

G1006



Attachment II
COVER SHEET (PAGE 1 OF 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Proposal Title: Upper Sacramento Tributaries Watershed Restoration Partnership
Applicant Name: US Forest Service, Shasta-Trinity National Forest
Mailing Address: 2400 Washington Avenue, Redding, CA 96001
Telephone: (530) 964-2184
Fax: (530) 964-2938

Amount of funding requested: \$ 397,356 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.

- | | |
|---|---|
| <input type="checkbox"/> Fish Passage Assessment | <input type="checkbox"/> Fish Passage Improvements |
| <input type="checkbox"/> Floodplain and Habitat Restoration | <input type="checkbox"/> Gravel Restoration |
| <input type="checkbox"/> Fish Harvest | <input type="checkbox"/> Species Life History Studies |
| <input checked="" type="checkbox"/> Watershed Planning/Implementation | <input type="checkbox"/> Education |
| <input type="checkbox"/> Fish Screen Evaluations – Alternatives and Biological Priorities | |

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

- | | |
|---|--|
| <input type="checkbox"/> Sacramento River Mainstem | <input checked="" type="checkbox"/> Sacramento Tributary: <i>Western tributaries of the Upper Sacramento River</i> |
| <input type="checkbox"/> Delta | <input type="checkbox"/> East Side Delta Tributary: |
| <input type="checkbox"/> Suisun Marsh and Bay | <input type="checkbox"/> San Joaquin Tributary: |
| <input type="checkbox"/> San Joaquin River Mainstem | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Landscape (entire Bay-Delta watershed) | <input type="checkbox"/> North Bay: |

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

- | | |
|--|--|
| <input type="checkbox"/> San Joaquin and East-side Delta tributaries fall-run chinook salmon | <input type="checkbox"/> Spring-run chinook salmon |
| <input type="checkbox"/> Winter-run chinook salmon | <input type="checkbox"/> Fall-run chinook salmon |
| <input type="checkbox"/> Late-fall run chinook salmon | <input type="checkbox"/> Longfin smelt |
| <input type="checkbox"/> Delta smelt | <input type="checkbox"/> Steelhead trout |
| <input type="checkbox"/> Splittail | <input type="checkbox"/> Striped bass |
| <input type="checkbox"/> Green sturgeon | |
| <input checked="" type="checkbox"/> Migratory birds | |

* *other rare species of note addressed in the proposal are native trout strains and the Port Orford cedar.*





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 checked="" type="checkbox"/> Federal agency |
| <input type="checkbox"/> Public/Non-profit joint venture | <input type="checkbox"/> Non-profit |
| <input 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 type="checkbox"/> Planning | <input checked="" 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.

Kathleen A. Jordan
(Signature of Applicant)

26 Jun 1998

for **J. Sharon Heywood**
Forest Supervisor
US Forest Service
Shasta Trinity National Forest



**Proposal for
CALFED Bay Delta Program ERPP Grant**

II. EXECUTIVE SUMMARY

a. Project Title and Applicant Name



**UPPER SACRAMENTO TRIBUTARIES
WATERSHED RESTORATION PARTNERSHIP**
*A Local Watershed Stewardship Project for the Western Tributaries of
the Upper Sacramento River in Shasta County*



US Forest Service, Shasta-Trinity National Forest

b. Project Description and Primary Biological/Ecological Objectives

The central objective of the Partnership is to protect, restore, and enhance the environment and extend those benefits throughout the community and the Bay-Delta ecosystem. Watershed restoration will be leveraged not only to improve ecosystem health, but economic health and community involvement. First, restoration projects will protect and enhance water quality and reliability, restore riparian habitats, and improve the health of aquatic, avian, and terrestrial animal and plant populations. Second, the projects themselves represent an opportunity to provide economic benefits to the community through training and education of future natural resource professionals. Third, the restoration activities provide an opportunity to increase public and community participation and knowledge of the watershed and its processes, instilling an ethic and enthusiasm for long-term watershed stewardship.



c. Approach/Tasks/Schedule

This watershed restoration program addresses watershed health, economic and educational opportunities, and public/community involvement. The partnership is a community-based, collaborative effort to blend habitat restoration with community outreach and education and to train local workers in ecosystem management.

The Forest Service, the Northern California Ecosystem Training Center (NorCET), and the Upper Sacramento River Exchange form a core team whose goal is to bring together essential interests and capabilities for ecosystem management in this region. The partnership has been working toward the following goals since 1996 to expedite the restoration of the upper Sacramento River Watersheds:

1. Implementing priority habitat restoration projects recommended by a Watershed Improvement Needs (WIN) Inventory completed in 1997 by NorCET in collaboration with the Forest Service. This analytical inventory has identified restoration activities that hold the greatest potential for protecting aquatic and terrestrial habitat, restoring riparian corridors and in-stream habitat complexity, protecting watershed integrity and water quality, improving aquatic and wildlife habitat and the ecological functioning of the watersheds, and repairing aggravated damage from past flood events.
2. Providing valuable educational and training opportunities through NorCET curricula to individuals seeking to make a career out of ecosystem and natural resources management.
3. Incorporating restoration activities into ongoing River Exchange community education and participation programs to involve the local community in accomplishing and monitoring restoration projects.



d. Justification for Project and Funding by CALFED

The greatest environmental benefits can be attained and habitats and species important to the health of the Bay-Delta system can be restored by working at the watershed level. The proposed project will directly and indirectly address CALFED's objectives for improving and increasing aquatic and terrestrial habitats and improving ecological functions and will improve stewardship of the upper watersheds that affect the Bay-Delta system. Of note is the role the Upper Sacramento River as a vital refuge for native trout species decimated by the 1991 toxic pesticide spill at Cantara Loop, and as critical habitat for a range of resident and migratory landbird species, including sensitive riparian specialists.

