

Appendix B-8

LAKE TAHOE RESTORATION PROJECTS ESTIMATED DIRECT COSTS & KEY MILESTONE DATES

Project Name: Big Meadow Watershed
Project Name: Fire Regime Restoration **Agency:** USFS - LTBMU
Prepared by: Craig Oehrli **Phone:** 530.543.2681 **EIP #:** 10133

Identify estimated costs of eligible reimbursement expenses:

1. Planning, Environmental Assessment and Research Costs (specialist surveys, reports, monitoring, data collection, analysis, NEPA, etc.)	\$	30,500	17.3	%
2. Direct Labor (Payroll) to Perform the Project	\$	30,000	17.0	%
3. Project Equipment (tools, software, specialized equipment, etc.)	\$	0		%
4. Travel (including per diem where official travel status required to carry out project, such as serve as COR, experts to review reports, etc.)	\$	5,000	2.8	%
5. Official Vehicle Use (pro rata cost for use of Official Vehicles when required to carry out project)	\$	5,000	2.8	%
6. Cost of Contracts, Grants and/or Agreements to Perform the Project	\$	10,000	5.7	%
7. Other Direct Costs (direct labor for agency personnel to do project procurements; COR; PI; personnel assigned as NEPA lead; personnel assigned to review contracted surveys, designs/drawings, reports, etc.; project manager and/or project supervisor; and contracted costs for project manager and/or project supervisor if contracted separately, public awareness and environmental education)	\$	80,000	45.7	%
8. Indirect Costs	\$	15,000	8.7	%
TOTAL*:	\$	175,500	100	%

Estimated Key Milestone Dates:

Milestones/Deliverables:	Date:
Ecosystem Assessment report completed	December 2005
NEPA for Big Meadow projects complete	March 2007
Treatment plans and Specifications for Big Meadow complete	December 2007
Big Meadow watershed treatments begin	December 2008
Big Meadow watershed treatments completed	October 2010
Final Completion Date: (including monitoring)	October 2014

APPENDIX I

LAKE TAHOE CAPITAL PROJECT PROPOSAL

Project Name: Big Meadow Watershed – Fire Regime Restoration Project
Capital Focus Area: Watershed Restoration and Habitat Improvement
EIP #: 10133

Lead Agency: USFS
Contact: Craig Oehrli
Threshold: WQ, SC, V, F, W, SR, R
Phone Number: 530 543 2681
Threshold Standard: WQ 1-6, SC2, V 1&4, F2-4, W1, SR3, R1
Email Address: coehrli@fs.fed.us

Is this a multi-year Project?
Yes
Total Project Cost: \$695,000
Funding Request in this Round: \$175,000

(If “Yes”, describe in the Detailed Project Description below number of years or phases and which year the requested funding will cover)

Project Summary (maximum 200 words):

The Lake Tahoe Basin Management Unit (LTBMU) of the U.S. Forest Service (USFS) has completed an Ecosystem Assessment Report (EAR) and Restoration Plan for the Big Meadow Creek Watershed. The analysis showed that portions of the forest ecosystems and the meadow ecosystems are at risk primarily from historic fire suppression. The next step is to move forward by assembling a technical advisory team, conduct a NEPA analysis, and develop and implement specific treatments to restore a more natural fire regime in this watershed.

Detailed Project Description:

The forests in Big Meadow Watershed are classified as upper montane and sub-alpine. Fire is a natural function of the Mediterranean-style climate in this watershed. During prolonged dry spells lightning strikes would ignite the portions of the forests. This scattering of small fires created a patchy, diverse forest cover with stands of different age classes. Historical accounts indicate that the watershed, for the most part, escaped the logging operations that took place throughout much of the Tahoe Basin during the Comstock mining period. Following the Comstock a prolonged period of fire suppression has left much of the old growth forest overstocked with ladder fuels. Consequently, these old growth stands are now at risk of destruction from a catastrophic wildfire.

