Environmental Assessment
June Mountain Ski Area
Vegetation Management Planning Project

USDA Forest Service, Inyo National Forest
Mono Lake Ranger District
Mono County, California
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June Mountain Ski Area Vegetation Management Planning Project EA
Introduction

The USDA Forest Service has prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA). This Environmental Assessment discloses direct, indirect, and cumulative environmental impacts which 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 Mammoth Ranger District Office, in Mammoth Lakes, CA.

The project area is located within the June Mountain Ski Area (JMSA) special use permit boundary, adjacent to the community of June Lake and is designed to tie into existing and planned fuel reduction projects (Figure 1).

Figure 1. Project Location Map including San Joaquin IRA and Old Emphasis Land Allocation overlap with Project Area Boundary.
This project is authorized under the Healthy Forest Restoration Act (Public Law 108-148). June Lake is an at-risk community and the Community Wildfire Protection Plan (CWPP) community hazard rating is Very High, (Mono Co. 2009).

**Purpose and Need**

The purpose of this project is to reduce hazardous fuels and promote resilient forest vegetation conditions which are consistent with existing permitted alpine skiing operations. The Inyo National Forest Land and Resource Management Plan (LRMP, 1988), as amended by the Sierra Nevada Forest Plan Amendment (SNFPA, 2004) and the Healthy Forests Restoration Act (HFRA, 2003) provide direction to the Forest Service in the areas of hazardous fuels reduction and vegetation management. National Forest System lands adjoining or in close proximity to communities, homes, and other developed areas, called the Wildland-Urban Intermix (WUI) zone, are the highest priority areas for hazardous fuels reduction treatments. The Mono County Community Wildfire Protection Plan (CWPP) also recommends fuels reduction treatments in these WUI areas. This project is entirely located within the June Lake Loop WUI and the specific fuels and vegetation treatments are designed to comply with direction found in the LRMP-SNFPA and HFRA.

Proposed fuels reduction treatments are intended to decrease flame lengths and intensity of future wildland fires within treated areas, and increase safety of residents, recreationists, and firefighters working to protect human life and property while suppressing wildfires. Forest vegetation would be dominated by larger, more fire tolerant trees, with reduced surface and ladder fuel conditions so a large-scale, high-intensity wildfire would be unlikely to occur.

June Mountain Ski Area (JMSA) averages over 70,000 visitors annually, primarily to engage in alpine skiing. The alpine skiing experience is highlighted by outstanding skier facilities and amenities and excellent snow conditions, all in a visually attractive forested mountain setting. As a permittee authorized to operate on the national forest, JMSA must provide for visitor safety in all its permitted operations. This project would promote the long-term health and resilience of forest vegetation within the JMSA area of operations and provide for greater visitor safety from hazardous forest conditions.

The SNFPA-FSEIS specifies forested areas within WUI zones be managed so forests are fairly open and dominated primarily by larger, fire tolerant trees; surface and ladder fuel conditions are such that crown fire ignition is highly unlikely; and openness and discontinuity of crown fuels, both horizontally and vertically, result in very low probability of sustained crown fire.

Proposed fuels reduction treatments are intended to decrease flame lengths and intensity of future wildland fires within treated areas, and increase the safety of residents, recreationists, and firefighters working to protect human life and property while suppressing wildfires. In addition, proposed treatments would reduce the threat of stand-replacing wildfire, and thereby protect healthy forest conditions for multiple resource benefits, such as recreation, water quality, carbon sequestration and visual aesthetics.

This action is needed because successful fire suppression over the past 70-plus years has precluded wildfire disturbance from “naturally thinning” the forested areas proposed for treatment. Vegetation management within JMSA, which has operated under permit since 1961, has been limited to removal of standing dead trees deemed a hazard to visitors and other tree removal associated with facility expansion and improvement. Without periodic wildfire disturbance, trees and shrubs have grown unnaturally dense and ground fuels have accumulated. As a result, there are high fuel loads under current conditions, including dense tree canopies in forested areas, and smaller trees and dead materials in the forest understory which
have potential to carry fire into the crowns of larger trees. These are fuel conditions which can quickly lead to wildland fires escaping initial containment efforts. Escaped wildfires have potential for becoming high-intensity, stand-replacing burns, which are both difficult and dangerous to control. This type of fire behavior was exhibited in proximity to the project area during the June Fire of 2007. As a consequence of high fuel loads within WUI, there are inadequate defensible spaces between most ski area facilities, or adjacent private land and other developments, which are adjacent to areas proposed for fuels reduction treatments.

Fuels reduction is only part of the need for treating stands. Restoring functional ecosystems is needed. Proposed whitebark pine restoration treatment is intended to maintain and enhance high elevation pine stands. Efforts to reduce the effects of Mountain Pine Beetle (*Dendroctonus ponderosae*), and fire exclusion should result in more resilient stands less sensitive to future climatic trends. Reintroduction of fire will promote Clark’s nutcracker seed caching sites, improving natural regeneration potential. Aspen restoration treatments to remove or reduce conifer presence in both the understory and overstory will enhance aspen regeneration by improving environmental conditions to allow sprouting to occur, and to reduce the risk of stand loss. Removal of encroaching conifers from within the perimeter of meadows will result in restoring higher water tables more conducive for meadow vegetation and functionality.

When properly accomplished, stand thinning has long-term effects on stand sustainability, not only with respect to fire, but with respect to nutrient cycling, species composition, wildlife habitat, watershed function, and resiliency to insects and drought (Keeley et al. 2009; Noss et al. 2006; Parker et al. 2006). While there is some probability these areas may not be impacted by a high severity fire, it does not negate the fact stand densities will be reduced to levels more characteristic of fire-adapted and fire-resilient forests. It also does not negate the fact stand density reductions will increase resilience of treated stands to water stress (and myriad secondary stressors), which takes on progressively greater importance as California climates continue to warm (Miller et al. 2009).

**Public Involvement**

The June Mountain Vegetation Management Planning Project has been listed in the Inyo National Forest Schedule of Proposed Actions (SOPA) since January 2010 and updated periodically during this analysis. Several parties requested inclusion on the project mailing list. On December 16, 2010, a letter initiating scoping and requesting comments on the proposed action described in the June Mountain Ski Area Vegetation Management Plan was sent to 26 individuals, agencies and organizations, including Lahontan RWQCB, CA Dept. of Fish and Game and US Fish and Wildlife Service. A press release was distributed to local newspapers and radio stations on December 15, 2010.

Two comment letters were received as a result of scoping. Issues were identified from comments received and described below and in Appendix C. As a result, Lahontan’s recommendations have been incorporated into project design criteria. Comment letters are on file in the project record.

Previous to this scoping effort, the Forest made two public contacts with potential stakeholders. On September 7, 2010, a presentation was made at a meeting of the June Lake Community Action Committee/Fire Safe Council as an advanced notification an environmental analysis for this project was going to proceed under the Healthy Forest Restoration Act (HFRA) authority. On September 29, 2010 a news release was distributed to local media and posted locally around the June Lake community publicizing a public field trip to be held October 14, 2010 at the ski area. This meeting was attended by representatives from June Mountain Ski Area, June Lake Chamber of Commerce, Friends of the Inyo, the Silver Lake Recreation Cabin Tract and members of the June Lake community.
Prior to initiating public scoping, Native American tribes were consulted about this project and no concerns or issues were raised. This was performed pursuant to the American Indian Religious Freedom Act of 1978, Executive Order 13007 (1996), and under Section 101(d) (6) of the National Historic Preservation Act of 1966 (as amended), where Tribal consultation occurs during the earliest planning phases at the government to government level. Official consultation letters were sent via certified mail on April 22, 2010 to five Native American tribes (nine contacts). Tribal consultation documentation is on file.

**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. There were three issues identified from consultation and scoping comments and listed below:

1. The Vegetation Management Plan’s existing conditions section for soil and water resources should be revised to be consistent with spring 2011 field observations and June Mountain Ski Area Waste Discharge Requirements (WDRs) regulating storm water runoff and soil erosion.

2. Revise the Vegetation Management Plan’s desired soil and water resource conditions to be consistent with WDRs.

3. A portion (412 acres) of the ski area lies within the San Joaquin Inventoried Roadless Area (IRA). This was an internally generated issue.

Each of these issues is analyzed in the Environmental Consequences section. Issues were also used to modify the proposed action and design features. A list of all the issues raised in public comments and what changes or additional analysis were used to address them is in Appendix C (pg. 40). This list of public comments and documentation of the determination of issues from these comments is available in the project file at the Mammoth Ranger Station.

**Alternatives**

**Alternative 1 – No Action**

Under the No Action alternative, no fuels treatments would occur. Stand densities would be allowed to remain high and outside the natural range of variability for the ecosystems in the project area. Restoration activities for aspen, meadow and whitebark pine habitat-types would not occur. Surface and ladder fuels would not be treated. Efforts at fire suppression would continue to be challenging because of fuel loading and the high risk to developments and resources at risk. Under extreme fire weather conditions, there would be a risk of severe uncontained wildfire with threats to human life, property and resources.

**Alternative 2 – Proposed Action**

Up to 1,157 acres within June Mountain Ski Area’s special use permit boundary will be treated to reduce fuels and restore forest stand structure to within the natural range of variability. These fuel and habitat conditions will be maintained with periodic treatments. Merchantable materials removed will be for commercial and/or personal-use fuelwood. All treatments will be accomplished using a mix of Forest Service crews and contracts. A description of treatment units will be followed by a description of vegetation treatment prescriptions. Treatment units in the June Mountain Ski Area Vegetation Planning Project area are shown in Figure 2.

Portions of the ski area are within the San Joaquin Inventoried Roadless Area. Authority to approve certain activities within these lands is specified in USDA Memorandum 1042-155.
Treatment Units

1. JMSA Facilities and Improvement Unit (130 acres): A unit which includes ski area infrastructure including chairlift lines classified as urban core. Treatment methods for this unit would be tailored to site-specific conditions, but will concentrate on creating 100-foot defensible space around facilities. Generally this will consist of thinning from below.

2. Aspen Restoration Units (24 acres): Four units located across the base of the ski area within urban core and WUI defense zones. Treatments consist of removing conifers up to 24 inches dbh competing with aspen. Approximately 2 acres (25 percent) of Unit AR-04 is within the San Joaquin Inventoried Roadless Area.

3. Whitebark Pine Restoration Units (503 acres): These units are located across the upper mountain and encompass the upper portions of Chairs J4, J6 and J7. They fall mainly within WUI defense zone, with minor portions in urban core. They are differentiated by IRA (153 acres) and non-IRA (350 acres).

4. Meadow Restoration Units (20 acres): These five units are mainly located in WUI defense zone, with two units in the IRA. Similar to the aspen restoration prescription, conifers would be removed from identified meadows to restore habitat function, water holding ability and deliver clean water.

