# Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

## Project Information

1. **Proposal Title:**

   Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

2. **Proposal applicants:**

   Sam Lawson, The Nature Conservancy
   Cathy Morris, The Nature Conservancy
   Dawit Zeleke, The Nature Conservancy
   Ryan Luster, The Nature Conservancy
   Cindy Horney, The Nature Conservancy
   Dave Jukkola, The Nature Conservancy
   Luis Ojeda, The Nature Conservancy
   Gildardo Punzo, The Nature Conservancy
   Jan Karolyi, The Nature Conservancy

3. **Corresponding Contact Person:**

   Wendie Duron
   The Nature Conservancy
   500 Main Street Chico, CA 95928
   530 897-6376
   wduron@tnc.org

4. **Project Keywords:**

   **Fish, Anadromous**
   **Habitat Restoration, Riparian**
   **Revegetation**

5. **Type of project:**

   Planning

6. **Does the project involve land acquisition, either in fee or through a conservation easement?**

   Yes

   **If yes, is there an existing specific restoration plan for this site?**

   No

7. **Topic Area**:

   Riparian Habitat

8. **Type of applicant:**

   Private non-profit

9. **Location - GIS coordinates:**

   | | |
   |---|---|
   | Latitude: | 39.7118 |
   | Longitude: | -121.9350 |
   | Datum: | NAD27 |

   **Describe project location using information such as water bodies, river miles, road intersections, landmarks, and size in acres.**

   The project is located on the eastern side of the Sacramento River between river miles 193.5 and 194.8. River Road runs through the project area, as does Mud Creek. Big Chico Creek borders the project area to the east. The project area is 311 acres.

10. **Location - Ecozone:**

    3.2 Red Bluff Diversion Dam to Chico Landing, 3.3 Chico Landing to Colusa

11. **Location - County:**

    Butte

12. **Location - City:**

    Does your project fall within a city jurisdiction?

    No

13. **Location - Tribal Lands:**

    Does your project fall on or adjacent to tribal lands?

    No

14. **Location - Congressional District:**

    2

15. **Location:**

    **California State Senate District Number:** 1

    **California Assembly District Number:** 3

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

    3

17. **Requested Funds:**

a) Are your overhead rates different depending on whether funds are state or federal?

No

If no, list single overhead rate and total requested funds:

Single Overhead Rate: 22

Total Requested Funds: $2,882,945

b) Do you have cost share partners already identified?

Yes

If yes, list partners and amount contributed by each:

**USFWS-AFRP $50,000**

c) Do you have potential cost share partners?

**Yes**

If yes, list partners and amount contributed by each:

**The David and Lucile Packard Foundation estimated to be up to $288,295**

d) Are you specifically seeking non-federal cost share funds through this solicitation?

No

If the total non-federal cost share funds requested above does not match the total state funds requested in 17a, please explain the difference:

18. **Is this proposal for next-phase funding of an ongoing project funded by CALFED?**

No

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

**Yes**

If yes, identify project number(s), title(s) and CALFED program.

| | | |
|---|---|---|
| **97-NO2** | **Ecosystem and Natural Process Restoration on the Sacramento River: Floodplain Acquisition and Management** | **ERP** |
| **97-NO3** | **Ecosystem and Natural Process Restoration on the Sacramento River:Active Restoration of Riparian Forest** | **ERP** |
| **97-NO4** | **Ecoystem and Natural Process Restoration on the Sacramento River: A Meander Belt Implemenation Project** | **ERP** |
| **98-F18** | **Floodplain Acquisition, Management and Monitoring on the Sacramento River** | **ERP** |
| **2000-F03** | **Floodplain Acquistion and Sub-Reach/Site Specific Management Planning: Sacramento River (Red Bluff to Colusa)** | **ERP** |

19. **Is this proposal for next-phase funding of an ongoing project funded by CVPIA?**

**Yes**

If yes, identify project number(s), title(s) and CVPIA program (e.g. AFRP, AFSP, b(1) other).

| | | |
|---|---|---|
| **1132-0-G014** | **Singh Walnut Orchard** | **AFRP** |

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

Yes

If yes, identify project number(s), title(s) and CVPIA program.

| | | |
|---|---|---|
| **00FG200173** | **Acquisition of Southam Orchard Properties for Preservation of Riparian Habitat** | **Section 3406 (b)(1) other** |
| **1448-11332-7-G017** | **Hartley Island Acquisiton** | **AFRP** |

20. **Is this proposal for next-phase funding of an ongoing project funded by an entity other than CALFED or CVPIA?**

    No

    **Please list suggested reviewers for your proposal.** (optional)

21. **Comments:**

# Environmental Compliance Checklist

## Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

1. **CEQA or NEPA Compliance**
   a) Will this project require compliance with CEQA?

