

**ROUND 12 CAPITAL PROJECT NOMINATION FORM**  
**LAKE TAHOE FEDERAL SHARE EIP CAPITAL PROJECTS**  
**APPENDIX K**

<b>Project Name:</b>	Big Meadow Fire Regime Restoration	<b>EIP Number:</b> <i>(Required)</i>	10133.04
<b>Federal Agency Sponsor:</b> <i>(Required)</i>	USFS LTBMU	<b>Contact</b>	Stephanie Coppeto, Ecosystems Scott Parsons, VUFF
<b>Threshold:</b>	F, SC, V, W, WQ	<b>Phone Numbers:</b>	530-543-2679 530-543-2687
<b>Threshold Standard:</b>	F-1 Stream Habitat SC-1 Natural Functioning SEZ V-1 Deciduous Riparian V-3 Late Seral / Old Growth W-1 Special Interest Species W-2 Riparian Habitat WQ-1 Tributary Water Quality WQ-2 Runoff Water Quality	<b>Email:</b>	sacoppeto@fs.fed.us sparsons@fs.fed.us
<b>FUNDING REQUESTED IN THIS ROUND:</b>		\$ 500,000	

**Federal Share EIP Consideration**

Select "yes" or "no" for each question. If you have a "yes" response, briefly describe. **Projects must meet one or more of these 5 items.**

- 1. Does the project involve federal land? If yes, is the federal land involved important to successful implementation of the project?** Yes  No

The Big Meadow Fire Regime Restoration Project would continue to occur solely on federal lands managed by the USFS Lake Tahoe Basin Management Unit.

- 2. Is this project identified in the EIP? If yes, please ensure the EIP number is identified in the above project information box. If no, provide a description of the project's contribution to the EIP program.** Yes  No

The EIP identifies this project as EIP #10133.04.

- 3. Does the project involve the conservation of a federal or regional threatened, rare, endangered, or special interest species? If yes, identify.** Yes  No

This project would continue to restore habitat for federal sensitive species and regional special interest species (e.g. nesting habitat for northern goshawk, spotted owl, willow flycatcher, and aquatic habitat for Sierra Nevada Yellow-Legged Frog).

- 4. Does the project involve an identified federal interest such as the detection and eradication of non-native invasive species (aquatic or terrestrial)? If yes, identify.** Yes  No

Not applicable.

- 5. Does the project develop knowledge and/or information to develop future capital projects in the EIP? (such projects that fulfill this function would include technical assistance, data management, and/or resource inventories)** Yes  No

This project is being managed in cooperation with EIP projects "Lake Tahoe Prescribed Fire Underburn Project" and "Fire Adapted Meadow Restoration Project." This project would conduct hand thinning and pile burning treatments on 100 acres of the remaining 400 acres of critical habitat at risk. The SNPLMA funding requested here will be used to leverage additional funding elsewhere for this project, to conduct hand thinning and pile burning on the remaining 300 acres of critical habitat. After these treatments, low-intensity underburns of 400 acres of meadows and meadow perimeters within the Big Meadow Project Area, will be done by the Lake Tahoe Prescribed Fire Underburn Project, utilizing the result of test burns conducted by the Fire Adapted Meadows Restoration Project. Together, these projects will complete our ecological restoration of the meadows and meadow perimeters within the 640-acre Big Meadow Project Area, including 5.5 miles of riparian habitat.

The interim results of these three projects will be utilized to customize the low-intensity underburning of the meadow: (i) strategies for integrated firefighter safety and resource protection, such as encircling the target meadow perimeter with a fire defense zone, will be refined during the burning of other meadows prior to Big Meadow, and (ii) the fire behavior observed during pile burnings at Big Meadow will provide insights that the burn crews will use to adjust the recommendations developed from the meadow burnings conducted elsewhere prior to Big Meadow.