5. Upper and Lower Mountain Thinning Unit (480 acres): Treatments within WUI defense zone would extend beyond the urban core 100-foot defensible space zone.

Vegetation Treatment Prescriptions

Urban Core and Defense Zone Treatment

Urban core and defense zone treatments are proposed on up to 1,157 acres. Urban core treatment activities would be implemented around ski area facilities on USFS lands, and along the ski area boundary with adjacent properties, both Forest Service and private ownership. Urban core fuels reduction treatments are intended to comply with requirements for wildfire defensible space specified in CPRC 4291, which is commonly known as 100-foot defensible space (CalFire 2006).

The U.S. Forest Service (USFS) would collaborate with those who hold special use permits for recreation facilities and other developments on USFS lands to implement 100-foot defensible space treatments. Special use permittees would have primary responsibility for fuels reduction actions on areas authorized for their use under permit. USFS would take the lead for implementation of fuels reduction work on areas surrounding the special use permit lot or site, including the 100-foot zone, if it exceeds the perimeter of the special use lot or site, and WUI defense zone. Due to the size and scope of this project, the USFS will take the lead role in project implementation.
Fuels reduction treatments in the 100-foot defensible space zone would be tailored to site-specific conditions. Not all defensible space treatment activities would be needed at each site. For example, there
are no conifer trees in close proximity to June Meadows Chalet, and thus, no tree removal or thinning would be needed at this location. Proposed fuels reduction activities would be designed to complement any work already completed by the permittee.

Urban core, 100-foot defensible space treatments would include the following fuels reduction activities within portions of treatment unit UC-01 (130 acres):

- Select removal of small diameter conifers (e.g. generally up to 20 inches dbh) from the understory of aspen stands; from below the canopy of larger trees (e.g. ladder fuels); and within the 100-foot defensible space zone around ski area improvements.
- Prune tree limbs on residual conifer trees to a height of 8 to 12 feet, or no more than 1/3 of tree height for smaller trees, whichever is less.
- Selected removal of shrubs either by hand cutting around resort facilities, or by mowing spot treatment around recreation site facilities, such as buildings, along the shoulder of access roads, and around perimeter of developed recreation sites.
- Dispose of slash, as well as existing dead and down material, by chipping or piling and burning (note: there would be no slash disposal within aspen stands or 25-foot buffer in Water Body Buffer Zones). Chipped materials would be used within the ski area for erosion control.

Urban core fuel reduction treatments would be accomplished using chainsaws and hand labor or mechanical equipment to selectively remove small diameter conifers and shrubs, and to prune limbs on residual conifers.

Defense zone treatments are proposed on up to 1,027 acres. Defense zone fuels reduction work would tie into and extend beyond the 100-foot defensible space zone. Defense zone treatments would include the following fuel reduction and restoration activities:

- Forest thinning within all or portions of proposed treatment units except for aspen, whitebark pine and meadow restoration units; a description of the proposed actions for forest thinning is described in detail below.
- Conifer removal from aspen stands in proposed treatment units AR-01 to AR-04; a description of the proposed actions for conifer removal from aspen stands is described below.
- Conifer removal from meadow restoration areas in proposed treatment units MR-01 to MR-05; a description of the proposed actions for conifer removal from meadows is described in detail below.
- Whitebark pine restoration treatments are proposed in units WB-01 and WB-02; the proposed prescription is described below.
- Construction of temporary bridges would be required for equipment to access and remove biomass from any proposed treatment areas due to stream channels. Temporary bridges would be constructed using down logs to span channels, with decking material laid across log spans. In addition, decking material may be used as the foundation for skid trails to operate equipment in areas of moist soil within these units, to avoid soil rutting and compaction.

**Forest Thinning Prescription**

This prescription is specific to the Upper and Lower Mountain Thinning (DZ-01) which are defense zone treatments. Trees would be thinned to an average leave basal area of 80 to 120 square feet per acre. There may be exceptions where leave basal area is greater because of very large diameter trees which would not be removed. There may also be exceptions where leave basal area is less because of natural openings in the forest or sites where dense pockets of smaller diameter white fir are removed. Thinning would occur from
below, removing suppressed, intermediate, and a sufficient number of co-dominant trees to achieve the desired leave basal area. Favor retaining shade intolerant conifer species, such as Jeffrey pine or large diameter Sierra juniper. Favor removing shade tolerant species, such as white fir. For all stands, the vast majority of trees to be thinned would be 6 to 16 inch diameter at breast height (dbh) range. Relatively few trees 16 to 20 inches dbh are expected to be thinned, and no pines over 20 inches dbh would be thinned as part of this project unless they posed a danger or are currently infested. White fir up to 30 inches in dbh may be removed when their presence inhibits growth, resilience and sustainability to pine and aspen.

To create greater forest and landscape diversity, the following would be applied to all proposed tree thinning areas, unless otherwise noted:

- Protect remaining old-growth Jeffrey pine (usually at least 175 years old and exhibiting orange-red colored, thick, platy bark) by removing all trees under and within an area equal to 1.5 times the radius of the drip line of the old-growth tree(s), which may act as a fuel ladder.

Forest thinning would be accomplished using mechanical equipment or chainsaws and hand labor to cut trees. In most areas, removal of cut trees would be accomplished using mechanical equipment, such as an excavator, loader or skid-steer. However, tree removal would be completed by hand labor in specific sensitive areas. These specific areas include sites with steeper slopes or moist soil conditions. Slash would be disposed of through chipping or piling and burning. Understory burning would not be implemented for treatment units within WUI defense zone unless needed for stimulus of aspen regeneration.

To minimize the possibility of an increase in the root disease *Heterobasidion annosus*, Jeffrey pine stumps greater than 14 inches in diameter would be treated with sodium tetraborate decahydrate (commonly known as “borax”) and sold as Sporax™. To reduce risk of an increase in the root disease *H. annosus*, the following apply to all Jeffrey pine treatment areas unless otherwise noted:

- All Jeffrey pine stumps greater than 14 inches in diameter would be treated with Sporax™ at a rate of one pound per 50 square feet of stump surface.
- Application would follow all State and Federal rules and regulations as they apply to this pesticide application.
- Sporax™ would be applied within four hours of stump creation. Sporax™ would not be applied on rainy days or within 200 feet of running water.

**Aspen Restoration Treatment**

Conifer removal is proposed for four select aspen stands which occur on 24 acres within June Mountain Ski Area. Proposed conifer removal from aspen stands would be completed within treatment units AR-01 to AR-04, according to the following specifications:

- Except for predominant trees, remove conifers up to 30 inches dbh (and 20 inch dbh within SJIRA) within these stands up to a distance of 1½ times the average height of aspen trees in the stand; distance required to prevent remaining adjacent conifers from shading the aspen stand; or up to 100 feet, whichever is greater. Trees not suppressing aspen regeneration (i.e. shading), or representing limited species presence may be retained.
- Predominant conifers will be retained as legacy trees, except those deemed a direct safety hazard.
- Removal of conifers would be conducted mechanically using equipment where feasible. Cut trees would be removed from the treatment unit perimeter by operating equipment on drier areas at the
edge of the stand, and cabling or lifting logs out of the stand. Equipment would access the stand via existing roads, and no new roads would be constructed.

- Equipment would not be allowed to operate in wet areas. Where it is not feasible to operate equipment and felled trees are beyond the reach of equipment staged on the stand perimeter, cut trees would be removed using hand labor, to the extent practical.
- Activity generated slash would be chipped and spread for erosion control outside of aspen stands. Alternatively, slash may be removed, piled and burned outside of the stand or any riparian area. Large diameter tree boles cut in the core of the stand which are not practical to remove using hand labor would be left in place as large log structures for wildlife habitat.
- If monitoring does not find the stand is regenerating at the desired level, then prescribed fire may be used after mechanical treatments (equipment use may help stimulate the aspen root system through mechanical disturbance). Prescribed fire activities would occur when conditions allow for fire behavior which would not burn aspen roots, but would allow for enough disturbance to induce aspen suckering.
- Stand objectives are met when monitoring shows an increase from current level of aspen regeneration or an improvement of biodiversity in the stand understory within 3 to 5 years following conifer removal.

**Whitebark Pine Stand Restoration Treatment**

Conifer removal and use of prescribed fire is proposed for selected whitebark pine stands which occur on 503 acres within June Mountain Ski Area. These stands are generally infested with mountain pine beetle and treatments are designed to promote seed cache behavior by Clark’s nutcracker (*Nucifraga columbiana*) and improve stand conditions. Proposed activities would be completed within treatment unit WB-01 and WB-02, according to the following specifications:

- Thin trees by emphasizing diversity of age, size class and species composition to reduce stand susceptibility to mountain pine beetle attack. This specification helps meet Old Forest Emphasis criteria in eastern portions of this unit.
- Remove currently infested trees of any size.
- Create openings within mortality pockets 0.1 to 4 acres in size to promote nutcracker seed cache activity.
- Augment fuel bed to ensure burn objectives are fully realized (aid fire spread in discontinuous fuels). Reintroduce fire into these units to reduce effects of mountain pine beetle and fire exclusion to increase resilience to climatic changes.

**Meadow Restoration Treatment**

Conifer removal is proposed within the boundaries of five identified meadow areas which occur on 20 acres within June Mountain Ski Area project area. These treatments are intended to reduce fuel loading, maintain and enhance habitat function, water holding ability and deliver clean water. Proposed activities would be completed within treatment units MR-01 to MR-05, according to the following specifications:

- Remove conifers up to 30 inches dbh (up to 12 inch dbh in MR-04 and MR-05) within identified meadows. Retain predominant trees. Larger trees will be removed over-snow to protect soil and vegetation.
- Slash piles for burning would be placed at minimum, 25 feet from any meadow, watercourse, or 100 feet from 100-year floodplain areas. Chipped material will not be discharged into meadows, water bodies or deposited in locations where such material may discharge to a water body.
Common to all Treatment Units

Initial fuels reduction treatments are expected to be completed within approximately 4 to 6 years, and future maintenance treatments would occur using the same methods to maintain desired conditions. Any future activities outside the scope of this proposed action would require a separate environmental analysis.

Merchantable material will be made available for contracted and/or personal use fuelwood. Slash generated by implementation projects would be chipped, or piled and burned within 1 to 2 years of creation.

The project will follow the standards and guidelines in the Inyo National Forest Land and Resource Management Plan (LRMP) as amended by the 2004 Sierra Nevada Forest Plan Amendment (USDA Forest Service 1988, 2004a). This alternative is the non-commercial funding alternative required by the November 3, 2009 Remedy Ruling by Judge England regarding the 2004 Framework (Sierra Nevada Forest Plan Amendment). This alternative includes treatment of the highest priority areas recommended in the Mono County CWPP. It includes areas recommended for treatment in June Lake by the CWPP as well as additional treatment areas. Therefore, an additional alternative analyzing the CWPP recommendations is not required by the Healthy Forest Restoration Act.

