



Friends of Corte Madera Creek Watershed

Post Office Box 415 Larkspur, California 94977

July 25, 1997

CALFED Bay - Delta Program Office
1416 Ninth Street
Suite 115
Sacramento CA 95814

Dear CALFED Bay - Delta Program :

On behalf of the Friends of Corte Madera Creek Watershed and A. A. Rich and Associates, I am submitting ten copies of our proposal for a steelhead trout restoration planning effort as part of the 1997 Category III CALFED Bay - Delta Program.

We look forward to continuing our efforts to improve water quality and the natural environment in our watershed whatever the outcome of this application process, but receipt of this grant would allow us to take a major step forward in those efforts.

Please call me at (415) 456-5052 if you have questions about the enclosed proposal. Thank you for the opportunity to submit this proposal.

Sincerely,

Ms. Sandra Guldman
Co-chairperson, Friends of Corte Madera Creek Watershed

DWR WAREHOUSE

97 JUL 28 AM 10:59

**Steelhead Trout Resource Assessment and Restoration Plan
Corte Madera Creek Watershed, Marin County, California**

submitted by
Friends of Corte Madera Creek Watershed

Part I: EXECUTIVE SUMMARY

a. Project Title and Applicant Name: Steelhead Trout Resource Assessment and Restoration Plan: Corte Madera Creek Watershed, Marin County, California, submitted by Friends of Corte Madera Creek Watershed (*Friends*).

b. Project Description and Primary Biological/Ecological Objectives: The purpose of this project is to identify the factors limiting viability of the steelhead trout population in Corte Madera Creek and prepare a restoration plan using the information gathered. Plan implementation will improve habitat for and population levels of steelhead trout: such action may indeed be critical for the continued survival of steelhead trout in the creek.

c. Approach / Tasks / Schedule: The steelhead resource assessment and restoration plan will focus on identifying limiting factors and formulating a practical restoration plan that will enjoy local support. To that end, an Advisory Committee comprised of representatives from local government, federal and state agencies, community groups, and business groups will review documents and guide formulation of the restoration plan. The proposed effort includes the following components and schedule, assuming funding beginning February 1998:

Task 1:	Review and analysis of existing information	Feb - Mar 1998
Task 2:	Fish habitat survey	Summer 1998
Task 3:	Fish population survey	Summer 1998
Task 4:	Thermograph installation and operation	Apr - Oct 1998
Task 5:	Analysis and report of results	Sep - Nov 1998
Task 6:	Restoration plan to address limiting factors	Nov 1998 - Mar 1999

d. Justification for the Project: Corte Madera Creek and its tributaries are among the few streams flowing to San Francisco Bay that retain a steelhead trout population. Although population studies are not available, anecdotal information suggests that steelhead populations have declined in the last few decades. Stressors may include hydrograph changes, streambed changes, loss of riparian habitat, land use and human impacts, increased water temperature, and water quality degradation. However, in spite of these problems, Corte Madera Creek Watershed has been identified by Robert Leidy, EPA biologist, as one of the watersheds that should be targeted for protection.

Although this study targets steelhead trout, habitat improvements in the riparian corridors will also benefit the instream aquatic habitat, shaded riverine aquatic habitat, and the riparian wildlife guild. Similarly, improvements in water quality and water flows likely will benefit saline emergent wetlands habitats in the lower reaches of the watershed that may support splittail and striped bass. San Francisco Bay will also benefit from improvements in water quality, flow, and temperature. These ancillary benefits are all goals of the CALFED Project.

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e. Budget Costs and Third-Party Impacts: Estimated costs for the six tasks are:

Task 1	\$ 4,200	Task 4	2,500
Task 2	6,100	Task 5	8,500
Task 3	10,200	Task 6	12,000
		Total	\$ 43,500

The proposed information gathering and planning effort itself will have no third-party impacts. However, benefits to the environment of implementation of the resulting restoration plan will apply to the community at large. Potential negative impacts to individual property owners include decreased use of stream diversions for landscape irrigation and increased responsibility for private property owners to abate erosion on their land. Marin County Open Space District and Marin Municipal Water District could also incur some costs for plan implementation on their lands for which outside funding might not be available. There will also be a need to reconcile the potential conflicts between flood prevention and the need to provide shelter for fish, for example, by providing woody debris in the streams.

f. Applicant Qualifications: *Friends* is a non-profit organization that has been active in the watershed since 1993 and has been successful at planning and implementing several projects. Board members have been active in environmental efforts for many years in Marin County and are committed to this effort. Although many *Friends*' projects focus on implementation, the organization realizes the need to develop a comprehensive watershed plan. The funding provided by this grant will enable the hiring of the essential technical expertise that *Friends* and the other cooperating agencies cannot supply.

Sandra Guldman, a board member of *Friends*, will serve as project manager for this grant. She has 11 years' experience managing conservation planning efforts, including supervision of biologists, and has set aside adequate time for this task. A. A. Rich has over 25 years of technical in a wide range of fisheries-related projects. Her professional experience encompasses work as a fisheries consultant, fisheries biologist, fish physiologist, analytical chemist, and university lecturer. She is a recognized expert in fishery resources habitat needs and fish physiology and has been called upon as an expert witness on the impacts of water temperature, water quality, water diversions, migration barriers, timber harvest practices, and catch-and-release fishing on fishery resources.

g. Monitoring and Data Evaluation: Provisions for plan revision and adaptive management will be included in the plan. Technical experts on the Advisory Committee will provide peer review for all phases of the data gathering, analysis, and planning efforts.

