the streams prior to treatment. These treatments are not expected to change stream temperatures, sediment inputs or flows that currently exist (Murphy and Sims 2010).

The yellow warbler is the Management Indicator Species for riparian habitats. The removal of ladder fuels in the riparian would not be a complete removal of suitable habitat. Although this area contains potential habitat for yellow warbler, this area may not be suitable due to the proximity to human presence and that treatments sites are a small portion of a larger contiguous riparian area. Treatments will allow for the impacts of stand-replacing fires to be lowered, which would reduce further impacts or loss of yellow warbler habitat (Murphy and Sims 2010).

Under the No Action Alternative, there were no direct effects predicted for wildlife, but due to the high risk of wildfire originating in the WUI and becoming a landscape scale, uncharacteristic wildfire, the indirect effects were found to be potentially negative for many wildlife species including greater sage grouse and mule deer which are species that the Forest Service and BLM are directed to manage for in the project area (Murphy 2010; Murphy and Sims 2010; Nelson and Johnson 2010).

Plants

Summarized from the Biological Evaluation/Assessments for Plants and Noxious Weed Risk Assessment, which are hereby incorporated by reference (Weis 2009; Weis and Nelson 2009; Halford 2010).

Based on the existing information in the files, results of the field visits, and lack of potential habitat, it is the botanists' determination that the proposed project will have no impact on any

sensitive, threatened, endangered, or proposed plant species for either the Forest Service or the BLM (Weis and Nelson 2009; Halford 2010).

The No Action Alternative will also not have any direct or indirect effects due to severe fire risk on sensitive plants because of the absence of sensitive plant habitat in the project area.

The risk of introducing or spreading weeds was also analyzed. Minimal cheat grass spread was predicted to occur if mitigation measures are followed (see pg. 11). Increases in Russian thistle in the Crowley Lake Campground have been observed after mowing treatments, so it will be pulled in the spring after treatments area implemented (see pg. 11). Equipment cleaning will avoid introduction of new weedy species.

Under the No Action Alternative, there would be no direct effects to weed populations, but there would be a greater risk of cheat grass spread in the event of a wildfire.

Watershed and Riparian Areas

The following is summarized from the Hydrology and Soils Report, which is hereby incorporated by reference (Lutrick 2009).

The analysis found that the Proposed Action should have minor and short term negative effects to water quality and soil quality, with implementation of the design features (pg. 9). Some of the project area is within Riparian Conservation Areas (RCAs) (see definition on pg. 16), and the activities will cause minor ground disturbance. This minor ground disturbance, including pile burning, broadcast burning, mowing, and piling, could slightly increase soil compaction and runoff, but likely at such a low level that the effects would be immeasurably small (Lutrick 2009).

Without implementation of this project, the area would become more susceptible to a stand-replacing wildfire in the future than if the project were implemented. A stand-replacing wildfire would have the potential to increase soil hydrophobicity and erosion. This area also has extensive riparian vegetation along the perennial streams, and the loss of all this vegetation could decrease bank stability and increase fine sediment input into the creeks. This could affect beneficial uses, including cold water habitat and domestic water supply. The effect would be medium term, likely only one to three years, because riparian vegetation grows back within months after a wildfire (Lutrick 2009).

Further discussions of the watershed and riparian area effects specific to water rights, diversions, springs and soil compaction are found under Issues #4 and #8 (pg. 17 and 20).

Air Quality

Summarized from the Air Quality Report, which is hereby incorporated by reference (Lutrick 2009).

Analysis of effects on air quality is discussed in Issue #2 (pg. 14). The conclusion of the air quality specialist was that there would be temporary effects that would be mitigated as much as possible so that they were minor and short term. Under the No Action Alternative there would be

no direct effects, but there would be a greater risk of longer term, more severe impacts to air quality due to wildfire (Lutrick 2009).

Cultural Resources
Summarized from the Cultural Resource Report, which is hereby incorporated by reference (Kerwin 2010).

Design features in the proposed action ensure that there will be a complete survey for all cultural resources and all resources will be protected during implementation. See FONSI Element 8 below (pg. 33) for compliance with relevant law, regulation and policy and agreements with the State Historic Preservation Officer.

The proposed action would reduce surface and ladder fuels within the proposed project area, likely reducing the risk of damage to cultural resources from high intensity fire compared to the No Action Alternative. High intensity fire has potential to effect cultural resources via spalling or cracking of rock features, loss of important obsidian hydration data, and complete loss of organic wood features and artifacts associated with human habitation within the project area. Fuels treatments decrease the likelihood of damaging cultural resources and reducing or destroying research and interpretive potential and create an environment conducive to interpretation, preservation and protection of cultural resources located within and adjacent the project area (Kerwin 2010).

Fuels treatments within pinyon stands, while reducing a small percentage of pinyon within the project area, will protect the adjoining landscape. Fuels treatments in riparian corridor will likely enhance plants recognized for materials used by traditional practitioners (Kerwin 2010).

Further discussion of effects to cultural resources is under Issue #3 (pg. 15).

Visual Quality
Summarized from the Visual Quality Report, which is hereby incorporated by reference (Oliver 2009).

The impacts to visual quality are discussed under Issue #6 above (pg. 19). The visual quality specialist concluded that there would be minor, short term impacts to visual quality with design features that reduced most impacts. Under the No Action Alternative there would be no direct effects, but a greater risk of larger indirect effects due to wildfire (Oliver 2009).

(2) The degree to which the proposed action affects public health or safety.

The fuel treatments are designed to increase the efficiency of fire suppression efforts and reduce risks to firefighters, the public (residents and visitors), residences and other improvements, water quality, and natural resources. There would be improved public and firefighter safety, as the treatments are intended to slow the rate of fire spread and reduce fire intensity, which would increase the chances that fire suppression forces could safely and effectively make a stand to control the wildfire. Smoke and air quality effects have been minimized using design features to ensure dissipation and transport of the smoke away from populated areas and by limiting burning to the areas where it is necessary (see analysis on pg. 14). Implementation of the Proposed Action would be governed by standard public health and safety contract clauses.

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, parklands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

There are no parklands, prime farmlands, wild and scenic rivers, or ecologically critical areas within the project area. The project area is completely outside of designated wilderness. There are wetlands and riparian areas and the effects to those features area analyzed under beneficial and adverse effects above (pg. 25) and under Issue #4 (pg. 16). Analysis in the Cultural Resources report found there would be no adverse effects to historic and cultural resources (see (1) above (pg. 26) and in Issue #3 (pg. 15)). There are small portions of Forest Service Inventoried Roadless Area within the project boundary. The effects to the Inventoried Roadless Area are discussed below:

Inventoried Roadless Area

A small portion of the project, 16 acres, is within the Rock Creek West Inventoried Roadless Area (IRA). There are slivers of IRA in two units, the Tom's Place Unit (#11) and the Aspen Springs Unit (#10).