**Check all Capital Focus Area(s) that apply (as defined in the Federal Vision):**

- 1. **Watershed and Habitat Improvement**
- 2. **Forest Health**
- 3. **Air Quality and Transportation**
- 4. **Recreation and Scenic**

**Check all that apply (must meet a minimum of one category):**

- 1. **Continued emphasis on forest ecosystem health/fuels reduction projects considering the LTBMU Stewardship Fireshed Assessment and Lake Tahoe Basin Multi-Jurisdictional Fuels Reduction and Wildfire Prevention Strategy.**
- 2. **Continued implementation and/or completion of projects approved in Rounds 5 through 11 which implement the EIP. Project proposal should clearly describe the phase/product being produced along with the consequence of not completing the project phase proposed for Round 12.**

***List Previously Approved Rounds and funding(provide project titles):***

Round 7 – Big Meadow Fire Regime Restoration – \$175,000 (completed NEPA)
Round 9 – Big Meadow Fire Regime Restoration – \$225,000 (treated 122 ac)
Round 10 - Big Meadow Fire Regime Restoration -- \$235,000 (to treat 65 ac)

- 3. **Project is consistent with and contributes toward TMDL pollutant reductions within the four source categories (atmospheric, urban & groundwater, forested uplands, and stream channel). *NOTE: If “yes”, then please respond to questions in the Accomplishments section of the nomination proposal.***

4. **Control of aquatic invasive species and prevention and/or detection of new aquatic invasive species.**

### **Project Nomination Proposal Outline**

**Project Summary** (a brief summary which clearly describes the proposed project –maximum 200 words)

- Summarize ONLY the Round 12 project (also summarize scaling of funding to be described in more detail in the “Project Description” section below).

**This project will greatly assist in completing our ecological restoration of the meadows and meadow perimeters within the 640-acre Big Meadow Project Area, including 5.5 miles of riparian habitat.** The Round 12 funding will treat 110 acres (nominally 100 acres, plus 10% for re-entries where fuel loadings are extreme) by hand thinning of the even-age conifer stands in meadow(s), the meadow perimeters in the adjacent conifer forest (e.g., buffer zone 100 - 200 feet deep), and the aspen riparian corridors, and will burn the resulting hand piles; the timing of pile burns is dependent on good weather to produce dry piles – which may require up to a two-year lag between piling and burning the piles. Tree thinning activities may occur in the late summer or fall, outside of any established Limited Operating Period(s). Some larger diameter trees would be cut near meadow fringes and aspen stands to achieve the desired stand densities. Because there is no motorized access to facilitate hand treatments (all hand tools must be carried in), there are significant increases in the costs to the treatment contractors. Overall, the scheduling and coordination of the activities of the participants in the field is complicated by the difficulty of access and movement within the project area.

The treatment units developed in contract prep thus far (from previous project phases funded in Round 9 and Round 10) have been small and irregular in size (e.g., the 65 acres to be treated by Round 10 are divided into 8 treatment units, 3 of which are aspen), due to diverse landscape characteristics throughout the Big Meadow Project area. It is a roadless area with large slope changes over small distances, meadows and aspen corridors running through the conifer stands, and partially overlaid by Goshawk PACs. These are significant factors that increase costs per acre over other treatments in the Basin, since a good deal of the resource surveys (e.g., hydro, biology, botany, heritage) and mitigations (e.g., confirming marking, implementing and checking of flag and avoid areas, buffer zones, etc.) need to be done piecemeal for these small-acreage treatment units. Access to some of the treatment units is accomplished only by walking for hours, so daily productivity is much less than for readily accessible acres.

Completion of the proposed work would remove (i) the threat of catastrophic fire loss of significant portions of critical habitat and (ii) the consequent soil erosion and water quality degradation that would damage both the Big Meadow ecosystem and the Cookhouse Meadow Stream Restoration downstream (completed 2006 with Round 5 funding and monitored 2007 and 2008 with Round 6 funding – which continues to meet all habitat improvement goals).

## Project Description

### Introduction

- Provide project background which explains the situation and state the problem and how it will be addressed.

*Note: Focus needs to be the project in Round 12 not a history of an ongoing project or program.*

**This project will greatly assist in completing our ecological restoration of the meadows and meadow perimeters within the 640-acre Big Meadow Project Area, including 5.5 miles of riparian habitat.**

The Big Meadow Fire Regime Restoration Project is a phased, multi-year project, in which \$635,000 has been invested to date to conduct NEPA, contract prep, and treatment of 187 acres of the 640 acre total. This proposal requests funding to continue the treatments of the meadows and meadow perimeters there (nominally 400 acres remain to be treated, plus an estimated 10% of these that will require two entries / treatments to safely reduce extreme fuel loads, for a total of 440 acres of treatments needing done – this Round 12 proposal requests funding for 110 of these acres, which would be used to leverage matching funding to complete all 440 acres).