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

Objectives: As part of a comprehensive watershed planning effort that includes this proposed effort as well as other components, *Friends* has developed a working relationship with a wide range of local groups and regulators, most of whom have agreed to serve on the Advisory Committee. *Friends* also maintains outreach programs with community groups, neighborhood associations, and local schools to improve water quality and habitat values in the watershed. These efforts are consistent with CALFED objectives to improve Bay - Delta environments.

Part II: Title Page

- a. Title of Project:** Steelhead Trout Resource Assessment and Restoration Plan: Corte Madera Creek Watershed, Marin County, California
- b. Applicant:** Friends of Corte Madera Creek Watershed
- Co-chairpersons:** Carole d'Alessio Sandra Guldman
P.O. Box 339 40 Quisisana Drive
Ross CA 94957 Kentfield CA 94904
- Phone:** (415) 454-8608 (415) 456-5052
Fax: (415) 454-1749 (415) 456-4992
E-mail: d'Alessio@microweb.com toyon@hooked.net
- c. Type of Organization:** Non-profit 501(c)(3)
- d. Tax ID:** 69-0365270
- e. Technical Contact:** A. A. Rich
A. A. Rich and Associates
150 Woodside Drive
San Anselmo CA 94960
- Phone:** (415) 485-2937
Fax: (415) 485-9221
E-mail: aarfish@nbn.com
- Financial Contact:** Richard Slusher, CPA
925 Sir Francis Drake Boulevard
Kentfield CA 94904
- Phone:** (415) 485-0706
Fax: (415) 453-7097
E-mail: rslush@worldnet.att.net
- f. Participants:** Advisory Committee, including local government, federal and state agency representatives, community groups, and business groups
- g. RFP Group Type:** 3: Other Services

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Part III: Project Description

a. Project Description and Approach: The purpose of this project is to identify the factors limiting long-term viability of the steelhead trout population in Corte Madera Creek and then prepare a restoration plan using the information gathered. Plan implementation will improve habitat for and population levels of steelhead trout.

Objectives include gathering information on former and current use of the watershed by steelhead trout and other fish (known from earlier studies and incidental observations), flow regimes, water temperature, location and condition of steelhead trout habitat needs (spawning gravels, availability of pools and sheltering habitat, food sources, barriers to movement within the creek and its tributaries), and other characteristics of the creek and the watershed that affect the steelhead trout population. After this information has been gathered, it will be used to prepare a restoration plan. Expected components of the steelhead restoration plan include improvements to both instream aquatic habitats and shaded riverine aquatic habitats.

The plan produced in this project will be part of a comprehensive watershed plan being developed by *Friends*. Funding is anticipated for preparation of an erosion and sediment transport and deposition control plan to be prepared concurrently with this proposed steelhead trout restoration plan. The hydrology and geomorphology information will be synergistic with this proposed study. Other components of the watershed plan to be developed in the future will build on these two major components.

Although there have been some fishery resource-related studies in Corte Madera Creek, critical questions remain to be addressed before a cause-and-effect analysis can be undertaken. Only by understanding the limiting factors can effective rehabilitation measures be implemented. Monitoring the success of the identified restoration measures will then enable continuing effective enhancement of the watershed. The basic questions to be answered during this resource assessment and restoration planning effort include the following:

- What are the distribution and relative abundance of steelhead trout, as well as other fishes?
- Where are areas of degraded habitat, by species and life stage?
- Are there areas of high existing or potential habitat use?
- Where are areas of limited habitat availability?
- What are the factors limiting steelhead trout (e.g., barriers, spawning habitat, rearing habitat) during any of their life stages?
- What are effective ways to address the problems identified in the study?

The steelhead resource assessment and restoration plan will consist of the following tasks:

- Task 1: A review and analysis of relevant existing information (including previous fish surveys and data on water quality, water flow, and water temperature).
- Task 2: Summer fish habitat survey, using a modification of the habitat typing described by Bisson *et al.* (1992) and general descriptive measurements (see Attachment 1, sample survey sheet).

- Task 3: Summer fish population survey in which representative habitat types (based on prior habitat typing survey) are sampled.
- Task 4: Thermographs to be placed in representative areas of each reach of the creek (trained volunteers will maintain these thermographs).
- Task 5: Analysis and report of results, including depicting data on a Marin County Department of Public Works Geographic Information System.
- Task 6: Preparation of a restoration plan to address the identified limiting factors, developed in consultation with the Advisory Committee.

b. Location of the project: The Corte Madera Creek watershed covers 28 square miles located in the eastern part of central Marin County (see Attachment 2). It drains into San Francisco Bay just south of the San Quentin Peninsula, approximately 10 miles north of the Golden Gate. The watershed extends from latitude 37.85° N to 38.03°N and from 122.51°W to 122.61°W. Its elevations range from sea level to 2,571 feet at the East Peak of Mount Tamalpais.