e. Budget Costs and Third Party Impacts

Funding in the amount of \$397,356 is requested 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. However, this project also includes useful forums in which potential conflicts from restoration actions can be identified and any adverse third party impacts can be either avoided or reconciled.

f. Applicant Qualifications

Project management and coordination will be the responsibility of the Forest Service, Shasta-Trinity National Forest. The Forest Service has extensive experience managing and restoring habitats and ecosystems and has the administrative and natural resource staff and experience to oversee and contribute to the project. NorCET is an established ecosystem management training institution and the River Exchange is an exemplary watershed educational and public outreach organization.

g. Monitoring and Data Evaluation

The partnership has carefully selected measures of success (indicators) for each project objective and has developed a program of baseline and post-implementation monitoring to support the project. A comprehensive monitoring program will continue to be developed and will focus on specific indicators of ecosystem health that are consistent with the CALFED's Monitoring, Assessment, and Research Plan. A key component of the public involvement strategy includes training volunteers to participate in long-term monitoring. Monitoring will provide information to determine if the standards and guidelines are being followed (implementation monitoring), to verify if they are achieving the desired results (effectiveness monitoring), and to determine if underlying assumptions are sound (validation monitoring). The monitoring program involves every aspect of the project, including community surveys, stream geomorphology, biological monitoring, habitat and landscape evaluation, and changes in organizational behavior.

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

The concept of partnership is important to this project because each partner contributes its interests, capabilities, and perspectives to provide a clearer and more inclusive picture of solutions. The partnership consists of a core team of organizations already active in watershed stewardship programs — NorCET and the River Exchange. The boards of directors of each of these organizations are composed of local community leaders and citizens who have demonstrated their commitment not only to this project but to improving watershed stewardship in their region. Other organizations lending staff and support to this project include the Cantara Trustee Council, the California Department of Fish and Game, and the Central Valley Regional Water Quality Control Board, the College of the Siskiyous, and the City of Dunsmuir. These partners also continue to increase the diversity and strength of the partnership by seeking other organizations, agencies, and entities that may wish to join the partnership. The project is compatible with CALFED's objectives to build watershed stewardship initiatives that represent a variety of interests and are community-based and locally-led. 



III. TITLE PAGE

a. Title of Project



**UPPER SACRAMENTO TRIBUTARIES
WATERSHED RESTORATION PARTNERSHIP**
*A Local Watershed Stewardship Project for the Western
Tributaries of the Upper Sacramento River in Shasta County*

b. Name of Applicant

**US Forest Service,
Shasta-Trinity National Forest**

*Primary Contact: Peter Van Susteren
Shasta-McCloud Ranger Station
P.O. Box 1620
McCloud, CA 96057
Telephone (530) 964-2184
Fax (530) 964-2938
E-mail: pvansust/r5_shastatrinity@fs.fed.us*

c. Type of Organization and Tax Status

Federal agency/tax exempt.

d. Tax Identification Number and/or Contractor License

Not applicable

e. Participants/Collaborators in Implementation/Primary Supporters

Participants:

US Forest Service, Shasta-Trinity National Forest
Northern California Ecosystem Training Center (NorCET)
Upper Sacramento River Exchange (REX)

Collaborators:

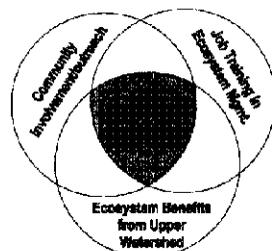
Central Valley Regional Water Quality Control Board (RWQCB)
California Department of Fish and Game (CDFG)
Cantara Trustee Council (CTC)
College of the Siskiyous
City of Dunsmuir



IV. PROJECT DESCRIPTION

a. Project description and approach

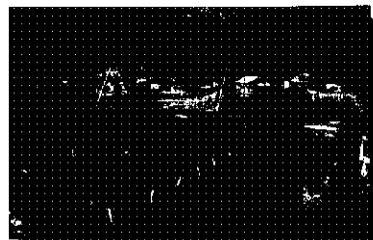
The central objective of the Upper Sacramento Tributaries Watershed Restoration Partnership is to protect, restore, and enhance the environment and extend those benefits throughout the downstream Bay-Delta ecosystem. In addition, the watershed restoration also intends to leverage the partnership not only to improve ecosystem health, but economic health and community involvement. First, restoration projects will protect and enhance water quality and reliability, restore riparian habitats, and improve the health of aquatic, avian, and terrestrial animal and plant populations. Second, the projects themselves represent an opportunity to provide economic benefits to the community through training and education of future natural resource professionals. Third, the restoration activities provide an opportunity to increase public and community participation and knowledge of the watershed and its processes, instilling an ethic and enthusiasm for long-term watershed stewardship.



Watershed Restoration builds ecosystem benefits, results in economic benefits to the community, and provides programs for community involvement and outreach.

COMMUNITY-BASED. This Watershed Partnership is the result of the synergy created between active local groups and federal and state public land managers. Each member of this partnership is committed to building a framework for ecosystem management that will be sustained long after the tasks identified in this proposal have been completed. This community-based, locally led partnership will continue to seek out and bring together groups representing diverse interests who share the goal of responsible management of the watershed's common resources. Since actions taking place on public or private lands have direct, indirect, or cumulative effects on other lands regardless of ownership, a watershed level management strategy looks across ownership boundaries while respecting individual ownership objectives. This proposal is an outgrowth of the information shared among partners over the past two years leading to a realization of the opportunities where working together can increase effectiveness and magnify benefits. Specifically, the NorCET program is able to use watershed restoration opportunities as classrooms for training the next generation of natural resource professionals, while the projects allow the River Exchange to further develop and maintain a long-term sense of watershed stewardship in the local and wider community through restoration site field trips, presentations by resource professionals, public exchange meetings, school programs, volunteer monitoring, and private property owners outreach. The restoration opportunities provide the chance to involve and educate the public and increase their sense of stewardship of the resources in the watershed in which they live, work, and recreate.

