

**CALFED – AFRP Application
Western Shasta Resource Conservation District
July 2003**

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**CALFED Bay-Delta Program Project Information Form
Anadromous Fisheries Restoration Program – Project Information Sheet**

- 1. Full Proposal Title:** Cow Creek Watershed Management Plan
- 2. Applicant:** Mary Schroeder, District Manager
Western Shasta Resource Conservation District
- 3. Key Contact:** Mary Schroeder, District Manager
Address: 6270 Parallel Road
Anderson, CA 96007
Telephone and Fax: (530) 365-7332 **Fax:** 365-7271
E-Mail: mary@westernshastarc.org
- 4. Project Keywords** **Anadromous salmonids**
Water quality
Riparian vegetation
- 5. A. Amount of Funds Requested:** \$42,796
- 5. B. Type of Project: Indicate the primary topic for which you are applying (check only one)**
- | | | | |
|--------------------------|-------------------|-------------------------------------|----------------------|
| <input type="checkbox"/> | Assessment | <input type="checkbox"/> | Monitoring |
| <input type="checkbox"/> | Capacity Building | <input type="checkbox"/> | Outreach |
| <input type="checkbox"/> | Education | <input checked="" type="checkbox"/> | Planning Restoration |
| <input type="checkbox"/> | Implementation | <input type="checkbox"/> | Research |
- 6. Does the project involve land acquisition, either in fee or through a conservation easement?** No.
- 7. Topic Area:** Ecosystem Water and Sediment Quality
- 8. Type of Applicant:** Local Agency
- 9. Location – GIS Coordinates: :**
NE Corner 10T E0598435 N4516344
SE Corner 10T E0611529 N4497163
SW Corner 10T E0565215 N4479405
NW Corner 10T E0562910 N4509226
- 10. Location – Ecozone:** Sacramento Region – Ecozone 4: North Sacramento Valley
4.2 Cow Creek
- 11. Location - County:** Shasta
- 12. Location – City:** Not within a city jurisdiction.

13. Location – Tribal Lands: Not adjacent to or within tribal lands.

14. Location – Congressional District: 2nd

15. Location – California State Senate District and California Assembly District

State Senate District: 4th
State Assembly District: 2nd

16. How many years of funding are you requesting? 1.5 years

17. Requested Funds:

- a. Are your overhead rates different depending on whether funds are state or federal?
No.
- b. Do you have cost share partners already identified? Yes
Partner: State Water Resources Control Board \$12,600
Cow Creek Watershed Management Group \$ 1,375
- c. Do you have potential cost share partners? Yes
Potential: Agencies In Kind time working on the
Technical Advisory Team \$ 5,000
- d. Are you specifically seeking non-federal cost share funds through this application?
No.

18. Is this proposal for next-phase funding of an ongoing project funded by CALFED? No.

19. Is this proposal for next-phase funding of an ongoing project funded by CVPIA? No.

Have you previously received funding from CVPIA for other projects not listed above?

Yes

If yes, identify project numbers, titles, and CVPIA program.

Number	Title	Program
8-FG-20-16890	Phase I Lower Clear Creek Channel	AFRP
7-FG-20-14610	Lower Clear Creek Fuel Inventory	AFRP
7-FG-20-14720	Lower Clear Creek Photographic Survey	AFRP
7-FG-20-15290	Lower Clear Creek Spawning Gravel	AFRP
6-FG-20-14240	Lower Clear Creek CRMP	AFRP
7-FG-20-14560	Lower Clear Creek Erosion Inventory	AFRP
00-FG-20-0079	Lower Clear Creek Spawning Gravel	AFRP
00-FG-23-0701	Lower Clear Creek Duck Boxes	AFRP
01-FG-20-00131	Lower Clear Creek Phase 3A Designs and Permits	AFRP
01-FG-23-0718	Lower Clear Creek Spawning Gravel	AFRP
01-FG-23-0725	Lower Clear Creek DVD Video	AFRP
02-FG-23-0736	Lower Clear Creek Coordination	AFRP
02-FG-20-0047	Lower Clear Creek Floodway Rehabilitation 3A – Item 8	AFRP
02-FG-23-0743	Lower Clear Creek Spawning Gravel	AFRP

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20. Is this proposal for next-phase funding of an ongoing project funded by an entity other than CALFED or CVPIA? No

21. Please list suggested reviewers for your proposal.

Patricia Parker, US Fish and Wildlife Service
Phone (530) 527-3043
E-mail: tricia_parker@fws.gov

Mike Berry, California Department of Fish & Game
Phone (530) 225-2300
E-mail: mberry@dfg.gov

By signing below, the applicant declares the following:

1. The truthfulness of all representations in their proposal.
2. The individual signing this form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or an organization).
3. The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the Watershed Program Proposal Solicitation Package and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent provided in the Proposal Solicitation Package.

Mary Schroeder, District Manager

Sent by e-mail – Mary Schroeder

Mary Schroeder

B. EXECUTIVE SUMMARY

Summary Description: The 275,000-acre Cow Creek Watershed is a large, generally uncontrolled tributary to the Sacramento River, located in Shasta County on the eastern side of the Sacramento River, downstream of Shasta Lake. The watershed is unique in that land ownership is almost evenly divided between commercial forestland, commercial agriculture, and small rural property owners. The Cow Creek Watershed Management Group formed in 1999 through the assistance of Western Shasta Resource Conservation District. In 2001, a Cow Creek Watershed Assessment was completed, which detailed Action Options for the watershed group with a major focus on water quality and fisheries restoration. The \$42,796 requested in this grant application will assist in the restoration of the Cow Creek Watershed by developing a prescription/plan for accomplishing the goals identified in the Watershed Assessment. This blueprint will identify and detail each step of the tasks involved, describe how an adaptive management process will guide implementation, detail the estimated costs, identify potential funding sources and write at least two grant applications over the course of the plan, and include a follow-up report on the actual performance vs. objectives accomplished by the end of the grant period. This step-by-step action plan will cover all of the Water Quality and Fisheries and Aquatic Resource items identified as Priority Action Options in the Watershed Assessment. This plan/prescription will lead to restoration actions by bringing landowners, stakeholders, and agencies together. It is the next critical step toward action.

The Technical Advisory Committee (TAC) formed to work with the watershed group and Western Shasta Resource Conservation District on the watershed assessment included representatives from the Regional Water Quality Control Board, Department of Fish and Game, US Fish and Wildlife Service, California Department of Forestry & Fire Protection, Natural Resources Conservation Service, Shasta County, Shasta County Cattlemen's Association, and Shasta College. These groups and agencies will also participate on the TAC for the watershed management plan.

C. PROJECT DESCRIPTION

1. STATEMENT OF PROBLEM

a. Problem

Water quality in the Cow Creek Watershed is impacted by excessive temperatures and fecal coliform bacteria, changes in the riparian community vegetation, more than 190 diversions of stream flow, barriers to fish passage, and noxious weeds. The quality of spawning and rearing habitat for threatened and endangered Chinook salmon is therefore decreased due to these factors. The Cow Creek Watershed Management Group (CCWVG) and the Western Shasta Resource Conservation District (WSRCD) are ready to implement the next step, which is to develop a Watershed Management Plan to address these issues, based on the results of the 2001 Watershed Assessment.

The Cow Creek Watershed Management Group (CCWVG) was formed in 1999 with the assistance of the Western Shasta Resource Conservation District (WSRCD), and the group has since formed its own 501(c)(3) non-profit. The CCWVG has a 15-member board of directors that reflects the makeup of the watershed: 4 members representing commercial forestland

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ownership, 4 representing commercial agricultural ownership, 4 representing non-commercial, private landowners, and 3 representing landowners at large in the watershed. The board meets monthly and holds community meetings quarterly or more frequently. WSRCD continues to act as the coordinator for the group, applying for and managing grants relating to project implementation in the Cow Creek watershed.

WSRCD applied for and received grants from the State Water Resources Control Board 319 Program and the David and Lucille Packard Foundation to complete a Cow Creek Watershed Assessment. A Technical Advisory Team (TAC) was brought together to work with the watershed group and included representatives from the Regional Water Quality Control Board, Department of Fish and Game, US Fish and Wildlife Service, California Department of Forestry & Fire Protection, Natural Resources Conservation Service, Shasta County, Shasta County Cattlemen's Association, and Shasta College.

The Watershed Assessment was completed in November 2001. The results of the assessment and priority projects developed by the TAC include the goals and objectives of this grant application. Additional grants have been obtained by WSRCD for implementation in the Cow Creek watershed. These include fuel reduction plans, funds for a watershed coordinator, as well as education and outreach programs. Activities in the Cow Creek watershed are showcased, along with activities in other watersheds where WSRCD is implementing projects, in a quarterly newsletter, "Watersheds & You," mailed to over 3,500 landowners in the WSRCD, agencies and other interested parties. Updates on watershed meetings, workshops and tours are posted on the WSRCD web site, which covers activities in five watersheds.

