Appendix B-8

LAKE TAHOE RESTORATION PROJECTS
ESTIMATED NECESSARY EXPENSES & KEY MILESTONE DATES

Project Name: Upper Truckee River Sunset Stables Watershed and SEZ Restoration Project

Agency: USDA Forest Service, California Tahoe Conservancy
Prepared by: Joe Pepi Phone: (530) 543-6066 EIP #: 948
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.) $ _____ _____%

2. FWS Consultation—Endangered Species Act $ _____ _____%

3. Direct Labor (Payroll) to Perform the Project $ _____ _____%

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

5. Travel (including per diem where official travel status required to carry out project, such as serve as COR, experts to review reports, etc.) $ _____ _____%

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

7. **Cost of Contracts, Grants and/or Agreements to Perform the Project** $ 4,750,000 95 %

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) $ 250,000 5 %

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

TOTAL: $ 5,000,000 100 %

Estimated Key Milestone Dates:

Milestones/Deliverables:	Date:
Choose Preferred Restoration Design	January 2008
Complete Environmental Document	October 2008
Begin construction	June 2009
Final Completion Date:	October 2011

COMMENTS:

Note: Additional matching funds of over $2,400,000 have been provided by the State of California to cover planning and design costs. The Army Corps of Engineers will also provide significant implementation funding for this project.

$ 2,400,000 *

APPENDIX K
LAKE TAHOE CAPITAL PROJECT PROPOSAL
ROUND 9

Consistency with Lake Tahoe nomination criteria:

Project nominations must qualify as an Environmental Improvement Program (EIP) project and be the responsibility of the federal government (federal share responsibility); and have a willing and ready federal sponsor.

Project nominations must be consistent with one of the focus areas in the June 2006 Federal Vision (pp. 8-9) (http://www.fs.fed.us/r5/ltbmu/documents/ltbec/revised-FV-Final.pdf) and fit into at least one category.

Capital Focus Area (as described in the 2006 Federal Vision): 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):
City of South Lake Tahoe Upper Truckee River Airport Reach SEZ Restoration Project (EIP # 556). This project is immediately down stream of this proposed project and is being coordinated with this proposed restoration project.
USFS SNPLMA Round 8 funding award for EIP #948. This previously funded Round 8 SNPLMA project is part of the overall proposed site improvement effort and will be constructed along with the proposed additional site improvements included in this proposal.

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 and Urban runoff**,**

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

Project Name: Upper Truckee River Sunset Stables Watershed and SEZ Restoration Project **EIP #:** 948, 650

Lead Agency: Federal Sponsor: USDA Forest Service Lake Tahoe Basin Management Unit, California Tahoe Conservancy

Contact: USDA Forest Service contact, Theresa Loupe; California Tahoe Conservancy contact, Joe Pepi

Threshold: WQ, F, SC, V, W

Phone Number: USDA Forest Service contact, Theresa Loupe (530) 543-2788; California Tahoe Conservancy contact, Joe Pepi (530) 543-6066

Threshold Standard: WQ – 1,2,3,4,5; F – 2,3; SC – 2; V – 1,2,3; W – 1,2

Email Address: Federal sponsor email - tloupe@fs.fed.us
Tahoe Conservancy email - jpepi@tahoecons.ca.gov

Funding Requested in this Round: $5,000,000 **Total Project Cost:** $ 14,000,000

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

Project Summary (maximum 200 words): (applicable ONLY to this Round 9 project):
The California Tahoe Conservancy (CTC) in cooperation with the United States Department of Agriculture, Forest Service – Lake Tahoe Basin Management Unit (USFS), plan to implement a comprehensive stream environment zone (SEZ) and floodplain restoration on the Sunset Stables portion of the Upper Truckee River watershed. This Project will restore approximately 1.5 miles of the Upper Truckee River between the Elks Club bridge on US Highway 50 and the South Lake Tahoe Airport. The goal is to restore historic floodplain function by increasing the frequency and duration of over-bank events, which will promote the deposition of sediment on the floodplain and reduce channel bank erosion, both of which will improve water quality. In addition the project will raise floodplain groundwater elevations, improve aquatic habitats, increase the acreage of wet meadow vegetation, and improve wildlife habitat.