The context is:

Round 7 produced NEPA analysis and associated surveys and reports. It will close out October 2014 through the SNPLMA process.

Round 9 treated 122 acres in 2009 and 2010 and began associated pile burns. The Round 9 final closeout date is July, 2014.

Round 10 will treat 65 acres in 2011 and 2012 and continue pile burns. The Round 10 final closeout date is July, 2017 (includes extended post-implementation monitoring).

Round 12 is to be the final phase of thinning and pile burns for the meadows and meadow perimeters. It would treat 110 acres of meadows and meadow perimeters (which is 1/4 of the remaining critical habitat at risk; SNPLMA funding would be used to leverage the remaining matching funding needed from other sources) by hand thinning during 2013 and 2014, and would complete all associated pile burns in 2016, at which time the project would close out.

The Round 12 treatments will be followed by a low-intensity underburn of the 400-acre complex of meadows and meadow perimeters within the Big Meadow Project Area, by the Lake Tahoe Prescribed Fire Underburn Project, utilizing the result of test burns conducted by the Fire Adapted Meadows Restoration Project.

- Describe what Round 12 is specifically funding; list the number of years the requested funding will cover; briefly describe how this project links into previous projects/rounds (identify and describe other round projects and funding received). Show scaling of project (reduced funding request and associated reduction in accomplishments).

*NOTE: Focus should be on finishing current/phased projects. If project is new in Round 12, clearly identify if the project is for planning or implementation and how it will be completed with Round 12 funds. Identify if other funds will be needed to complete the project. Please identify total non-SNPLMA funds that are being contributed/dedicated to the proposed Round 12 project and the source of those funds.*

The project is the final phase of hand thinning and pile burns for the meadows and meadow perimeters in Big Meadow. Specifically, it proposes to remove lodgepole pine and white fir from stands in forest fringe areas, riparian corridors, aspen stands, and meadows using manual methods such as with chainsaws. Existing down logs that are suitable for wildlife will be retained in areas lacking down woody material. Live trees from 1- to 18-inches diameter, dead trees from 1- to 24-inches diameter, and some down logs would be removed. Selected logs that are 10- to 15-foot long, and greater than 14-inches diameter, may be left for downed woody debris, and the remainder of the tree would be piled for burning. It is estimated that 10 percent of the project area has extreme fuel loadings that require more than one thinning and pile burning cycle to be treated safely; a portion of the fuel would be thinned and burned in the first treatment cycle, and the remainder would await a second entry.

For hand thinning treatments, trees up to approximately 18-inch diameter would be thinned at variable spacing, based on achieving desired residual trees per acre and/or basal area: cross sectional areas of live wood, expressed as square foot per acre. The vegetation would then be hand piled and/or lopped and scattered in preparation for prescribed burning activities in openings to reduce scorching of adjacent conifer and riparian hardwoods. Under burning of residual vegetation in the uplands would occur in strips as needed to achieve the desired vegetation conditions.

Control fire lines would utilize existing roads and trails first, but additional fire lines may need to be constructed with hand tools and chainsaws. Project analysis will determine the extent, location, and miles of fire line construction. All constructed control fire lines would be rehabilitated after project completion following Best Management Practices and resource specific guidelines. Rehabilitation activities would include using hand crews and hand tools to rake in berms created from control lines, install water bars, and scatter downed wood where appropriate.

The following is a summary of the guidelines for desired conditions to be implemented as part of the Round 12 funded work:

Within Northern Goshawk Protected Activity Centers (PACs) and riparian corridors a minimum of 50% canopy cover would be retained in both overstory and understory trees. To reduce fuel ladder conditions, understory trees would be thinned to remove at least 50% canopy cover, but no trees exceeding 18 inches diameter would be thinned. Using the Forest Vegetation Simulator (FVS) model, a representative stand was chosen for simulating resulting conditions over time with this thinning treatment. Post-treatment fire types were modeled to be either a surface or conditional fire type. A surface fire type is considered a low intensity ground fire, in which mainly the fuels on the ground are consumed. A conditional fire type means that the behavior of fire as it enters a stand would determine what type of fire that stand would have. If a fire

enters a stand as a ground fire from an adjoining stand, it would stay a ground fire when it burns through the conditional fire type stand.

