DECISION NOTICE
and
FINDING OF NO SIGNIFICANT IMPACT

RESTORATION OF FIRE ADAPTED ECOSYSTEMS PROJECT

U.S. FOREST SERVICE
LAKE TAHOE BASIN MANAGEMENT UNIT (LTBMU)

EL DORADO AND ALPINE COUNTIES, CALIFORNIA

BACKGROUND

This project involves six meadows located in El Dorado and Alpine Counties, California (See Appendix A, Figures 1-7). The six meadows include:

- Baldwin Meadow (T13N, R17E, Sec 26, Emerald Bay Quad)
- Benwood Meadow (T11N, R18E, Sec 18, Echo Lake Quad)
- Freel Meadow (T11N, R18E, Sec 11 and 12, Freel Peak Quad)
- Hellhole Meadow (T11N, R18E, Sec 1, Freel Peak Quad)
- Meiss Meadow (T10N, R17E, Sec 9, Caples Lake Quad)
- Star Meadow (T12N, R19E, Sec 30, South Lake Tahoe Quad)

The total project area is 896 acres which includes the six meadows and a treatment buffer around all meadows except Baldwin and Hellhole. Buffers were delineated where needed to reduce conifer seed source into the meadow and provide a resource protection zone during prescribed fire activity. All meadows are located in the southern portion of the Lake Tahoe Basin Management Unit (LTBMU).

Montane meadows have been identified among the most vulnerable and impacted habitat types of the Sierra Nevada (Kattelmann and Embury 1996), and the Tahoe Regional Planning Agency (TRPA 2002) has identified meadow ecosystems as an important focus area for restoration efforts in the Lake Tahoe Basin. There are approximately 4,700 acres of meadow habitat in the Lake Tahoe Basin and approximately 2,700 acres (57%) are managed by the Forest Service on the LTBMU. Although meadows account for only 2 percent of the overall land managed on the LTBMU, they are of great ecological importance and play a crucial role in hydrologic processes, erosion control, nutrient cycling, and

habitat for many plant and animal species.

The processes that control the natural range of variability within meadows in the Lake Tahoe Basin have been altered. Past land use practices such as fire suppression, livestock grazing, and trail and road creation have impaired the natural function and processes of many meadows in the Lake Tahoe Basin, including the six meadows selected for restoration. Fire suppression activities have changed the frequency of fire which can contribute to conifer encroachment that decreases the overall size of the meadows and competes with meadow vegetation for water and space. Five of the six meadows have experienced domestic grazing since as early as 1965; however, all of these meadows and others around the basin have been influenced by grazing activities for over 150 years. Some of these meadows are at risk of drying out due to channel incision which has resulted from adjacent land uses (e.g., road and trail creation) that influence water patterns and retention. The six meadows also experience varying levels of recreational pressure that can influence meadow condition. The Pacific Crest Trail and Tahoe Rim Trail traverse Meiss Meadow and are near other meadows selected for restoration under this project. Baldwin Meadow is adjacent to Baldwin Beach, a popular recreation site on the south shore of Lake Tahoe.

Although it is not known which of the past land use practices has had the greatest effect on the current condition of the meadows selected for restoration, meadows were selected based on monitoring data collected among various efforts in 2004, 2008, and in 2009, knowledge of past land management impacts, and field investigations. Meadows that have moderate to severe conifer encroachment, past grazing impacts that have altered plant community and altered hydrologic processes, declining vegetative trend, and provide or have the potential to provide critical habitat for Threatened, Endangered, Proposed, Candidate, or Sensitive (TEPCS) species were considered the highest priority meadows. This project focuses on six of the meadows that met these criteria.

Climate change is a newly recognized threat to the condition of Sierran meadows that may be a significant contributor to droughts and is likely to exacerbate the problem of meadow drying. Future changes in climate (i.e., increasing temperatures) combined with a change from a snow-dominated to a rain-dominated system will alter the hydrologic regime and impact meadows. Total meadow area may decline and wet meadows may shift to dry meadows, especially small irregularly shaped meadows at low to mid elevations (Gross and Coppoletta 2013). Climate change will increase stress on meadow systems within the Lake Tahoe Basin. However, by reducing other influencing factors (e.g., channel incision, conifer encroachment) and improving conditions, meadow resiliency to climate change can be strengthened.

The intent of the proposed project is to restore ecological and hydrological characteristics of six meadows using a combination of conifer removal, prescribed fire, repair of head cuts, and planting of willows, and re-routing of trails that are influencing meadow hydrology. The intent is that this project work will prepare these systems for natural disturbances in the future.

DECISION

I have reviewed the Restoration of Fire Adapted Ecosystems Project Environmental Assessment (EA), the Project Record, and the Response to Comments (DN/FONSI, Appendix C).

I have decided to implement Alternative 2, the proposed action, as described below and in the EA (Chapter 2). In summary, the selected alternative will restore ecological and hydrological characteristics of the six meadows so that these systems are prepared for natural disturbances in the future.

ALTERNATIVE 2

Restoration activities include conifer removal, prescribed fire, repair of identified stream channel head cuts, willow planting, and re-routing of trails. Specific treatment strategies in each meadow will be identified prior to project implementation. Anticipated implementation strategies that might be used at each of the six meadows are shown in Table 1.

Table 1. Implementation strategies that may be used to restore meadows. An "X" indicates that this activity is proposed for the meadow. Bolded and underlined font ("**X**") indicates confirmed primary restoration strategies for that meadow.

Implementation Tool	Baldwin Meadow	Benwood Meadow	Freel Meadow	Hell Hole	Meiss Meadow	Star Meadow
Conifer Removal	X	X	X	**X**	**X**	X
Prescribed Fire - Pile Burn	X	X	X	**X**	**X**	X
Prescribed Fire - Broadcast Burn	X	X	X		**X**	X
Lop and Scatter	X	X	X	X	**X**	X
Head cut repair		X	**X**		X	X
Re-establishment of Meiss Corral					X	
Willow Planting	X	X	X	X		
Trail Reroute					X	

The activities include:

- Conifer Removal: All conifer removal will be conducted by hand treatments. Conifers may be removed completely within a meadow and four meadows have buffers that will be thinned to reduce future conifer seed source, and to act as a fire-control measure during prescribed fire activities. Live trees up to 18 inches

diameter at breast height (dbh) could be felled. Trees larger than 18 inches dbh that are considered a seed source for future encroachment may be felled, girdled, or piles may be placed underneath to encourage tree mortality. This latter activity will only occur in areas where future snags will not pose a hazard along trails. Additional woody debris, slash and bole wood will be lopped and scattered. This activity will occur where 1) lop and scatter density is low enough to scatter organics on the ground and/or 2) lop and scatter provides an advantage to carrying the fire through herbaceous vegetation. In areas where vegetative density is too high to lop and scatter or lop and scatter is not beneficial for broadcast fire, material would be piled for burning. Healthy trees will be retained first as a priority as well as preferred species. Whitebark pine, where it exists will be retained first as a preference, then western white pine. Lodgepole pine and white fir will be the trees selected first for removal. Priority for removal would also be based on size of the trees with activities mainly removing the smaller trees. No permanent or temporary roads will be constructed for proposed implementation activities in any of the meadows.

- Prescribed Fire: Prescribed fire will be used primarily to remove small conifers within a meadow. A secondary benefit of prescribed fire may be to enhance native riparian plant vigor and diversity. Prescribed fire may be used as the primary treatment method or subsequent to thinning treatments and would occur within the stream environment zone (SEZ) or upland areas that will serve as the buffers. Fire intensity would be low to moderate and duration would be limited. Pile burning of thinned material would occur within thinning treatments; these will be concentrated at the meadow boundary when feasible. Existing roads and trails would be utilized as fire lines to minimize new ground disturbance, though additional fire lines may need to be constructed with hand tools within limited portions of SEZs. Any needed fire lines within meadows would primarily be wet-line construction, hard line would be minimized. All constructed fire lines would be rehabilitated after implementation following the Region 5 Best Management Practices (BMPs) and resource protection measures (RPMs). Rehabilitation activities may include using hand crews and hand tools to rake in berms, install water bars, and scatter downed wood. For feasibility of implementation, burn piles may be adjacent to existing trails; however, where feasible, they will be moved at least 25 feet from existing system trails. Livestock may be used to transport materials; all materials would be fully suspended on the back of the animals using existing trails. Overnight stays of livestock are not expected.

- Head cut Repair: Small stream channel head cuts identified in the meadows may be repaired during implementation activities. Head cuts will be stabilized by hand crews using on-site rock, log material, willows, or other vegetative material. Head cuts larger than the capabilities of a hand crew are outside the scope of this project and will not be treated under this project; in general this will limit the project to repairing head cuts less than approximately 2 feet high. In order to avoid diverting flows, any head cuts identified on perennial channels will not involve excavation or earth movement; actions will focus on strategic placement of onsite material

minimized to the extent feasible.

- Re-establishment of the Meiss Corral: The Meiss Corral is an integral feature of the historic Meiss Cabin/Barn complex. The corral has deteriorated beyond a desirable condition and restoration is the preferred preservation treatment. The large diameter lodgepole trees removed for this meadow restoration project would provide the logs needed to restore the corral, matching both the original material and construction method.

- Willow Planting: Meadows that are within occupied or historic willow flycatcher sites or within 2 miles of willow flycatcher emphasis habitat and are in a declining condition for willow flycatchers would be enhanced through willow planting. All planted willows will be the same species that occurs at the meadow site during time of implementation. In meadows with willow flycatcher emphasis habitat, willow planting would be targeted in or near the existing emphasis habitat to enhance, improve connectivity, and/or expand this habitat. In meadows within 2 miles of emphasis habitat, willow planting could occur in up to 20% of the meadow area in sections where late-season standing water is expected. Willow cuttings will be taken from within the meadow and used as stakes, or in some cases wattles and fascines. Depending on the existing vegetation cover some ground disturbance may be necessary to remove some vegetation (i.e., forbs and grasses) so it does not outcompete willow establishment.

- Trail Reroute: Segments of the Pacific Crest Trail and Tahoe Rim Trail will be re-routed from low-lying wet meadow areas of Meiss Meadow to higher capability soil areas adjacent to the meadow edge. Old trail segments will be decommissioned and restored to a condition which does not impede meadow hydrology. During decommissioning the existing trail would be decompacted, native duff/mulch would be added to the footprint, and access to the rehabilitated area would be blocked using native materials. No revegetation would occur.

DECISION RATIONALE

I have decided to implement Alternative 2 for the following reasons:

1. **The selected alternative is responsive to the Purpose and Need (EA, Chapter 1).**

   Alternative 2 proposes restoration actions that would improve physical and biological meadow processes (infiltration, percolation, evapotranspiration) and functions (terrestrial and aquatic diversity and abundance, flow dispersal, ground water recharge, sediment detention) to within the natural range of variability. Alternative 1, the no-action alternative, does not meet the purpose and need because no restoration actions would be taken and meadow conditions would continue to deteriorate.

2. **The selected alternative meets or sets the trajectory to meet the desired conditions (EA, Chapter 1).**

   Alternative 2 proposes restoration actions that may either meet the desired conditions directly from these actions or improve the condition of the meadows such that the desired conditions will be achieved following restoration because of the actions that were taken. Alternative 1 does not achieve the desired conditions nor set the meadows on a trajectory towards achieving the desired conditions because no restoration actions are proposed and meadow condition would continue to deteriorate.