Resource Design Features

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

Native and Sensitive Plants, Fens and Invasive Weeds

- Projects will be reviewed by Forest botany staff to determine whether or not the project will affect potential habitat for any sensitive species listed in the Existing Condition section of the JMSA Vegetation Management Plan for botany/sensitive plants. Sensitive plant and fen surveys will be conducted in meadow and aspen (potential habitat) treatment units prior to project implementation.
- If populations of sensitive plant species are located, impacts to these populations will be minimized or avoided through modification of the project design as needed. Populations of species considered in this analysis are typically small, so any necessary modifications to the project to protect these species would not be likely to significantly impact meeting other project goals.
- If subalpine fireweed is located in meadows where conifer removal is proposed, selected conifers will be retained for partial shading.
- If fens are identified during surveys, they will be flagged and avoided during project implementation. Buffers will be applied as needed. The spatial extent of each buffer will be determined on a site-specific basis, in conjunction with hydrology staff.
- All off road equipment will be cleaned before moving into the project area so equipment is free of soil, seeds, vegetative material, or other debris which could contain or hold seeds of noxious weeds. Off road equipment includes all logging, construction, and brushing equipment such as brush hogs, masticators, and chippers; it does not include service vehicles, water trucks, pickup trucks, and similar vehicles not intended for off road use. Equipment will be considered clean when visual inspection of tires, tracks, and underbody does not reveal soil, seeds, plant material, mud, or other such debris. If visual inspection does reveal soil or plant parts which could contain propagules (seeds, roots, etc.) of invasive plant species, material will be removed by operator in an appropriate location prior to beginning work. Suitable locations include places where contaminated material can be contained and properly disposed of, e.g. garages, vehicle wash stations, etc. Suitable
cleaning methods could include high pressure water or air systems, or any other method which achieves the desired objective.

**Silviculture**

**Upper Mountain Prescription**

- Remove all standing dead trees of any size which pose a hazard to JMSA employees and users.
- Remove actively infested trees of any size wherever practical, and especially in areas of importance to ski area operations and aesthetics. Actively infested tree boles should be removed at least 2 miles outside of susceptible forested areas, to prevent further beetle spread. Removal of Mountain Pine Beetle infested trees to the ski area parking lot is sufficient distance from host material. Removal of materials to other non-host locations would also be acceptable.
- Remove encroaching conifers up to 30 inch dbh to restore/maintain meadow conditions.
- Thin stands to an average leave basal area of 80 to 120 sq. ft. /ac. Poorer quality sites would be thinned to lower basal areas and better quality sites would be thinned to higher basal areas. Thinning would occur from below, removing suppressed, intermediate, and a sufficient number of co-dominant trees to achieve desired leave basal area. Since larger diameter trees are preferred by mountain pine beetles, smaller and younger lodgepole pine and whitebark pine should be considered for retention over larger diameter trees expressing poor vigor. For all stands, the vast majority of trees to be removed would be in the 6 to 16 inch dbh range. Relatively few trees in the 16 to 20 inch dbh range would be removed, and no trees over 20 inches dbh would be removed in this part of the Upper Mountain prescription.
- While the overall appearance of the ski area should remain forested, leave tree distribution should vary significantly, with occasional, variably-sized open patches blending in with tree patches of varying size and density.
- All woody material generated from tree removal operations should be utilized or treated so as not to contribute to existing surface fuels load. Limbs, tops, and other material not removed from the site should be either chipped or piled for burning. Excessive pre-existing down material should also be removed or treated as slash.
- To minimize the risk of *Ips* beetles during the subsequent growing season, consider scheduling tree cutting operations after July 15 each year.
- Small areas of very low-intensity natural or prescribed fire would be beneficial in reducing surface fuels and maintaining the more open forest structure created via thinning operations.

**Lower Mountain Prescription**

- Remove all standing dead trees of any size which pose a hazard to JMSA employees and users.
- Remove actively infested trees of any size wherever practical, and especially in areas of importance to ski area operations and aesthetics. Actively infested tree boles should be removed at least 2 miles outside of susceptible forested areas, to prevent further beetle spread.
- Thin stands to an average leave basal area of 80 to 120 sq. ft. /ac. using applicable Sierran mixed conifer management strategies suggested by North et al. 2009. Poorer quality sites would be thinned to lower basal areas and better quality sites would be thinned to higher basal areas. Favor shade-intolerant tree species (pine and aspen) over shade-tolerant tree species (white fir). Since larger diameter trees are preferred by mountain pine beetles, smaller and younger lodgepole pine should be considered for retention over larger diameter trees expressing poor vigor. For all stands, the vast majority of trees to be removed would be in the 6 to 16 inch dbh range. Relatively few trees in the 16 to 20 inch dbh range would be removed, and no trees over 20 inches dbh would be
removed unless they are dead and posing a danger, or are currently infested. White fir trees 20 to 30 inches in dbh may also be removed when their presence inhibits the growth, resilience, and sustainability of pine and aspen.

- While the overall appearance of the ski area should remain forested, leave tree spatial distribution should vary significantly, with occasional, variably-sized open patches blending in with tree patches of varying age, size, and density (see North et al. 2009).
- All woody material generated from tree removal operations should be utilized or treated so as not to contribute to existing surface fuels load. Limbs, tops, and other material not removed from the site should be either chipped or piled for burning. Excessive pre-existing down material should also be removed or treated as slash.
- To minimize the risk of Ips beetles during the subsequent growing season, consider scheduling tree cutting operations after July 15 each year.
- Small areas of very low-intensity natural or prescribed fire would be beneficial in reducing surface fuels and maintaining the more open forest structure created via thinning operations.

**Recreation and Visual Resources**

- Meet or exceed Partial Retention VQO for runs, lifts, and base areas as seen from middle ground distances from Sensitivity Level 1 routes and occupancy sites. To achieve this:
  - Minimize cut tree stump heights to six inch maximum when measured from the uphill side, when cut stumps are visible 50 feet off Forest Service System roads and 20 feet from Forest Service System trails and recreation sites.
  - Areas within 75 feet of recreation sites, such as campgrounds, should dispose of slash and dead and down material by chipping or removal.
  - Locate burn piles a minimum of 75 feet from Scenic corridors (Highway 158), 50 feet from all other Forest Service System roads, and 20 feet from Forest Service trails.

**Wildlife**

- Cutting of snags should not occur during the nesting period for cavity dependent species (April 15 – July 15). This limited operating period (LOP) may be adjusted during any year if a Wildlife Biologist determines breeding chronology does not coincide with these dates.
- Retain an average of 3 large snags per acre where it won’t reduce the fuel treatment efficacy, or pose a hazard to visitors.
- No more than 25 percent of the project area should be treated in any year to provide refugia for resident wildlife species.

**Air Quality**

- Prior to prescribed fire operations, appropriate permits will be obtained from Great Basin Unified Air Pollution Control Board (GBUAPCB).
- “Burn” or “No Burn” day conditions will be adhered to, as determined by the California Air Resources Board (CARB).
- Degradation of air quality in Class I Airsheds will be prevented by conducting prescribed fire operations when meteorological conditions favor smoke dispersal away from these areas.
- Prescribed fire operations will be conducted when meteorological conditions favor minimal nuisance smoke around June Mountain and the communities of June Lake and Lee Vining, recreation sites including campgrounds within the June Lake Loop, and scenic quality of the June Loop area.
Soils and Hydrology

The following criteria would be applied to all treatments to protect soil and hydrologic resources.

- Mechanical harvesting equipment would not be used when wet weather operations or wet soil conditions would adversely affect soil porosity, hydrologic function, or runoff potential. Mechanical removal shall be limited to slopes less than 30%, as specified in the Land and Resource Management Plan, and to when the soil is dry to 6 inches, or suitable conditions determined by a Forest Service Watershed Specialist.
- Ground-based skidding equipment would be used only on slopes averaging less than 30%, unless otherwise determined by a Forest Service Watershed Specialist. On pumice soils (vitric or vitrandic), all main skid trails within the project area should be subsoiled or back bladed to reduce erosion potential. On slopes greater than 20%, back blade or rake out any trail with ruts greater than 6 inches in depth.
- Main skid trail pattern (spacing and placement) would be agreed upon prior to any harvesting operations. Where feasible, old skid trails and roads would be used.
- Any areas receiving detrimental soil compaction as a result of harvesting operations would be subsoiled.
- To prevent future use, all skid trails intersecting roads would be disguised by raking and spreading of slash and duff.
- All applicable Best Management Practices (BMPs) for timber management, vegetative manipulation practices, and fuels management would be implemented. Applicable BMPs can be found in the Specialist Report for Soils and Water Resources.
- Sporax™ would not be applied on rainy days, or if rain is predicted within 24 hours or within 200 feet of running water.
- Activity generated slash would be removed, piled, and burned outside of the aspen stand or any riparian area whenever possible. In some cases, it may be necessary to burn piles within some aspen stands and within some WBZs. In these cases, piles would be placed and burned to avoid burning aspen roots or to avoid adverse effects to water quality.
- There would be no slash disposal/pile burning within aspen stands or the 25-foot buffer in Water Body Buffer Zones along streams.
- Within waterbody buffer zones (75-150 feet within this project area), greater than 3 inch dbh trees to be removed 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.
- Chipped material will not be discharged to waterbodies or deposited in locations were such material may discharge to a waterbody.
- All areas disturbed by this project will be stabilized at the conclusion of operations or before the winter period.
- Work within the WBZ causing ruts or other features which would have potential to affect flow patterns will be repaired before winter season or periods with predicted high flows.

In addition to the above design features, the following features are specific to the Treatment Units AR-01, AR-02, AR-03, AR-04 and MR-01, MR-02, MR-03, MR-04 and MR-05 as they are wet or have streams running through them.
- Equipment would not be allowed to operate in wet areas, alternatively planks or other decking material may be used as skids for equipment operation in stands AR-01, AR-02, AR-03 and AR-04.
• Confer with Forest Soil Scientist prior to removal of conifers in treatment units MR-01, MR-02, MR-03, MR-04 and MR-05 to ensure adequate protection of soil and water resources.

• In most cases, only low ground pressure equipment or hand work will be completed within Waterbody Buffer Zones (WBZs, as defined by the Lahontan Water Board). Treatment units AR-01, AR-02, AR-03 and AR-04 may require using decking material, slash, or logs on skid trails to minimize soil impacts, and would include placing slash or other material on any skid trails or other areas that have reduced soil cover after equipment entry.

**Heritage Resources**

To protect cultural resources the following design features should be applied to the project:

• Where feasible (and previous inventory data is lacking or insufficient), an intensive inventory of the project’s Area of Potential Effect (APE) would be conducted in accordance with the Programmatic Agreement among the USDA Forest Service - PSW 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, 1996) prior to any ground-disturbing activities.