Detailed Project Description (focuses on what Round 9 is funding; list the number of years or phases the Round 9 requested funding will cover; if phased, briefly describe how this project links into previously phased projects including what remains for Rounds 10 and beyond).

The Sunset Stables reaches of the Upper Truckee River are located near the south shore of Lake Tahoe, approximately 1 mile west of the City of South Lake Tahoe. The Upper Truckee Watershed is the largest watershed in the Lake Tahoe Basin (54 mi^2) and is the largest contributor of flow, sediment, and nutrients to Lake Tahoe. All of the property in the project

area is public, with two-thirds of the land under CTC ownership and the remainder owned by the USFS. The project area was the site of a equestrian stable that provided the public with opportunities to ride along the Upper Truckee River prior to it's acquisition by the CTC. Prior to that use, it was intensively logged, grazed by domestic livestock, and was the site of gravel mining. This section of the Upper Truckee River was also disturbed by the construction of the South Lake Tahoe Airport in the late 1950's. There were a number of roads created within the project area to facilitate these uses. Issues in this area include: 1) it's location adjacent to the South Lake Tahoe Airport, 2) the presence of underground utility lines, including a sewer line, a historic treated-effluent export line, and water lines, 3) incision of the channel and subsequent depression of groundwater elevations and altering of the plant community, 4) the degradation of habitat for fish and other aquatic species. The disturbance history (roads, fire suppression, logging, and grazing) in the upland environment on the public land in this project area has had significant impacts on water quality, wildlife and fisheries habitat, and forest health. These reaches of the Upper Truckee River are disconnected from the floodplain due to incision and disturbances have significant impacts on water quality, floodplain processes, plant communities, and fish and other aquatic species habitat quality.

Project development work for this project began in 2003 and has included extensive biological and other resource assessments, hydrologic data collection, analysis and modeling, groundwater monitoring and analysis, water quality sampling, and cultural resource assessments. There have been meetings of the project development team, the technical advisory team, and with the public to review and comment on the project as it was developed. A restoration alternatives design process has been conducted and a preferred design alternative is to be selected soon. To date the California Tahoe Conservancy has committed over $2.4 million in funding from California State Bond funds to the development of this project.

The project will be built in three phases over a period of three years beginning in 2009 with project completion in the fall of 2011. The requested SNPLMA funding will be utilized for construction activities in 2010. The remaining implementation costs will be provided by the USFS and the US Army Corps of Engineers.

This project will continue implementation of projects in the Upper Truckee River, which is a major goal of the Environmental Improvement Program (EIP) and is a significant part of the comprehensive Upper Truckee Watershed restoration effort. Other projects directly adjacent to the Sunset Stable project include the City of South Lake Tahoe Upper Truckee River Airport reach project which is directly downstream of this project and which received $2 million of funding from SNPLMA Round 8. The Sunset Stables project is also directly downstream of the California Department of Parks and Recreation Upper Truckee River Golf Course Reach Project, which has received funding through the U.S. Bureau of Reclamation Wetlands Program and will likely be seeking funding for construction in SNPLMA Round 10.

Describe the goals and objectives of the project (those applicable ONLY to this Round 9 project):

The goal of the project is to construct a geomorphically appropriate channel on this portion of the Upper Truckee River that will restore a naturally functioning wetland system, including river and floodplain processes, improve water quality, restore and enhance aquatic habitat and diversity, maintain and enlarge contiguous tracts and reduce fragmentation of wildlife habitat, protect and

enhance sensitive wildlife and plant habitats, and provide for appropriate public access consistent with protection of natural resources. In addition proposed meadow enhancements will result in fuels reduction on both the Upper Truckee River floodplain and the adjacent public owned uplands.

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

The project will comprehensively restore 225 acres of SEZ and floodplain along a 1.5 mile stretch of the Upper Truckee River that will restore natural stream and ecosystem function, remove fish barriers, improve fish and wildlife habitat and forest health, reduce channel and upland erosion, and improve water quality. These accomplishments will assist in the attainment of TRPA regional plan thresholds as well as being consistent with and contributing toward TMDL pollutant reductions in stream channel erosion and urban runoff, two of the four TMDL source categories.

