

G1025

Attachment H

COVER SHEET (PAGE 1 OF 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Proposal Title: Clear Creek Watershed Partnership: A Clearer Path to Clean Water
 Applicant Name: Western Shasta Resource Conservation District
 Mailing Address: 3179 Bechelli Lane, Suite #110, Redding, CA 96002-2041
 Telephone: (530) 246-5299
 Fax: (530) 246-5164

Amount of funding requested: \$ 1,487,898 total for 3 years

Indicate the Topic for which you are applying (check only one box). Note that this is an important decision: see page ___ of the Proposal Solicitation Package for more information.

- Fish Passage Assessment
- Floodplain and Habitat Restoration
- Fish Harvest
- Watershed Planning/Implementation
- Fish Screen Evaluations – Alternatives and Biological Priorities
- Fish Passage Improvements
- Gravel Restoration
- Species Life History Studies
- Education

Indicate the geographic area of your proposal (check only one box):

- Sacramento River Mainstem
- Delta
- Suisun Marsh and Bay
- San Joaquin River Mainstem
- Landscape (entire Bay-Delta watershed)
- Sacramento Tributary: *Clear Creek Watershed*
- East Side Delta Tributary:
- San Joaquin Tributary:
- Other:
- North Bay:

Indicate the primary species which the proposal addresses (check no more than two boxes):

- San Joaquin and East-side Delta tributaries fall-run chinook salmon
- Winter-run chinook salmon
- Late-fall run chinook salmon
- Delta smelt
- Splittail
- Green sturgeon
- Migratory birds
- Spring-run chinook salmon
- Fall-run chinook salmon
- Longfin smelt
- Steelhead trout
- Striped bass

COVER SHEET (PAGE 2 OF 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Indicate the type of applicant (check only one box):

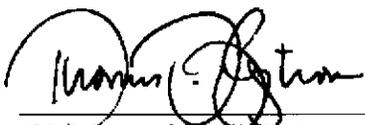
- | | |
|---|---|
| <input type="checkbox"/> State agency | <input type="checkbox"/> Federal agency |
| <input type="checkbox"/> Public/Non-profit joint venture | <input type="checkbox"/> Non-profit |
| <input checked="" type="checkbox"/> Local government/district | <input type="checkbox"/> Private party |
| <input type="checkbox"/> University | <input type="checkbox"/> Other: |

Indicate the type of project (check only one box):

- | | |
|--|---|
| <input checked="" type="checkbox"/> Planning * | <input type="checkbox"/> Implementation |
| <input type="checkbox"/> Monitoring | <input type="checkbox"/> Education |
| <input type="checkbox"/> Research | |

By signing below, the applicant declares the following:

- (1) the truthfulness of all representations in their proposal;
- (2) the individual signing the form is entitled to submit the application on behalf of the applicant (if applicant is an entity or organization); and
- (3) the person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section II.K) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

 UICE PRESIDENT for

(Signature of Applicant)

Phil Schoefer
President, Board of Directors
Western Shasta Resource Conservation District

* While we have categorized this as a planning project, it contains implementation action elements that have been identified through watershed analyses and partner agreement as offering immediate benefits to the watershed and are covered by existing environmental documentation.

Proposal for CALFED Bay-Delta Program ERPP Grant

II. EXECUTIVE SUMMARY

a. Project Title and Applicant Name

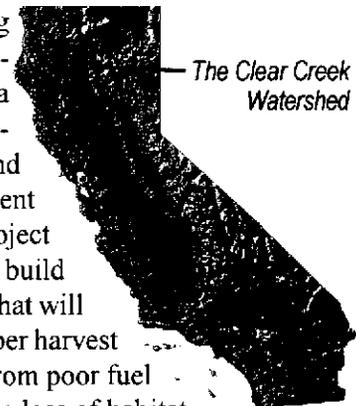
***CLEAR CREEK WATERSHED PARTNERSHIP: A Clearer Path to Clean Water
A Local Watershed Stewardship Project for the Upper Clear Creek Watershed***



Western Shasta Resource Conservation District

b. Project Description and Primary Biological/Ecological Objectives

The Clear Creek watershed begins in the Trinity Mountains, fills Whiskeytown Lake, and empties into the Sacramento River just south of the City of Redding. The watershed supports hydropower facilities, water uses, wildlife, fisheries, timber industry, and recreation. The objective of the Clear Creek Watershed Partnership (CCWP) is to improve coordination among local communities and state and federal agencies within the region and to establish a long-term framework for ecosystem management that can serve as a model for other watersheds. A Watershed Partnership Steering Team and Support Team, composed of agency and industry representatives, landowners and members of other organizations, will provide guidance for ecosystem management in the watershed. A Watershed Coordinator will work to support and direct project work. Workshops, educational curriculum and public involvement events will build community awareness of watershed issues. The project will support activities that will reduce primary stressors including advanced erosion processes due to past timber harvest activities, their accompanying transportation corridors, and catastrophic fire from poor fuel management practices. Reducing the causes of stress in the watershed and the loss of habitat will benefit priority species including the Sacramento late fall-run chinook salmon, steelhead, and resident and migratory Neotropical birds.



c. Approach/Tasks/Schedule

The tasks outlined in our three-year scope of work are designed to:

- Build community awareness and knowledge of, and participation in, watershed activities, issues, and proper stewardship of watershed resources.
- Develop and begin implementing a comprehensive transportation plan that is consistent with ecosystem management principles.
- Develop and begin implementing a comprehensive fire management plan that is consistent with ecosystem management principles.
- Develop necessary tools for conducting ecosystem management across ownership boundaries.
- Develop foundation for conducting research on all elements of the ecosystem.

d. Justification for Project and Funding by CALFED

This project has the following three primary benefits in addressing ecosystem stressors:

- The development of comprehensive ecosystem management plans for fuels and transportation.
- Implementation of several integrated resource management projects to reduce fire risk and repair impaired roads and dismantle unneeded roadways.
- Development of a coordination framework for long-term integration of management activities across ownership boundaries.