When developing the treatment proposal in the IRA, the Forest followed direction outlined in the August 18, 2008 memorandum from the Chief of the Forest Service to ensure the proposal does not create a conflict with either the ruling of the Federal District Court for the District of Wyoming or the Federal District Court for the Northern District of California.

The proposal does not violate the 2001 Roadless Area Conservation Rule because it falls under the exception at 36 CFR 294.13 (b)(1)(ii) to maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period. The resulting reduction in severity of potential fire behavior would help to restore the historic fire regime.

The analysis of the project effects to roadless characteristics concluded that there would be no lasting effects to any of the nine characteristics identified in the 2001 Roadless Area Conservation Rule.

1. *High quality or undisturbed soil, water, and air*: See the watershed effects analyzed under FONSI Element (1) above and air quality effects under Issue #2 (pg. 14). Minor un-measurable watershed effects and minor short term air quality effects were predicted and the risk of greater indirect effects from wildfire would be reduced in comparison to no-action (Lutrick 2009; Lutrick 2009).
2. *Sources of public drinking water;* See the watershed effects analyzed under (1) above (pg. 25) and Issue#4 (pg. 16). No adverse effects to public drinking water were predicted (Lutrick 2009).
3. *Diversity of plant and animal communities*: See the wildlife, plants and noxious weed effects analyses under (1) above (pgs. 23 and 24). No adverse effects to plant and animal diversity were predicted (Sims 2009; Weis and Nelson 2009; Murphy 2010; Murphy and Sims 2010; Nelson and Johnson 2010).
4. *Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land*: See the analysis of PTES species under wildlife and plant effects in (1) above (pgs. 23 and 24). No adverse effects were predicted (Sims 2009; Weis and Nelson 2009; Halford 2010; Murphy and Sims 2010; Nelson and Johnson 2010).

5. *Primitive, semi-primitive nonmotorized and semi-primitive motorized classes of dispersed recreation*: The project will not alter the recreational uses of the area. No roads will be constructed or reconstructed, so the character of the semi-primitive motorized dispersed recreation will not change. Design features are included to prevent the proliferation of unauthorized OHV routes (see analysis of Issue #7 above, pg. 20). The purpose of the project is to make the recreational facilities in the Crowley area safer for recreational use and provide for continued safe access to the dispersed recreation opportunities.
6. *Reference landscapes*: The project purpose is to restore the fire adapted structure of the Jeffrey pine and pinyon ecosystems that make up the IRA portion of the area. Due to the proximity to development these areas have been fire suppressed for more than 80 years and are far from their reference condition. The Proposed Action will move them towards the desired reference condition and allow fire managers to more safely allow natural fire to burn within the larger IRA and adjacent wilderness areas without threatening the developments and communities.
7. *Natural appearing landscapes with high scenic quality*: Design features incorporated into the proposed action protect the scenic quality of the IRA (see analysis of Issue #6, pg. 19) while allowing for forest restoration treatments that will eventually lead to a more open less congested forest with high scenic quality.
8. *Traditional cultural properties and sacred sites*: The Cultural Resources Report concludes that there will be no adverse effects to cultural properties and sacred sites (Kerwin 2010). See analysis of Cultural Resources in (1) above (pg. 26) and in Issue #3 (pg. 15).
9. *Other locally identified unique characteristics*: No other unique roadless characteristics were identified for the Rock Creek West Inventoried Roadless Area.

This project does not violate the 2008 order of the Federal District Court for the District of Wyoming enjoining the 2001 Roadless Rule. If the 2001 Roadless Rule is invalid, as the Wyoming court has ruled, then no other law or regulation would prohibit a decision to approve the Crowley Communities Fuels Reduction Project. The proposal has been designed to be consistent with forest-wide LRMP standards and guidelines and management direction for the Wildland Urban Intermix Defense and Threat Zone land allocations contained in the 2004 Sierra Nevada Framework.

The Inyo National Forest also consulted with the State Natural Resources Agency on the proposed activities in the IRA consistent with Pacific Southwest Region procedures.

(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

The proposed project follows the management direction in the Inyo National Forest Land and Resource Management Plan (USDA Forest Service 1988), as amended by the 2004 Sierra Nevada Forest Plan Amendment (USDA Forest Service 2004) and in the BLM Bishop Resource Management Plan (US Department of the Interior 1993) as amended to incorporate Fire Management Plan Strategies and Objectives (US Department of Interior 2004). Potential adverse effects have been minimized to the point where there are few effects to draw controversy. Public involvement efforts did not reveal any significant controversies regarding environmental effects of this proposal. Based on comments from the public and the analysis of effects by an Interdisciplinary Team of Forest Service and BLM specialists, there are no significant effects expected to the quality of the human environment from implementing either of the alternatives, including the proposed action alternative.

(5) Degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

Local expertise in implementation of these types of projects minimizes the chance of highly uncertain effects or effects which involve unique or unknown risks. Proposed activities are routine in nature, employing standard practices and protection measures, and their effects are generally well known.

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

The Crowley Communities Fuels Reduction project represents a site-specific project that does not set precedence for future decisions with significant effects or present a decision in principle about future considerations. Any future decisions would require a site-specific analysis to consider all relevant scientific and site-specific information available at that time. These activities are in accordance with the best available science to manage fuels and fire behavior at this time.

(7) Whether this action is related to other actions with individually insignificant but cumulatively significant impacts

A cumulative effect is the consequence on the environment that results from the incremental effect of the action when added to the effects of other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes the other actions and regardless of land ownership on which the actions occur. A cumulative effects analysis was completed for each resource area. None of the resource specialists found the potential for significant adverse cumulative effects (Lutrick 2009; Lutrick 2009; Oliver 2009; Sims 2009; Swartz 2009; Weis 2009; Weis and Nelson 2009; Halford 2010; Kerwin 2010; Murphy 2010; Murphy and Sims 2010; Nelson and Johnson 2010).

Wildlife

Based on information from the Wildlife Reports, Biological Evaluation/Assessments (BE/BA), Project Management Indicator Species Report, and Neotropical Migratory Bird Report which are hereby incorporated by reference (Murphy 2010; Murphy and Sims 2010; Nelson and Johnson 2010). The cumulative effects area for wildlife includes population or habitat units defined for each species, for example, the Round Valley Deer Herd migration corridor and the Long Valley portion of the South Mono Sage Grouse Population Management Unit. Where no specific population units are defined, the cumulative effects area considered was the Long Valley watershed.