WSRCD and the CCWVG recently completed a Strategic Fuels Reduction Plan for the Cow Creek watershed, and a specific Defensible Fuels Profile Zone Plan for Backbone Ridge, a 20-mile main east-west ridgeline. WSRCD has been awarded a grant from the State Water Resources Control Board to complete a water quality study to identify sources of fecal coliform contamination in two hot spots in the watershed, and to understand the problems and potential solutions to fatal high water temperatures at lower elevations throughout the watershed for anadromous fish.

b. Conceptual Model

This grant application is focused on assisting in the restoration of the Cow Creek Watershed by developing a prescription/plan for accomplishing the goals identified in the Watershed Assessment. The Watershed Management Plan will develop a blueprint that identifies and details each step of the tasks involved (a prescription), detail the estimated costs, identify potential funding sources and write at least two grant applications over the course of the plan, and include a follow-up report on the actual performance vs. objectives accomplished by the end of the grant period. This step-by-step action plan will cover all of the Water Quality and Fisheries and Aquatic Resource items identified as Priority Action Options in the Watershed Assessment. This plan/prescription will lead to restoration actions by bringing landowners, stakeholders, and agencies together. It is the next critical step toward maintaining progress toward restoration of the Cow Creek Watershed.

The goals of this proposal are to develop a Watershed Management Plan that identifies a step-by-step action plan covering all of the Water Quality and the Fisheries and Aquatic Resource

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items identified as Priority Action Options in the Cow Creek Watershed Assessment. This includes identifying and detailing each step of the tasks involved, detailing the estimated costs, identifying potential funding sources and writing at least two grant applications over the course of the plan, and including a follow-up report on the actual performance vs. objectives accomplished by the end of the grant period.

Fisheries and Aquatic Resource Action Options in the Watershed Assessment are:

1. Establish baseline data and a continuing comprehensive monitoring program for anadromous fish populations on the project, resource, and watershed scale, enabling biologists to verify stressors and trends.
2. Rank by impact and develop a program to financially assist landowners to install screens and ladders on existing diversions.
3. Rank by impact and develop programs for screening pump intakes in Old Cow Creek and the main stem of Cow Creek.
4. Investigate measures to increase flows in Cow Creek and tributaries, such as:
 - Investigating opportunities to increase irrigation efficiency.
 - Managing vegetation to improve water supply and timing of supply.
 - Purchasing water or water rights from willing sellers.
 - Removing or laddering diversions.
 - Providing alternate water sources during important periods.
 - Implementing a conjunctive use program.
5. Evaluate whether increasing flow will reduce temperature within the watershed.
6. Lobby for incentives for restoration activities such as tax credits.
7. Evaluate effects of predation of bass and other species in juvenile salmon in certain reaches.
8. Conduct annual population evaluation of identified reaches to set baseline and evaluate the success of restoration programs.
9. Obtain landowner easements and cooperation along key habitat corridors.
10. Evaluate impacts of diversions and screens on fishery.
11. Evaluate quality and quantity of spawning gravel in Cow Creek.

Water Quality Action Options in the Watershed Assessment are:

1. Further document water quality standard exceedances and determine source of fecal coliform in identified tributaries. Depending upon the source of fecal coliform, various solutions can be implemented to minimize impacts. Solutions can include: a.) Initiate a septic system prohibition and rehabilitation program; b.) Create treatment zones for uptake of nutrients and pathogens resulting from livestock and irrigation runoff.
2. Develop a baseline monitoring program to evaluate water quality throughout the watershed to identify areas of concern.
3. Develop a plan to identify factors contributing to elevated water temperatures, such as irrigation return flows, riparian community vegetation changes, or diversion of stream flow.
4. Evaluate the effectiveness of vegetation management alternatives to manage seasonal surface runoff and underflow. Evaluate the effectiveness of removal of upslope native and non-native species (blackberries) and brush thinning to increase flows in springs and in underflow for creek recharge.
5. Offer livestock and small animal operators increased opportunities to participate in voluntary cooperative water quality short courses. These courses are designed to help livestock operators

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understand the possible sources of livestock impacts to water quality and identify alternatives to reduce water quality impacts. Sources of technical and financial assistance are identified to assist landowners in reducing water quality impacts.

6. Encourage voluntary landowner participation in educational opportunities such as water quality short courses, field demonstrations and distribution of water quality “Fact Sheets” through the Cow Creek Watershed Management Group.

7. Pursue grant funding or cost-share payments for landowners to inventory, prepare plans and implement best-management practices that reduce water quality impacts.

c. Hypotheses Being Tested

The hypotheses being tested by the project proposals are linked to the six primary factors identified as limiting anadromous fish production in the Cow Creek Watershed. These are:

1. Diversions

Limiting Factor: Diversions decrease in-stream flows resulting in elevated spring, summer and fall water temperatures and reduced habitat availability.

Hypotheses: Piping diversion ditches, recycling tailwater, and increasing water use efficiencies will result in greater in-stream flows and lower in-stream water temperatures.

2. Barriers

Limiting Factor: Barriers limit upstream passage of adults.

Hypotheses: Removing or modifying barriers, where possible, will increase the passage of anadromous fish and the expanded use of upstream habitat.

3. Entrainment

Limiting Factor: Juveniles are entrained at irrigation and other unscreened diversions.

Hypotheses: Screening diversions will lower the number of juvenile fish lost into irrigation systems.

4. Livestock grazing

Limiting Factor: Livestock grazing results in sedimentation of substrate and the loss of riparian cover.

Hypotheses: Instituting Best Management Practices in grazing along or near streams will result in less sediment in the water and allow for the improvement of riparian cover.

5. Development

Limiting Factor: Urbanization and creek-side development results in habitat loss and degradation.

Hypotheses: Education of landowners, instituting Best Management Practices, and modification of planning and zoning laws can moderate urbanization and minimize creek-side development resulting in a lower loss of habitat and riparian degradation.

6. Gravel Mining

Limiting Factor: Gravel mining removes riparian vegetation and spawning gravel from the stream.

Hypotheses: Education of landowners and instituting Best Management Practices in gravel mining operations can protect riparian vegetation and the loss of spawning gravel from the stream.

Cow Creek is one of the few streams in California that is not altered by a major storage dam. Fry (1961) attributed the decline in fall-run Chinook salmon numbers in Cow Creek primarily to irrigation diversions. There are no minimum flow requirements for many diversions. A loss of

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juvenile migrating fish to water diversions and entrainment of juvenile salmon and steelhead is assumed to occur in Cow Creek and the tributaries. Only the PG&E diversions have fish screens that comply with DFG fish screen design criteria.

Pump intakes are also a major source of juvenile mortality. As early as 1959, DFG had identified fish loss from irrigation diversions as a primary cause of juvenile mortality in the Sacramento River system. DFG and others have estimated that the majority of the out-migration of young fall-run salmon occurs from January to March, but may extend into May and June. It is the spring and summer migrants that are at the greatest risk and may be impacted by diversion activities. Significant portions of the flows of all tributaries are diverted for irrigation and power use. While hundreds of irrigation pumps on the main stem of the Sacramento River have been screened, the pumps of the tributaries now need screens. Pumps in Old Cow Creek and the main stem divert significant additional flows; pump intakes are also not screened. Data available on resident and anadromous fish populations in the Cow Creek Watershed are discontinuous, physically and in time. In general, in stream population studies are associated with permitted developments, such as hydropower plants, or periodic DFG surveys. Additional data are needed to monitor the success of any actions and to develop baseline population. In addition, data is also required on the bank stability and impact of sediment on habitat in Cow Creek. Limited data is available for spawning gravel quality and stream habitat analysis.

Physical barriers to fish passage are located on each of the five main tributaries of the Cow Creek system. These barriers are both naturally occurring and man-made. The natural barriers are a function of the geology of the watershed and consist of falls located on Little Cow, Old Cow and Clover Creeks. Diversion dams are located on South Cow, Old Cow and Little Cow Creeks. These diversion dams are a significant deterrent to the passage of adult salmonids in the fall. The severity of the man-made barriers is a function of diversion type, height, diverted flow and timing. With the exception of the PG&E facilities, no diversions are laddered.

The *Preliminary Assessment of Cow Creek Tributaries* prepared by Hannaford et al (2000) included information relating to the stream gradient of the Cow Creek tributaries. Stream gradient itself may be a detriment to anadromous fish passage, as the fish tire prior to reaching a small falls or steep gradient and are unable to supply sufficient energy to mount the falls. This is much more prevalent in salmon than in steelhead. In general, steelhead are much better adapted to use steeper gradient streams than the Chinook, as they remain stronger longer and do not tire as easily.