The CCWP believes that there is significant value in maintaining ecological functions in the upper tributaries of the CALFED area. The salmon, steelhead trout, and other native trout of the upper tributaries are ecologically and economically important to the Sacramento River Watershed Region. The role of upper tributary habitats to Neotropical species has not been quantified but is widely believed to have an important role in sustaining their populations. Improving the hydrological regime in the Clear Creek watershed also will benefit the CALFED program. Above Whiskeytown Dam, improved road conditions and vegetation management will reduce the amount of sediment filling in the reservoir. Lower peak flows and a more sustained runoff period provides increased flexibility to dam operations. Below the dam improved runoff characteristics also could help relieve the dam of maintaining adequate habitat flows.

e. Budget Costs and Third Party Impacts

Funding in the amount of \$1,487,898 is requested from Category III funds to plan and implement a three-year scope of work. No third party impacts are anticipated because the project will involve voluntary agreement with any affected party.

f. Applicant Qualifications

Western Shasta Resource Conservation District (RCD) has been active in Shasta County since 1957. It has successfully administered several past contracts through the US Department of the Interior’s Bureau of Reclamation, Bureau of Land Management, and Fish and Wildlife Service and the US Department of Agriculture’s Natural Resources Conservation Service. The partnership for this project is composed of numerous resource agencies, companies, and educational institutions with highly qualified professionals committed to successfully manage and implement the scope of work for this project.

g. Monitoring and Data Evaluation

A comprehensive monitoring program will be developed that focuses on specific indicators of ecosystem health and will be similar and consistent with CALFED’s Monitoring and Assessment Plan.

h. Local Support/Coordination with other Programs/Compatibility with CALFED Objectives.

This initiative builds on the efforts of the Shasta-Tehama Bioregional Council (STBC) and the Northern Sacramento Provincial Advisory Council (PAC) and is compatible with CALFED’s objectives to build watershed stewardship initiatives that are community-based, locally-led partnerships representing a diverse range of interests. The partners for this project are the Western Shasta RCD, the US Department of Agriculture’s Natural Resources Conservation Service and Forest Service, the US Department of the Interior’s Bureau of Land Management, National Park Service, Bureau of Reclamation, and Fish and Wildlife Service, California’s Department of Forestry and Fire Protection and Department of Fish and Game, the Lower Clear Creek CRMP, Shasta County’s Office of Education, Shasta Community College, University of California Cooperative Extension Service, the Watershed Research and Training Center, and a variety of private landowners (e.g., Sierra Pacific Industries).



III. TITLE PAGE

a. Title of Project

***CLEAR CREEK WATERSHED PARTNERSHIP: A Clearer Path to Clean Water
A Local Watershed Stewardship Project for the Upper Clear Creek Watershed***

b. Name of Applicant



Western Shasta Resource Conservation District

Primary Contact: Tom Engstrom, Director and Vice President
3179 Bechelli Lane, Suite #110, Redding, CA 96002-2041
(530) 246-5299, (530) 246-5164 fax

c. Type of Organization and Tax Status

District agency/tax exempt

d. Tax Identification Number and/or Contractor license, as applicable

Not applicable

e. Participants/Collaborators in Implementation/Primary Supporters

US Department of Agriculture

- Natural Resources Conservation Service
- US Forest Service

US Department of the Interior

- Bureau of Land Management
- National Park Service
- Bureau of Reclamation
- Fish and Wildlife Service

State Agencies

- Department of Forestry and Fire Protection
- Department of Fish and Game
- University of California Cooperative Extension Service

Private Sector

- Various private landowners
- Watershed Research and Training Center

Community Groups

- Shasta-Tehama Bioregional Council
- Northern Sacramento Provincial Advisory Council
- Shasta County Office of Education
- Shasta Community College
- Lower Clear Creek CRMP



IV. PROJECT DESCRIPTION

a. Project description and approach

The purpose of the Clear Creek Watershed Partnership (CCWP) is to develop and implement a framework for ecosystem management in the Clear Creek watershed that can serve as a model for other watersheds in the region. This initiative builds on the efforts of the Shasta-Tehama Bioregional Council (STBC) and the Northern Sacramento Provincial Advisory Council (PAC). These groups have been working to fulfill the charter and vision presented in the President's Northwest Forest Plan. The STBC was formed in 1992 to respond to the President's challenge for all parties to come together and fund solutions to forest management. The STBC has a wide diversity of members and includes local, state, and federal agencies, industry and business community representatives, conservation organizations, local elected officials, labor representatives, academics, and the general public. The STBC believes that the resources from this grant are necessary to sustain this collaborative planning process. It is the premise of the CCWP that the objectives of CALFED and the Forest Plan are not only consistent but synergistic. The proposed approach addresses several CALFED Bay-Delta Program ecosystem objectives.

Establish the capacity for the CCWP to provide long-term coordination and community involvement services for the Clear Creek watershed. Effective ecosystem management involves communities but without a coordinating framework and communication and education tools, no initiative will survive long. Through its grant support, CALFED would be investing in an important education process for its affected region and the extension of this message to an important geographic element of the CALFED territory – the upper tributaries. Participation in and support for the framework will extend well beyond CALFED's grant support. The support of public agencies, private organizations, and individual citizens for a coordinated planning process is impressive (e.g., STBC), but further financial support is necessary to realize the full potential of this emerging partnership.

Develop a comprehensive transportation plan that is consistent with ecosystem management principles. The Clear Creek watershed needs a comprehensive transportation plan to evaluate needed road and trail systems and projects that could illustrate restored hydrologic functions. Many roads were built without the benefit of today's engineering standards which can cause serious erosion, sedimentation, and fugitive dust problems. This project will develop methods to evaluate roads and trails for removal and identify sites that can demonstrate state-of-the-art engineering and management practices. In Whiskeytown NRA, for instance, old logging road removal is currently being tested by the National Park Service; grant money could expand this project without additional delay for NEPA compliance documentation.