Within aspen stands and meadows, live and dead conifers would be thinned up to 20 inches diameter to reduce encroachment. Thinning in aspen stands and along meadow edges would include the removal of all or most conifers, leaving canopy covers of about 10% to 20%. Thinning treatments would enhance growth of aspen trees and other meadow vegetation. Post-treatment fire types were modeled using FVS to be a surface fire type.

Trees that are greater than 20 inches diameter would be retained near meadow fringes and aspen stands to maintain desired stand densities. Slash would then be hand piled in preparation for prescribed burning activities. The project leader and/or the wildlife specialist will be working with implementers to ensure appropriate levels of dead and down wood and snags remain. The following generalized time line is a schedule of hand thinning and burning operations:

- **2012** Complete identification of boundaries and do contract prep.
- **2013 – 2014** Implement tree thinning operations.
- **2015 – 2016** Conduct pile burnings and post-implementation monitoring, and close out the project.

- Describe the “readiness” of this project to move forward (urgency, capacity, capability, environmental documentation, interagency agreements, etc).

The project is already in implementation, utilizing previous SNPLMA Rounds’ funding to complete NEPA and begin thinning and burning; 122 acres have been treated and an additional 65 are contracted and marked for thinning in 2011. Together with the Fire Adapted Meadows Restoration Project (funded in Round 10), which is providing guidance to the Lake Tahoe Prescribed Fire Underburn Project that will conduct a low-intensity underburn of the meadows and meadow perimeters of the Big Meadow Project Area (approximately 400 acres), the requested Round 12 funding would help ensure that an unbroken series of treatments culminate in the full restoration of the meadows and meadow perimeters of Big Meadow ecosystem; this \$500K proposal will treat (hand thin and pile burn, in anticipation of the final low-intensity underburn of the meadows) ¼ of the remaining 400 critical habitat acres at risk, providing good leverage for seeking potential matching funding from other sources to complete the treatments of the remaining 300 acres.

- Describe partnerships for this project. (if applicable, project should identify and describe committed/secured partner funding and/or other partner contributions and how it is integrated into the project).

The reestablishment of a natural fire regime is well supported by the Washoe Tribe. The Big Meadow areas are a traditional area used for plant and cultivation for the Washoe Tribe. The Tribe managed the meadow ecosystem for years using sustainable practices such as fire and cultivation. In order to support resource management for this project, the reintroduction of fire into meadows is being collaborated with the Tribe as it may be contentious in nature regarding the use of fire as a management tool in sensitive habitats. The Washoe Tribe would like to see the following results from meadow restoration efforts:

- Decrease in Lodgepole Pine invasion stands and encroachments
- Increase in culturally significant plants historically used and gathered in the area
- Increased plant diversity
- Restore native vegetation
- Aspen regeneration
- Increase in plant cultivation opportunities
- Use of fire to promote native vegetation

A vegetation assessment summary including a letter of support from the Washoe Tribe, dated December 6, 2007, is located at the LTBMU project folder(s). The Big Meadow Fire Regime Restoration project integrates these recommendations into project design.

**Goal – Purpose and Need (“larger” statement of future expected outcome – usually not measurable)**

The goals of this project are to move both the old forest and meadow ecosystems within the Big Meadow Project Area toward desired conditions that are based on an estimate of the natural trajectory that the vegetation in the watershed would have taken, had the natural fire regime not been altered.

**Objectives (specific measurable statements of action – Round 12 only - which when completed will move towards achieving the goal)**

*Note: Objectives will form the basis for the milestones/deliverables to be identified in Appendix B-8*

- Describe how fulfilling objectives will contribute to the achievement of one or more environmental thresholds (air quality, water quality, soil conservation, vegetation, fisheries, wildlife, scenic, noise, recreation). Provide measures if applicable. For example: acres treated, miles of stream restored for each objective.

