

Central Valley and Bay Delta Streams Riparian Habitat Restoration Program: 47
CALFED Category III Proposal

I. Executive Summary

a. Project title and applicant name

This proposal for "Central Valley and Bay Delta Streams Riparian Habitat Restoration Program" is submitted by the Wildlife Conservation Board (WCB).

b. Project description and primary biological/ecological objectives

The WCB is requesting \$2,550,000 from CALFED to restore up to 500 acres of native riparian forest on lands within the Ecosystem Restoration Program Plan (ERPP) study area, as identified in the Category III RFP. The primary ecological objectives of the project are to:

- Restore shaded riverine aquatic (SRA) habitat, riparian woodland, and degraded instream conditions, which are components of an essential spawning, rearing, and migratory pathway for winter-run, fall-run, late fall-run, and spring-run chinook salmon, steelhead, white sturgeon, green sturgeon, striped bass and American shad.
- Restore large continuous blocks of riparian habitat for the benefit of the species named above, as well as for rare terrestrial species such as the western yellow-billed cuckoo, and valley elderberry long-horned beetle.

The WCB will engage local communities and landowners in the restoration process in order to gain local support for the program.

This proposed program is complemented by a separate WCB proposal for acquisition funding, which is entitled "Central Valley and Bay-Delta Streams Floodplain Acquisition Program".

This proposed habitat restoration program addresses several CALFED stressors which are described in the Request for Proposals, including loss of existing riparian zone, water temperature, and water quality. These and other stressors identified in the Summary of Technical Team Reports are addressed further in the following project description section.

c. Approach/tasks/schedule

Restoration of 500 acres of riparian habitat on floodplain land will occur over a three year period. The following tasks will be completed in year one: identification of candidate sites, selection of restoration entities; restoration plan development, plant materials collection; plant materials propagation; field preparation; and planting. Years two and three will include irrigating, weeding and monitoring. Where possible, plant materials propagation will be contracted out to local nurseries, and planting and site maintenance will be conducted by local farmers or volunteers.

d. *Justification for Project*

The loss and degradation of aquatic and riparian habitat in the Central Valley and Bay-Delta are at critical levels, and all of the streams in the ERPP study area have a critical link to the Bay-Delta system, providing freshwater inflow, and contributing to overall water quality. Shaded riverine aquatic, floodplain, and riparian forest habitats have declined as human demands on river and stream resources have intensified over time, with consequent declines in aquatic and terrestrial species. The proposed project would conduct active restoration of riparian forests to meet the needs of these declining species.

e. *Budget costs and third party impacts*

Applicants are requesting \$2,550,000 to restore 300 acres of riparian habitat. Potential adverse third party impacts, such as displacement of local agriculture, flood impacts, have been identified and addressed in the following program description. Third party impacts include bolstering the local economy through contracting with local landowners for restoration work, and improving wildlife populations which will enhance local opportunities for education and recreation.

f. *Applicant qualifications*

The Wildlife Conservation Board has acquired over twenty thousand acres of riparian land in the study area over the last fifty years, and the habitat on many of these lands have been restored. Since 1992 the WCB's California Riparian Habitat Conservation Program (CRHCP) has developed and secured funding approval for 24 riparian restoration projects statewide, affecting well over 500 acres of riparian habitat. The CRHCP and WCB have a proven track record for being able to identify, select, and implement high quality, cost-effective habitat restoration projects.

g. *Monitoring and data evaluation*

The CRHCP requires monitoring by project sponsors during the implementation phase of all restoration projects which are approved for funding by WCB. This requirement will be adhered to by the proposed program.

h. *Local support/coordination with other programs/compatibility with CALFED objectives*

Each project will only involve willing landowners, and will be supported by local governments, and adjacent landowners. Each project will be coordinated with all other appropriate programs, including the Reclamation Board's Encroachment Program, and all necessary permits and environmental documentation will be obtained prior to funding. The Project does not conflict with any CALFED objectives, and is generally supportive of those pertaining to ecosystem health, system integrity, and water quality.