Develop and begin implementing a comprehensive fire management plan that is consistent with ecosystem management principles.

The most desirable future condition for the upper watersheds is one in which natural systems produce water consistently with minimal erosion, with vital healthy forests, and with enhanced fire protection improvements. Several other resources are directly or indirectly affected by the active management of vegetation in wildland areas of California, including anadromous fish, riparian species, and several wildlife species. Vegetation management in the Clear Creek watershed will help to reverse the trend of accumulation of fuels, to create containment compartments by use of fuelbreaks and firebreaks, and to treat selected vegetation sites through a combination of mechanical, prescribed fire, and hand methods, and to reduce erosion.



Before and after photos of a road restored natural conditions in Whiskey National Recreation Area



Develop necessary tools for conducting ecosystem management across ownership boundaries. Ecosystem management requires certain technical and visualization capabilities to make it viable. Investment in state-of-the-art Geographic Information Systems (GIS) and other data and analysis tools will allow the CCWP to make better ecosystem-wide decisions regarding watershed resource and management options. A unified GIS with verified vegetation layers, soil types, and infrastructure will provide helpful information to design and implement projects.

Develop foundation for conducting research on all elements of ecosystem management. More needs to be known about measuring effects at an ecosystem level and evaluating changes in organizational relationships and operating procedures. Clear Creek watershed provides an ideal location to measure the impact of ecosystem management on the environment and participating organizations. Due to its diversity of ecosystems and landholders, Clear Creek watershed was chosen as the focus for partnership activities by the STBC and the PAC to serve as a test site for ecosystem management options and methodologies, including integrated transportation, fire, and wildlife management plans. The CCWP will develop a framework for a coordinated approach to promote public involvement and education, identify problems, develop collaborative solutions, integrate partner management activities, and provide the foundation for resource management research. This will be done in a manner that will allow the lessons learned to be transferred to other watersheds.

Each task conducted by the CCWP will use an integrated approach for all tasks proposed for this watershed management framework (see text box at right for example). Although the process is based on a Coordinated Resource Management Program (CRMP), the partnership decided not to initiate a CRMP because the early organization efforts of the STBC and PAC (charter development, mission statement, and operating rules) have already been completed and are consistent with a CRMP. Membership in the partnership remains open to all interested parties. One objective of this project is to expand the membership of the partnership and to increase the organizational capability of the CCWP to develop and act on member recommendations. The partnership will develop a long-term watershed management framework that includes a Watershed Coordinator, Watershed Partnership Support Team (WPST), and a Steering Team. Working together, these components will develop specific project recommendations for approval and funding by the Western Shasta RCD.

Clear Creek has been divided into upper and lower watersheds, separated by the Whiskeytown Dam, for planning purposes. Lower Clear Creek has completed watershed analysis and has begun salmon restoration projects, a fire fuels inventory with a fire management plan, and erosion and restoration analysis. The Lower Clear Creek activities were completed as part of a CRMP. The upper watershed has a jointly funded watershed analysis in progress with completion scheduled for December 1998. The watershed analyses will provide much of the necessary information and background for ecosystem management.

Integrating Project Elements: An Example

The following approach to a Regional Transportation Plan illustrates the multiple benefits of integrating project elements:

- Western Shasta RCD sponsors forums where public and private land holders identify priority transportation network improvements for the watershed;
- Resource management agencies and private landholders commit resources to the project sites that are targeted through the resource management roundtable forum;
- The educational organization partners conduct school and field workshops where participants learn more about potential road impacts on hydrology and specific BMPs to mitigate impacts; and
- Partner organizations collaborate to gather and share information for research and analysis tasks to evaluate the effects of ecosystem management on ecosystem elements such as improved water yield and water quality.

b. Proposed Scope of Work.

TASK 1: WATERSHED RESTORATION PROJECT MANAGEMENT.

Financial Management, Contracting, and Quality Assurance: Western Shasta RCD will have responsibility for managing grant resources and ensuring that tasks are completed on schedule and projects meet quality standards. The RCD will administer all subcontracts with partnership organizations and for other services and materials as the project requires. The RCD and designated resource professionals will be responsible for providing project management oversight to ensure that all activities are undertaken in accordance with established standards.

Project Reporting: The partnership will provide several levels of communication including quarterly project effectiveness reports and annual evaluations including monitoring data.

Stakeholder and Partnership Meetings: Various partners will use their staff and facilities to handle scheduling and logistics for partnership and public stakeholder meetings.

TASK 2: COMMUNITY EDUCATION AND INVOLVEMENT. Task 2 will create a long-term management framework for Clear Creek that will endure well beyond direct grant support and will provide the necessary documentation for transferring lessons learned to other locations.

Task 2.1. Community Involvement Capacity Building. The RCD will use grant funds to support a **Watershed Coordinator** to facilitate the development of the framework, build community support, and direct project work. This professional position will be filled by someone with a natural resources background and experience in collaboration and consensus building and multi-ecosystem project implementation. Potential candidates will be drawn from a variety of sources, including the possibility of having a federal agency detail an interested and qualified employee. A portion of the coordinator's efforts will be spent on leveraging CALFED's participation with other funding sources. The partnership group has proposed the following organization for the framework:

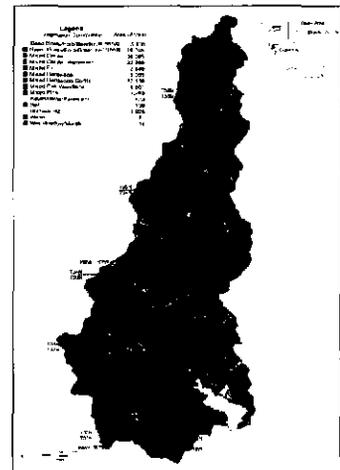
- **Watershed Partnership Steering Team** comprised of private landowners, public landholders, and other interested stakeholders to provide direction and recommendations to the Watershed Coordinator. The steering team will use a CRMP format. Activities receiving Steering Team approval would then be submitted to the RCD Board for final approval and allocation of grant resources to a particular activity.
- **Watershed Partnership Support Team (WPST)** composed of agency and industry executives, landowners, and members of other organizations (e.g., PAC) needed to provide the necessary support to implement recommendations.