After these treatments are implemented, we anticipate that the ecological status of first and second growth forests will develop into late seral conditions, which include multiple layers, multiple openings, large down material, and released conifers which will grow into vigorous large diameter trees. The ecological status of the meadows will shift to late seral, in response to reestablishment of the natural fire regime and more properly functioning hydrologic conditions. The end result will be forests, meadows, aspen stands, and riparian corridors with a high similarity to the potential natural community. In forested portions of the Big Meadow project area, a diversity of age classes of conifers and under-story vegetation will be restored. In the meadows there, recovery of a diverse assemblage of herbaceous grasses and hardwood shrubs will occur. The Big Meadow project area is 640 acres and contains approximately 400 acres of meadows and 5.5 miles of riparian corridors (streams and tributaries).

- Describe the estimated environmental risks from unintended consequences of the proposed project (if applicable).

The Big Meadow Creek Watershed contains a diverse range of wildlife habitats, with high fuels loads up drainages in meadow complexes and near Sensitive Environmental Zones (SEZ's). The dramatic increase of conifer encroachment in these unique

environments over the last six decades has created a situation for severe fire intensities. If no management is to occur in the watershed, the risk of potential habitat loss due to a stand-replacing wildland fire in the watershed can occur. A stand-replacing wildland fire may convert the existing habitat type resulting in a new colonization of early seral species associated with high severity burns. Basically, there will be a different type of species that may utilize the burned area for food, cover, water, and breeding. Forage and breeding opportunities for sensitive wildlife species due to a stand replacing wildland fire could create an undesirable environment for species currently utilizing these habitats in the watershed.

In addition to habitat type conversion due to a stand replacing fire, hydrophobic soils created by a high wildland fire severity can result in a higher rate of erosion in the watershed. Soil particulates may end up in the drainages where water currently gets infiltrated into the existing soil(s) prior to reaching the drainages. Significantly, the Cookhouse Meadow Stream Restoration (completed 2006), is directly downstream of the Big Meadow Project Area, and could be impacted negatively by eroded sediment.

A potential loss of containment of the fire during burning operations is a certain level of risk taken during burning operations. A burn plan will be developed to address any potential risk of the fire to burn outside of the prescription, and it will address all mitigations measures for this project.

The visual quality of a prescribed burn is not also favorable for recreational opportunities in the area, and generally, a burn is not visual pleasing to the eye for some members of the public who enjoy recreating in the area. The “burned” vegetation will recover in the short term (1-2 years) and eventually grow into a vigorous healthy stand.

Although the habitat is being improved, habitat enhancement projects may not always attract focal species to the sight, and wildlife species do not always disperse into to a new site and successfully reproduce. However, succulent plants and forbs used by migratory birds that depend upon aspen stands and meadows for forage and breeding opportunities may be lost if no management is done. This project focuses on improving these areas.

## Accomplishments

- Describe the anticipated project accomplishments (i.e. products or identifiable environmental benefits being produced or implemented under this project), and how the project results/accomplishments will be communicated and made available to the public.

*Note: Differentiate between direct and/or primary project effects and secondary and/or overall watershed effects.*

The Project is being designed to enhance wildlife habitat adjacent to the meadows and aspen stands in the watershed, and to reintroduce fire into the ecosystems to sustain a desirable environment for species of interest in the watershed. The wildlife threshold is focused on enhancing wildlife habitat desirable for Special Interest Species, including northern goshawk, a Forest Sensitive species and TRPA special-interest species. This project is specifically being designed to improve and enhance habitat for special interest

species. The Big Meadow Fire Regime Restoration Project will accomplish the following:

- Restore historic, fire-adapted meadow communities in the watershed to conditions approximating pre-European conditions.
- Increase the diversity and forage quality of the meadow plant community such that it is composed of a diverse assemblage of herbaceous grasses and hardwood shrubs
- Restore historic, fire-adapted old-growth forest community complexes in the Big Meadow watershed to conditions that approximate those that existed prior to the implementation of total fire suppression and other Euro-American land use practices. Restoration will include forest thinning of dense second growth conifers, removing ladder fuels and the re-introduction of periodic, low-intensity fires.

With restoration we anticipate to:

- Reduce the current high risk of destructive, high-intensity fires.
- Produce a forest composed of a diversity of age classes of conifers and under-story vegetation.
- Improve the health of the old-growth trees.
- Enhance, improve and expand habitat for spotted owl, northern goshawk, and mule deer.
- Improve the health and extent of the aspen communities by re-introducing fire to prevent the encroachment of conifer.