This reach of the Upper Truckee River has been identified in assessment reports conducted by Dr. Andrew Simon of the USDA National Sedimentation Laboratory and geomorphologist Mitch Swanson as a major source of sediments and nutrients to Lake Tahoe.

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

This project is on schedule to be constructed starting in June 2009. All biological, hydrologic, geomorphic cultural and other resource assessments as well as the conceptual alternatives development process have been completed for this project. Several restoration alternatives have been defined and modeled and a preferred alternative will be chosen in January 2008. The environmental document process will be initiated in early winter of 2008 with the goal of completing the process by the fall of 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 in conjunction with the USFS and a consultant team is working on completing a final preferred design and environmental documents leading to the start of construction of the project in summer of 2009. As part of the overall Upper Truckee watershed restoration effort, extensive coordination on all aspects of this project, including design issues and monitoring has been carried out with the Upper Truckee Watershed Advisory Group (UTRWAG). This group includes representatives of the U.S. Forest Service, California Tahoe Conservancy, U.S. Army Corps of Engineers, U.S. Bureau of Reclamation, Lahontan Regional Water Quality Control Board, Tahoe Regional Planning Agency, California Department of Parks and Recreation, the City of South Lake Tahoe, and El Dorado County

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

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

The project is developing a comprehensive monitoring plan that will focus on five monitoring groups: Photographs, Hydrology and Geomorphology, Water Quality, Vegetation, and Terrestrial and Aquatic Wildlife. This plan, as well as those for other major projects in the watershed is based on a monitoring guideline document developed through the UTRWAG. This effort is part of comprehensive monitoring strategy for the entire Upper Truckee Watershed. Presently all baseline monitoring is completely funded including a comprehensive water-quality monitoring program, extensive wildlife surveys, groundwater wells were installed and monitoring has been conducted for three years. The primary questions the monitoring will answer are: what is the effect of the entire project on water quality (nutrients and sediment), what is the effect of the project on surface and groundwater hydrology, aquatic and terrestrial wildlife habitat and populations, and vegetation communities and vigor. Additional geomorphic and photographic monitoring will answer questions relating to success of design in creating a geomorphically stable channel and reestablishing the connection of the Upper Truckee River with it's floodplain.

2) **The monitoring approach (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. A detailed monitoring/research plan is not required, but enough detail must be provided to allow someone that is unfamiliar with the project to understand and evaluate the proposed methods and strategies.)**

The following approaches will be taken for each of the monitoring groups:

Photographs:
Ground based photopoints will be established throughout the project area and in conjunction with other surveys (groundwater, geomorphology). Additionally, aerial photos will be obtained for monitoring changes in channel planforms, plant communities, and meadow vegetation structure.

Hydrology and Geomorphology:
Discharge at the end of the project area will be measures to determine the effect of the project on reducing the peak and timing of the hydrograph. Groundwater will be monitored with wells to determine if the project raises seasonal groundwater elevations. The new channels will have extensive geomorphic monitoring using standard protocols, including: longitudinal profiles, cross sections, and sediment surveys. These surveys will also utilize photos to document changes. This monitoring will evaluate the effectiveness of the project at creating geomorphically stable channels and potentially guide adaptive management.

Water Quality:
The outlet of the project area will be comprehensively monitored for nutrients and sediment. Gaging stations have been established to measure discharge. These stations are equipped with automated samplers that will sample all parts of storm hydrographs for both nutrients and sediment (including particle size distribution to determine the fine fraction). This monitoring will determine the annual and storm sediment and nutrient loads entering the lake before and after the project.

Vegetation:

Vegetation will be monitored with both ground and aerial photos. Ground photos will be used to measure the vigor of vegetation in the restored meadow. These photos will be linked to local groundwater elevations to determine the seasonal effects of the project. Aerial photos will be analyzed to determine if plant communities have changed and to determine the effect of the project on meadow structure.

Aquatic and Terrestrial Wildlife:
Extensive wildlife surveys have been conducted using standard protocols for small mammals, bats, butterflies, birds, and reptiles/amphibians. The surveys will be repeated after the project to evaluate the effect of the project on these species. Components of other monitoring groups such as vegetation, photos, geomorphology, and hydrology will be utilized to help assess habitat quality in order to determine a comprehensive assessment of the project's effect on wildlife.