Other projects in this area that could lead to cumulative wildlife effects include past fuel reduction projects in the Rock Creek area, prescribed burning in the Casa Diablo area, grazing use, development of irrigation and water systems including Crowley Lake, high recreational use due to the presence of campgrounds and trailheads, a number of communities embedded in the Wildland Urban Interface, and high vehicle use due to the presence of Hwy 395 and other secondary roads.

The Forest Service and BLM sensitive species analyzed were the goshawk and the greater sage grouse. The suitability of this site for goshawks has not been altered by previous fuels treatments in the Rock Creek area because larger trees were not removed. Recreational, residential,

commercial, and road activities may increase the disturbances to goshawks in this area, which may have lead to the reduced suitability of this site for goshawks. The Proposed Action will not add to this long term disturbance level (Murphy and Sims 2010).

The recent trends in sage grouse habitat within the Long Valley area have been stable despite all the potential effects to that habitat. The proposed alteration of 70 acres of sage grouse habitat out of approximately 102,650 acres of sage grouse habitat within the Long Valley area would not alter the overall existing trend in the habitat (Murphy and Sims 2010). Since large scale wildfire is one of the greatest threats to sage grouse habitat, the lowered risk of a wildfire starting in WUI and spreading to a large proportion of sage grouse habitat in Long Valley should have a beneficial effect on the cumulative trend in habitat.

The potential effects to neotropical migratory birds were found to be minor and short term with a longer term beneficial effect due to lower wildfire risk compared to the No Action Alternative. Because of the short term nature of the direct effects and the design features that prevent disturbance during nesting season, there are no cumulative effects predicted when this project is added to the fuels reduction projects completed in the past in the Rock Creek and Casa Diablo areas and to the annual grazing activity which also has seasonal restrictions.

Effects to yellow warbler, a Forest Service Management Indicator Species, were predicted to be minor; however, habitat in the project area is likely not suitable due to the proximity to homes, roads, and other development, so there would be no cumulative effects.

There would be no cumulative effects to macroinvertebrate habitat, a Forest Service Management Indicator, from the Proposed Action because no direct or indirect effects were predicted.

The overall effects of the proposed action on the other species mentioned in public comments, (mule deer, bear, coyote, and bear) were found to be beneficial due to the lowered risk of wildfire originating in the WUI compared to the No Action Alternative. This would help to reduce the impact of the communities and developments on these species.

Plants and Noxious Weeds

Based on information from the Biological Evaluation/Assessments for Plants and Noxious Weed Risk Assessment, which are hereby incorporated by reference (Weis 2009; Weis and Nelson 2009; Halford 2010). The cumulative effects area is the Long Valley watershed.

There were no effects to threatened, endangered or sensitive plants predicted in the analysis of direct and indirect effects for either alternative, therefore there are no cumulative effects.

A small increase in cheat grass could occur due to the Proposed Action. Increases in Russian thistle after mowing the Crowley Lake Campground have also been observed. Together with the heavy recreational and residential uses in the project area, grazing, and past fires there could be a larger cumulative effect to cheat grass and Russian thistle populations. However, the direct effects will not differ from the No Action Alternative where the heavy recreational and residential use will continue and indirect effects due to the risk of a wildfire greatly enhancing the cheat grass and Russian thistle populations are much greater.

Watershed and Riparian Areas

Based on information from the Hydrology and Soils Report, which is hereby incorporated by reference (Lutrick 2009). Cumulative effects were analyzed for the four watersheds containing the project: Convict Creek, Hilton Creek, Owens River Gorge and Rock Creek. Past, present and reasonably foreseeable future actions in these watersheds include existing roads, past fires, dams, grazing, and urban development.

A cumulative watershed effects analysis was completed for this project. Of the four HUC6 watersheds containing the project area, all would have less than 2% Equivalent Roaded Area (ERA) after project implementation. This includes effects from past and current wildfires, urban development, roads, trails, and grazing. The threshold of concern (TOC) for these watersheds is between 15 and 20%. Therefore, this project will not contribute to cumulative watershed effects (Lutrick 2009).

In the Convict Creek and Hilton Creek watersheds, the stream flow has not been altered through dams or diversions. Therefore, water quality impacts are mainly due to low levels of cattle, horse and mule grazing, as well as small areas of housing subdivisions. These actions can all increase sediment and nutrients into water. However, streams in these watersheds currently do not have negative effects to beneficial uses, and therefore adding slightly more ground disturbance from this project, which should not affect water quality, will not cause cumulative water quality effects (Lutrick 2009).

Crowley Lake, which receives water from Convict and Hilton Creeks, is on the 303(d) list as an impaired water body, due to high levels of ammonia and low dissolved oxygen, with an unknown cause (http://www.waterboards.ca.gov/water_issues/programs/tmdl /docs/303dlists2006/epa/r6_06_303d_reqtmdls.pdf). This project has little potential to add ammonia to creeks, and should not affect dissolved oxygen levels in the contributing creeks. Ammonia can occur from cattle grazing, eroded soil and sediment, decaying aquatic organisms, or from other natural sources. This project should only cause very minor, local and short-term increases in sediment input into Convict and Hilton Creeks, which should not translate into increased sediment or ammonia into Crowley Lake. Low dissolved oxygen can occur from the same sources, and also from high water temperatures or slowing moving water. This project was not predicted to increase water temperature, so there should be no cumulative impact (Lutrick 2009).

The Rock Creek and Owens River Gorge Watershed have major alterations to flow patterns due to dams on Crowley Lake, and diversions into and out of the watersheds for hydroelectric and municipal water supply purposes. Therefore, there are existing major effects to beneficial uses from flow alterations. This project has no potential to affect stream flow. Therefore, there should be no cumulative effects in these watersheds from this project (Lutrick 2009).

There are roads, parking lots, trails, houses and grazing within these watersheds, all of which cause soil disturbance, soil compaction, and reduce soil productivity in the footprint of the activity. The Proposed Action would add another small layer of disturbance on this area. Soil productivity and health indicators would remain well within threshold levels by implementing the design features and BMPs. The thinning and follow-up fuel treatments would reduce the risk

of a stand replacing wildfire compared to the No Action Alternative, decreasing the risk of soil degradation from loss of cover, water repellency and off-site erosion and stream sedimentation (Lutrick 2009).

