Appendix B-8

LAKE TAHOE RESTORATION PROJECTS
ESTIMATED NECESSARY EXPENSES & KEY MILESTONE DATES

Project Name: Upper Truckee River Restoration (NFS land) Agency: U.S. Forest Service

Prepared by: Theresa Loupe Phone: 530-543-2778 EIP #: 948

SNPLMA Project #:

Identify estimated costs of eligible reimbursement expenses:

1. Planning, Environmental Assessment and Research Costs (,monitoring) $ 100,000 2 %

2. FWS Consultation—Endangered Species Act $ N/A %

3. Direct Labor (Payroll) to Perform the Project $ N/A %

4. Project Equipment (tools, software, specialized equipment, etc.) $ 10,000 0.2 %

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 0.1 %

6. Official Vehicle Use (pro rata cost for use of Official Vehicles when required to carry out project) $ 10,000 0.2 %

7. Cost of Contracts, Grants and/or Agreements to Perform the Project $ 3,955,000 83 %

8. Other Direct and Contracted Labor: Agency payroll for the Contracting Officer to do project procurement, COR, Project Inspector, Project Manager, Project Supervisor

%

$

100,000 2

570,000

12 %

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

%

T

OTAL: $ 4,750,000 100

Estimated Key Milestone Dates:

Milestones/Deliverables:	Date:
Complete permitting	May 30, 2009
Award contract for construction	Feb 15, 2009
Complete 1st year of construction activities	Oct 30, 2009
Complete 2nd yr irrigation	Oct 30,2010

Complete 3rd yr construction activities	Oct 30, 2011
Complete 1st yr post construction monitoring	Oct 30, 2012
Complete 2nd yr post construction monitoring and analysis	**December 30, 2013**
Final Completion Date:	**May 30, 2014***

COMMENTS:

* Due to the partnership on this project with the CTC, and uncertainties regarding the final design and construction contractor, it is possible that all Milestone/deliverable dates would be pushed back 1 year.

APPENDIX K
LAKE TAHOE CAPITAL PROJECT PROPOSAL
ROUND 9

Capital Focus Area : Watershed and Habitat Improvement

Circle a minimum of one category:

1. Continued emphasis on fuels reduction in coordination with projects funded under the 2006 SNPLMA amendment (the "White Pine" amendment).

(2). Continued implementation of projects approved in Rounds 5 through 8 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 9.

List project(s): Round 6 and 8, Upper Truckee River Restoration (EIP#948, SNPLMA #F048, #F122))

(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 category(ies):___Stream Channel_____

4. Control of aquatic invasive species and prevention of new aquatic invasive species.

Project Name: **Upper Truckee River Restoration Project**

EIP #: 948

Lead Agency: U.S. Forest Service

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

Threshold Standard: WQ1-6, SC2, V1, V4, F2-4, W1, SR3, R1

Contact: Theresa Loupe

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Funding Requested in this Round: $4,500,000

Total Project Cost: **$5,550,000**

Is this a multi-year Project? Yes

Project Summary:

This proposal is for implementation of the Upper Truckee River Restoration Project within lands managed by the USFS (See Figure 1). The project will stabilize and restore approximately 5,000 linear feet of stream channel of the Truckee River, and reconnect this stream channel to approximately 65 acres of floodplain. This project will be implemented in close collaboration and coordination with the California Tahoe Conservancy who will concurrently be restoring approximately 10,000 linear feet of channel immediately upstream of this USFS reach. The combined CTC and USFS reaches to be restored are known as the "Sunset Reach" and all design and construction work is anticipated to be conducted under one contract for both the CTC and USFS reaches. It has not yet been determined which agency will award the final design and construction contract, but a Wyden agreement will be established to enable the necessary exchange of funds.

Specifically, the funding requested in Round 9 will complete the final project design (including environmental permitting) and implement actions for the construction of the USFS section of the project (approximately 1/3 of the total length of the Sunset Reach).

Detailed Project Description:
The work funded under Round 9 will take 5 years to complete, with the bulk of the work completed in the first year. Within this first year final design and permitting will be completed. The bulk of construction actions will also be implemented including excavation and construction of most of the new channel, and stockpiling material for filling the existing channel. Work in year 2 will primarily consist of irrigation of plants along the newly constructed channel to give revegetation a season to become well established. In year 3, the new channel will be completely tied into the Truckee River at both ends, flow diverted into the new channel, and the old channel filled in. In years 4 and 5, short-term project effectiveness monitoring will occur, to include identification of maintenance needs.