• The Interim Protocol for Non-Intensive Inventory Strategies for Hazardous Fuels and Vegetation Reduction Projects (Protocol, 2004) would be used to guide evaluation of areas where intensive inventory is not feasible due to steep slopes or hindered access/obscured visibility resulting from dense vegetation.

• Standard Resource Protection Measures (SRPM) as described in the Sierra PA would be utilized to ensure protection of known historic properties.

• The Standard Go-No-Go check list will be adhered to prior to any prescribed fire operations.

**Special Areas (Inventoried Roadless Area)**

• Visual quality, Recreation, Wildlife, Soils and Hydrology, Air Quality and Noxious Weed design standards will protect characteristics of the San Joaquin IRA.

**Monitoring Plan**

• A Vegetation Management specialist or qualified representative will visit sites during and after implementation to verify project specifications were met and to qualitatively assess if desired conditions were achieved.

• Each year accomplished project activities will be included in a pool for random selection of Watershed BMP Effectiveness Monitoring sites to be conducted one winter season after treatments are implemented.

• Vegetation and prescribed burn treatments will be entered into a 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 (see Invasive Weed Design Features above).

• Heritage resource sites requiring SRPM will be checked during and after implementation to ensure effectiveness of protection measures.
Environmental Consequences

This section summarizes the physical, biological, social, and economic environments of the affected project area and potential changes to those environments due to implementation of 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 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 resource specialist relied upon to reach their conclusions in this EA (Kerwin 2011; Ellsworth 2011; Perloff and Sims 2011; Johnson 2010; Nelson 2011).

Effects Relative to Issues

No significant issues were raised during scoping. The effects related to issues are discussed below.

**Issue #1:** The Vegetation Management Plan’s existing conditions section for soil and water resources should be revised to be consistent with spring 2011 field observations and June Mountain Ski Area Waste Discharge Requirements (WDRs) regulating storm water runoff and soil erosion.

This was considered an administrative issue because it did not involve a point of disagreement or debate regarding effects of the project. The VMP is a general guiding document. The VMP desired conditions section has been revised to be consistent with JMSA’s WDR timeline and BMP requirements. Additionally, Inyo National Forest and JMSA personnel will conduct a joint field review of WDR requirements in 2012.

**Issue #2:** Revise the Vegetation Management Plan’s desired soil and water resource conditions to be consistent with WDRs.

As with Issue #1 above, this was considered an administrative issue because it did not involve a point of disagreement or debate regarding effects of the project. The VMP is a general guiding document. The VMP desired conditions section has been revised to be consistent with JMSA’s WDR requirements.

**Issue #3:** Currently 412 acres (2.6%) of the San Joaquin Inventoried Roadless area falls within the ski area boundary.

The San Joaquin IRA was designated within the permitted ski area boundary prior to the 2001 Roadless Rule. Currently parts of five trails fall within the IRA. Treatments within this designated area will be limited to those prescribed for whitebark pine, aspen and meadow restoration (165 acres). The balance of IRA acreage within the ski area will be left untreated.

Design criteria incorporated into the Proposed Action minimizes the effects of the project while promoting ecological restoration to affected ecologic types.

The analysis of effects to roadless characteristics in the IRA portions of the project found there would be no lasting adverse effects to roadless character because there would be no new road building or maintenance, piles and disturbances due to implementation activities would be temporary and treatments would help to protect the ecological aspects of roadless character by returning the forest to a structure within the natural range of variability for the fire adapted pine systems and allowing for safer natural fire to occur within the ski area and IRA (Kusumoto 2011).
The Proposed Action may have short term negligible to moderate impacts to foreground and middle ground landscape character with the visual mitigation measures, but it is intended to improve forest health and therefore visual quality, in the longer term.

Under the No-Action Alternative, temporary aesthetic impacts would not occur. Beneficial ecological effects of restoring a fire adapted system would also not occur, potentially threatening several of the roadless characteristics associated with a functioning forest system due to vulnerability to large disturbances such as further insect attacks, drought, disease and severe fire; high quality or undisturbed soil, water and air; sources of public drinking water; diversity of plant and animal communities; habitat for sensitive species and for those species dependent on large, undisturbed areas of land; and natural appearing landscapes with high scenic quality.

**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 potential for adverse impacts were incorporated into the proposed action listed above (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 in the June Mountain Ski Area Vegetation Management Plan (USDA Forest Service 2011). These mitigations and management requirements would minimize or eliminate potential adverse impacts caused by fuels reduction and restoration treatments.

A discussion of potential effects is summarized below from supporting analysis (Nelson 2011; Perloff and Sims 2011; Ellsworth 2011; Johnson 2010; Murphy 2011; Kerwin 2011). All analyses prepared in support of this document considered both beneficial and adverse effects of the proposed action. 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 which occur in conjunction with those adverse effects.

**Wildlife**

Summarized from the Biological Evaluation, Management Indicator Species Report, and Landbird Conservation Report which are hereby incorporated by reference (Perloff and Sims 2011).

**Threatened, Endangered & Sensitive Species:** The Biological Evaluation for the JMSA Vegetation Management Plan Project noted no federally listed proposed, threatened, or endangered wildlife species occur within the project area. Two Forest Service sensitive wildlife species (northern goshawk, American marten) were identified to have the potential to be affected by the proposed action, and were therefore analyzed in detail in the BE (Perloff and Sims 2011). Because this project area receives a high amount of recreation use and the potential effects to suitable habitat from implementation of the proposed action is limited, it was determined the proposed action may impact the northern goshawk and American marten individuals, but would not result in a trend towards federal listing or loss of viability within the planning area.

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Fuel reduction treatments will have some beneficial effect on habitat for both species. Besides an indirect effect of potentially protecting large blocks of habitat, meadow restoration treatments are expected to enhance foraging opportunities for both species. Thinning from below will promote goshawk nest stand structure, which have a relatively open understory.

**Management Indicator Species (MIS):** Management Indicator Species Analysis identified four habitat types which have potential to be affected by the proposed action, including early-seral and mid-seral coniferous forest, late-seral closed canopy coniferous forest, and snags in green forest (Perloff and Sims 2011). MIS analyzed related to these habitat types are mountain quail (early and mid-seral), American marten and northern flying squirrel (late-seral) and hairy woodpecker (snags). Although habitat quality may be reduced through the reduction of understory canopy cover for mountain quail, and a slight reduction in the number of snags for hairy woodpecker, suitable habitat will be maintained for both species. It was determined project-level habitat impacts will not likely alter or contribute to existing Sierra Nevada-wide habitat or population trends for any of these species.

Under the No Action Alternative, it was determined there would be no direct effects to TES or MIS wildlife species. Indirect impacts could include the continuation of ladder fuels build-up in the understory, which has the potential to lead to more extreme wildland fire behavior. If a wildfire were to occur in this area, there is potential for the loss of early, mid and late-seral coniferous forest and snags suitable for northern goshawk, American marten, northern flying squirrel, mountain quail and hairy woodpecker (Perloff and Sims 2011).

**Botany**

Summarized from the Specialist Report for Botanical Resources and Biological Evaluation - Sensitive Plant Species, June Mountain Ski Area Vegetation Management Planning Project, which are hereby incorporated by reference (Nelson 2011a, b).

**Sensitive Plants:** These plant specialist reports for the June Mountain Project concluded there were no proposed, threatened, or endangered plant species within the project area. A sensitive plant survey was conducted in 1988 (Bagley 1988) within the ski area. The Regional sensitive plant list has been re-evaluated twice since 1988, utilizing updated information on taxonomy and range of species potentially occurring in the area. Due to this new information, there is potential for several Region 5 sensitive plant species to occur within the project area which would not have been identified to the species level in the 1988 work. If habitat or populations exist for any of these species within the proposed project area, it would be in either the proposed meadow restoration areas or aspen restoration areas.

Based on project design to complete sensitive plant surveys in suitable habitat within aspen and meadow treatment units prior to project implementation, to minimize or avoid direct impacts to species if populations are located within the project area, and the design features incorporated into this project with regard to operating on wet soils, direct impacts will be minimal or non-existent for moonworts, subalpine fireweed, and the four moss species.

The proposed restoration actions in the meadow and aspen areas would contribute to maintenance or improvement of habitat for these species by maintaining or improving hydrologic function of these habitats.

In meadow areas, removal of conifers could potentially cause a decline in the amount of available habitat for subalpine fireweed, as this species prefers shaded sites in moist to wet soils. It is often found on the edge of meadows where adjacent lodgepole pines are shading the meadow. However, if not removed, increasing conifer density may eventually affect the hydrologic condition of meadows to a point where there is no longer sufficient moisture to support subalpine fireweed. If subalpine fireweed is located in meadows where conifer removal is proposed, selected conifers will be left to retain at least partial shading.

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For all of the species considered here, the amount of habitat potentially affected by this project is a fraction of a percent of the amount of available habitat throughout the species range.

Under the no action alternative, there will be no direct impacts to any sensitive species. Over the long term, continued development of conifers in the meadow and aspen habitats could potentially result in a reduction in the amount of available potential habitat for all of the species listed above in the Existing Situation section of the JMSA Veg Plan. If populations of these species currently exist in the meadows, it is possible over the long term they could be extirpated if the hydrology of meadows is altered severely enough they will no longer support species depending on moist to wet conditions.

**Invasive Plants:** Partial surveys were conducted for non-native invasive plant species in August 2010 and non-native species were also recorded during the 1988 botanical survey (Bagley 1988). As per the JMSA Veg Plan (2010), no high or moderate priority weed species were observed in the project area during either of these survey efforts, but there were three lower priority weed species observed in the 2010 survey, all on the lower part of the mountain, along roads or in the vicinity of developed facilities.

Non-native species were noted during the 1988 survey, but specific locations were not identified. Most species were reported to be in particular habitat types (meadows/streams, ski runs), with the exception of cheatgrass (*Bromus tectorum*), which was more widespread.

The primary risks with regard to the establishment of new weeds or spread of existing weed species from this project include: 1) equipment brought on site to implement the project importing and/or transporting weed propagules to new sites within the project area; and 2) project-generated soil disturbance, primarily due to skidding operations, creating a more favorable environment for weed establishment. Design features to minimize ground disturbance through careful equipment operation, and cleaning of equipment used off of established roads address these risks. In spite of these design features, it is possible weed propagules could be inadvertently introduced to currently weed-free areas within the project. An additional design feature to monitor treated areas for two years and treat new infestations of species rated high or moderate will serve to minimize risk of these species becoming established within the project area. With implementation of all weed-related design features, no new infestations of moderate or high priority weed species are expected due to project activities.

The weed prevention design features noted above and described in more detail in the project description will also serve to guard against further increase of existing lower priority weed species or introduction of new lower priority species due to the project; however, some risk remains, and one or more of these species could potentially increase in abundance and/or distribution following project activities.