In the lower reaches of the watershed, a narrow floodplain merges with the tidal marshes and mudflats that surround San Francisco Bay. The upper parts of the watershed are hilly. The two major upstream branches of the creek are Fairfax Creek and San Anselmo Creek. After they join, the stream is known as San Anselmo Creek until it reaches Ross, where it is renamed Corte Madera Creek. The streams within the watershed total approximately 42 miles in length. Remnant populations of steelhead trout are found in Corte Madera Creek and San Anselmo Creek, as well as the tributaries Ross Creek, Sleepy Hollow Creek, and Cascade Creek. These streams total approximately 17 miles in length.

The lower reaches are urbanized, with houses and towns flanking the stream edges. As the stream reaches become steeper and higher, they are progressively less populated. The upper drainage of Corte Madera Creek watershed consists mainly of open space.

c. Expected benefits: The target species is the listed steelhead trout, remnant populations of which persist in the Corte Madera Creek watershed. Habitats that have suffered loss along the creek and that are immediately relevant to the survival of steelhead trout populations include instream aquatic and shaded riparian aquatic.

The purpose of this study is to identify the crucial limiting factors (stressors) to steelhead trout populations in the watershed. There are many possible contenders, including:

- Hydrograph Alterations: Water diversion by adjacent property owners, mostly for irrigation of landscaped areas; increased flooding and decreased groundwater storage because of increases in impermeable surfaces in the watershed; decreased summer water flows caused by lowered water tables and by water diversions;
- Migration Barriers: Impassable barriers from erosion at culverts, bridges, and other structures;
- Alteration of Channel Form: Channelization of approximately one mile of the stream as part of an unfinished Corps of Engineers flood control project, halted in 1971;
- Isolation of Sidechannels: Some tidal sidechannels have limited circulation due to undersize connections to the main channel and/or obstructions;

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- **Channel Aggradation Due to Fine Sediments:** Excessive upland and streambank erosion introduces abundant fine sediments into the creek;
- **Loss of Riparian Zone:** Degradation and removal of natural vegetation due to channelization and landscaping;
- **Water Quality:** Increased contaminants loads from urban run-off; increased nutrient loading from run-off from landscaped areas and stables in the watershed; increased mobilization of contaminants from dredging;
- **Water Temperature:** High temperatures caused by low flows and loss of riparian vegetation;
- **Land Use:** Urbanization encroaches on the stream and flood zone, leaving limited room for riparian vegetation; and
- **Human Disturbance:** Cleaning of the creek for flood control removes downed wood used for shelter by fish and aquatic organisms; fishing and wading in the creek harm the fish and damage habitat.

Clearly, some of these are more amenable to improvement than others. To be useful, any plan must be plausible. This precludes proposing that the flood control channel be removed. However, if the steelhead resource assessment identifies the channel in its current configuration as a major contributor to limited steelhead success, it may be possible to find opportunities for improvement, especially since the Corps of Engineers may finally complete this flood control project.

This list of stressors makes apparent the need to integrate this proposed effort with the erosion and sediment transport and deposition study that is likely to begin in mid-1998. That plan will present a range of feasible and cost effective measures that, when implemented, will reduce bank erosion, improve stream channel characteristics, and reduce the amount of sediment supplied to the stream. Means to reduce diversions will be included. Our goal is to ensure that measures developed in response to identified hydrological and geomorphological problems will be engineered in a manner that benefits native species and are supported by the public.

At this stage, the benefits from the proposed steelhead resource assessment and restoration plan cannot be quantified. When the restoration plan is written, it will be possible to quantify reaches of the stream targeted for habitat improvements and, perhaps, to predict the expected effects on the steelhead population.

Implementation of the restoration plan will have direct benefits to the steelhead trout population. The following indirect benefits can be expected:

- Riparian guild species will benefit from restoration of riparian vegetation.
- San Francisco Bay and saline emergent habitats at the mouth of Corte Madera Creek will benefit from improved water quality in the creek.
- Taxpayers funding public agencies that maintain drainage and flood control facilities will have reduced dredging and erosion repair costs.
- Private property owners will benefit from reduced erosion resulting from revegetation and bank stabilization efforts that they and upstream property owners implement.

- The community at large will enjoy the sense of well-being and the recreational value of a healthy stream environment.

d. Background and Biological/Technical Justification: Stream surveys conducted by CDFG from 1960 through 1980 showed five dominant species present in Corte Madera Creek and its tributaries (sucker, roach, stickleback, sculpin, and steelhead) with occasional sightings of Coho salmon.

RWQCB staff conducted field surveys during the summer of 1992. The three most frequently observed species were the California roach, Sacramento sucker, and three-spined stickleback. Eleven steelhead trout were trapped and many others were observed. All steelhead were in the lower part of the creek in deep, shaded pools under overhangs, log debris, and bridges. No other salmonid species were observed during these surveys.

Need for the Project: This information suggests decreasing populations of salmonid species in the Corte Madera Creek watershed. Given the urbanized nature of the lower watershed, it is likely that the steelhead trout is the only salmonid species persisting to the present time. This proposed study will identify how this trend can be reversed and present an action plan for the restoration of Corte Madera Creek as long-term steelhead trout habitat.