The Watershed Coordinator will chair the steering team and facilitate the WPST. The RCD board will retain ultimate decision-making authority for undertaking projects, with the support team's recommendations playing a large role in project scope, timing, and implementation.

Task 2.2. Workshops, Educational Curricula, and Public Involvement Events. The CCWP educational capabilities includes resource specialists/experts employed by public and private resource management agencies and companies and schools within the watershed (i.e., Grant, Igo, French Gulch, and Shasta; Shasta Community College; Whiskeytown Environmental School; UC Cooperative Extension). The project will build upon existing environmental education programs to focus this curricula on Clear Creek watershed's resources, impacts of human activities, and the roles that students, teachers, watershed landowners, and the general public can play in creating and maintaining a healthy watershed. Project education and public involvement activities will include:

- School workshops on watershed resources, issues, and proposed activities;
- Field workshops to demonstrate and discuss those activities;
- Development of curriculum and teacher training in Project Learning Tree, Project Wild, Project WET, Adopt-a-Watershed, and the goals and activities of the CALFED Clear Creek Project.

Task 2.3. Communication Tools/Community Awareness. The CCWP will develop several communication tools to build community awareness. These tools will include a quarterly **newsletter** that reports on partnership activities and provides a forum for community discussion of watershed issues and a **website** that will provide information about conditions and activities within the watershed. Websites have proven to be an effective educational tool and communication device in rural areas. These tools will help partners to depict how management plans affect the landscape and visualize and communicate these changes in an easily understandable manner to the general public.



The Upper Clear Creek Watershed Analysis currently underway includes vegetation analysis.

TASK 3: PUBLIC/PRIVATE INTEGRATED RESOURCE MANAGEMENT

PROJECTS. Task 3's strategy is to continue planning for ecosystem management across ownership boundaries in the watershed while still moving forward with a series of projects to achieve management objectives in each category. This is possible because the CCWP has completed a Watershed Analysis for Lower Clear Creek and will have completed the Analysis for Upper Clear Creek by December 1998. Planning for overall ecosystem

elements and individual projects is part of the roundtable forums discussed in Task 2. Project monitoring will be addressed in the strategic monitoring plan developed in Task 4.

Task 3.1. Fuel Reduction and Strategic Fire Planning. A catastrophic fire in the watershed will have significant negative impacts on stream and fish restoration and water storage capacity. A USDA-NRCS study estimates a large wildfire followed by an average rainfall year will cause a minimum of 20,000 tons of sediment above background levels to Clear Creek, jeopardizing spring-run chinook salmon and steelhead trout restoration efforts. The CDF, the agency with fire protection responsibility for a majority of Clear Creek, will work with the RCD and the WPST to plan and implement a minimum of five field projects of various scales within the watershed, including a watershed Strategic Wildfire Defense Plan, a fuel break plan for the upper and lower watershed, and a fuel inventory for the upper watershed to complement an existing inventory in the lower watershed.

Task 3.2. Vegetation Management. Vegetation management and fuels reduction projects of various types on public and private land would change or break up decadent vegetation types that have high dead fuel to live fuel ratios and create vegetation mosaics of varying ages. The goal is to avoid a large stand replacement-type wildfire over a large portion of the watershed in one season. Targeted priority treatment areas for roadside hazard reduction/fuelbreaks include Lower Muletown Road Fuelbreak near Whiskeytown NRA, along Placer Road through the Clear Creek Canyon to Cloverdale Road (most major fires on the fire history map occurred here), along Zogg Mine Road (an area of numerous rural residential structures and ranches located in heavy wildland fuel areas), and Grouse Mountain Fuelbreak, the major ridge west of Zogg Mine Road over Grouse Mountain (strategically important for fire control because it is the first major ridge in that area). Landowner interest and concern will first be determined by resource agency staff.



Roadside fuel reduction before and after treatment. Thick manzanita brush and oaks have been thinned and spaced out and ground fuels have been removed.



Task 3.3. Transportation Plan Development. A comprehensive transportation plan will be developed in conjunction with the strategic fire plan. Agencies and private landholders will use roundtables and forums sponsored by the RCD as the mechanism for coordinated planning. The CCWP will use the GIS visualization tools in the planning process.

Task 3.4. Erosion and Sediment Control. The RCD has completed an erosion inventory in the lower watershed, and the CCWP has identified six projects ready to implement erosion control work. In the upper watershed, the WPST will address erosion issues using the Upper Clear Creek Watershed Analysis project list. Monitoring will be a component of the work. Project objectives include completion of an erosion inventory of the upper watershed to complement the Lower Clear Creek Erosion Inventory (which identified over 440 erosion sites delivering sediment to Clear Creek). The proposed inventory would determine the scope and sources of sediment in the upper watershed and will include a master transportation plan to identify road use patterns and opportunities for decommissioning or repair.

TASK 4: ECOSYSTEM MANAGEMENT EVALUATION RESEARCH (MONITORING AND ADAPTIVE MANAGEMENT)

Task 4 will provide information for adaptive management and information regarding the effects of ecosystem management within the watershed. The strategic monitoring plan developed will provide direction for monitoring individual projects and also will provide the basis to evaluate ecosystem level effects of the overall management program across ownership boundaries. The monitoring program will give the CCWP the capability, after sufficient data has been collected, to describe ecosystem conditions within the watershed and to evaluate the results of ecosystem management. Task 4 also includes funding to assess the feasibility of restoring gravel to the stream channel below Whiskeytown Dam.