SIGNIFICANT ENVIRONMENTAL RESULTS. This is not just a planning exercise. Restoration opportunities already identified by the WIN Inventory to result in significant watershed improvements provide the basis for immediate benefits. Roads, landings, skid trails, and stream crossings will be removed and damage repaired to restore permeability and reduce runoff and erosion. Damaged streambanks, wetlands, and upland meadows will be stabilized and restored with native riparian vegetation. The projects will significantly contribute to the recovery of native trout species that were wholly eliminated in the mainstem of the River after a 1991 toxic pesticide spill by reducing degradation of refuge habitat. By eliminating watershed stressors, the health of riparian habitat can be improved, including reducing the decline of the rare and imperiled Port Orford cedar (see text box next page), and hydrological functions (e.g., sustained flow, reduced sediments, lower peak flows) can be improved. All of the project partners participated in the selection of candidate projects from the 1997 WIN Inventory, based on a set



The Forest Service and NorCET maintain a greenhouse that will be used to propagate native plant species for restoration projects.



of specific criteria to determine those with the greatest ecosystem rewards. These projects will be incorporated into NorCET's curriculum to provide on-the-job training opportunities that will benefit the local economy. Restoration in the watershed also provides opportunities to involve the local community through the River Exchange's existing programs and additional programs centered around the restoration projects and their impacts.

MULTIPLE ECOSYSTEM ISSUES. The project uses ongoing watershed analysis to clearly identify and directly reduce the level of important stressors at work in the watershed (wildfire, roads, etc.). Watershed restoration directly benefits riparian and riverine habitats, aquatic species including recovering native trout, and migratory and Neotropical birds. Restoration projects also will reduce nonnative vegetation, reduce erosion and sediment contribution, maintain the high water quality of the river, reduce the acreage and frequency of catastrophic wildfires, and reduce contaminants from historic mining operations. Measures will be taken to protect the Port Orford cedar, an important component of the diverse habitat of riparian areas, from spread of a devastating fungus disease.

FRAMEWORK FOR ONGOING IMPLEMENTATION. The project approach is designed to provide more than a series of individual educational or involvement events. The project will involve capacity building for the River Exchange to serve as the focal point for community involvement and coordination of agency and private sector activities in the western tributaries. Through community surveys and newsletters the project will establish a precedent for using the River Exchange and its facilities as an interface between the community and public agencies to promote long-term stewardship in the region. Programs planned by the River Exchange will increase public understanding and awareness, which will serve to instill a long-term sense of watershed stewardship. Job creation and training through NorCET will keep individuals who would have been displaced by declines in the timber harvesting and extractive industries in the area working as ecosystem managers and building their own environmentally beneficial enterprises.

MONITORING. The project will use stream condition inventories completed by the Forest Service and NorCET on streams targeted for project implementation. However, since a community-based ecosystem restoration project requires additional indicators to measure task and overall project success, the team has developed a series of indicators around which the project monitoring program will be developed. A comprehensive monitoring program will continue to be developed for the watershed, focused on specific indicators of ecosystem health, and will be similar and consistent with the CALFED's Monitoring and Assessment Plan. The strategy includes training volunteers to participate in long-term monitoring in the watershed. The process includes identifying new information, evaluating its importance, and deciding if plans should be altered.

APPLICANT'S ABILITY. The Forest Service manages a large portion of the public lands in the watershed and is actively involved in local stewardship leadership. Shasta-Trinity National Forest land managers are experienced in assuring that projects are properly managed and administered. NorCET, in its third year, has an established classroom and field training curriculum in which to incorporate projects. The River Exchange has been successful for two years in building and sponsoring exemplary community and educational programs.



**Threat to the Port
Orford Cedar**
*Chamaecyparis
lawsoniana*

The Port Orford cedar is native only to southwestern Oregon and northwestern California. This rare and sensitive plant is being attacked by a fatal root disease caused by a fungus carried in water and mud. Seedlings planted on home sites, road building, and logging brought the fungus to back country watersheds. Runoff water, streamflow, cattle, and vehicles carried the fungus throughout the tree's native region, killing them in their paths. First confirmed in native California stands in 1979, the fungus was believed to be contained in areas drained by the Middle and South Forks of the Smith River until 1996. More recently, however, the disease has emerged many miles away in areas that drain into the Klamath and Sacramento Rivers. When spores of the fungus are introduced into a watershed, the disease can spread throughout the drainage. To date, no known cure exists and natural resistance is uncertain.

Port Orford cedar exists in the northern half of the project watershed, occurring in narrow bands along stream channels and near upland springs. Riparian reserve widths for these streams offer the greatest protection to these trees from the root disease. Actions planned under this project will help to minimize the probability that disease spores will enter the system.



B. Proposed Scope of Work

TASK 1: WATERSHED RESTORATION PROJECT PLANNING AND MANAGEMENT

Financial Management, Contracting, and Quality Assurance: Includes responsibility for procuring all project services and materials and maintaining accountable records. The Forest Service will administer all subcontracts with partnership organizations and for other services and materials as the project requires. The Forest Service will be responsible for providing project management oversight to ensure that all activities are undertaken in accordance with subcontract conditions.

Project Reporting: The partnership will provide several levels of communication including quarterly project effectiveness reports and annual evaluations including monitoring data. A quarterly review board will consist of the Forest Service, NorCET, River Exchange, Cantara Trustee Council, CDFG, RWQCB, and others. Program review presentations will be provided to CALFED and/or grant funding agencies.

Stakeholder and Partnership Meetings: The Forest Service and the River Exchange will handle the scheduling and logistics for partnership and public stakeholder meetings. The River Exchange will assume responsibility for facilitation of public meetings and roundtables.

