

The  
Nature  
Conservancy

Northern California Area Office  
1330 21st Street, Suite 103  
Sacramento, California 95814  
TEL 916 448-8500  
FAX 916 448-3469

DWR WAREHOUSE

97 JUL 28 PM 3:45

F1-278

California Regional Office  
201 Mission Street  
San Francisco, California 94105  
TEL 415 777-0487  
FAX 415 777-0244

**James Paiva**  
13193 Carmen Lane  
Chico, California 95926  
(916) 345-8491

Almond Hulling  
Almond Shelling  
Orchard Management

July 24, 1997

Mr. Lester Snow  
Executive Director  
CALFED Bay-Delta Program  
1416 Ninth Street, Suite 1155  
Sacramento, CA 95814

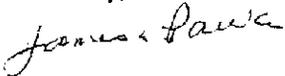
Dear Mr. Snow:

The purpose of this letter is to inform you of our strong support for the proposal being submitted by US Fish and Wildlife Service, the Nature Conservancy and Wildlife Conservation Board for Category III funding to implement ecosystem and natural process restoration on the Sacramento River. The proposed program will provide funding to actively restore 300 acres of riparian forest on flood-prone land along the Sacramento River. This reforestation will provide shaded riverine aquatic habitat, mixed riparian forest and oak woodlands.

As a farmer in Butte County who has extensive experience growing crops in the Northern Sacramento Valley I support reforestation of specific flood-prone properties. I also believe that when it comes to growing plants local farmers are the best qualified individuals for the job. This is especially true for the cultivation of native trees and scrubs. I am very interested in working with the Nature Conservancy to implement riparian restoration. I also believe that by contracting this type of conservation work out to qualified farmers a portion of the lost agriculture income is retained within the local economy.

For these reasons I strongly urge you to support this proposal. Thank you for your consideration.

Sincerely,



James M. Paiva  
Paiva Farms



**SHASTA VIEW  
FARMS**

#10 E. Chard Avenue 916 385-1126  
P.O. Box 960 FAX 916-385-1637  
Gerber, California 96035

MIRIAM R. FLYNN  
PROPERTIES

Lester Snow  
CalFed Bay Delta Program  
1416 Ninth Street  
Sacramento, Ca. 95814

July 23, 1997

Dear Mr. Snow:

I am writing to support The Nature Conservancy application for 1997 category III funding to actively restore 300 acres of riparian forest on the Sacramento River.

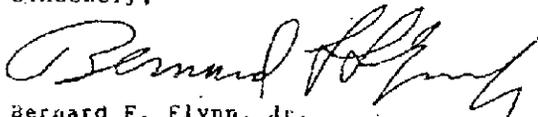
We are farmers along the Sacramento River with 600 acres of almonds and prunes. We have experience with reforestation projects both as farmers who are using reforestation as a flood and debris screen to protect our orchards and as restoration contractors growing 110 acres of forest trees. (We got into reforestation contracting in order to expedite the establishment of the flood screen.)

We believe the reforestation project should be seriously considered by the CalFed process because it is an economical and efficient way of achieving a native plant population which can support both local wildlife and migratory birds. We believe reforestation is especially important where farmland is being restored because farming interrupts the original river forest cycle (often with additional land-leveling changes) that makes natural cycle resumption almost impossible. In addition, based on our own experience, reforestation is a good neighbor policy between acquired riparian and adjacent farm lands, helping to protect farm lands in times of flood.

We have seen the Nature Conservancy operate in a cost-effective manner in the several years we have worked with them, and believe they are a good agent for this work.

Perhaps you have to see it to believe it, but we hope our experiences and opinion will carry some weight in your decision process.

Sincerely,



Bernard F. Flynn, Jr.  
General Manager

July 24, 1997

Mr. Lester Snow  
Executive Director  
CALFED Bay-Delta Program  
1416 Ninth Street, Suite 1155  
Sacramento, CA 95814

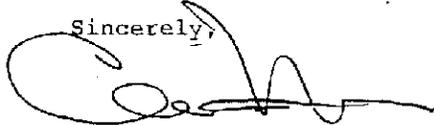
Dear Mr. Snow:

The purpose of this letter is to inform you of my strong support for the proposal being submitted by US Fish and Wildlife Service, The Nature Conservancy and Wildlife Conservation Board for Category III funding to implement ecosystem and natural process restoration on the Sacramento River. The proposed program will provide funding to actively restore 300 acres of riparian forest on floodprone land along the Sacramento River. This reforestation will provide shaded riverine aquatic habitat, mixed riparian forest, and oak woodlands.

The applicants will sub-contract, through a competitive bidding process, with local farmers the implementation of the restoration work. The funds being requested will be applied to an existing riparian restoration program that has been in place for the last nine years. The cultural practices required to provide quality habitat are in place and five farmers restored over three hundred acres in this program this year. The on the ground success of this project has been demonstrated and we believe this program should be expanded.

All restoration activities will be consistent with the principles of the SB 1086 Handbook and management principles of the Sacramento River Conservation Area, 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 work will comply with existing laws and regulations.

Sincerely,



Charles Moss -  
1086 Committee Member  
Vice Chair CDF&G Cal-Tip  
Former Mayor - City of Redding

# **JANE DOLAN**

■ **Supervisor, District 2, Butte County**

Office: County Building ■ 196 Memorial Way ■ Chico, California  
Mail: P.O. Box 3700 ■ Chico, California 95927 ■ (916)891-2830

July 24, 1997

Mr. Lester Snow, Executive Director  
CALFED Bay-Delta Program  
1416 Ninth Street, Suite 1155  
Sacramento, CA 95814

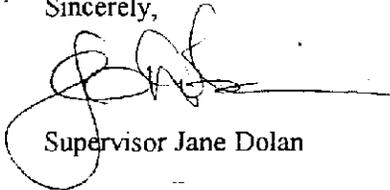
Dear Mr. Snow,

This letter is written in support of the proposal submitted by the US Fish and Wildlife Service, The Nature Conservancy and Wildlife Conservation Board for Category III funding to restore 300 acres of riparian forest on flood-prone land along the Sacramento River.

The funding will be applied to an existing program that has, with the cooperation of local farmers, restored over 300 acres this year. We believe the success of this program has been demonstrated.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jane Dolan', is written over a horizontal line. The signature is stylized and cursive.

Supervisor Jane Dolan

**DEPARTMENT OF WATER RESOURCES**

NORTHERN DISTRICT  
2440 MAIN STREET  
RED BLUFF CA 96080-2398  
(916) 529-7300



July 24, 1997

Mr. Lester Snow  
Executive Director  
CALFED Bay Delta Program  
1416 Ninth Street, Suite 1155  
Sacramento, California 95814

Dear Mr. Snow:

The California Department of Water Resources, Northern District, supports the proposal being submitted by U.S. Fish and Wildlife Service, The Nature Conservancy and Wildlife Conservation Board for Category III funding to restore riparian habitat on the Sacramento River. The proposed program will provide funding to actively restore 300 acres of riparian forest on flood-prone land along the Sacramento River. This reforestation will provide shaded riverine aquatic habitat, mixed riparian forest, and oak woodlands.

This proposal is an important step toward achieving the SB1086 goal of preserving and restoring a continuous riparian forest ecosystem along the Sacramento River. Since all restoration work will be sub-contracted through local farmers, the project provides benefits to both the environment and the local economy. Moreover, the restoration methods to be used have a proven track record, with over 300 acres having been restored this year.

The restoration activities in this proposal are consistent with the principles of the SB 1086 draft Sacramento River Conservation Area Handbook, 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 work will comply with existing laws and regulations.

Thank you for your consideration of our support for this project.

Sincerely,

Handwritten signature of Naser J. Bateni in black ink.

