

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

Project Name: Develop a Lake Tahoe TMDL Management System

Federal Agency Sponsor: US EPA

Contact: Jack Landy

Threshold: Water Quality

Phone Number: 775-589-5248

Threshold Standard: WQ-1, WQ-2, WQ-3,
WQ-4, WQ-5

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Funding Requested in this Round: \$588,800

Total Project Cost: \$588,800 + staff time match

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, USFS - LTBMU
 - If so, is the federal land involved important to successful implementation of the project?
While this project does not require any action on federal land, sediment load reductions will be expected from LTBMU-managed lands with the adoption of the Lake Tahoe TMDL.
2. Does the EIP identify the federal funding for the EIP project (project #)?
EIP # 10163 – Adaptive Management Framework with application to: EIP # 10109 BMP effectiveness, EIP # 10110 Direct loading from urbanized and non-urbanized area, EIP # 10108 Fine-grained sediment and nutrient research, EIP # 10111 Loading rates from stormwater runoff, and EIP # 627 Clarity Model research.
3. Does the project involve the conservation of a federal or regional threatened, rare, endangered or special interest species?
No
4. Does the project involve an identified federal interest such as the detection and eradication of noxious aquatic or terrestrial invasive species?
Yes, it addresses the Water Quality Protection Program. See Capital Focus Areas section below.
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. The Lake Tahoe TMDL (TMDL) Management System will directly guide federal as well as state and local implementation of capital projects in the EIP. The TMDL Management System is intended to link the EIP with the TMDL. The investment of resources into solving the clarity and water quality issues has been significant; the TMDL Management System is a key element to insure a return on those investments.

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

The Capital Focus Area as described in the 2006 Federal Vision Document is the Watershed and Habitat Improvement Focus Area. This project will be the main avenue for implementing the Water Quality Protection Program (WQP) as identified in the 2006 Federal Vision Document.

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.

This project will implement the Generalized Management System design developed by the Pathway agencies with SNPLMA Round 7 funds for the TMDL Program. This project will make operational the Adaptive Management Framework (AMF) that was funded in SNPLMA rounds 5, 6 and 7. It will also ensure that other tools and research developed with SNPLMA funds (Pollutant Load Reduction Model, Clarity Model, fine-grained sediment and nutrient research) are used in a coherent manner to improve policy and implementation decisions. The Lake Clarity Conceptual Model developed as part of the Lake Tahoe Status and Trend Monitoring and Evaluation Program (AMF IV, Round 8) will be a major element to provide context for management decisions made through the TMDL Management System.

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:

This project will enhance water quality decision making by incorporating load reductions from all source categories of the TMDL into a formalized management system. Current crediting and accounting projects are focused on urban upland sources. The TMDL Management System project will extend rigorous load reduction tracking and reporting into forested uplands, atmospheric and stream channel source categories. It will also support the full evaluation of TMDL progress and research findings for the overall Lake Tahoe Basin.

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

While this project does not directly demonstrate innovative load reduction practices, it does provide a complete system to both track the benefits of innovative practices and make decisions about which of the innovative practices warrant further investment. Equally important, it will enable water quality managers and implementers to regularly analyze the need for advanced, alternative, or innovative practices. This classification of projects (i.e. advanced or innovative) is typically expensive and planning for them must be informed by up-to-date and scientifically sound knowledge.

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. The TMDL Management System will synthesize information from many monitoring and research sources to inform necessary management decisions regarding pollutant load reductions and lake clarity. Primary monitoring data will be collected as part of other

programs such as LTIMP (lake and tributary), the Regional Stormwater Monitoring Program (RSWMP), and project-specific research efforts. However, synthesizing findings from these monitoring efforts must be coordinated and brought together in a single evaluation to inform policy and management decisions.

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).

The TMDL Management System will provide the framework to track pollutant load reductions from all source categories and report them to the public via a web portal and an annual reporting document. It will also establish the venue for adopting standardized protocols for estimating load reductions from the atmospheric deposition, forest upland and stream channel source categories.