The riparian canopy has undergone significant changes in physical composition and species composition in the last 80 years. The effect of the riparian canopy changes on stream temperature has not been measured. Sustained temperatures in excess of 77 degrees F (25 Degrees C) are lethal adult salmon. Hannaford et al (2000) found that the main stem of Cow Creek exceeds optimum temperatures for Chinook salmon approximately six months out of the year, May until October, and that the maximum lethal temperature was exceeded daily for most of the period. In addition, the temperatures within lower reaches of both Old Cow and South Cow Creeks were found to be higher than those in the main stem. The most critical periods for anadromous fish are spring and early fall. Especially in the fall, the adult salmon wait in the river for the first rains to increase water levels and reduce temperatures to allow spawning. In many years, adults start up the tributaries with the first rains only to be trapped in the warm water when additional rains fail to arrive. Consistent and minimum stream flows necessary to reduce temperature appear to be critical to the success of annual fall-run Chinook spawning in Cow Creek. Late spring rain may also be important to provide low temperature water and flows for juvenile emigration.

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The impact of stream temperatures on salmonid populations in Cow Creek is not documented in detail. Biologists disagree on the impacts of temperature on differing runs of Chinook salmon. An issue of contention was the definition of summer flows. DFG defines “summer flow period” as the first day of summer (June 22) to the first day of fall (September 22).

The “irrigation” season is approximately from May 15 to October 15. DFG felt very strongly that the WMP will be completely clear on how the water needs of the salmon and agriculture relate to each other in each reach of stream during different periods of the year.”

Substrate composition is a critical factor in spawning suitability. It is vitally important that oxygenated water is free to percolate through spawning gravels to the eggs and developing embryos. Fine sediment reduces oxygen flow; therefore, adequate substrate crust has low proportions of sand and fine sediment. Anadromous fish prefer substrates generally composed of gravels from 0.75 inches to as large as six inches if sufficient smaller materials exist. Gravels are unsatisfactory when they are embedded with clays or other fines, or when fine sediment deposition smothers embryos. Available literature identifies sediment as a primary detriment to anadromous habitat in the Cow Creek system. “Water quality in Cow Creek has been significantly affected by siltation and erosion in the upper watershed. Stream banks have been eroded by excessive livestock grazing along Cow Creek and its principal tributaries. The resulting soil erosion and stream channel siltation have degraded salmon and steelhead spawning substrate in Cow Creek and its tributaries” (CH2M HILL, 1998). This contention was based on a 1992 reconnaissance survey. Sediment is also generated from construction activities, development and related projects (utility installation, road reconstruction).

The literature suggests that Cow Creek riparian areas have been degraded by livestock grazing activities (DFG,1992). Significant changes in the physical and species composition of the riparian areas may be related to the establishment of non-native weed species such as Arundo, Tree of Heaven and Himalayan berry, and exclusion of fire. In the lower reaches of the main stem, Arundo has begun to displace cottonwood and willow seedling. No detailed riparian inventory or damage assessment has been conducted in the watershed. Loss of riparian vegetation can increase stream temperatures and eliminate cover and food for fish. Terrestrial insects that fall into streams from riparian vegetation provide an important food source for juvenile anadromous salmonids (Reiser and Bjornn, 1979). Livestock grazing is often blamed for the degradation of riparian habitat, and, in general, certain low gradient and stream systems, over grazing may also adversely affect the riparian vegetative community itself. Elevated water temperatures in the summer, resulting from low stream flows and the lack of riparian cover due to livestock grazing, frequently reach levels that are detrimental or even lethal to salmon and steelhead.

d. Adaptive Management

Adaptive management is a systematic process for continually improving management policies and practices by learning from the outcomes of operational programs. Its most effective form—“active” adaptive management—employs management programs that are designed to experimentally compare selected policies or practices, by evaluating alternative hypotheses about the system being managed. In this project, adaptive management will be applied to the development of action items that will provide key information needs associated with implementation of the specific projects, emphasizing integrated and collaborative information gathering, synthesis, and evaluation processes. In the two grant applications that will be written during the course of this project, adaptive management methods will be explicitly identified. In addition, once grants are received and put out to bid, it will be made clear that the sub-contractor who implements the on the ground projects will need to employ a monitoring component at the

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project, resource, and watershed scales to allow for “active” adaptive management at different levels of the system.

e. Educational Objectives

Landowner education is critical to furthering the implementation of projects in the Cow Creek Watershed Management Plan. Holding community meetings and workshops, conducting outreach through local news media, and publishing and distributing the plan will increase the awareness and level of education of residents and landowners throughout the watershed. Publication of Best Management Practices for the hypotheses identified will be distributed to landowners in the watershed. The objectives are to increase support for projects that will improve the health and function of anadromous fisheries throughout the watershed.

2. PROPOSED SCOPE OF WORK

a. Location and/or geographic boundaries of the project

Cow Creek is a large, generally uncontrolled tributary to the Sacramento River, located in Shasta County on the eastern side of the Sacramento River, downstream of Shasta Lake. The 275,000 acre watershed is unique in that it contains distinct upper, middle, and low elevation sections that align with commercial forestland, Williamson Act grazing land, and rural agriculture and ranches and scattered homes. The five main tributaries are Little Cow, Oak Run, Clover, Old Cow, and South Cow Creeks, which flow in a southwesterly direction and form the main stem of Cow Creek before entering the Sacramento River. The Cow Creek Watershed accounts for approximately 21% of the peak discharge for the Sacramento River between Shasta Dam and Red Bluff.

b. Approach

The work will be divided into tasks and sub tasks that will be implemented during the term of the grant. Project subcontractor will assist in calculation of engineering and construction costs associated with identified projects, with NRCS staff complementing this effort with the input of their staff civil engineer.

Task 1 – Project Administration

Subtasks:

- 1.1 – Submit Quarterly grant reports
Quarterly reports will be submitted in the month following the end of each quarter, which is January, April, July, and October.
- 1.2 – Contract summary form
Due within three months of the contract execution
- 1.3 – Subcontractor documentation
Subcontract for engineering services
- 1.4 – Expenditures and invoicing projects
Submit expenditures and invoicing projects as required
- 1.5 – Project survey form
Due within one month after the end of the contract

Task 1 Deliverables:

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Quarterly reports, contract summary form, subcontractor documentation, requests for payment for expenses on a monthly basis, project survey form.

Success Criteria: Reports submitted on time, forms completed, subcontractor documentation found to be complete, requests for payment clear and concise.

Task 2 – CEQA/NEPA

This project does not involve on-the-ground work and is exempt from CEQA/NEPA.

Task 3 – QAPP

This project does not involve monitoring. The draft and final project report will give a recap of progress made to date on each priority project identified by the Technical Advisory Committee

Task 4 - Technical Advisory Committee

Subtasks:

4.1 - Form a Technical Advisory Committee

The Technical Advisory Committee (TAC) will be comprised of representatives from CA. Department of Fish & Game, U.S. Fish and Wildlife Service, Regional Water Quality Control Board, U. S. Forest Service, Shasta County, Natural Resources Conservation Service, California Farm Bureau, California Cattlemen's Association, Cow Creek Watershed Management Group, the California Department of Forestry and Fire Protection, and other interested parties and landowners.

Task 4 Deliverables:

List of committee members, notices of meetings, agendas, sign in sheets, minutes.

Success Criteria: Technical committee with a minimum of ten members to give professional input to the plan. Deliverables completed.

Task 5 – Project Tasks

Subtasks:

- 5.1 – Hold community meeting to describe the Watershed Management Plan (WMP) and the concept of adaptive management. ~~Consultants, meetings will be advertised through newsletters, flyers and public notices.~~
- 5.2 – Conduct project development meetings of the TAC, CCWMG, WSRCD
Invite representatives from key agencies and interested parties to serve on the Technical Advisory Committee.
- 5.3 – Prepare bid packet, notice to contractors, review bids, then award subcontract to appropriate engineering consultant to perform tasks as outlined in this proposal.
- 5.4 - Prepare a draft WMP
A draft plan will be completed, printed, and distributed to the TAC and all interested parties for their comments.
- 5.5 – Hold community meetings to accept comments and refine the draft plan.
A community meeting will be held to present the draft plan and ask for comments, both verbal and written. Written comments will be reviewed by the TAC and incorporated where appropriate.
- 5.6 - Prepare a final WMP

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A final plan will be prepared and reviewed again by the TAC.

5.7 – Print and distribute the WMP

The final plan will be distributed to the TAC, agencies, and all interested parties.

5.8 - Write at least two grant applications to perform the on the ground work identified in plan.

Task 5 Deliverables:

Newsletters, mailings, notices, agendas, sign in sheets, minutes from the meetings, bid packet, notice to contractors, summary of bids received, draft plan, comments on the draft plan, the final plan, distribution list, and at least two (2) grant applications.

Success Criteria: A Draft Watershed Management Plan is completed, a Final Watershed Management Plan is completed, and grant applications are submitted.

Task 6 – Draft and Final Reports

Subtasks:

6.1 – Complete a Draft Final Report

The draft final report will be prepared in the format required and submitted for USFWS comments, prior to preparing the final report.