Naser J. Bateni, Chief  
Northern District

cc: Mr. John Carlon  
The Nature Conservancy  
Stony Creek Preserve  
261 E 3rd Street  
Chico, California 95928

VIC FAZIO  
THIRD DISTRICT  
CALIFORNIA

DEMOCRATIC CAUCUS—CHAIRMAN  
DEMOCRATIC STEERING  
COMMITTEE  
HOUSE OVERSIGHT  
APPROPRIATIONS COMMITTEE  
SUBCOMMITTEES:  
ENERGY AND WATER DEVELOPMENT  
LEGISLATIVE



Congress of the United States  
House of Representatives  
Washington, DC 20515-0503

PLEASE RESPOND TO:

- 2112 RAYBURN BUILDING  
WASHINGTON, DC 20515-0503  
(202) 225-6718
- 7228 MAIN STREET  
WOODLAND, CA 95695-3407  
(916) 666-6521
- 332 PINE STREET, 6F  
RED BLUFF, CA 96080-3312  
(916) 529-6629

July 24, 1997

Mr. Lester Snow, Executive Director  
CALFED Bay Delta Program  
1416 Ninth Street  
Sacramento, CA 95814

Dear Mr. Snow:

I kindly urge you to give careful consideration to the Category III proposal submitted by US Fish & Wildlife, The Nature Conservancy, and Wildlife Conservation Board, for Ecosystem and Natural Process Restoration on the Sacramento River: A Meanderbelt Implementation Project.

This project will provide the funding to actively restore 300 acres of riparian forest on flood prone land along the Sacramento River. The reforestation will provide shaded riverine aquatic habitat, mixed riparian forest and oak woodlands. This project is critical to the implementation of a healthy ecosystem necessary to address the needs of wildlife throughout the North Valley and Bay Delta, as well as mitigate issues of flood control.

Through the SB1086 process, landowners and government agencies have come to realize the interrelatedness of flood control, habitat and natural progression, and in doing so have created a management handbook that outlines best practices for the watershed. This proposed project exemplifies the strategies set forth by this committee.

Once again, I encourage your support of this project as the participants have an outstanding track-record of placing successful projects on the ground.

Sincerely,

VIC FAZIO

Member of Congress

VF/fvh

**UPPER SACRAMENTO RIVER ADVISORY COUNCIL**  
2440 MAIN STREET  
RED BLUFF, CALIFORNIA 96080-2398

July 22, 1997

Mr. Lester Snow, Executive Director  
CALFED Bay Delta Program  
1416 Ninth Street  
Sacramento, CA 95814

Dear Mr. Snow:

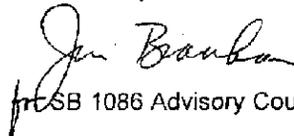
The SB1086 Upper Sacramento River Advisory Council supports the Category III proposal for ecosystem and natural process restoration on the Sacramento River submitted by the US Fish and Wildlife Service, The Nature Conservancy, and the Wildlife Conservation Board. The proposed program will provide funding to actively restore 300 acres of riparian forest on flood-prone land along the Sacramento River. This reforestation will provide shaded riverine aquatic habitat, mixed riparian forest, and oak woodlands.

This project is consistent with the goal of the SB1086 program to implement the riparian habitat portion of the 1989 Upper Sacramento River Fisheries and Riparian Habitat Management Plan, preserving and restoring a continuous riparian forest ecosystem along the Sacramento River. This riparian plan encompasses the ecosystem goals of CALFED.

Additionally, this project is an on-the-ground example of the type of work that is critical to the implementation of the goals and principles of the SB1086 Advisory Council as outlined in the draft Sacramento River Conservation Area Handbook. It provides for ecosystem restoration with voluntary participants in a manner that is consistent with flood control and is responsive to the local community. The applicants will sub-contract with local farmers to implement the restoration work in continuation of an existing highly successful riparian restoration program. Five farmers restored over three hundred acres in this program this year. The on-the-ground success of this project has been demonstrated and should be expanded.

We urge you to support this proposal.

Sincerely,

  
for SB 1086 Advisory Council

cc: US Fish and Wildlife Service  
The Nature Conservancy  
Wildlife Conservation Board

**I. Executive Summary**

**a. Project title: Ecosystem and Natural Process Restoration on the Sacramento River: Active Restoration of Riparian Forest**

**Co-applicants:** Wildlife Conservation Board (California Department of Fish and Game), US Fish and Wildlife Service, and The Nature Conservancy.

**b. Project description and primary biological/ecological objectives**

The co-applicants are requesting \$1,292,500 in Category III funds to actively restore 300 acres of flood-prone agricultural lands to native riparian forest along the Sacramento River between Keswick and Verona. Active restoration (i.e. planting) is a necessary component of natural system restoration where natural regeneration is slow to occur or where it is precluded by current land uses such as orchards, or where exotic vegetation dominates or threatens to dominate a site.

This project supports ongoing restoration efforts on the river, and will double the current rate of active riparian restoration along the river.

The primary objectives of the project are to:

- Address priority stressors identified by CALFED including loss of existing riparian zone, lack of regeneration potential, and channel aggradation due to fine sediments.
- Increase shaded riverine aquatic (SRA) habitat and degraded instream aquatic conditions, thereby enhancing spawning, rearing, and foraging habitat for anadromous and resident fish species, including four races of chinook salmon.
- Enhance and reduce fragmentation of a key migratory pathway for a host of aquatic and riparian species.
- Restore large, continuous blocks of riparian woodland for the benefit of riparian and terrestrial species, including the neo-tropical migratory bird guild.
- Engage the local community in the restoration process in order to gain local support for the continuation of the program.

While the proposed project stands alone, it is one of several complementary proposals being submitted to CALFED. These additional proposals are described in Section III-a.

**c. Approach/tasks/schedule**

Implementation of restoration on 300 acres will be completed in three years. The following tasks will be completed in-year one: site assessment; unit plan development (i.e. implementation plan for restoration at the site); plant materials collection; plant materials propagation; field preparation; and planting. In years two and three, sites will be irrigated and weeded. Monitoring will be carried on in all three years. Plant materials propagation will be contracted out to a local nursery. Planting and site maintenance will be contracted out through a competitive bidding process to local farmers, and overseen by the applicants.

**d. Justification for project**

The loss and degradation of aquatic and riparian habitat on the Sacramento River have reached critical levels. Shaded riverine aquatic, floodplain, and riparian woodland habitats have declined

DWR WATER SOURCE

97 JUL 28 PM 3:45

as human demands on the river's resources have intensified, with consequent declines in aquatic and terrestrial species. Anadromous fish, including steelhead trout and four genetic races of chinook salmon, depend on the river as a migration corridor. Winter-run salmon are listed as threatened under the federal Endangered Species Act, and spring-run salmon and resident Sacramento splittail have also declined radically. Migratory birds such as the western yellow-billed cuckoo (state listed endangered) have also suffered, as have myriad terrestrial species. The proposed project will conduct active restoration of riparian forest to assist in the recovery of these declining species.

**e. *Budget costs and third party impacts***

Applicants are requesting \$1,512,000 to restore 300 acres to native riparian habitat. Potential adverse third-party impacts, such as displacement of local agriculture and flood impacts, have been identified and addressed. Positive third-party impacts include bolstering the local economy through contracting with local farmers for restoration work. Impacts and mechanisms for addressing them are described further in Section IV-c.

**f. *Applicant qualifications***

The Nature Conservancy initiated restoration efforts along the Sacramento River in 1989; to date, 1,225 acres have been restored using direct planting techniques. The Conservancy and the US Fish and Wildlife Service began their formal cooperation on the restoration and management of Sacramento River National Wildlife Refuge lands in 1991. The Conservancy began to acquire land along the Sacramento River in 1988 and has assisted the Service in acquiring 8,000 acres for conservation in the Sacramento River National Wildlife Refuge. The State Wildlife Conservation Board (WCB), in coordination with the Department of Fish and Game and other entities, has restored approximately 70 acres of riparian land along the river.

**g. *Monitoring and data evaluation***

The Nature Conservancy will track the survival and growth of species planted on Refuge lands. At the end of the growing season (typically in September), the Conservancy will conduct a random sampling of planted acres on at least ten percent of each soil sub-unit on larger plots, and 100% on plots smaller than 40 acres. This process will be repeated in years two and three. For each soil sub-unit, we will measure the survival rate and average height of each species planted. On other restoration sites, monitoring will be contracted out. WCB will conduct routine inspections on planting and monitoring efforts.

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

This project enjoys the support of local landowners, including local government, and non-profit organizations (see letters of support following Section III). The goals of the project support the objectives and programs of the Central Valley Project Improvement Act, SB 1086, the California Riparian Habitat Conservation Program, the Central Valley Habitat and Riparian joint ventures, the Sacramento River National Wildlife Refuge, and the National Fish and Wildlife Foundation. The project does not conflict with any CALFED objectives, and directly supports those pertaining to ecosystem health and water quality.