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

The TMDL Management System will serve to coordinate results from many efforts including: Pollutant Load Reduction Model, TMDL Lake Clarity Crediting Program, Credit Accounting and Load Reduction Tracking Tool, WEPP Model, Lake Clarity Model, SNPLMA Research projects that contribute to the state of knowledge related to the TMDL, and monitoring programs including LTIMP and RSWMP (currently in development). The management system developed as part of this project will create a link to the EIP so that selection of future water quality improvement projects can be informed by these varied efforts.

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

This project has no direct link to the control, prevention and/or detection of aquatic invasive species. However, the TMDL Management System will establish the venue for determining if the potential for invasive species to alter nutrient cycling should be addressed through efforts to achieve the TMDL load reductions.

Provide an overall Project Summary (maximum 200 words): (describe ONLY this Round 10 project):

The Lake Tahoe TMDL (TMDL), in conjunction with the EIP, is the most comprehensive effort ever taken to restore Lake Tahoe's famed water clarity. This project will establish a formal TMDL Management System, based on the Generalized Management System Design developed by the Pathway agencies with previous SNPLMA funds. The TMDL Management System will be the primary guidance for implementing the TMDL and informing the water quality aspect of the EIP. The TMDL Management System will 1) ensure scientific and monitoring findings are incorporated into models and policies, 2) inform the public about how capital investments and maintenance practices are resulting in benefits to lake clarity, and 3) establish the venue for determining what innovations should be widely implemented to improve project effectiveness.

This project will bring together the parties involved in implementing the TMDL to define a set of operations to coordinate monitoring, reporting, policy and decisions. The project will also build

operational tools (online public reporting and activity tracking systems), and develop reporting templates (synthesis of findings report and management recommendations memo) that will be used in the future. Finally, this project will facilitate product development and interagency and stakeholder communications through the first full year of operations.

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).

This project uses products from AMF III Round 7 funding, but is a single round project. All products can be produced using the funds requested and matching agency staff time committed in this proposal. Once the TMDL Management System has been created and initially implemented, year-to-year operation of the will be funded by other sources.

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).

This three year project will support the development of a formal TMDL Management System, the creation of related tools and products, and the facilitation of the first full round operations.

Project Need

The Lahontan Regional Water Quality Control Board (Lahontan) and Nevada Division of Environmental Protection (NDEP) have estimated that an investment of \$1 - \$1.5 billion on projects designed to reduce pollutant loads will be needed to meet the TMDL “Clarity Challenge” in 20 years. However, such an ambitious goal demands a well-organized and deliberate management system that can be modified to account for new knowledge from the scientific and implementer communities (i.e. adaptive management). Specific needs include:

Support for Final TMDL Phase - Significant federal and state investments in research and planning have supported development of a nationally significant TMDL based on rigorous science and an innovative planning approach. The infrastructure created in this project will support the implementation phase of the TMDL to reach pollutant reduction targets. The TMDL Management System will extend load reduction tracking to the non-urban source categories, ensuring that efforts to control these sources are reported.

Predictable and Transparent Decision Process – Local jurisdictions and regulatory agencies will save money and effort through a clear and predictable process that minimizes costs and streamlines administrative requirements to manage and report on implementation projects. The TMDL Management System will establish a clear process for recommending and adoption changes to the TMDL and associated implementation efforts, including the incorporation of new scientific information into policy decisions.

Increase Project Effectiveness – Capital projects to reduce load reductions will be rigorously tracked and reported, focusing projects on maximizing load reductions, decreasing cost per pollutant reduced, and reducing the number of projects needed to achieve water quality goals. The TMDL Management System will also define how innovative projects and practices can be implemented within regulatory requirements, and findings can improve future project design

Improve Public Understanding and Confidence – The EIP, TMDL and Basin management agencies need a way to communicate accomplishments in water quality protection. Consistent reporting will show how public and private funds are being invested to improve water quality, and that these efforts are worthy of continued funding. This will also provide context to support public engagement regarding water quality benefits from individual projects.

Project Background

Two major efforts have set the stage for this project and some background about each of them is necessary to appreciate the specifics of this proposal.