6.2 – Complete and Submit a Final Report

Task 6 Deliverables:

Draft final report and final report.

Success Criteria: The draft and final report are completed and submitted.

c. Monitoring and assessment plans

For this project, a formal monitoring and assessment plan is not appropriate. However, the WSRCD and CCWMG will use the final document as a reference when submitting the two grant applications for additional funding to implement on-the-ground projects. These projects will contain a monitoring and assessment component in order to use an adaptive management process to assure long term success.

d. Data handling and storage

Data and reports generated under this project will be maintained by Western Shasta Resource Conservation District. This information will be provided to the watershed group, appropriate agencies, and will be available to the public using database standards consistent with CMARP, CAMP and EPA. The final report will be made available on the Western Shasta Resource Conservation District web site. A backup disk of all information prepared for the management plan will be made weekly and kept in an off-site safe.

e. Expected products and outcomes

The Cow Creek Watershed Management Plan will directly result in ongoing and widespread implementation throughout the watershed by identifying specific activities that can be ascertained by the WSRCD and the Cow Creek Watershed Management Group. The Management Plan will expand on the Action Options described in the Watershed Assessment, incorporating the logistical information needed to complete various projects in the watershed.

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The CCWVG has determined project priorities for their watershed. These priorities are found in every chapter of the Cow Creek Watershed Assessment, and will be expounded on by the Implementation Strategy. Products include: quarterly reports, contract summary form, subcontractor documentation, list of committee members, notices of meetings, agendas, sign in sheets and minutes, newsletters, a draft and final watershed management plan, a draft and final project report.

f. Work Schedule (assuming the grant term begins October 1, 2003)

Work will begin as soon as possible after the funding contract is fully signed and received. It is anticipated that funding will occur in the fall of 2003. Once contracts are signed, the community meeting and TAC meeting can be scheduled and a bid packet prepared.

i. Milestones

Milestones	Schedule of Milestones
Grant contract signed and work begins	October 1, 2003
Quarterly grant reports	2004: January, April, July 2005: January, April
Technical Advisory Team formed	November 30, 2003
Subcontractor documentation	April 30, 2004
Draft watershed management plan completed	August 31, 2004
Final watershed management plan completed	November 30, 2004
Draft and final grant reports completed	March 31, 2005
Grant Applications submitted	March 31, 2005

ii. Schedule of Tasks

Task #	Deliverables	Target Completion Dates
<u>Task 1 – Project Administration</u>		
1.1 -	Quarterly progress reports	Quarterly throughout the grant
1.2 -	Contract summary form	December 31, 2003
1.3 -	Subcontractor documentation	April 30, 2004
1.4 -	Expenditures and invoicing projects	Monthly throughout the grant
1.5 -	Project survey form	December 31, 2004
<u>Task 2 – CEQA/NEPA</u>		
	This project does not involve on-the-ground work and is exempt from CEQA/NEPA.	Not applicable
<u>Task 3 – QAPP</u>		
		Not applicable
<u>Task 4 - Technical Advisory Committee</u>		
4.1 -	Form a Technical Advisory Committee	November 1, 2003
<u>Task 5 – Project Tasks</u>		
5.1 -	Community meeting to describe the Watershed Management Plan (WMP) and	November 30, 2003

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- the concept of adaptive management
- 5.2 – Project development meetings of the TAC, CCWVG, WSRCD April 30, 2004
 - 5.3 - Bid packet, award engineer subcontract April 30, 2004
 - 5.4 - Preparation of a draft WMP August 31, 2004
 - 5.5 - Community meetings to refine the draft plan September 30, 2004
 - 5.6 - Preparation of a final WMP October 31, 2004
 - 5.7 – Print and distribute the WMP November 30, 2004
 - 5.8 - Write and submit at least two grant applications March 31, 2005

Task 6 – Draft and Final Reports

- 6.1 – Complete Draft Final Report December 31, 2004
- 6.2 – Complete and Submit Final Report March 31, 2005

g. Feasibility

Success of the proposed project is quite certain since the methods have been used previously by the WSRCD in other watersheds.

D. APPLICABILITY TO CALFED ERP GOALS AND CVPIA PRIORITIES

1. ERP Goals and CVPIA Priorities

In the *Working Paper on Restoration Needs*, compiled by the Anadromous Fish Restoration Program Core Group in 1995, the working group identified the primary limiting factors for Chinook salmon and steelhead in the Cow Creek Watershed as low fall and summer flows affecting attraction, migration, spawning, and rearing, caused in part by irrigation diversions. Irrigation diversions also affect steelhead by delaying or blocking adult upstream migration and the entrainment of juvenile migrants. The report suggested that low flow conditions were a function of irrigation diversions.

The Working Paper (1995) stated that, in general, agricultural diversions are unscreened, unslatted, and ditches unlined; it is also indicated that the irrigation season typically operates from April through October and negatively affects stream flows important for all-run attraction, migration, and spawning. The same report suggested that livestock grazing has reduced riparian vegetation and eroded stream banks in the various tributary streams and in the main stem of Cow Creek, causing increased sedimentation and degradation of the quality of spawning gravel in Cow Creek. Increased demand for domestic water due to increased urbanization and development is reported to be affecting riparian habitat within the Cow Creek Watershed (Reynolds, et al., 1993), especially in the vicinity of Palo Cedro, Millville, Oak Run, and Bella Vista. The proposed restoration plan included recommended actions to provide additional flow, improve fish passages, reduce entrainment, and protect the riparian corridor. *The Central Valley Project Improvement Act Tributary Production Enhancement Report* (CH2M HILL, 1998) states that the loss of habitat from livestock grazing practices and agricultural diversion of water reduced or degraded salmon and steelhead spawning and rearing habitats. Hydropower facilities also have altered instream flows while agricultural diversions are unscreened resulting in the loss of juvenile fish emigrating from the watershed. Population growth in the communities of Palo Cedro, Bella Vista, Oak Run and Millville is increasing the

Appendix 1. Scope of Work-July 2003

demand for water, and the associated development is impacting riparian areas within the lower watershed.

Since the construction of Shasta Dam (fill year 1943), spawning of fall, late-fall, winter, and spring runs of Chinook salmon (*Oncorhynchus tshawytscha*) has been limited to the Sacramento River below the dam and river tributaries. Juvenile winter Chinook salmon may use Cow Creek as rearing habitat (non-natal rearing) even though they may have hatched elsewhere in the Sacramento River system (DFG, DWA comments, 2001). The winter-run Chinook salmon is listed as endangered on both federal and California lists. Spring-run is listed as threatened under both federal and state lists. Review of available information from DFG, USFWS, BLM, and other studies performed for various hydroelectric projects within the watershed, documents that fall-run and perhaps late-fall-run Chinook salmon, and steelhead, use this watershed for spawning and rearing.

Fall-run Chinook salmon are believed to occur in all tributaries of the watershed below natural barriers. The distribution of fall-run Chinook is generally restricted to the valley floor and lower foothill elevations of Cow Creek and its major tributaries; however, smaller portions of the population can be expected to ascend to the upper-most waterfall barriers in the system (typically to an upper limit of 1,000 feet of elevation). More detailed study and analysis is required to precisely describe the distribution of spawning activity in the creek system. Outside of the summer period, the low stream flow and high temperatures in the early fall may affect that portion of the adult population attempting early immigration to the spawning areas. Those same conditions in the late spring may affect that portion of the juvenile population attempting late out migration to the river. However, the stream system always has some flow during these periods due to the fact that the water rights adjudication and water master service requires that the upstream diversions allow sufficient water to reach the downstream diversions. (DFG, DWA comments, 2001).

In an investigation of fish-salvage problems in relation to Shasta Dam, authored by the US Department of the Interior in 1994, an estimate of 9,000 female salmon potentially utilize or could utilize the 66.5 miles of Cow Creek streambed. It was reported that a small number of fall-run Chinook salmon enters the stream and spawns in the lower reaches, but upper sections are not used extensively because of irrigation and power developments. The remaining observations or surveys identify the areas salmon spawn within the watershed.

Cow Creek has been identified by California Department of Fish & Game (DFG) and U. S. Fish and Wildlife Service (USFWS) as a candidate for restoration of anadromous fisheries. A 1996 study by the Regional Water Quality Control Board (RWQCB) identified limiting elements in the watershed specific to anadromous fish resources as high temperature and low flow. In addition, the study identified high concentrations of fecal coliform in two of the five main tributaries. The over 190 diversions in the watershed present many opportunities for water quality improvement. Other key factors DFG identified as limiting possible improvement of current populations are:

-  Adequate stream flow to provide for the passage of adult fish
-  Lack of ladders for passage over irrigation diversion during low flow conditions
-  Lack of screens to protect emigrating juveniles
-  Elevated temperature in the mid to lower reaches of the tributaries which limits adult passage and may hinder late juvenile migration.

