

**Appendix B-8**

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

**Project Name:** NEPA Resource Inventories, Surveys, and Analyses      **Agency:** U.S. Forest Service, LTBMU 667, 10163.48,

**Prepared by:** Sue Norman      **Phone:** 530-543-2662      **EIP #:** 10163.5

**SNPLMA Project #:** \_\_\_\_\_

**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.)	\$ <u>120,000</u>	<u>11</u> %
<b>2. Direct Labor (Payroll) to Perform the Project</b>	\$ <u>600,000</u>	<u>56</u> %
<b>3. Project Equipment</b> (tools, software, specialized equipment, etc.)	\$ <u>40,000</u>	<u>4</u> %
<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.)	\$ <u>10,000</u>	<u>1</u> %
<b>5. Official Vehicle Use</b> (pro rata cost for use of Official Vehicles when required to carry out project)	\$ <u>30,000</u>	<u>3</u> %
<b>6. Cost of Contracts, Grants and/or Agreements to Perform the Project</b>	\$ <u>150,000</u>	<u>14</u> %
<b>7. Other Direct Costs</b> (direct labor for agency personnel to do environmental outreach)	\$ <u>19,000</u>	<u>2</u> %
<b>8. Indirect Costs (10% of lines 1 thru 6)</b>	\$ <u>95,000</u>	<u>9</u> %
<b>TOTAL:</b>	\$ <u>1,064,000</u>	<u>100</u> %

**Estimated Key Milestone Dates:**

<b>Milestones/Deliverables:</b>	<b>Date:</b>
Finish Data Collection for 2008	September 2008
Finish Data Analysis for 2008	March 2009
Report of status and change of natural resources on the LTBMU 2008	May 2009
Final Completion Date:	June 2009

COMMENTS:

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## APPENDIX I

### LAKE TAHOE CAPITAL PROJECT PROPOSAL

**Project Name:**

NEPA Resource Inventories,  
Surveys, and Analyses

**Capital Focus Area:**

WR/HI-1,3,4,5,6,7,9,10,12

**EIP #:** 667,

10163.48, 10163.5

**Lead Agency:**

Forest Service LTBMU

Sue Norman

**Contact:** LTBMU

**Thresholds:**

Soils, Water Quality,  
Wildlife, Fisheries, and  
Vegetation Thresholds

**Phone Number:** 530-543-2662

**Threshold Standards:**

Soils and Water Quality,  
Special Interest wildlife and  
plant species, unique plant  
communities, habitats of  
significance, stream habitat,  
and lake habitat.; BMP  
effectiveness and adaptive  
management.

**Email Address:** snorman@fs.fed.us

**Is this a multi-year Project?**

Yes (annual)

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

**Total Project Cost:**

\$7,448,000

**Funding Request in this Round:**

\$1,064,000

**Project Summary (maximum 200 words):**

This project conducts basin-wide natural resource inventories and surveys for NEPA (National Environmental Policy Act ) purposes and compliance with ESA (Endangered Species Act, NFMA (National Forest Management Act) requirements, and evaluation of TRPA thresholds. Included are water uses and protection inventories, BMP implementation and effectiveness inventories, air quality monitoring, and flora and fauna surveys (e.g., for establishment and management of TES species Protected Activity Centers, Home Range Core Areas). Analyses of the information collected will yield key watershed-scale and landscape-level natural resource attributes and species population information. These are essential to putting in perspective the potential natural resource impacts of forest activities at localized sites (e.g., vegetation treatments, construction of roads and trails, motorized and non-motorized recreation, and restoration projects).

## **Detailed Project Description:**

On a more detailed level, this project will provide status and change and cause and effect information on TES and TRPA special interest vertebrates, aquatic warm water invasives, plants and plant communities of concern to provide the necessary information for cumulative effect analysis required by NEPA. Components of this project include: Avian TES species (bald eagle, California spotted owl, northern goshawk, osprey, and willow flycatcher), Terrestrial TES species (American marten, Sierra Nevada red Fox, wolverine, pacific fisher), Amphibian TES species (Mountain yellow legged frog, Yosemite toad), TES Plant Species and Communities of Concern (Tahoe draba (*Draba asterophora* var. *asterophora*) and Cup Lake draba (*D. a.* var. *macrocarpa*) and fen ecosystems together with their associated TES species), Warm water invasive species (Large mouth bass, blue-gill sunfish, bull frog). This information will also be used as components of indices of biological integrity (IBI) which will be used to adaptively manage both the terrestrial and aquatic resources of the forest. These IBI's will be generated for macro-invertebrates, terrestrial vertebrates, herpetofauna and waterbirds. The methodologies that will be used in all of these efforts are a combination of established protocols as well as field and analysis methodologies developed from more recent studies.

This project also provides forest level data on soil and water protection BMPs implementation and effectiveness, per established regional standards and protocols (BMPEP, 2002), water rights and uses assessment per national direction and guidance, as well as maintains data collection of the Bliss IMPROVE air quality monitoring site.

## **Describe the goals and objectives of the project: Describe the anticipated project accomplishments:**

The overall goal of this project is to utilize a coordinated approach for inventorying and surveying natural resources in National Forest System lands within Lake Tahoe Basin in a basin-wide context, in order to provide watershed-scale and landscape-level reference conditions and analysis, and to quantify effects of various management activities (e.g., vegetation and fuels reduction treatments, recreation impacts, road decommissioning, and restoration projects) and environmental stressors (e.g., air pollution, water quality degradation, exotic species, etc) on soil, water, and biological resources related to desired future conditions or threshold standards in Lake Tahoe Basin, and to establish implementation and effectiveness monitoring guidelines for management/restoration activities that will allow individual projects to evaluate their success at attainment of -- or movement toward -- desired future conditions or threshold standards.