Lake Tahoe TMDL

Lake Tahoe has been losing its famed clarity because of excess loading of fine sediments and nutrients. Lahontan and NDEP jointly created a phased TMDL in 2001. The first phase was planned to identify the quantity and sources of pollutants and determine how those pollutant inputs affect Tahoe’s clarity. The second phase focused on evaluating pollutant reduction opportunities and packaging a plan to implement the pollution reduction strategies. Both these phases have been very nearly completed. Funding is now being requested to complete a management system for the last phase of the TMDL which addresses implementation, monitoring, and adaptive management. Table 1 provides an overview of the TMDL, shows the overarching questions addressed during each phase and notes the products that result.

Effective implementation of the TMDL and water quality aspects of the EIP can best be achieved through a structured management system. The operational structure of the TMDL needs to be established to address a number of issues, including but not limited to: (1) evolving existing TMDL products such as the Recommended Strategy and the lake clarity conceptual model, (2) synthesizing findings from a variety of monitoring and research efforts, (3) linking with SNPLMA, EIP and other implementation programs so that their efforts achieve TMDL milestones, and (4) adaptively incorporating new information into decision-making.

Table 1. TMDL Questions and Products with Implementation Phase Highlighted

TMDL phase	Questions	Products
Phase I: Pollutant Capacity and Existing Inputs	What pollutants are causing Lake Tahoe’s clarity loss?	Research and analysis of fine sediment, nutrients and meteorology
	How much of each pollutant is reaching Lake Tahoe?	Existing pollutant load to Lake Tahoe from major sources
	How much of each pollutant can Lake Tahoe accept and still achieve the clarity goal?	Linkage analysis and determination of needed pollutant load reduction
Phase II: Pollutant Reduction Analysis and Planning		Document: TMDL Technical Report
	What are the options for reducing pollutant inputs to Lake Tahoe?	Estimates of potential pollutant load reduction opportunities Document: Lake Tahoe TMDL Pollutant Reduction Opportunity Report
	What strategy should we implement to reduce pollutant inputs to Lake Tahoe?	Integrated Strategies to control pollutants from all sources Load reduction allocations and implementation milestones Implementation and Monitoring Plans Document: Final Lake Tahoe TMDL
Phase III: Implementation and Operation	Are the expected reductions of each pollutant to Lake Tahoe being achieved?	Implemented projects & tracked load reductions
	Is the clarity of Lake Tahoe improving in response to actions to reduce pollutants?	Project effectiveness and environmental status monitoring
	Can innovation and new information improve our strategy to reduce pollutants?	Lake Tahoe TMDL continual improvement and adaptive management system, targeted research Document: Future Periodic Milestone Reports

Lake Tahoe Management System

The Lake Tahoe Management System (management system) was designed in 2007 to improve the effectiveness of the resource management actions within the Lake Tahoe Basin. The management system is based on the “Plan-Do-Check-Act” cycle and includes elements of both continuous improvement management and active adaptive management (Figure 1). It structures communication between agency policy makers and researchers to identify areas of uncertainty and systematically incorporate scientific findings into management decisions. The generalized management system design is a template for developing program-specific management systems and it was applied to the TMDL as a prototype analysis.

The continual improvement portion of the cycle for the TMDL focuses on tracking and evaluating program and project implementation and regulatory compliance to understand the effectiveness of policy implementation. These practices will enable the agencies to report load reduction credit production relative to TMDL milestones. Without a formal and specific management system, completed elements will likely be used out of context or lost in the details regulatory timelines. By bringing all elements together into an operational whole, synergies will become evident between researchers, implementers and regulators.

