

Appendix B-8

**LAKE TAHOE RESTORATION PROJECTS
ESTIMATED DIRECT COSTS & KEY MILESTONE DATES**

Project Name: Cold Creek/High Meadow Ecosystem Assessment and Restoration Plan Agency: USFS - LTBMU
 Prepared by: Jim Howard Phone: 530.543.2657 EIP #: 400

Identify estimated costs of eligible reimbursement expenses:

1. Planning, Environmental Assessment and Research Costs (specialist surveys, reports, monitoring, data collection, analysis, NEPA, etc.)	\$ <u>60,000</u>	_____ %
2. Direct Labor (Payroll) to Perform the Project	\$ <u>100,000</u>	_____ %
3. Project Equipment (tools, software, specialized equipment, etc.)	\$ <u>3,000</u>	_____ %
4. Travel (including per diem where official travel status required to carry out project, such as serve as COR, experts to review reports, etc.)	\$ <u>6,000</u>	_____ %
5. Official Vehicle Use (pro rata cost for use of Official Vehicles when required to carry out project)	\$ <u>6,000</u>	_____ %
6. Cost of Contracts, Grants and/or Agreements to Perform the Project	\$ <u>50,000</u>	_____ %
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)	\$ <u>25,000</u>	_____ %
TOTAL*:	\$ <u>250,000</u>	_____ 100 %

Estimated Key Milestone Dates:

Milestones/Deliverables:	Date:
Ecosystem Assessment complete	December 2005
Ecosystem Restoration Plan complete	December 2006
NEPA for High Meadows complete	December 2006
Construction Plans and Specifications for High Meadows complete	April 2007
High Meadows Project Construction begin	August 2007
High Meadows Project Construction complete	October 2008
Final Completion Date: (including monitoring)	2018

Appendix I-2
GENERAL TAHOE PROJECT PROPOSAL

Project Name: Cold Creek/High Meadow Ecosystem Assessment and Restoration Plan

EIP # 400

Lead Agency: USFS – LTBMU

Contact: Jim Howard

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Email Address: jmhoward@fs.fed.us

Threshold: WQ, SC, V, F, W, SR, R

Threshold Standard: WQ 1-6, SC2, V 1&4, F2-4, W1, SR3, R1

Total Project Cost: \$ 2,100,000

Round 6 Funding requested: \$ 250,000

Is this a multi-year project? Yes

Project Description:

The LTBMU will conduct a comprehensive Ecosystem Assessment and Restoration Plan for the Cold Creek watershed, with special attention to High Meadows (the Project Focus Area). As part of the assessment the LTBMU will determine past, present, and desired ecosystem conditions and develop conceptual restoration solutions. Upon completion of the Ecosystem Assessment, the LTBMU will conduct the NEPA planning process, develop an Ecosystem Restoration Plan, that includes 100% construction plans and specifications for the Project Focus Area, and implement selected projects to restore natural physical and biological processes that sustain healthy ecosystem function in the Cold Creek watershed.

Describe the purpose and need for the project:

Over the past 150 years the Cold Creek watershed has been affected by management activities such as timber harvest, livestock grazing, road construction, water diversions, and urban development. These activities have contributed to the degradation of ecosystem function. The High Meadows portion of the Cold Creek watershed was acquired by the LTBMU in 2003. The acquired parcel is characterized by alpine streams and meadows degraded by many years of livestock grazing. The Cold Creek stream channel through High Meadows has suffered incision and disconnection from its floodplain, straightening, loss of riparian vegetation, and general degradation of ecosystem productivity.

Describe the goals and objectives of the project (for Science & Research Projects describe Key Management Questions being addressed):

The goal of the project is to identify and understand the natural physical and biological processes under which the Cold Creek watershed evolved, identify the impacts that have impaired ecosystem function, and restore those processes and functions.

The objectives are to:

- complete the Ecosystem Assessment by December 2005
- complete the NEPA planning process for the Project Focus Area by December 2006
- complete an Ecosystem Restoration Plan by December 2006
- complete construction plans and specifications for the Project Focus Area by April 2007
- obtain regulatory permits and retain contractual services from a qualified construction firm by summer 2007
- implement a restoration project in the Project Focus Area beginning in August 2007 and ending in October 2008.

Describe the anticipated project accomplishments:

The Cold Creek/High Meadow Ecosystem Restoration Project will:

- restore four hundred acres of historic forest/meadow/Stream Environment Zone plant and animal community complexes in the watershed
- restore 2 miles of Stream Environment Zone
- re introduce Lahontan cutthroat trout to the watershed
- reduce streambank erosion and improve stream water quality
- reconnect the stream channel to its floodplain, raising the water table, improving flood attenuation, and increasing soil moisture retention.

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

The LTBMU is operating under an existing contract with Swanson Hydrology and Geomorphology (SH&G) to complete a comprehensive Ecosystem Assessment and Restoration Plan. The Ecosystem Assessment will provide a thorough understanding of historic ecosystem function and its current state of impairment. The LTBMU can use this knowledge to proceed with the NEPA planning process from a solid foundation of scientific data.

The LTBMU will initiate a contract with Dr. Michael L. Morrison, a recognized expert in the field of Wildlife Restoration. Dr. Morrison will develop a Wildlife Restoration Plan in coordination with Watershed Restoration Planning. For the past year Dr. Morrison has conducted surveys for vertebrate and invertebrate species (including small and mid-sized mammals, birds, bats, butterflies, and reptiles and amphibians) in other project areas and at reference points around the Lake Tahoe Basin. His work will provide an empirical assessment of wildlife conditions in the Cold Creek watershed and become a key component to the Ecosystem Restoration, Monitoring and Adaptive Management Plans.

Describe partnerships for this project (include documentation):

The LTBMU will work closely with El Dorado County Department of Transportation, City of South Lake Tahoe, South Tahoe Public Utilities District, the California Department of Fish and Game, the California Tahoe Conservancy, Sierra Pacific Power Company, the Lahontan Regional Water Quality Control Board, and the Tahoe Regional Planning Agency. These partners will be represented on the Technical Advisory Committee, will assist in development of project designs, and will review all planning and design documentation.

For non-Science & Research Projects (i.e. restoration, planning efforts etc.) describe the anticipated project effectiveness monitoring program for use with adaptive management framework:

Existing contracts with SH&G and Dr. Michael Morrison include development of a monitoring plan that will track project effectiveness relative to trends of target physical and biological processes. The results of this continuous long-term monitoring will trigger project maintenance actions when predetermined goals are not met. Some of the key ecological parameters that will be monitored are:

- dynamic stability of fluvial geomorphic processes under a full range of discharges (stream channel dimension, pattern, and profile, stream channel and floodplain connectivity, etc.)
- expansion and self-perpetuation of riparian plant communities
- species composition, number and diversity of benthic macroinvertebrates, small and mid-sized mammals, birds, bats, butterflies, reptiles, and amphibians

- survival and reproduction of species of special concern such as Lahontan cutthroat trout
- Include an 8 ½ X 11 map depicting the project, or research/study area.**