3) **Whether this project monitoring fits into a larger monitoring or research program (including how information from the monitoring and research will be used to improve the continued performance of the proposed project or improve future similar projects)**

Numerous other stream and habitat restoration projects are planned throughout the Lake Tahoe basin over the next few years as part of the comprehensive watershed improvement effort. It is anticipated this monitoring will be used to evaluate overall effectiveness of projects in the basin. Project monitoring will be developed based on the guidelines developed by the Upper Truckee River Watershed Advisory Group. These guidelines represent a concerted effort by agencies in the basin to develop consistent protocols for monitoring. The water-quality monitoring plan has also specifically focused on answering key questions needed in the development of the Tahoe TMDL. It is anticipated that this monitoring can be a key component to the larger regional research efforts on evaluating restoration effectiveness on water quality, hydrology, wildlife, and vegetation.

The monitoring will be used to determine the existing conditions, effects of construction, and post project effectiveness. Key ecological parameters that could be monitored include wildlife, fish and aquatic macro-invertebrates, species of special concern, and water quality. Monitoring plans will be based on basin standards and protocols and will be developed to be included in larger basin wide monitoring programs such as LTIMP (Lake Tahoe Interagency Monitoring Plan) and TIIMS (Tahoe Integrated Information Management System).

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 primary goal of the Sunset Stables project is to develop and implement a SEZ restoration project for the management planning area (MPA), which encompasses the Conservancy and USFS lands. The project will emphasize actions that meet the Conservancy's mission, the objectives of Conservancy programs that funded the property acquisition, that are consistent with

the goals of the EIP, the overall watershed restoration efforts in the Upper Truckee Watershed, and the project objectives described below.

Restore a naturally functioning wetland system, including river and floodplain processes

- Recreate a physical connection between the river and floodplain
- Raise groundwater levels beneath the meadow

Improve water quality–in particular, treat runoff from adjacent areas

- Redirect stormwater runoff onto meadows
- Eliminate direct discharge of runoff into the UT River
- Restore eroding streambanks

Provide for appropriate public access opportunities that are consistent with natural resources protection

- Direct activities away from sensitive habitats
- Provide educational information to recreational users
- Close and restore eroded and/or redundant trails

Restore, enhance and protect upland habitats

- Remove fill materials and recontour land surface
- Remove and/or control noxious plants
- Re-vegetate disturbed areas
- Implement erosion control measures

Manage and enhance forest habitats

- Enhance aspen stands
- Reduce fuels loading for forest health and protection of urban areas

Restore, enhance and protect aquatic habitat diversity and quality

- Improve instream cover and riparian shading
- Restore and protect eroding banks
- Remove or modify low water crossing and modify sewer line crossing

Maintain and enlarge contiguous tracts of habitat for improved wildlife use

- Remove portions of Waverly Road and Boca Raton Drive
- Acquire private parcels in key locations

Reduce habitat fragmentation

- Acquire private parcels in key locations
- Restore habitat to native plant communities where needed

Enhance and protect sensitive wildlife and plant habitats

- Restore and enhance riparian and meadow areas
- Direct activity away from sensitive habitats