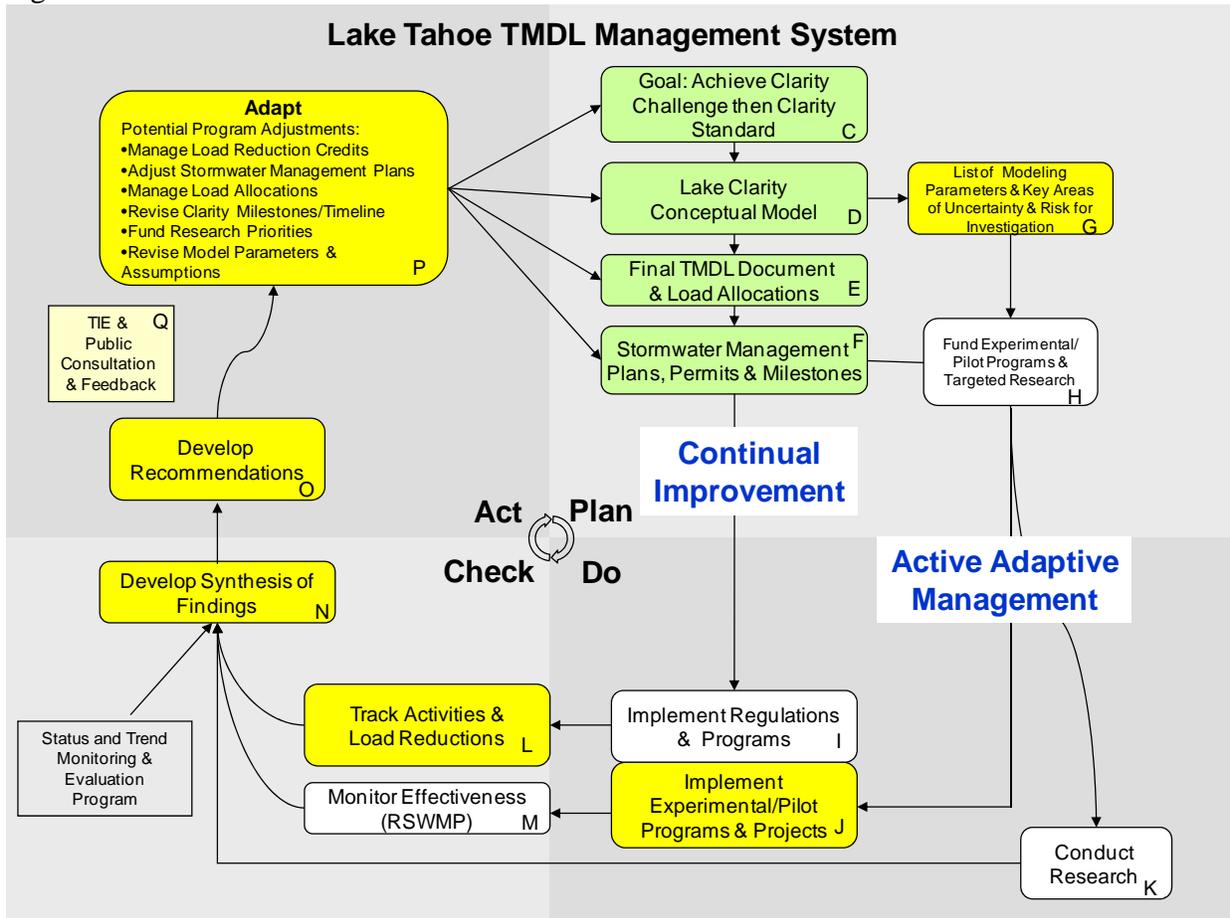


Figure 1: A diagram of the Lake Tahoe Management System as it relates to the TMDL. Green elements of the management system have already been developed and will be leveraged through this project. Yellow products and processes will be completed by the proposed SNPLMA Round 10 project. White boxes are being addressed through other efforts and will be incorporated into the overall TMDL Management System operations.

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).

The overarching goal of this project is to create and facilitate the initial round of operations of a TMDL Management System to implement the TMDL within a continual improvement and adaptive management framework based on the Lake Tahoe Management System Design that was developed through SNPLMA Round 7 support.

Objectives:

1. **Establish effective accomplishment reporting** – so that funders and supporters maintain confidence in efforts to restore Lake Tahoe’s clarity. Ongoing support is critical in achieving water quality thresholds.
2. **Engage local jurisdictions** – so that they understand the water quality milestones they are trying to achieve and understand the potentially daunting process of planning, completing and reporting their efforts.
3. **Enable structured interagency decision making** – among the many agencies that must stay coordinated to reach the “Clarity Challenge” and eventually the clarity standard. Direct effort is necessary to define a process to keep regulators, implementers and funders moving forward.
4. **Establish TMDL implementation protocols** – that guide staff in consistently and fairly implementing the TMDL and EIP water quality aspects. Consistency will drive engagement from implementers who depend on regulators for reasonable targets and approaches to reach them, and improve efficiency by clearly defining a predictable and coordinated process.
5. **Incorporate new science and innovative practices into the TMDL** – to ensure that methods, assumptions and modeling parameters reflect the state of the art and do not fall behind industry standards. Continual improvement will promote the most rapid and cost-effective ways to achieve TMDL load reduction targets.
6. **Communicate with the public** – to maintain the confidence in restoration and load reduction efforts by reporting the environmental benefits from the investment of public funds.