      Yes
   b) Will this project require compliance with NEPA?

      Yes
   c) If neither CEQA or NEPA compliance is required, please explain why compliance is not required for the actions in this proposal.

2. **If the project will require CEQA and/or NEPA compliance, identify the lead agency(ies).** *If not applicable, put "None".*

   CEQA Lead Agency: To be determined
   NEPA Lead Agency (or co-lead:) To be determined
   NEPA Co-Lead Agency (if applicable):

3. **Please check which type of CEQA/NEPA documentation is anticipated.**

   **CEQA**
   **-**Categorical Exemption
   **-**Negative Declaration or Mitigated Negative Declaration
   **X**EIR
   **-**none

   **NEPA**
   **-**Categorical Exclusion
   **X**Environmental Assessment/FONSI
   **-**EIS
   **-**none

   If you anticipate relying on either the Categorical Exemption or Categorical Exclusion for this project, please specifically identify the exemption and/or exclusion that you believe covers this project.

4. **CEQA/NEPA Process**
   a) Is the CEQA/NEPA process complete?

      No

      If the CEQA/NEPA process is not complete, please describe the dates for completing draft and/or final CEQA/NEPA documents.

      CEQA/NEPA documentation will be started once the funding agencies have been identified.

b) If the CEQA/NEPA document has been completed, please list document name(s):

5. **Environmental Permitting and Approvals** (*If a permit is not required, leave both Required? and Obtained? check boxes blank.*)

**LOCAL PERMITS AND APPROVALS**

Conditional use permit

Variance

Subdivision Map Act

Grading Permit

General Plan Amendment

Specific Plan Approval

Rezone

Williamson Act Contract Cancellation

Other

**STATE PERMITS AND APPROVALS**

Scientific Collecting Permit

CESA Compliance: 2081

CESA Compliance: NCCP

1601/03

CWA 401 certification Required

Coastal Development Permit

Reclamation Board Approval Required

Notification of DPC or BCDC

Other

**FEDERAL PERMITS AND APPROVALS**

ESA Compliance Section 7 Consultation

ESA Compliance Section 10 Permit

Rivers and Harbors Act

CWA 404 Required

Other

**PERMISSION TO ACCESS PROPERTY**

Permission to access city, county or other local agency land.
Agency Name:

Permission to access state land.
Agency Name:

Permission to access federal land.
Agency Name:

Permission to access private land.
Landowner Name: Singh, Nicholas, Nock — Required, Obtained

6. **Comments.**

# Land Use Checklist

## Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

1. **Does the project involve land acquisition, either in fee or through a conservation easement?**

   Yes

   If you answered yes to #1, please answer the following questions:

   a) **How many acres will be acquired?**

      Fee: 311
      Easement: 0
      Total: 311

   b) Will existing water rights be acquired?

      Yes

   c) Are any changes to water rights or delivery of water proposed?

      No

2. **Will the applicant require access across public or private property that the applicant does not own to accomplish the activities in the proposal?**

   Yes

3. **Do the actions in the proposal involve physical changes in the land use?**

   **No**

   If you answered no to #3, explain what type of actions are involved in the proposal (i.e., research only, planning only).

   planning and acquisition only

4. **Comments.**

# Conflict of Interest Checklist

## Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

Please list below the full names and organizations of all individuals in the following categories:

- Applicants listed in the proposal who wrote the proposal, will be performing the tasks listed in the proposal or who will benefit financially if the proposal is funded.
- Subcontractors listed in the proposal who will perform some tasks listed in the proposal and will benefit financially if the proposal is funded.
- Individuals not listed in the proposal who helped with proposal development, for example by reviewing drafts, or by providing critical suggestions or ideas contained within the proposal.

