

## Appendix B-8

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

Identify and Describe Natural Hazards  
and their Location in the Lake Tahoe  
Basin, Prepare Report, Compile GIS

Project Name: Map and Bibliography Agency: USFS  
 Prepared by: Denise Downie Phone: 530 543-2683 EIP #: 5  
 SNPLMA Project #: \_\_\_\_\_

**Identify estimated costs of eligible reimbursement expenses:**

<p><b>1. Planning, Environmental Assessment and Research Costs</b> (specialist surveys, reports, monitoring, data collection, analysis, NEPA, etc.)</p>	\$ _____	_____ %
<p><b>2. Direct Labor (Payroll) to Perform the Project</b></p>	\$ _____	_____ %
<p><b>3. Project Equipment</b> (tools, software, specialized equipment, etc.)</p>	\$ _____	_____ %
<p><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.)</p>	\$ _____ 2000	_____ %
<p><b>5. Official Vehicle Use</b> (pro rata cost for use of Official Vehicles when required to carry out project)</p>	\$ _____	_____ %
<p><b>6. Cost of Contracts, Grants and/or Agreements to Perform the Project</b></p>	\$ _____ 37000	_____ %
<p><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)</p>	\$ _____ 21000	_____ %
<b>TOTAL*:</b>	\$ _____ 60000	_____ %

**Estimated Key Milestone Dates:**

Milestones/Deliverables:	Date:
Workplan for assembling map and report is complete; all contacts required for bibliography of technical guides have been made.	2 months after start
Draft report and maps with metadata	4 months after start
Final Completion Date:	6 months after start

**COMMENTS:** TRPA has agreed to compile a preliminary list of references and information sources which will be included in the P7 Update Report. This would be accomplished by April 2005 and would serve as a starting point for the contractor. Other Direct Costs includes \$5,000 for expert reviewers.

## SCIENCE, RESEARCH & MONITORING TAHOE PROJECT PROPOSAL

**Project Name:** Identify and Describe Natural Hazards and their Location in the Lake Tahoe Basin, Prepare Report, Compile GIS Map and Bibliography **EIP # 5**  
**Lead Agency:** USFS **Contact:** Denise Downie  
**Threshold:** Soil Conservation **Phone Number:** 530 543-2683  
**Threshold Standard:** Land Capability **Email Address:** dedownie@fs.fed.us  
**Total Project Cost:** \$60,000  
**Round 6 Funding requested:** \$60,000  
**Is this a multi-year project?** No

**Project Description** (Include a specific list of tasks and subtasks to be accomplished that will facilitate Basin agencies in writing a detailed scope of work):

- Identify and describe natural hazards in the Lake Tahoe Basin, including but not limited to rock falls, landslides, snow and rock avalanches, debris flows, volcanic eruption, flooding, and seismic hazards.
- Compile GIS map from existing sources showing location, nature, and intensity of hazards. Map would meet USFS national standards and would be compatible with the USFS NRIS database.
- Correlate new USFS geomorphic mapping with Robert Bailey's geomorphic hazard mapping.
- Compile bibliography of technical guides keyed to hazard types in report to be used as a reference for making land use planning and permitting decisions.
- Provide all information in digital format that can be made available on TIIMS.
- This project would provide a set of interpretations that would be part of the LTBMU Terrestrial Ecologic Unit Inventory (TEUI)

**For Science & Research Projects briefly summarize the current state of knowledge of this subject matter:**

A similar report was prepared by TRPA in cooperation with an engineering geology firm in 1974, but the associated map has been lost. Some of the information is still current, but much needs updating, particularly seismic hazards, which have been the subject of much recent research. A new geomorphic map has been completed by the Forest Service (2003); a new geologic map has been compiled by the California Geological Survey (2004); additional geologic maps of several quadrangles have been recently completed, and new and ongoing seismic mapping and research are changing the perception of seismic risk in the Tahoe Basin.

**Describe the purpose and need for the project:** (For Science & Research Projects describe how this project will guide future management activities. This description should include a quantitative estimate of the anticipated gain in management information and describe how the research and/or monitoring project may inform the development and understanding of additional Key Management Questions.

The Forest Service addressed natural hazards in its 1988 Land and Resource Management Plan, and TRPA addresses natural hazards in its Code of Ordinances. This information needs to be updated for the current Pathway 2007 plan revision effort, but neither agency currently has staff able to undertake this task. Anticipated uses for the product are described below.

Response to natural disasters

If a major earthquake occurs, it will be necessary to rescue hikers and bikers who may be trapped by rockfalls, rockslides, and other major slope failures. Knowing where these are most likely to occur would facilitate finding and rescuing people. At present, this information could not be assembled quickly enough to be useful in an emergency.

In the event of a large wildfire, it will be useful to know where major slope failures are likely to occur in order to keep firefighters from being injured or stranded. After a wildfire, it will be useful to know where slope failures and flooding are likely in order to prescribe emergency restoration treatments to protect life and property.

#### Land Use Planning

Both TRPA and the Forest Service would use these products to inform land use planning decisions. Knowledge about the location and nature of natural hazards is necessary for effectively locating many types of construction projects and identifying the geotechnical issues that may be involved with such projects.

#### Land Use Permitting

TRPA would use these products to inform land use permitting decisions. When permits are requested in an area with a known hazard, the technical references in this document would guide decisions about permit requirements.

### **Describe the goals and objective of the project (for Science & Research Projects describe Key Management Questions being addressed (Recommended 2-3 pages):**

1. Objectives: List the objectives of the proposed research being tested during the project, and briefly state why the intended research is important.
2. Approach: Outline the research design, methods, and techniques that you intend to use in meeting the objectives stated above.
3. Identify the Key Management Questions being addressed and/or how the project may inform the development and understanding of additional Key Management Questions.

The objectives of the project are to create a map, report, and bibliography that would serve the purposes outlined above in the Purpose and Need section. The approach would be as follows:

- A scope of work and request for proposals would be prepared with input from members of the P7 Soils/SEZ core group, selected members of the Soils/SEZ technical working group, and the USFS Regional Geologist.
- We anticipate a 6-month timeline, and would meet with the selected contractor at the beginning and end of the project, as well as at 2-month intervals during the project.

The current set of Key Management Questions does not address the kinds of terrestrial processes that would be described in this project.

**Describe the anticipated project accomplishments** (for Science & Research Projects provide a qualitative description of how the results of each task will reduce the uncertainty of predicting the behavior of the environmental processes being studied and may lead to solutions to environmental problems (one page recommended) to improve the agencies' abilities to protect the environment and achieve the management objectives.):

The products produced by this project would inform management decisions and would contribute to public safety and welfare. These products would also serve as a comprehensive source of public information on natural hazards in the Tahoe Basin that could be used by local agencies and governments as well as by the general public.

**Describe the “readiness” of this project to move forward (environmental documentation, etc.; for Science and Research Projects that are a continuation of previous projects, provide a quantitative measure of the actual gain in management information (one to two paragraphs recommended):**

This project requires no environmental documentation and is ready to move forward immediately.

**Describe potential partnerships for this project.**

This would be a partnership between the Forest Service and TRPA, and is expected to benefit the Pathway 2007 planning process. Project planning and implementation would be accomplished by members of the Soils and SEZ core group and technical working group. A preliminary meeting to discuss the scope of this project was attended by Denise Downie (USFS), John Stanley (TRPA), Tim Hagan (TRPA) and John Chatoian (USFS Regional Geologist).

**For Science & Research Projects describe how this project will guide future management activities:**

The role of this project in guiding future management activities is described in the Purpose and Need section.

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

Project area would be the entire Tahoe Basin.