2. Relationship to Other Ecosystem Restoration Projects

The resource agencies have been seeking a better understanding of factors affecting fish populations in the Sacramento River system for over 100 years. Other ongoing projects and

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programs that the proposed project is linked to include CALFED Bay-Delta Program, Fish Passage improvement Project at the Red Bluff Diversion Dam, Draft Winter-run Salmon Recovery Plan, CVPIA, AFRP, and the California Salmon, Steelhead Trout and Anadromous Fisheries Program Act of 1988.

3. Requests for Next-Phase Funding

This proposal is not viewed as next phase funding in the context of receiving previous CALFED or CVPIA funding; however it is the next logical step or phase of work to pursue following completion of the Cow Creek Watershed Assessment, which was funded by grants from the California State Water Resources Control Board, 205j Program, and the David and Lucile Packard Foundation.

4. Previous CALFED or CVPIA funding

WSRCD received the following grants through CALFED or CVPIA.

Number	Title	Program
8-FG-20-16890	Phase I Lower Clear Creek Channel	AFRP
114209J022	Phase 2 and 3A Lower Clear Creek Channel	CALFED/USFWS
7-FG-20-14610	Lower Clear Creek Fuel Inventory	AFRP
7-FG-20-14720	Lower Clear Creek Photographic Survey	AFRP
7-FG-20-15290	Lower Clear Creek Spawning Gravel	AFRP
6-FG-20-14240	Lower Clear Creek CRMP	AFRP
7-FG-20-14560	Lower Clear Creek Erosion Inventory	AFRP
00-FG-20-0079	Lower Clear Creek Spawning Gravel	AFRP
00-FG-23-0701	Lower Clear Creek Duck Boxes	AFRP
01-FG-20-00131	Lower Clear Creek Phase 3A Designs and Permits	AFRP
01-FG-23-0718	Lower Clear Creek Spawning Gravel	AFRP
01-FG-23-0725	Lower Clear Creek Video of Project	AFRP
02-FG-23-0736	Lower Clear Creek Coordination	AFRP
02-FG-20-0047	Lower Clear Creek Floodway Rehabilitation 3A – Item 8	AFRP
02-FG-23-0743	Lower Clear Creek Spawning Gravel	AFRP
99N16	Clear Creek Prescription	CALFED/NFWF
4600001798	Watershed Information Model	CALFED/DWR

5. System-wide ecosystem benefits

From the upper Sacramento Valley and San Joaquin Valley to the Delta, tremendous efforts have been made in the past ten years by the state and federal resource agencies, water diverters, private agencies and firms and the public to improve habitat, water temperature and fish passage. This project will build a template, a prescription, for moving forward and implementing projects and studies to improve anadromous fisheries habitat and water quality.

E. QUALIFICATIONS

The Western Shasta Resource Conservation District (WSRCD) was formed in 1959 and has seven local volunteer directors, who assume leadership positions in providing direction to their community's natural resource programs. The District has a staff of seventeen currently implementing over 30 grants totaling over \$5,000,000. Several are multi-year grants. The annual budget for 2002-2003 is \$1.6 million. Technical support is available from collaborators on this project, who will be invited to participate on a Technical Advisory Committee. The project will be a success as measured by the completion of an Management Plan detailing how each goal will be achieved, the estimated cost of achieving the goal, potential funding sources, and a final report detailing what action took place during the grant period to implement the goals and strategies.

WSRCD has completed other Watershed Assessments and Watershed Management Plans, which have proven to be invaluable resources for watershed restoration implementation. These include the Lower Clear Creek Watershed Analysis (January 1996), Lower Clear Creek Watershed Management Plan (September 1998), Upper Clear Creek Watershed Analysis (April 1999), and the Cow Creek Watershed Assessment (November 2001).

1. Bio sketches of principal participants, qualifications and contributions

WSRCD staff working on this project includes:

Mary Schroeder, District Manager, received a B.S. degree in Forest Industries Management from The Ohio State University, Columbus, Ohio. She has over 25-years of business management experience in the natural resource and wood products industries. This includes negotiating over \$30 million/year in contracts for the pulp and paper industry and \$12 million/year in contracts for wood-fired power plant operations. Mary's specialty is contract negotiations, financial management, grant writing and grant management. She is a leader in working with local groups collaborating on natural resource issues. As chief administrative officer of the District, Mary responsible for managing and directing the District's business and field operations consistent with the WSRCD long-term strategic plan.

Michael Harris, Projects Manager for watershed restoration, fisheries, and wildlife, has a B.S. in Biology from California State University-Sacramento, and a B.A. in Economics from the University of California-Davis. He is just finishing his Master of Science in Biological Conservation from the California State University-Sacramento. Michael's experience includes habitat sampling, including structural components and floral species composition; scheduling and data management, vertebrate sampling of mammals, reptiles and amphibians; nest location and monitoring of avian species for a demographic study of the Willow Flycatcher. His publications include 2001 and 2002 California Department of Transportation – Carmel River Mitigation Bank Report. Michael's soon-to-be completed thesis is "Small Mammal Microhabitat Analysis of a Restoration Site."

Gary Desselle, Watershed Coordinator, has a Masters in Interdisciplinary Studies in Environmental Science from CSU-Los Angeles and B. S. in Environmental Science from New Mexico State University. Gary's experience includes water quality monitoring, GPS/GIS mapping, contaminant monitoring of fish, soil, produce, vegetation, and animals for

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determination of Los Alamos National Laboratory impacts on human health and the environment, Salt Cedar (tamarisk) eradication, and rangeland drought assessment, including water quality testing and wetland assessment.

Gerry Hubatka, Natural Resources Conservation Service Civil Engineering Technician, has an extensive (27 years) background in the design, contracting and implementation of many varied projects dealing directly with erosion control, geomorphology and watershed assessment-based projects. These projects include fish habitat restoration, wetland creation and preservation, fuels reduction, wildlife habitat creation and disaster assessment and rehabilitation.

The project will require not only natural resource and agriculture expertise, but engineering expertise as well. Development of the engineering and construction costs for the various projects will be subcontracted out to an engineering firm through a competitive bidding process.

2. Conducting Scientific Segments of the Work

The plan will be developed by WSRCD, CCWVG and the CC TAC, with the assistance of a qualified civil engineer who will be subcontracted using a competitive bidding process.

3. Planned organization of staff and other resources

Planned organization is as follows:

- * WSRCD District Manager will be the overall manager for this project, write the contract for the engineering subcontractor, facilitate the TAC meetings, assist in writing segments of the plan, review the draft and final plans, supervise the preparation of draft and final grant reports.
- * WSRCD Watershed Coordinator will organize the Technical Advisory Team, schedule meetings, take minutes, prepare the bid document, hold a pre-bid meeting, prepare the draft plan with the assistance of the TAC and engineering subcontractor, prepare quarterly reports, the draft final and final grant reports.
- * Agency personnel will participate on the TAC, including representatives from the Regional Water Quality Control Board, US Fish and Wildlife Service, CA Department of Fish and Game, Natural Resources Conservation Service, US Forest Service California Department of Forestry and Fire, Shasta County, Shasta College.
- * The Cow Creek Watershed Management Group Board of Directors will participate on the TAC. This includes ranchers, foresters, small businessmen and women, and other property owners.

4. Identification and extent of other collaborators

The Shasta Tehama Bioregional Council, Shasta County Cattlemen's Association, and the Protection are also invited to participate in TAC and community meetings.

5. Specific individual responsibilities covering technical, admin and project management roles

a. Technical Responsibilities

Gary Desselle, WSRCD Watershed Coordinator
Bob Harris, President, Cow Creek Watershed Management Group

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Engineering consultant to be determined through a competitive bid process.

b. Administrative Responsibilities

Mary Schroeder, WSRCD District Manager
Gary Desselle, WSRCD Watershed Coordinator
Candace Jefferies, WSRCD Fiscal Officer

c. No conflict of interest

There is no known conflict of interest at this time.

F – COST

1. Budget Detailed by Year

a. Breakout by Year

	YEAR 1 Funds Requested	YEAR 2 Funds Requested	Other Funds	Total Budget
1. Personnel Services	14,070	2,000	12,580	28,650
2. Operating Expenses	10,323	500	1,375	12,198
3. Property Acquisition				
4. Professional Services	9,375		12,600	21,975
5. Contract Lab Services				
6. Construction Expenses				
7. General Overhead 18%	6,078	450		6,528
8. TOTAL BUDGET	39,846	2,950	26,555	69,351

b. Budget Justification

Direct Labor	Salary	Benefits	Total
District Manager	\$23/hr	\$7/hr	90 hrs @ \$30/hr=\$2,700
Watershed Coordinator	\$17/hr	\$5/hr	560 hrs @ \$22/hr=\$12,320
Secretary	\$10/hr	\$3/hr	75 hrs @ \$13/hr-\$1,050

Supplies and Expendables

Meetings 2 community and 6 TAC, draft review and final review = 10 meetings @ \$100 ea = \$1,000

Supplies (copies, office supplies, chartboards, etc.) \$3,500

Travel 500 miles @ \$.36/mi = \$198

Communication \$75

Postage for newsletters 4 @ \$200 ea = \$800 and other \$350 = \$1,150

Printing copies \$150, draft plan 50 copies @ \$10 ea-\$500, Final plan 150 copies @ \$15 = \$2,250, 4 newsletters @ \$500 ea = \$2,000

Services or Consultants

Engineering Consultant reviewing 30 projects, cost estimates, 30 @ 2.5 hrs each or 75 hrs @ \$125/hr = \$9,375

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Equipment
None

Project Management

District Manager 90 hrs \$2,700
Watershed Coordinator 560 hrs \$12,320
Total Project management Budget \$15,020

Management/oversight	55%	\$8,261
Inspection of consultant work	18%	2,704
Review costs	5%	752
Prepare reports	15%	2,253
Presentations	5%	750
Response to questions	2%	300
	100%	\$15,020

Other Direct Costs

Other direct costs are match funds provided by SWRCB, agencies and TAC members.