3. **The selected alternative provides a comprehensive, rigorous, and thorough set of project resource protection measures and Best Management Practices that are specifically designed to minimize adverse environmental effects.** Alternative 2 includes a comprehensive site of resource protection measures (RPMs) that include both general RPMs (applicable to all meadows) and meadow-specific RPMs and were developed based on our knowledge of sensitive resources in each meadow. Many RPMs are standard and have been found to be effective at mitigating effects. Other RPMs go above and beyond the standard set because of the potential for sensitive biological resources.

ALTERNATIVES CONSIDERED

In addition to the selected alternative (Alternative 2), I also considered the no-action alternative in detail (EA Chapter 2). Under this alternative, no activities would occur to restore these meadows.

PUBLIC INVOLVEMENT

The proposal was first listed in the Schedule of Proposed Actions on April 1, 2010. The proposal was provided to the public and other agencies for comment during scoping June 22, 2012 to July 23, 2012. Public scoping included scoping letters mailed or emailed to interested parties. In response to the scoping request, formal input was received from the following organizations and individuals: Pacific Crest Trail Association, Lahontan Regional Water Quality Control Board, and the Washoe Tribe of California and Nevada. Using these comments (see Issues section), the interdisciplinary team developed a list of issues to address.

The Draft EA was circulated for comment from January 7 to February 7, 2014. Comment letters were mailed or emailed to interested parties. In response to the comment request, formal input was received from three organizations and individuals. See Appendix C of this DN/FONSI for the comments and their responses. No changes were made to the EA as a result of the comments received.

FINDING OF NO SIGNIFICANT IMPACT

After considering the environmental effects described in the EA, I have determined that these actions will not have a significant effect on the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared. I base my finding on the following:

1. **Beneficial and adverse impacts –** My finding of no significant environmental effects is not biased by the beneficial effects of the action (EA, Chapter 3). RPMs (Appendix A of this document) and BMPs (EA Appendix A) implemented will mitigate effects to less than significant levels.
2. **The degree to which the proposed action affects public health or safety –** There will be no significant effects on public health and safety. Signs will be used warning public users of project activities such as hand thinning of conifers and general equipment use, prescribed fire operations, and temporary trail closures. A short-term Forest Order closing a portion of the project area during implementation could occur depending upon visitor use and the timing of implementation activities.
3. **Unique characteristics of the geographic area –** The project area is focused on improving the condition of meadow habitat. Montane meadows have been identified among the most vulnerable and impacted habitat types of the Sierra Nevada and the TRPA has identified meadow ecosystems as an important focus area for restoration efforts in the Lake Tahoe Basin. Meadows are a comparatively rare habitat in the Lake Tahoe Basin but are of great ecological importance and play a crucial role in hydrologic processes, erosion control, nutrient cycling, and habitat for many plant and animal species. and fen habitats. Meadow condition would be improved over the long-term and full implementation of the project RPMs would be adequate to protect meadows from significant effects in Alternative 2 (EA, Chapter 3). Fen habitat is also located in and around some of the meadows selected for restoration. Fen habitat is considered to be one of the most sensitive plant communities identified during ecological assessments of the Sierra Nevada (USDA Forest Service 2004b). Full implementation of the project RPMs is considered adequate to protect fens from significant effects in Alternative 2 (EA, Chapter 3).
4. **The degree of controversy over environmental effects –** Public involvement with interested and affected individuals and agencies throughout the environmental analysis identified concerns regarding the environmental effects of implementing the proposed actions. The EA adequately addresses these concerns and accurately discloses the environmental effects.
5. **The degree to which the possible effects on the human environment are highly uncertain or involves unique or unknown risks –** The LTBMU has considerable experience and success with the types of activities to be implemented. The effects

analysis in the EA shows that overall effects are not uncertain, and do not involve unique or unknown risk (EA, Chapter 3).

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 action will not establish a precedent for future actions with significant effects. No significant effects are identified (EA, Chapter 3), nor does this action influence a decision in principle about any future considerations.

7. **Whether the action is related to other actions with individually insignificant but cumulatively significant impacts –** There are no known significant cumulative effects among this project and other ongoing or planned projects in or adjacent to this project. The effects of other foreseeable future actions as well as past actions and ongoing actions were included in the analysis (EA, Chapter 3).

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** – The project area has been surveyed for cultural resources. The risk of damage to cultural resources is considered to be sufficiently mitigated by the RPMs prepared for the project.

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** – The information provided for this project specific analysis on Sierra Nevada Yellow Legged Frog (SNYLF) and Lahontan Cutthroat Trout (LCT) is discussed in detail in the project's BA/BE and the associated project effects description in the EA are an accurate portrayal for these species at this time with the information obtained to date. This project contains up to 520 acres of suitable SNYLF habitat as defined by US Fish and Wildlife Service (FWS) and the Region as all areas within 25 meters (82 feet) of perennial or intermittent streams, lakes, meadows, and ponds. Meiss meadow contains LCT occupied stream habitat and LCT occur downstream from the project area.

10. **Whether the action threatens a violation of Federal, State, or local law or other requirements imposed for the protection of the environment** – The action will not violate Federal, State, and local laws or requirements for the protection of the environment. Applicable laws and regulations were considered in the EA (EA, Chapter 1). A non-significant Forest Plan Amendment would be required for this project in order to make prescribed fire activities consistent with the LTBMU LRMP (EA Chapter 1).

FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS

National Forest Management Act

The National Forest Management Act (NFMA) requires the development of long-range land and resource management plans. The LTBMU Forest Plan was approved in 1988 as required by this act. It has been amended several times, including in the Sierra Nevada Forest Plan Amendment (SNFPA) (USDA Forest Service 2004). The Forest Plan provides guidance for all natural resource management activities. The NFMA requires that all projects and activities be consistent with the Forest Plan. The Forest Plan has been reviewed in consideration of this project. A Forest Plan consistency matrix for this project was completed (Project Record Section F). A non-significant Forest Plan Amendment would be required for prescribed fire activities associated with this project. The 2014 timber waiver with Lahontan Water Quality Control Board includes a 25-foot buffer for prescribed burning of piles near a stream channel. This is less restrictive than our 1988 Forest Plan buffer of 50 feet ("Locate activity burning beyond 50 feet of any stream channel or standing water" and "Design prescribed fire activities to avoid adverse effect on soil and water resources. Flame height will not exceed two feet within 50 feet of stream courses or on wetlands unless higher intensities are required to achieve specific objectives"). Therefore, the Forest Plan would be amended for this project to allow burning of piles between 25 and 50 feet from a channel. With the proposed non-significant Forest Plan amendment, the design of the project is consistent with the Forest Plan.

Endangered Species Act

In accordance with Section 7(c) of the Endangered Species Act, the U.S. Fish and Wildlife Service (USFWS) list of endangered and threatened species that may be affected by projects in the Lake Tahoe Basin Management Area was reviewed (verified October 10, 2014) and effects on those species are analyzed in the Aquatic BA/BE (Project Record Section B). The USFWS completed a Biological Opinion (BO) for this project on April 5, 2016. The USFWS determined that that the level of anticipated take in this project is not likely to result in jeopardy to SNYLF, LCT, or result in adverse modification or destruction of critical habitat, since none has been designated for either species. Terms and Conditions as well as relevant Conservation Recommendations from that BO (File No. 2016-F-0183) have been adopted into the Resource Protection Measures for this project and are listed in Appendix B of this DN/FONSI.

National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effect of a project on any district, site, building, structure, or object that is included in, or eligible for inclusion in, the National Register of Historic

Places. Section 106 of the NHPA (Public Law 89.665, as amended) also requires federal agencies to afford the State Historic Preservation Officer a reasonable opportunity to comment. No cultural sites or archaeological sites would be affected.

Clean Water Act (Public Law 92–500)

All federal agencies must comply with the provisions of the Clean Water Act (CWA), which regulates forest management activities near federal waters and riparian areas. The resource protection measures associated with the Proposed Action ensure that the terms of the CWA are met, primarily prevention of pollution caused by erosion and sedimentation.

Section 404 of the CWA (33 U.S.C. 1344) regulates activities that result in the discharge of dredged or fill material into waters of the U.S., including wetlands. The US Army Corps of Engineers (USACE) has the principal authority to regulate discharges of dredged or fill material into waters of the U.S. Under Section 404 of the CWA, a permit from the USACE for the project's impacts to waters regulated by the CWA may be required.

Clean Air Act (Public Law 84-159)

The project area lies within the Lake Tahoe Air Basin and the El Dorado Air Quality Management District. Impacts to air quality have been considered for this project. The potential effects on air quality from the proposed action have been evaluated and would not result in significant impacts. This proposal would have some short-term impacts on air quality levels, due to pile burning of activity fuels and prescribed fire fuel burning; however, air quality levels would comply with all State and Federal air quality regulations. Prior to prescribed burning in this project, a burn plan would be prepared and reviewed by the LTBMU Forest Fuels Staff and signed by the LTBMU Forest Supervisor. This burn plan includes a Smoke Management Plan which is the basis for obtaining a burn permit from the Placer County Air Pollution Control District (APCD). In addition, resource protection measures are included for Air Quality (See EA Chapter 2 and Appendix A of this document).

California Environmental Quality Act [CEQA] (Public Resources Code, § 21080)

The California Environmental Quality Act (CEQA) applies to discretionary projects to be carried out or approved by public agencies in California. The LRWQCB's process to grant a conditional waiver of waste discharge requirements on NFS lands is a discretionary act subject to CEQA. Prior to approving a project, the LRWQCB must certify that: 1) the environmental document has been completed in compliance with CEQA; 2) that the Lahontan Water Board has reviewed and considered the information contained in the environmental document; and 3) that the environmental document

reflects the Lahontan Water Board's independent judgment and analysis (Cal. Code Regs., title 14, § 15090.).

Environmental Justice (Executive Order 12898)

Executive Order 12898 requires that all federal actions consider potentially disproportionate effects on minority and low-income communities, especially if adverse effects on environmental or human health conditions are identified. Adverse environmental or human health conditions created by any of the alternatives considered would not affect any minority or low-income neighborhood disproportionately.

The activities proposed in alternatives were based solely on the existing and desired condition of the meadows proposed in response to the purpose and need. In no case were the project activities identified based on the demographic makeup, occupancy, property value, income level, or any other criteria reflecting the status of adjacent non-federal land. Reviewing the location, scope, and nature of the proposed project in relationship to non-federal land, there is no evidence to suggest that any minority or low-income neighborhood would be affected disproportionately. Conversely, there is no evidence that any individual, group, or portion of the community would benefit unequally from any of the actions in the proposed alternatives.

Invasive Species Management, FSM 2900

This EA covers botanical resources and invasive plants. An Invasive Plant Risk Assessment has been prepared (Project Record Section B). The project's resource protection measures are designed to minimize risk of new invasive plant introductions (See EA Chapter 2 and Appendix A of this document).

Migratory Bird Treaty Act of 1918 as amended (16 USC 703-712)

The original 1918 statute implemented the 1916 Convention between the United States and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented treaties between the United States and Mexico, Japan, and the Soviet Union (now Russia). Specific provisions in the statute include the establishment of a federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird." Because forest lands provide a substantial portion of breeding habitat, land management activities within the LTBMU can have an impact on local populations.