II. Title Page

a. *Title of Project*

Central Valley and Bay-Delta Streams Riparian Restoration Project.

b. *Name of applicant/principal investigator(s); address; phone/fax/e-mail; organizational, institutional or corporate affiliations of applicant/principal investigator(s)*

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e-mail: sclemons@hq.dfg.ca.gov

c. *Type of organization and tax status*

The Wildlife Conservation Board (Department of Fish and Game) is an agency of the California Resources Agency.

d. *Tax identification number and/or contractor license, as applicable*

Not applicable

e. *Technical and financial contact person(s), address, phone/fax/e-mail (if different from above)*

Same as above.

f. *Participants/collaborators in implementation*

Riparian restoration projects funded by WCB typically include a project sponsor, a willing landowner, and a technical advisory team that may include representatives of the project sponsor, the DFG and other resource agencies, depending upon the location of the project.

g. *RFP project group type(s) (Construction; Acquisition; Other Services)*

Category III: Other Services

III. Project Description

a. *Project description and approach*

The Wildlife Conservation Board (WCB), requests \$2,550,000 in CALFED funds to restore 300 acres to native riparian forest within the Ecosystem Restoration Program Plan (ERPP) study area. This money is requested to accelerate habitat improvement for the benefit of rare species dependent on aquatic and riparian habitats on public and private lands. During the first six months of the three year program period, the CRHCP would identify appropriate locations for habitat restoration and enhancement projects, utilizing the existing backlog of potential riparian restoration projects that is kept on file at WCB. In addition to this backlog, the CRHCP will utilize information from the California Rivers Assessment and the Department of Fish and Game to identify key areas where riparian restoration will have the most significant ecological benefit to the Bay-Delta Ecosystem. Following the identification of sites, the WCB will work with the DFG to select local entities to implement the restoration projects, using the CRHCP grant program. These projects will be completed within the remaining balance of the three year period. *Local farmers will be utilized for the on-site work as much as possible, through sub-contracts to be competitively bid by the selected grantees.*

A typical habitat restoration project could involve planting native species of trees and understory vegetation to provide the full range of habitat diversity that is missing on most stream banks and floodplain lands in the ERPP study area. Species to be planted would include, but not be limited to three kinds of willow, Fremont cottonwood, valley oak, blue elderberry, California sycamore, Oregon ash, box-elder, and coyote brush. Restoration will occur on flood-prone lands adjacent to or near existing riparian forestland, wherever possible. Other types of projects could include fencing to control livestock, and streambank stabilization to restore natural stream functions. Riparian restoration projects range widely in cost, depending upon the type of construction needed, and the level of participation by local volunteers. The estimated cost of active restoration for the proposed program is budgeted at \$5,000/acre.

The WCB requires project sponsors to monitor the effectiveness of the initial restoration phases, and will oversee completion of the implementation phase for each site.

Selection of sites to be restored with these funds will be based on ecological appropriateness, location relative to the river meander and other riparian habitat fragments, likelihood of natural plant regeneration, soil textures and stratification.

Along some stretches of streams and river in the study area, more passive restoration techniques will be employed: floodplain lands will be acquired and over time, meander zone

and natural forest regeneration is anticipated. Using active restoration, habitat is generated more quickly for those wildlife species in serious decline. Through a combination of these two methods, applicants hope to achieve restoration goals in the floodplain.

b. *Location and/or geographic boundaries of project*

Restoration will be conducted on private and public lands within the floodplain of streams within the ERPP study area. A location map is enclosed which demonstrates the use of a decision support tool developed with information from the California Rivers Assessment.

c. *Expected benefits*

The following CALFED stressors will be addressed through this program.

As defined in *Request for Proposals*: loss of existing riparian zone, water temperature, water quality, and land use.

As defined in the *Technical Team Report*: degraded instream riverine habitat conditions, lack of shaded riverine aquatic (SRA) habitat, lack of floodplain and riparian woodland habitat, water quality, and land use actions.

These habitats will be addressed through this program:

Seasonal wetland and aquatic habitat, instream aquatic habitat, shaded riverine aquatic habitat, and riparian woodland habitat.

The following priority species are addressed through this program:

Winter-run and spring-run chinook salmon, Sacramento splittail, steelhead trout, green sturgeon, and migratory birds, as well as a host of other rare terrestrial species (see attached species list).