- If you checked “yes” for the project being consistent with and contributing to TMDL pollutant reductions, please consider and integrate the following in the project description:

a) Describe whether, and how, the project demonstrates advanced, alternative, or innovative practices.

b) If project includes project level monitoring, describe ability of proposed monitoring strategy to contribute to the state of TMDL knowledge. Also describe if purpose of the capital project is to conduct data collection and/or analysis related to Lake Tahoe clarity.

c) Describe treatment approach for reducing pollutants and/or measures to address connectivity between pollutant sources and Lake Tahoe or its tributaries. Identify target pollutants, and, to the degree feasible, provide quantitative estimates of project effectiveness at reducing pollutant loads (and/or a commitment to provide post-project estimates).

d) If appropriate, describe whether, and how, the project can be combined or coordinated with other TMDL implementation projects.

## Monitoring

- Describe the project monitoring that will be implemented as part of this project including:
  - List the questions the monitoring program is designed to answer.

Pre-project monitoring data has been collected in the Big Meadow Watershed to integrate into the implementation monitoring post-project phase, to assess if the project was implemented according to plan. Effectiveness monitoring will use both before-and-after comparisons and trend analysis to assess the success of the restoration activities. Monitoring will be conducted to address four key questions to determine the success of the project.

### *Implementation Monitoring*

- Was the project constructed according to design?
- Are we able to conduct hand thinning and pile burns in the various treatment units without adverse effects to soils and water quality?

### *Effectiveness Monitoring*

- What are the short term (1 - 2 years) impacts from project implementation as it relates to hydrology and/or vegetation (esp., for burn piles)?
- To what degree was the project successful in achieving the goals of improving riparian and meadow habitat, and enhancing wildlife community richness and health?

- Describe any coordination with, or input from, the science community on monitoring and adaptive management that has occurred on the development of this nomination and what changes (if any) to the project were made as a result of this input.

As we are following established protocols (developed by Region 5 USFS and State Water Board), no input was solicited or received for BMP monitoring.

Monitoring protocols to study the impacts of pile burning were developed by Humboldt State University, with input and review from the LTBMU. The size and distribution of slash piles were affected as a result of the collaboration.

Texas A&M, University of Arizona, and University of Nevada at Reno completed pre-implementation wildlife community monitoring, under contract with the LTBMU. Current science suggests that conifer-free aspen stands provide the greatest benefit to wildlife; Round 12 thinning prescriptions would incorporate these findings to the extent feasible (with consideration for old forest trees, sun scald, and wind-throw). Coordination with the science community to assess wildlife community response would begin to occur after a sufficient number (sample size) of the treated acres have had time to respond (about 5 years).

- Describe the methods and strategies (i.e. monitoring, research, or both) that will be used to verify whether the project goals and objectives have been met? (*Note: A*

*detailed monitoring plan and/or research plan is not required, however, enough detail must be provided to allow someone that is unfamiliar with the project to understand and evaluate the proposed methods and strategies.)*

BMP monitoring will be conducted using a BMP implementation checklist. The BMP checklist includes all BMPs identified in the NEPA document for this project and evaluates whether the BMPs were implemented as described.

Pile burn monitoring will include quantification and evaluation of pre-and post-treatment conditions such as tree size and location, stocking (e.g. basal area and number of trees), tree species composition, ground cover vegetation, and environmental data (topography, proximity to watercourse, etc.). Hemispherical photographs will be analyzed for stand conditions such as canopy cover and total growing-season light reaching the understory, which are correlated with regeneration. Existing regeneration will be assessed so that it can be separated from regeneration arising after/in response to restoration treatments.

The monitoring approach will be reviewed by experts to determine what suite of indicators would be appropriate for tracking the recovery of old-growth forest and meadow ecosystems. Monitoring protocols will be designed to track the change, maintenance, and recovery of old growth forest and meadow seral status. Potential monitoring tools are:

- a. Photo points to document change in species composition
- b. Vegetation trend transects
- c. Survey plots

- Describe whether the monitoring or research associated with this project fits into or is part of a larger monitoring or research program.

The BMP monitoring for this project is very basic and not part of a larger program.

The project implementation and effectiveness monitoring is part of the Project Level LTBMU 5-year Plan, which outlines the strategy for monitoring projects within the various program areas within the LTBMU. The LTBMU project level monitoring strategy is to determine the success of LTBMU projects in meeting design features, project specifications, and design measures (implementation monitoring), and when possible, whether projects were effective in achieving short term environmental goals.

