

Appendix B-8

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

Project Name: Cold Creek/High Meadow Ecosystem Restoration Agency: USFS LTBMU
 Prepared by: Stephanie Heller Phone: 530-543-2838 EIP #: 400
 SNPLMA Project #: _____

Identify estimated costs of eligible reimbursement expenses:

1. Planning, Environmental Assessment and

Research Costs (specialist surveys, reports, monitoring, data collection, analysis, NEPA, etc.)

\$ 10,000 5 %

2. FWS Consultation—Endangered Species Act

\$ 0 0 %

3. Direct Labor (Payroll) to Perform the Project

\$ 30,000 15 %

4. Project Equipment (tools, software, specialized equipment, etc.)

\$ 20,000 10 %

5. 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 3 %

6. Official Vehicle Use (pro rata cost for use of Official Vehicles when required to carry out project)

\$ 20,000 10 %

7. Cost of Contracts, Grants and/or Agreements to Perform the Project

\$ 61,000 31 %

8. Other Direct and Contracted Labor: 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 contracts)

\$ 30,000 15 %

9. Other Necessary Expenses (See Appendix B-11)

\$ 24,000 12 %

TOTAL: \$ 200,000 100 %

Estimated Key Milestone Dates:

Milestones/Deliverables:	Date:
Award contract for vegetation treatments	June, 2010
Disconnect all ditches, begin veg treatments, begin fill of ditches/gullies	July – October, 2010
Complete veg treatments, and fill of ditches and gullies	July- October, 2011
2 years post project implementation and effectiveness monitoring	2012 and 2013
Final Project Report.	May 31, 2014
Final Completion Date (including project close-out)	August 31, 2014

COMMENTS:

None.

ROUND 10 CAPITAL PROJECT NOMINATION FORM
LAKE TAHOE FEDERAL SHARE EIP CAPITAL PROJECTS
APPENDIX K

Project Name: Cold Creek/ High Meadow Ecosystem Restoration

Federal Agency Sponsor: LTBMU

Contact: Stephanie Heller

Threshold: WQ, SC, V, W,

Phone Number: 530-543-2838

Threshold Standard: WQ 1-6, SC 2,
V 1-3, W 1,

Email Address: sheller@fs.fed.us

Funding Requested in this Round: \$200,000

Total Project Cost: \$4,700,000

Federal Share EIP rationale (select and describe appropriate EIP criteria from 5 items below – projects must meet one or more of these 5 items) :

1. Does the project involve federal land? **Yes, located entirely on LTBMU land.**
 - If so, is the federal land involved important to successful implementation of the project? **Yes,**
2. Does the EIP identify the federal funding for the EIP project (project #)? **Yes, EIP #400**
3. Does the project involve the conservation of a federal or regional threatened, rare, endangered or special interest species? **Yes**
4. Does the project involve an identified federal interest such as the detection and eradication of noxious aquatic or terrestrial invasive species? **No**
5. Does the project otherwise directly support federal implementation of capital projects in the EIP (e.g. technical assistance, data management, resource inventories, etc.)? **Yes**

List Capital Focus Area(s) (as described in the 2006 Federal Vision):

Watershed and Habitat Improvement

Circle 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 Fuel Reduction and Wildfire Prevention Strategy.
2. Continued implementation of projects approved in Rounds 5 through 9 which implement the EIP. Project proposal should identify the applicable project(s) from Rounds 5 through 9 and clearly describe the phase/product being produced along with the consequence of not completing the project phase proposed for Round 10.
 - Round_ 6 -- title -- \$250,000**
 - Round_ 7 -- title -- \$340,000**
 - Round_ 8 -- title -- \$1,878,000**
3. Project is consistent with and contributes toward TMDL pollutant reductions within the four source categories (atmospheric, urban & groundwater, forested uplands, and stream channel). List source category being addressed and integrate into the project nomination the following TMDL considerations (*see attached TMDL references – page 6). Source Category: **Stream channel**

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

This project will utilize proven methods for elimination of man-made diversion ditches , see description below.