The information provided on this form will be used to select appropriate and unbiased reviewers for your proposal.

**Applicant(s):**

Sam Lawson, The Nature Conservancy
Cathy Morris, The Nature Conservancy
Dawit Zeleke, The Nature Conservancy
Ryan Luster, The Nature Conservancy
Cindy Horney, The Nature Conservancy
Dave Jukkola, The Nature Conservancy
Luis Ojeda, The Nature Conservancy
Gildardo Punzo, The Nature Conservancy
Jan Karolyi, The Nature Conservancy

**Subcontractor(s):**

Are specific subcontractors identified in this proposal? Yes

If yes, please list the name(s) and organization(s):

Ron Unger EDAW Inc.

**Helped with proposal development:**

Are there persons who helped with proposal development?

Yes

If yes, please list the name(s) and organization(s):

**Eric Ginney Bidwell Environmental Institute, California State University, Chico**

**Greg Golet** **The Nature Conservancy**

**Marlyce Myers** **The Nature Conservancy**

**Amy Hoss** **The Nature Conservancy**

**Wendie Duron** **The Nature Conservancy**

**Daryl Peterson** **The Nature Conservancy**

**Comments:**

# Budget Summary

## Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

Please provide a detailed budget for each year of requested funds, indicating on the form whether the indirect costs are based on the Federal overhead rate, State overhead rate, or are independent of fund source.

Independent of Fund Source

| Year 1 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Task No.** | **Task Description** | **Direct Labor Hours** | **Salary *(per year)*** | **Benefits *(per year)*** | **Travel** | **Supplies & Expendables** | **Services or Consultants** | **Equipment** | **Other Direct Costs** | **Total Direct Costs** | **Indirect Costs** | **Total Cost** |
| 1 | Land Acquisition | 293 | 8262 | 3057 | 0 | 0 | 21000 | 0 | 350250 | 382569.0 | 7165 | 389734.00 |
| 2 | Restoration Planning | 621.2 | 9573 | 3542 | 0 | 0 | 120000 | 0 | 7500 | 140615.0 | 30935 | 171550.00 |
| | | 914 | 17835.00 | 6599.00 | 0.00 | 0.00 | 141000.00 | 0.00 | 357750.00 | 523184.00 | 38100.00 | 561284.00 |

| Year 2 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Task No.** | **Task Description** | **Direct Labor Hours** | **Salary *(per year)*** | **Benefits *(per year)*** | **Travel** | **Supplies & Expendables** | **Services or Consultants** | **Equipment** | **Other Direct Costs** | **Total Direct Costs** | **Indirect Costs** | **Total Cost** |
| 1 | Land Acquisition | 201 | 5947 | 2200 | 0 | 0 | 21000 | 0 | 1365250 | 1394397.0 | 6467 | 1400864.00 |
| 2 | Restoration Planning | 621.2 | 10016 | 3706 | 0 | 0 | 0 | 0 | 2500 | 16222.0 | 3569 | 19791.00 |
| | | 822 | 15963.00 | 5906.00 | 0.00 | 0.00 | 21000.00 | 0.00 | 1367750.00 | 1410619.00 | 10036.00 | 1420655.00 |

| Year 3 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Task No.** | **Task Description** | **Direct Labor Hours** | **Salary *(per year)*** | **Benefits *(per year)*** | **Travel** | **Supplies & Expendables** | **Services or Consultants** | **Equipment** | **Other Direct Costs** | **Total Direct Costs** | **Indirect Costs** | **Total Cost** |
| 1 | Land Acquisition | 94 | 2566 | 949 | 0 | 0 | 14500 | 0 | 830250 | 848265.0 | 4018 | 852283.00 |
| 2 | Restoration Planning | 621.2 | 10461 | 3871 | 0 | 0 | 0 | 0 | 2500 | 16832.0 | 3703 | 20535.00 |
| | | 715 | 13027.00 | 4820.00 | 0.00 | 0.00 | 14500.00 | 0.00 | 832750.00 | 865097.00 | 7721.00 | 872818.00 |

**Grand Total=2854757.00**

**Comments.**
Indirect costs are not assessed on the estimated cost to acquire any real property, which cost is included in other direct costs.