Primary Benefits--Biological and Physical

- Riparian forest restoration, as described in this proposal, would increase the total acreage of this valuable habitat.
- In conjunction with channel movement, restored riparian vegetation will create SRA as streams naturally erode their banks, exposing tree roots and causing trees to overhang or fall into the channel. This habitat helps to decrease water temperature, creating cooler, shaded areas for small fish. This habitat provides cooler, shaded water and escape cover for small fish.
- Riparian trees and large woody debris provide food and escape cover for out-migrating salmonid juveniles.
- Riparian trees are an important source of nutrients in tributary streams and in the delta.
- Improved habitat and increased survival of endangered fish and wildlife species.
- Increased vegetation diversity and connectivity will enhance migratory corridor and

productivity benefits for neotropical migratory birds

Secondary Benefits

Riparian forest will improve water quality, providing a filter that will trap flood debris and agricultural field run-off.

Third Party Benefits--Economic

Restoration of this type stimulates local area economy; as it provides opportunities for local growers and agricultural technicians, and requires the services of local irrigation and farm equipment companies. Where possible, local farmers will be invited to participate in these projects, drawing upon their expertise and commitment to the land.

Benefits to CALFED Non-Ecosystem Objectives

System Integrity

- *Flood control* The root and soil system provides a natural filter, for not only water, but for debris and sediments carried by flood waters which now cause problems to bridges and irrigation structures, as well as orchards and other croplands. Riparian vegetation binds the soil, minimizing scouring of soils during flood events. Riparian vegetation also increases the river's capacity to slow down and hold floodwater, minimizing the negative impacts of flood events.
- *Water supply reliability* Reliable water deliveries to downstream uses, both agricultural and urban, have long been a concern of Central Valley Project water users, especially in the southern part of the state. Specifically, water users are concerned that their deliveries not be preempted by in-stream water needs of threatened or endangered species. Creating additional species habitat will counteract this potential outcome.

Water Quality

- Acquisition of properties inside the Sacramento River Conservation Area is an important first step in improving water quality by reducing agricultural inputs into the river (sustainable farming program/land use changes) and by trapping run-off of sediment and pesticides/fertilizers in riparian filter strips.

Benefits to Other Restoration Programs

Floodplain acquisition and restoration efforts support the goals of the following programs: **SB 1086** This state legislation focuses on protection and restoration of aquatic and riparian habitat in the upper Sacramento River, and involves a host of federal, state, and local entities with jurisdiction in the region. The goal of the legislation is the protection of sensitive fish and wildlife species associated with these habitats. Many of the goals of this program, as well as the geographic focus, are aligned with those of the Conservancy's

Sacramento River Project.

Central Valley Project Improvement Act This program supports the recovery of fish and wildlife values throughout the Central Valley Project (CVP). Restoration pursued as part of the Sacramento River Project supports the goals of this Act, which include the enhancement of fish and wildlife habitats in the Valley and, specifically, the doubling of natural anadromous fish populations within CVP streams.

Central Valley Habitat Joint Venture The Joint Venture focuses on restoration of Valley wetlands primarily for waterfowl and migratory bird purposes. Floodplain restoration on the Sacramento River, a major route in the Pacific Flyway, directly supports this goal.

Sacramento River National Wildlife Refuge Managed by the US Fish and Wildlife Service, Refuge activities consist of preserving and restoring riparian habitat for sensitive fish and wildlife species along the river.

Riparian Habitat Joint Venture (Partners in Flight) This is a multi-partner effort focused on protecting and enhancing riparian habitat for the benefit of native resident and neotropical migratory birds.

California Riparian Habitat Conservation Program This WCB program is coordinating statewide efforts to protect, restore and enhance riparian habitat. The program administers state funding to accomplish this objective.

d. *Background and biological/technical justification*

Before European settlement, the Sacramento River featured roughly 1.6 to 2 million acres of riparian habitat, supporting more species diversity than any other habitat type in California. Today, only four to five percent of this habitat remains, and it is estimated that most of the remaining habitat is fragmented or in a disturbed state. Shaded riverine aquatic, floodplain, and riparian woodland habitats have declined as human demands on these river resources have intensified over time, with consequent declines in aquatic and terrestrial species.

This dramatic loss of habitat has resulted in similar declines of the fish and wildlife species which historically were found in Central Valley streams. All four runs of salmon, steelhead trout, Sacramento splittail, delta smelt, least Bell's vireo, western yellow-billed cuckoo, and many more species have suffered in just the last century.

Given these streams' critical importance as migratory corridors for anadromous fish and migratory birds, the protection and restoration of appropriate habitat is necessary. The proposed project would conduct active restoration of riparian habitats to meet the needs of these declining species.