The meadows in the Big Meadow Watershed have a hydrologic regime that ranges from wet to moist. At this time it is not entirely clear what the extent of naturally occurring fires was in these meadows. There are however, fire scars on old growth trees along meadow perimeters and charcoal deposits in meadow soils, which are both indicators that fires did at least occur adjacent to meadows. It is therefore not unreasonable to assume that portions of these meadows have probably burned in the past. The assessment also indicates that Native Americans had used fire a management tool for thousands of years. The Washoe Tribe of California and Nevada burned the meadow surfaces to improve forage for game and also used fire to aid in the cultivation of native plants. This burning regime was replaced in the 1850's when European settlers arrived in the Big Meadow Watershed. Europeans introduced sheep and cattle in the watershed and grazing occurred from the late 1800's up thru the

1990's. As with the rest of the watershed, fires have been actively suppressed in meadows throughout much of the 20th-century.

The functions and processes of the historic ecosystems have been significantly altered by lack of fire that has led to a change in potential natural vegetation. Therefore, reversing the effects of fire suppression is considered to be the primary component of the Big Meadow restoration plan.

The plan for the restoring both forest and meadow ecosystems focuses on the use of fire as one of the components used to reestablish natural processes and potential natural vegetation. This will also be an opportunity to collaborate with members of the Washoe Tribe to reinitiate some of the Native American fire management practices in meadows. The ultimate goal of the project is to re-establish a more natural fire regime throughout this watershed.

The following schedule will be followed to achieve the goals and objective listed below. This project will begin in 2007 with the development of the TAC, conducting and completing NEPA analysis, and begin planning and coordination (including permitting) for approved actions. Implementation is expected to occur in 2008 and be completed by 2010

- **2006-2007: Initiate and complete NEPA process (EA) for potential project areas**
- 2007-2008: Complete planning, finish designs for specific treatments, and begin restoration implementation in focus areas.
- 2008 - 2009: Continue restoration implementation.
- 2009-2010: Complete restoration implementation (on-the-ground construction)

Describe the goals and objectives of the project:

The goals of this project are to move both old forest and meadow ecosystems toward a desired condition. Those conditions 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.

If these projects are implemented, we anticipate that the ecological status of both old forest and will become late seral. The ecological status of meadows is also likely to shift to late seral, particularly where a more natural fire regime is reestablished in meadows where hydrologic function is recovering. The end result will be forests and meadows with a high similarity to the potential natural community. In forest areas, a diversity of age classes of conifers and under-story vegetation will be restored. In meadows and the recovery of a diverse assemblage of herbaceous grasses and hardwood shrubs will occur.

The objectives in this phase are to scope this analysis with a technical advisory team (TAC) made up of Forest Service ecosystem restoration specialists, Forest Service silviculture and fire management specialists, vegetation management specialists from the Washoe Tribe, and local environmental permitting agencies, to develop specific treatments for the focus areas. The TAC will develop a list of potential actions, which will then be analyzed as required by NEPA. Following a final decision on actions that are proposed, we will continue to work with the TAC team to develop an implementation schedule, and begin the process of securing all necessary environmental permits.

Describe the anticipated project accomplishments:

The Big Meadow Watershed Fire Regime Restoration Project Ecosystem Restoration Project will:

- Restore five hundred acres of historic, fire adapted old growth forest plant community complexes in the watershed
- Restore one hundred acres of historic, fire adapted meadow plant communities in the watershed

Describe the “readiness” of this project to move forward (Environmental documentation, etc.):

With the completion of the Environmental Assessment Report, we are ready to assemble the TAC, proceed with NEPA analysis and documentation, develop an implementation strategy, complete treatment designs, and develop a schedule for treatments.

Describe partnerships for this project. (Include documentation):

The reestablishment of a natural fire regime is well supported by the permitting agencies and many in the public throughout the Tahoe Basin. However the reintroduction of fire into meadows will require close collaboration with both the Washoe and the state permitting agencies (Tahoe Regional Planning Agency and Lahontan Regional Water Quality Control Board) due to the contentious nature regarding the use of fire as a management tool in sensitive habitats. The LTBMU will work closely with these partners. Each will have a representative on the Technical Advisory Committee, and will assist with: NEPA analysis, development of project designs, and review all planning and design documentation.