The alternative to a planned approach is to proceed with habitat improvement measures on an *ad hoc* basis as opportunities occur. Such an approach would be unlikely to harm the steelhead population, but it could easily result in using resources to implement projects that address peripheral issues. Without a monitoring plan, based on a thorough study like the one proposed in this effort, the success of the ad hoc projects could not be effectively evaluated and sincere efforts could easily be misdirected.

Durability of the Project: It is likely that most of the measures implemented will deal with the freshwater creeks in the watershed. Long-term rise in sea-level would not affect those areas, except for indirect land use changes as development moved away from low-lying areas. This plan, assuming that it will address appropriate changes in land use planning by the local jurisdictions in the watershed, would be doubly important in such a situation.

Drought would adversely affect the watershed directly by reducing the water in the creek and thereby stressing aquatic and riparian organisms. An indirect impact of drought would be to make it more likely that adjacent landowners would divert water from the creek to keep landscaping alive and further reduce the water in the creek. A restoration plan would not provide more rainfall, but it might help reduce diversions.

Increases in native species, both plant and animal, resulting from plan implementation would be stable except for impacts from drought and land use changes that cannot be remedied after the fact. However, the trend is toward stream protection and it is likely that in Marin County, there would be public support for environmental protection.

Status of the Project: This project is one component of a comprehensive watershed plan. The first phase, likely to be implemented beginning in mid-1998, is an erosion and sediment

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transport and deposition plan. In preparation for the planning efforts, *Friends* has gathered the results of existing studies into a Background Report. We have also implemented the following projects since our inception in 1993:

- Implemented three revegetation programs.
- Organized two clean-up programs.
- Published a brochure and several newsletters and sponsored community programs about watershed planning, water quality, historic and current conditions in the watershed, natural plant communities, fish populations, and erosion.
- Developed Creek Watchers, a program that helps identify creek problems.
- Conducted the San Anselmo Creeks Vegetation Summary and Photographic Monitoring Project, with two research aspects: (1) photographic documentation of the 3.5 miles of creeks within incorporated San Anselmo; and (2) a survey of riparian vegetation and the threats to health of creeks in this same urban area.
- Sponsors a water quality monitoring and education program with students from kindergarten through twelfth grade. They test for turbidity, temperature, dissolved oxygen, conductivity, and pH as part of a watershed-wide monitoring and education program. The data serve three functions. They document baseline conditions; they will be used in developing the watershed plan; and, most important for the future, the data will allow *Friends* and other stakeholders to monitor the success of plan implementation in producing improvements in water quality. The involvement of schools and students also builds a basis for sustained community involvement in protecting the creek.

Interaction with Other Programs and Projects: *Friends* has established working relationships with the following entities in the watershed: Marin County Flood Control and Water Conservation District, Marin County Department of Public Works, Marin County Open Space District, Marin County Stormwater Pollution Prevention Program, Marin Municipal Water District, Town of San Anselmo, Town of Ross, Town of Fairfax, and City of Larkspur. These groups, along with the Regional Water Quality Control Board, have agreed to serve on the Advisory Committee that will set overall goals and objectives for the watershed plan policy, review and evaluate technical information, and provide guidance throughout development of components of the watershed plan. The Advisory Committee will also include representatives from a broad range of stakeholders as well as people with expertise in major concerns in the watershed, including water quality, fisheries, native plants and wildlife, wetland and upland habitats, flood control, and recreational uses. At a minimum, representatives from local governments, regulatory agencies, environmental organizations, trade and business groups, recreational interests, schools, and private landowners will be included. A Fishery Subcommittee will be formed as part of this project.

e. Proposed Scope of Work: The scope of work is summarized in the tasks listed above under the approach. The work product will be a technical report describing the full effort, with the following table of contents:

Chapter 1	Introduction
Chapter 2	Background
Chapter 3	Surveys (methodology and results for all components) Habitat Typing

	Fishery Population
	Thermographs
Chapter 4	Analysis of Results
Chapter 5	Restoration Measures and Monitoring

The first phase is review of existing information. Text describing this information will be prepared for review by the Advisory Committee as Chapter 2. The next phase will include gathering of new information on the habitat (Task 2 and Task 4) and fish population levels (Task 3) in the watershed. The surveys and their results will be described in Chapter 3. Analysis of results and the identification of limiting factors (Task 5) will be presented in Chapter 4. The components of the watershed plan dealing with restoration of the steelhead trout population and how the plan will be monitored (Task 6) will be described in Chapter 5.

f. Monitoring and Data Evaluation: Provisions for plan revision and adaptive management will be included in the plan. The chapters of the technical report will be written as the tasks are completed and submitted to the Fishery Subcommittee of the Advisory Committee for review. Representatives from the California Department of Fish and Game, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Environmental Protection Agency, Regional Water Quality Control Board, and other appropriate regulators and technical experts will be recruited to serve on the Fishery Subcommittee. These experts will provide peer review for all phases of the data gathering, analysis, and planning efforts.

The framework for data review has been established as part of the comprehensive watershed planning effort. It includes not only the Advisory Committee representing a very broad group of stakeholders, but also volunteers observing the creek and monitoring water quality.

g. Implementability: One of the major criteria for the restoration plan is that it be practical. The communities, landowners, and other local land managers participate in the planning effort with the goal of preparing a plan that can be funded and implemented. The need for public support is recognized and will be actively sought.