A Migratory Bird Report (Project Record Section B) has been prepared for this project which fulfills the requirements of this act and Executive Order 13186.

Special Area Designations

Parts of this project are located within areas that are designated Inventoried Roadless Areas and Recommended Wild River. There are no other specially designated areas that would be affected by the project (i.e., Research Natural Areas and Wilderness Areas).

Five of the six meadows are in IRAs. Benwood Meadow and Meiss Meadow are located in Dardanelles IRA. There are approximately 599 project acres within Dardanelles IRA (Table 2), which will affect 4.3 percent of the entire IRA (Table 2). Freel Meadow, Hellhole Meadow, and Star Meadow are located in Freel IRA. The maximum project area with buffers is approximately 172 acres within Freel IRA (Table 2), which will affect 1.2 percent of the entire IRA (Table 2). The Regional Forester issued direction regarding projects in IRAs. Per this direction, any projects planned in IRAs need to be thoroughly reviewed prior to public release.

Table 2. Total acres and percentage of IRA's affected by proposed treatments

Inventoried Roadless Area (IRA)	Total Acres	Project acres in IRA	Percentage of IRA Affected by Project
Dardanelles	13,943.1	**599**	**4.3%**
Freel	14,894.1	**172**	**1.2%**

This project includes the cutting or removal of generally small diameter trees to:

- Improve Threatened, Endangered or Sensitive species habitat.
- Maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period.

Per Regional Forester direction, this project in IRAs was thoroughly reviewed by both the State of California and the USDA Forest Service Washington Office prior to public release and no concerns have been raised.

The Upper Truckee River has been recommended as a Wild River in the area around Meiss Meadow. The LTBMU must manage the river to protect its free flowing character, and its Wild classification, in accordance with FSH 1909.12 Chapter 82.5 – Interim Management of Eligible or Suitable Rivers. Chapter 82.51 – Management Guidelines for Eligible or Suitable Rivers, number 8 allows construction of minor structures and vegetation management to protect and enhance wildlife and fish habitat. Projects should harmonize with the area's essentially primitive character and fully protect

identified river values. Project activities would not affect the free flowing character of the Upper Truckee River or its Outstandingly Remarkable Values, and therefore would not affect its Wild River recommendation or the primitive character of the river.

Tahoe Regional Planning Agency

This project will be submitted for review by TRPA consistent with the terms of the 1989 MOU between TRPA and the Forest Service. Depending on the extent of implementation phases, project permits may be required.

Local Agency Permitting Requirements and Coordination

Any ground-disturbing project activities that occur between October 15 and May 1 will require a grading exemption from TRPA and Lahontan Water Board. In addition, any required permits will be obtained from TRPA and / or the Lahontan Water Board prior to project implementation.

Administrative Review and Implementation Date

This decision was subject to objection pursuant to 36 CFR 218, Subparts A and B. No objections were submitted within 45 days following the publication of the legal notice in the Tahoe Daily Tribune (January 28 – March 14, 2016). Implementation may begin five business days from the close of the objection period and issuance of a final decision.

Contact

For additional information concerning this project, contact:

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JEFF MARSOLAIS

4/25/16
Date

Forest Supervisor
Lake Tahoe Basin Management Unit

Appendices:

Appendix A – Project Area Maps

Appendix B – Resource Protection Measures

Appendix C – Response to Comments

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

APPENDIX A: PROJECT AREA MAPS

Figure 1: Project Area Context

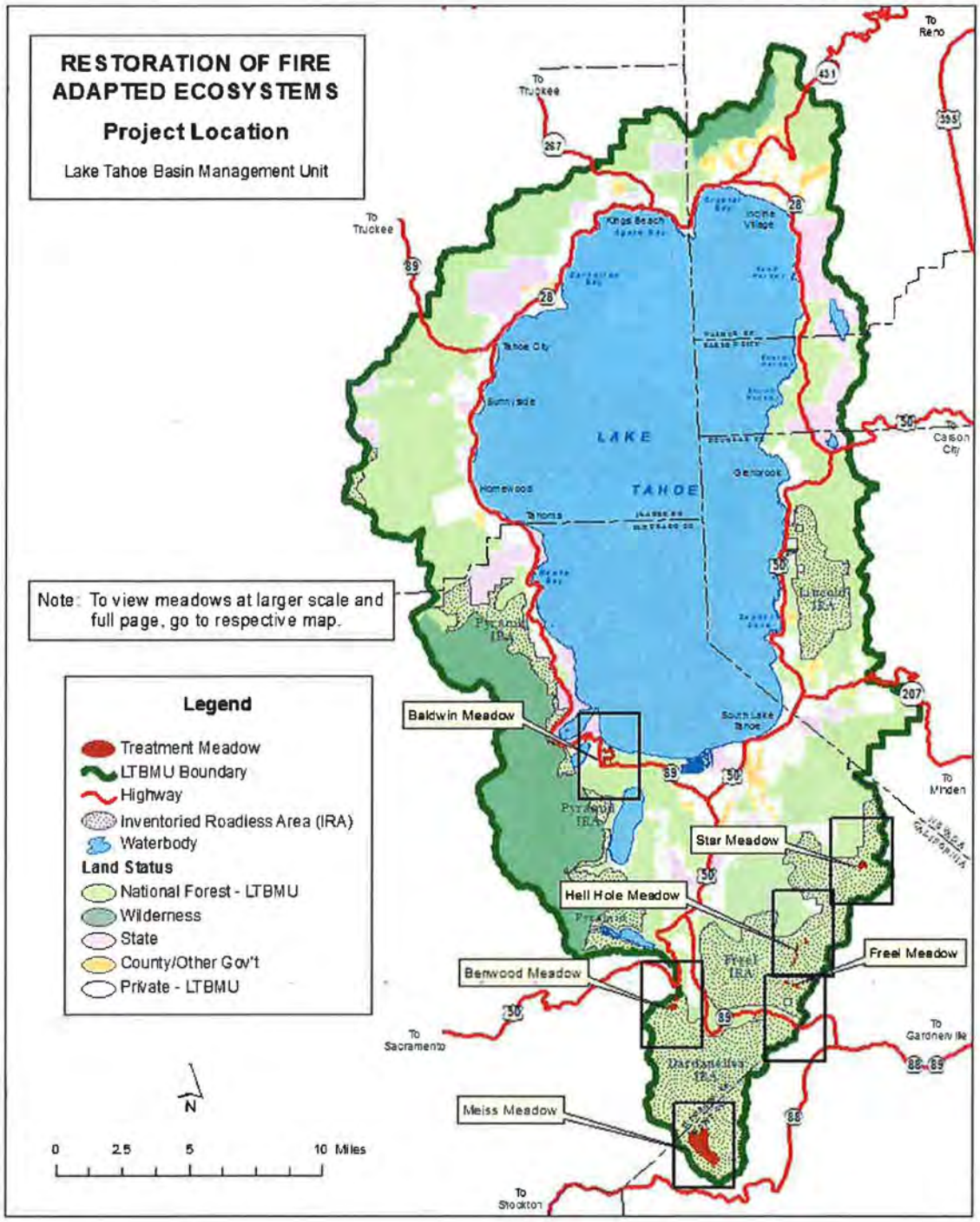


Figure 2: Baldwin Meadow Project Area

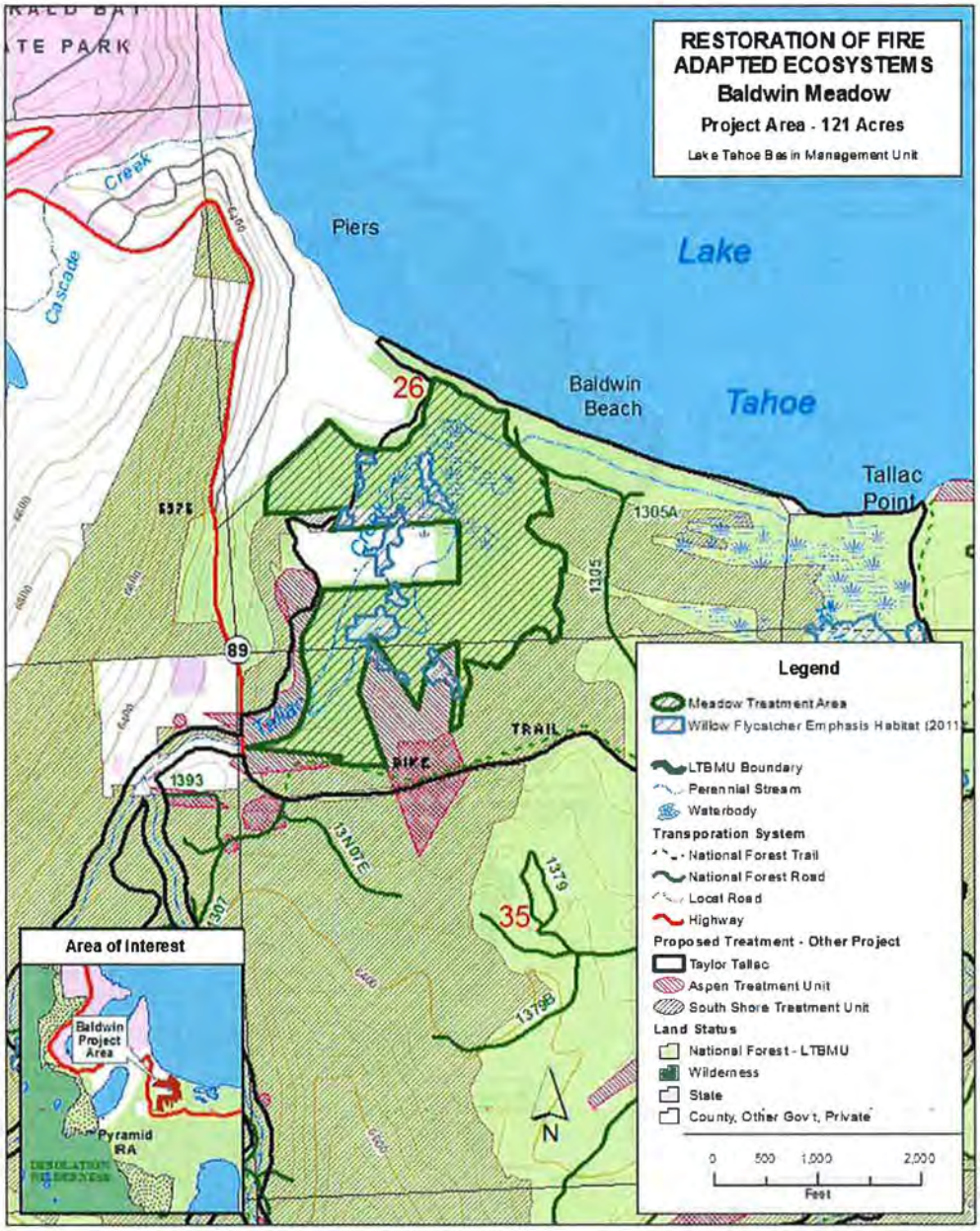


Figure 3: Benwood Meadow Project Area

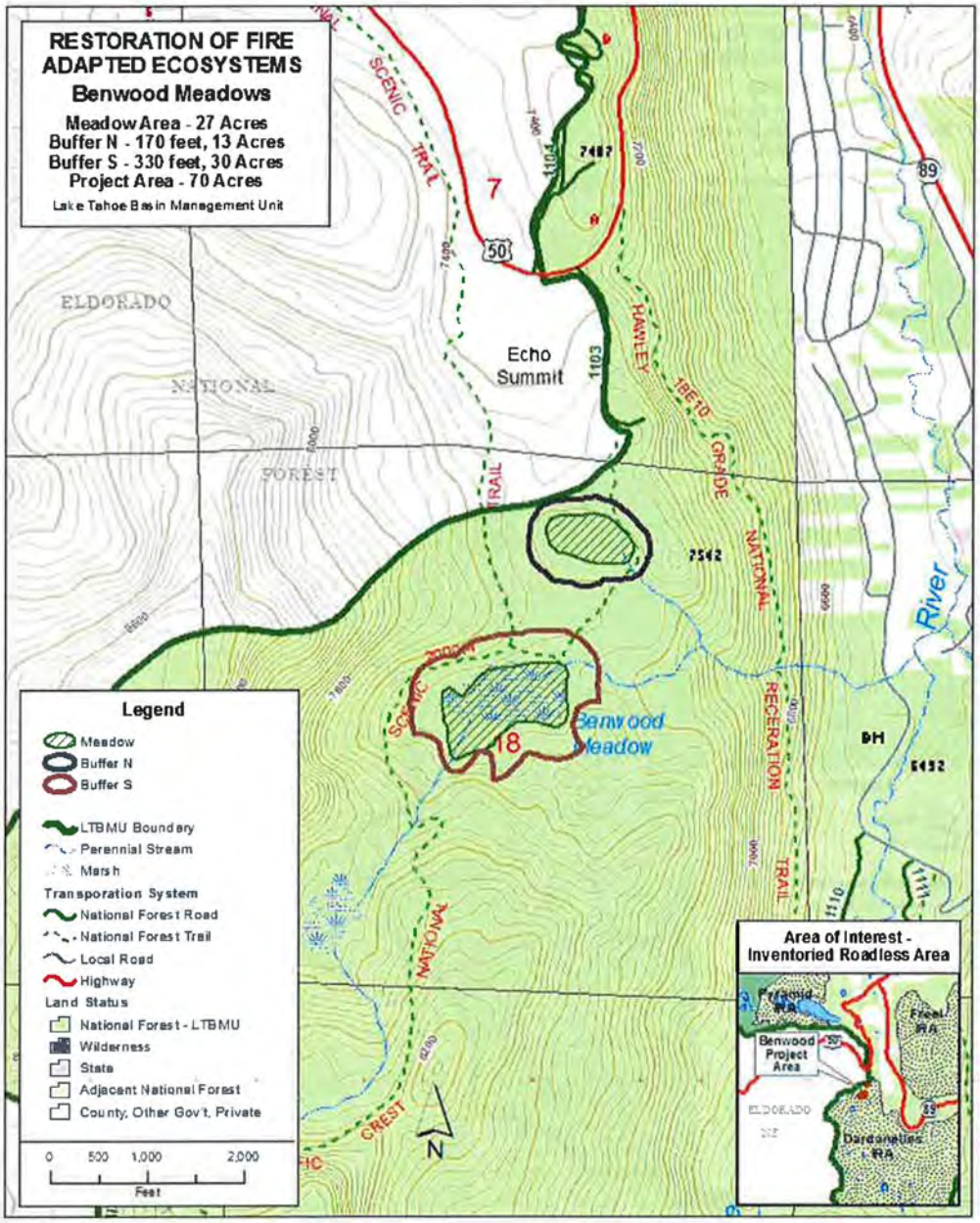


Figure 4: Freel Meadow Project Area

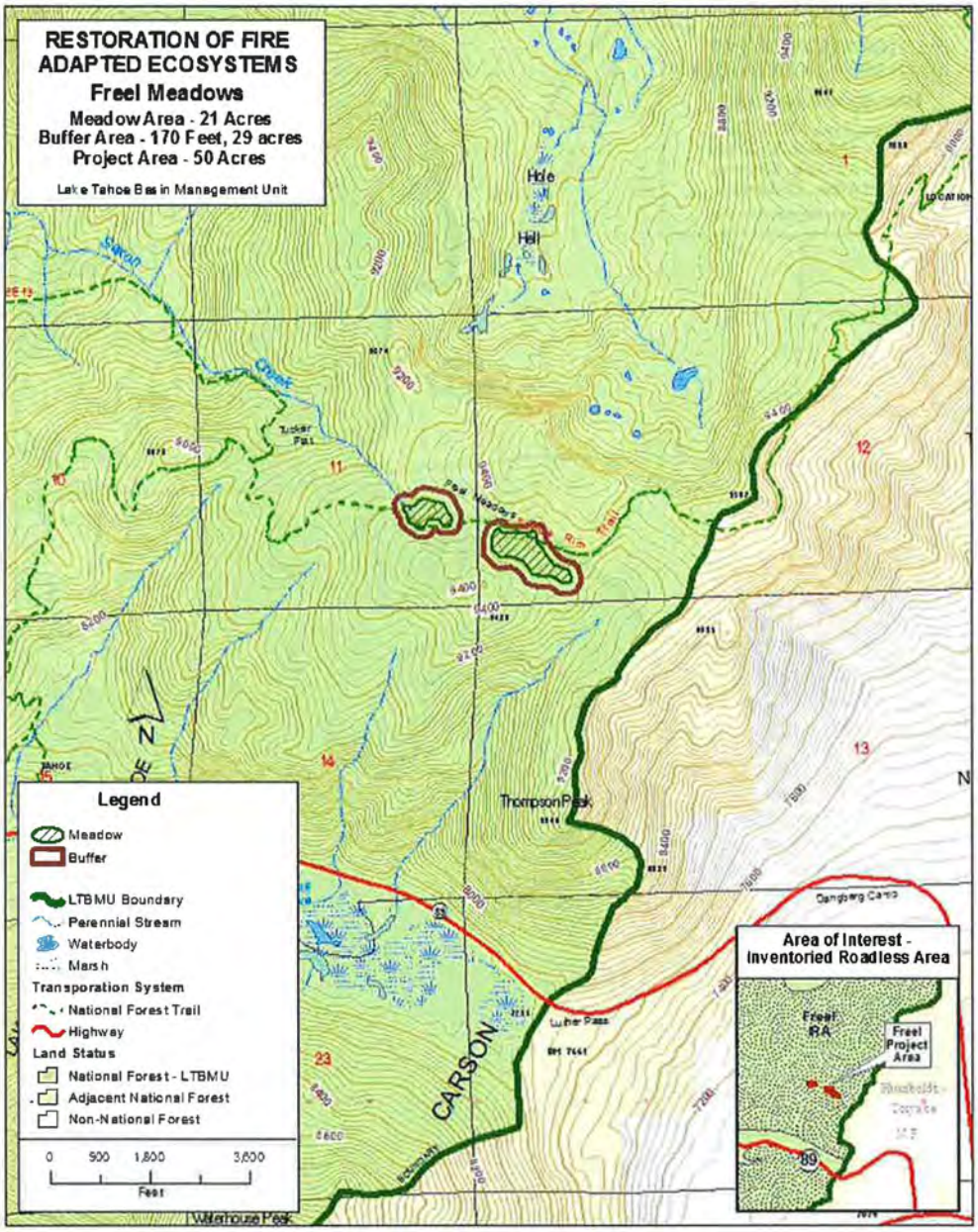


Figure 5: Hell Hole Meadow Project Area

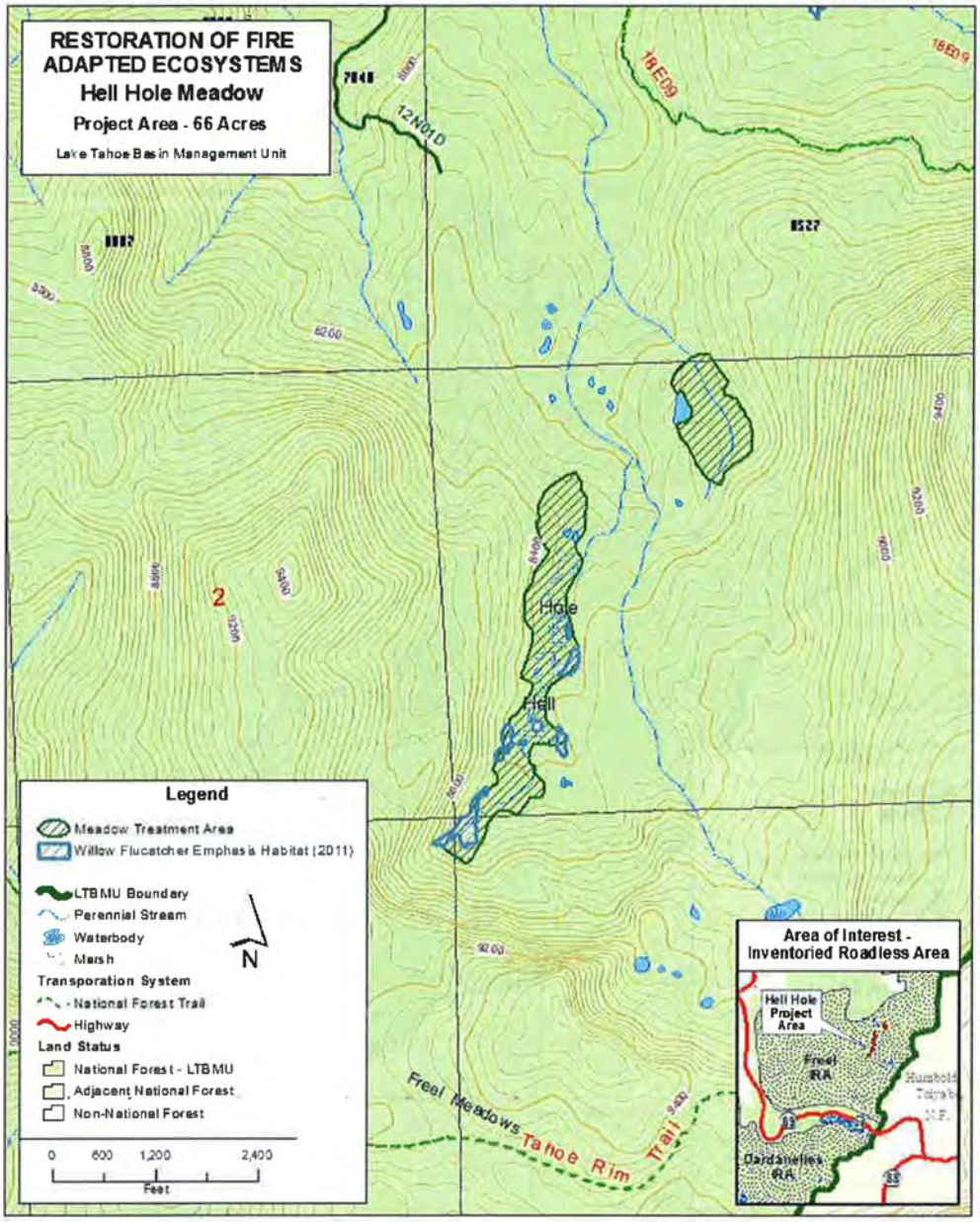


Figure 6: Meiss Meadow Project Area

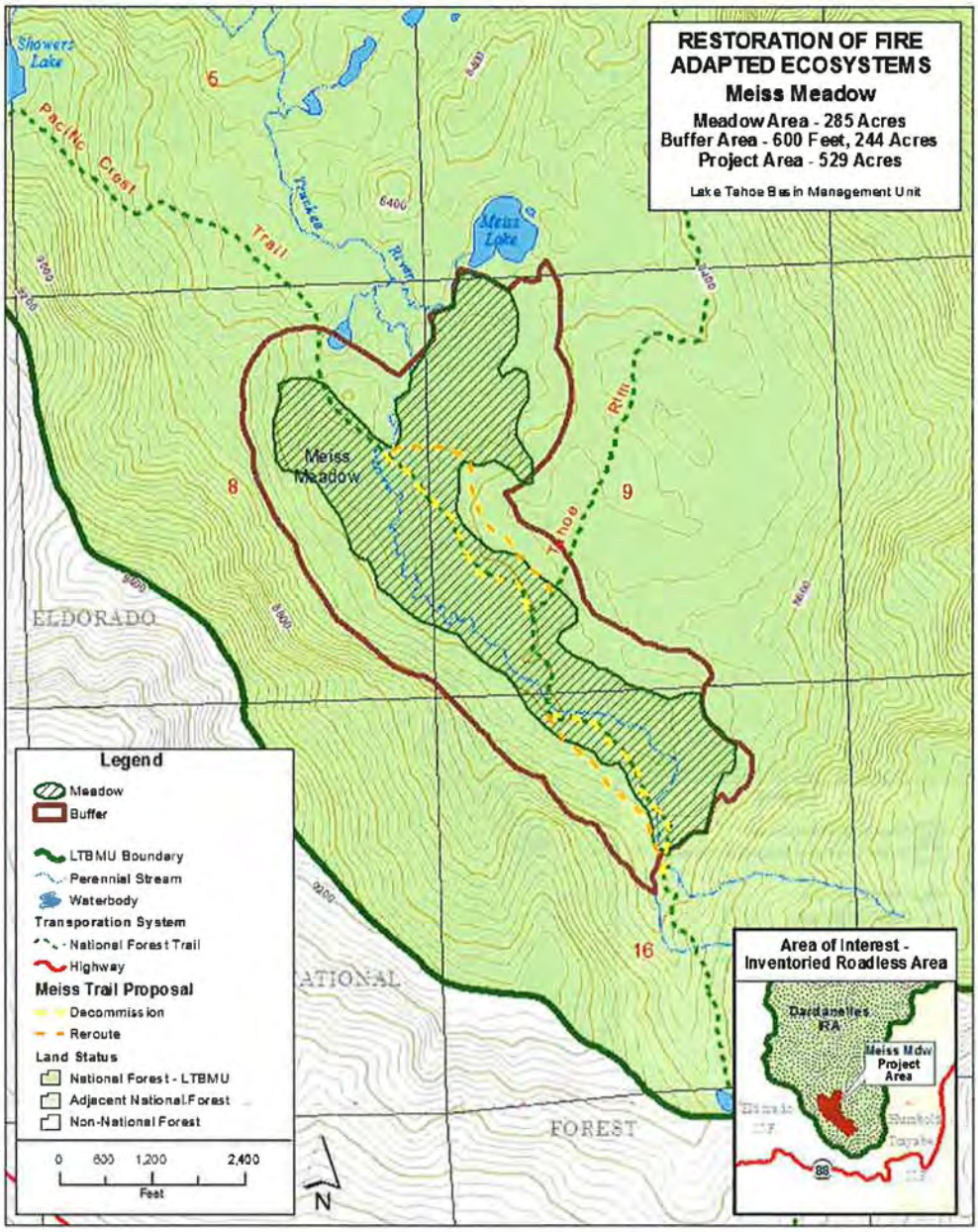
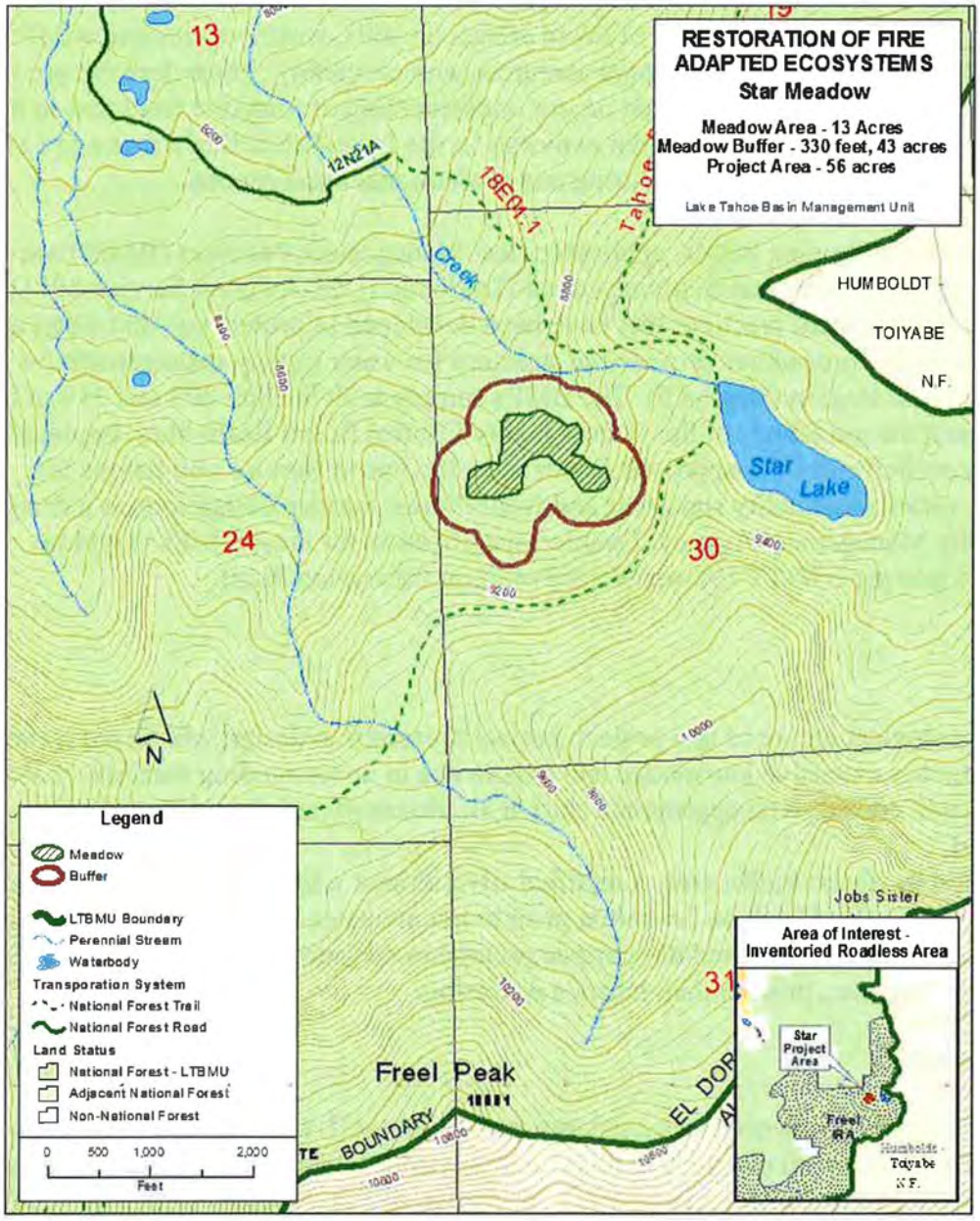


Figure 7: Star Meadow Project Area



APPENDIX B: PROJECT RESOURCE PROTECTION MEASURES

Activities associated with implementation of this project could have localized, short-term effects. The following resource protection measures (RPMs) have been incorporated into the Proposed Action and are intended to minimize or avoid effects on soils, water, vegetation, wildlife, fisheries, heritage resources, recreational resources, and air quality. These features are included as part of the selected alternative based on our understanding of sensitive resources in the project area and on past experience with similar activities in the Lake Tahoe Basin area and have been proven to be effective based on monitoring and professional observations.

In addition to the following RPMs, applicable Best Management Practices (BMPs) are identified in Region 5 USFS Water Quality Management Handbook (USDA Forest Service 2011). BMPs are standard management practices that have been developed to protect soil and water quality. These practices and procedures provide the structure for water quality management for the Pacific Southwest Region (Region 5). The BMPs comply with Section 208 and 319 of the Clean Water Act, and the guidelines of the Water Quality Control Board Basin Plan. Implementation of these State certified and EPA approved BMPs meet the Forest Service obligations for compliance with water quality standards and fulfill Forest Service obligations as a designated Water Quality Management Agency. Detailed specification for these BMPs would be incorporated into the SWPPP (Storm Water Pollution Prevention Plan).

GENERAL

Due to the ecological nature of this project, project prescription/design will be led by an ecologist who has extensive knowledge and experience in understanding meadow ecology. The project lead will consult with appropriate staff at all phases of design and prescription development.

1. Within the forest buffer area, a certified silviculturist will write or approve prescriptions.
2. All resource staff will be consulted prior to maintenance treatments. Time may be needed for additional surveys and/or resource protection measures to be developed, consultation, permitting, etc., prior to maintenance occurring.