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

This project will be ready for immediate initiation in FY08. As part of the collaborative Pathway planning process currently underway, a framework for guiding development of monitoring plans on the forest is being established that will aid in the implementation of this project.

Additionally, some portions of the natural resource inventories and surveys are currently under development. Key monitoring methodologies have preciously been implemented by testing in the field for effectiveness and feasibility. Efforts relating specifically to some TES species have been ongoing since 1993. Thresholds, standards and indicators

are being developed from data collected as part of those efforts. Therefore, a strong foundation is already in place for natural resources inventories, surveys, and analyses.

**Describe partnerships for this project. (Include documentation):**

The work will be conducted primarily by LTBMU staff; though researchers at PSW and various universities will be consulted for assistance with advanced statistical analyses and testing of inventory and survey methodologies. Additionally, we will continue to involve other agencies within Lake Tahoe Basin (e.g., TRPA, State Parks, California Tahoe Conservancy, etc) to accomplish the inventories and surveys.

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

The project is itself is a natural resources monitoring and evaluation program on National Forest System Lands in Lake Tahoe Basin.

**(1) The questions the inventories and surveys are designed to answer**

- a. What are the water uses and protections within and adjacent to the National Forest System lands in Lake Tahoe Basin?
- b. What is the current status and change in Special Status Plant and Animal Species (Listed Threatened and Endangered, Species of Concern and Species of Interest) populations within the Lake Tahoe Basin?
- c. To what extent have desired conditions for aquatic and terrestrial ecosystems been achieved within the Lake Tahoe Basin and what are factors that affect achievement of desired conditions?
- d. Are the BMPs used in current and past projects within and adjacent to the National Forest System lands in Lake Tahoe Basin implemented as planned and are they effective in preventing soil losses and water-quality impacts?

**(2) The approach/goals of the inventories and surveys:**

<b>Component Name</b>	<b>Inventory / Survey Approach</b>
Water Uses and Protections	Locate and quantify (if possible) the water uses within National Forest System lands within Lake Tahoe Basin; log all protective measures, including both physical and administrative (including special use permits and water rights permits).
BMP Effectiveness	Utilize BMPEP (Best Management Practices Effectiveness Program) protocols for evaluation of the completeness and correctness of implementations of BMPs at current forest activity (project) sites; utilize the BMPEP protocols to log the effectiveness of BMPs in providing water-quality protection at current and past sites of forest activities.

Air Quality	Maintain IMPROVE air quality monitoring site at Bliss State Park to provide status and trend data on air quality constituents.
Status of Species Status Wildlife Species Populations	Population status/trend and distribution of Special Status species including but not limit to: Owls, Goshawk, Willow Flycatcher, Bald Eagle american marten, fisher, fox, wolverine, mountain beaver, mountain yellow legged frog. Include measure of man-induced factors that can affect population trends and distribution.
Status of Special Status Plant Species and Communities of Concern	Status/trend, distribution and abundance of Special Status plant species. Determine status/trend of community of concern health and to establish what factor affect status. Communities of concern includes and is not limited to fens, cushion plants, and aspen.
Biological Integrity of Aquatic Ecosystems	Implement field protocols to measure the biological integrity of major aquatic components including 1) Lake Tahoe (littoral fish life history status, biological pollutants index, zooplankton assemblage index, ), 2) streams (Benthic Macroinvertebrate Index of Biological Integrity, riparian vegetation condition 3) Small Lakes (biological pollutant index, Herpetological Index of Biological Integrity, Waterbird IBI, others), 4) Wetlands (Biological pollutants index, herpetological IBI, Waterbird IBI, Wetland vegetation ecological status). In addition, factors that affect the biological integrity of aquatic ecosystems will be measured
Biological Integrity of Terrestrial Ecosystems	Implement protocols to measure and evaluate the biological integrity of major vegetation zones that comprise the terrestrial ecosystem of Lake Tahoe. Indicators for measurement include and are not limited to land bird index of biological integrity, vegetation structure and compositions (including measures of invasive plant species), snags and downed wood. In addition, factors that affect the biological integrity of terrestrial ecosystems will be measured
Native Non-Game Fishes of Concern	Assess distribution of native non-game fishes within tributaries of Lake Tahoe. Identify population trends, life history, and demographics of pertinent taxa and local extirpation.
Warm Water Invasive Species	Assess distribution of warm water invasive fishes, amphibians and aquatic plants in tributaries immediately adjoining Lake Tahoe.

**(3) Whether these inventories and surveys fit into a larger monitoring or research program?**

These annual inventories and surveys provide the basin-wide context (baseline) within which to put project-level monitoring results in perspective, for comprehensive cumulative effects analyses and for adaptive management of the natural resources in National Forest System lands within Lake Tahoe Basin. These are summarized annually in LTBMU's Adaptive Management Program Annual Report, as well as every 5 years in a comprehensive evaluation report.

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

Results of the inventories and surveys, together with analyses of these datasets, will be summarized in LTBMU's Adaptive Management Program Annual Report. Further, the

Interpretive Services staff will conduct public outreach at various locations (e.g., visitor centers, schools, public agencies) and during various events to educate the public concerning the principles, practices, and products of this project; an amount equal to two percent of the project costs is dedicated to this effort.

**Include an 8 ½ X 11 map depicting the project.**

Not applicable: The natural resource inventories and surveys are conducted at numerous randomly selected locations throughout Lake Tahoe Basin.