TASK 2: PUBLIC INVOLVEMENT AND EDUCATION

Public involvement is an integral aspect of a holistic approach to long-term watershed stewardship. Components of this task include:

Community-based programs. Efforts will be taken to increase awareness of the project among several key audiences, including agency employees and officials, local landowners, nonprofit groups, educators and students, as well as members of the community in general. On-site restoration and interpretive field trips, vegetation collection and propagation field trips, and restoration monitoring field trips with natural resource professionals will be organized. A series of interpretive shows and presentations on watershed restoration, riparian vegetation, meadow ecology, hydrology, and stream ecology will be established.

Educational outreach: The River Exchange will expand its school participation programs in hands-on teaching, observing, and monitoring restoration projects, and also will collect and categorize materials and resources to build a public watershed restoration library. Youth programs will provide watershed restoration experiences to schools in Siskiyou and Shasta counties to build stewardship values and ethics. Programs will include classroom presentations, restoration field trips, and educator in-service training to provide schools, teachers, and students with the networking and collaboration resources regarding restoration opportunities and information of the watershed and its relation to downstream impacts.

Public Restoration Leadership Training. Through participation in River Exchange public outreach programs, NorCET students will receive training in public leadership, communication, facilitation, teaching, and delegation skills.

Training in Volunteer Monitoring: The River Exchange will conduct a citizens water quality monitoring training with Forest Service and other natural resource professionals.

Private Property Owners Outreach: A program of ongoing participation with private landowners and the general public will be developed to nurture relationships and build cooperation and involvement. The project will foster a Watershed Restoration Roundtable to inspire watershed-wide information exchange and collaboration.

Restoration Awareness Survey. To measure the success of the public involvement and education objectives, the River Exchange will prepare and conduct a pre-program and post-program survey covering levels of community members' interest, knowledge, and participation and will publish the results.



A local flyfishing guide teaches students macroinvertebrate life stages and stream survey techniques during a River Exchange field trip to the Cantara Loop on the Upper Sac.



The River Exchange draws public comment in meetings on watershed issues and resources.



TASK 3: IDENTIFY PRIORITY RESTORATION TASKS/PROJECT IMPLEMENTATION

Restoration of the tributaries will require a wide variety of treatments. The WIN inventory conducted by NorCET and the Forest Service has preliminarily identified sites that offer the best and most immediate results. More than correcting watershed problem areas, these project sites also will serve as classrooms for NorCET students and the River Exchange.

Road decommissioning and drainage control: The watershed suffers from accumulated impacts from the past 100 years of human use including many impassable roads damaged years earlier. Roads, landings, and skid trails from past management practices will be ripped so as to restore permeability and reduce runoff and erosion, and prisms will be reshaped as necessary to restore natural drainage. Plugged culverts, drains, and damaged ditches that are diverting runoff and causing gullies and sheet erosion will be repaired, gullies filled, and fill slopes stabilized. Rolling dips and waterbars will be installed as needed.

Streamside stabilization, riparian planting: Streambanks denuded by scouring peak flows acting as excessive sediment sources will be stabilized using a combination of methods, including excavation, stabilizing structures, and native plant revegetation (provided by the partnership's native plant nursery). Culverts and crossings will be excavated to remove fill material to restore the natural gradient and width/depth ratio of the stream. Channel, gully, and check dam degradation will be remedied with gradient control and other stabilizing structures.

Wetlands and wet meadow restoration: Upland wet meadows have undergone degradation due to past logging and road building. Meadows are being inundated by sediment. Meadow areas will be restored by remedying upstream sediment sources and by removing or stabilizing sediment.

Skid trail drainage control: Extensive skid trail networks concentrate runoff and cause gullying, erosion, and downstream channel damage. Skid trails will be water-barred, check-dammed, and/or ripped to divert flow and prevent concentration of runoff.

TASK 4: PROJECT MONITORING AND ASSESSMENT

Implementation Monitoring, to determine if standards and guidelines are being followed, will be conducted during frequent evaluation field trips. **Effectiveness Monitoring** will utilize photographic viewpoints and measure improved stream habitat scores, and measures of imbeddedness, pebble count, stream cross section profiles, and substrate profiles to verify if desired results are being achieved. **Biological Monitoring** will be conducted for T&E species, bird species, vegetation, sediment deposition, and stream channel morphology. The Point Reyes Observatory and Redwood Sciences Laboratory will participate in biological monitoring through their ongoing resident and migratory landbird surveys and studies. Validation monitoring will help to determine if underlying assumptions are sound. The process includes identifying new information, evaluating its importance, and deciding if plans should be altered.

The existing Quality Assurance Program Plan of the Forest Service will be used to monitor individual projects, in addition to overall watershed monitoring. Present parameters involved are water temperature, erosion rates of bed and bank materials in tributary streams, vegetation changes, wildlife inventories, fish habitat and surveys, stream flow rates, rainfall, and benthic macroinvertebrates. Annually, an advisory team of resource professionals and community volunteers led by NorCET will assess the data and prepare a report on the status of the watershed. A monitoring protocol will be designed by a committee of Forest Service and RWQCB hydrologists and implemented by NorCET students. The Monitoring and Assessment program will be compatible with CALFED's comprehensive Monitoring, Assessment, and Research Plan.



The Watershed Improvements Needs (WIN) Inventory conducted by NorCET, apprentices has identified significant erosional hazards in the watershed.

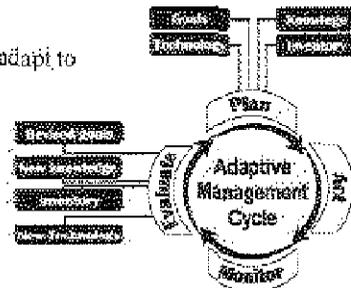


Skid trails from timber operations years from decades ago still have a significant impact on the watershed's landscape.