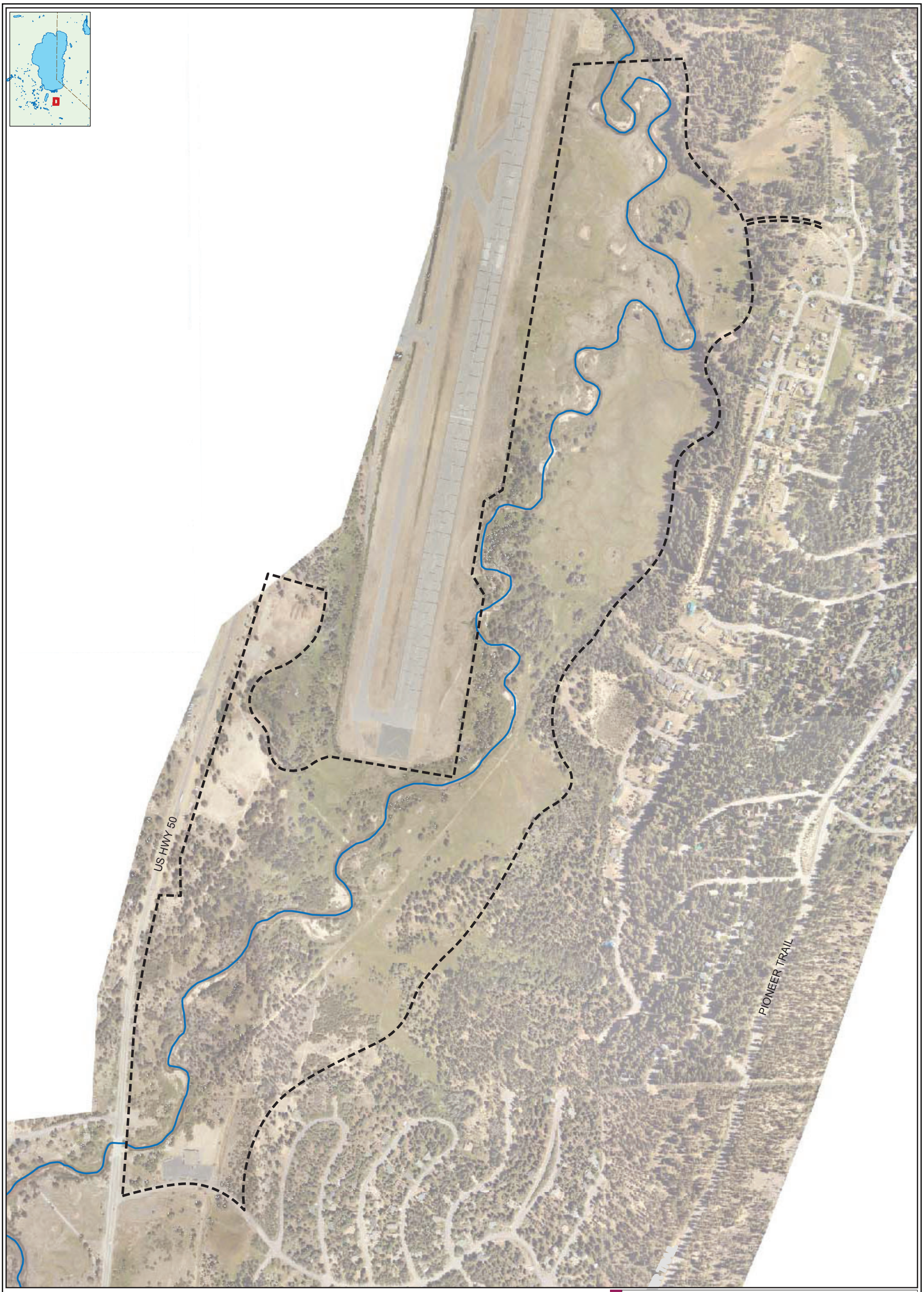
2) **Describe the risk to the environment from failure of the proposed project (i.e. if the project fails what is the environmental consequence).**

The final project construction design will include many safeguards to minimize the potential for project failure and resource damage during construction or after completion of the project. These safeguards include the careful planning of the phasing of project construction, the development of a Source Water Protection Plan, a detailed dewatering plan, extensive project monitoring efforts to identify any water quality issues, protect use of water filled berms to protect newly graded areas from river flows, multi-year seasoning of newly created channel segments to allow for plant establishment prior to releasing flows into the new channel. In the unlikely event of project failure, there could be adverse effects to water quality, floodplain function and wildlife habitats on this project and potentially projects downstream.

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

The project team has held one public meeting in July of 2006 and will hold an additional public meeting once the preferred design has been chosen. In addition there will be several meetings held as part of the environmental document process. All documents will be made available to the public at meetings, the CTC offices and at the public library. The project team has and will continue to specifically work with the neighboring private landowners and develop individual relationships with affected landowners and seek there input in order to ensure the most successful project.

Include an 8 ½ X 11 map depicting the project.



Upper Truckee River

Preliminary Project Area

Upper Truckee River Middle Reach
Reaches 5 and 6 - Sunset Stables
California Tahoe Conservancy

Preliminary Project Area

E N T R I X

0 300 600
Feet

1/3/08
Projection: UTM, Zone 10
Datum: NAD 83

N

3089102 1/3/08 R. Wurgler