**II. Title Page**

**a. Title of project**

Ecosystem and Natural Process Restoration on the Sacramento River: Active Restoration of Riparian Forest

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

John Carlon, Project Manager  
The Sacramento River Project  
The Nature Conservancy  
261 E. 3rd Street  
Chico, CA 95928  
916/342-0396; 342-0257 (fax)  
jcarlon@tnc.org

Gary W. Kramer, Refuge Manager  
US Fish and Wildlife Service  
Sacramento River National Wildlife Refuge  
Route 1, Box 311  
Willows, CA 95988  
916/934-2801; 934-7814 (fax)

Scott Clemons, Riparian Habitat Program Manager  
Wildlife Conservation Board/CA Department of Fish and Game  
801 K Street, Suite 806  
Sacramento, CA 95814  
916/445-1072; 323-0282 (fax); sclemons@hq.dfg.ca.gov

**c. Type of organization and tax status**

The Nature Conservancy is a non-profit, 501(c3) organization.  
The US Fish and Wildlife Service is an agency of the US Department of Interior.  
The California Department of Fish and Game/Wildlife Conservation Board is an agency of the California Resources Agency.

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

The Nature Conservancy's taxpayer identification number: 53-0242652

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

**f. Participants/collaborators in implementation**

Implementation participants include the US Fish and Wildlife Service, Wildlife Conservation Board/California Department of Fish and Game, and The Nature Conservancy. A host of collaborators are involved in this and other supporting activities along the river; these entities are listed in Section III-a, "Project description and approach."

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

Category III: Other Services

### III. Project Description

#### a. *Project description and approach*

The co-applicants are requesting \$1,292,500 in Category III funds to actively restore 300 acres of flood-prone agricultural lands to native riparian forest along the Sacramento River between Keswick and Verona. Active restoration (i.e. planting) is a necessary component of natural system restoration where natural regeneration is slow to occur, or where it is precluded by current land uses such as orchards, or where exotic vegetation dominates or threatens to dominate a site. This project will double the current rate of active riparian restoration along the river.

The primary objectives of the project are to:

- Address priority stressors identified by CALFED including loss of existing riparian zone, lack of regeneration potential, and channel aggradation due to fine sediments.
- Increase shaded riverine aquatic (SRA) habitat and degraded instream aquatic conditions, thereby enhancing spawning, rearing, and foraging habitat for anadromous and resident fish species, including four races of chinook salmon.
- Enhance and reduce fragmentation of a key migratory pathway for a host of aquatic and riparian species.
- Restore large, continuous blocks of riparian woodland for the benefit of riparian and terrestrial species, including the neo-tropical migratory bird guild.
- Engage the local community in the restoration process in order to gain local support for the continuation of the program.

While the proposed project stands alone, it is one of several complementary proposals being submitted to CALFED. These additional proposals are described in Section III-a.

Applicants will contract with local farmers and others to conduct the planting. (For steps in the restoration process, see Section III-e, and restoration charts which follow Section III.) Once planting and restoration have been implemented, sites restored by the Conservancy will be placed in the US Fish and Wildlife Service long-term Refuge management program. WCB will manage other lands.

The selection of sites to be restored with these funds will be based on a consideration of factors such as location relative to river meander, likelihood of natural plant regeneration, proximity to existing forest or ability to connect habitat fragments, soil textures and stratification, and biological and economic feasibility of restoration. The sites selected will be in accord with SB 1086 restoration guidelines. All restoration will occur on fields adjacent to the river. (See Figure 1: Example of Riparian Forest Restoration, following Section III.)

Funds from Category III will support a project with a considerable track record. Through a cooperative land management agreement initiated in 1991 between the USFWS and the Conservancy, Refuge lands farthest from the river are leased to farmers to grow nuts and other crops, and a portion of crop income is dedicated to the costs of restoration. Revenues from this program are currently \$500,000 per year; these funds enable us to restore 100 acres annually (at \$5,000/acre). Given a goal of restoring 10,000 acres, it will take 100 years to achieve our goal. Funding from Category III would dramatically accelerate progress towards the goal both on Refuge lands and on 4,000 acres of land acquired by the WCB. Speeding up the restoration would bring more immediate benefits to rare terrestrial and aquatic species. (See Figure 2: Restoration Sites within the SB 1086 Conservation Area, following Section III)

While this project stands alone, it is being submitted for funding by Category III in concert with several other complementary proposals. These proposals support a vision of ecosystem restoration that is clearly larger than the sum of the individual parts. Local support and the participation of the local community are crucial to the ultimate success of these regional efforts. When considered together, these elements present a vision. These are the names of the other proposals in this mix:

- Ecosystem and Natural Process Restoration on the Sacramento River: **Floodplain Acquisition and Management Project**, for acquisition of an estimated 1,500 acres in the floodplain.
- Ecosystem and Natural Process Restoration on the Sacramento River: **An Analysis of Conditions Required for Riparian Forest Establishment**.
- **Sacramento River Environmental GIS and Mapping Support**.
- Ecosystem and Natural Process Restoration on the Sacramento River: **Monitoring, Conserving, and Restoring Riparian Bird Populations and their Habitats**.
- Ecosystem and Natural Process Restoration on the Sacramento River: **A Meander Belt Implementation Project**.

Entities working to implement these activities include CA Department of Water Resources, California State University at Chico (CSUC), Point Reyes Bird Observatory, local private landowners, The Nature Conservancy, US Fish and Wildlife Service, and the Wildlife Conservation Board/California Department of Fish and Game. Many of these partners have been working in the project area on these and other activities for more than eight years.

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

Restoration will be conducted on public lands within the 100-year floodplain. This is defined by the SB 1086 process as a Conservation Area of the Sacramento River between the towns of Keswick and Verona. Counties in the project area include Shasta, Tehama, Butte, Glenn, Colusa, Sutter and Yolo (see Figures 3, 3(a) and 4, which follow Section III).

c. *Expected benefits*

The following CALFED *stressors* will be addressed through this project:

As defined in Request for Proposals: loss of existing riparian zone, lack of regeneration potential, and channel aggradation due to fine sediments.

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 project:

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

The following priority *species* are addressed through this project:

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 Figure 5 for species list, following Section III).

The mainstem of the Sacramento River is important for anadromous fish in the following ways:

- Fall, late-fall, winter, and spring-run chinook salmon use the mainstem to migrate to their respective tributaries.
- Winter-run salmon spawn in the section between Keswick and Red Bluff.
- Fall and late-fall run salmon will also spawn in the mainstem.
- All races of juvenile salmon use the mainstem as rearing and foraging habitat.
- It provides a migratory corridor for all races of chinook salmon and steelhead.

#### Primary benefits--biological and physical

- As the channel meanders into existing riparian forest and begins eroding the bank, *shaded riverine aquatic habitat*, critical for juvenile salmon, will develop as riparian trees are undercut, overhang, and fall into the river channel. With this increased habitat, *water temperatures will be moderated*, further enhancing *aquatic habitat* for juvenile salmon and steelhead created.
- Increased vegetation diversity and connectivity *will enhance migratory corridor and productivity benefits* and will provide superior *habitat and foraging opportunities* for a host of species including the *neo-tropical migratory bird guild* and other terrestrial species, as well as young salmon as they ride flood waters out of the channel and over the floodplain.
- *Waterfowl*, including wood ducks and mallards, will benefit from an increase in *flooded riparian forest*.
- Riparian trees are an important source of *nutrients* in the river and the delta.
- Riparian vegetation will trap *fine sediments*, thereby *reducing channel aggradation and enhancing instream habitat*.
- Planting of native riparian species will result in *increased riparian woodland* and will *reduce habitat fragmentation*.
- Riparian forest also supports *game species* of wildlife such as ring-necked pheasant, wild turkey, California quail, and black-tailed deer.

#### Third party benefits--economic

- Restoration of this type *stimulates the area's economy* by providing opportunities for local growers, agricultural technicians, and of local irrigation and farm equipment companies. *Farmers are a valuable asset because they provide skilled restoration work* as well as a commitment to and pride in the land. Applicants and local community members have been working together to restore critical riparian habitat through hand-planting techniques for several years. Currently, five farmers are under contract to conduct restoration work, and others have shown serious interest. With their help, approximately 300 acres have been restored this year. This involvement also shows *community buy-in* to the project, which is important to the project's longevity.
- *Insurance claims for and dollars spent on flood-related damages should decrease* as agricultural production shifts to higher ground and a greater number of acres are committed to floodplain habitat.