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.

See monitoring sections below.

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).

A network of man-made irrigation ditches throughout the High Meadows complex have caused the formation of multiple gullies that contribute suspended sediment load directly to Cold Creek. By disconnecting the ditches from Cold Creek and its tributaries, this current source of erosion will be eliminated. By filling many of the existing ditches that drain the meadow, water will reside throughout the meadow longer, thereby increasing nutrient uptake.

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

This project is the last phase of a larger effort to restore the hydrologic function of Cold Creek and its tributaries with High meadows. Implementation will be coordinated with concurrent efforts that will be finishing up in the lower part of the channel within High Meadows, also implemented by the LTBMU.

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

Provide an overall Project Summary (maximum 200 words):

This Round will focus on Phase II of the Cold Creek / High Meadows Restoration Project. The work completed in Phase II will focus on the removal of five hydraulic diversion structures, that divert water from Cold Creek into approximately 23,400 linear feet of diversion ditches around and through High Meadows. Approximately 17,900 linear feet of these ditches will be filled and replanted in and around the Upper Meadow and Bear Glade areas of the High Meadows complex. This work will enhance water storage in the meadow, reduce erosion and sediment transport to Cold Creek, and restore water flow to the fen in Bear Glade. Additionally, conifer encroachment removal will be conducted to enhance the meadow vegetation community .

Please provide clear and concise written responses to each of the items below.

Please state “not applicable” if you believe the item or question is not applicable to your project.

Is this project proposed as a multi-round project (previous or future)? (If yes, for previous or future projects describe in the Detailed Project Description below number of years or phases and which year the requested

funding will cover).

Yes, previous rounds (see below), no future rounds.

Detailed Project Description (focuses on what Round 10 is funding; list the number of years the requested funding will cover; briefly describe how this project links into previous and future projects).

The diversion ditches described in the project summary were created by the former private landowner, prior to purchase and management by the LTBMU. These ditches were historically constructed to maximize the extent and duration of meadow pasture that the owner could utilize for cattle and horse grazing. These ditches have affected the water quality of Cold Creek and its tributaries, by diverting flow out of the natural channels and producing increased sediment load as flow is transported through eroding and unstable ditch segments. They have also caused dewatering of the meadow by capturing and transporting water out of the meadow during spring runoff. The proposed project actions and objectives related to these diversion ditches are previously described in the project summary.

The vegetation treatments will include up to 100 acres of hand and/or mechanical treatments in and around the upper meadow and Bear Glade. Conifer encroachment will be removed from the meadow as well as up to three aspen stands. These actions will not only enhance riparian vegetation and associated habitat within these riparian communities, but will also reduce existing fuels loads and associated fire risk. This area is currently experiencing an outbreak of mountain pine beetle that is causing widespread mortality of Lodgepole pines. Prescriptions will be modified as necessary at the time of implementation to account for any changes in condition due to tree mortality. The bullets below describe the previous work that this project is linked to from previous Rounds.

- 2006-2007: Cold Creek Ecosystem Assessment Report & Preliminary Restoration Plan (R 6&7)
- 2008-2009: NEPA process (EA) for project focus area (Phase I and II)(R 7)
- 2007-2009: Restoration Plan including construction specifications and begin implementation in accordance with above findings for Phase I and II (R 7 & 8)
- 2009-2010: Implement Phase I – Lower channel/meadow restoration (R 8)

Describe the specific goals and objectives of the project and describe how fulfilling those objectives will contribute to the achievement of one more environmental thresholds (air quality, water quality, soil conservation, vegetation, fisheries, wildlife, scenic, noise, recreation).

This objectives of the proposed project are to restore water storage capacity in the meadow, reduce erosion and sediment transport to Cold Creek from existing diversion ditches, and restore water flow to the fen in Bear Glade. Additionally, conifer encroachment removal will be conducted to enhance the meadow vegetation community. The expected benefits to environmental thresholds are described below.

Water Quality (WQ)

The restoration of the diversions ditches will reduce fine sediment input into Cold Creek. Additionally, ground water storage and nutrient uptake would be enhanced within the meadow complex.