Alternative approaches considered

An alternative approach to achieving these restoration goals would be to ask local landowners,

including local governments, state and federal agencies, to voluntarily restore the habitat on their properties. This approach would prevent participation and support from local communities and adjacent landowners, and would nullify the economic benefits to local landowners.

A second approach involves the use of more passive restoration techniques; that is, the acquisition of floodplain lands and, over time, the regeneration of meander zone and natural forest lands. However, active restoration techniques are necessary where natural regeneration is impractical, or because of the time-delay between acquisition and the subsequent initiation of forest regeneration.

Project Status

These projects are continuing. The CRHCP has been involved in the active restoration of riparian habitat statewide since 1992, and has administered grants for five projects involving the restoration of over 380 acres of riparian land. We anticipate the benefits listed above based on successes achieved to date at these sites, and have witnessed the sustaining nature of results over the last five years.

e. Proposed scope of work

Restoration Goal: Approximately 500 acres over the three year life of the program
Reports to be Provided: At the end of each year, a report will be submitted detailing the progress in implementing projects, and summaries of activities on each site. At the end of the three year program life, a report will be submitted detailing the accomplishments on each site and expectations for future improvement in habitat value.

f. Monitoring and data evaluation

Because the proposed program funding must be utilized within a three year period, long-term monitoring will be largely voluntary. CRHCP procedures include coordination with the DFG and other resource management agencies on an annual basis to evaluate the performance of each project with respect to how well it achieved the desired goals. WCB requires private landowners to be involved in long-term protection and monitoring of the restoration projects as a condition of funding. In most cases, long-term monitoring also include a team approach involving WCB, local DFG biologists, and the grantee or implementing entity. Current CRHCP procedures require WCB staff to inspect at frequent intervals during the implementation phase, to hold a final inspection at the end of the implementation phase, and to conduct follow-up monitoring periodic intervals (5 years and 10 years post-implementation).

Related monitoring efforts

- Efforts are underway by the Nature Conservancy, WCB and US Fish and Wildlife Service

to develop measures of success for restoration plantings being performed or planned in the Sacramento River floodplain between Keswick and Verona. These measures would be applied at the end of year five, after the plantings have firmly established.

- Point Reyes Bird Observatory is developing plans to monitor one or more of the WCB-funded riparian restoration projects which are underway now in the Stony Creek Watershed areas of Tehama, Glenn, and Colusa counties. This effort will gather data concerning how valuable such types of restoration projects are to resident and migratory landbirds.

g. Implementability

All restoration activities will be consistent with the goals and objectives outlined by CALFED for the Sacramento River, and other agency management plans and initiatives in the project area. In addition, restoration will comply with existing laws and regulations. Local support for the project will also come from interested local landowners (who may participate in restoration activities), local non-profit organizations, local government, and others.

IV. Costs and Schedules to Implement Proposed Project

a. Estimated Budget Costs

<u>Task</u>	<u>Estimated Cost</u>
Site and Project Sponsor Selection (WCB)	\$ 10,000
Restoration Plan Development (Project Sponsors)	\$ 100,000
Implementation Agreement Development.(WCB)	\$ 10,000
Implementation (Project Sponsors) (Includes capitol improvements and equipment)	\$2,200,000
Project Sponsor Administrative Costs	\$ 200,000
WCB Program Administration (Includes monitoring and reporting during implementation phase)	<u>\$ 30,000</u>
TOTAL:	\$2,550,000

b. *Schedule milestones*

Over the active life of the proposed program, milestones would occur under the following schedule:

First six months: Select sites and local sponsors, obtain necessary permits, environmental documents, and prepare grant agreements/subcontracts.

Next thirty months: Implement projects (develop restoration plans, prepare sites, monitor site to determine whether goals were achieved (i.e. were trees planted?; were banks stabilized?), prepare reports and monitor projects.

c. *Third party impacts*

There are several potential third party impacts which have been addressed, providing additional strength to the project:

Displacement of local agriculture: Major shifts in land use and farming patterns have occurred over the last 100 years along streams in the Central Valley and Bay-Delta area; grazing lands

have been converted to field crops, field crops to orchards, and now orchards to riparian habitat. The negative impact on local farming communities occurs when these changes are rapid and widespread. We have invested a lot of time and money into our program to ensure that this type of economic hardship does not occur.