Two previous rounds of funding are being utilized to complete the planning and pre-project monitoring for this project. Round 6 funding is being used for pre-project monitoring, surveys for NEPA analysis, completion of the Forest Service pre-NEPA (NFMA) analysis and scoping, and development of conceptual design plans for the proposed action. The final NFMA report presenting the proposed action is expected to be completed by Spring of 2008. Round 8 funding will be used to complete the NEPA analysis and document for the proposed action, continuation of pre-project monitoring, and to develop a request for proposals (RFP) for the final design and construction contract. The Final NEPA Document is expected to be complete by fall of 2008. All planning documents will be completed by one contractor, to provide a combined CEQA/NEPA analysis and document for both the CTC and USFS reaches. No future funding requests for this project are anticipated at this time.

Describe the goals and objectives of the project:
The goals of this project are consistent with the Aquatic Management Strategy (AMS) goals presented in the 2004 Sierra Nevada Forest Plan Amendment. Specifically the goals of the project are to restore ecosystem function of this reach of the Upper Truckee in terms of water quality, aquatic and riparian habitat, and natural geomorphic processes that sustain a stable channel morphology.

The objective of the project is to implement actions to replace the existing 5000 foot reach of incised channel that is currently disconnected from the 65 acre adjacent floodplain in all but extreme flood events, with a newly constructed channel that exhibits a stable channel morphology and is reconnected to the floodplain.

Describe the anticipated project accomplishments:
The existing incised channel is currently experiencing significant lateral erosion, and provides little opportunity for filtering out pollutants from contributing urban runoff. Replacing the existing incised channel with a newly constructed channel with stable morphological features will reduce channel erosion and improve fish habitat. Reconnecting the channel to the floodplain will result in more frequent overbank flows which will settle out fine sediments and nutrients transported from contributing urban watersheds, and raise the groundwater level. This will in turn convert the adjacent floodplain to a wetter riparian meadow system, providing higher quality habitat for riparian dependent wildlife species.

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

Studies conducted as part of the Lake Tahoe TMDL have identified the Upper Truckee River as the highest source of sediment and nutrients to Lake Tahoe. The Upper Truckee Technical Advisory Group (TAG) has been planning restoration of several reaches of the Upper Truckee River (including this project reach) since 2001. The TAG includes representatives from Tahoe Resource Conservation District, City of South Lake Tahoe, El Dorado County, California Tahoe Conservancy, Tahoe Regional Planning Agency, US Forest Service, South Tahoe Public Utility District, California Department of Parks and Recreation, and Lahontan Regional Water Quality Control Board, among others.

Several other proposed restoration projects are in various stages of the planning process for nearby reaches of the UTR .. Currently, the environmental documentation for the Marsh Reach project (at the mouth of the UTR) is underway, and anticipated to be finalized in Fall 2008. Also, the Airport Reach project (directly downstream from the Sunset Reach) will have a completed Administrative Draft environmental document by mid-December 2007, and is planned for implementation in Spring 2008.

ENTRIX Environmental Consultants completed an existing conditions environmental analysis for this project reach (CTC and USFS property) in 2004. This, in addition to the Watershed Assessment completed for the UTR Middle Reach (including the Sunset Reach) by Swanson Hydrology and Geomorphology, have identified impairments to ecosystem function, and developed a range of conceptual alternatives to restore them. These assessments provide a solid scientific foundation for selection of a preferred approach. ENTRIX is currently working on environmental analysis and preliminary design for the channel restoration and will complete the environmental analysis (combined CEQA and NEPA), and designs to the 35-percent level for the river on Forest Service and adjacent CTC lands in 2008.

Describe partnerships for this project. (if applicable, project should identify partner funding [committed/secured] and how it is integrated into the project)

The CTC and the USFS have formalized a partnership for the restoration efforts in the Sunset Reach of the Upper Truckee River. The ownership through this reach of the river is shared by the 2 agencies, with approximately 1/3 of the current channel length owned by the USFS and 2/3 owned by the CTC. A Wyden agreement is being established to complete the conceptual design plans and the environmental documentation for the project (under the existing contract that CTC has with ENTRIX). Another Wyden agreement will likely be established for shared payment of expenses for the construction contract award and project implementation.