TASK 6: ADAPT AND UPDATE

An important element of an ecosystem management strategy is the ability to adapt to new information. The project will provide for adaptive, flexible management based on lessons learned from monitoring and assessment. Restoration projects will be implemented, monitored, and then changed as necessary to better achieve the project's original goals. The process includes identifying new information, evaluating its importance and relevance, and deciding whether plans should be altered. In addition, adaptive management allows creative and new scientific approaches to be included if warranted. Every fourth-quarter Progress Report will include evaluation of monitoring data.



c. Location, geographic boundaries of the project

The western tributaries of the upper Sacramento River, for the purpose of this project, refer to the area west of approximately 37 miles of the river between Box Canyon Dam and Shasta Lake. The program emphasis area is collectively referred to as the Shotgun-Slate Watershed. Below Lake Shasta, the river flows through moderately mountainous terrain, picking up numerous tributaries before emptying into Lake Shasta. Primary tributaries in the project area include, from north to south, Flume, Mears, Shotgun, Boulder, Slate, Mosquito, and Dog creeks. The watershed contains approximately 147 miles of perennial streams, 126 miles of intermittent streams, and 253 miles of ephemeral streams. About 95 miles of streams are fish bearing. Other hydrological features include springs, seeps, and wet meadows. The terrain is generally steep and mountainous with land elevations ranging from 1,100 feet to 6,500 feet. River elevation varies from 2,989 feet at the base of Box Canyon Dam to approximately 1,075 feet at Dog Creek. The dominant vegetation cover is mixed conifer forest and evergreen brush with Port Orford cedar present along some perennial streams. The watershed contains approximately 66,500 acres, of which approximately 50 percent (33,400) acres is federal lands administered by the Forest Service. Major recreation activities include fishing, hunting, rafting, and kayaking. A detailed location map is provided on the following page.

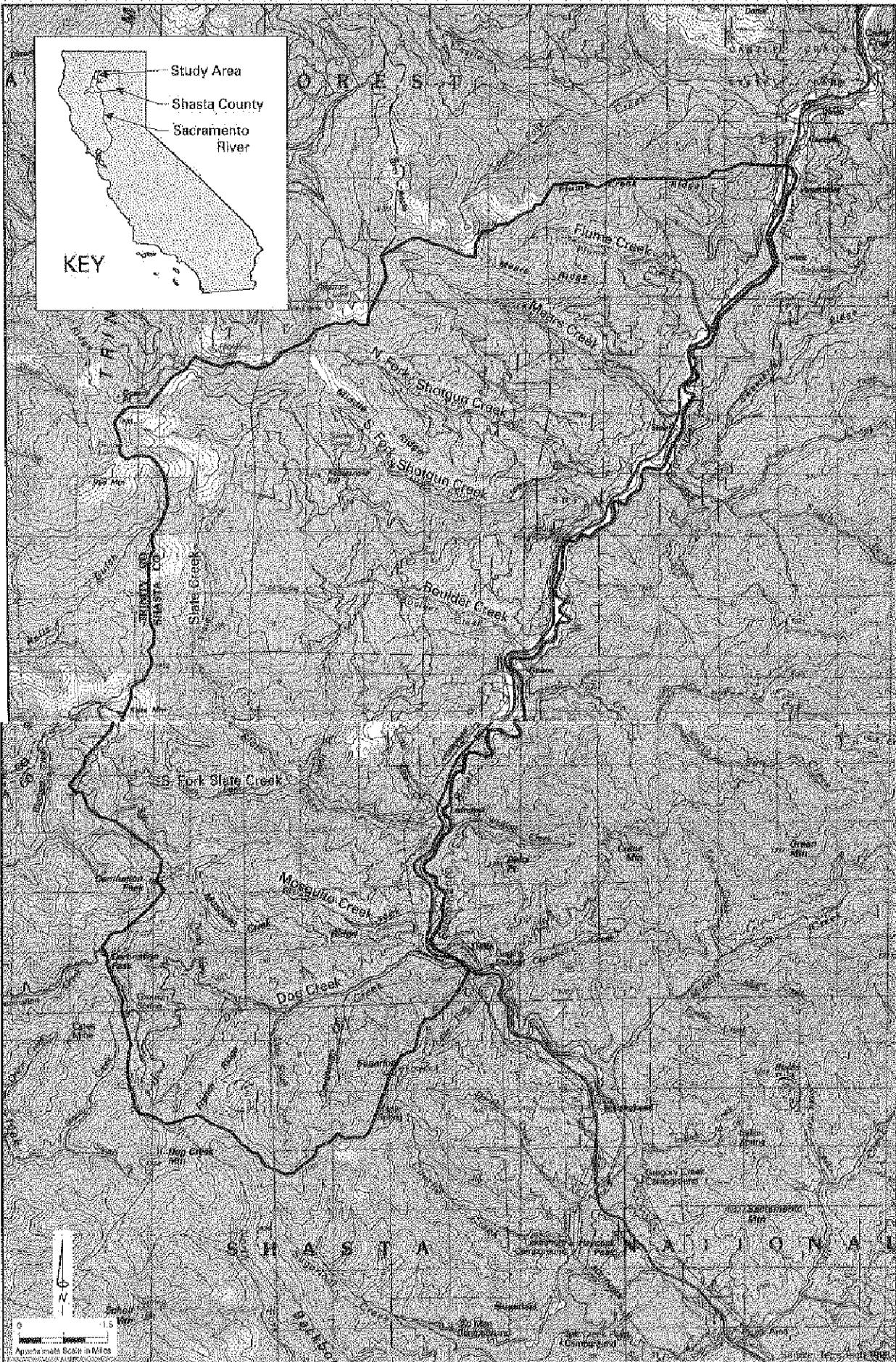
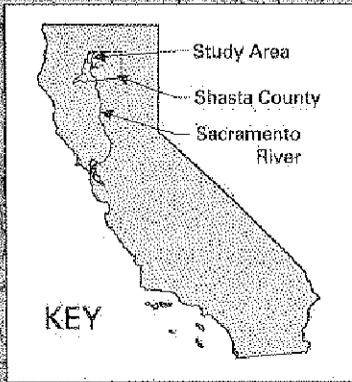


d. Expected Benefits

The expected benefits for this project would occur in the Sacramento River Watershed Region (SRWR) of the CALFED Program. The SRWR includes much of the upper tributaries above Shasta Dam. There are many ecosystem benefits to the upper tributaries of the Sacramento River that do not fit neatly into the categories CALFED has defined primarily for the lower reaches of the system. The dam presents an impassable migration barrier for most of the primary and secondary species of concern. Therefore, there are few if any direct benefits to these species. Shasta Dam also mitigates any negative impact of altered hydrologic regime in the upper tributaries. Associated sediment and pollutants are not likely to have a major impact on the safety (integrity) of levees or the ecological integrity of the valley rivers or Delta. However, excessive sediment loads in the upper tributaries could have an impact on the longevity and effectiveness of dams lower in the system for storage and flood control. Sustained flow of streams in the upper tributaries also could provide dam operations with increased options for management of flows out of the reservoirs to supply the rivers below.