Indirect Costs

These costs include office rent, electricity, cleaning, trash pickup, equipment use (copier, postage machine, furniture, accounting staff, computers, plotters, printers, telephones), insurance. The indirect cost rate remains the same whether funds come from State or Federal sources.

2. Budget Detailed by Task

	Funds Requested	Other Funds	Total Budget
1. Task 1 – Project Administration	16,070	12,580	28,650
2. Task 2 – CEQA/NEPA Documents			
3. Task 3 – QAPP			
4. Task 4 - Technical Advisory Comm.	800	12,600	13,400
5. Task 5 – Project	24,676	1,375	26,051
6. Task 6 – Draft & Final Reports	1,250		1,250
TOTAL BUDGET	42,796	26,555	69,351

3. Cost Sharing Commitments

\$12,580 is part of a grant from the State Water Resources Control Board to fund the watershed coordinator. The SWRCB grant will develop potential solutions/projects for addressing high temperatures in the lower watershed and projects to eliminate the sources of fecal coliform contamination in two tributaries of the Cow Creek watershed. The solutions/projects will be part of this project, a Watershed Management Plan. The \$1,375 is donated space for public meetings and office supplies. The \$12,600 is In Kind time from the professionals serving on the Technical Advisory Committee.

Describe the source, nature (e.g., cash, volunteer labor, or in-kind services) of the 25% nonfederal matching funds indicated above.

The \$12,580 is cash in the form of a grant from the State Water Resources Control board. The \$1375 and \$12,600 are In Kind donations of time and meeting space.

Match comes from the following:

SWRCB:	Cash in the form of a grant
Landowner participation:	In Kind
TAC participation:	In Kind

G. LOCAL INVOLVEMENT

1. Outreach Plan

The development of this proposal has included considerable local involvement of the Cow Creek Watershed Management Group (CCWVG), the Cow Creek Technical Advisory Committee, and the CCWVG Executive Committee for Grants. The CCWVG Board of Directors meets monthly and holds public meetings with all residents and landowners in the watershed quarterly.

2. Groups Planned for Involvement

Groups involved include the Cow Creek Watershed Management Group, the Shasta County Cattlemen's Association, UC Agriculture Extension Service, Shasta College, Shasta Tehama Bioregional Council.

3. Project Awareness

Those aware of this project proposal include the Cow Creek Watershed Management Group and Technical Advisory Team, Shasta County Cattlemen's Association, UC Agriculture Extension Service, Shasta College, Shasta Tehama Bioregional Council, Shasta County.

4. Third Party Impacts

There are no third party impacts identified at this time.

H. COMPLIANCE WITH TERMS AND CONDITIONS

The WSRCD will comply with the standard State and Federal contract terms described in the CALFED PSP. WSRCD is currently implementing and managing other CALFED grants and over 20 additional grants for work throughout watersheds in the district.

I. LITERATURE CITATIONS

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The Resources Agency. 1989. Upper Sacramento River fisheries and riparian habitat management plan. Sacramento; Upper Sacramento River Fisheries and Riparian Habitat Advisory Council. Unscreened diversions; p 95-97. Available from: CDWR, Sacramento, California.

Reynolds FL, Reavis RL, Schuler J, compilers. 1990. Central Valley salmon and steelhead restoration and enhancement plan, April 1990. Sacramento: California Department of Fish and Game, Inland Fisheries Division. 115 p.

U. S. Fish and Wildlife Service. 2001. Final restoration plan for the anadromous fish restoration program plan to increase natural production of anadromous fish in the Central Valley of California. Stockton: U. S. Fish and Wildlife Service. 112 p. Available from: USFWS, Stockton, California.

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Western Shasta Resource Conservation District, Cow Creek Watershed Group. 2001.
Cow Creek Strategic Fuels Reduction Plan. Redding: Western Shasta Resource Conservation District , 47 p.

Western Shasta Resource Conservation District, Cow Creek Watershed Group. 2001.
Backbone Ridge Defensible Fuel Reduction Zone Plan. Redding: Western Shasta Resource Conservation District, 56 p.

Western Shasta Resource Conservation District, Lower Clear Creek CRMP. 1998. Lower Clear Creek Watershed Management Plan, 36 p.

Whitman MH. 1993. Screening diversion in the Upper Sacramento River. In: Bates K, compiler. 1993. Fish passage policy and technology, proceedings of a symposium. Portland: Bioengineering section of the American Fisheries Society, 209 p.

J. THRESHOLD REQUIREMENTS

1. Letters of Notification

A letter of notification was sent to Shasta County Board of Supervisors and Shasta County Planning Department.

I



6270 Parallel Road, Anderson, CA 96007-4833 · Phone: (530) 365-7332 Fax: (530) 365-7271

February 21, 2003

Shasta County Board of Supervisors
1855 Yuba Street
Redding, CA 96001

Dear Supervisors:

The Western Shasta Resource Conservation District (RCD) intends to submit a proposal to the U. S. Fish and Wildlife Service "Anadromous Fisheries Restoration Program" requesting funds to complete a Watershed Management Plan for the Cow Creek Watershed. As part of the requirements of the application process, we are notifying you of our intent to apply for this grant.

The purpose of the Watershed Management Plan is to develop a Watershed Management Plan that identifies a step-by-step action plan covering all of the Water Quality and the Fisheries and Aquatic Resource items identified as Priority Action Options in the Cow Creek Watershed Assessment completed in 2001. This includes identifying and detailing each step of the tasks involved, detailing the estimated costs, identifying potential funding sources, and including a follow-up report on the actual performance vs. objectives accomplished by the end of the grant period.

Public outreach is an important component of the proposal, and the RCD intends to cooperatively work with the public, willing private landowners, and government agencies to perform this conservation work in Clear Creek.

If you have any questions about the proposal, please contact our District Manager, Mary Schroeder, at our district office. Thank you.

Sincerely,

A handwritten signature in blue ink that reads "Stuart Gray".

Stuart Gray, President
Board of Directors

Cc: Shasta County Planning Department

2. Environmental Compliance Checklist

J.2. Environmental Information Form

Successful applicants are responsible for complying with all applicable laws and regulations for their projects, including the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA)

NEPA/CEQA

Any necessary NEPA or CEQA documents for an approved project must tier from the CALFED Programmatic EIS/EIR. Approved projects must incorporate mitigation strategies listed in Appendix A of the CALFED Programmatic Record of Decision to avoid or minimize the projects adverse environmental impacts. Applicants are encouraged to review the Programmatic EIS/EIR and incorporate the applicable mitigation strategies from Appendix A of the Programmatic Record of Decision in developing their projects and the NEPA/CEQA documents for their projects.

1. Will this project require compliance with CEQA, NEPA, or both? Yes ___ No X
The use of an exemption under CEQA or an exclusion under NEPA is a form of compliance. Do NOT check no if your project is covered by an exemption or exclusion.

2. Is your project covered by either a Statutory or Categorical Exemption under CEQA or a Categorical Exclusion under NEPA? Yes ___ No ___

If you anticipate relying on either or both the Categorical Exemption or Categorical Exclusion for this project, please specifically identify the exemption and/or exclusion that covers this project. (NEPA Example: U.S. Fish and Wildlife Service Manual at 516 DM 6 Appendix 1.4 Categorical Exclusions Section B Resources Management: (1) Research, inventory, and information collection activities directly related to the conservation of fish and wildlife resources.) (CEQA Examples: 15262 Feasibility and Planning Studies and 15306 Information Collection)

3. If your project requires additional CEQA/NEPA analysis, please check which type of documents will be prepared.

CEQA	NEPA
Initial Study/Negative Declaration	___ Environmental Assessment/FONSI ___
EIR/CEQS Finds of Fact	___ EIS/ Record of Decision ___

4. If the project will require CEQA and/or NEPA compliance, identify the lead agency(ies).

CEQA Lead Agency NA

NEPA Lead Agency (Must be a Federal Agency) _____

5. If your project is not covered under items 2 or 3 and you checked no to question 1, please explain why compliance is not required for the actions in this proposal>

This is a plan.