Air Quality

Based on information from the Air Quality Report, which is hereby incorporated by reference (Lutrick 2009). The cumulative effects area was defined as all lands within and adjacent to the project area in the Long Valley basin. Prior approved burning operations in the Casa Diablo area are likely to occur during the same years, but not on the same days as the actions proposed in this analysis. By spreading the projects out both spatially and temporally, there is a low potential of more than minor and short-term adverse cumulative effects from dust or smoke (Lutrick 2009).

Under the No Action Alternative, there were no direct effects to air quality predicted, however, there were potential indirect effects to air quality from the increased risk of severe wildfire causing prolonged negative impacts to air quality. Other fuel reduction projects in the area including the Casa Diablo prescribed burning reduce the overall risk of severe wildfire smoke impacts, but relative to the area of fire suppressed vegetation in the basin, the effect is very small. Cumulatively, the risk remains higher under the No Action Alternative (Lutrick 2009).

Cultural Resources

Based on information from the Cultural Resources Report which is incorporated by reference (Kerwin 2010). The cumulative effects area was defined as the Long Valley caldera.

The protection of cultural resources has been incorporated into the Proposed Action, and no adverse effects were predicted in the analysis; therefore there will also be no adverse cumulative effects of the project on cultural resources (Kerwin 2010).

Benefits of this type fuels treatment will compliment prior federally funded fuels treatments on Inyo National Forest Lands and private lands in the communities of Swall Meadows, Tom's Place and Sunny Slopes and prescribed burning in the Casa Diablo area. This project, in combination with those fuel reduction projects, will reduce the likelihood of high intensity fire spread into outlying areas with unrecorded historic and prehistoric resources. By reducing potential impacts from uncontrolled fire in areas where these resources are located, we are preserving the integrity of these resources for enjoyment of future generations and future research potential (Kerwin 2010).

A no action alternative would maintain current fuel loads which are ideal for a high intensity stand-replacing wildfire as was seen during the Birch Fire of 2002, adjacent the Crowley Communities proposed treatment area. In the event of a wildfire in the project area, the cumulative effects of the Birch Fire and any future fire would be a greater loss of cultural resources and information (Kerwin 2010).

Visual Quality

Based on information from the Visual Quality Report, which in herby incorporated by reference (Oliver 2009). The cumulative effects analysis area includes all the viewsheds that include the project area.

Activities that have the potential to impact visual resources are livestock grazing, roads, housing developments, and utility corridors. These types of activities are considered in this analysis because they could alter the visual characteristics by a variety of methods, including removal of vegetation, introduction or spread of invasive plant species, or construction of new structures and facilities (Oliver 2009).

After the completion of the motorized travel management EIS a reasonably foreseeable action would include closing some of the travel routes on National Forest System (NFS) lands leading to a long-term improvement in visual resources. Livestock grazing is currently being managed to meet visual quality objectives. Under the Crowley Basin Grazing Allotment EA, signed in 2009, allotments would continue to be managed to meet visual quality objectives and there are no anticipated cumulative effects for visual resources (Oliver 2009).

The development of housing and associated infrastructure on private land has previously occurred in Sunny Slopes, Rock Creek, Crowley Lake, and other locations. These housing tracts constitute the single greatest impact to visual resources in the cumulative effects area. In general they occurred within the foreground and middleground viewing zone and visually dominate the surrounding landscape (Oliver 2009). The treatments proposed will not add noticeably to these features because of their existing dominate effect on the view.

The utility corridors have been in place since before the adoption and approval of the Inyo National Forest's Land and Resource Management Plan or the BLM Resource Management Plan. Past and present activities within the utility corridors include normal maintenance of the existing lines such as vehicle access along the utility corridor; replacement of existing poles and cables that have exceeded their recommended lifespan; and replacement of existing poles and cables damaged from natural elements (Oliver 2009).

The existing utility corridors meet the description of Partial Retention, one step below the existing visual objective of Retention that is present in most of the treatment areas. There are no cumulative impacts to this section of the utility corridor along US 395 because most of the proposed treatments are not visible. With the implementation of mitigations for all treatment areas, Forest Service and BLM, there will be no cumulative effects to the power line corridor (Oliver 2009).

Reasonably foreseeable future actions if the No Action Alternative is selected would be the potential for increased risk of catastrophic wildfire, spreading over a larger area within the respective proposed treatment location. This could have a negative effect on scenic resources on Forest lands on a larger scale (Oliver 2009).

(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

It was determined that there would be no effect to cultural resources from implementing this project, and the proposed action does not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (see Cultural Resource effects analysis under FONSI Element (1) above (pg. 26) and Issue #3 (pg. 15).

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

There are no federally listed threatened or endangered wildlife or plant species that are known to occur or have suitable habitat (including critical habitat) within the project area. There would be no effect to federally listed threatened or endangered wildlife or plant species or critical habitat from implementation of the proposed action (Weis and Nelson 2009; Halford 2010; Murphy and Sims 2010; Nelson and Johnson 2010).

There is habitat for one federal Candidate species, the sage grouse. Analysis of effects to this species is found under Issue #5 (pg. 17) and the wildlife beneficial and adverse effects under (1) above (pg. 23). The determination by the wildlife biologists was that the proposed action may impact individuals, but would not lead toward federal listing or a loss of viability for sage grouse (Murphy and Sims 2010; Nelson and Johnson 2010).

(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The proposed action would not threaten a violation of Federal, State, or local law, or requirements imposed for the protection of the environment. The proposed action is consistent with the Healthy Forest Restoration Act (HFRA), National Environmental Policy Act (NEPA), National Forest Management Act (NFMA), Endangered Species Act (ESA), Clean Water Act, and the National Historic Preservation Act (NHPA), Migratory Bird Treaty Act, and the Native American Indian Religious Freedom Act. The proposed action is fully consistent with the Inyo National Forest Land and Resource Management Plan (USDA Forest Service 1988), as amended by the Sierra Nevada Forest Plan Amendment (USDA Forest Service 2001; USDA Forest Service 2004) and the BLM Bishop Resource Management Plan as amended to incorporate Fire Management Plan Strategies and Objectives (US Department of the Interior 1993; US Department of Interior 2004).