The applicants believe that there is significant value in maintaining ecological functions in the upper tributaries of the CALFED area. Recovering wild trout populations of the upper tributaries are ecologically and economically important to the SRWR. This project also will improve habitats for and assist the ongoing studies of migratory and Neotropical avian species that depend on these areas.

A primary benefit from this proposal is the opportunity for CALFED to nurture a unique partnership that could be exported for use in other CALFED regions. The organizations involved in the Partnership have been building the



**Upper Sacramento River
Western Tributaries Watershed**
Shasta County, California



trust and understanding that are necessary for ecosystem management through regular meetings over the past two years. The absence of strong polarizing priorities will increase the probability of success for the Partnership on several important resource management issues of importance. Success in the upper tributaries could provide an object lesson for overcoming the cynicism and mistrust towards partnerships. In addition, the Partnership will form linkages with other ecosystem management initiatives within the region (Shasta-Tehama Bioregional Council; Upper Clear Creek; Lower Clear Creek) to form an effective network of coordinated resource management.

The CALFED mission objectives, priority habitats, priority species, and stressors addressed in this project include good water quality for all beneficial uses; preservation of aquatic and terrestrial habitats to improve ecological functions in the Bay-Delta and to support sustainable populations of diverse plant and animal species; priority habitats—*Instream aquatic habitat, Shaded riverine aquatic habitat*; priority species—migratory and Neotropical birds; stressors—*hydrograph alterations, channel form alterations; channel aggradation due to fine sediments; existing riparian zone loss; increased contaminants; water temperature; population management; forestry and agricultural practices; and wildfire.*

Tributaries to the Sacramento River also play an important role in the recovery of the main stem of the river by providing new populations of riparian plants and wild native fish to the portions of the river devastated by the 1991 chemical spill at the river's Cantara Loop. Implementation of the project will increase habitat diversity for wildlife and will reduce the potential for habitat degradation in stream channels. Increased vegetation diversity will enhance the corridor for Neotropical migratory bird guilds and other terrestrial species, many of which are habitat specialized. Changes in population relative to management practices in riparian and upland areas will be a focus of ongoing bird studies conducted in the area by the Pt. Reyes Bird Observatory and Redwood Sciences Laboratory. Third party benefits include training and job creation in ecosystem management, increased public knowledge and awareness, improved watershed stewardship ethic, and more local recreational benefits.

Threatened, Endangered, and Sensitive Wildlife Species (TE&S)

The watershed provides habitat for the following TE&S animal species

Bald Eagle	Federally threatened
Northern Spotted Owl	Federally threatened
Northern Goshawk	Forest Service Sensitive
Marten	Forest Service Sensitive
Fisher	Forest Service Sensitive
Willow Flycatcher	Forest Service Sensitive
Yellow Warbler	Forest Service Sensitive

e. Background and ecological/biological/technical justification

A primary need within the North Sacramento Ecological Zone is an effective framework for coordinating watershed partnerships. 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. There is a need for a formal linkage and support for coordinated agency action in the North Sacramento Ecological Zone. 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.

This proposal also responds to the need to train displaced forest workers in ecological and watershed restoration techniques. The North Sacramento Ecological Zone includes many displaced workers in watersheds that include habitats, processes, and species that have been impacted by the stressors discussed in the CALFED Ecosystem Restoration Program Plan-Volumes I and II (ERPP).

It is important to note that the Partnership identified restoration tasks independently of the assessment provided in the CALFED ERPP. Project tasks are correlated to the Visions findings of the ERPP in the table below. The CALFED Ecosystem Restoration Program Plan did not identify specific streams in western tributaries as ecological units within the North Sacramento Valley Ecological Zone. The streams, however, match the profile and conditions described for other ecological units within the zone (e.g., Clear Creek). Many of the stressors and valued attributes for Clear Creek apply to the western tributaries.

The alternatives to this proposal are the loss of coordination between these separate programs. Restoration opportunities would not be undertaken given current budget limitations without targeted funding. Restoration project contracting through NorCET and its training benefits would not contribute to the economic and job



creation in the area. Without on-the-ground projects, NorCET would have reduced participation in projects that provide valuable training opportunities for its students. The public education and outreach capabilities of the River Exchange would dwindle as the organization's funds decrease in the upcoming years. The loss of these opportunities would prevent instilling a long-term ethic of watershed stewardship in the local community.

Western Tributaries Project Need/Task	CALFED Vision Category	Specific Vision Element	Volume/ Page(s)
Road decommissioning; road drainage control; pull culverts; stabilize streambanks; wetlands and wet meadow restoration; riparian planting; skid trail drainage control; gradient control structures.	Ecological Process Visions	Upper Watershed Processes – Fire and Erosion	Vol. I, pp. 17, 18, 19
Stabilize streambanks; riparian planting; gradient control structures.	Habitat Visions	Riparian, Riverine Aquatic habitats	Vol. I, pp. 78, 79
Stabilize streambanks; riparian planting; gradient control structures; restore/protect native trout refuge habitat; riparian habitat for Neotropical migratory bird guild; preserve Port Orford cedar community.	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 the 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

The project includes a comprehensive monitoring program focused on specific indicators of ecosystem health, and will be similar and consistent with the CALFED's Monitoring and Assessment Plan. There will be ongoing coordination with the technical staff of the Forest Service, CDFG, RWQCB, and CDF to develop cooperative monitoring programs. This coordination and agency review will be both formal (invitation to participate in Partnership meetings) and informal (coordination between agency staff and project partners).