Aquatic Resources

3. Leave existing downed trees and large woody debris (LWD) that are in perennial or intermittent stream channels in place unless channel stability needs, as determined by an LTBMU Fisheries Biologist and/or hydrologist, dictate otherwise (LRMP STD/GD 15).
4. Use directional falling to keep felled trees out of intermittent and perennial streams unless the channel reach is identified as deficient in large woody debris, in which case a FS Fisheries Biologist in collaboration with a vegetation specialist shall select trees greater than 12 inches dbh to be felled directionally into the channel.
5. To avoid removing or altering bank stabilizing vegetation, restrict tree removal (live or dead) within 5 feet of a perennial or intermittent stream channels or other water bodies (e.g. lakes, ponds) unless approved by fisheries biologist or watershed specialist (hydrologist) and the action is needed to meet desired conditions (e.g. where fuel loads or

stand densities exceed desired conditions and where coarse woody debris (CWD) is at or above desired levels or where trees are a hazard to safe operations).

6. Retain/add downed wood in the open meadow areas where feasible for native amphibian species. Density should be approximately three logs >30 cm diameter at midpoint per 0.4 ha.
7. Retain or girdle large trees (>24") for future large wood recruitment in stream channels (e.g. when a tree would naturally fall into the stream) unless removal is necessary for project implementation activities.
8. Use screening devices for water drafting pumps. Use pumps with low entry velocity to minimize removal of aquatic species, including juvenile fish, amphibian egg masses and tadpoles, from aquatic habitats. (SNFPA standard 110)
9. Water drafting sites should be located in areas that will avoid adverse effects to stream flows and depletion of pool habitat. If instream flows or water drafting sites are not sufficient due to a lack of water, water would be obtained from local municipal water hydrants. Water drafting sites will be reviewed by a hydrologist or fisheries biologist every two weeks during low flow periods and determinations made regarding adequate minimum flows. If flows are not adequate for instream needs, drafting will be discontinued.
10. Any incidental sightings of special status fish and wildlife species would be reported to the project or staff biologists. Species identification, known locations, and protection measures would be brought up during a pre-treatment meeting.
11. All equipment (e.g. field gear, pumps) used in a water body during project implementation shall be inspected and free of invasive species prior to implementation. Equipment should be free of all soil and plant material, and should be dried prior to moving to a different meadow.