Our goal is to have a gradual transition from farming to wildlands and to involve local farmers in this process as much as possible.

Flood management impacts: There is some concern over the impacts of riparian restoration projects on flood control. Restoration of native riparian forest vegetation will increase the capacity of the floodplain and slow down the flow of floodwaters. Encouraging natural stream meander processes will not only increase aquatic habitat it will also increase the actual length and water holding capacity of the streams. It is hoped that the proposed restoration practices will result in more cost-effective flood control measures in the long-term. A floodplain forest will filter floating debris and sediments from flood-waters which now cause problems to bridges and irrigation structures, as well as orchards and other croplands.

V. Applicant Qualifications

The loss of riparian habitat has long been recognized as a serious problem in California. Governor Wilson's Resourceful California Initiative raised the issue to a new level, and the Legislature created the California Riparian Habitat Conservation Program within the Wildlife Conservation Board in 1991 to carry out the intention of the initiative. The Wildlife Conservation Board has been developing riparian restoration projects involving many partners and grantees on a statewide basis since 1992. The CRHCP currently administers monies from the Habitat Conservation Fund for this purpose, and has developed 24 riparian restoration/enhancement projects in eight counties during the last five years, with a total cost of over \$1.6 million. These projects are administered by WCB and are managed by a wide variety of project sponsors, including local agencies, federal agencies, nonprofit organizations, and the Department of Fish and Game. Private land projects include a strong component of effort from the landowners and local volunteers. The CRHCP currently has five active restoration project underway in the ERPP study area, including one on the mainstem Sacramento River, four in the Stony Creek watershed area, and one on the San Joaquin River near Herndon.

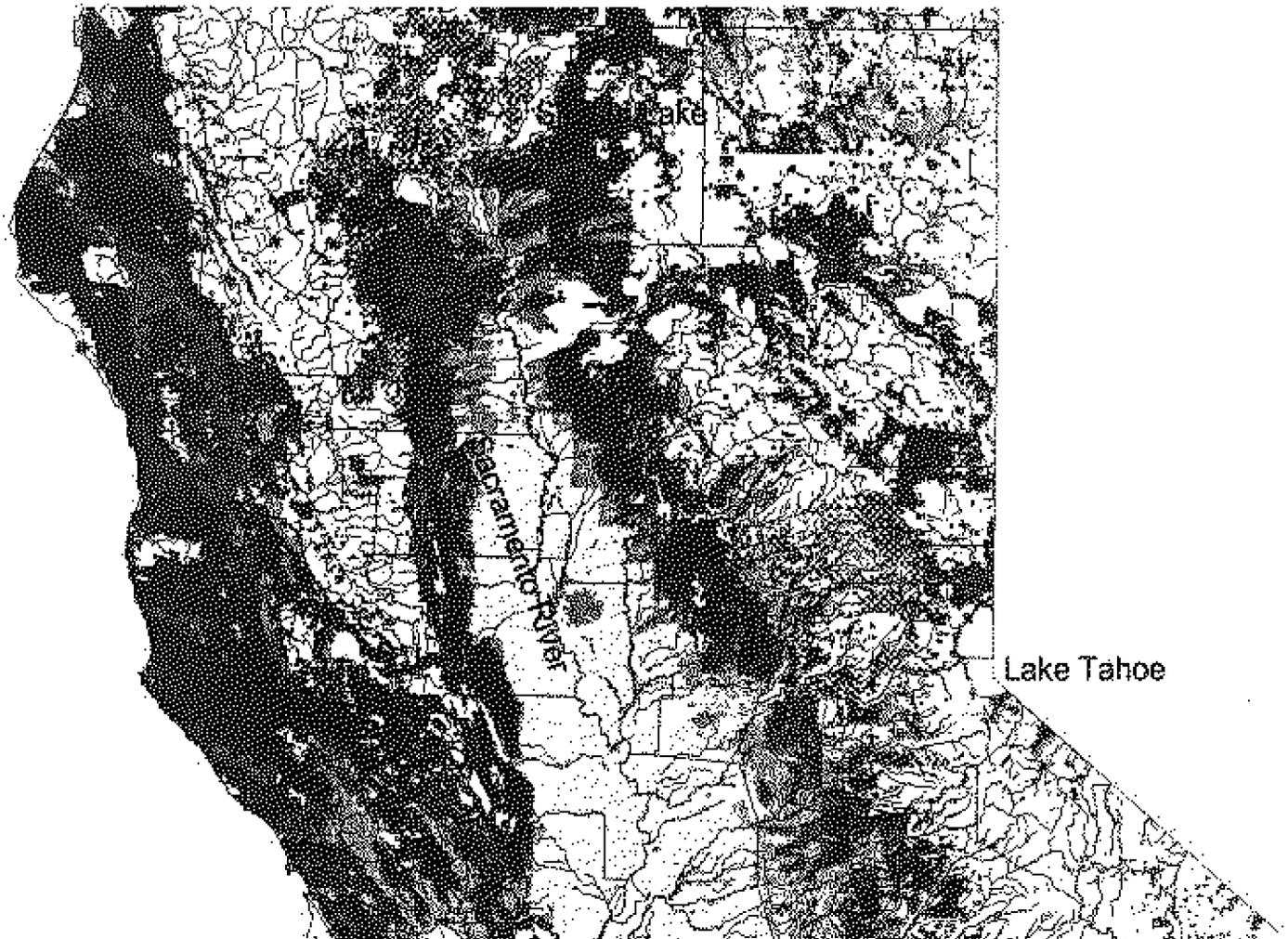
VI. Compliance with Standard Terms and Conditions