DEFINITION AND MEASUREMENT OF SUCCESS OF THE PROJECT. Monitoring and data evaluation will incorporate distinct measures of success for individual projects and the overall initiative. The project will use stream condition inventories completed by the Forest Service and NorCET. However, since a community-based ecosystem restoration project requires a suite of indicators to measure individual tasks and overall project success, the project team has developed indicators around which the project monitoring program will be developed. These indicators include measurement of stressors (e.g., reductions in roaded areas and erosional hazard areas), processes (e.g., increased public involvement, NorCET contracts executed, establishment of watershed coordination forums, and media outreach), and endpoints (e.g., improved stream habitat scores and biological indicators). A key component of the public involvement strategy includes training volunteers to participate in long-term monitoring. Monitoring will provide information to determine if the standards and guidelines are being followed (implementation monitoring), verify if they are achieving the desired results (effectiveness monitoring), and determine if underlying assumptions are sound (validation monitoring). The process includes identifying new information, evaluating its importance and deciding if plans should be altered. A monitoring and assessment plan will be designed by the Forest Service and RWQCB hydrologists and will be implemented by NorCET and community volunteers.

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 majority of the project will be covered under an environmental assessment already in progress being performed by the Forest Service. The individuals involved in performing the specified tasks have committed their time and have the experience and resources to begin work. Collectively, the individuals and organizations responsible for this project have a minimum of ten years local, on-the-ground experience on average to apply to successfully getting the project under way.

V. COST AND SCHEDULE

a. Budget Costs

The table below shows the costs and funding request for each of the three years of the project.

Upper Sacramento Tributaries Watershed Restoration Partnership

Project Phase and Task	Project Budget per year						Totals
	Labor Hours	Salary and Benefits	Overhead Labor	Service Contracts	Material and Acquisition	Misc. and other costs	
EACH YEAR FY1999-FY2001							
Task 1: Watershed Restoration							
Project Planning and Management							
Forest Service River Exchange	445	\$ 9,983				\$ 117	\$ 10,100
NorCET	80	\$ 2,080	\$ 132			\$ 120	\$ 2,332
Task 2: Public Involvement and Education							
River Exchange				\$ 25,000*			\$ 25,000
Task 3: Project Implementation							
NorCET	2,250	\$ 53,780	\$ 6,240	\$ 27,000		\$ 8,000	\$ 95,020
Task 4: Project Monitoring and Assessment							
Forest Service River Exchange	239	\$ 5,049				\$ 151	\$ 5,200
NorCET	370	\$ 8,900	\$ 600			\$ 500	\$ 10,000
Totals							\$ 132,452
						Three year total	\$ 397,356

The funds will be administered for the partnership by the Shasta-Trinity National Forest from an account that will be established for exclusive use by the project. All Forest Service costs are reflected in this proposal. That is, the activities of individual Forest Service staff or general overhead costs not identified in the project budget will not be covered from the established project account. This single purpose account will support the activities of the partnership as described in this proposal.

* Detailed labor hours and budget distribution will be provided to the US Forest Service prior to issuing a subcontract agreement to the Upper Sacramento River Exchange



b. Project Schedule Milestones

YEARLY PROJECT SCHEDULE

(assuming a funding decision by October 1998)

	Start	Complete
Task 1. Project Planning and Management	October 1998	October 1999
Partnership initiation and Planning Meeting		October
Stakeholder and partnership coordination meetings		Quarterly
6 Month Project Status Report		March 1999
Project Reporting*		Quarterly
Planning for next field season	November 1999	December 1999
Task 2. Public Involvement and Education	October 1998	October 1999
Community involvement plan and meeting	January 1999	February 1999
Community restoration promotion campaign	January 1999	March 1999
Begin community restoration involvement, workshops, field trips	May 1999	ongoing
Restoration awareness survey preparation and mailing	June 1999	August 1999
Task 3. Project Implementation	October 1998	October 1999
Contracting	January 1999	February 1999
NorCET begins restoration field work and instruction	May 1999	November 1999
Review of tasks to date, field season wrap-up	November 1999	December 1999
Task 4. Monitoring and Assessment	June 1998	Nov. 1998
Establish baseline monitoring	February 1999	October 1999
Adaptive management and assessment		ongoing
Final Yearly Project Report and Presentation		December 1999

* There are four reporting milestones for the project which the applicant proposes as the basis for billing and assessment of project success.

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 to identify potential conflicts from restoration actions and to assure that any adverse third party impacts either will be avoided or reconciled.

VI. APPLICANT QUALIFICATIONS

US Forest Service, Shasta-Trinity National Forest, McCloud Ranger District

The Forest Service's mission is to achieve quality land management under a sustainable multiple-use management concept to meet the diverse needs of the people. The Forest Service is dedicated to promoting conservation and the wise use of natural resources throughout the region and the country. The Forest Service protects and enhances ecosystems while providing multiple benefits for watershed health and restoration. The Shasta-Trinity National Forest achieves this mission through programs to protect and enhance ecosystems and to foster a healthy forest for public appreciation and enjoyment. Part of public service is the Forest Service's dedication to public education and involvement through local schools and community groups. Programs like "Adopt-a-Watershed" and classroom involvement provide a rich educational experience in watershed management and an invaluable introduction to management of public lands. Shasta-Trinity National Forest's staff, as residents of the local community, take a great interest in stewardship of these public lands and contribute to community involvement and education programs.