Under the No Action Alternative, there will be no project-related increases in the abundance, diversity, or distribution of non-native invasive plant species under this alternative (Nelson 2011).

**Hydrology and Soils**

Summarized from the Hydrology and Soils Report for the June Mountain Vegetation Management Plan Project, which is hereby incorporated by reference (Ellsworth 2011).

**Water:** The project is located within the Grant Lake-Rush Creek Hydrologic Unit Code (HUC) 6 watersheds. There is a perennial stream channel with riparian vegetation west of Chair J7 and adjacent ski runs within the ski area boundary. Meadows are hydrologically stable; however, lodgepole pine is present throughout the meadows.

The Lahontan Basin Plan (1995) identifies beneficial uses and sets narrative and numerical water quality objectives for all surface waters in JMSA. In addition, they define water quality objectives for certain water...
bodies in the Lahontan region which supersede the objectives for all water bodies. Table 3-16 in this plan lists specific objectives for Reversed Creek and Gull Lake, both downstream of JMSA. Extensive water quality monitoring continues to the present as part of Lahontan Water Quality Control Board permit requirements for June Mountain. Turbidity and Total Suspended Sediments are critical water quality elements monitored throughout the runoff season.

With implementation of Best Management Practices, the proposed action should have minor and short term negative effects to water quality and soil quality. Although some of the project area is within Riparian Conservation Areas (RCAs), activities will cause minor ground disturbance. These minor ground disturbances, including pile burning, broadcast burning, and possibly machine piling, could slightly increase soil compaction and runoff, but likely at such a low level the effects would be immeasurably small. The proposed action would not result in significant adverse effects to watershed and riparian areas.

Past monitoring has shown except for right next to piles, detrimental soil compaction and displacement does not occur with pile burning (Ellsworth, 2005, on file at SO). Recent observations of public fuel gathering units (Ellsworth, 2011) confirmed this. Past monitoring and observations of similar soils on the Inyo has shown detrimental soil compaction is limited to main skid trails and landings during timber harvest operations (Lutrick 2009 and Ellsworth personnel observations 2009). Displacement can occur after multiple passes of timber harvest equipment and/or private vehicles.

Under the No Action Alternative, there would be no new ground disturbance and further recovery from previous impacts would be expected. However, an indirect effect is that the area would be more susceptible to a stand-replacing wildfire than if the project was implemented due to dense stocking of conifer stands and the fire regime being outside of historic conditions. A stand-replacing wildfire would have major negative short-term (1-5 years) impacts to water quality, removing vegetation, increasing off-site erosion and sedimentation into aquatic systems above current levels (Ellsworth 2011).

Soils: Effects to soil productivity and erosion will be discussed in terms of compliance with laws, regulation and policies related to soil standards. Effects are addressed by the following factors: soil compaction, soil displacement and cover, and soil chemistry. Short-term effects are considered 1-5 years in duration. Effects to soils generally occur immediately in or adjacent to where the activity is occurring.

Proposed actions within the project area could affect overall soil productivity. This may occur in a number of ways: 1) an increase in soil erosion and soil displacement, 2) soil compaction, and 3) a decrease in surface organic matter (forest litter and decomposing wood) which provide a vital nutrient source.

Soil Compaction (loss of porosity): Skidding operations would take place when the soil is dry down to 6 inches or with measures such as decking along skid trails to prevent compaction. Secondary skid trails and paths taken by equipment which retain soil cover disperse the weight of equipment to effectively mitigate detrimental soil compaction. Using existing roads, designating skid trails and maintaining slash on secondary skid trails would ensure compliance with porosity standards as defined in the Soil Quality Standards (USDA FS 1995b, as clarified 2006).

Soil Cover, Erosion and Displacement: The main effect of harvest operations is soil displacement by removing cover on main skid trails and displacing soil by wheel tracks and dragging logs behind machinery. Soil displacement is due to the non-cohesive nature of surface texture. Mechanical piling operations would use equipment which picks up large pieces of wood, but leaves the duff and litter in place. Displacement is expected where machinery turns at and pile locations. The displacement is expected to be within limits with designated skid trails and rehabilitation of disturbed areas where detrimental soil displacement occurs, and should not affect long-term soil productivity. The number of piles is variable to each unit based on the

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density of the stand and the thinning prescription, but will generally be placed at least 20 feet apart. This should allow sufficient unheated soil to prevent loss of soil productivity or erosion across the project area.

Burning of piles may lead to patches of bare soil as heat from the fire could temporarily sterilize the soil surface. Limited, highly localized erosion from burn piles is expected for the first year after burning. Surrounding duff and vegetation would capture runoff after it leaves the burned area. Tree litter is likely to occupy the site after one year effectively retarding off-site erosion. Vegetation is likely to occupy the site within three growing seasons.

**Soil Chemistry:** Sporax™ (Borax) will only be applied to Jeffrey pine stumps to prevent spread of the root disease *H. annosus*. Borax is generally active in the soil and is readily absorbed from the soil as the essential plant nutrient boron. The mineral portion of soil where it remains unchanged, and is not broken down by soil microorganisms also adsorbs borax.

Due to the careful application only to stumps, and to the adsorption of the chemical, application of Sporax™ would not significantly affect soil productivity, microorganisms or hydrologic function. Soil buffering capacity should remain within acceptable thresholds. There may be highly localized effects to soil microorganisms directly around the treated stumps (SERA 2006).

Under the No Action Alternative, soil conditions would remain the same. There would be an increase in risk of a stand replacing wildfire increasing risk of soil degradation from loss of cover, water repellency and off-site erosion and stream sedimentation.

**Air Quality**

Summarized from the Air Quality Analysis for the June Mountain Vegetation Management Project, which is hereby incorporated by reference (Ellsworth 2011).

Air quality can be affected by fuels treatment projects in various ways. Harvesting, slash treatment and prescribed burning could add dust and emissions (fossil fuel burning) into the atmosphere. The major effect is from smoke from pile or broadcast burning. There could also be indirect effects from fuelwood gathered eventually burned in individuals’ homes. All of these activities can contribute PM$_{10}$ to the air. However, activities other than burning related to this project were considered *de minimus* (too small to be measured) and not included in the analysis.

The project area is within the “non-attainment” area of Mono Lake for PM$_{10}$. This project area is on the western and southern boundary of the non-attainment area, and is in a somewhat separate basin, and therefore it is possible air quality in the June Loop area is not the same as within the Mono Basin itself on any given day. The main source of PM$_{10}$ in Mono County and primary reason this area is in non-attainment is blowing dust from dry shorelines of Mono Lake, where water levels have dropped due to diversions (GBUAPCD 1995). PM$_{10}$ is defined as particulate matter with a diameter less than 10 microns which can cause harm to human health (USDA Forest Service, 1995). The federal 24-hour ambient air quality standard for PM$_{10}$ is 150µg/m$^3$ and the California 24-hour ambient air quality standard for PM$_{10}$ is 50µg/m$^3$ (CARB, website 2011). In order to meet these ambient air quality standards in the Mono Basin, the GBUAPCD has a guideline where no burning project may exceed daily emissions of more than 10 tons of PM$_{10}$ per day in the Mono Basin (GBUAPCD 2001).

The project area is also two to three miles east of the Ansel Adams 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).
Structures at the Mountain, residential areas and Class I Airsheds are considered “smoke sensitive areas” by the GBUAPCD, and therefore the Forest must complete a conformity analysis and ensure the project minimizes effects to those areas. Smoke from pile and broadcast burning is the only air pollutant with potential to measurably affect air quality. There is potential for persons directly in units to be affected by smoke. Implementing design criteria would greatly minimize these effects and reduce the threat to public health and safety from heat, flames, and smoke of potential future wildland fires.

Under the No Action Alternative, no activity is proposed therefore there is no direct effect to air resources. There is a higher risk of stand replacing wildfire under this alternative. Currently, there are dead and dying whitebark pines within and outside the boundaries of June Mountain. Under the No Action Alternative, a stand replacement wildfire in this area has the potential to burn intensely, over a large area for a longer period of time. This could be not only be a safety issue for the ski area and local residents due to fire, but also an air quality issue due to large amounts of smoke which would be produced. In case of an uncontrolled wildfire, it is likely PM$_{10}$ standards would not be met.

**Conformity Determination.** PM$_{10}$ emission standards would be met, even when added cumulatively to other air quality effects within the Mono Basin. This conclusion is based on project-specific calculations, and added to the anticipated emissions from the June Loop project.

**Heritage Resources**

Summarized from the Cultural Report for the June Mountain Ski Area Vegetation Management Planning Project, which is hereby incorporated by reference (Kerwin 2011).

Protection of cultural resources has been incorporated into the Proposed (Sierra PA, 2001 Amendment, Attachment B, II A). Treatment methods will be designed with Standard Resource Protection Measures, such as flagging and avoiding of sites and non-mechanical, manual release (handwork) to remove fuels within site boundaries. Information regarding field surveys and management recommendations for heritage resource sites and features are contained in the Cultural Report for the June Mountain Ski Area Vegetation Management Planning Project (Kerwin 2011). By following these recommendations and SRPM as outlined in the PA, it was determined there would be no adverse effect to cultural resources from implementing this project. The proposed action including cultural resource design features would reduce surface and ladder fuels within the proposed project area, likely reducing the risk of damage to sites from high intensity wildland fire. 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, both of which are located within the project area. Low intensity prescribed fire if used, decreases likelihood of damaging cultural resources and reducing or destroying research and interpretive potential by introducing fire in a controlled manner. Additionally, fuels treatments such as mechanical or hand-piling and mechanical chipping of vegetation, reduces the potential for high intensity fire and creates an environment conducive to interpretation, preservation and protection of cultural resources located within and adjacent to the project area (Kerwin 2011).

The proposed action would likely preserve the reliability of data and interpretive information associated with historic era and prehistoric habitation located throughout the proposed project area, which could otherwise be permanently lost. Proposed fuels reduction treatments will not affect cultural resources and will allow for additional protection of sites within the project area. It is anticipated that no cultural resources will be effected by the proposed treatments (Kerwin 2011).

Conversely, implementation of the No Action Alternative will not directly affect cultural resources, however; indirect effects could result in adverse effects to cultural resources within the proposed treatment areas
resultant from high intensity wildfire. Loss of valuable research data utilized to address regional prehistoric land-use patterns, with an emphasis on chronology and mobility may be lost. Prior to fire suppression techniques of the 20\textsuperscript{th} Century, fire return intervals were shorter, with few high intensity stand-replacing wildfires. Fire suppression activities for approximately the past 70 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 potential to affect, in some degree or manner, reliability of data reflective of past human behavior, and in some cases permanent loss of prehistoric and historic era sites, structures and associated data and components.

Wildland fire suppression activity such as use of 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 frequencies allowing the possibility of stand replacing fires, posing unmanageable threats to cultural resources within and adjacent the project area.