Fulfilling these objectives will improve water quality by increasing the amount of load reduction achievement for the money spent and motivating ongoing funding to achieve thresholds.

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

The results and accomplishments of the project will be expressed in tangible products and the well-defined management processes they enable. The TMDL Management System project will complete the infrastructure necessary to manage TMDL implementation. These products will support daily program management functions, promote consistent programmatic decisions and develop institutional memory. The products include (element letters refer to Figure 1):

1. **Template and initial synthesis of findings report (Element N)** - A management-targeted annual report that will provide an understanding of the load reductions achieved, opportunities for innovation and operational efficiency, changes in lake clarity status, and new research findings. The synthesis will assemble and interpret new data and information that may become available that year. The overarching purpose of this product is to inform policy recommendations.

2. **Template and initial management recommendations memo (Element O)** - An annual briefing that will recommend management and executive decisions to adjust TMDL and related program policies. Development of management recommendations includes facilitating stakeholder and public consultation, ensuring their input is reflected in the recommendations.
3. **Public reporting web site (Element Q)** - A web portal that will provide analysis of load reduction information, status of lake clarity, public documents and useful links (Figure 2).
4. **Activity tracking system (Element L)** – An online program management tool for coordinating efforts across multiple agencies that will include task tracking, calendar, document management and wikis for Lake Tahoe TMDL staff. It will also enable online submittal of important files and information.
5. **Prioritized list of research needs (Element G)** - A recommendation for new monitoring and research necessary for the TMDL program, targeted to science and funding decision-makers.
6. **Public TMDL meetings (Element Q)** – Two half-day meetings will inform the public about the TMDL as a whole, provide an opportunity to report accomplishments and encourage input from stakeholders to guide design of the TMDL Management System.
7. **TMDL management system manual (All Elements)** - A document based on the elements of the Generalized Lake Tahoe Management System. Elements will define standard operating procedures, roles, and process information for all management activities associated with the TMDL.