Specifically, elements of this project monitoring would be integrated with ongoing monitoring we are conducting regarding the impacts of pile burns on soil and water quality, and other elements would be integrated with our Biological Sciences Program. The monitoring of pile burning fits into, and has been coordinated with, the larger picture of SEZ and upland pile-burning monitoring across the Lake Tahoe Basin. Wildlife community response, pre-implementation monitoring was completed in earlier project phases. Post-implementation monitoring will complete the data needs to produce a comparative analysis of “before” and “after” habitat conditions, stand vigor, and species richness.

- Describe how information from the monitoring and/or research will be used to improve the continued performance of the proposed project or future similar projects.

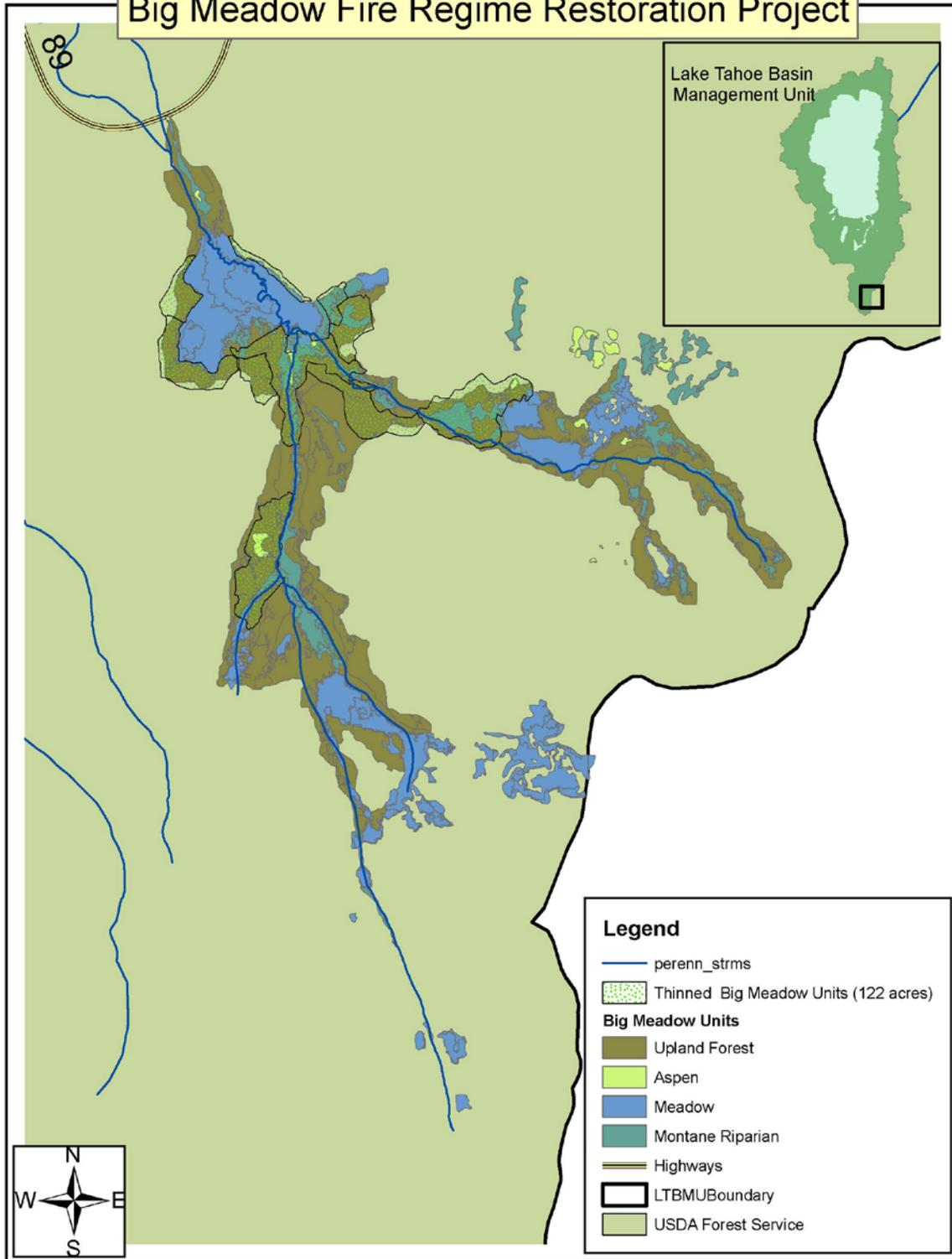
Project-level monitoring results will be used in the short term to determine whether maintenance or corrective actions are needed to meet design goals and specifications. Our Biological Sciences program will periodically conduct a comprehensive evaluation of project-level monitoring results, to evaluate the overall success of the design approach. Project monitoring of impacts of pile burning to soil and water quality will be integrated into the annual reports of the ongoing Pile Burn Monitoring study in which HSU and LTBMU are collaborating.