# Budget Justification

## Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

**Direct Labor Hours.** Provide estimated hours proposed for each individual.

Project Director III - 105 hours, Field Representative II - 420 hours, Land Steward III - 241 hours, Conservation Planner - 722 hours, Program Assistant II - 556 hours, Operations Assistant - 42 hours, Preserve Assistant I - 962 hours

**Salary.** Provide estimated rate of compensation proposed for each individual.

Project Director III - $56/hour, Field Representative II - $32/hour, Land Steward II - $30/hour, Conservation Land Planner - $22/hour, Program Assistant II - $17/hour, Operations Assistant - $17/hour, Preserve Assistant I - $13/hour

**Benefits.** Provide the overall benefit rate applicable to each category of employee proposed in the project.

37% for all categories

**Travel.** Provide purpose and estimate costs for all non-local travel.

none

**Supplies & Expendables.** Indicate separately the amounts proposed for office, laboratory, computing, and field supplies.

none

**Services or Consultants.** Identify the specific tasks for which these services would be used. Estimate amount of time required and the hourly or daily rate.

Estimates for Task 1 - Appraisals - $5,000 each Phase I - $2,000 each Surveys - $6,000 to $8,000 each Escrow Fees - $1,000 to $2,000 each Title Insurance - $2,000 to $4,000 each Estimates for Task 2 - Baseline Assessment - $60,000 total CEQA/NEPA documentation & permitting (contract with EDAW, Inc.) - $60,000 total

**Equipment.** Identify non-expendable personal property having a useful life of more than one (1) year and an acquisition cost of more than $5,000 per unit. If fabrication of equipment is proposed, list parts and materials required for each, and show costs separately from the other items.

none

**Project Management.** Describe the specific costs associated with insuring accomplishment of a specific project, such as inspection of work in progress, validation of costs, report preparation, giving presentatons, reponse to project specific questions and necessary costs directly associated with specific project oversight.

Project managment activities will include contract management, report preparation, accounting, and inspection of work in progress. Field Representative II, Land Steward III, and Conservation Planner have budgeted a total of 595 hours over the three-year term of the agreement for the project management activities.

**Other Direct Costs.** Provide any other direct costs not already covered.

Costs to conduct shareholder workshops & outreach- $7,500, Estimates of anticipated fees & permits charged by public agencies to complete Task 2 - $5,000, Other miscellaneous costs (i.e. copying, etc.) - $750, Cost to acquire property at fair market value - $2,545,000

**Indirect Costs.** Explain what is encompassed in the overhead rate (indirect costs). Overhead should include costs associated with general office requirements such as rent, phones, furniture, general office staff, etc., generally distributed by a predetermined percentage (or surcharge) of specific costs.

The Nature Conservancy (TNC) has a Negotiated Indirect Cost Rate (NICRA) of 22% that was negotiated and approved by TNC's cognizant agency, USAID, and calculated in compliance with the requirements of OMB Circular A-122, and bound into our annual OMB Circular A-133 audit reports. TNC's indirect cost per the NICRA includes salaries, fringe benefits, fees and charges, supplies and communication, travel, occupancy, and equipment for general and administrative regional and home office staff. These costs are reflected in the Indirect Costs category of this proposal and are not reflected anywhere else in the proposal budget. Direct staff costs are reflected in the salary and benefits categories of the proposal budget. Indirect costs are not assessed on the estimated cost to acquire any real property, which cost is included in other direct costs.