#### Benefits to CALFED non-ecosystem objectives

*Water quality* Acquiring 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 water containing sediment, pesticides and/or 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 the protection and restoration of aquatic and riparian habitat within the project area. It 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.

**Central Valley Project Improvement Act** This program supports the enhancement of fish and wildlife habitats in the Central Valley and the specific goal of doubling natural anadromous fish populations within CVP streams.

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

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

**California Riparian Habitat Conservation Program** This program, administered by WCB in coordination with Department of Fish and Game, facilitates statewide efforts to protect, restore, and enhance riparian habitat.

**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 neo-tropical migratory birds.

d. **Background and biological/technical justification**

Before European settlement, the Sacramento River featured roughly 500,000 acres of contiguous riparian forest and supported more species diversity than any other river ecosystem in California. Today, an estimated two percent of this forest type remains along the river (McGill 1979). Shaded riverine aquatic, floodplain, and riparian woodland habitats have declined as human demands on the river's resources have intensified, with consequent declines in aquatic and terrestrial species.

Anadromous fish, including steelhead trout and four genetic races of Chinook salmon, depend on the river as a migration corridor. Historically, winter-run chinook salmon numbered 200,000 annually, spring-run numbered about 600,000, and fall-run between 200,000 and 500,000 (Ward, 1997). Winter-run salmon are listed as threatened under the federal Endangered Species Act, and spring-run salmon and Sacramento splittail (resident) have also declined radically. Migratory birds, such as the western yellow-billed cuckoo (state listed threatened) have also suffered, as have myriad terrestrial species.

Alternatives considered

Given the Sacramento River's critical importance as a migration corridor for anadromous fish and migratory birds, the protection and restoration of appropriate habitat is necessary. Several approaches are possible to achieve this goal:

**Restoration conducted by applicants** An alternative approach to achieving these restoration goals consists of having the applicants conduct the planting instead of local farmers. While this approach was used in the past, we do not consider it sustainable or practical given the increased scale of restoration activities. In addition, this approach would prevent participation and buy-in by local farmers, elements that are crucial to the ultimate success of the proposed restoration efforts. It will also greatly reduce the economic benefits to local community.

***Voluntary restoration by local landowners*** A slightly modified approach involves having landowners volunteer their time in restoration activities, instead of being paid. In this scenario applicants would have significantly less control of the lands to be restored. While this strategy has occasionally been employed in the project area, it does not hold the potential for larger-scale restoration over time, and it gives landowners little incentive to participate.

***Use of passive restoration techniques*** A third approach involves the use of more passive restoration techniques: the acquisition of floodplain lands and, over time, the regeneration of meander zone and natural forest lands. This approach is the subject of a separate proposal submitted by the same applicants entitled "Ecosystem and Natural Process Restoration on the Sacramento River: Floodplain Acquisition Project." However, active restoration techniques are necessary where natural process restoration is impractical, or where the delay between process restoration and the subsequent initiation of forest regeneration is too great. A combination of these two methods is best suited to achieve restoration goals in the floodplain.

#### **Project status**

This is an ongoing project. The Conservancy and the Service have formally been involved in active restoration of Refuge lands since 1991, and on Conservancy lands since 1989. As of this spring, 1,225 acres have been planted at eight different sites between Red Bluff and Colusa. Currently, five different farmers are under contract to plant and maintain roughly 300 acres. The WCB has funded restoration on its own riparian parcels, overseeing the removal of approximately 70 acres of decadent orchards on two units of the Sacramento River Wildlife Area. Based on the consistent successes at these sites over the last eight years, we are confident that implementing this proposal will produce the benefits listed above.

#### **e. *Proposed scope of work***

The applicants will subcontract with local farmers through a competitive bidding process to complete the restoration work. Restoration work is done between early fall and late spring; the exact timing depends on precipitation in a given year. Initial steps in the restoration process are generally completed in two to three years, depending on the quality of the site. These steps include the following (see Tables 1 and 1(a): Restoration Unit Task Timeline, following Section III):

1. Site evaluation
2. Restoration plan development
3. Seed collection
4. Plant materials propagation (nursery work)
5. Cuttings collection
6. Field preparation
7. Layout
8. Planting
9. Irrigation
10. Weed control
11. Field monitoring

The first eight steps will take place in year one, and the last three in years two and three. Because of its restoration experience, and in order to maintain a consistent approach, The Nature Conservancy will oversee the following activities on Refuge lands: evaluation of the restoration sites, development of the restoration plan, collection of seeds, management of contracts with nurseries for production of container stock, management of contracts with farmers involved in restoration, and monitoring of

sites. In the past, the Conservancy has contracted with California State University at Chico for nursery work. For this project, we will choose a nursery through a competitive bidding process. On other restoration sites, WCB/DFG will evaluate sites and develop restoration plans, and it will contract out other activities. WCB/DFG will conduct periodic investigations of the sites to evaluate progress. Financial and programmatic reports will be submitted quarterly detailing status of restoration efforts.

f. *Monitoring and data evaluation*

For the purpose of monitoring our implementation efforts, The Nature Conservancy will track the survival and growth rates of species planted over the life of the project. At the end of the growing season (typically in September), the Conservancy will conduct a random sampling of at least ten percent of the acreage of each soil sub-unit on larger plots, and 100% on plots smaller than 40 acres. Monitoring will be carried out in all three years (see Table 2: Monitoring for Expected Project Benefits).

For each soil sub-unit, we will measure the survival rate and average height of each species planted. If plants are dying due to some controllable variable, we will replant. If the cause is mysterious, further planting will be postponed until the cause is clarified and deemed correctable. However, in the eight years that the Conservancy has conducted monitoring, big "die-offs" of plants have not occurred. The WCB will require similar monitoring efforts on projects it administers, and WCB staff will coordinate with the Department of Fish and Game regarding long-term monitoring.

Related monitoring efforts

- Efforts are underway by WCB, the Conservancy and the Service to develop measures of success by which restoration plantings can be judged. These measures will be applied at the end of year five, after the plantings have been firmly established.
- A University of Massachusetts professor is writing a scientific paper on the correlation between soil type and success of restoration plantings on the Refuge.
- For its second year in a row, Point Reyes Bird Observatory is monitoring plantings on the Refuge from the standpoint of migratory and resident bird use. The organization is monitoring both the oldest and younger plantings.
- Erosion studies are currently underway by the California Department of Water Resources. We are using these studies to inform our restoration targets. (See Table 4: Bibliography.)

g. *Implementability*

- All restoration activities will be consistent with the principles of the SB 1086 Handbook and management principles of the Sacramento River Conservation Area, the goals and objectives outlined by CALFED for the Sacramento River, and other agency management plans and initiatives in the project area.
- All activities will comply with existing laws and regulations.
- Other funds are being sought (and have previously been awarded) from: CVPIA, National Fish and Wildlife Foundation, WCB, Land and Water Conservation Fund, US Army Corps of Engineers, and California Department of Water Resources (DWR).
- This project is supported by a host of local entities including local landowners and environmentalists, Congressman Vic Fazio, DWR, and Butte County Supervisor Jane Dolan, and the SB 1086 Advisory Council (see letters of support at end of proposal).