Hell Hole Meadow Aquatic RPMs

12. Two surveys (a minimum of two weeks apart, one survey needs to be conducted within 30 days of implementation) for Sierra Nevada Yellow Legged Frog (SNYLF) will be conducted prior to implementation each year for all proposed actions (same field season).
13. No broadcast burning will be permitted (not being proposed in Hell Hole).
14. Location of piles will be coordinated and approved by aquatic biologist. Aquatic biologist will be on-site during piling and burning of the piles.
15. No burning will occur until meadow conditions are such that adult SNYLF have moved into aquatic habitat (stream or ponds). Burning will only occur late fall (if meadow does not have standing water) or during the winter. Aquatic biologist will be on-site during implementation.
16. No water drafting will occur without approval of aquatic biologist. Aquatic Biologist will be on-site during implementation.
17. Ensure that field gear (waders, boots, hoses, etc.) is cleaned, decontaminated, and/or fully dried prior to working in Hell Hole and when leaving Hell Hole. Decontamination will follow Chytrid decontamination protocol – see EA Appendix B.
18. Maintain a Sierra Nevada yellow-legged frog (*Rana sierrae*) LOP April 15 through August 15 within a minimum of 25 feet of known breeding sites. Prohibit habitat

manipulation or other activity that could create bank disturbance unless surveys confirm that egg masses are not present. USFS and/or USFWS Biologist will be on site.

19. Additional Resource Protection Measures may be added or existing RPMs may be amended pending the listing status of SNYLF Critical Habitat.

Meiss Meadow RPMs

20. Location of piles will be coordinated and approved by the project Aquatic Biologist.
21. Aquatic Biologist will be on-site during piling and burning of the piles.
22. No piles will be created within 50 feet from the Upper Truckee River (UTR).
23. No ignitions of prescribed fire will take place within 50 feet of the UTR.
24. Flame heights for underburning would not exceed two feet within 50 feet of the UTR.
25. Flame heights will be 6 inches or less within 50 feet of the UTR.

Soil, Water, & Riparian Resources

In order to minimize impacts to water resources from the proposed activities, BMPs would be implemented (USDA FS 2011). The basic premise and emphasis for BMPs and the project-specific RPMs to implement them are to prevent sources of erosion and dissipate or infiltrate runoff generated by the project before reaching waterbodies (See EA Appendix A for BMPs).

The project specific RPMs have been developed to minimize or avoid both direct and indirect negative effects of treatments on forest resources and to meet the Riparian Conservation Objectives of the LTBMU Forest Plan (1988), as amended by the Sierra Nevada Forest Plan Amendment (USDA Forest Service, 2004). These objectives address provision of beneficial uses for water resources, geomorphic and biological characteristics of aquatic features, suitable stream habitat features (including CWD), and physical and biological characteristics of riparian areas.

General RPMs

26. Spill prevention and cleanup of hazardous materials would be implemented in accordance with the LTBMU Hazardous Spill Notification and Response Plan (BMP 2-12).
27. If livestock used to transport material are brought to the stream to drink, then stream bank subject to livestock access will be limited to less than 10% of any stream reach within the project area.
28. Water drafting associated with this project will be tracked (length of time, the number of days, and size of pump) and reported at the end of each year to the Water Rights Program Manager. Water drafting sites will be reviewed by a hydrologist or fisheries biologist every two weeks during low flow periods and determinations made regarding adequate minimum flows.

Broadcast burning RPMs

29. Design underburning prescriptions to avoid adverse effects on soil and water resources by planning prescribed fire to ensure that fire intensity and duration do not result in severely burned soils.
30. Flame heights for underburning would not exceed two feet within 25 feet of stream courses or on wetlands unless higher intensities are required to achieve specific objectives. Flame heights for underburing would not exceed 6 inches within 50 feet of the UTR (in Meiss Meadow). No ignitions will take place within identified stream corridors (i.e. within 25 feet of perennial and intermittent streams; 50 feet of perennial streams in Meiss Meadow). Fire will be allowed to back into these corridors (BMP 6-2 and 6-3).
31. Existing roads and trails will be used as fire line to the extent feasible. When line construction is necessary it will be completed with hand tools, to the minimum width and depth necessary to hold the fire. Minimum Impact Suppression Techniques (MIST) will be used. All fire line will be rehabilitated by pulling any berms created back into the line and creating water bars where necessary. Prior to development of the burn plan, consultation with Watershed Specialist will occur to determine the appropriate construction and decommissioning techniques in meadow areas to avoid soil and water quality impacts.

Pile burning in Stream Environment Zone (SEZ) RPMs

32. Maintain a minimum 25 foot buffer (no piling or pile burning) from water courses, except in Meiss Meadow (50 feet).
33. No more than 30% of any SEZ acre may be occupied with piles.
34. No more than 15% of any SEZ acre can have burn scars at any time which do not have vegetative recovery (not invasive weeds)
35. All burn scars must either 1) have native duff or organic mulch and seed raked into the scare to a minimum of 85% coverage as soon as the burn is completely extinguished, or 2) have native duff or organic mulch and seed raked into the scar to a minimum 85% coverage if the scar does not have vegetative recovery within 2 growing seasons following the burn.
36. Burn scars that exceed either a 25 ft diameter or 500 contiguous square ft shall have native duff or organic mulch and seed raked into the scar to a minimum 85% coverage.
37. Burn scar raking, whether under option 1) above, or to address large burn scars, must occur as soon as the burn is completely extinguished. In the event the burn scar and surrounding ground is covered by ice or snow, the required raking must occur by June 1 following the burning.
38. After initial ignition of piles, but while still burning, allow each pile to be re-piled once (i.e., place large unburned pieces back into the burning pile). Additional re-piling will be allowed if necessary to achieve 80% consumption of the piled material.
39. When piles are adjacent to aspen trees, re-piling during pile burning shall be restricted to one time per pile and hot piling is prohibited (i.e. don't feed one pile with the material from other piles or ground material).
40. Areas burned within SEZs must be left in a condition such that waste, including ash, soils, and/or debris, will not discharge to a waterbody.

Pile burning in uplands RPMs

41. Maintain a minimum 25 foot buffer (no piling or pile burning) from water courses.
42. Design prescribed fire prescriptions to avoid adverse effects on soil and water resources by planning prescribed fire to ensure that fire intensity and duration do not result in severely burned soils.

Head cut restoration RPMs

43. Loose dirt and other debris will be cleared from rocks and logs before placing them into channels at head cuts.
44. Soil movement within the channel will be avoided during repair of head cuts.
45. Exposed bare soil resulting from the repairs will be covered with rock, logs or branches, or will be planted with vegetative material (e.g. willow stakes spaced every 1 ft.).

Scenic/Recreation Resources

46. Maintain a distance of a minimum of at least 10 feet, but 25 feet where feasible, between any burn piles and the centerline of designated System trails, including the Pacific Crest Trail and Tahoe Rim Trail, where "lop and scatter" approaches are not feasible to meet project objectives.
47. Within 50 feet of the centerline of designated system trails including the Pacific Crest Trail and Tahoe Rim Trail, limit stump height of any cut trees to 6" above ground, measured from the uphill side of the stump, and cut stumps parallel to ground surface.
48. Coordinate trail re-route alignment locations with Pacific Crest Trail Association and Tahoe Rim Trail Association.
49. Avoid painting of any trees which will not be cut, with exception for treatment boundary trees. Painting will be minimized on boundary trees.
50. Notify the Pacific Crest Trail Association and Tahoe Rim Trail Association regarding timing of project activities in proximity to the PCT and TRT respectively. Request that these Associations alert trail users and interested public of planned work, timing, and potential impacts to recreation access and experience via their websites and other communications with their members.
51. Post temporary interpretive signs along the PCT and TRT near project activity areas during periods of conifer removal and burning when activity is visible from trail. Remove signage following project activities.
52. Schedule treatments to avoid work during Saturdays and Sundays in July and August to minimize disturbance to recreation use and access.
53. Prior to project implementation, field identify with Forest Service recreation and/or scenery management specialists any "character trees" within meadows that would be considered for retention to sustain positive scenery values. Character trees may need to be identified with a temporary tag or sign to avoid removal.

Terrestrial Wildlife Resources

General RPMs

54. Maintain Limited Operating Periods (LOPs) for threatened, endangered, proposed, candidate species, FSS species, and/or TRPA SIS where it is determined that project activities would otherwise occur within a disturbance or buffer zone. LOPs that would apply to this project based on existing conditions (Feb 2014) that are described below for each meadow. Additional LOPs would be maintained if other species are determined to be breeding in the project area. Current LOPs are based on the LTBMU LRMP (1988), SNFPA (USDA Forest Service, 2004), and TRPA Code of Ordinances (2013) and are included in Appendix C of the EA; if LOPs are updated prior to implementation, the project would maintain the most current LOPs. LOPS may be waived where a biological evaluation concludes that there would be no effects to breeding activities and according to conditions described in SNFPA (USDA Forest Service 2004, e.g., S&G #77, 78, 79, 88).
55. Implementation crews will participate in a special status wildlife orientation prior to conducting work in the project area. During project activities, any detection of threatened, endangered, proposed, candidate species, FSS species, or SIS or of nests, roosts, or dens of these species would be reported to the project biologist. These species would be protected in accordance with management direction for the LTBMU.
56. Retain known special status species nest/den/roost trees/snags.
57. Retain existing and create new coarse woody debris (CWD) for special status wildlife species where retention and creation do not conflict with project objectives and safety. Prioritize retention/creation of the largest size classes and all decay classes represented.
58. Retain and create snags in or near meadow perimeters where retention/creation does not conflict with project objectives and safety. Where existing conditions permit, retain/create up to four snags per acre (USDA Forest Service 2004, S&G #11). Prioritize retaining mid- and large-diameter snags with complex structure, potential cavities, and in a range of decay classes.
59. Identify some mid- and large diameter live trees that are currently in decline, have substantial wood defect, or that have desirable characteristics (teakettle branches, large diameter broken top, large cavities in the bole) that could be retained to serve as future replacement snags and to provide nesting structure (USDA Forest Service 2004, S&G #11).
60. All trash created during construction will be properly contained in bear-resistant containers and removed at the end of each day. No trash will be left overnight on site.
61. If marten den sites are identified in the project area, apply the LOP as described in Appendix C of the EA. If vegetation treatments would occur within marten den site buffers within the meadow buffer zones and outside the LOP (359 meter radius around known den sites), treatments should result in (where existing conditions permit) at least: 1) two conifers per acre greater than 24 inches dbh with suitable denning cavities, 2) canopy closures exceeding 60 percent, 3) more than 10 tons per acre of coarse woody

debris in decay classes 1 and 2, and 4) an average of 6 snags per acre on the Westside and 3 per acre on the eastside (USDA Forest Service 2004, pg. 39).

Baldwin, Benwood, Hellhole, Freel, and Meiss Meadows Additional RPMs

62. Where willow clipping is conducted, this activity should take place in a random fashion, taking more from larger clumps and less from smaller clumps. Clipping in a single willow clump should not be great enough to alter the visual shape or the overall structure of the clump. No branches attached to a bird nest or within one meter of any part of a bird nest should be clipped.
63. Although fire can stimulate willow growth, prescribed burns should not burn all willows in a meadow. Prior to prescribed burns a biologist will flag any willows that have been willow flycatcher nest sites or larger-sized, mature willows that should be retained.
64. Conduct willow flycatcher surveys the same year as implementation (if implementation begins after mid-July) or the year before implementation activities. If willow flycatcher is detected, nests would be protected in accordance with the USDA Forest Service (2004) and LOP as described in Appendix C of the EA.