Task 4.1. Develop and Implement Strategic Monitoring Plan for Clear Creek Watershed. Monitoring will be conducted to ensure that the measures, as applied in the watershed, were effective in their application and achieved their intended purpose, documenting what worked well and what did not. The results will be used to correct problems, trigger maintenance or upgrades, and document results for tasks of a similar nature in the Clear Creek and other watersheds. Qualitative monitoring will establish photo points and test for long-term visual evidence of project

implementation and effectiveness. Results will be documented in an annual report. Needed changes in management will be implemented when monitoring results are first obtained. Quantitative monitoring will be done to provide measures of effectiveness appropriate to the type of management treatment applied. The CCWP Steering Team will be consulted to determine a common set of indicators for the monitoring program. To gain a watershed-wide perspective, in-stream monitoring will be conducted to provide measures of effectiveness as expressed in stream channel parameters (flow, sediment load, etc.). No monitoring will be undertaken before a comprehensive monitoring plan is developed, including the questions to be answered by monitoring, specific objectives, methods of data collection, specific data analysis methods, format for documenting results, and possible follow-up actions dependent on the results of the monitoring efforts.



A study would determine the feasibility of transporting gravel trapped behind Whiskeytown Dam into lower channels.

Task 4.2. Demonstration Project: Trans-Dam Gravel Transport. The Shasta-Tehama Bioregional Council recommends funding of a study to determine the feasibility of transporting gravel trapped behind Whiskeytown Dam over the dam and into the lower channel. This proposal would fund a study of the amount, sizing, and logistics of a trans-dam gravel transport strategy. If the study shows the project is feasible, a future grant proposal will be submitted to carry out the gravel transport.

c. Location, geographic boundaries of the Project

The Clear Creek watershed is a sub-watershed of the Sacramento River system. The rugged 150,000 acre (approximately 238 square miles) Clear Creek watershed ranges in elevation from 550' to 6,200' elevation. The upper part of the watershed forms in the Trinity Mountains, flows in various streams into Whiskeytown Reservoir, and then into the lower watershed below Whiskeytown Dam and finally empties into the Sacramento River just south of the City of Redding. The watershed supports hydropower facilities, water uses, wildlife, fisheries, timber industry, and recreation. The City of Redding, Redding Indian Rancheria, and suburban county lands are in the lower watershed near the confluence with the Sacramento River. The BLM, as part of its Resource Area Management Plan, is consolidating lands in this area. The rural residential community of French Gulch, and the National Park Service Whiskeytown NRA, and other rural county lands are located in the middle region of the watershed. The upper watershed includes Shasta National Forest land, BLM land, and Sierra Pacific and other private timberlands. A portion of a Late Seral Reserve that is regenerating old growth habitat is at the top of the watershed. Extensive mining and logging has been conducted in the watershed since the 1850s. Lower elevation vegetation types include grasslands, blue-valley interior live oak woodlands, bull pine – knob cone pine- oak forests, chamise – manzanita – oak chaparral and cottonwood – willow riparian zones. The middle section intergrades with these and adds ponderosa pine, douglas fir forests, and canyon live oak. The riparian zone in the middle section also includes big leaf maple – alder. The uplands include white fir, sugar pine, and incense cedar to form the mixed coniferous and pine forests of the watershed.

d. Expected benefits

The primary stressors to be addressed by the CCWP are common to the Sacramento River and tributaries from over 150 years of impacts from human use. They include advanced erosion processes due to past timber harvest activities, the accompanying transportation corridors, and catastrophic fire from outdated fuel management practices. Unacceptable rates of erosion have resulted in the loss of riparian habitat and stream channel degradation. These stressors and the loss of habitat have impacted priority species (primary: Sacramento late fall-run chinook salmon, steelhead; secondary: Neotropical migratory birds). Sediment has decreased the suitability of spawning gravels in lower Clear Creek. The accumulation of fuels and the lack of an integrated fire plan significantly increase the possibility of a catastrophic fire that could result in a massive increase in erosion to streams. Many of the roads and railways were constructed without BMPs, and they serve to focus runoff leading to the creation of gullies and mass wasting events.

This project has three primary benefits in addressing this suite of stressors:

- The development of comprehensive ecosystem management plans for fuels and transportation;

- Implementation on several integrated resource management projects to reduce fire risk and repair impaired roads and dismantle unneeded roadways;
- Development of a coordination framework for long-term integration of management activities across ownership boundaries.

The applicants believe that there is significant value in maintaining ecological functions in the upper tributaries of the CALFED area. The salmon, steelhead trout, and other native trout of the upper tributaries are ecologically and economically important to the Sacramento River Watershed Area. The role of upper tributary habitats to Neotropical species has not been quantified but is widely believed to have an important role in sustaining their populations.

Improving the hydrological regime in the watershed also will benefit the CALFED program. Above Whiskeytown Dam improved road conditions and vegetation management will reduce the amount of sediment filling in the reservoir. Lower peak flows and a more sustained runoff period provides increased flexibility to dam operations. Below the dam improved runoff characteristics also could help relieve the dam of maintaining adequate habitat flows.

e. Background and ecological/biological/technical justification

Public agencies, private organizations, and citizens have been working together within the Clear Creek watershed to develop the capability to undertake ecosystem management. Public agencies have contributed over \$100,000 to the development of two Watershed Analyses for Upper and Lower Clear Creek to provide an information baseline for ecosystem management. The projects and needs in the following table were identified through these Watershed Analyses. A primary need within the North Sacramento Ecological Zone is an effective framework for coordinating public/private partnerships and linking agency actions. Currently coordination and public involvement are done on an ad hoc basis. The capacity of individual agencies and organizations for outreach and involvement is limited. It is the objective of the partnership to establish a long-term framework for coordination among local communities and state and federal agencies within the region. Clear Creek is identified as an Ecological Unit within the North Sacramento Valley Ecological Zone. The table below summarizes the specific linkages of the project to CALFED objectives.