**Attachments**

(if applicable, include 8 ½ X 11 map depicting the project)

Map attached – see next page.

# Big Meadow Fire Regime Restoration Project



## Appendix B-8

### LAKE TAHOE RESTORATION PROJECTS ESTIMATED NECESSARY EXPENSES & KEY MILESTONE DATES

Project Name:	Big Meadow Fire Regime Restoration	Agency:	USFS LTBMU
Prepared by:	Stephanie Coppeto, Ecosystems Scott Parsons, VUFF	Phone:	530-543-2679 530-543-2687
SNPLMA Project #:		EIP #:	10133.04

#### Identify estimated costs of eligible reimbursement expenses:

<b>1. Planning, Environmental Assessment and Research Costs</b> (specialist surveys, reports, monitoring, data collection, analysis, NEPA, etc.)	\$ 30,000	6 %
<b>2. FWS Consultation – Endangered Species Act</b>	\$ _____	_____ %
<b>3. Direct Labor (Payroll) to Perform the Project</b>	\$ 170,000	34 %
<b>4. Project Equipment</b> (tools, software, specialized equipment, etc.)	\$ _____	_____ %
<b>5. Travel</b> (including per diem where official travel status required to carry out project, such as serve as COR, experts to review reports, etc.)	\$ _____	_____ %
<b>6. Official Vehicle Use</b> (pro rata cost for use of Official Vehicles when required to carry out project)	\$ _____	_____ %
<b>7. Cost of Contracts, Grants and/or Agreements to Perform the Project</b>	\$ 220,000	44 %
<b>8. Other Direct and Contracted Labor:</b> Agency payroll for the Contracting Officer to do project procurement, COR, Project Inspector, Sec. 106 Consultation if required, NEPA Lead, Project Manager, Project Supervisor, and subject experts to review contracted surveys, designs/drawings, plans, reports, etc.; Also covered is the cost to contract for a Project Manager and/or Project Supervisor if contracted separately from other project contract(s)	\$ 20,000	4 %
<b>9. Other Necessary Expenses</b> (see Appendix B-11): Indirect costs associated with implementing a project, such as support services, budget tracking etc.	\$ 60,000	12 %
<b>TOTAL:</b>	\$ 500,000	100 %

#### Estimated Key Milestone Dates:

Milestones/Deliverables:	Date:
Prepare field work; advertise & award contracts	8/1/2012
Complete hand-thinning contract work, continue admin & inspection	12/31/2014
Complete pile burning work	10/15/2016
Complete post-implementation monitoring & Final Report	11/30/2016
<b>Final Completion Date:</b>	12/31/2016

**COMMENTS:** Project will treat 100 acres nominally, plus an estimated 10% will require two entries / treatments to safely reduce extreme fuel loads, for a total of 110 acres of treatments.

Cost Estimation Basis:

Cost for treatment (thinning) contract: \$2,000 per acre x 110 acres = \$220,000

Cost for burning piles: \$700 per acre x 110 acres = \$77,000

Cost for Veg, Silviculture staff: \$87 per acre x 110 acres = \$9,570

Cost for Fire staff: \$5,000 flat estimate for the project = \$5,000

Cost for Hydro, Fish, Wildlife, Botany, Ecol, Heritage: \$27,107.50/yr x (2012-2015) = \$108,430

Cost for inclusion HSU Pile Burn Monitoring Project: \$10,000/yr x (2015-2016) = \$20,000

O.N.E. at 10%, plus I.S. at 2% = \$60,000

Total = \$500,000

END OF DOCUMENT