Baldwin Meadow Additional RPMs

65. Maintain LOPs for threatened, endangered, proposed, candidate species, FSS species, and/or TRPA SIS where it is determined that project activities would otherwise occur within a designated disturbance zone. LOPs that would apply at Baldwin Meadow based on existing conditions (Feb 2014) include mapped bald eagle wintering area, waterfowl management area and osprey nest sites, and possible willow flycatcher nest sites.
66. Do not conduct tree removal activities between mid-October and June 30th to maintain a low level of human disturbance for wintering bald eagles (mid-October to February) and waterfowl (March 1 to June 30). If project objectives can still be met and safe conditions exist, conduct prescribed burning outside of this time period. If prescribed burning occurs during this time period, prioritize burning activities before mid-October or after February. Minimize the number of ignition days and provide burn crews with a sensitive species awareness training prior to burning activities.
67. To maintain visual screening and vegetation for waterfowl, do not conduct prescribed burning within 25 feet of stream corridors and marsh areas.
68. Implementation of tree removal and prescribed fire in mapped bald eagle wintering habitat would be designed to retain all known perch and roost trees/snags. Where existing conditions permit, retain an average of six snags per acre larger than 20 inches dbh in variable decay classes. Retain large diameter (larger than 20 inches) trees where existing conditions permit and project objectives can be met.
69. Implementation of tree removal and prescribed fire within osprey disturbance zones (1/4 mile surrounding known nests) would retain all known standing osprey nest trees and where existing conditions permit, retain an average of three trees per acre that are larger in diameter and taller than the dominant tree canopy, with an emphasis on dead topped trees with robust, open branch structures.

Benwood Meadow Additional RPMs

70. For treatments in the buffer zone that overlap California spotted owl Home Range Core Areas (HRCA), conduct vegetation treatments that result in at least (or as closely as possible, where existing vegetation conditions permit): 1) two tree canopy layers; 2) dominant and co-dominant trees with average diameters of 24 inches dbh; 3) 50 to 70 percent canopy cover; 4) an average of three to six snags (three in eastside pine and mixed conifer, four in Westside pine and mixed conifer, and six in red fir forest types) per acre larger than 20 inches dbh and of variable decay classes; and 5) 10 tons of coarse woody debris per acre larger than 20 inches in diameter (at the large end) and of variable decay classes.
71. Because implementation could occur within 0.25 mile of a spotted owl PAC (Hawley Grade), surveys would be conducted two consecutive years before implementation to identify if project activities would occur within 0.25 miles of a nest. Surveys can be conducted the year before and the year of project implementation if implementation begins after mid-August. If a nest is identified within 0.25 mile of project activities, the LOP would apply (See EA Appendix C).

Meiss Meadow Additional RPMs

72. Avoid re-routing trails through willow flycatcher emphasis habitat.

Botanical Resources

The hydrological processes that maintain fens, meadows, and associated TEPCS botanical species are threatened by conifer encroachment. Therefore, the proposed activities are considered beneficial for these areas and will be allowed with certain restrictions in 'botanical treatment areas.' These are distinguished from control areas, where all project activities are excluded. For botanical resource RPMs, ground disturbance is any work or activity that disturbs or displaces soil or ground cover; activities include, but are not limited to, fireline construction, tree stump removal, material removal (e.g. soil, rock, gravel, wood), soil excavation, and staging equipment and materials.

73. *Bruchia bolanderi* (Bolander's candle-moss)—Occurrences will be designated as 'botanical treatment areas' where all ground disturbing activities will be excluded. Other project activities are allowed with the following restrictions:
    a. Botanical treatment areas will be identified on project maps and flagged prior to implementation.
    b. Piles will not be constructed or burned within 20 ft of plants.
    c. Ignition and construction of fireline is prohibited.
    d. Foot traffic is minimized.
    e. Supplemental willows will not be planted.
    f. Manipulation of fuels to reduce impacts to individuals during prescribed fire treatments is allowed.
74. *Pinus albicaulis* (whitebark pine)— If project activities occur in whitebark pine stands the following restrictions apply:
    a. Piles will not be constructed or burned within 10ft of whitebark pine

b. Individual trees or clusters of trees with at least one tree 18" dbh or greater will be retained
c. Clusters of trees consisting of at least two trees 12" dbh or greater will be retained
d. Trees may be removed, if dead or displaying evidence of pathogens or disease
e. Exceptions for safety are allowed
f. Where removal of whitebark pine is necessary for meeting project objectives the order of preference for removal will be based on the following:
    i. Signs of insects or disease or overall decline in health
    ii. Small suppressed trees
    iii. Trees growing in clumps that consist of less than 3 stems
    iv. Individual trees or clumps of trees with at least one tree 18 inches dbh will be retained
    v. Clumps of trees consisting of at least two trees 12 inches dbh will be retained

75. If additional occurrences of above listed TEPCS botanical species are discovered prior to or during project implementation, they will be protected as directed above. If occurrences of other TEPCS botanical species are discovered prior to or during project implementation, they will be flagged and avoided until supplemental environmental analysis can be conducted (e.g. Supplemental Information Report, Letter To File).
76. Fens (special habitat):
    a. Project design and operations will improve or maintain the hydrologic processes that sustain water flow, water quality, water temperature, and hydrological connectivity that is critical to sustaining those fens potentially affected by proposed actions.
    b. Fens will be designated as 'botanical treatment areas' where all ground disturbing activities will be excluded, but in which other project activities allowed with the following restrictions:
        i. Botanical treatment areas will be identified on project maps and flagged prior to implementation
        ii. Foot traffic is minimized within botanical treatment area.
        iii. Felled trees will not be dragged through botanical treatment area.
        iv. Piles will only be located in areas designated by a staff botanist or ecologist prior to implementation. In general, pile construction will be minimized in fens and piles will be focused in portions of fens that are previously disturbed; not perennially saturated, or do not exhibit peat-forming vegetation.
        v. Ignition and construction of fireline is prohibited within botanical treatment area.
        vi. Supplemental willows will not be planted within botanical treatment area.
    c. If conifer removal/thinning and/or prescribed burning treatments are conducted in a fen, then the fen will be monitored pre- and post-project implementation, unless there is sufficient evidence to support that the treatment will not adversely impact the fen.

Invasive Plants

The following measures will be implemented to reduce the risk of invasive plant establishment and spread associated with proposed activities. Site-specific invasive plant management measures are provided in the plant protection plan and invasive plant risk factors are also documented in the project's Invasive Plant Risk Assessment, available in the project record.

71. **Inventory & Identification**—Project areas and adjacent vectors—particularly access roads—will be inventoried for invasive plants within five year of implementation. Invasive plant infestations will be identified on project maps and flagged.
72. **Staging areas**—Do not stage equipment, materials, or crews in invasive plant-infested areas. Staging areas will be identified prior to project implementation.
73. **Control Areas**—Where feasible, invasive plant infestations will be designated as Control Areas—areas from which all project activities are excluded or treated prior to implementation. Control Areas will be identified on project maps and delineated in the field with flagging. Infestations found in the project area during implementation will be treated as control areas or treated prior to implementation.
74. **Project-related disturbance**—Minimize the amount of ground and vegetation disturbance in staging and construction areas. Where feasible, reestablish vegetation on disturbed bare ground to reduce invasive species establishment; revegetation is especially important in staging areas.
75. **Post Project Monitoring**–After the project is completed the Forest Botanist should be notified so that the project area can be monitored for invasive plants subsequent to project implementation (as funding allows).
76. **Mulch and topsoil**—Use weed-free mulches and topsoil. Salvage topsoil from project area for use in onsite revegetation, unless contaminated with invasive species. Do not use material from areas contaminated by cheatgrass.
77. **Livestock**—If supplemental fodder (e.g. hay) is required for livestock, including horses and other pack animals, it will be certified weed-free.
78. **Revegetation**—Plant materials must be approved the Forest Botanist or their designated appointee who has knowledge of local flora.
79. **Project Specific Control areas**—The following infestations will be designated as control areas from which all project activities will be excluded: Canada thistle site 736B in Baldwin Meadow.
80. **Project Specific Treatment**—All invasive plant infestations will be treated prior to and in the same growing season as project implementation. Treatment will occur in accordance with Forest Service management direction and the design features of the LTBMU 2010 Terrestrial Invasive Plant Species Treatment Project Environmental Assessment (TIPS EA). If treatment is not feasible or as needed according to the species present and project constraints, infestations will be flagged and designated as control areas. The Project Leader will notify the Forest Botanist or their designated appointee prior to project initiation to coordinate invasive plant treatment. GIS layers will be provided to the Project Leader prior to project implementation.
    a. Canada thistle (*Cirsium arvense)*: Canada thistle is known at one location within Baldwin meadow (736B). The site will be treated at least two weeks prior to project implementation. Chemical treatment using amminopyralid is the preferred

treatment option. However, manual treatment—clipping buds or digging up plants—may be used to control small infestations.

b. Bull thistle (*Cirsium vulgare):* Bull thistle is known at 11 locations within Baldwin meadow (267, 703, 718, 720, 729, 731, 736A, 755, 756A, 757, 790A). Bull thistle will be treated at least one week prior to project implementation. Treatment options include, but are not limited to, manual removal by a) digging out as much of the root as possible and either bagging the plant or laying it out where the roots will not be in contact with the ground; and b) if in bud or flowering, clipping and bagging all buds and flowers.
c. Oxeye daisy: Oxeye daisy is known at two locations within Baldwin meadow (756B, 790B). These sites will be treated at least two weeks prior to project implementation. Chemical treatment using amminopyralid is the preferred treatment option. However, manual treatment—by hand pulling or digging up all rhizomes and bagging plants for disposal—may be used to control small infestations

Cultural Resources

Approved Standard Protection Measures (as defined by Appendix E of the Region 5 Programmatic Agreement for compliance with Section 106 of the National Historic Preservation Act) will be applied to ensure the Forest has taken into account the effect of this undertaking on historic properties. The following measures will be implemented to reduce the risk of impacting historic properties.

81. Fifteen sites, for a total of 17 acres were identified (EA, Chapter 2 Table 2-3). All of these archaeological/historic sites can be approved for vegetation reduction treatments within the site boundaries as long as the following Standard Resource Protection Measures are implemented, as outlined in the Region 5 Programmatic Agreement.
    a) Flag and avoid known sites during implementation.
    b) Hand thinning could occur within the site boundaries with no dragging of materials, and no piling within site boundaries. Determine if the tree can be felled with minimal ground disturbance, then after felling - buck up the tree and remove from the site by hand (no dragging)
    c) Certain features would require heritage staff be present during implementation to monitor work within site boundaries and pile burning adjacent to sites.
    d) No burning will occur within site boundaries. Fire lines or breaks may be constructed off sites to protect at risk historic properties in order to avoid spread from piles; create hand lines outside of the boundaries prior to prescribed burns, black line the hand line first if possible.
    e) Fire crews or HPM staff should monitor sites to provide protection as needed to make sure accidental ignition of wooden historic structures does not occur at the Ebright Dairy (Baldwin meadow) and Meiss Cabin/Barn (Meiss Meadow).
    f) Vegetation may be removed and fire lines or breaks may be constructed within sites using hand tools, so long as ground disturbance is minimized and features are avoided, as specified by the HPM.
    g) Fire shelter fabric or other protective materials or equipment (e.g., sprinkler systems) may be utilized to protect Ebright Dairy (Baldwin Meadow) if needed.

h) Trees which may impact at risk historic properties should they fall on site features and smolder can be directionally felled away from properties prior to ignition, or prevented from burning by wrapping in fire shelter fabric or treating with fire retardant or wetting agents.
i) Vegetation to be burned shall not be piled within the boundaries of historic properties unless the location (e.g., a previously disturbed area) has been specifically approved by the Forest's HPM.