KEY PERSONNEL IN THE PARTNERSHIP

Peter Van Susteren is the Earth Science Program Manager for the Shasta-McCloud Management Unit, Shasta-Trinity National Forest. Peter has worked as a Soil Scientist for the Forest Service for 20 years, including 17 years at the McCloud Ranger Station. He holds a BS in Natural Sciences from the University of Wisconsin at Madison.

Stephen Bachmann is the hydrologist for the Shasta-McCloud Management Unit. He has a MS in Watershed Sciences from Colorado State University and a BS in Parks and Recreation Administration from The Ohio State University. Stephen also has 3 years of experience as a hydrologist with the US Geological Survey in Denver, Colorado. During his 7 years of practicing hydrology, Steve's work has focused on environmental planning, watershed restoration, and wetland research.

Northern California Ecosystem Training Center (NorCET)

NorCET is an innovative regional training center and environmental service organization focused on providing education, training, apprenticeships, and employment opportunities in natural resources and ecosystem management. NorCET is sponsored by the Siskiyou Training and Employment Program in collaboration with the College of the Siskiyous and the Siskiyou County Economic Development Council. The Center is a result of the goals established in the landmark *President's Northwest Forest Plan* to build economic opportunities through job retraining in the region. The program assists a variety of individuals including those workers dislocated by the decline in the timber industry in the region by training them to take advantage of increasing opportunities in this rapidly growing field. The program leverages the abundance of natural resources in the area to create the compatible benefits of a healthier environment and a healthier economy. Participants graduate from the year-long program with the classroom and field training in ecosystem and water resource management, watershed analysis, inventory, and restoration, forest practices, fish habitat evaluation, fire fighting, contract management, business development, career development, and computer skills necessary to forge a career fulfilling to themselves and beneficial to their local communities. After graduating just two classes, the program has proved itself successful and demonstrated the effectiveness of retraining individuals who wish to make a career change. In addition, an apprenticeship program is training individuals to form new businesses dedicated to



NorCET students are building careers in ecosystem management that benefit the community and long-term watershed health.





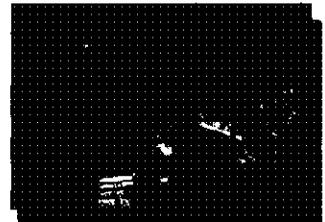
ecosystem management by instilling an entrepreneurial spirit in graduates. The Center also continues to form working relationships and partnerships within the community base. NorCET's participation in this restoration project not only works toward CALFED Bay-Delta objectives in the Upper Sacramento Watershed, but provides the ancillary economic and social benefits of on-the-ground training for NorCET students.

KEY PERSONNEL IN THE PARTNERSHIP

Larry Alexander, NorCET Coordinator. A resident of Siskiyou County for over 20 years, Mr. Alexander has a BA in Biological Sciences and extensive background in hydrology. For many years he was a hydrologist and watershed and fire management specialist with the US Forest Service. He is on the adjunct faculty of the College of the Siskiyous College of Natural Resources and is active in local CRMPs and RCDs.

Upper Sacramento River Exchange

The River Exchange is a unique collaboration-oriented stewardship program providing free public information, community gatherings, and education about the Upper Sacramento River watershed. The River Exchange fosters watershed stewardship, education, and personal experiences for the residents and visitors of the Upper Sacramento River. The River Exchange's "River Center" in Dunsmuir is a beautifully restored historic building that provides educational exhibits, public tours, a resource library, informed staff, and up-to-date river and watershed information and activities. Features include a "Stream Table," which recreates stream processes and a 100-gallon trout aquarium. Over 14,000 adults and children have visited the River Exchange Center and taken part in its programs. A School Link Program brings watershed presentations to the schools and encourages teachers to integrate watershed resource information with existing curricula. The River Exchange publishes a newsletter on watershed issues and specializes in community relations and public involvement programs. It also sponsors cleanup programs, volunteer restoration projects, and lectures on wildlife and fisheries, and conducts citizen-based water quality monitoring training. Its annual River Festival includes hands-on activities, presentations, and entertainment. Its Restoration Roundtable, an annual meeting of all agencies, organizations, and groups working on restoration, recovery, and other stewardship projects on the Upper Sac is a forum to share findings, explore potential collaborative efforts, and facilitate volunteer interaction and participation. The River Exchange is governed by a Board of Directors drawn from members of the local community. The River Exchange is funded by reparations that established the Cantara Trustee Council following a 1991 disastrous pesticide spill from a railroad tank-car derailment into the river at Cantara Loop. These funds, however, are decreasing each year. By building knowledge and interest in watershed issues and activities, the River Exchange has been very successful at facilitating good communication on watershed and community issues, inspiring a sense of stewardship, and creating a base for future problem solving and cooperation.



The River Exchange's River Center provides a part museum, part laboratory, part library, and part information center for the Upper Sac watershed.

KEY PERSONNEL IN THE PARTNERSHIP

Diane Strachan, Executive Director. The River Exchange's core team of talented staff is headed by Ms. Strachan, an experienced Community Relations Coordinator. She has a degree in Environmental Studies and Planning and has worked extensively over the past twenty-three years on regional and national levels with nonprofit organizations and private industry in the areas of outdoor education and recreation, public and community relations, training, facilitation, and marketing.

Vince Cloward, Program Director. Mr. Cloward has worked for the California Department of Fish and Game, having been employed as the Team Leader on the Department's Cantara Creel Survey. He holds teaching credentials and has long-standing relationships with area schools. He has an intimate knowledge of the Upper Sacramento River's natural history, fishing, and rafting. Mr. Cloward has an excellent reputation for leading community-based projects and directing and recruiting volunteers, which bring different parties to work together. He has directed several community stewardship projects in the area following the Upper Sacramento River Cantara Spill in 1991.



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 administered many government contracts and has an established record of compliance with these requirements. The applicant is also willing and capable of complying with all standard terms and conditions with regards to funding by the US EPA, National Fish and Wildlife Foundation, or other federal government entity. 