This project will be implemented according to standard terms and conditions.

The Nondiscrimination Compliance Statement form is attached, as required under the Terms and Conditions of the 1997 Category III Request for Proposal.

Riparian Conservation Potential on Lands Rated Low in Management for Biodiversity

North Half ERPP Study Area

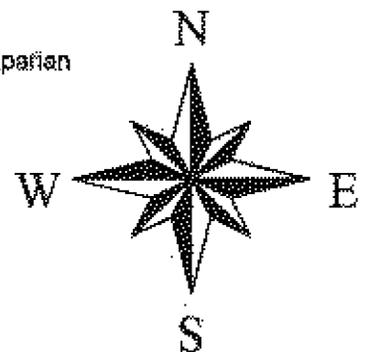
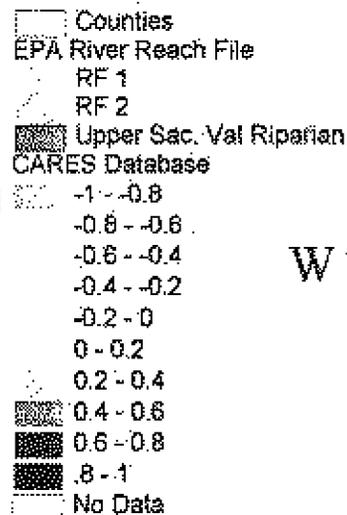


Source: California Rivers Assessment
Aggregated Information Model
California Riparian Evaluation System (CARES)

Coverages:
Land Use/Land Cover
Level of Mgt. for Biodiversity
Potential Riparian Plant and
Animal Species Richness