References Cited:

Bisson, P.A., J.L. Nielsen, R.A. Palmason, and L.E. Grove. 1982. A system of naming habitat types in small streams, with examples of habitat utilization by salmonids during low streamflow. Proc. Sympos. Acquisition and Utilization of Aquatic Habitat Inventory Information, Portland, Oregon, October 28-30, 1981. Pages 62-73.

Part IV: Costs and Schedule to Implement Proposal

a. Budget Costs: Funding for this project includes in-kind donations by *Friends* for project management. It also includes in-kind donations from local jurisdictions and land managers for participation in document review, planning, and public outreach. The value of these efforts is expected to be approximately equal to the amount of the grant request, which will fund the technical expertise that cannot be provided by the stakeholders.

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Marin Community Foundation has indicated that it will fund a public outreach program for the comprehensive watershed planning effort. It is estimated that approximately \$25,000 will be needed and that funding is contingent upon Friends' receipt of separate funding for planning. In summary, it is expected that approximately \$65,000 will be provided in matching funds to support this grant application.

The direct costs are for printing, telephone, fax, postage, and similar expenses that will be incurred by *Friends* in managing the project.

A. A. Rich & Associates (AAR) is listed as a contractor. *Friends* considers AAR an integral part of this proposal and the most appropriate fisheries consultant for the work described in the proposal. However, if the grant could not be given to *Friends* using AAR as a sole source, then we would be willing to put the technical components out to competitive bid.

Table 1: Cost Breakdown

Task	Service Contracts (AAR)	Direct Costs	Total Cost
1. Review	4,000	200	3,200
2. Habitat Survey	6,000	100	6,100
3. Fish Population Survey	10,000	200	10,200
4. Thermographs	2,000	500	2,500
5. Reporting and Analysis	8,000	500	8,500
6. Restoration Plan	10,000	2,000	12,000
Total	\$ 40,000	\$ 3,500	\$ 43,500

b. Schedule Milestones: The following milestones are presented, assuming funding would be received no later than February 1, 1998. Since the surveys will be conducted during the summer, earlier availability of funding would not change the overall schedule.

Complete review of existing information	March 31, 1998
Submit draft Chapters 1 and 2	May 30, 1998
Complete habitat typing	July 31, 1998
Complete fish population surveys	August 31, 1998
Thermographs: complete data gathering	October 31, 1998
Submit draft Chapter 3	November 15, 1998
Public meeting(s) to discuss limiting factors, possible actions	January 1999
Submit Draft Chapters 4 and 5	February 15, 1999
Public meeting to discuss draft restoration plan	March 1999
Submit Final Technical Report	March 31, 1999

c. **Third-party Impacts:** The proposed information gathering and planning effort itself will have no third-party impacts. However, it is expected that benefits to the environment of implementation of the resulting restoration plan will apply to the community at large. Potential negative impacts to individual property owners include decreased use of stream diversions for landscape irrigation and pressure to abate erosion on private property. Marin County Open Space District and Marin Municipal Water District could also incur some costs for plan implementation on their lands for which outside funding might not be available. There will also be a need to reconcile the potential conflicts between flood prevention and, for example, the need to provide shelter for fish by providing woody debris in the streams.

Part V: Applicant Qualifications

The flowchart in Attachment 3 shows project organization. Key players for this project are Ms. Sandra Guldman, Project Manager, and Dr. Alice A. Rich, Fisheries Biologist.

Ms. Guldman will serve as a volunteer project manager as part of her participation in *Friends*. She will supervise contract administration, write progress reports, and supervise preparation of invoices. She will also coordinate interaction with the Advisory Committee and its subcommittees, public meetings, and review of documents and technical reports. Her recent professional experience includes the following conservation planning efforts during the period 1991 through 1997:

- Project Manager for California Aqueduct, San Joaquin Field Division Habitat Conservation Plan, coordinating data gathering and plan development for the Department of Water Resources. This project includes supporting documentation, such as the Operations and Maintenance Plan, for permits covering operations and maintenance activities along approximately 125 miles of aqueduct corridor in central California between Kettleman City and the Grapevine. It requires coordination and negotiation among federal and state permitting agencies, different divisions of the Department of Water Resources, adjacent landowners, and State Water Contractors.
- Project Manager for Coalinga Habitat Conservation Plan. This conservation planning effort is based on the Pleasant Valley Habitat Conservation Plan, which was abandoned because of opposition from the Fresno County Farm Bureau. The project required coordinating resource surveys, data gathering, and plan development for Fresno County and the City of Coalinga; ranchers; several oil companies, including Chevron; and three aggregate mining companies. Originally, this project required extensive coordination among property owners, state and federal wildlife agencies, Division of Oil and Gas, BLM, and other state and local agencies. Fresno County has dropped out of this effort and the HCP is being used as the basis for a planning policy document for the City of Coalinga, which will use it to ensure compliance with State and Federal Endangered Species Acts.
- Task Leader for Habitat Conservation Plan preparation for Tulare County Habitat Conservation Plan. The major task includes negotiating the Habitat Conservation Plan. The challenge is to facilitate a consensus among a wide variety of interest groups with disparate views about appropriate ways of implementing habitat protection.