6. If the CEQA/NEPA process is not complete, please describe the estimated timelines for the process and the expected date of completion.

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7. If the CEQA/NEPA document has been completed:

What is the name of the document? _____

Please attach a copy of the CEQA/NEPA document to the application.

8. Environmental Permitting and Approvals

Successful applicants must tier their project's permitting from the CALFED Record of Decision and attachments providing programmatic guidance on complying with the state and federal endangered species acts, the Coastal Zone Management Act, and sections 404 and 401 of the Clean Water Act. The CALFED Program will provide assistance with project permitting through its newly established permit clearing house.

Please indicate what permits or other approvals may be required for the activities contained in your proposal and which have already been obtained. Please check all that apply.

LOCAL PERMITS AND APPROVALS	Needed?	Obtained?	
Conditional use permit	NO		
Variance			
Subdivision Map Act			
Grading permit			
General plan amendment			
Specific plan approval			
Rezone			
Williamson Act Contract cancellation			
Other			
STATE PERMITS AND APPROVALS		Needed?	Obtained?
Scientific collecting permit		NO	
CESA compliance: 2081			
CESA compliance: NCCP			
1601/03			
CWA 401 certification			

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Coastal development permit	NO	
Reclamation Board approval		
Notification of DPC or BCDC		
Other		
FEDERAL PERMITS AND APPROVALS	Needed?	Obtained?
ESA compliance Section 7 consultation	NO	
ESA compliance Section 10 permit		
Rivers and Harbors Act		
CWA 404		
Other		
PERMISSION TO ACCESS PROPERTY		
Permission to access city, county or other local agency land. If yes, indicate the name of the agency: _____	NO	
Permission to access state land. If yes, indicate the name of the agency: _____		
Permission to access federal land. If yes, indicate the name of the agency: _____		
Permission to access private land. If yes, indicate the name of the agency: _____		

J. 3 .

**CALFED BAY-DELTA PROGRAM
PROPOSAL SOLICITATION PACKAGE
LAND USE CHECKLIST**

All applicants must fill out this Land Use Checklist for their proposal. Applications must contain answers to the following questions to be responsive and to be considered for funding. Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.

- 1) Do the actions in the proposal involve physical changes in the land use, or potential future changes in land use? Yes _____ No X
 - a) If you answered yes to # 1, describe what actions will occur on the land involved in the proposal?

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- b) If you answered no to # 1, explain what type of actions are involved in the proposal (i.e., research only, planning only).

this is a plan

- 2) How many acres of land will be subject to a land use change under the proposal? -0-

- 3) What is the current land use of the area subject to a land use change under the proposal? What is the current zoning and general plan designation(s) for the property? How is the land categorized on the Important Farmland Series (IFL) maps (published by the California Department of conservation)?

- a) Current land use NA
b) Current zoning _____
c) Current general plan designation _____
d) Mapping Category on the IFL Series Map _____

- 4) Is the land subject to a land use change in the proposal currently under a Williamson Act contract? YES NO

- 5) What is the proposed land use of the area subject to a land use change under the proposal? NA

- 6) Will the applicant acquire any land under the proposal, either in fee or through a conservation easement? YES NO

- a) If you answered yes to # 6, describe the number of acres that will be acquired and whether the acquisition will be of fee title or a conservation easement:

- b) Total number of acres to be acquired under proposal _____
c) Number of acres to be acquired in fee _____
d) Number of acres to be subject to conservation easement _____

- 7) For all lands subject to a land use change under the proposal, describe what entity or organization will manage the property and provide operations and maintenance services.

NA

- 8) Will the applicant require access across public or private property that the applicant does not own to accomplish the activities in the proposal? Yes No

- a) If yes, the applicant must attach written permission for access from the relevant property owner(s). Failure to include written permission for access may result in disqualification of the proposal during the review process. Research and monitoring field projects for which specific sites have not been identified will be required to provide access needs and permission for access within 30 days of notification of approval.

- 9) For land acquisitions (fee title or easements), will existing water rights be acquired? Yes No

- 10) Does the applicant propose any modifications to the water right or change in the delivery of the water? Yes No

4. Conflict of Interest Checklist

A. Subcontractor

Are specific subcontractors identified in this proposal? No.

B. Helped with proposal development

Are there persons who helped with proposal development? Yes.

Gary Desselle, WSRCD Watershed Coordinator
Bob Harris, CCWWMG President
Patricia Bratcher, CA Dept. of Fish & Game
Morgan Hannaford, Shasta College
Barbara Davis, CCWWMG Director
Len Lindstrand, Jr., Beaty & Associates, CCWWMG Director

K - SUPPORTING RELEVANT DOCUMENTS

1. Support letter from the Cow Creek Watershed Management Group
2. Cover of the Cow Creek Watershed Assessment, November 2001.
3. Cover of the Preliminary Water Quality Assessment of Cow Creek Tributaries, May 2000.
4. Cover of the Cow Creek Watershed Strategic Fuel Reduction Plan, December 2002.
5. Cover of the Backbone Ridge Defensible Fuel Profile Zone Final Plan, December 2002.
6. Cover of the Lower Clear Creek Watershed Management Plan, September 1998.



February 11, 2003

Mr. James Smith
U. S. Fish and Wildlife Service
10950 Tyler Road
Red Bluff, CA 96080

RE: Grant Application for a Cow Creek Watershed Management Plan

Dear Mr. Smith:

The Cow Creek Watershed Management Group supports the grant application by the Western Shasta Resource Conservation District to complete a Cow Creek Watershed Plan.

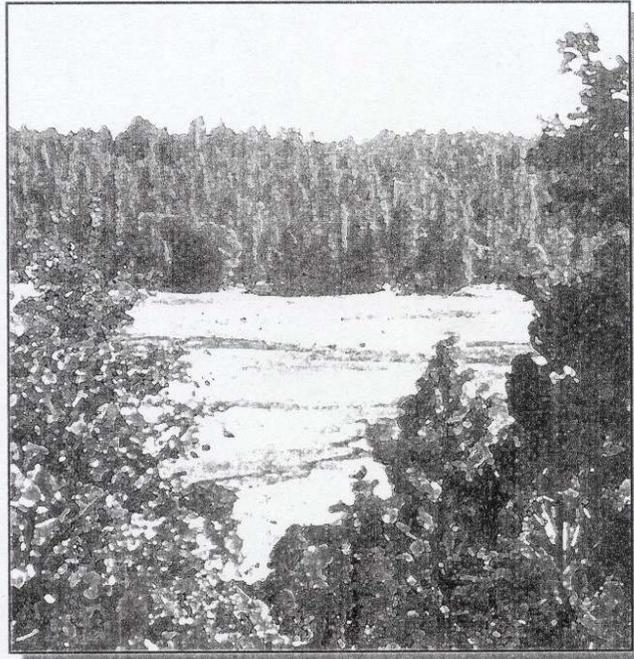
The watershed group has been meeting since 1999 and feels this is the next logical step in working towards improvement of the health of the watershed. Thank you for your consideration.

Sincerely,

Gary Desselle
Watershed Coordinator

Supporting a Healthy Economy in a Healthy Ecosystem

COW CREEK WATERSHED ASSESSMENT



Prepared for

**WESTERN SHASTA
RESOURCE CONSERVATION DISTRICT
and
COW CREEK WATERSHED MANAGEMENT GROUP**

Funding for this project was provided by grants from
the California State Water Resources Control Board (205J)
and the David and Lucille Packard Foundation.

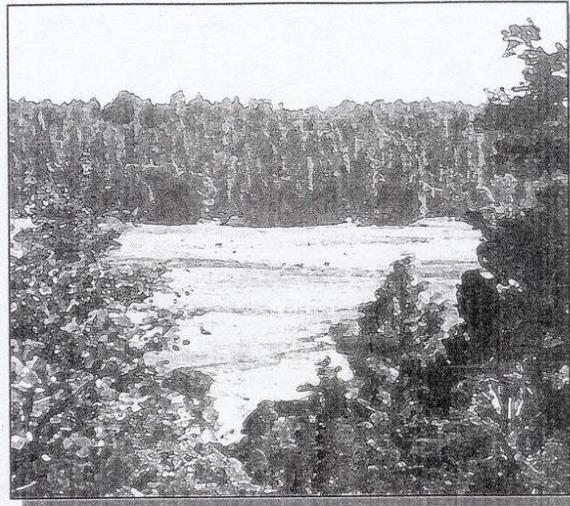
Prepared by



Consulting Engineers & Geologists, Inc.
480 Hemsted Drive
Redding, California 96002

NOVEMBER 2001

**Cow Creek Watershed
Strategic Fuel Reduction Plan
Final Plan**



Prepared for:

**Western Shasta
Resource Conservation District**

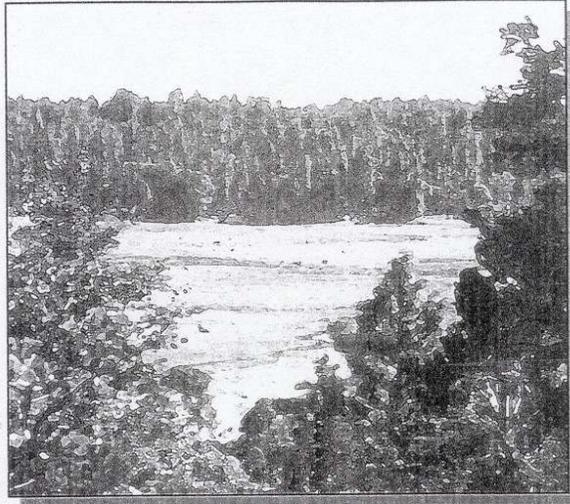
Prepared by:



Consulting Engineers & Geologists, Inc.
480 Hemsted Drive
Redding, California 96002

December 2002

**Cow Creek Watershed
Strategic Fuel Reduction Plan
Final Plan**



Prepared for:

**Western Shasta
Resource Conservation District**

Prepared by:



Consulting Engineers & Geologists, Inc.
480 Hemsted Drive
Redding, California 96002

December 2002

**Backbone Ridge
Defensible Fuel Profile Zone
Final Plan**



Prepared for:

**Western Shasta
Resource Conservation District**

December 2002

Prepared by:



Consulting Engineers & Geologists, Inc.
480 Hemsted Drive
Redding, California 96002
Reference: 501127

Funded by:

**Federal Assistance Grant, USDA-Forest Service
National Fire Plan Community and Private Land Assistance Program**

Lower Clear Creek Watershed Management Plan



Prepared by:

Western Shasta Resource Conservation District

September, 1998



Lower Clear Creek
Coordinated **R**esource
Management and **P**lanning Group

Final Report

Preliminary Water Quality Assessment of Cow Creek Tributaries

Morgan J. Hannaford
and
North State Institute for
Sustainable Communities

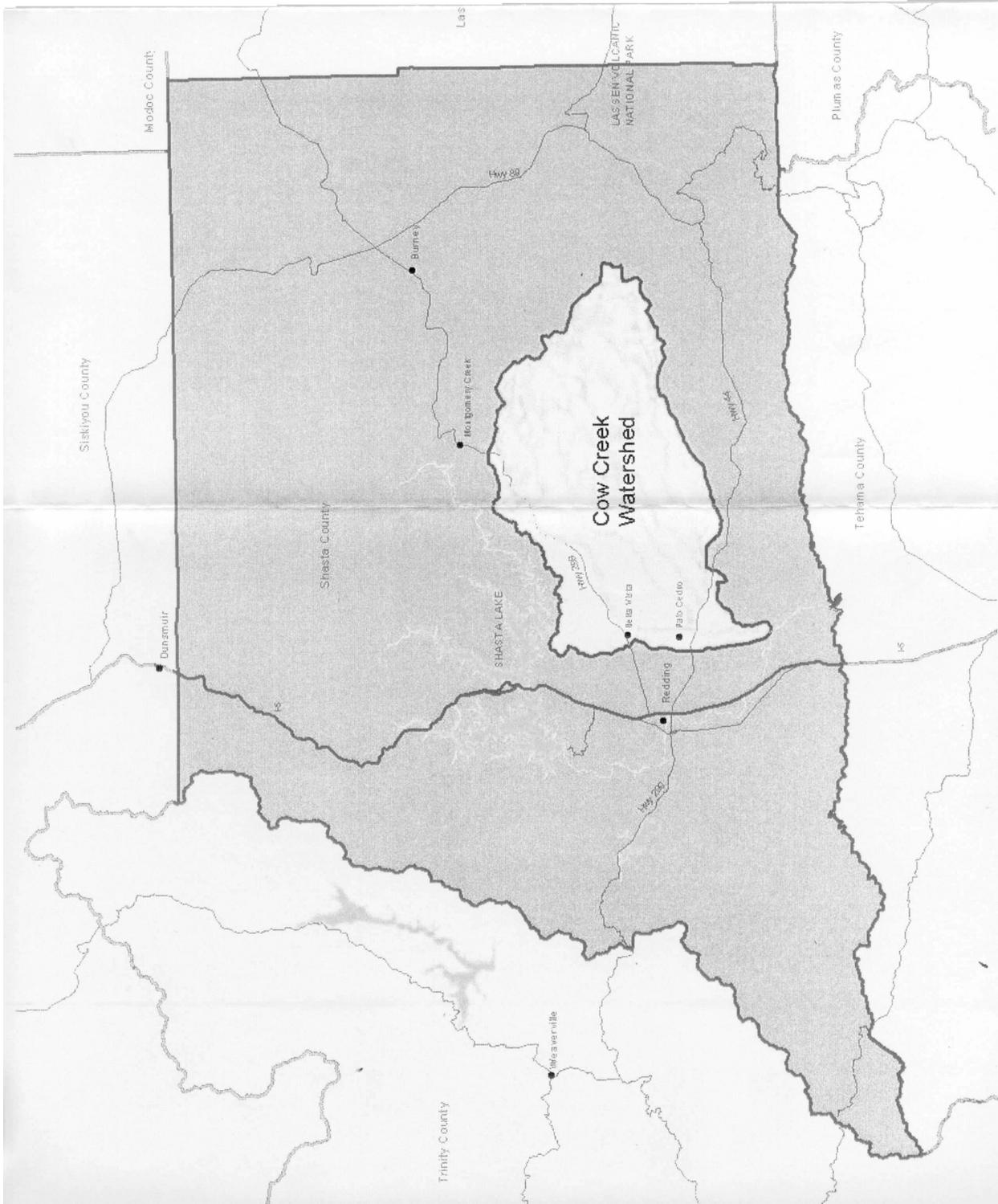
May 15, 2000

report submitted to

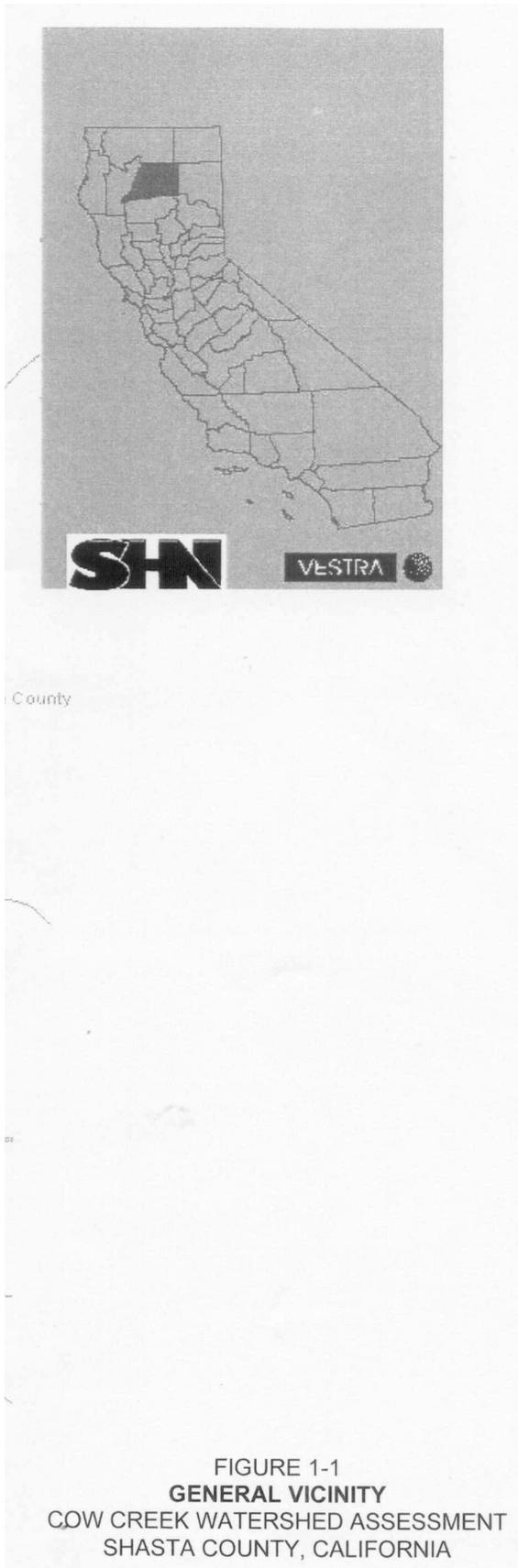
Patricia Parker
US Fish and Wildlife Service
10950 Tyler Road
Red Bluff, CA 96080

Morgan J. Hannaford
Shasta College - Biology
11555 Old Oregon Tr.
Redding, CA 96049

Appendix 1.
Scope of Work-July 2003



Appendix 1.
Scope of Work-July 2003



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Scope of Work-July 2003