82. Buffer zones may be established to ensure added protection where the Heritage Program Managers determine that they are necessary. The size of buffer zones will be determined by HPMs or qualified Heritage Program staff on case-by-case basis. Use of buffer zones in avoidance measures may be applicable where setting contributes to property eligibility under 36 CFR 60.4 or where setting may be an important attribute to an historic property. (For this project, the Meiss Cabin, Barn and Corral complex is the only property where buffers may be needed.)
83. Landscape architects and qualified Heritage Program staff will be consulted to determine appropriate view sheds for historic resources at Meiss Cabin.
84. If cultural or archaeological resources are discovered during project implementation, stop all work in the vicinity until cleared by a professional cultural resources manager.

Vegetative Resources

85. Stand cards describing site specific resource protection measures will be completed prior to individual meadow implementation.
86. Sporax would be used on cut stumps greater than 14 inches diameter in the buffers. No sporax will be used within any of the meadows. No sporax would be used within 25 feet of standing or running water. Sporax would not be used during rainfall events to avoid washing off target stump surfaces. The use of Sporax in Hell Hole would be coordinated between the aquatic biologist and vegetation specialist.
87. Thinning that occurs on the meadow edge to reduce the impacts of conifer encroachment/seed sources may reduce basal area of conifers to less than 40% of existing conditions to reduce impacts of conifer encroachment.
88. Thinning that occurs within the forest to ensure that fire can be safely and effectively introduced into proposed meadows will retain at least 40% of existing basal area.
89. Conifer canopy cover would likely be reduced by more than 30 percent to reduce impacts of conifer encroachment to meadow. In forest thinning, canopy cover will not be reduced by more than 30% within treatment unit.
90. For willow planting, site preparation will disturb only enough of the ground cover (grasses, forbs, shrubs and litter) to provide a planting bed.

Air Quality

A burn plan will be prepared and reviewed by the Lake Tahoe Basin Management Unit Forest Fire Managements Officer prior to implementation. The Burn Plan will include a Smoke Management Plan which is the basis for obtaining a permit with Eldorado Air Quality Management District. In order to minimize the effects of prescribed burning on air quality; monitoring, mitigation and contingency measures will be identified in the Smoke Management

Plan. Desirable meteorological conditions such as favorable mixing height and transport wind speeds are required in the Smoke Management Plan to facilitate venting and dispersion of smoke from populated areas.

Monitoring

The purpose of project monitoring is to track the implementation of the project design features and the prescribed BMPs (See EA Appendix A) and, in some cases, to measure their short-term effectiveness at protecting resources. The monitoring types are defined as follows:

Implementation monitoring consists of inspections of project areas and roads to ensure that all management practices and design features are implemented as prescribed, including those designed to prevent sediment delivery and protect water quality.

Effectiveness monitoring consists of inspections of the project to evaluate the effectiveness of the prescribed design features and management practices at meeting their objectives. It includes evaluating the effectiveness of management practices designed to prevent sediment delivery and protect water quality.

Required Monitoring

For all aspects of the project, the Best Management Practice Evaluation Program (BMPEP) protocols developed by the Forest Service and the California State Water Resources Control Board (USDA Forest Service and California State Water Resources Control Board 2002) will be followed to provide qualitative information about BMP implementation and effectiveness. The Forest Service R-5 BMPEP onsite evaluation form will be used to rate the effectiveness of the BMPs. The monitoring will address the specific activities of the project and the following areas:

- Design implementation inspection and reporting.
- Soil and water BMP monitoring.
- Vegetation (tree removal) monitoring.
- Invasive plants monitoring.
- Heritage resource monitoring.
- Soil moisture monitoring.

USFWS Terms and Conditions/ Relevant Conservation Recommendations

Terms and Conditions are non-discretionary measures which implement the reasonable and prudent measures described in the BO (File No. 2016-F-0183) and have been adopted into this project in their entirety. The BO also describes Conservation Recommendations which are discretionary agency activities to minimize or avoid adverse effects of a Proposed Action on listed species or critical habitat, to help implement recovery programs, or to develop information.

Conservation Recommendations for this project are listed below.

Terms And Conditions

1. The LTBMU shall ensure that all Resource Protection Measures, Standard Operating Procedures, Best Management Practices, as identified in the BA, are followed.
2. The LTBMU shall conduct pile burning activities at least 50 feet from occupied LCT and SNYLF habitat in Meiss Meadow and Hell Hole Meadow.
3. The LTBMU shall provide a copy of the monitoring plan to be developed for the Proposed Action to the Service prior to project implementation. The LTBMU shall include stream temperature monitoring in meadows which meet certain criteria within the existing LTBMU stream temperature monitoring plan.
4. The LTBMU shall conduct at least two visual encounter surveys for SNYLF in all six meadows prior to implementing the Proposed Action.
5. The LTBMU shall develop and provide an annual report to the RFWO and shall include all activities within the six meadows and identification of proposed and implemented Resource Protection Measures, Standard Operating Procedures, and Best Management Practices to minimize adverse effects to SNYLF and LCT. The annual report should briefly summarize for the previous year's activities: (1) implementation and effectiveness of the terms and conditions, and (2) documentation of take of SNYLF and LCT. Additional information may be included as necessary or requested by the Service.

   The first annual report shall be due to the Service on or before December 31 of the first year of project implementation. The address for the Service's RFWO is:

   Field Supervisor
   Reno Fish and Wildlife Office
   1340 Financial Boulevard, Suite 234
   Reno, Nevada 89502

   Upon locating dead, injured, or sick threatened or endangered species, initial notification must be made to the Service's Division of Law Enforcement in Reno, Nevada, at telephone number (775) 861–6360 and the RFWO within three (3) working days. The Division of Law Enforcement will issue instructions for proper handling and disposition of such specimens. Care must be taken in handling sick or injured endangered, threatened, or candidate species to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. In conjunction with the care of sick and injured fish or wildlife, the preservation of biological materials from a dead specimen, the LTBMU has the responsibility to ensure that information relative to the date, time, and location of the wildlife, when found, and possible cause of injury or death of each must be recorded and provided to the Service.

Conservation Recommendations (Discretionary)

Listed Species

The following conservation recommendations should be implemented to ensure long-term survival and recovery of SNYLF:

1. Continue support and involvement in inventories and monitoring of SNYLF and their occupied habitats within the Lake Tahoe Basin.
2. Continue support and involvement on the SNYLF Habitat Restoration Project in Desolation Wilderness.

The following conservation recommendations should be implemented to ensure long-term survival and recovery of LCT:

1. Continue support and involvement in aquatic inventories and monitoring of LCT and their occupied habitats within the Lake Tahoe Basin.
2. Continue support and involvement on the Tahoe Basin Recovery Implementation Team.
3. Continue support and involvement on the LCT Management Oversight Group.

Candidate Species

The following conservation recommendations should be implemented to ensure long-term protection of Tahoe yellow cress and Whitebark pine on the LTBMU.

1. Continue support and involvement in the conservation of Whitebark pine by implementing the rangewide restoration strategy (Keane *et al.* 2012) and regional conservation strategies as they are developed for the species.
2. Maintain the Whitebark pine on the Forest Service Sensitive Species List. In the annual monitoring required for the Proposed Action, please provide the location, number, and size of Whitebark pine removed during implementation.

Sensitive Species

The following conservation recommendations should be implemented to ensure long-term survival of Tahoe yellow cress and California spotted owl (*Strix occidentalis occidentalis*).

1. Continue support and involvement in the conservation of Tahoe yellow cress by implementing the Conservation Strategy (Stanton *et al.* 2015) for the species, particularly while implementing the Proposed Action in Baldwin Meadow.
2. Maintain the Tahoe yellow cress on the Forest Service Sensitive Species List.
3. The Service published a positive 90-day finding to list California spotted owl on September 18, 2015. The Service has initiated a status review for the California spotted owl and at the conclusions of this review we will issue a 12-month finding on whether or not the Service believes the listing is warranted. As you may know, the USFS has initiated a Conservation Strategy for California spotted owl. When complete, the Conservation Strategy should provide management direction for the long-term persistence of the species and the habitat upon which it depends. We encourage the LTBMU to participate in this effort and implement the Conservation Strategy once complete. You can follow the progress of the effort at the following website: http://www.fs.usda.gov/detail/r5/plants-animals/wildlife/?cid=STELPRD3854419

Appendix C
Response to Comments
From 30 Day Comment Period (January 7 – February 7, 2015)
Restoration of Fire Adapted Ecosystems Project

In response to the legal notice for the 30 day comment period for the Environmental Assessment (EA), three (3) comment letters were received.

All references to the EA in this document refer to the Final EA unless otherwise noted. In the event that commenters reiterate comments made to and responded to earlier in this document, these duplicated comments are noted and reference to previous responses are provided. The comments and the Forest Service (FS) responses are as follows:

Comment Letter 1 – Trudi Nye
"Based on the so-called fuels reduction done in the "Golden Bear" area, I am against USFS action on Tahoe Basin ecosystems... I have no faith in the USFS to properly administer any ecosystem in Tahoe, based on performance. Therefore I am against plans for meadow "restoration." Reference to tree removal is problematic particularly. The Golden Bear area is not only bereft of its forest, it has been left to look like a junkyard, littered with ground up limbs, or limbs covering trails, stacks of trees cut and left to rot, stumps and rounds laying randomly throughout. Great job of reducing fire hazard."

> **Response:** *The Desired Condition (EA, pp. 26-27) and Purpose and Need (EA, pg. 27) for this meadow restoration project are quite different than for a fuels reduction project. The goal of this project is to restore the function of these meadows within the natural range of variability in order to make them more resilient to changing future conditions. Tree removal is necessary in these meadows in order to reclaim the meadow and to facilitate the re-introduction of fire.*

Comment Letters 2 and 3 – Jerry Heitzler and Tom Celio (Backcountry Horsemen)
These two commenters expressed support for Alternative 2, Proposed Action. They were both interested in the effort proposed to rebuild the corral at the Meiss Meadow Cabin. Having a usable corral at the cabin would help minimize the impact of visiting stock users to the meadow/cabin area. Since the proposal includes thinning or removal of encroaching trees, these materials could be utilized to rebuild the old corral.
There is strong interest within equestrian groups to provide additional resources to assist with rebuilding the corral.

> **Response:** *We appreciate the support of the Backcountry Horsemen and will continue to coordinate with your group once a decision is made on this project. Re-building the corral at Meiss Meadow Cabin is a part of the Proposed Action (draft DN/FONSI, pp. 3-5; EA, Chapter 2) which was selected in the draft Decision Notice.*