# Executive Summary

## Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

The Nature Conservancy (TNC) requests $2,882,945 to complete Phase II of a four-phase project to protect and restore 311 acres of flood-prone, ecologically significant land located within the Sacramento River Conservation Area at the confluence of the Sacramento River, Big Chico and Mud Creeks at river miles 194-195. The Anadromous Fish Restoration Program funded Phase I of this project, floodplain management planning. Phase II's objective, and the subject of this proposal, is to acquire, and complete restoration and management plans for three properties located in Butte County. Under Task 1, TNC will acquire the properties identified from willing sellers. Under Task 2, TNC will complete baseline assessments, and draft restoration designs and management plans. Stakeholder outreach that began under Phase I will continue throughout Phase II. The proposed four-phase project will allow TNC to test several hypotheses including: (1) restoring connectivity between the river and its floodplain will promote natural processes; (2) restoring the land will benefit native vegetation, insects, birds and fishes; (3) restoring confluence areas will yield greater ecological benefits; and (4) restoring areas adjacent to remnant natural habitats will yield greater ecological benefits. While it is not possible to completely test our hypotheses until Phase IV of this project is underway, TNC is currently conducting studies on restored sites along the Sacramento River and the acquisition and restoration included in this proposal will continue the expansion of available study areas. The expected outcomes for Phase II of this project will be the acquisition and completion of restoration and management plans that include stakeholder input for flood-prone land located at the confluence of the Sacramento River, Big Chico and Mud Creeks. The following ERP goals are addressed by this proposal: Goal 1 - recovery of at-risk species; Goal 2 - rehabilitate natural processes; Goal 4 - protect and restore riparian habitat; and Goal 6 - improve water quality. The following CVPIA goals and AFRP objectives are addressed by this proposal: (1) protect, restore, and enhance fish, wildlife, and associated habitats in the Central Valley; (2) improve habitat for all life stages of anadromous fish; and (3) involve partners in the implementation and evaluation of restoration actions.

# Proposal

## The Nature Conservancy

## Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

Sam Lawson, The Nature Conservancy
Cathy Morris, The Nature Conservancy
Dawit Zeleke, The Nature Conservancy
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# Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks

## A. Project Description: Project Goals and Scope of Work

### A.1. Problem

The Sacramento River is a fundamental state water source that drains 24,000 square miles of the northern Central Valley and supplies 80% of freshwater flowing into the Bay-Delta (CA State Lands Commission 1993). Historically, the river was lined by approximately 800,000 acres of riparian forest (Katibah 1984). Over 95% of this habitat has been lost, however, to selective logging, agriculture, urban development, and flood control and power generation projects. Cumulatively, these changes have greatly stressed the Sacramento River and associated species. The loss and degradation of riparian habitat has greatly diminished the river's ability to support viable wildlife populations and encouraged the invasion and proliferation of non-native invasive species. Two-thirds of the linear extent of the river's banks have been modified and confined by levees and riprap. Channelization, bank protection, and the construction of the Shasta Dam degraded riparian habitat along the Sacramento River by restricting the dynamic forces that promote natural habitat succession and regeneration.

Ideally, riparian habitats contain a great number of flora and fauna due to the range of community types, overall structural diversity, availability of water and soil moisture, potential as corridors for migration, and critical breeding grounds (California State Lands Commission 1993, California Resources Agency 2000). Additionally, riparian corridors provide two primary functions essential to maintaining water quality: 1) moderating stream temperature and 2) reducing sediments and nutrients emanating from upland agriculture (Castelle *et al*. 1994). The loss of high-quality habitat and the decrease in water quality along the Sacramento River has caused many native species populations to become critically endangered. Important at-risk species include the Sacramento splittail, green sturgeon, chinook salmon, steelhead trout, western yellow-billed cuckoo, Swainson's hawk, least Bell's vireo, and Valley elderberry longhorn beetle (VELB) (CALFED Multi-Species Conservation Strategy 2000).

Although severely degraded, the Sacramento River is still the most diverse and extensive river ecosystem in California (California State Lands Commission 1993). In an effort to improve ecosystem health in the region, federal, state, and local governments, as well as non-government organizations, have begun to implement a series of ecosystem restoration programs along the river. In 1986, the California State Legislature passed Senate Bill 1086, which mandated the development of a management plan for the Sacramento River and its tributaries to protect, restore, and enhance fisheries and riparian habitat (California Resources Agency 2000). The Sacramento River Conservation Area (SRCA) non-profit organization formed and set as its primary goal the preservation of remaining riparian habitat and reestablishment of a continuous riparian corridor along the Sacramento River from Red Bluff to Colusa. In the 2002 Proposal Solicitation Package (PSP) for the Ecosystem Restoration Program (ERP), CALFED specifies developing and implementing habitat management and restoration actions in collaboration with groups such as the SRCA as a priority for the Sacramento River region (SR-1).