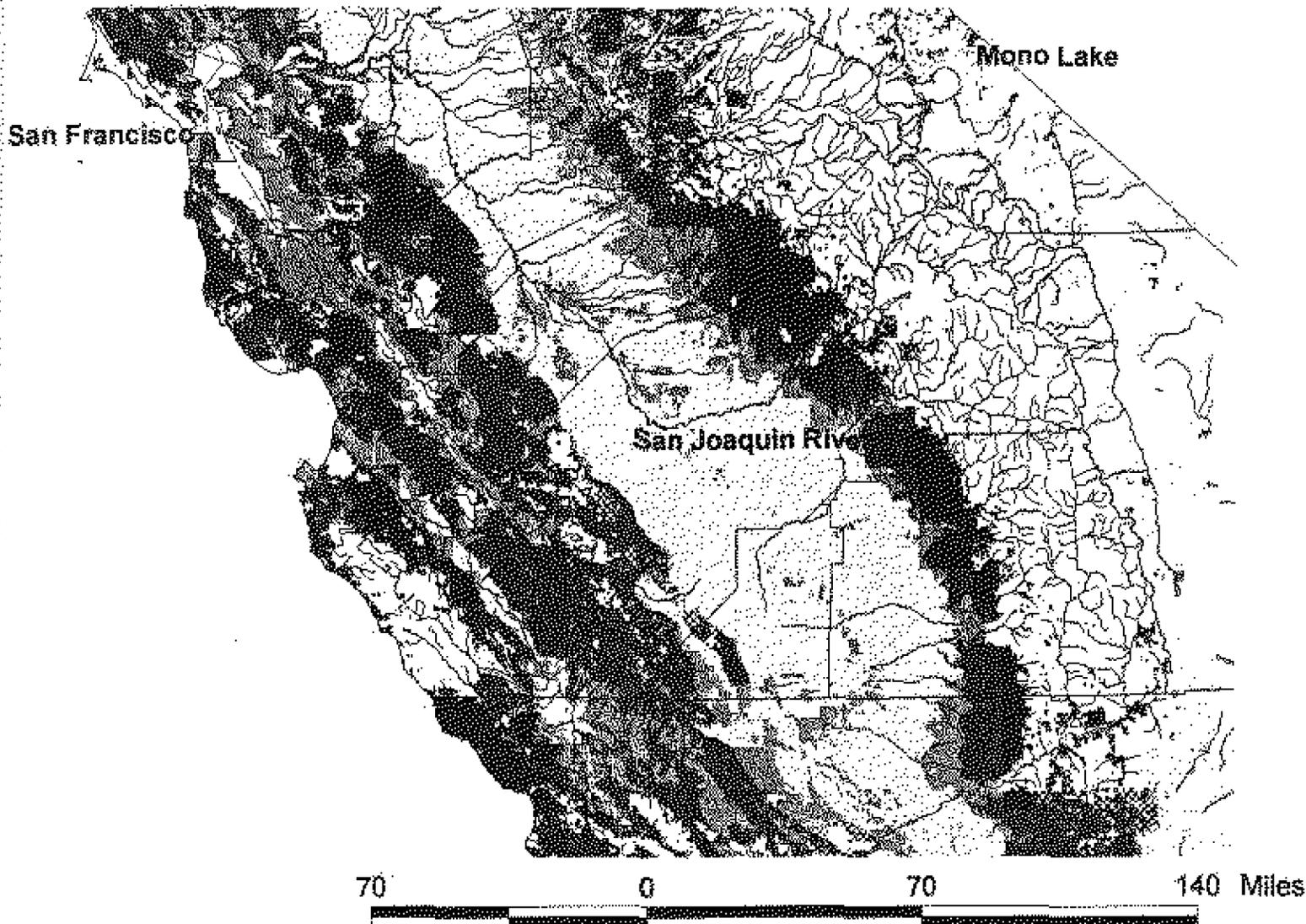
Low Potential

High Potential



Riparian Conservation Potential on Lands Rated Low In Management for Biodiversity

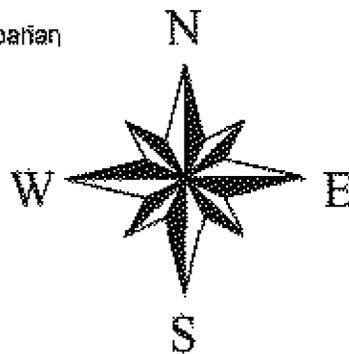
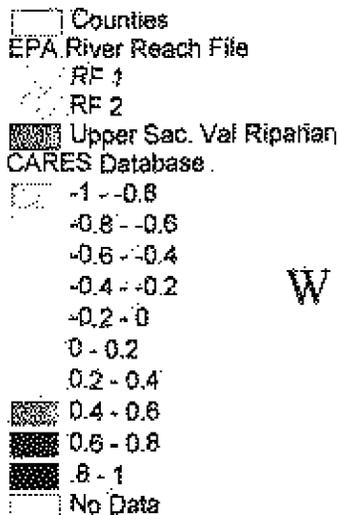
South Half ERPP Study Area



Source: California Rivers Assessment
Aggregated Information Model
California Riparian Evaluation System (CARES)

Coverages:
Land Use/Land Cover
Level of Mgt. for Biodiversity
Potential Riparian Plant and
Animal Species Richness

Low Potential
High Potential



NONDISCRIMINATION COMPLIANCE STATEMENT

COMPANY NAME

Wildlife Conservation Board

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

W. John Schmidt

DATE EXECUTED

July 21, 1997

EXECUTED IN THE COUNTY OF

Sacramento

PROSPECTIVE CONTRACTOR'S SIGNATURE

W. John Schmidt

PROSPECTIVE CONTRACTOR'S TITLE

Executive Director

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

Wildlife Conservation Board (Department of Fish and Game)