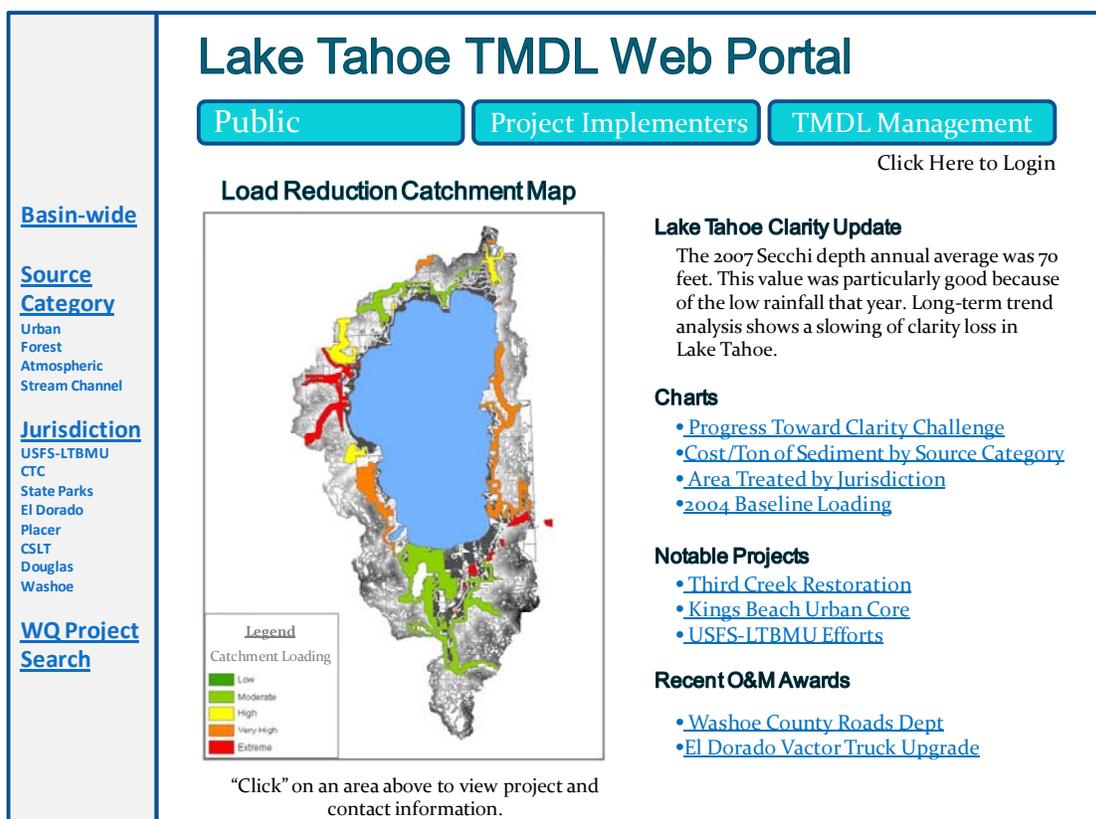


Figure 2: Mockup of a web-based portal for interested partners, stakeholders and the public to appropriately access load reduction analysis, lake clarity status and TMDL reference documents.

Management Processes

The Lake Tahoe TMDL Management System project will define the fundamental processes necessary to operate the TMDL. These processes will support interagency decision-making, incorporation of newly available information and oversight capability. The processes include:

1. **Reporting protocols** – Identify the roles and responsibilities that jurisdictions, regulators and funders should play to effectively report project accomplishments and program outcomes.
2. **Comprehensive load reduction tracking** - A set of policies to report, verify, track and adjust pollution reduction credits. Much of this policy area will be developed through the current Lake Clarity Crediting Program, but additional effort will ensure consideration of all management system requirements and extend the operational practices to non-urban implementation efforts including forest uplands, atmospheric deposition and stream channels.
3. **Policies for managing non-urban pollutant sources** – The current Recommended Strategy focuses on urban sources of fine sediment and will leverage the NPDES permits required on the California side of Lake Tahoe. The remaining source categories such as forest uplands, atmospheric sources as well as urban entities in Nevada will require additional policy development to effectively reduce, quantify and track pollutant loads.
4. **Action plan oversight** – An approach for tracking and implementation of Stormwater Management Plans and Memorandums of Implementation for municipal entities, and O&M Plans for stormwater programs.
5. **Load allocation and load reduction estimation evaluation** – An understandable way to evaluate allocations of pollutant loads. The TMDL Management System will structure the process to make transparent and fair load allocation and load reduction estimation decisions.
6. **Incorporation of new information and innovative practices** – A process to update models with the latest research results regarding parameters, incorporate innovative practices if they prove to be significant load reduction opportunities, and adjust policies in response to new findings.

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

The US EPA, Lahontan and NDEP believe that it is critical that the TMDL Management System be developed as soon as possible. This urgency is brought on by a number of factors including (1) the pressing need to quantify both the accomplishments and environmental benefits of the EIP in a manner that can be reported to funding entities and used to evaluate progress towards meeting the TMDL load reduction requirements, (2) the need to update the California NPDES permits for the urban jurisdictions in 2010, and (3) many of the individual tools to be used in Phase 3 have either already been developed or are nearly complete, the TMDL Management System is needed to link them together.

The project approach was proven during the first phases of the TMDL. The use of agency staff, environmental consultants and academic expertise has completed the research and planning necessary to build one of the most rigorous TMDL efforts in the nation. The implementation phase of the TMDL is ready to begin because staff capacity to manage this project is in place at NDEP where new staff has been dedicated to Lake Tahoe and because Lahontan will also dedicate staff time to this project. Once the TMDL Management System has been established the regulatory partners have the capacity to carry the ongoing operations of the system into the future.