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- Project Manager for biological analyses and preserve design for San Joaquin County Habitat Conservation and Open Space Plan, coordinating data gathering and preserve design for the San Joaquin County Council of Governments. This project included gathering and analyzing biological baseline data for all of San Joaquin County, calculating impacts to habitat, and developing criteria for the selection of preserves and open space to compensate for impacts to the target species. There are approximately 100 sensitive species on the species list.
- Project Manager for threatened and endangered species permitting for two Mobil projects replacing 15 miles of pipeline in the San Joaquin Valley. These successfully completed projects required surveys and report preparation, negotiation with federal and state wildlife agencies, mitigation plan development, employee education, and environmental compliance monitoring.

During the period 1989 through 1991, Ms. Guldman worked on the following projects that called for management of biological, cultural, and paleontological resource surveys, mitigation planning and monitoring, and extensive coordination with state and federal agencies.

- Project Manager for joint NEPA/CEQA environmental review for a 73-mile railroad renovation in Kern and Inyo Counties.
- Project Manager for permitting two pipeline projects in the San Joaquin Valley for Mobil Oil Corporation.
- Project Manager for the Pacific Gas and Electric proposed natural gas pipeline reinforcement project in San Bernardino and Kern Counties.
- Project Manager for the Southern California Gas proposed natural gas pipeline project in San Bernardino County.
- Assistant Project Manager for the Wyoming-California Pipeline Company proposed pipeline project in Wyoming, Utah, Nevada, and southeastern California.

References for Ms. Guldman:

Mr. Peter Cross
U.S. Fish and Wildlife Service
3310 El Camino Avenue Suite 130
Sacramento CA 95821-6340
Voice: (916) 979-2725
Fax: (916) 979-2723
Email: Peter_Cross@FWS.gov

Ms. Dale K. Hoffman-Floerke
California Department of Water Resources
3251 S Street
Sacramento CA 95816
Voice: (916) 227-7530
Fax: (916) 227-7554
Email: dalehf@water.ca.gov

Ms. Gail Presley
California Department of Fish and Game
P.O. Box 4437
Visalia CA 93278
Voice: (209) 594-5330
Fax: (209) 594-5330
Email: gpresley@theworks.com

Dr. Rich will provide technical expertise and supervise technicians and other fisheries biologists assisting her with this project. She has:

- Conducted studies to assess the potential impacts of the proposed West Lathrop Specific Plan on fishery resources in the San Joaquin and adjacent rivers and sloughs, with particular emphasis on impacts to threatened and endangered species;
- Supervised fishery resource component of a U.S. Bureau of Reclamation Project associated with impacts of agricultural activities throughout the Central Valley, with particular emphasis on impacts to threatened and endangered species;
- Designed and conducted field and laboratory studies to determine the relationship between instream flows levels, water temperatures, and the growth and well-being of chinook salmon in the Central Valley;
- Supervised studies on the requirements of chinook salmon, steelhead trout, American shad, and striped bass in the Central Valley;
- Designed and conducted fishery resource studies to assess impacts of water diversions on salmonid quality in the San Joaquin, Merced, Stanislaus, and Tuolumne rivers;
- Provided an analysis of all past, present, and proposed anadromous fish restoration projects in the Central Valley;
- Supervised monitoring studies on the impacts of highway construction on fishery resources;
- Conducted over 100 populations and habitat surveys; and
- Prepared trout and salmon enhancement and rehabilitation plans.

References for Dr. Rich:

Mr. William Loudermilk
California Department of Fish and Game
Region 4
1234 East Shaw Avenue
Fresno CA 93710
Voice: (209) 222-3761

Mr. Phillip Sharpe
Montgomery Watson Americas, Inc.
777 Campus Commons Road, Suite 250
Sacramento CA 95825
Voice: (916) 924-8844

Mr. Ed Stewart
City and County of San Francisco
San Francisco Water Department
1000 El Camino Real
P.O. Box 730
Millbrae CA 94030
Voice: (415) 872-5933

Part VI: Compliance with Standard Terms and Conditions

According to Table D-1 in the RFP, Item 2, Service and Consultant Contract with Non-Public Entity is the appropriate contract. There are no clauses in Item 2 that cannot be executed by *Friends*. Item 8, the Non-discrimination Clause, and Item 12, Small Business Preference, which must be submitted with the proposal are included in Attachment 4.