Soil Conservation (SC)

The Phase II restoration will restore soil building and maintenance characteristics within the High Meadows complex by reducing the erosive potential of existing ditches and gullies.

Wildlife (W)

This project will improve the riparian and meadow system habitats for wildlife species, such as willow flycatcher whose foraging and nesting life histories depend on them.

Vegetation (V)

Riparian and meadow vegetation types will shift toward those found in a wetter meadow community.

Describe the anticipated project accomplishments (i.e. products or identifiable environmental benefits being produced or implemented under this project):

The following accomplishments are expected to be completed with Round 10 funding:

- Disconnect flow to and/or obliterate 23,400 linear feet of diversions ditches, currently affecting hydrologic function in 200 acres of High Meadows.
- Complete up to 100 acres of vegetation treatments to remove and thin conifers from High Meadows and adjacent aspen stands. Environmental benefits have been described in previous sections.

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

The LTBMU has contracted the NEPA and expects a completed EA and final decision by March 2009 (funded in Round 7). The Phase I channel restoration (funded in Round 8) in the lower meadow will begin in July 2009 and will continue through October 2010. This project (Phase II) will be initiated concurrently with the completion of Phase I, in July of 2010, and continuing through 2011.

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

The LTBMU will consult and receive input from the Washoe Tribe of Nevada and California, 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 during planning and permitting for this project.

Describe the estimated environmental risks from unintended consequences of the proposed project:

Restoration specialists on the LTBMU believe that by utilizing established BMPs the risk of adverse impact to the environment is minimal.

Describe the project monitoring that will be implemented as part of this project including: The monitoring to be implemented in this proposal addresses short term implementation and effectiveness. Long-term project effectiveness monitoring (e.g., greater than three years post-project) for all LTBMU projects and programs will be addressed through either (i) The Forest Above Project level monitoring program funded through the USFS SNPLMA NEPA Resources Surveys project, (ii) LTBMU base appropriated funds for Forest Plan Monitoring), or (iii) TSC coordinated research projects

1) The questions the monitoring program is designed to answer

- Are temporary BMPS being adequately designed, implemented and maintained during construction projects?

- To what degree will restoration efforts be successful in improving upon physical hydrologic processes, water quality and meadow habitat conditions?

2) 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)

Monitoring methods and strategies associated with this project will be developed through the NEPA process. Parameters that are likely to be considered based on strategies developed for previous restoration projects include:

- BMP implementation and effectiveness evaluations
- Photopoints
- Groundwater level measurements
- Vegetation transects

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

This project monitoring is part of the LTBMU's [project-level] 5-year Monitoring Plan, which outlines the strategy for monitoring projects within the LTBMU's program areas. The LTBMU project-level monitoring strategy is designed to evaluate 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.