Clear Creek Project Need/Task	CALFED Vision Category	Specific Vision Element	Volume / page #
Development of comprehensive transportation plan across ownership boundaries; Development of comprehensive fire management plan across ownership boundaries; Watershed management / public involvement framework to implement ecosystem management.	Ecological Process Visions	Upper Watershed Processes – Fire and Erosion	Vol. I, pp. 17, 18, 19
Road decommissioning; road drainage control; pull culverts; stabilize streambanks; wetlands and wet meadow restoration; riparian planting; skid trail drainage control; gradient control structures; vegetation management; fuel loads surveys; firebreak construction; gravel bypass pilot project.	Habitat Visions	Riparian and Riverine Aquatic Habitats	Vol. I, pp. 78, 79
Stabilize streambanks; Riparian planting; Gradient control structures—restore/protect fall-run chinook salmon, steelhead, native trout refuge habitat. Riparian habitat for Neotropical migratory bird guild. Fire and vegetation management of LSRs for spotted owl.	Species and Species Group Visions	Resident fish species; Neotropical Migratory Bird Guild	Vol. I, pp. 122-132
Restore sustainable sediment transport and gravel recruitment in stream channel, and establish a clearly defined stream meander zone, and riparian and riverine aquatic plant communities.	Ecological Zone Vision	Clear Creek Ecological Unit	Vol. II, pp. 175, 176

f. Monitoring and data evaluation

Determining the long-term impact of the project will require protracted monitoring. This commitment is an important and integral element of the project and is critical to drawing any meaningful conclusions from the work conducted.

g. Implementability

Upon notification of project funding, the partners are ready to proceed with the project. All contractual and administrative functions, staff, and capabilities are in place and ready to begin the project on the proposed start date. The individuals involved in performing the specified tasks have committed their time and have the experience and resources to begin work. Some of the projects will be covered by existing environmental compliance documents.

V. COST AND SCHEDULE

a. Clear Creek Watershed Partnership Project Project Budget Year 1 (See Budget Justification for Years 2 and 3)

Project Phase and Task	Labor Hours	Salary and Benefits	Overhead Labor	Service Contracts	Material & Acq.	Misc. & other costs	Totals
Task 1: Project Planning and Management							
WSRCD	416	\$ 8,100	\$ 2,565	\$ 5,000		\$ 1,500	\$ 17,165
TASK 1 SUBTOTAL	416	\$ 8,100	\$ 2,565	\$ 5,000		\$ 1,500	\$ 17,165
Task 2: Community Education and Involvement							
<i>Task 2.1 Community Involvement Capacity Building</i>							
WSRCD	480	\$ 13,500	\$ 3,750	\$ 5,000		\$ 1,500	\$ 23,750
TASK 2.1 SUBTOTAL	480	\$ 13,500	\$ 3,750	\$ 5,000		\$ 1,500	\$ 23,750
<i>Task 2.2 Workshops, Curricula, Public Involvement</i>							
WSRCD	96	\$ 2,700				\$ 250	\$ 2,950
Whiskeytown Environmental School	1440	\$ 44,100	\$ 4,347	\$ 1,000	\$ 2,200	\$ 1,000	\$ 52,647
TASK 2.2 SUBTOTAL	1536	\$ 46,800	\$ 4,347	\$ 1,000	\$ 2,200	\$ 1,250	\$ 55,597
<i>Task 2.3 Community Awareness/Communication Tools</i>							
WSRCD	96	\$ 2,700	\$ 19,854	\$ 125,000		\$ 250	\$ 147,804
Whiskeytown Environmental School	480	\$ 14,700	\$ 1,346			\$ 4,660	\$ 20,706
TASK 2.3 SUBTOTAL	576	\$ 17,400	\$ 21,200	\$ 125,000		\$ 4,910	\$ 168,510
TASK 2 SUBTOTAL	2592	\$ 77,700	\$ 29,297	\$ 131,000	\$ 2,200	\$ 7,660	\$ 247,857
Task 3: Integrated Resource Mgmt. Projects							
<i>Task 3.1 Fuel Reduction and Strategic Fire Planning</i>							
WSRCD	192	\$ 5,400		\$ 25,000	\$ 3,000	\$ 1,000	\$ 34,400
USFS	226	\$ 8,000	\$ 1,086			\$ 350	\$ 9,436
TASK 3.1 SUBTOTAL	418	\$ 13,400	\$ 1,086	\$ 25,000	\$ 3,000	\$ 1,350	\$ 43,836
<i>Task 3.2 Vegetation Management</i>							
WSRCD (QA addressed in Task 1)							
USFS	1073	\$ 19,000	\$ 2,535	\$ 49,875	\$ 9,500	\$ 500	\$ 71,910
TASK 3.2 SUBTOTAL	1073	\$ 19,000	\$ 2,535	\$ 72,875	\$ 9,500	\$ 4,900	\$ 108,810
<i>Task 3.3 Regional Transportation Plan</i>							
WSRCD	192	\$ 5,400	\$ 3,278	\$ 15,000		\$ 750	\$ 24,428
USFS	99	\$ 3,500	\$ 501			\$ 350	\$ 4,351
TASK 3.3 SUBTOTAL	291	\$ 8,900	\$ 3,778	\$ 15,000		\$ 1,100	\$ 28,778
<i>Task 3.4 Erosion and Sediment Control Projects</i>							
WSRCD (QA addressed in Task 1)							
USFS	99	\$ 3,500	\$ 501	\$ 12,500	\$ 3,000	\$ 350	\$ 16,851
TASK 3.4 SUBTOTAL	99	\$ 3,500	\$ 501	\$ 48,500	\$ 3,000	\$ 2,350	\$ 57,851
TASK 3 SUBTOTAL	1881	\$ 44,800	\$ 7,899	\$ 161,375	\$ 15,500	\$ 9,700	\$ 239,274
Task 4: Ecosystem Mgmt. Evaluation Research							
<i>Task 4.1 Strategic Monitoring</i>							
WSRCD	192	\$ 5,400	\$ 3,810	\$ 10,000	\$ 5,000	\$ 2,500	\$ 26,710
USFS	273	\$ 12,250	\$ 2,048		\$ 3,000	\$ 500	\$ 17,798
Task 4.1 SUBTOTAL	465	\$ 17,650	\$ 5,858	\$ 10,000	\$ 8,000	\$ 3,000	\$ 44,508
<i>Task 4.2 Project Effectiveness Monitoring</i>							
WSRCD	96	\$ 2,700	\$ 1,530		\$ 2,500	\$ 4,000	\$ 10,730
USFS	273	\$ 24,500	\$ 3,965		\$ 6,000		\$ 34,465
Task 4.2 SUBTOTAL	369	\$ 27,200	\$ 5,495		\$ 8,500	\$ 4,000	\$ 45,195
<i>Task 4.3 Demonstration Proj.: Trans-Dam Gravel Transport</i>							
WSRCD	96	\$ 2,700	\$ 1,178	\$ 10,000		\$ 150	\$ 14,028
USFS							
Task 4.3 SUBTOTAL	\$ 96	\$ 2,700	\$ 1,178	\$ 10,000		\$ 150	\$ 14,028
TASK 4 SUBTOTAL	930	\$ 47,550	\$ 12,530	\$ 20,000	\$ 16,500	\$ 7,150	\$ 103,730
Project Totals YEAR 1							\$ 608,026