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):

This project builds on strong and longstanding partnerships that date back to the inception of the TMDL development effort in 2001. The US EPA supported and funded components of Phase 1 and Phase 2 of the TMDL, both through SNPLMA and other programs. They remain a willing sponsor for this project and support water quality protection at Lake Tahoe Basin by maintaining a full-time, in-basin representative. A significant amount of staff time is being contributed by NDEP and Lahontan who will actively guide the development of the products described in this proposal, and are committed to operating the TMDL Management System in to the future. Through the Pathway process Lahontan, NDEP and the TRPA executives and staff have developed an integrative approach towards water quality improvement. While developing Phase 1 and Phase 2 of the TMDL, Lahontan and NDEP have established a very close working relationship that has resulted in the success of the TMDL to date.

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

Since this is a program management infrastructure development project that does not involve construction or alteration of the landscape there are no direct environmental risks associated with the project. However, the risk of overseeing a \$1 - \$1.5 billion EIP effort to meet the "Clarity Challenge" without a well defined management system needs to be considered. A successful management strategy will be an effective check on the expenditure of project funds and load reduction to be evaluated on a basin-wide scale, allowing implementers and regulatory agencies to operate from a common platform, increasing public confidence that water quality improvement efforts are being done in a reasonable and effective manner.

From a management perspective there are significant risks associated with not having a formalized TMDL Management System, such as the risk of funding projects that do not contribute to meeting TMDL load reduction goals to the extent possible, risk of not being able to readily quantify the environmental benefits of the EIP, and the potential to miss opportunities for program adjustments.

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

1) The questions the monitoring program is designed to answer

As described above, this project will serve as a focal point to incorporate the varied and often disparate monitoring programs of Lake Tahoe including LTIMP, RSWMP, the Status and Trend Monitoring & Evaluation Program and SNPLMA research. A few of the many of over-arching questions the TMDL Management System can be used to answer include, but are not limited to:

- How effective are current improvement efforts in reducing loads and improving water quality in the Tahoe Basin locally, regionally and Basin-wide?
- How does progress to date relate to the TMDL implementation timeline?
- Is there further need for alternative and innovative treatment approaches?
- How should SNPLMA and other funded projects be selected and prioritized to meet the TMDL requirements for load reduction in the most timely and effective manner?

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)

Since new monitoring is not part of this project, as it would be for a capital water quality improvement or restoration project, this question does not directly apply. However, the purpose of this project is to develop a management system that can incorporate monitoring results into programmatic decisions.

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 is inherently connected to the TMDL and the monitoring efforts described in #1 above.

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

One of the primary functions of the TMDL Management System will be to incorporate research and monitoring findings into policy and implementation decisions. This has been described at numerous points throughout this proposal. A purpose of creating a Management System for the TMDL is to address this very question on scales larger than an individual project. The reader is referred to Figure 1 for a conceptual model of the proposed approach.

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

The TMDL Management System will enable reporting of information to the public through:

- A web portal that is always available to key audiences
- An annual Synthesis of findings report that combines new information about water quality
- 2 public meetings that will provide an opportunity for reporting progress and making suggestions for improvement
- A defined annual consultation process related to developing management recommendations

If applicable, include an 8 ½ X 11 map depicting the project.

The project area is the Lake Tahoe Basin. A map has not been included.

Appendix B-8

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

Project Name: TMDL Management System Agency: US EPA
 Prepared by: EPA, Lahontan & NDEP Phone: (775) 589-5248 EIP #: 10163+
 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.) \$ 150,000 25 %

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

3. Direct Labor (Payroll) to Perform the Project \$ 30,000 5 %

4. Project Equipment (tools, software, specialized equipment, etc.) \$ 30,000 5 %

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 1 %

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 \$ 297,000 51 %

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) \$ 76,800 13 %

9. Other Necessary Expenses (See Appendix B-11) \$ _____ %
TOTAL: \$ 588,800 100 %

Estimated Key Milestone Dates:

Milestones/Deliverables:	Date:
Lake Tahoe TMDL Web Portal	6/2010
Synthesis of Findings and Management Recommendations Documents	12/2010
TMDL Management System Manual	6/2011
Final Completion Date: Approximately 3 years from award	6/2012

COMMENTS:

