

**Appendix B-8**

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

Ward Creek Watershed  
Ecosystem Restoration  
**Project Name:** Project \_\_\_\_\_ **Agency:** USFS - LTBMU  
**Prepared by:** Jim Howard \_\_\_\_\_ **Phone:** 530.543.2657 **EIP #:** 24

**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.)	\$	60,000	40	%
<b>2. Direct Labor (Payroll) to Perform the Project</b>	\$	32,500	22	%
<b>3. Project Equipment</b> (tools, software, specialized equipment, etc.)	\$	3,000	2	%
<b>4. Travel</b> (including per diem where official travel status required to carry out project, such as serve as COR, experts to review reports, etc.)	\$	1,500	1	%
<b>5. Official Vehicle Use</b> (pro rata cost for use of Official Vehicles when required to carry out project)	\$	3,000	2	%
<b>6. Cost of Contracts, Grants and/or Agreements to Perform the Project</b>	\$	50,000	33	%
<b>7. Other Direct Costs</b> (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)	\$	50,000		%
<b>TOTAL*:</b>	\$	200,000	100	%

**Estimated Key Milestone Dates:**

Milestones/Deliverables:	Date:
Complete Ecosystem Assessment	Fall 2005
Complete NEPA/CEQA for selected projects	Winter 2006
Complete Ecosystem Restoration Plan	Spring 2007
Begin implementation of selected projects	Summer 2007
<b>Final Completion Date:</b>	2019

**COMMENTS:** Final completion date includes monitoring and maintenance/adaptive management

**Appendix I-2**

## GENERAL TAHOE PROJECT PROPOSAL

**Project Name:** Ward Creek Watershed Ecosystem Restoration **EIP #** 24  
**Lead Agency:** USFS - LTBMU **Contact:** Jim Howard  
**Threshold:** WQ, F, SC, SR, V, W **Phone Number:** 530.543.2657  
**Threshold Standard:** WQ-1,2,4&5, F-2,3&4 **Email Address:** jmhoward@fs.fed.us  
SC-2, SR-2, V-1,2&3, W-1&2 **Total Project Cost:** \$ 4,600,000  
**Round 6 Funding requested:** \$ 200,000  
**Is this a multi-year project?** Yes

### **Project Description:**

The LTBMU, in cooperation with the California Tahoe Conservancy (CTC) and the California Department of Parks and Recreation (CDPR), is conducting a comprehensive Ecosystem Assessment of the Ward Creek watershed. This assessment will achieve a thorough understanding of ecosystem function within the watershed. From this assessment the partner agencies will develop restoration plans for their respective lands and restore ecosystem function in the watershed in a collaborative and integrated fashion.

### **Describe the purpose and need for the project:**

Ward Creek is the fourth largest watershed in the Lake Tahoe Basin. Ward Creek serves or could serve as habitat for such game and non-game fish species as rainbow trout, brook trout, brown trout, Piute sculpin, mountain whitefish, kokanee salmon and the threatened Lahontan cutthroat trout. However, past logging, present recreational uses (e.g., off-highway vehicles [OHVs] and unrestricted camping), development of subdivisions, and road construction have contributed to impaired hydrologic function and a loss of riparian habitat and cover in and along Ward Creek. This has led to the decline of instream habitat. More specifically, in many places along Ward Creek these uses have eliminated many of the large trees and woody plants that provide needed shade and instream debris that fish use for cover. Large woody debris removal may also be altering stream channel and floodplain stability. In addition, soil disturbance in adjacent meadows coupled with this loss of vegetation has resulted in increased stream bank erosion and increased sediment loads causing channel incision and the decline or loss of gravel beds used by fish for spawning.

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

The goal of this project is to restore the physical and biological processes that support a healthy, diverse, and self-sustaining ecosystem. The objectives of the project are to:

- complete an Ecosystem Assessment and develop conceptual restoration opportunities to restore ecosystem function by fall 2005
- complete the NEPA/CEQA planning process for proposed actions by winter 2006
- complete an Ecosystem Restoration Plan by spring 2007
- complete construction plans and specifications for selected projects by spring 2007
- begin implementation of cooperative ecosystem restoration projects by summer 2007

**Describe the anticipated project accomplishments:**

The LTBMU, CTC, and CDPD will:

- restore fluvial geomorphic function (stream channel dimension, pattern and profile, channel/floodplain connectivity, flood attenuation, etc.) to 4 miles of Ward Creek
- restore fish passage and in stream habitat to 4 miles of Ward Creek
- improve 100 acres of habitat for riparian dependent wildlife species
- reduce erosion and sedimentation and improve water quality in Ward Creek and Lake Tahoe

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

The CTC retained the services of HydroScience in 2003 to conduct a comprehensive assessment of the Ward Creek watershed ecosystem. Information collected in this assessment will be used by the partner agencies to develop an integrated Restoration Plan for the watershed.

The LTBMU is also currently under contract with Dr. Michael L. Morrison, a recognized expert in the field of Wildlife Restoration. Dr. Morrison is developing a Wildlife Restoration Plan for the Ward Creek watershed 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 the project area and at reference points around the Lake Tahoe Basin. His work will provide an empirical assessment of wildlife conditions in the watershed and become a key component to the Ecosystem Restoration, Monitoring and Adaptive Management Plans.

**Describe partnerships for this project (include documentation):**

The LTBMU is working closely with the CDPD, the CTC and its consultant team to assess ecosystem function and will continue to work with its partners to develop and implement a Restoration Plan. These partners will also collaborate with Placer County, TRPA, the Lahontan Regional Water Quality Control Board, the Alpine Peak Residents Association, the California Department of Fish and Game, and CalTrans to ensure an integrated and cooperative process in the restoration of the Ward Creek watershed.

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

The existing contracts with Hydrosience 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, goshawks, and willow flycatcher
- stream channel turbidity

Include an 8 ½ X 11 map depicting the project, or research/study area.