Following the principles and guidelines of the SCRA Handbook, The Nature Conservancy (TNC) proposes to protect and restore 311 acres in an ecologically valuable area on the Sacramento River floodplain. Acquisition and restoration activities in this proposal include conserving three flood-prone properties, protecting remnant riparian forest, planting native

vegetation, and restoring floodplain connectivity through selective removal or realignment of levees, berms, revetment and/or other flood control features. Outreach efforts already conducted have identified a desire by local landowners to increase flood storage capacity, which would be achieved by reconnecting the floodplain to the river at this site. As such, restoration efforts in the area would offer both ecosystem and flood safety benefits.

## Project Location

The proposed project is located within the Sacramento River Conservation Area[1] in Butte County between river miles 194 and 195 (see Figure 1). The project area, along the east bank of the Sacramento River, encompasses the confluence of Big Chico Creek and Mud Creek, and just downstream, the confluence of Big Chico Creek and the Sacramento River. We propose conducting restoration activities at this site because this tributary confluence area has the potential to provide outstanding benefits to the Sacramento River ecosystem and to many at-risk species. This project also provides an important opportunity to advance our understanding of how floodplain habitats with varying physical and biological attributes respond to restoration activities. Therefore, this proposal presents a valuable opportunity to both improve ecosystem health and to teach us how to more effectively carry out restoration.

## Relevant Past Reports and Studies

Tributary confluences such as those that flow through the project area are important junctures for many aquatic and terrestrial species during migration and dispersal (P. Maslin *et al*. 1999, Riparian Habitat Joint Venture 2000). Of particular importance to this project is the potential to contribute to the recovery of at-risk native anadromous and resident fish species. Juvenile chinook salmon of four races (spring, fall, late fall, and winter run) and steelhead trout; as well as non-game fish species including Sacramento sucker, Sacramento pike-minnow, hardhead, hitch, tule perch, and Sacramento splittail; have been documented rearing in the tributaries flowing through or near the project area (P. Maslin, personal communication). Mud Creek is perhaps the most important non-natal rearing habitat for juvenile salmonids (particularly winter-run) along the middle Sacramento River (Maslin *et al*. 1999).

Additionally, tributaries bordered by low elevation floodplain habitat, such as Mud Creek and Big Chico Creek, may be especially important for native fishes. Sommer *et al.* (2001) showed that juvenile chinook salmon rearing on inundated floodplains show increased growth rates, and apparently greater survival, compared to a similar group of fish in the mainstem of the river. These researchers found that invertebrates were more abundant in these habitats, and attributed the higher growth rates to increased prey consumption.

Sediment, nutrients, large woody debris, and other organic materials—all important river ecosystem components—are provided to the mainstem river from critical sources in the tributary streams (Vannote *et al*. 1980). On the Sacramento River, Shasta Dam disconnects the mainstem of the river from its upstream tributaries, causing tributary streams below the dam, such as Mud Creek and Big Chico Creek, to have increased ecological significance.

Maslin *et al.* (1999) suggest that the preservation and restoration of intermittent stream habitat should be a priority in the Sacramento Valley especially given the amount of such habitat already lost. The high ecological value of the proposed project location is, in part, a function of

[1] The Sacramento River Conservation Area is defined by the SRCA non-profit as the 213,000 acre area along the banks of the Sacramento River between Keswick Dam and Verona where there is the potential for riparian habitat or valley oak woodland through voluntary participation.

the complex and dynamic hydrogeomorphic processes that characterize the area (see Figure 2). Upstream of the project area is the confluence with Pine Creek. This confluence area is the northern most extension of distributary channels, which route flow from the Sacramento River east to Butte Basin. During times of high river discharge this floodwater, along with that from the tributaries, fills the Bosqueo Basin creating vast seasonal wetlands, before draining south through the project area to rejoin the river at the Big Chico Creek confluence. Immediately downstream of the project area, floodwaters begin to leave the river along the east bank and flow into the Butte Basin. The alluvial fan of Big Chico Creek bounds the project area to the east, and to the west lies the meanderbelt of the Sacramento River. Lying at the intersection of these landforms, the project area historically hosted a rich assortment of habitat types including backwaters, tule swamps, seasonal wetlands, oak woodlands, and mixed riparian forest--all within close proximity (Ginney 2001).