**Visual Quality**

Summarized from input and correspondence from Katheryn Rich, Landscape Architect.

June Mountain Ski Area has high scenic sensitivity because it is visible from major highways, areas of concentration recreation facilities, and several special designations including a Scenic Byway (Highway 395) and Mono Basin National Forest Scenic Area. Recreational users and local residents have a high level of concern for scenery.

Under the Proposed Action Alternative, visual impact would include contrast from disturbed soil (from vegetation removal), slash piles, and chips broadcast across the soil surface, and potentially blackened or charred vegetation from pile burns and broadcast burning. This short term minor effect would be limited to the immediate foreground of recreation sites because of vegetation and terrain screening the majority of viewsheds which would have foreground and middle ground views from different points in the ski area. Within one to three growing seasons these impacts would not be visually evident to the casual observer. Smoke during burning could temporarily impact all views from nearby recreation areas.

According to research in “Social Science to Improve Fuels Management: A Synthesis of Research on Aesthetics and Fuel Management”, low-intensity burns and forest thinning which opens up the understory and provides longer views can actually improve scenic integrity of an area (Ryan 2005). The proposed fuel treatment and habitat restoration project would therefore have short term negligible to moderate impacts to the landscape character with the implementation of visual design features and would improve aesthetics and forest health of treatment areas over the long term compared to the No Action Alternative.

If no action is taken and the proposed project does not take place there would be no direct effect to landscape character associated with the project areas. However, the potential for loss of vegetation and land scarring associated with an increased risk of collapsed stands due to insect and disease attacks or catastrophic wildfire would be beyond expected disturbance levels for this ecological system. The No Action 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 risk associated with vegetation conditions outside the natural ecosystem fire regime (Rich 2011).

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

Forest health and fuel reduction treatments are designed to increase the efficiency of fire suppression efforts and reduce risks to firefighters, the public (June Lake residents and visitors), residences and other

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improvements, water quality, and natural resources. There would be improved public and firefighter safety, as treatments are intended to slow the rate of fire spread and reduce fire intensity, which would increase chances fire suppression forces could safely and effectively make a stand to control a wildfire. Implementation of the Proposed Action would be governed by standard public health and safety contract clauses.

Fuels treatment projects such as the June Mountain project, have the potential to add pollutants to surface water, including sediment, particulate matter, hydrocarbons (from vehicles or chainsaw use), herbicides (only Sporax™ will be used), and could affect water temperature. These changes could affect most beneficial uses, other than navigation and power production. However implementation of design criteria and Best Management Practices will protect beneficial uses, including meeting Lahontan Water Board water quality standards and Great Basin air quality standards. Implementation of this project would help reduce potential for stand-replacing fires which would have a detrimental effect to air and water quality throughout the project area.

Under the No Action Alternative, there is a higher risk of stand replacing wildfire. 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 Forest visitors, and prompted health warnings from the local air pollution control office.

(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, wetlands, wild and scenic rivers, or ecologically critical areas within the project area. The project area is completely outside of designated wilderness.

Wetlands

Based upon an initial aerial photo review, there is low likelihood of fens in the project area (Nelson 2011). There are several intermittent stream channels which drain off JMSA and a perennial stream channel with riparian vegetation west of Chair J-7. There are meadows associated with two springs within the ski area (Ellsworth 2011). Project prescriptions specifically targeting meadow restoration have been designed to mitigate any adverse effects to wetlands.

Inventoried Roadless Area

A portion of the ski area/project area (412 acres) is within the San Joaquin Inventoried Roadless Area (IRA).

When developing treatment proposals in the IRA, the Forest followed direction outlined in the August 18, 2008 memorandum from the Chief of the Forest Service to ensure this proposal did 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 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 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. Minor unmeasurable effects were predicted and risk of greater indirect effects of no-action could be reduced (Ellsworth 2011).

2. Sources of public drinking water; See the watershed effects analyzed under (1 and 2) above. No adverse effects to public drinking water were predicted (Ellsworth 2011).

3. Diversity of plant and animal communities: See the wildlife, plants and noxious weed affects analyses under (1) above. No adverse effects to plant and animal diversity were predicted (Perloff and Sims 2011; Nelson 2011 a, b).

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 above. No adverse effects were predicted (Perloff and Sims 2011; Nelson 2011 a, b).

5. Primitive, semi-primitive non-motorized and semi-primitive motorized classes of dispersed recreation: This project falls within the Rural ROS class. The project will not alter recreational uses of the area. No new roads will be constructed.

6. Reference landscapes: The project purpose is to restore the fire adapted structure of whitebark pine, aspen and meadow ecosystems which make up the IRA portion of the project area. Due to their proximity to developments, these areas have had fires suppressed and are far from their reference condition. The Proposed Action will move them towards the desired reference condition.

7. Natural appearing landscapes with high scenic quality: Design features incorporated into the proposed action protect the scenic quality of the IRA while allowing for forest restoration treatments which will eventually lead to a more open, less congested forest with high scenic quality.

8. Traditional cultural properties and sacred sites: Survey of cultural resources in the project area and the Cultural Report conclude there will be no adverse effects to three known cultural properties (Kerwin 2011). See analysis of Cultural Resources in (1) above.

9. Other locally identified unique characteristics: No other unique roadless characteristics were identified for the San Joaquin 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 June Mountain Ski Area Vegetation Management Plan Project. This 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.

Historic and Cultural Resources

Analysis in the Cultural Resources report found there would be no adverse effects to historic and cultural resources. See Cultural Resource analysis under FONSI Element (1) above.

(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.
The proposed project follows 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). 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 issues or any other 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 specialists, there are no significant effects expected to quality of the human environment from implementing either of the alternatives, including the proposed action alternative.

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

The proposed project follows 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). It implements management requirements designed to reduce potential for adverse effects. Local expertise in implementation of these types of projects minimizes 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. The proposed action is similar to the June Lake Fuelbreak, timber stand improvement projects and associated fuel reduction treatments within the Jeffrey pine forest east, south and adjacent to the project area which began in 1975 and will continue being implemented.

(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 June Mountain Ski Area Vegetation Management Plan Project represents a site-specific project which 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. These activities are in accordance with the best available science to manage forest health, 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 which results from incremental effect of an action when added to effects of other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes these other actions and regardless of land ownership on which these actions occur. A cumulative effects analysis was completed separately for each resource area. None of the resource specialists found potential for significant adverse cumulative effects (Kerwin 2011; Ellsworth 2011; Perloff and Sims 2011; Rich 2011; Nelson 2011a, b).

Wildlife

Summarized from the Biological Evaluation/Assessment, Management Indicator Species Report, and Neotropical Migratory Bird Report (BE/A) which are hereby incorporated by reference (Perloff and Sims 2011). The cumulative effects analysis area (CEAA) for wildlife includes twelve HUC-6 watersheds surrounding the project area, covering approximately 293,435 acres.

The Biological Evaluation and Assessment (BE/A) for the June Mountain Ski Area Vegetation Management Plan Project identified two Forest Service sensitive wildlife species which have the potential to be affected
by the proposed action, northern goshawk and American marten (Perloff and Sims 2011). The June Mountain project area is a high recreationally used area throughout the year, but with the majority of high-use occurring from December-March for alpine skiing. Adjacent to the project area are several developed campgrounds/day-use areas, the community of June Lake and motorized vehicle use on SR 158. Cumulatively, these activities are not expected to lead to excessive disturbance of goshawks or martens.

The cumulative effects analysis area contains approximately 130,342 acres of northern goshawk foraging and nesting habitat. Between 2003 and 2008 a pilot fuels treatment project was implemented in close proximity to proposed treatment units. This project affected an additional 145 acres of potential goshawk foraging habitat. The Jeffrey Pine Forest Health and Fuel Reduction Project was approved in 2007 and would occur in the southern end of the CEAA. In total, this project will treat approximately 910 acres of potential goshawk habitat by thinning small diameter trees and underburning. The Inyo National Forest is completing an analysis for additional fuels treatments in the vicinity of June Lake. This effort, known as the June Loop Hazardous Fuels Reduction project, would conduct similar treatments within an additional 98 acres of potential goshawk habitat. Similar to the proposed action, the latter project would not eliminate habitat, but might result in a slight reduction in habitat quality. In total, less than 2 percent of the large block of suitable habitat would experience fuels treatments. This represents approximately one-half of a nesting home range of a northern goshawk and is not expected to reduce breeding potential or distribution of goshawks in the analysis area.

The CEAA contains approximately 65,063 acres of American marten denning and foraging habitat. Between 2003 and 2008 a pilot fuels treatment project was implemented in close proximity to the proposed treatment units. This project affected an additional 145 acres of potential marten foraging habitat. The Jeffrey Pine Forest Health and Fuel Reduction Project was approved in 2007 and would occur in the southern end of the CEAA. In total, this project will treat approximately 910 acres of potential marten habitat by thinning small diameter trees and underburning. The Inyo National Forest is completing an analysis for additional fuels treatments in the vicinity of June Lake. This effort, known as the June Loop Hazardous Fuels Reduction project, would conduct similar treatments within an additional 98 acres of potential American marten habitat. Similar to the proposed action, the latter project would not eliminate habitat, but might result in a slight reduction in habitat quality. In total, approximately three percent of the large block of suitable habitat would experience fuels treatments and cumulatively is not expected to reduce breeding potential or distribution of martens in the analysis area.

The Management Indicator Species Analysis identified four habitat types which have potential to be affected by the proposed action, including early-seral coniferous forest, mid-seral coniferous forest, late-seral, closed canopy coniferous forest and snags in green forest (Perloff and Sims 2011). Management indicator species analyzed related to these habitat types are mountain quail, American marten, northern flying squirrel and hairy woodpecker. Cumulative effects to martens were discussed above.

The cumulative effects analysis area contains approximately 100,008 acres of early and mid-seral coniferous forest habitat. The primary perturbations within this habitat type have been timber harvest/fuels treatment and wildfires. Overall, there would be no change in the acreage of early and mid-seral coniferous forest habitat for mountain quail. All units would continue to provide early and mid-seral coniferous habitat after thinning operations. CWHR size class would not change as a result of fuels reduction activities; however the quadratic mean diameter may increase slightly in response to incrementally removing the smallest diameter material first. Canopy closure would be reduced by up to 20 percent on approximately 547 acres.

The 1988 Inyo National Forest LRMP designated 65,166 acres within the cumulative effects analysis area as Prescription #9 (Uneven Aged Timber Management) and #10 (High-level Timber Management). Upon
publication of the Record of Decision for the Sierra Nevada Forest Plan Amendment Project (USDA Forest Service 2004) the area was reclassified as “General Forest”. Some level of timber harvest has historically occurred throughout this area. Prior to the early 1990s harvest methods included overstory removal, small clearcuts, pre-commercial and commercial thins. This likely increased the amount of early and mid-seral coniferous forest. Beginning in the early 1990s, the Forest discontinued cutting of large old trees and began a program of “old-growth” restoration. Since that time timber harvest has consisted of thinning from below or removing the smallest diameter trees sequentially until a desired basal area and spacing was reached. Cut trees were sold as firewood or left on site for the public to collect. Most areas were subsequently treated with prescribed fire. Since 1994 approximately 9,265 acres have been treated in this manner.

Historic fires have had only minor effects on early and mid-seral coniferous forest habitat. Since 1955, approximately 4,281 acres of this habitat type have been burned by wildfire. In many cases, the area continued to provide habitat for mountain quail.

The Jeffrey Pine Forest Health and Fuel Reduction Project was approved in 2007 and would occur in the southern end of the CEAA. In total, this project will treat approximately 2,755 acres of early and mid-seral coniferous forest by thinning small diameter trees and underburning. The Inyo National Forest is completing an analysis for additional fuels treatments in the vicinity of June Lake. This effort, known as the June Loop Hazardous Fuels Reduction project, would conduct similar treatments within an additional 760 acres of early and mid-seral coniferous forest. Neither project would result in the loss of early or mid-seral coniferous forest.

Early and mid-seral coniferous habitat is well distributed across the cumulative effects analysis area. The proposed action will not remove any habitat or affect the CWHR tree size and therefore will not have cumulative impacts on the total amount or size of the available habitat. Canopy closure is expected to be reduced on up to 556 acres within the project area. This represents approximately 0.6 percent of the available habitat and is not expected to alter the existing trend within the planning area.

The cumulative effects analysis area for northern flying squirrel contains approximately 20,989 acres of late-seral closed canopy coniferous forest habitat. Primary perturbation within this habitat type has been timber harvest/fuels treatment and, to a lesser degree wildfire. Since 1955, several wildfires, most notably the “Rainbow” and “Mammoth” fires have burned in areas supporting this habitat type. Since 1995, approximately 583 acres have burned. Historic timber harvest dating back to the early 1900s likely reduced the amount of late-seral habitat to current levels. However it is unlikely all forested areas historically met the definition of a closed canopy forest. Even a mature stand of eastside pine is relatively open and patchy, with canopy closure often less than 40 percent. The Jeffrey Pine Forest Health and Fuel Reduction Project was approved in 2007 and would occur in the southern end of the CEAA. In total, this project will treat approximately 532 acres of late-seral closed canopy coniferous forest by thinning small diameter trees and underburning. The Inyo National Forest is completing an analysis for additional fuels treatments in the vicinity of June Lake. This effort, known as the June Loop Hazardous Fuels Reduction project, would conduct similar treatments within an additional 328 acres of late-seral closed canopy coniferous forest. Similar to the proposed action, the latter project would not eliminate habitat, but might result in a slight reduction in habitat quality.

The proposed action includes treatment within approximately 413 acres of late-seral closed canopy coniferous forest. In combination with other reasonably foreseeable projects this represents approximately six percent of this habitat type within the cumulative effects analysis area. Mean tree size is likely to increase after treatment and canopy closure would only be decreased incrementally. Large down log and snag reduction is expected to be minimal and would not cumulatively affect presence of either of these
habitat elements. Overall there would be no change in the amount of late-seral closed canopy coniferous forest in the CEAA and no cumulative impacts to northern flying squirrels.

The cumulative effects analysis area for hairy woodpeckers contains approximately 121,772 acres of green forest. Snag densities within this area are generally low (1 to 3 per acre) with localized exceptions. Small pockets of beetle caused mortality occur sporadically throughout the area, but none as extensive as the ones present within the ski area. Historic and recent fires have created additional patches of snags. Reductions in medium and large snag density should be minor or negligible as cutting of snags would only occur as needed for operational safety and safety of ski area users and staff. In the whitebark pine restoration units, only snags up to 12 inches dbh would be removed. Overall, it is expected that medium and large snag density would be reduced by less than one snag per acre.

The few activities affecting snag density within the cumulative effects analysis area are also highly localized. Within general forest, cutting of snags is not allowed and happens only infrequently as a result of illegal firewood gathering. For the most part, natural processes dictate snag density within this area. Cutting of snags does occur adjacent to developed sites and within special use permit boundaries. Snags are generally removed if they pose a hazard to human health, safety and property. Removal of these snags has negligible impact on overall snag density throughout the cumulative effects analysis area. Since 1955, approximately 4,842 acres of green forest have experienced wildfire of varying intensity. Snag density is higher within these areas and contributes to increasing overall snag density within the cumulative effects analysis area.

The proposed action is expected to have minor or negligible, localized impacts on medium and large snag density on up to 1,157 acres within the ski area boundary. This represents slightly less than 1 percent of the green forest within the cumulative effects analysis area. The proposed action, in combination with other hazard tree removal is not expected to change density of medium and large snags across the landscape.

For neotropical migratory landbirds, the CEAA is defined as the two HUC-6 watersheds (June Lake and Deadman Creek) adjacent to the ski area. These two watersheds cover 42,500 acres and contain approximately 24,321 acres of coniferous forest habitat similar to those which would be treated under the proposed action. Two other projects are planned in the CEAA with anticipated impacts similar to those described for the proposed action. The Jeffrey Pine Forest Health and Fuel Reduction Project was approved in 2007 and would occur in the southern end of the CEAA. In total, this project will treat approximately 910 acres of coniferous forest by thinning small diameter trees and underburning. The Inyo National Forest is currently in the planning phase for additional fuels reduction work around the community of June Lake and along State Route 58. The latter project proposes to treat an additional 1,104 acres of coniferous forest to protect homes and reduce the effects of future wildfires. In addition to the proposed action, 2,114 acres of fuels treatment are identified in the CEAA. Both projects contain design features to minimize impacts to migratory birds. Specifically, limited operating periods are identified to reduce potential disturbance during important breeding periods. Additional design features include retention or creation of snags and downed logs. Similar to the proposed action, treated areas would continue to provide nesting and foraging areas for migratory birds.

In summary, reasonably foreseeable projects are expected to affect 3,171 acres or 13 percent of coniferous forest habitat in the CEAA. Some reduction in habitat quality is expected, but all treated areas would continue to provide habitat for migratory birds. This reduction in habitat quality is not expected to alter distribution or viability of migratory birds within the planning area.

It was determined the No Action Alternative would have no direct effect on any TES wildlife species or MIS species but could have a higher risk of indirect effects due to greater chance of a severe landscape-scale...
wildfire. The current mountain pine beetle infestation occurring both within and outside project area boundaries would increase risk of wildfire and could spread to unaffected areas causing further mortality and reduction of canopy closure. Over the long-term, conifer encroachment within moist meadows would limit availability of important foraging areas and possibly reduce prey availability and habitat suitability.

**Botany and Noxious Weeds**

Summarized from the Biological Evaluation (BE) for Sensitive Plant Species and Noxious Weed Risk Assessment for the June Mountain Ski Area Vegetation Management Planning Project, which are hereby incorporated by reference (Nelson 2011a, b).

The plant species BE for the JMSA Vegetation Management Planning Project concluded that in addition to increasing density of conifers, aspen and meadow habitats in the analysis area have been affected primarily by roads, ski runs, and facilities associated with development of the ski area. Due to the very small acreage of potential habitat proposed for treatment relative to the amount of available potential habitat as well as occupied habitat across the range of sensitive species considered in this analysis, and the maintenance or improvement of hydrologic function in these habitats, this project will not have a significant cumulative effect on sensitive moonwort species (*Botrychium* spp.), subalpine fireweed, Bolander’s bruchia, Blandow’s bog-moss, three-ranked hump-moss, or broad-nerved hump-moss. There were no proposed, threatened, endangered plant species within the project area (Nelson 2011a, b).

Road construction and maintenance activities, ski run construction and maintenance, and multiple activities associated with buildings and other facilities have all contributed to the current infestations of lower priority weed species within the project area. Lower priority species which already exist in the ski area are not uncommon in the Eastern Sierra. Implementation of project design features for weed prevention and control will prevent significant increases in these species, as well as introduction and spread of higher priority weed species, which are as yet less widespread in the Eastern Sierra and pose a greater ecological risk.

No new moderate or high priority weed species are anticipated as a result of this project. Lower priority species which are already established in the Eastern Sierra may increase in abundance or distribution due to project activities; however this increase will be minimized through implementation of weed-related project design features. Based on this, this project will not contribute to a significant cumulative effect with regard to non-native invasive plant species (Nelson 2011a).

**Hydrology and Soils**

Summarized from the June Mountain Vegetation Management Project Hydrology and Soils Report, which is hereby incorporated by reference (Ellsworth 2011).

A Cumulative Watershed Effects (CWE) analysis was completed to identify potential risk of cumulative effects to soil and water quality from direct and indirect effects of the Proposed Action combined with the effects of other land disturbances. In this project area, other land disturbances include past fuel reduction, logging projects, June Mountain Ski Area operations, housing tract development, powerline construction and maintenance, wildfire, and Travel Management decision implementation. This cumulative effects analysis will focus on cumulative watershed effects using the equivalent roaded area (ERA) method. It is the standard protocol for determining cumulative watershed effects in Region 5 of the Forest Service.

This analysis considers all known past, present, and reasonably foreseeable future land disturbances within the three project watersheds. This analysis relies on existing soil and water resource conditions as a proxy for the effects of past actions. The timeframe for the cumulative effects analysis is 20 years because it is the...
time frame in which compacted areas and areas void of vegetation would recover without further disturbance. For all watersheds, a 14-16% Threshold of Concern was used. For water quality, CWEs were calculated for areas within RCAs only. CWEs were calculated for the entire watershed area for estimating cumulative soils, morphology and flow effects.

The Proposed Action would add another layer of disturbance on this area. Soil productivity and health indicators would remain well within threshold levels by implementing the design criteria, BMP’s and Soil Quality Standards.

Under the No Action alternative, the area would become more susceptible to a stand-replacing wildfire than if the project was implemented. A stand-replacing wildfire would have the potential to increase soil hydrophobicity and erosion locally. These effects would be cumulatively added to the existing impacts of the roads and developments in the watershed.

**Air Quality**

Summarized from the Air Quality Analysis for the June Mountain Vegetation Management Project, which is hereby incorporated by reference (Ellsworth 2011).

The analysis considered past, present and reasonably foreseeable future actions on both public and private lands within and adjacent to the project area. The Mono Basin PM$_{10}$ State Implementation Plan (SIP) (GBUAPCD 1995) included estimates of PM$_{10}$ emissions from all known activities. It analyzed PM$_{10}$ effects from roads, vehicle emissions, residential wood burning, wildfires and prescribed burning, road cinders and lake shore windblown dust. It found windblown dust from Mono Lake’s dry shoreline made up about 86% of the annual PM$_{10}$ emissions in the Mono Basin, with most of the rest attributable to dust from unpaved roads (2%), road cinders (7%), and wildfire and prescribed burning (4%). Vehicle emissions and residential wood burning contributed very little to annual PM$_{10}$ emissions (about 1%).