THREE-YEAR TOTAL: \$1,487,898

The Clear Creek Watershed Partnership represents a substantial investment by CALFED in the upper tributaries of the Sacramento River. However, the capability and commitment of the Clear Creek Watershed Partnership are unequaled. The budget does not show the level of effort and commitment of resources to date from the members of the partnership. One example of this commitment includes the expenditure of over \$100,000 for an integrated watershed analysis for the Clear Creek watershed. Each task identified in the proposal is leveraged with in-kind services or funding from public and private organizations in the watershed. It is this commitment to ecosystem management that will enable the partnership to put together a truly distinctive series of products, including on-the-ground solutions to and examples for other watersheds. The proposed funding serves as a

necessary catalyst within Clear Creek for ecosystem management. The funding provides for a watershed coordinator, a position determined through experience to be critical to the success of watershed initiatives. The grant also will provide funding for a teaching and communication specialist who can inform local residents about opportunities to participate and extend the lessons learned statewide. The GIS visualization system is essential not only to community awareness but also to the development and implementation of comprehensive environmental management strategies. Without the capability to bring in outside contractors with specialized expertise, many of the projects identified in the Watershed Analyses will not be done, and environmental degradation, which has occurred over the past 150 years, could continue to accumulate.

The budget for Year 2 and Year 3 for the proposal are the same as for Year 1, with the following exceptions: The budget request for Whiskeytown Environmental School declines by 50% in Year 2 and is reduced by 75% in Year 3. This represents a commitment of the CCWP to establish a long-term local funding base for the education component of the partnership. The \$125,000 requested to support the development of the GIS visualization component is not repeated in Years 2 and 3. The GIS system will be completed in Year 1, and operation expenses will be covered through in-kind contributions from CCWP organizations.

The CCWP asks CALFED to consider the efficiencies of fully funding the three-year term of the project. This will enable the CCWP to focus its energies on the work at hand within Clear Creek watershed rather than on continuing to search for the necessary resources.

b. Project Schedule Milestones

Project Schedule for Year 1. (Assuming funding decision by October 1998)

	Start	Complete
Task 1. Project Planning and Management		
Project Reporting	Quarterly	
Financial Management	Continuous	
Quality Assurance	Continuous	
Contracting	As necessary	
Task 2. Community Education and Involvement		
Convene first CCWP community meeting	October 1998	Periodic
Organize steering and support teams	October 1998	Quarterly
Newsletter	April 1999	Biannual
Website operational	April 1999	Regular updates
Develop curricula	February 1999	
Public/School Workshops (10) begin	March 1999	As scheduled
GIS visualization system	November 1998	June 1999
Task 3. Integrate Resource Management Projects		
Regional fire plan roundtable/public workshop	February 1999	
Regional transportation plan roundtable/public workshop	February 1999	
Fuel management projects (6)	April 1999	November 1999
Erosion control projects (5)	April 1999	November 1999
Clear Creek Regional Fire Plan Report		October 1999
Clear Creek Regional Transportation Plan Report	October 1999	
Task 4. Ecosystem Management Evaluation Research		
Strategic Monitoring Plan	October 1998	March 1999
Project Effectiveness Monitoring Guidance	October 1998	April 1999
Adaptive Management Assessment: Environmental	June 1999	August 1999
Adaptive Management Assessment: Watershed Framework	June 1999	August 1999
Trans-Dam Gravel Transport Scoping Document	January 1999	March 1999
Trans-Dam Gravel Transport Pilot Transfer	April 1999	

c. Third Party Impacts

No third party impacts are anticipated because the project will involve voluntary agreement with any affected party. However, this project provides forums and roundtables with a variety of organizations and individuals representing diverse interests to identify potential conflicts from restoration actions and to either avoid or reconcile them.

VI. APPLICANT QUALIFICATIONS

This initiative builds on the efforts of the Shasta-Tehama Bioregional Council (STBC) and the Northern Sacramento Provincial Advisory Council (PAC) and is compatible with CALFED's objectives to build watershed stewardship initiatives that are community-based, locally-led partnerships representing a diverse range of interests. The partners for this project are the Western Shasta RCD, the US Department of Agriculture's Natural Resources Conservation Service, the US Department of the Interior's Bureau of Land Management, National Park Service, Bureau of Reclamation, and Fish and Wildlife Service, California's Department of Forestry and Fire Protection and Department of Fish and Game, The Lower Clear Creek CRMP, Shasta County's Office of Education, Shasta Community College, University of California Cooperative Extension Service, the Watershed Research and Training Center, and a variety of private landowners.

Following are brief descriptions of the applicant and other partner organizations participating directly in the project and biosketches of the key individuals who will be providing technical, administrative, and project management expertise to ensure its continuing success.