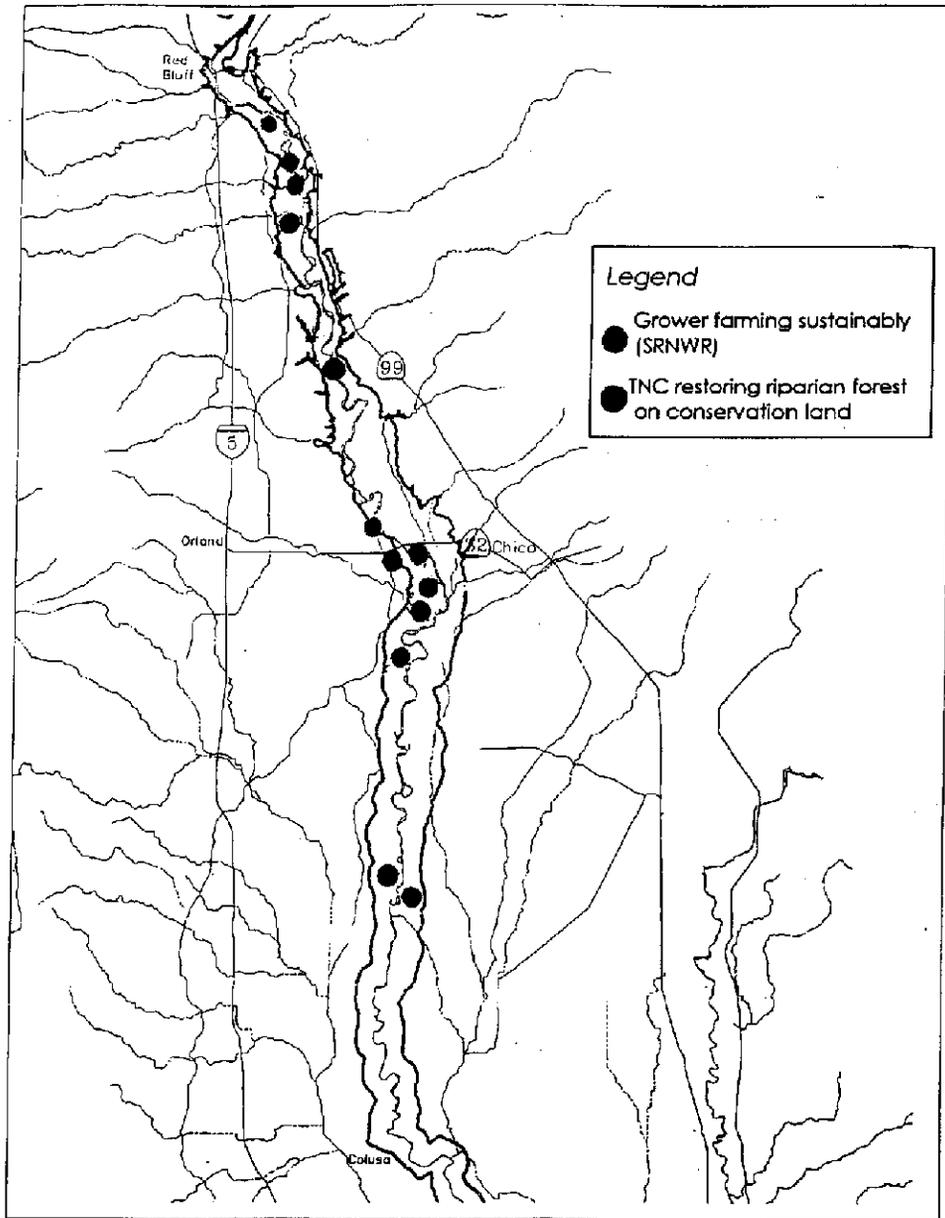
EXAMPLE OF RIPARIAN FOREST RESTORATION



YEAR ONE: End of first growing season of riparian forest restoration planting.  
[Kopta Slough Preserve on Sacramento River]



YEAR FIVE: End of fifth growing season. There has been no weed control nor irrigation for two years. These trees are self-sustaining. [Same site as above.]



**RESTORATION SITES WITHIN THE SB1086 CONSERVATION AREA**

**FIGURE 2**

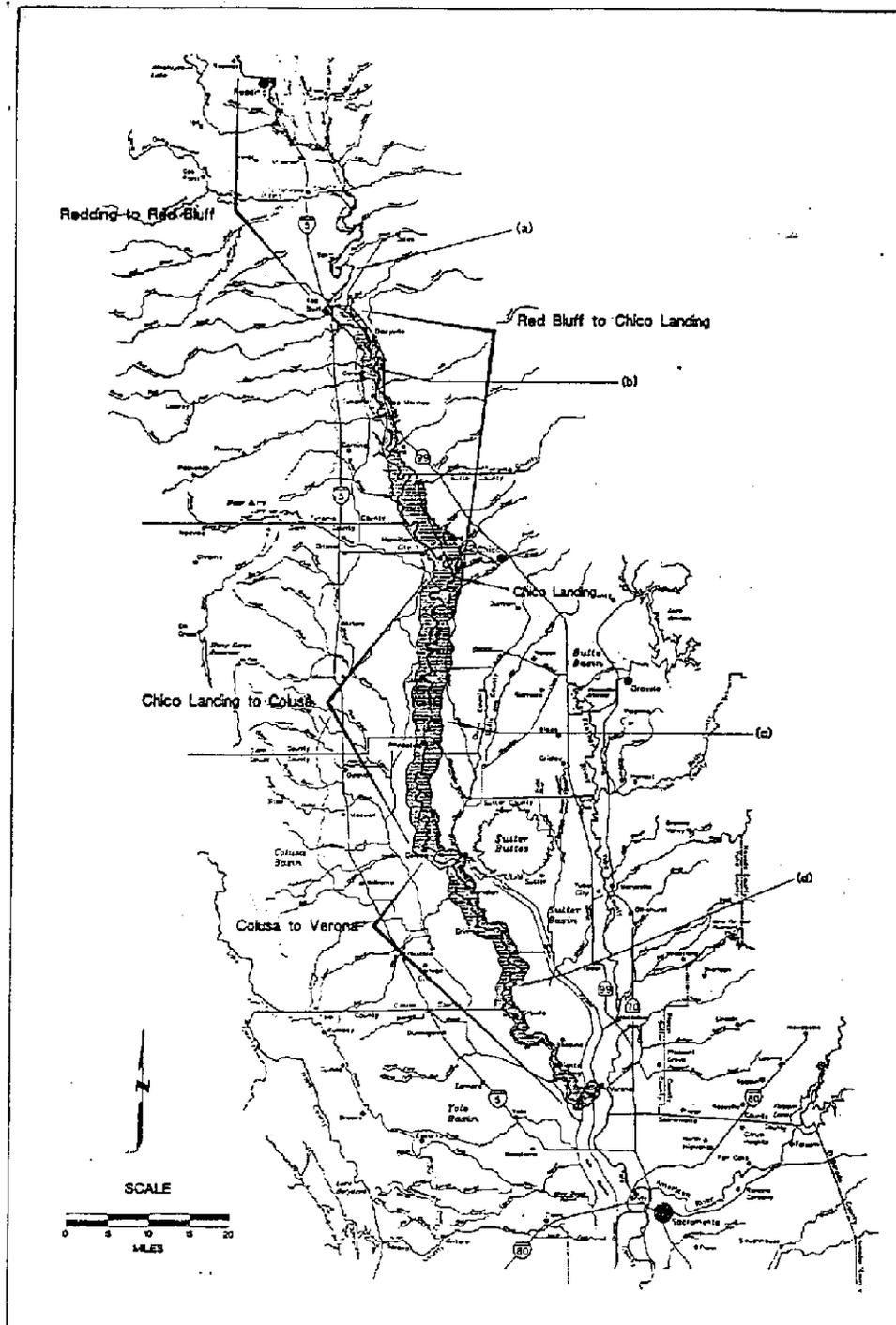


Figure 3 . The Four Reaches of the Sacramento River Conservation Area. Letters refer to cross sections shown in Figure 3(a.)

(From Draft Sacramento River Conservation Area Handbook; June 10, 1947)

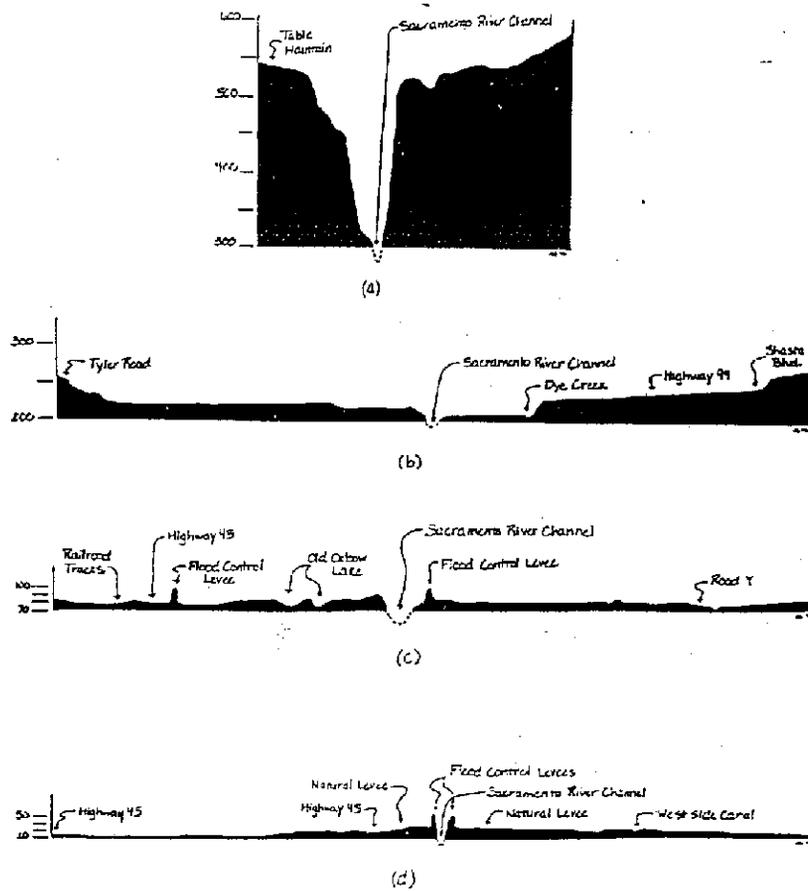
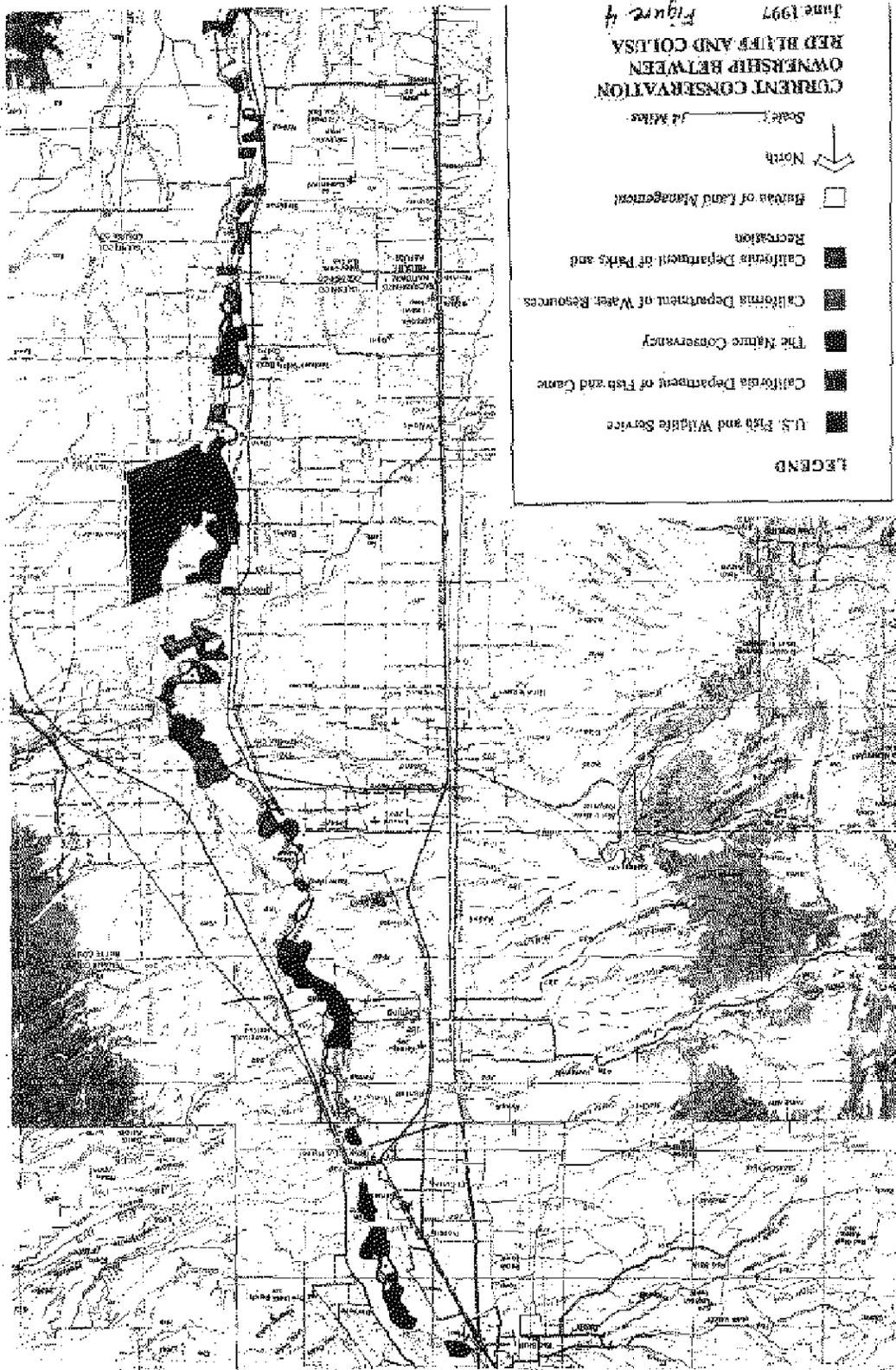


Figure 3(a) Typical cross-sections of the four reaches.

(From Draft Sacramento River Conservation Area Handbook, June 10, 1997)



## SPECIES THAT WILL BENEFIT FROM PROJECT

The following list represents species of particular interest or concern that are found within the Sacramento River Conservation Area and will benefit from land acquisition and habitat restoration.

### Species and Species Groups

White and green sturgeon  
 Winter-run chinook salmon (*federally and state listed endangered*)  
 Spring-run chinook salmon  
 Fall-run chinook salmon  
 Late-Fall run chinook salmon  
 Steelhead trout  
 Resident fish guild including Sacramento perch,  
 Sacramento blackfish and Sacramento splittail  
 Giant garter snake (*federally and state listed threatened*)  
 Red-legged frog (*federally listed threatened*)  
 Western pond turtle  
 Long-eared owl  
 Sharp-shinned hawk  
 Cooper's hawk  
 Swainson's hawk (*state listed threatened*)  
 White-tailed kite  
 Clapper rail  
 Western yellow-billed cuckoo (*state listed threatened*)  
 bank swallow (*state listed threatened*)  
 neo-tropical migratory bird guild including  
 riparian obligates like the Blue grossbeak,  
 willow fly catcher, cuckoos  
 shore bird guild  
 wading bird guild  
 water fowl guild such as mallard, teal and wood ducks  
 Valley elderberry long-horned beetle (*federally listed threatened*)



Salmon



Yellow-billed cuckoo

Many of the above species are designated as California Species of Concern.

TABLE 1: RESTORATION UNIT TASK TIMELINE FOR REFUGE SITES

ACTIVITIES AND TASKS	RESPONSIBLE PARTY	YEAR 1				YEAR 2				YEAR 3			
		W	SP	SU	F	W	SP	SU	F	W	SP	SU	F
<b>I. PLANNING</b>													
Site Evaluation	TNC	■	■	■									
Restoration Plan	TNC		■										
<b>II. PROPAGATION</b>													
Seed Collection	TNC		■	■	■								
Nursery	Contractor			■	■	■	■	■					
Cuttings Collection	TNC					■							
<b>III. FIELD WORK</b>													
Field Preparation	Contractor				■								
Layout	Contractor				■								
Planting	Contractor					■ <sup>*1</sup>	■ <sup>*2</sup>		■ <sup>*2</sup>	■ <sup>*2</sup>			
<b>IV. MAINTENANCE</b>													
Irrigation	Contractor						■	■	■		■	■	■
Weed Control	Contractor						■	■	■	■	■	■	■
Field Monitoring	TNC, USFWS & PRBO						■	■	■	■	■	■	■

\*1 Cottonwood and Willow cuttings and acorns

\*2 Nursery grown container stock

I-006074

I-006074

TABLE I(a): RESTORATION UNIT TASK TIMELINE FOR OTHER SITES

ACTIVITIES AND TASKS	RESPONSIBLE PARTY	YEAR 1				YEAR 2				YEAR 3			
		W	SP	SU	F	W	SP	SU	F	W	SP	SU	F
<b>I. PLANNING</b>													
Site Evaluation	WCB/DFG	■	■	■									
Restoration Plan	WCB/DFG		■										
<b>II. PROPAGATION</b>													
Seed Collection	Contractor		■	■	■								
Nursery	Contractor			■	■	■	■	■					
Cuttings Collection	Contractor					■	■	■					
<b>III. FIELD WORK</b>													
Field Preparation	Contractor				■								
Layout	Contractor				■								
Planting	Contractor					*1	*2		*2	*2			
<b>IV. MAINTENANCE</b>													
Irrigation	Contractor						■	■	■		■	■	■
Weed Control	Contractor						■	■	■		■	■	■
Field Monitoring	WCB/DFG						■	■	■		■	■	■

\*1 Cottonwood and Willow cuttings and acorns

\*2 Nursery grown container stock

**TABLE 2: MONITORING FOR EXPECTED PROJECT BENEFITS**

**Stressors**

	<b>Loss of existing riparian zone</b>	<b>Water quality</b>	<b>Land use</b>
<b>Ecological Indicators</b>	Cover of native woody species	Sedimentation rates	Cover of native vegetation
<b>Monitoring Protocol</b>	Aerial photo interpretation	Standard DWR (Red Bluff) protocols	Aerial photo interpretation
<b>Plans for evaluating selected restoration methodology against alternatives</b>	Comparison to conditions at outset of project (baseline).	Comparison to conditions at outset of project (baseline).	Comparison to conditions at outset of project (baseline).
<b>Justification for proposed monitoring methodology</b>	More cost-efficient than ground sampling.	Cost-efficient because comparable with existing DWR database.	More cost-efficient than ground sampling.

**Benefits to Priority Habitats**

	<b>Shaded riverine aquatic</b>	<b>Riparian woodland</b>
<b>Ecological Indicators</b>	Length and distance over river of woody vegetation	Acreage of plant establishment
<b>Monitoring Protocol</b>	Aerial photo interpretation	Aerial photo interpretation
<b>Plans for evaluating selected restoration methodology against alternatives</b>	Comparison to conditions at outset of project (baseline).	Comparison to conditions at outset of project (baseline).
<b>Justification for proposed monitoring methodology</b>	More cost-efficient than ground sampling.	More cost-efficient than ground sampling.

**Benefits to Priority Species**

	<b>Winter-run and spring-run Chinook salmon</b>	<b>Sacramento splittail</b>	<b>Steelhead trout</b>	<b>Green sturgeon</b>	<b>Migratory birds</b>
<b>Ecological Indicators</b>	Population size	Population size	Population size	Population size	Population sizes
<b>Monitoring Protocol</b>	DFG counts	DFG counts	DFG counts	DFG counts	Point Reyes Bird Observatory point counts
<b>Plans for evaluating selected restoration methodology against alternatives</b>					Comparison to conditions at outset of project (baseline).
<b>Justification for proposed monitoring methodology</b>					Cost-efficient because comparable with existing PRBO database.

**TABLE 2: MONITORING FOR EXPECTED PROJECT BENEFITS**

**Third Party Benefits**

	Stimulation of area economy.	Reduction in flood-damage costs.	Reduction in insurance claims for flood-related damages.
Ecological Indicators	Dollars spent by this project on local businesses	Dollars spent on flood repairs.	Number of insurance claims.
Monitoring Protocol	Accounting of local-business expenditures	Aerial photo interpretation.	Records of County Ag Commissioner and FEMA.
Plans for evaluating selected restoration methodology against alternatives	Measuring local business expenditures against pre-project expenditures	Comparison to conditions at outset of project (baseline).	Comparison to conditions at outset of project (baseline).
Justification for proposed monitoring methodology	Provides a direct, quantitative measure of economic impacts.	More cost-efficient and less intrusive than ground sampling.	An accessible index of some claim types.

#### IV. Costs and Schedules to Implement Proposed Project

##### a. Budget costs

The total project request is \$1,292,500 (see Table 3: Budget). While the US Fish and Wildlife Service will not receive funds through this project, the agency is included as an applicant because of its role as manager of restoration lands on the Sacramento River National Wildlife Refuge.

In the budget, "Service Contracts" and "Materials and Acquisition Contracts" include costs for contracting out various restoration activities such as propagation, field work, and some aspects of maintenance. Contractors will be selected through a competitive bidding process.

In an effort to reduce overhead costs, the budgets allocate overhead and direct costs to each party based on the anticipated restoration costs each party will bear. However, in the event it becomes more cost-effective for one party to implement a greater share of the restoration efforts, we request the flexibility to reallocate a proportionately larger amount of direct costs and/or overhead to that partner.

Funds committed or anticipated for other restoration efforts along the river, and not part of this request:

<i>Partner Funding</i>	<i>Committed</i>	<i>Anticipated</i>
CVPIA	\$ 1,180,000	
Coop. Land Mgt. Agreement*	\$ 500,000/yr	
National Fish and Wildlife Fdn.		\$ 225,000
The Nature Conservancy		\$ 220,000**

Overall project cost (including committed and anticipated funds listed above): **\$4,417,500**

\*These funds are generated from a cooperative land management agreement between the Conservancy and the Service whereby a portion of funds generated from crops grown on Refuge lands are dedicated towards restoration efforts.

\*\*The Nature Conservancy anticipates contributing direct salary, benefits and overhead for this project. Direct salary and benefits are \$184,225; overhead is \$35,745; total contribution would be \$220,000.

If Category III and its allied funding sources are unable to fulfill our entire funding needs on this project, we will raise additional funds from other sources and, if necessary, scale down the project to match the available funds.

##### b. Schedule milestones

Planting will be completed at the end of the first year following the award of funds. Maintenance and monitoring programs will be in place by the beginning of year two.

c. *Third party impacts*

There are several potential third party impacts which have been addressed and which strengthen the project:

Displacement of local agriculture: The applicants' goal is to have a gradual transition from farming to wildlands and to involve local farmers in this process as much as possible. Following acquisition, we will lease back the most productive lands to farmers, waiting for market trends or flood events to make these farms no longer economically viable, then transition these farmlands into wildlands through restoration contracts with the local community. In some instances we may transition land based on its potential biological value. We have developed riparian restoration into a new and profitable agricultural enterprise for farmers along the northern Sacramento River. In addition, retirement of flood-prone agricultural lands will help reduce downward price pressures caused by the overproduction of certain crops (e.g., prunes).

Reduced pesticide use enabling introduction of pest species problematic to adjacent farm lands: The Service and TNC currently manage 3,150 acres of farmland using sustainable farming practices. Most of these farms are surrounded by large tracts of riparian forest. Notwithstanding very restrictive lease requirements on pesticide use and farming practices, for the last four years the program has had a waiting list of farmers interested in leasing the properties. It is also important to note that during this period we have not received a pest-related complaint from other landowners. The CSUC School of Agriculture is actively engaged in working with TNC, the Service and CDFG in this area.

Flood management impacts: Our observations of previously restored acres in the project area suggest that riparian vegetation will slow down the flow of floodwaters which will increase the river's capacity to hold water. It is hoped that restoration practices will result in more cost-effective flood control measures in the long run. Widening the floodplain will allow waters to flow over a greater surface area, reducing pressure on existing levee systems. A floodplain forest will filter floating debris and sediments from floodwaters. Flood-borne debris now causes problems to bridges and irrigation structures as well as to orchards and other croplands. As a result of these benefits, we hope that the costs of flood insurance will eventually decline.

Impacts on downstream uses, diversion points and bridges: Evaluation of potential impacts on downstream uses will be conducted on a site-by-site basis. Local landowners will be contacted before any active restoration is initiated.

**TABLE 3: PROJECT BUDGET TABLE****Budget - The Nature Conservancy**

Project Phase and Task	Direct Labor Hours	Direct Salary and Benefits	Overhead Labor (General, admin and fee)	Service Contracts	Material and Acquisition Contracts	Miscellaneous and other Direct Costs	Total Cost
Site Planning, Restoration, Materials				600,000	80,000		680,000
Maintenance, Monitoring, Reporting				100,000			100,000
<b>TOTAL</b>				<b>700,000</b>	<b>80,000</b>		<b>780,000</b>

**Budget - Wildlife Conservation Board**

Project Phase and Task	Direct Labor Hours	Direct Salary and Benefits	Overhead Labor (General, admin and fee)	Service Contracts	Material and Acquisition Contracts	Miscellaneous and other Direct Costs	Total Cost
Site Planning, Restoration, Materials			12,500	435,000	65,000		512,500
<b>TOTAL</b>			<b>12,500</b>	<b>435,000</b>	<b>65,000</b>		<b>512,500</b>

**Total Request: \$1,292,500**

## V. Applicant Qualifications

*The Nature Conservancy* is an international, private, non-profit membership organization whose mission is to preserve plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. The Conservancy has more than 45 years of experience in identifying, protecting, and managing significant natural areas. The operator of the largest private system of nature sanctuaries in the world, the Conservancy owns and manages more than 1,500 preserves throughout the U.S. Its strength and reputation are built on the application of the best conservation science available and the building of partnerships with local communities, private organizations and public agencies to achieve mutual conservation goals.

The Nature Conservancy of California uses a wide variety of tools to help forge solutions to conservation issues. We employ the following four methods most frequently: land acquisition; land management and restoration; land use planning and conflict resolution; and community education and outreach.

Several of The Nature Conservancy's landmark conservation projects--in the Cosumnes River, Santa Margarita River, and Sacramento River watersheds--have focused on the protection and restoration of riparian ecosystems. Conservation efforts for these complex natural communities must include maintaining and restoring the natural processes that are essential to the long-term health of the hydrological system. In addition, The Nature Conservancy strives to balance the protection and restoration of natural communities with compatible human uses.

The Conservancy began acquiring land along the Sacramento River in 1988 and assisted the US Fish and Wildlife Service in acquiring 7,000 acres for conservation in the Sacramento River National Wildlife Refuge. Since then, the Conservancy has increased its efforts on the river and is dedicating significant resources to do the following: assist in the acquisition of additional Refuge lands; purchase and hold conservation easements; implement large scale riparian forest restoration; and engage the local community in a wildlife-compatible agriculture program. The Conservancy hopes that successes here will provide a sustainable land use model for the region.

The California Department of Fish and Game's *Wildlife Conservation Board* has been working to acquire and protect environmentally sensitive lands on the Sacramento River since 1958. Using acquisition of fee title and conservation easements, the WCB has protected more than 4,000 acres of riparian land along the river. These acquisitions are managed for a variety of uses, including public fishing access (managed by local governments under long-term cooperative agreements with WCB), protection of riparian and agricultural land (managed by private landowners in coordination with DFG), and protection and management of riparian habitat (the Sacramento River Wildlife Area is the largest example, with 3,615 acres under DFG management). The WCB, in coordination with the Department of Fish and Game and other entities, has conducted restoration on approximately 70 acres of riparian land along the river. The DFG also manages agricultural lands within the Wildlife Area in cooperation with the demonstration farm run by CSUC.

The *US Fish and Wildlife Service* manages the Sacramento River National Wildlife Refuge, a system of floodplain properties along the river between Red Bluff and Colusa. Their ultimate goal is to protect 18,000 acres for rare species. These efforts include acquisition and restoration of native riparian habitat and monitoring habitat use by wildlife.

As mentioned earlier, the acquisition efforts described above are part of a floodplain restoration effort which involves the following elements: acquisition and management, riparian forest restoration, bird population monitoring, GIS mapping, development of a riparian forest succession model, and direct support of the SB 1986 process. Proposals for these elements are being submitted by a variety of partners to CALFED under separate cover.

Efforts to restore the Sacramento River ecosystem have been going on for many years and are supported by a broad array of public and private partners. In addition to the applicants for this project, partners include US Bureau of Land Management, California Department of Water Resources, California State University at Chico, Point Reyes Bird Observatory, and local landowners and farmers. Critical to the success of the project has been the diversity of partners supporting restoration, and the inclusion of local landowners and other entities with a serious investment in the health of the region.

**VI. Compliance with Standard Terms and Conditions**

The applicants acknowledge the requirement of the Standard Clauses for service and consultant service contracts for \$5,000 and over with nonpublic entities (Item 2), as described in the Terms and Conditions of the 1997 Category III Request for Proposal.

Nondiscrimination Compliance Statement forms are attached for The Nature Conservancy and CA Department of Fish and Game/Wildlife Conservation Board, as required under the Terms and Conditions of the 1997 Category III Request for Proposal.

## NONDISCRIMINATION COMPLIANCE STATEMENT

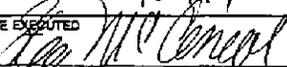
THE NATURE CONSERVANCY, 201 Mission St., 4th Floor, San Francisco, CA 94105

COMPANY NAME

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.*

Steve McCormick	
OFFICIAL'S NAME	
7/24/97	
DATE EXECUTED	
	EXECUTED IN THE COUNTY OF San Francisco
PROSPECTIVE CONTRACTOR'S SIGNATURE	
Regional Director, Vice President	
PROSPECTIVE CONTRACTOR'S TITLE	
The Nature Conservancy	
PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME	

## 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

PROSPECTIVE CONTRACTOR'S TITLE

Executive Director

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

Wildlife Conservation Board (Department of Fish and Game)

**TABLE 4: BIBLIOGRAPHY OF PROJECT-RELATED REPORTS,  
DOCUMENTS, AND PUBLICATIONS**

Academic

Hubbell, J. 1997. Competitive effects of alfalfa on survival, growth, and water relations of *Quercus lobata* seedlings. Master of Arts Degree, California State University, Chico.

\*McAlexander, L.B. 1994. Species-area relations of breeding birds on the Sacramento River, California. Master of Science degree, California State University, Chico.

\*Souza, J.S. 1995. Species richness of medium-sized carnivores in response to riparian patch size on the middle Sacramento River. Master of Science Degree in Agriculture, Calif State Univ., Chico.

*\*Funded by The Nature Conservancy*

Inventory and Monitoring

Buer, Kohl. 1994. Sacramento River Bank Erosion Investigation Memorandum Progress Report. CA Dept. of Water Resources, Red Bluff.

Buer, Kohl. 1994. Sacramento River Future Erosion Investigation Red Bluff to Chico Landing Memorandum Progress Report. CA Dept. of Water Resources, Red Bluff.

Geupel, G.R. and G. Ballard. 1995. Status and distribution of the landbird avifauna along riparian corridors of the Sacramento River national wildlife refuge: results of the 1994 field season.

Geupel, G.R. 1995. Population status and habitat associations of songbirds along riparian corridors of the lower Sacramento River: Results from the 1995 season and summary of results 1993 to 1995. A report of the Point Reyes Bird Observatory, Stinson Beach, CA.

Kiener, A. and G.R. Geupel. 1997. Songbird response to revegetation efforts at Stony Creek and other Nature Conservancy sites along the Sacramento River: Results from the 1996 field season. A report of the Point Reyes Bird Observatory, Stinson Beach, CA.

### Publications

- Griggs, T. 1990. Valley oaks: Can they be saved? *Fremontia* 18(3):48-51.
- Griggs, F.T. 1993. Protecting biological diversity through partnerships: The Sacramento river Project. in *Interface between ecology and land development in California*, edited by J.E. Keeley. Pub. by Southern California Academy of Sciences, Los Angeles.
- Griggs, F.T., V. Morris, E. Denny. 1993. Five years of valley oak riparian forest restoration. *Fremontia* 22(2):13-17.
- Griggs, F.T. 1993. Restoration returns moments of wildness to the banks of the Sacramento River. *Pacific Discovery* 46(1):12-20.
- Griggs, F.T. 1994. Adaptive management strategy helps assure cost-effective, large-scale riparian forest restoration (California). *Restoration and Management notes* 12:1 pg. 80.
- Griggs, F.T. and D.R. Peterson. 1997. Evaluation and Costs for Valley oak riparian forest restoration on the Sacramento River. Proc. of a Symp. on Oak Woodlands: Ecology, Management, and Urban interface issues. USDA Forest Service General Technical Report PSW-GTR-160.
- Hujik, P. and F.T. Griggs. 1995. Cutting size, horticultural treatments affects survival and growth of riparian species (California). *Restoration and Management Notes* 13:2, pp. 219-220.
- Hujik, P. and F. T. Griggs. 1995. Field-seeded riparian trees and shrubs thrive in non-irrigated plots (California). *Restoration and Management Notes* 13:2, pp. 220-221.
- Sheehan, R. and T. Griggs. 1994. Adaptive management strategy used to determine duration of irrigation in riparian forest restoration (California). *Restoration and Management Notes* 12:1, pg. 81.

### Internal Reports and Plans

- Hubbell, J.G. 1994. First and second year results of riparian restoration experiments and suggestions for future experiments at Parrott Ranch, Sacramento River, CA.

**Unit Implementation Plans, for each restoration planting.**

1992 - Sam Slough, Kopta Slough I

1993 - Princeton Ferry, River Vista I, Kopta Slough II

1994 - Lohman, River Vista II, Kopta Slough III

1995 - River Vista III, Kopta Slough IV

1996 - River Vista IV, Shaw, Flynn I

1997 - River Vista V, Flynn II, Ryan, Kopta Slough V