Other collaborators include the City of South Lake Tahoe (owns the reach just downstream of the Forest Service property boundary), the CA Department of Parks and Recreation (owns the reach just upstream of the CTC property boundary), and the South Lake Tahoe Public Utility District (owns utility lines that pass through the Sunset Reach meadow).

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

1) **The questions the monitoring program is designed to answer**

- Are state sediment and turbidity standards being achieved during the first year after construction for channel restoration projects?
- To what degree have restoration efforts been successful in restoring floodplain connectivity, stabilizing stream banks, and reducing fine sediment loads?

2) **The monitoring approach.**

The USFS, CTC, CA State Parks, CSLT, and other local agencies that meet monthly for the Upper Truckee River Watershed Advisory Group (UTRWAG) have developed a Monitoring Guidelines document to be used for monitoring all reaches restored along the Upper Truckee River, to provide consistency across project boundaries. This document provides protocols, frequency, and priorities for monitoring both pre-project and post-project conditions in all project reaches. Some of the parameters to be collected during the first two years post project implementation to be funded out of this proposal are:

- channel and floodplain sediment storage
- groundwater elevations
- vegetative composition and cover
- channel morphology
- macroinvertebrates
- suspended sediment and turbidity in stream flows

Many of these metrics have and will be measured pre-project to enable pre and post comparisons. The funding requested in this proposal is intended to cover 2 years of post project monitoring to determine whether short term goals and objectives have been met, and may trigger maintenance actions if these are not met.

Longer term effectiveness monitoring is expected to be funded with research proposals funded through the TSC process, or the USFS monitoring program funded through base appropriations and/or the SNPLMA funded NEPA Resource Surveys Project.

3) **Whether this project monitoring fits into a larger monitoring or research program.**

This project is one of four large scale restoration projects planned for the middle and lower reaches of the Upper Truckee River over the next 5-10 years. Because of the close proximity of each planned restoration project, and the close spacing of those projects through time, the UTRWAG has developed a Monitoring Document to be used for all restored reaches along the Upper Truckee as described above. The USFS will utilize similar monitoring approaches (with appropriate site specific modifications) for all its other large scale stream restoration projects, including Cookhouse Meadow, Blackwood Creek, and Cold Creek/High Meadows. Evaluations can then be performed to determine individual project effectiveness, identify maintenance needs or improvements in future design, and assess the effectiveness of these types of stream restorations as a whole (i.e. the ecosystem response resulting from replacing incised stream channels that have been disconnected from adjacent floodplains with more stable channel forms that are reconnected to adjacent floodplains), if funding is secured for longer term monitoring or research.

Describe these two items which will be considered along with the above project monitoring information by the Tahoe Science Consortium related to research and monitoring resource areas and the effectiveness of environmental restoration activities:

1) **Describe the specific goals and objectives of the project and describe how fulfilling those objectives will contribute to the achievement of one or more environmental thresholds.**

The project goals and objectives are described previously in this document. The environmental thresholds affected are:

Water Quality (W)
Fine sediment storage on the floodplain and nutrient uptake capabilities will be enhanced, resulting in a reduction of sediment and nutrient loading to Lake Tahoe.

Soil Conservation (SC)
This project will restore soil building and maintenance characteristics along the Upper Truckee River by increasing sediment storage in the floodplain.

Fisheries (F)
Fisheries habitat (pools, cover, water temperature, and spawning gravels) will be enhanced for local fish populations and native amphibians.

Wildlife (W)
Riparian and meadow habitats for wildlife species, such as willow flycatcher, will be enhanced.

Vegetation (V)
Riparian and meadow vegetation types will shift toward those found in a wetter meadow community.

2) Describe the risk to the environment from failure of the proposed project (i.e. if the project fails what is the environmental consequence).

Fine sediment and nutrient loading will not be reduced from this section of channel reach, and the floodplain will continue to not be utilized to filter fine sediments and nutrients contributed by upland urban sources. Aquatic and riparian habitat along this reach will remain in a degraded condition. The Upper Truckee watershed is considered to be the highest source of sediment and nutrients to Lake Tahoe.

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 publications. Monitoring results will be presented in project specific monitoring reports, and summarized in the Annual Forest Service Monitoring Report.

Figure 1
Upper Truckee River Sunset Stables Reach
Restoration Project - Project Boundary