WESTERN SHASTA RESOURCE CONSERVATION DISTRICT. Formed in 1957, the Western Shasta Resource Conservation District (RCD) is active in the rural areas of Shasta County. Governed by a volunteer board of directors, the RCD's latest efforts have been focused on Clear Creek. It has successfully administered several past contracts through the US Department of the Interior's Bureau of Reclamation, Bureau of Land Management, Fish and Wildlife Service, and the US Department of Agriculture's Natural Resources Conservation Service. The work funded by these contracts has been instrumental in helping to restore anadromous fish in tributaries of the Sacramento River. The RCD also is active in fuels reduction planning in cooperation with the California Department of Forestry and Fire Protection. In addition, the RCD has performed additional conservation work in Shasta County in cooperation with Pacific Gas & Electric Company, the California Department of Transportation, and private landowners. Key RCD staff for this project include:

Tom Engstrom, Director and Vice President. Mr. Engstrom is a professional forester with 22 years of experience in natural resource management specializing in vegetation inventories. He is active in community consensus building by volunteering time to the Society of American Foresters (past chapter chair), California Native Plant Society (past chapter president), Bureau of Land Management Northwest California Resource Advisory Committee (member), and Shasta-Tehama Bioregional Council (member).

Jeff Souza, Project Coordinator. Mr. Souza has been managing the RCD's operations for three years. He has successfully completed numerous conservation projects in Shasta County, including stream gravel replacement, erosion inventory and control, CRMP coordination, and fuelbreak construction.

SHASTA-TEHAMA BIOREGIONAL COUNCIL. The STBC was formed in 1992 to respond to the President's challenge for all parties to come together and fund solutions to forest management. The STBC has a wide diversity of members and includes local, state, and federal agencies, industry and business community representatives, conservation organizations, local elected officials, labor representatives, academics, and the general public. Key STBC staff include:

Carl Weidert, Practical Field Biologist/Ecologist. Carl Weidert has a BA and an MA in biology. He has been active in conservation activities and has helped produce a conservation alternative used in the Draft Shasta-Trinity National Forest Plan. He helped found the Shasta-Tehama Bioregional Council. He is currently studying how to implement landscape management for ecosystems.

SHASTA COUNTY OFFICE OF EDUCATION. The education and community involvement aspects of this project will be staffed primarily through the Shasta County Office of Education, Whiskeytown Environmental School (SCOE/WES). SCOE provides administrative guidance for 27 school districts in the county. It has provided leadership in environmental stewardship and public education through its sponsorship of the WES program (serving 3,100 students) and cosponsorships of the California Regional Environmental Education Coordinator Network (serving nine northeastern California counties), the Watershed Project (serving 105 teachers and 2,600 students), and Project FIT (serving 140 teachers). SCOE also cosponsors environmental education programs with the Science in Rural California Project and the California Science Project. Key staff of the SCOE include:

Heide Hatcher, WES Principal. Ms. Hatcher has been the director of environmental education programs since 1988. She hires, trains, and supervises camp counselors and staff, develops new environmental education curriculum, and provides guidance to participating teachers. She is responsible for environmental education for teachers within Shasta County and for facilitating environmental education and science workshops throughout Northern California.

David Klasson, 1994-1998 Regional Projects Coordinator. Mr. Klasson has been coordinating the Watershed Project, California Regional Environmental Education Coordinator Network, for the past four years. He was a superintendent and principal of Whitmore Union Elementary School District, Whitmore, California, for sixteen years.

UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION SERVICE (UCCES). The UCCES has farm advisor offices in 51 counties in California and has programs in forestry, range management, 4H youth programs, integrated pest management, and agricultural commodity programs. Key UCCES staff include:

Gary Nakamura, Area Forestry Specialist. Mr. Nakamura has been specializing in area forestry for the past 18 years. He develops and conducts a forest/natural resource management extension program for nonindustrial forest landowners; a continuing professional education program for professional foresters; and a K-12 school, teacher, and general public education program on forest management.

SIERRA PACIFIC INDUSTRIES (SPI). A family-owned corporation, SPI is the largest private landowner in Clear Creek. It is cooperating with the other landowners (government and private) to complete a watershed analysis and is represented on the NW Sacramento Provincial Advisory Committee. Key SPI staff include:

Edward Murphy, Inventory Forester. Mr. Murphy is the inventory forester for SPI based in Anderson. A professional forester, he has worked for over 20 years developing mapping and inventory systems.

OTHER KEY STAFF:

David M. Soho, Deputy Chief, Resource Management, Shasta-Trinity Ranger Unit, California Department of Forestry. Mr. Soho has 28 years experience with forest resource management, fire protection, fire prevention, and community fire safe programs with emphasis on community coordination for conservation. Mr. Soho was past Chairman of San Mateo County FIRE SAFE Program from 1989 to 1996 and is a Registered Professional Forester. He has been involved as a grant seeker for CDF Shasta-Trinity Ranger Unit and conservation organizations in Shasta County, successfully obtaining funding for community fire safe projects.

Bob Bailey, District Conservationist for the USDA NRCS. Mr. Bailey has been involved with erosion control and conservation work for over 10 years. He has conducted workshops and tours, has prepared brochures, and was responsible for other community education efforts. He has worked with landowners and other agencies to correct erosion problems and to restore wetlands.

Darrell Ranken, Hydrologist, US Forest Service, Shasta-Trinity National Forest. Mr. Ranken has 24 years experience as a professional hydrologist and has worked on the Shasta-Trinity National Forest for 21 years. He has a BS in Forest Management from Southern Illinois University and an MS in Forest Hydrology from Oregon State University.

VII. COMPLIANCE WITH TERMS AND CONDITIONS

The terms and conditions specified in the Request for Proposals are agreeable and will be complied with by the applicant. The applicant has successfully administered grant funds in the past and has an established record of compliance with their requirements. The applicant also is willing and capable of complying with all standard terms and conditions with regard to funding by the US EPA, National Fish and Wildlife Foundation, or other federal government entities.