Tribes, Organizations, Agencies, and Persons Consulted

- Benton Paiute Reservation- U tu UTU GWAITU Paiute Tribe
- Bishop Paiute Tribe of the Owens Valley
- Big Pine Paiute Tribe of the Owens Valley
- Bridgeport Indian Colony
- Mono Lake Kuzedika Indian Cultural Preservation Foundation
- Mono Lake Indian Community
- Long Valley Fire Protection District
- Los Angeles Department of Water and Power
- Lahontan Water Quality Control Board
- Mono County Board of Supervisors
- US Fish and Wildlife Service
- CA Department of Fish and Game
- Great Basin Air Quality Control Board
- Southern California Edison
- McGee Creek Pack Station

- Recreation residence permittees from Whiskey Creek, Lower Rock Creek, and Pine Glade Tracts
- Adjacent landowners

For a complete list of individuals and interest groups, including all adjacent landowners, see project record available at the Forest Service White Mountain District Office or the BLM Bishop Field Office.

List of Preparers

- Dale Johnson, Interagency Vegetation Management Program Leader, Bishop BLM and Inyo National Forest
- Heather Swartz, Interagency Vegetation Management Planner, Inyo National Forest and Bishop BLM
- Leeann Murphy, Wildlife Biologist, Inyo National Forest
- Steve Nelson, Supervisory Natural Resource Specialist, Bishop Field Office BLM
- Lisa Sims, Aquatic Biologist, Inyo National Forest
- Erin Lutrick, Hydrologist, Inyo National Forest
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- Anne Halford, Botanist, Bishop Field Office, BLM
- William Kerwin, Interagency Fuels Archaeologist, Bishop BLM and Inyo National Forest
- Lynn Oliver, Geologist and Landscape Architect, Inyo National Forest

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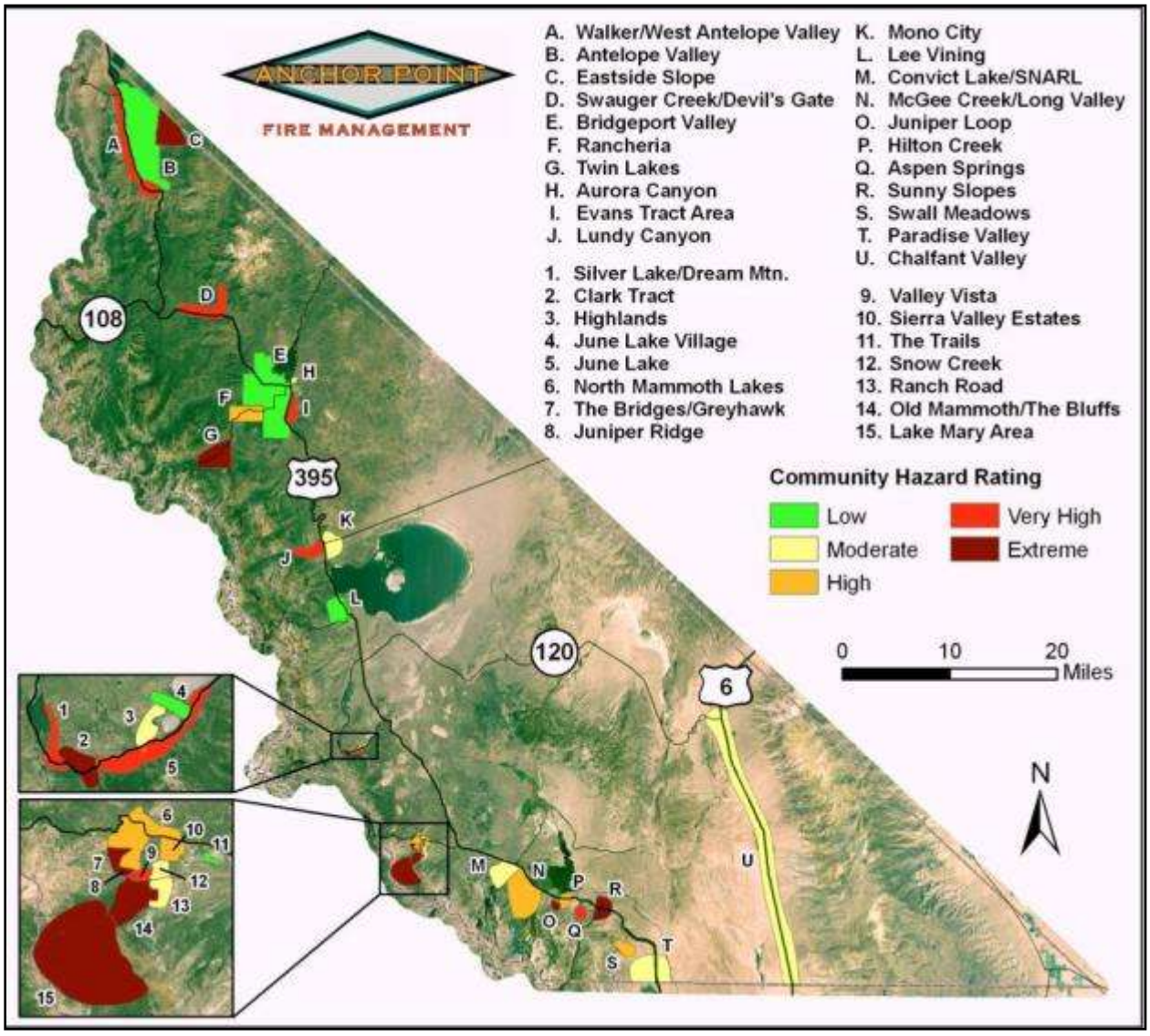
Appendix A:

Mono County Community Wildfire Protection Plan Map of community risk levels. The project area includes communities labeled N through R on the map.



Appendix B:

Photos of fuels conditions in the project area

Figure 2. Dense vegetation near homes in Crowley lake unit

Figure 4. Homes embedded in continuous shrubland in the McGee Creek unit.

Figure 3. Riparian fuels conditions close to homes.

Figure 5. Aspen Springs community with homes embedded in wildland vegetation and a fire scar from a fire that originated in the community.

Appendix C:
Watershed Objectives

Mechanical treatments in Riparian Conservation Areas:
Objectives for groundcover: An increase of no more than 10% of pre-project conditions.

Prescribed burn Prescriptions:
The objectives apply to conditions after one winter season. The objectives for this project include:

a) Groundcover: greater than 25%, or a reduction of no more than 10% from pre-project conditions if pre-project conditions are less than 25%.
b) Hydrophobic soils: Less than 50% hydrophobicity, or an increase no more than 10% of pre-project conditions if pre-project conditions are more than 50%.
c) In Riparian Conservation Areas, canopy cover within the inner gorge (area below the first floodplain terrace, or area with 70% slope adjacent to the stream channel) or riparian vegetation zone will be greater than 25%, or a decrease of no more than 10% change from pre-project conditions if pre-project conditions less than 25%.
d) In Riparian Conservation Areas, groundcover (includes duff and litter) within the inner gorge or riparian vegetation zone will be greater than 50%, or a reduction of no more than 10% pre-project conditions if pre-project conditions less than 50%.

Appendix D:

Response to Comments

Comment	**Issue subject** (corresponds to list of issues on page 4)	**Response**
Prescribed burning may kill mature Jeffery Pines.	(1) Risk of prescribed burn going out of prescription.	Specific objectives for Jeffery pine survival will be incorporated into the burn plan. Analysis of effects of prescribed fire on Jeffery pine included in the EA (pg. 13) and found a very low risk.
Burning piles or broadcast burning will generate smoke that may impact resident's ability to run and bicycle. Past prescribed burning and wildfires have generated smoke during the past few summers that was objectionable.	(2) smoke/air quality	Much of the effects can be minimized and mitigated, but not all. Therefore, an additional alternative was developed using no burning (pg. 12). This alternative was eliminated from detailed study (see pg. 12) because topographic complexity, access, and fuel loads prevent the use of mechanical methods to treat the entire project area effectively. Without effective treatment methods, the alternative does not meet the purpose and need. The Proposed Action was clarified to show that the amount of prescribed burning has been limited to a minimum practical. Near communities thinning, mowing and chipping will be favored where possible. Where the terrain is too steep, rocky or the vegetation fuel loads are too high for these methods, pile burning will be used. Broadcast burning will only be used away from developments where it is the only practical method and where the Fire Management Officer has determined that there are sufficient control features and burning does not pose a risk to structures. Design features were also included to minimize smoke in sensitive areas including communities and Class I Airsheds. The public will be notified in advance of burning and individuals with particular health issues can receive personal notification. Analysis of air quality effects included in the EA (pg. 14).
Believes that fuel accumulations on Los Angeles Department of Water and Power (DWP) land are increasing and would like to see them treated. Supports project and fuel reduction.		Condition of DWP lands is outside the scope of this project. The Forest Service and BLM have invited DWP to coordinate treatments and kept DWP informed of the proposed project.

Objects to use of prescribed fire close to homes.	(1) Risk of prescribed burn going out of prescription.	Can be mitigated with design features in the Proposed Action. The Proposed Action was clarified. Broadcast burning will not be applied close to homes. Broadcast burning will only be used away from developments where it is the only practical method and where the Fire Management Officer has determined that there are sufficient control features and burning does not pose a risk to structures. Pile burning under controlled condition may be done close to homes. Analysis of risk is included in the EA (pg. 13).
Mechanical treatment methods may have an adverse impact on cultural resources.	(3) cultural resources	Cultural surveys will identify areas with artifacts and mitigations will be implemented including avoidance of that area if necessary. Consultation with SHPO ensures protection of these resources. Design features protecting cultural resources were clarified in the Proposed Action. Analysis included in the EA showing no adverse effects to cultural resources (pg. 15).
Treatment methods may affect water rights, diversions (on DWP and private land), and springs.	(4) water rights/diversions/springs	Design features to protect springs and riparian resources have been incorporated into the Proposed Action and analysis shows the effects to be minor. There are no effects to water rights or diversions predicted. Diversions on DWP and private lands are beyond the scope of this proposal and will not be affected by the project. Analysis of effects to water rights, diversions, and springs is included in the EA (pg. 16).
Treatment methods may affect wildlife (deer migration corridor, bear, mountain lions, coyotes).	(5) wildlife habitat	Analysis indicates that wildlife habitat for these species will not be negatively affected. Design features are included in the Proposed Action to minimize effects to wildlife habitat (pg. 9). Additional analysis of effects to species mentioned in the comment was completed by the wildlife biologists, summarized in the EA and incorporated by reference (pg. 17).
Visual quality may be adversely affected. Believes that visual beauty, desirability as a place to live, and property values are enhanced by Jeffery pines and aspen. Clear cutting these trees would result in the loss of the aesthetic beauty.	(6) visual quality	The Proposed Action does not call for clear cutting. Mitigations for visual quality have been incorporated into the proposal. A graduated fuelbreak and group selection in a mosaic pattern will give a more natural look. The mature Jeffery pines and aspen will not be cut. As the comment suggested, brush will be thinned and dead wood removed. Understory trees and brush will be removed. Visual quality analysis is included in EA (pg. 19).
Would like to know if material from the cabin owners permit boundary could be chipped or piled and burned to help them with their fuel reduction. Not every cabin owner has		The request to assist the cabin owners with their fuels reduction is outside the Proposed Action which does not include the permit footprint of cabins and facilities. Maintenance of fuelbreaks within the footprint is the responsibility of the permittee. Accommodation of the request to assist the cabin owners is an administrative

a truck or trailer to remove the material.		decision.
Concerned that cabin owners would have to pay for more work than what they have already been required to do.		Outside the scope of the Proposed Action. There are no additional requirements of the cabin owners in this Proposed Action.
Looking for information from CALFIRE about homeowner requirements.		Not related to the Proposed Action.
Smoke from prescribed burns degrades air quality, visibility, and prevents activities like hot air balloon scenic flights, bike rides, and hiking. Burning around the Crowley Lake basin results in smoke pooling in the basin. Questions the utility of prescribed burning in low productivity ecosystems and away from structures.	(2) smoke/air quality	Much of the effects can be minimized and mitigated, but not all. Therefore, an additional alternative was developed using no burning (pg. 12). This alternative was eliminated from detailed study (see pg. 12) because topographic complexity, access, and fuel loads prevent the use of mechanical methods to treat the entire project area effectively. Without effective treatment methods, the alternative does not meet the purpose and need. The Proposed Action was clarified to show that the amount of prescribed burning has been limited to a minimum practical. Near communities thinning, mowing and chipping will be favored where possible. Where the terrain is too steep, rocky or the vegetation fuel loads are too high for these methods, pile burning will be used. Broadcast burning will only be used away from developments where it is the only practical method and where the Fire Management Officer has determined that there are sufficient control features and burning does not pose a risk to structures. Design features were also included to minimize smoke in sensitive areas including communities and Class I Airsheds. The public will be notified in advance of burning and individuals with particular health issues can receive personal notification. Analysis of air quality effects included in the EA (pg. 14).
Please submit a timber waiver application 30 days before operations begin.		Administrative. The Forest and BLM will submit a timber waiver once a decision is made if the actions fall into a category greater than 1-3. The project as planned will not be likely to exceed Category 3. All required design features and Best Management Practices (BMPs) were incorporated into the Proposed Action (pg. 9).
Include site specific winter operation BMPs if winter operations are planned.		Administrative. The Proposed Action was clarified to include winter operations design features according to BMPs (pg. 9).

Do not use motorized equipment off paved roads when soils are saturated.		Administrative. The Proposed Action was clarified to include standard BMPs. Effects of operations on saturated soils will be avoided by including a limited operating period that prohibits equipment use when the soils wet according BPMs. Analysis of effects to compaction is included in the analysis of environmental effects (pg. 25).
Provide information on all watercourses, meadow and wet areas present within the project boundary and what type of protection these waterbodies will have and if equipment operations will be excluded from the water body buffer zone.		Administrative. The Proposed Action was clarified to include BMPs. Equipment operation will be excluded within 25 ft. of stream banks. Only low ground pressure equipment will be used within waterbody buffer zones. Disclosure of all watercourses, meadow and wet areas and analysis of effects to riparian areas was included in the watershed specialist report incorporated by reference. A summary of the analysis of environmental effects to riparian areas was included in the EA and effects were determined to be negligible (pg. 25).
State if mechanical equipment will be used on soils with high or very high erosion hazard ratings or slopes greater than 50%.		Administrative. The Proposed Action was clarified to include BPMs that prohibit use of equipment on slopes greater than 30%. Analysis of effects to soil erosion was included in the analysis of environmental effects and effects were determined to be negligible (pg. 25). There are small areas in the project area that have a high erosion hazard rating, but they occur on slopes greater than 60% (Watershed report).
Provide the water board with information regarding any herbicide applications planned.		The Proposed Action was clarified to specify that no pesticides will be used including Sporax. The rationale for not using Sporax was included in the Proposed Action (pg. 9).
Too many large trees may be cut as hazard trees resulting in loss of wildlife habitat.	(5) Wildlife habitat (impacts due to loss of snags)	The Proposed Action was clarified to show that the loss of large trees will be minimized as much as possible. Large trees will only be cut as hazards if necessary for the safety of visitors, residents or crews implementing the project. Analysis of effects to wildlife habitat was included in the EA (pg. 17) and the effects due to snag removal were found to be negligible (Wildlife Specialist Report).
Slash piles may have negative aesthetic effects if they are large or covered with paper or plastic which may affect the Inventoried Roadless Area portion of the project.	(6) Visual quality	The Proposed Action was clarified to include specific design features to limit aesthetic impacts including a requirement that piles not be created close to roads or campgrounds where they are easily visible and piles will be burned within 1-2 years. Paper may be used in piles about 1/3 of the way from the top to prevent snow penetration of the pile (pg. 8). Analysis of the effects on visual quality was included in the EA (pg. 19).

Public fuel wood gathering may lead to route proliferation which would affect the inventoried roadless area portion of the project.	(7) Route proliferation	The Proposed Action was clarified to show that public fuel wood gatherers will not be allowed to drive off road. Wood will be stock piled in previously disturbed areas. Access to many of the units is limited so public fuel wood gathering must be done by stock pile or special use permit for local homeowners. Analysis of effects to the Inventoried Roadless Area character and route proliferation was included in the EA (pgs. 20 and 27).
Operations during bird breeding may have a negative impact on birds.	(6) Wildlife habitat (impacts due to operating period)	The Proposed Action was clarified to include a Limited Operating Period for breeding birds. Analysis of the effects to breeding birds was included in the EA (pg. 17). Site specific breeding bird use was used to select the LOP dates and the analysis can be found in the Neotropical Migratory Bird Report (Murphy and Sims 2010).
Operations when soils are saturated in the spring may have a negative impact on emergence of annual plants and perennial grasses.	(8) Soil compaction and Plant composition/regeneration	The Proposed Action was clarified to include BMPs that limit the use of equipment on wet soils. Analysis of effects of the Proposed Action on soils was included in the EA (pg. 20) and the effects to soil compaction were found to be limited to very small portions of the project.
Operations may interfere with limited operating season at the Pack Station. Requests contact before operations so that the business can accommodate the work and keep their guests informed.	(9) Recreation conflicts	The Proposed Action was modified to show that work would be done in the Pack Station and trailhead areas before Memorial Day and after Labor Day as much as possible. Analysis of recreation effects is included in the EA (pg. 21).
Grazing reductions in the area since the 1990s may be contributing to the increased fire risk and grazing may be an effective tool for managing fuels and fire risk.		Determined to be outside the scope of the current analysis and already considered in the Forest Service Crowley Grazing EA and the BLM Long Valley Range EA. The geographic extent and issues associated with grazing are larger than the current fuels project proposal. The role of grazing in fire cycles will be considered in the development of the vegetation management program.
The proposed treatments at the McGee Creek Pack Station may not be sufficient because the proposed unit is only on the road side of the pack station. There may also be a threat from the above, below or behind. Dead and dying willows in the pasture may be a threat.		Determined not to be an issue because it is not a point of disagreement, dispute, or debate regarding the effects of the proposed action. The Forest Service has considered the need described by the pack station and added treatment all the way around the pack station outside the permit footprint to the Proposed Action and analyzed the effects.

Water source for the pack station is on slope above the facility and crews are requested to contact the pack station before working to ensure that precautions are taken.	(4) water rights/diversions/springs	The pack station will be contacted prior to operations in that unit. This can be dealt with administratively, but since water rights and diversions were also brought up in another comment as an issue, this comment was included with that issue regarding the protection of water rights and diversions.
Scenic corridor in McGee Canyon may be affected.	(6) Visual quality	Design criteria added to the proposed action call for mosaics, feathered edges and non-uniform width fuelbreaks to reduce the aesthetic impacts. Analysis of effects to visual quality was included in the EA (pg. 19).
Multiple letters of support	No Issues	

Appendix E:

References

Agee, J. K. and C. N. Skinner (2005). Basic principles of forest fuel reduction treatments.

Cram, D., B. TT, et al. (2006). Wildland fire effects in silviculturally treated vs. untreated stands of New Mexico and Arizona. Fort Collins, CO, USDA Forest Service, Rocky Mountain Research Station.

Fites, J. A., M. Campbell, et al. (2007). Fire behavior and effects relating to suppression, fuel treatments, and protected areas, Fire Behavior Assessment Team, USDA Forest Service.

Halford, A. (2010). Special Status Plant Evaluation. Bishop, CA, BLM Bishop Field Office. **Project Record:** 1.

Kerwin, W. (2010). Cultural Report for Crowley Communities Fuel Reduction Project. Bishop, CA, Bishop Field Office, BLM. **Project Record:** 10.

Lutrick, E. (2009). Air Quality Analysis for Crowley Communities Fuels Reduction Project. Bishop, CA, Inyo National Forest. **Project Record:** 3.

Lutrick, E. (2009). Crowley Communities Interagency Fuels Reduction Project - Hydrology and Soils Report. Bishop, CA, Inyo National Forest. **Project Record:** 13.

Martinson, E. J. and P. N. Omi (2003). Performance of Fuel Treatments Subjected to Wildfires. USDA Forest Service Proceedings. **RMRS-P-29**.

Mono County, CA (2009). Community Wildfire Protection Plan, Mono County, CA. Boulder, CO, Anchor Point Group.

Murphy, L. (2010). Crowley Community Fuels Reduction Project Wildlife Specialist Report (Supplement). Bishop, CA, Inyo National Forest. **Project Record:** 6.

Murphy, L. and L. Sims (2010). Terrestrial Wildlife Biological Evaluation/Assessment, Management Indicator Species Report, and Neotropical Migratory Bird Report: Crowley Community Fuels Treatment. Bishop, CA, Inyo National Forest. **Project Record:** 42.

Nelson, S. and D. Johnson (2010). Wildlife Report for Crowley Communities Fuel Reduction Project. Bishop, CA, BLM - Bishop Field Office. **Project Record:** 5.

North, M., K. Van de Water, et al. (2009). "Climate, Rain Shadow, and Human-Use Influences on Fire Regimes in the Eastern Sierra Nevada, California, USA-The Association for Fire Ecology." Fire Ecology **5**(3): 20-34.

Noss, R. F., J. F. Franklin, et al. (2006). "Managing fire-prone forests in the western United States." Frontiers in Ecology and the Environment **4**(9): 481-487.

Oliver, L. (2009). Visual Specialist Report: Crowley Communities Interagency Fuels Reduction Project. Bishop, CA, Inyo National Forest. **Project Record:** 24.

Omi, P. N. and E. J. Martinson (2002). Effects of Fuels Treatment on Wildfire Severity, Colorado State University**:** 36 pgs.

Pollet, J. and P. N. Omi (2002). "Effect of thinning and prescribed burning on crown fire severity in ponderosa pine forests." International Journal of Wildland Fire **11**(1): 1-10.

Raymond, C. L. and D. L. Peterson (2005). "Fuel treatments alter the effects of wildfire in a mixed-evergreen forest, Oregon, USA." Canadian Journal of Forest Research-Revue Canadienne De Recherche Forestiere **35**(12): 2981-2995.

Ritchie, M. W., C. N. Skinner, et al. (2007). "Probability of tree survival after wildfire in an interior pine forest of northern California: Effects of thinning and prescribed fire." Forest Ecology and Management **247**(1-3): 200-208.

Safford, H. D., D. A. Schmidt, et al. (2009). "Effects of fuel treatments on fire severity in an area of wildland-urban interface, Angora Fire, Lake Tahoe Basin, California." Forest Ecology and Management **258**(5): 773-787.

Sims, L. (2009). Crowley Lake Fuels Project Environmental Assessment Review of Aquatic Resources, Determination of Effects. Bishop, CA, Inyo National Forest. **Project Record:** 1.

Stephens, S. (1998). "Evaluation of the effects of silvicultural and fuels treatments on potential fire behaviour in Sierra Nevada mixed-conifer forests." FOREST ECOLOGY AND MANAGEMENT: 21-35.

Stephens, S. L. (2001). "Fire history differences in adjacent Jeffrey pine and upper montane forests in the eastern Sierra Nevada." International Journal of Wildland Fire **10**(2): 161-167.

Stephens, S. L., J. J. Moghaddas, et al. (2009). "Fire treatment effects on vegetation structure, fuels, and potential fire severity in western US forests." Ecological Applications **19**(2): 305-320.

Strom, B. A. and P. Z. Fule (2007). "Pre-wildfire fuel treatments affect long-term ponderosa pine forest dynamics." International Journal of Wildland Fire **16**(1): 128-138.

Swartz, H. (2009). Crowley Communities Hazardous Fuels Reduction Project Roadless Query - Briefing Paper. Bishop, CA, Inyo National Forest. **Project Record:** 6.

Thompson, J. R., T. A. Spies, et al. (2007). "Reburn severity in managed and unmanaged vegetation in a large wildfire." Proceedings of the National Academy of Sciences **104**(25): 10743-10748.

US Department of Interior, Bureau of Land Management, Bishop Field Office (2004). Amendment to the Bishop Resource Mangement Plan to Incorporate Fire Management Plan Strategies and Objectives. Bishop, CA.

US Department of the Interior, Bureau of Land Management, Bishop Field Office (1993). Bishop Resource Management Plan and Record of Decision. Bishop, CA**:** 63.

US EPA. (1999). "California Federal Class I Areas http://www.epa.gov/region9/air/maps/ca_clss1.html." Retrieved October 15, 2009.

USDA Forest Service, Inyo National Forest (1988). Land and Resource Management Plan. Bishop, CA.

USDA Forest Service, Pacific Southwest and Intermountain Regions (2001). Sierra Nevada Forest Plan Amendment - Final Environmental Impact Statement (EIS). Vallejo, CA.

USDA Forest Service, Pacific Southwest and Intermountain Regions (2004). Sierra Nevada Forest Plan Amendment - Final Supplemental Environmental Impact Statement (SEIS) and Record of Decision (ROD). Vallejo, CA.

USDA Forest Service, Pacific Southwest Region (2004). Stipulation XIV in the *Programmatic Agreement amount the USDA Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and Advisory Council on Historic Preservation regarding the identification, evaluation, and treatment of historic properties managed by the National Forests of the Sierra Nevada, California* (Sierra PA). USDA Forest Service, Pacific Southwest Region.

Weis, S. (2009). Noxious Weed Risk Assessment: Crowley Communities Fuels Reduction. Bishop, CA, Inyo National Forest. **Project Record:** 2.

Weis, S. and K. Nelson (2009). Biological Evaluation for Sensitive Plants: Crowley Communty Interagency Fuels Reduction. Bishop, CA, Inyo National Forest. **Project Record:** 1.

Wimberly, M. C., M. A. Cochrane, et al. (2009). "Assessing fuel treatment effectiveness using satellite imagery and spatial statistics." Ecological Applications **19**(6): 1377-1384.