Attachment 1: Habitat Survey Data Sheet

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STREAM: _____ DATE: _____ CREW: _____

LATITUDE _____ LONGITUDE _____ WEATHER _____

=====

SRU: _____ HABITATTYPE: _____ TIME: _____

LENGTH (M) _____ LENGTH (TOTAL) _____

WIDTH (M) _____ WIDTH, MEAN (M) _____

DEPTH (M) _____ WIDTH, MEAN (M) _____

GRADIENT (%) _____ SPAWNING GRAVEL _____

TEMP., AIR (°C) _____ TEMP., H2O, BOTTOM (°C) _____ TEMP., H2O, SURFACE (°C) _____

COVER TYPE (0=NONE 1=LITTLE 2=MODERATE 3=ABUNDANT)

ROCK _____ ROOTWAD _____ BEDROCK _____ WOODY DEBRIS _____ DEPTH (>0.5M) _____

CANOPY _____ AQUATIC VEGETATION _____ TURBULENCE _____ OVERHANG. VEG. _____

UNDERCUT BANKS _____ OTHER _____

SUBSTRATE, TYPE (DOM) _____

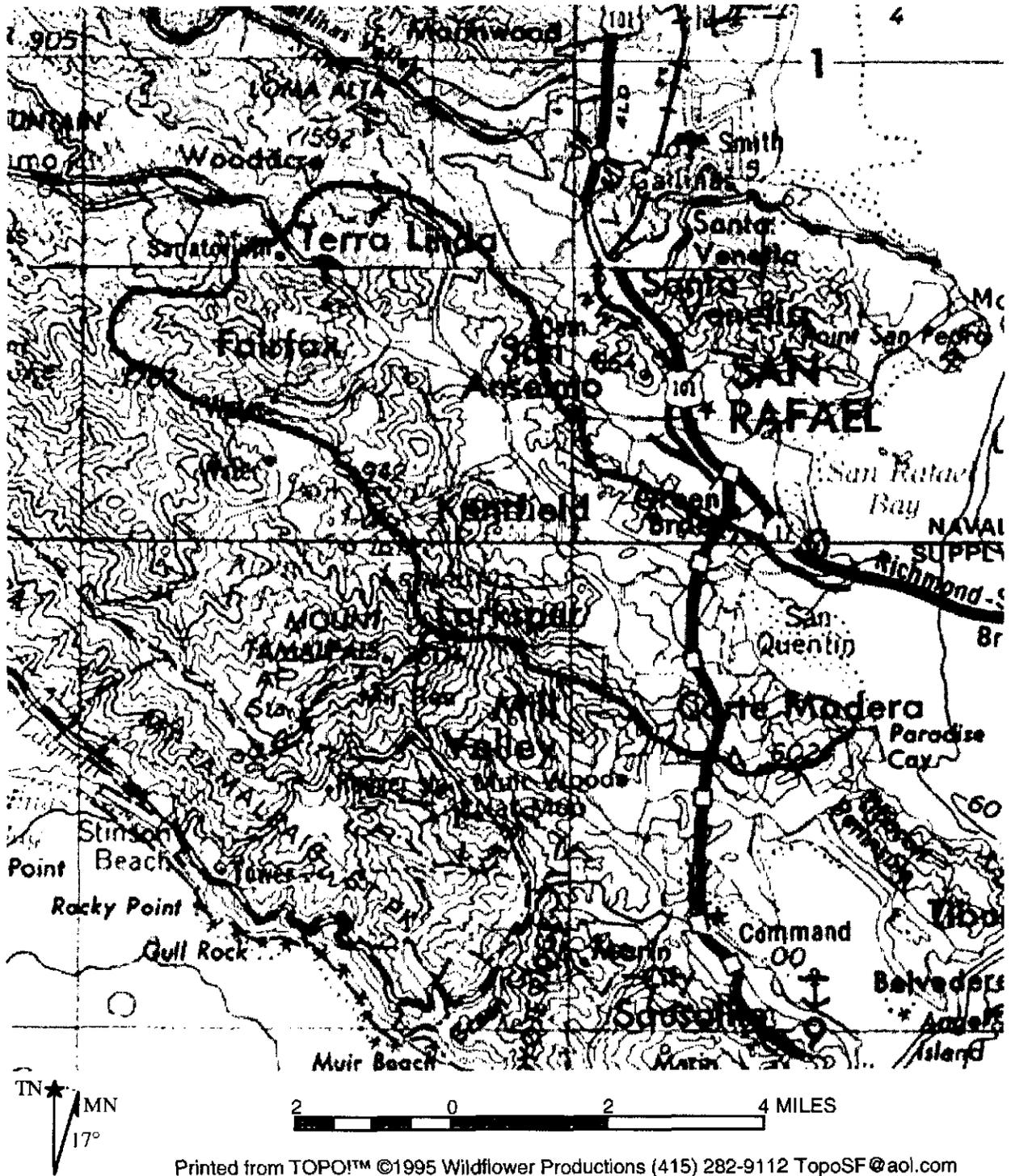
PHOTOS

ROLL	FRAME	DESCRIPTION
_____	_____	_____
_____	_____	_____
_____	_____	_____

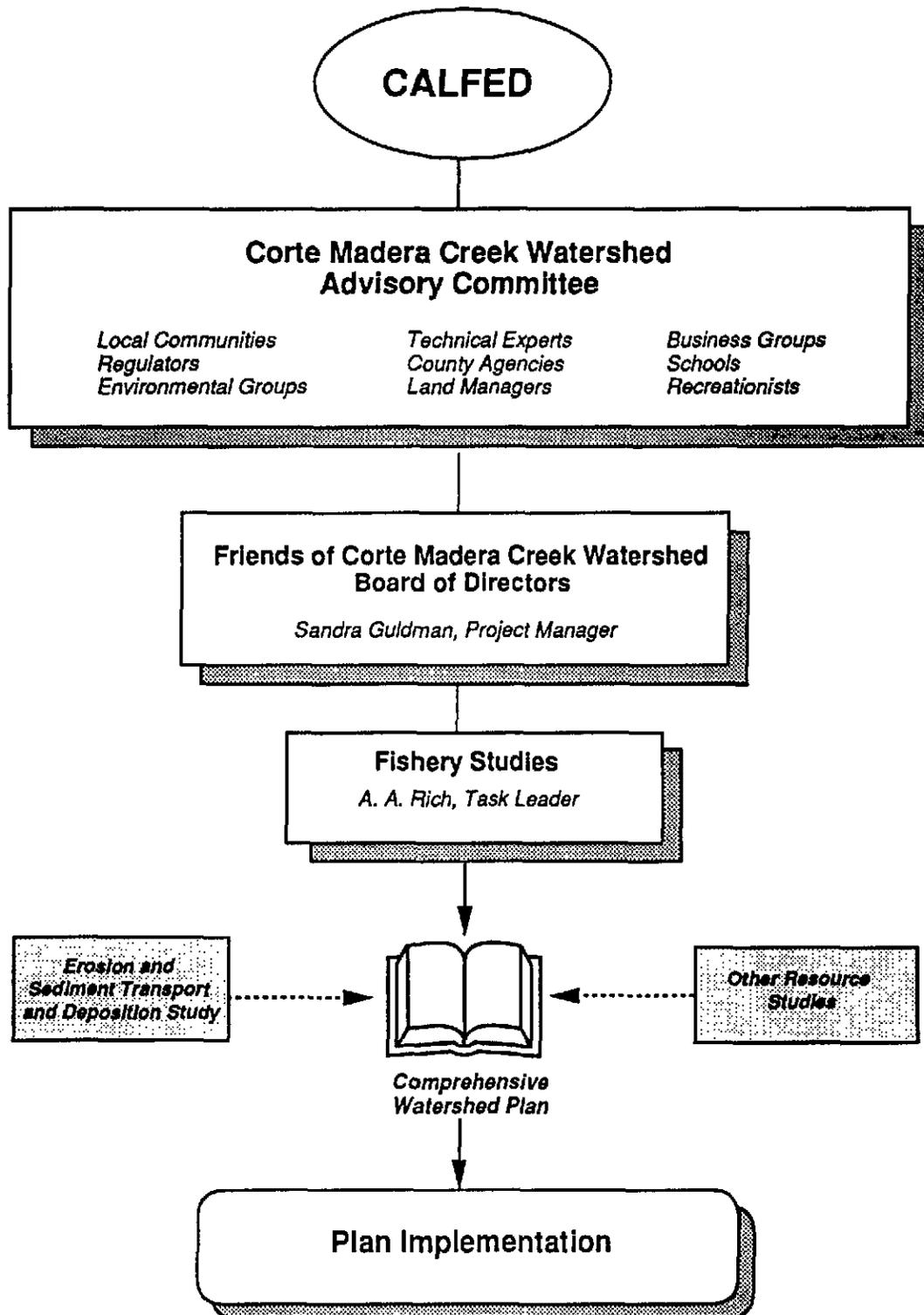
COMMENTS _____

DIAGRAM

Attachment 2: Map of Corte Madera Creek Watershed



Attachment 3: Organization Chart



Attachment 4: Non-discrimination Clause and Small Business Preference

NON-DISCRIMINATION COMPLIANCE STATEMENT

COMPANY NAME

Friends of Corte Madera Creek Watershed

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty perjury under the laws of the State of California.

OFFICIAL'S NAME

Sandra Guldman

DATE EXECUTED

July 25, 1997

EXECUTED IN THE COUNTY OF

Marin

PROSPECTIVE CONTRACTOR'S SIGNATURE



PROSPECTIVE CONTRACTOR'S TITLE