Design criteria of the Proposed Action minimize likelihood of adverse effects from dust or smoke from this project to minor levels. Estimated PM$_{10}$ emissions from this project are 3.7-11.2 tons annually. Combined with the 9-26 tons estimated for the June Loop project, emissions are immeasurably small compared to the estimated 5,670 tons emitted from Mono Lake lakeshore windblown dust. Effects to visibility generated by emissions from both projects to the Ansel Adams wilderness would be at “de minimus” levels. With design criteria implemented, and with limited burning in any one year or on any one day, this project would not cause ambient air quality standards to be exceeded, even in combination with other activities.

Mono Lake will continue to be a source of PM$_{10}$ for the Mono Basin, at least until the lake level rises to 6,391 feet (GBUAPCD, 1995), and until then, PM$_{10}$ standards may not be met in this area. This project should not contribute enough increased PM$_{10}$ to be measurable over more than a few hour period.

The No Action Alternative has no direct effects to air quality, but the risk of a severe wildfire with major short term effects to air quality are increased. These effects have the potential to be combined cumulatively under high wind conditions with the continued PM$_{10}$ from Mono Lake dust to create short term very poor air quality for surrounding communities.

**Heritage Resources**

Protection of cultural resources has been incorporated into the Proposed Action, and no adverse effects were predicted in the analysis under beneficial and adverse effects (FONSI Element #1). Therefore there will also be no adverse cumulative effects of the project on cultural resources.
Cumulative effects of the proposed action and similar projects would enhance protection of cultural resources by reducing fuels loading and will allow management to continue protecting these resources, by introducing prescribed fire and fuels treatments under controlled circumstances. 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. This project will reduce the likelihood of high intensity fire spread into outlying areas with unrecorded historic and prehistoric resources.

Benefits of this type fuels treatment will compliment prior federally funded fuels treatments on Inyo National Forest Lands. The proposed action is similar to the June Lake Fuelbreak, Timber Stand Improvement projects and associated prescribed fire treatments within the Jeffrey Pine forest, north and adjacent the project area which began in 1975 and will continue being implemented.

Under the No Action Alternative, there will be no direct effects to cultural resources. A no action alternative would maintain current fuel loads which are ideal for a high intensity, stand-replacing wildfire as was seen during the June Fire of 2007, and the Mono Fire of 2010, both of which occurred north of the June Mountain Ski Area proposed treatment area. In the event of a wildfire in the project area, the cumulative effects of any future fire would potentially result in a greater loss of cultural resources and information.

**Visual Quality**

The cumulative effects analysis area for scenery resources included the proposed treatment areas and the land area encompassing viewsheds of the project area. The area of cumulative effects analysis was bounded in this manner because of the potential impact the surrounding viewsheds within the area.

Several other vegetation and fuels management projects have been implemented in and around the June Lake area over the last several decades. These projects have been integrated into the landscape over time and are no longer noticeable to the casual observer, therefore there will be no cumulative visual effects of the Proposed Action and these recent projects. The indirect cumulative effect will be a much more effective reduction in potential wildfire behavior and a long term beneficial impact to visual resources because of the lower risk of adverse visual impacts of a severe wildfire (Rich 2011).

**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 there would be no effect to cultural resources from implementing this project. Design features will ensure there are no adverse effects to districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places and will ensure there will be no loss or destruction of cultural or historic resources (Heritage Resource effects analysis under FONSI Element (1) above).

**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 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 (Perloff and Sims 2011; Nelson 2011a, b).
(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), American Indian Religious Freedom Act of 1978, Executive Order 13007 (1996), under Section 101(d)(6) of the National Historic Preservation Act of 1966 (as amended), and the American Indian Religious Freedom Act (as amended), and in accordance with Sections 101(d)(6)(B) and 110(a)(2) of NHPA, the American Indian Religious Freedom Act (as amended), the Native American Graves Protection and Repatriation Act, Executive Order 13007, Executive Order 13175, and 36 CFR §800.2(c). 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 2001a, 2004a).
Agencies, Organizations Tribes and Persons Consulted

June Lake Chamber of Commerce
June Lake Fire Safe Council
Mono County Board of Supervisors (Vicki Magee Bauer)
Lahontan Water Quality Control Board
US Fish and Wildlife Service
CA Department of Fish and Game
Sierra Forest Legacy
Benton Paiute Reservation- U tu UTU GWAITU Paiute Tribe
Big Pine Paiute Tribe
Bishop Paiute Tribe of the Owens Valley
Bridgeport Indian Colony
Mono Lake Indian Community
Eastern Sierra Audubon Society
Friends of the Inyo
Mono Lake Committee
The Wilderness Society (Sally Miller)
June Mountain Ski Area/Mammoth Mountain Ski Area
Tim Taylor
Dick Noles
John Walter
Bryce and Wilma Wheeler
Jean Dillingham
Dick Artley
Californians for Alternatives to Toxins
Cheri Bromberg
Stan Bluhm
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Todd Ellsworth, Physical Scientist, Inyo National Forest
William Kerwin, Interagency Fuels Archeologist, Inyo National Forest and Bishop BLM
Crystal West, Archeologist, Inyo National Forest (formerly)
Lisa Sims, Aquatic Biologist, Inyo National Forest
Katheryn Rich, Landscape Architect, Inyo National Forest
Leeann Murphy, Wildlife Biologist, Inyo National Forest
Scott Kusumoto, Forester, Inyo National Forest
Appendix A:
Mono County Community Hazard Rating Map
Mono County Community Wildfire Protection Plan, 2009
Appendix B:
Photos of Current Conditions on June Mountain Ski Area

Aspen stand currently being over topped by surrounding conifers near the base facility of June Mountain Ski Area.

Dense mixed conifer/aspen stand with high fuel loading and continuous fuel profiles from ground level into the canopy.

Partial view of upper mountain (whitebark pine restoration treatment and bark beetle mortality area) looking east from top of Chair J-7 towards top of J-6.
## Appendix C:
### Response to Comments

<table>
<thead>
<tr>
<th>Comment</th>
<th>Issue subject (corresponds to list of issues on Page 4)</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetation Management Plan’s (VMP) Existing Conditions for soil and watershed conditions should be revised to present information consistent with Spring 2011 observations and Wastewater Discharge Requirements (WDR) and monitoring results.</td>
<td>(1) Water quality/soil resource protection</td>
<td>The VMP Existing Condition section has been revised to be consistent with WDR requirements. Forest Service and JMSA personnel will conduct a joint field review of requirements under the WDR in 2011 when conditions allow.</td>
</tr>
<tr>
<td>Review JMSA WDRs and revise the VMP’s desired soil and water resources conditions to be consistent with the WDR.</td>
<td>(2) Water quality/soil resource protection</td>
<td>The VMPs Desired Conditions section has been revised to be consistent with JMSA WDR timeline and BMP requirements.</td>
</tr>
<tr>
<td>Compliance with WDR including discharge specifications and receiving water limits should be included as desired conditions for water resources.</td>
<td></td>
<td>This is administrative and not identified as an issue because it does not involve a point of disagreement or debate regarding effects of the project. The VMP is a general guiding document. This will be addressed in the final NEPA document.</td>
</tr>
<tr>
<td>Design criteria should be revised to provide requirements which can be clearly implemented, or more criteria be developed. This section should also include a statement that for projects approved under this plan, specific management practices and design criteria will be developed to ensure compliance w/ applicable local, state and federal regulations.</td>
<td></td>
<td>This is administrative and not identified as an issue because it does not involve a point of disagreement or debate regarding effects of the project. The VMP is a general guiding document. This will however be addressed in the final NEPA document.</td>
</tr>
<tr>
<td>Need to cite compliance with Lahontan Timber Waiver.</td>
<td></td>
<td>This is not identified as an issue because it does not involve a point of disagreement or debate regarding the effects of the project. The Forest will submit a Timber Waiver application before implementation projects begin.</td>
</tr>
<tr>
<td>Review the 2009 Timber Waiver requirements to understand criteria and</td>
<td></td>
<td>This is an administrative and regulatory requirement and not an issue for the</td>
</tr>
</tbody>
</table>

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"June Mountain Ski Area Vegetation Management Planning Project EA"
conditions which will streamline the application process and avoid delays.

Plan estimates the affected acreage of mortality as 150 acres; estimate it is larger.

Prescriptions for both upper and lower mountains recommend tree cutting to occur between August and September. The VMP also suggests considering timber removal over-snow. These prescriptions and suggestions seemingly conflict.

There is only a passing reference to stumps (p. 15). Does the plan suggest leaving stumps, or completely removing? If the plan is to leave stumps in place, this may cause interference w/ ski area equipment during low snow periods.

A portion (412 acres) of the ski area lies within the San Joaquin Inventoried Roadless Area (IRA).

<table>
<thead>
<tr>
<th><strong>Conditions which will streamline the application process and avoid delays.</strong></th>
<th><strong>Plan estimates the affected acreage of mortality as 150 acres; estimate it is larger.</strong></th>
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<td>Analysis because it does not involve a point of disagreement or debate regarding the effects of the project. A monitoring plan has been included in the proposed action (pg. 19) and the Forest will conduct all required BMP effectiveness monitoring in addition to application of a timber waiver.</td>
<td>This is administrative and not identified as an issue because it does not involve a point of disagreement or debate regarding the effects of the project. 150 acres was an estimate of the infested acreage in 2009. Remapping was performed March 2011 at 412 acres and will be noted.</td>
<td>Generally over-snow logging will provide the greatest margin for protection of resources. This might provide a small window of opportunity between the end of ski season and limited operating periods for nesting bird species. Project will assess for ground operations, but maintain spring felling of larger trees as an option to reduce ground disturbance.</td>
<td>This is administrative and not identified as an issue because it does not involve a point of disagreement or debate regarding the effects of the project. The reference in question dealt with Jeffrey pine stump diameters greater than 14 inches as they relate to application of borax, and not to stump heights. Tree removal will not occur within trails currently groomed for skiing.</td>
<td>The Forest will follow established Regional and National policy for management activities within an IRA.</td>
</tr>
</tbody>
</table>

| **Prescriptions for both upper and lower mountains recommend tree cutting to occur between August and September. The VMP also suggests considering timber removal over-snow. These prescriptions and suggestions seemingly conflict.** | **There is only a passing reference to stumps (p. 15). Does the plan suggest leaving stumps, or completely removing? If the plan is to leave stumps in place, this may cause interference w/ ski area equipment during low snow periods.** | **A portion (412 acres) of the ski area lies within the San Joaquin Inventoried Roadless Area (IRA).** | **The Forest will follow established Regional and National policy for management activities within an IRA.** |
Appendix D:

References


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


USDA Forest Service, Pacific Southwest Region. 2004b. 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.