4) 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

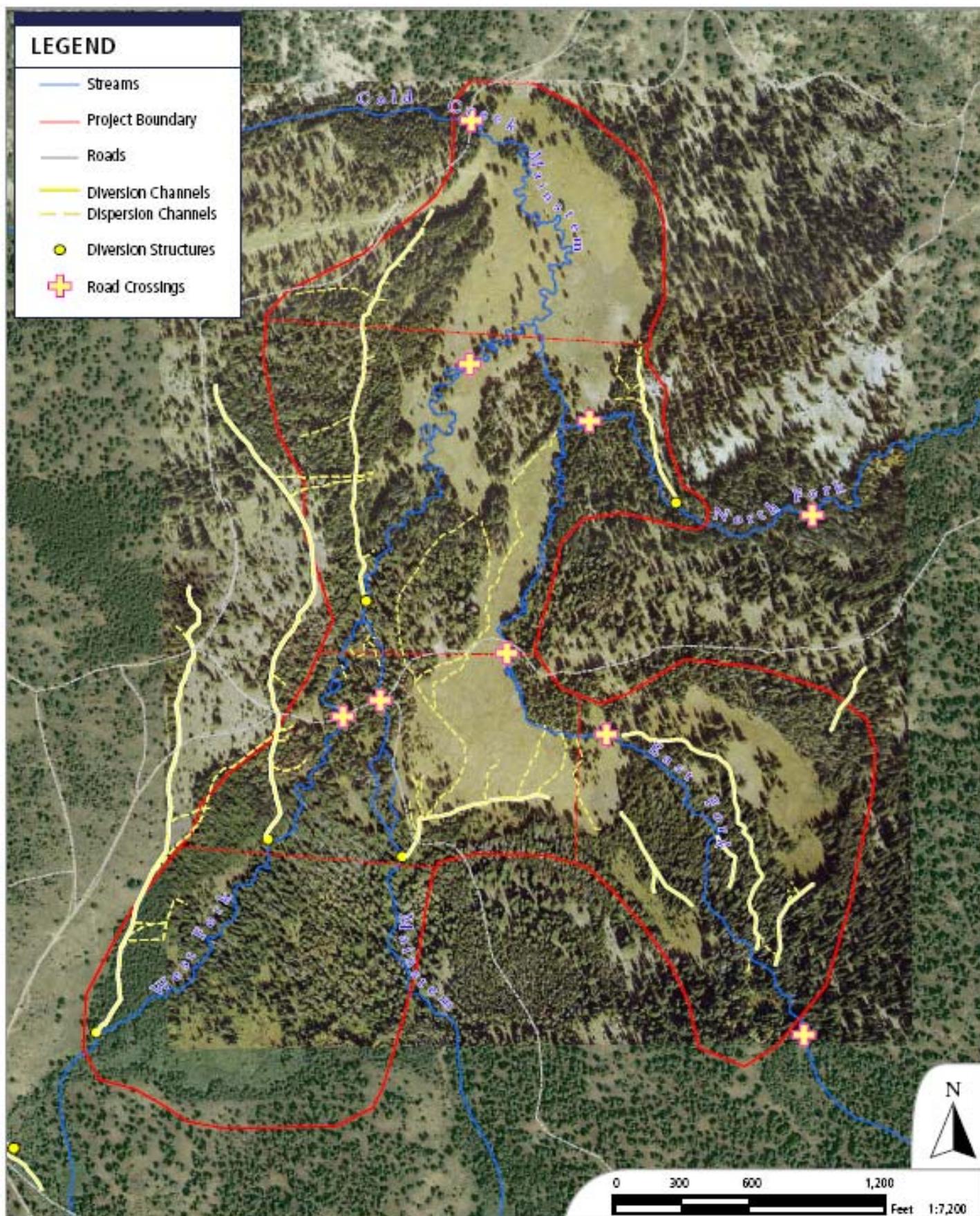
Project-level monitoring results will be used in the short term to determine whether maintenance or corrective actions are needed to meet design goals and specifications. Project-level monitoring results will be periodically assessed in a comprehensive evaluation of results from the LTBMU stream-channel restoration program, to evaluate overall success of design approach(s) with this program.

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

This proposal will remain posted on LTBMU's "SNPLMA website" and interested parties will use the project contact information supplied herein to communicate directly with the LTBMU contact. Significant interim accomplishments may be reported out as they occur, by posting to LTBMU's website. Discussion of project particulars may periodically occur during meetings of TSACC (Tahoe Science Agency Coordinating Committee), as well.

Monitoring activities and results will be summarized in the LTBMU Forest Monitoring Program Annual Report. Project and program specific monitoring reports will be produced within one to five years after project implementation, depending on the variables being monitored and the questions to be answered. In addition the LTBMU will periodically produce a Comprehensive Five Year Evaluation Report as part of the Forest Plan Monitoring Requirement. All monitoring reports will be posted on the LTBMU external website. The audiences (public, agencies, and research community) will be informed through appropriate email lists, and public and interagency meetings.

If applicable, include an 8 1/2 X 11 map depicting the project.



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FIGURE 3.11: Map of diversion and dispersion channels found in the High Meadow Complex during 2005 reconnaissance mapping.