Co-chairperson

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

Friends of Corte Madera Creek Watershed

NONDISCRIMINATION COMPLIANCE STATEMENT

COMPANY NAME

A.A. Rich and Associates

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

OFFICIAL'S NAME

Sandra Goldman

DATE EXECUTED

7/24/97

EXECUTED IN THE COUNTY OF

Marin

PROSPECTIVE CONTRACTOR'S SIGNATURE

[Handwritten Signature]

PROSPECTIVE CONTRACTOR'S TITLE

President / Owner

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

A.A. Rich and Associates

Agreement No. _____

Exhibit _____

**STANDARD CLAUSES --
SMALL BUSINESS PREFERENCE AND CONTRACTOR IDENTIFICATION NUMBER**

NOTICE TO ALL BIDDERS:

Section 14835, et. seq. of the California Government Code requires that a five percent preference be given to bidders who qualify as a small business. The rules and regulations of this law, including the definition of a small business for the delivery of service, are contained in Title 2, California Code of Regulations, Section 1896, et. seq. A copy of the regulations is available upon request. Questions regarding the preference approval process should be directed to the Office of Small and Minority Business at (916) 322-5060. To claim the small business preference, you must submit a copy of your certification approval letter with your bid.

Are you claiming preference as a small business?

_____ Yes*

No

*Attach a copy of your certification approval letter.