Describe the project monitoring that will be implemented as part of this project including:

- (1) **The questions the monitoring program is designed to answer (This is a preliminary list to be refined and expanded once a proposed action has been finalized.)**

The monitoring approach will involve review of the analysis by adaptive management 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 forest and meadow seral status. Potential monitoring tools are:

- ◆ Photo points to document change in species composition.
- ◆ Vegetation trend transects
- ◆ Survey plots

(2) The monitoring approach

The restoration prescription that will be proposed for this project will be process based, hence adaptive management will be a fundamental component of its success. The restoration of the natural fire regime to which the original forest and meadow systems were adapted will require monitoring and adaptive management that will track and assess spatial and temporal change. A monitoring and adaptive management plan will be developed that will describe how project function will be evaluated and how adaptive management will be accomplished over the life of the project. The monitoring and adaptive management will focus on and include: 1) potential natural vegetation, 2) species composition, 3) natural process development

Implementation monitoring will focus on the use of BMPs during construction and determining if the project was constructed according to design.

(3) Whether this project monitoring fits in to a larger monitoring or research program?

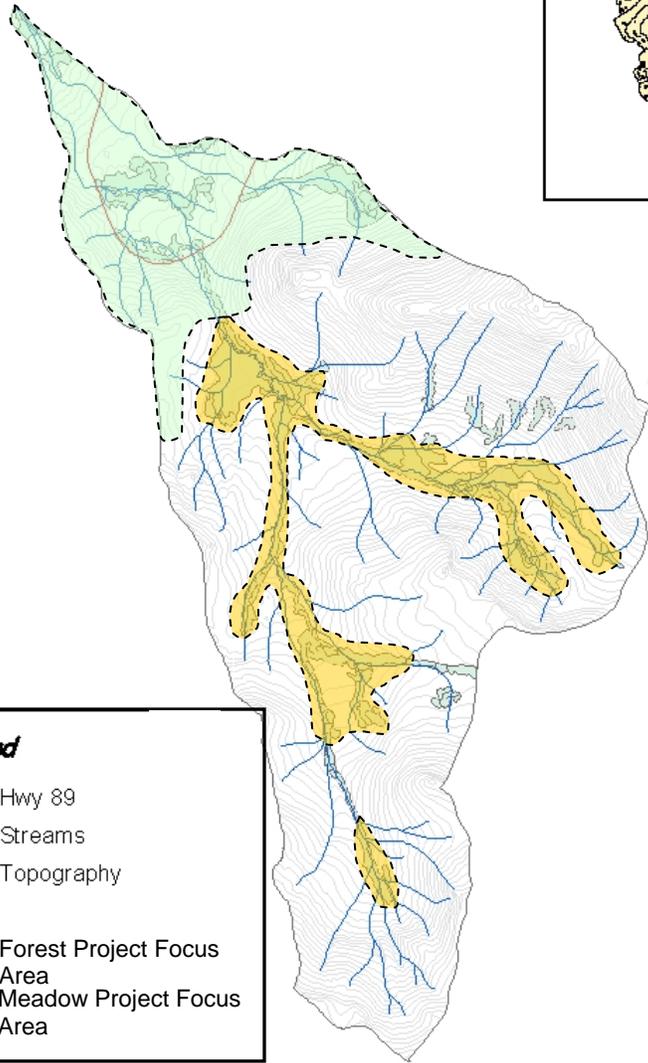
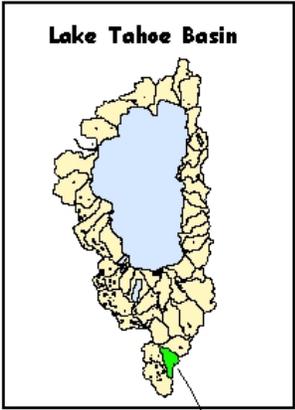
This project monitoring is part of the LTBMU Adaptive Management Programs effort to monitoring aquatic, riparian and meadow restoration. The overriding purpose of this program is to determine the success of restoration project in order to improve upon future projects.

Describe how the project results will be communicated and made-available to the public.

The information created from this project will be disseminated to three audiences: 1) the general public, 2) other resource agencies, and 3) the broader scientific community. The audiences will be informed respectively through the USFS website, public/interagency meetings, and peer-reviewed publication.

Include an 8 ½ X 11 map depicting the project.

Big Meadow Creek Watershed



Legend

- Hwy 89
- Streams
- Topography
- Forest Project Focus Area
- Meadow Project Focus Area