Given that some of the natural processes that gave rise to these habitats are still maintained, and that the topographic and stratigraphic diversity of the site is still relatively intact, this area has great potential for ecological revitalization. It is our expectation that this area has the potential to support a rich variety of important vegetation communities and animals including native birds, mammals, reptiles, amphibians, and fish.

## Goals

Our project has four central goals:

1. Improve the ecological health and long-term viability of at-risk species and communities at a critical confluence area by protecting and restoring riparian habitat and rehabilitating floodplain processes through horticultural and process-based restoration.
2. Increase our knowledge of ecosystem function and employ adaptive management to improve our ability to engineer "desired future conditions" for riparian restoration projects.
3. Reduce flood damage to important human infrastructure by increasing the storage of floodwaters in the project area.
4. Improve water quality to benefit humans and wildlife through the restoration of riparian vegetation communities, geomorphic, and hydrologic processes.

## Hypotheses

The proposed acquisitions, restoration planning, and associated research and monitoring will allow us to test the following hypotheses:

1. Restoring connectivity between the river and the floodplain near the confluence of the Sacramento River, Mud Creek, and Big Chico Creek will promote natural processes that improve ecosystem health and water quality, while reducing flood damage.
2. Restoring lands near the confluence of Sacramento River, Mud Creek, and Big Chico Creek will benefit native vegetation communities (including mixed riparian forest, savanna grassland, and seasonal wetland), insects (including the Federally threatened VELB), birds (including the California threatened yellow billed cuckoo, Swainson's hawk, and other neo-tropical migrants), and fishes (including chinook salmon, steelhead, and Sacramento splittail).
3. Confluence areas have higher ecological value than other river floodplain habitats and, when restored, yield greater ecological benefits.

4. Restoring areas that are adjacent to remnant natural habitats yields greater ecological benefits than restoring areas that are further removed from these habitats.

These hypotheses will be evaluated through the implementation of a four-phased project that involves: 1) cooperative integrative floodplain management planning; 2) land acquisition, baseline assessment, and restoration planning; 3) restoration implementation; and 4) research and monitoring. In this proposal we seek funds only for Phase 2 of this project--land acquisition, baseline assessment, and restoration planning. Phase 1 has been completed with funding provided by the Central Valley Project Improvement Act (CVPIA) Anadromous Fish Restoration Program (AFRP) and CALFED 97-NO2. (See sections B.2. and B.3. for a further explanation of the relationship between activities conducted in Phase 1 and activities described in this proposal).

**Objectives**

The specific objectives that we have set for this phase of the project are as follows:

1. Acquire fee-title interest of the three properties specified in section B.6., for a total of 311 acres.
2. Conduct baseline assessments and integrate findings of earlier planning efforts to develop draft restoration designs and management plans.
3. Conduct additional stakeholder outreach activities and solicit stakeholder input.

## A.2. Justification

This proposal continues a project that began under a grant from the Anadromous Fish Restoration Program (AFRP) of the U.S. Fish and Wildlife Service. The grant provided funds that enabled TNC to secure an option, conduct pre-acquisition due diligence activities, and complete a baseline biological assessment and environmental survey for the Singh property (see Figure 1). It also funded a focal-area restoration planning assessment of the larger confluence area surrounding Big Chico Creek, Mud Creek, and the Sacramento River. This project is near completion (see section B.3.). AFRP staff indicated that initial assessment and focal-area planning efforts such as these are crucial steps in the restoration process, and have been very supportive of the initial steps we have taken in this project. (J. Icanberry, personal communication).

This proposal is submitted as a full-scale restoration project as defined by the Sacramento River Ecological Management Zone Vision--the acquisition, in fee-title or easement, of riparian lands within the meander zone of the Sacramento River between Red Bluff and Colusa is categorized as having a sufficient certainty of success to justify full implementation in accordance with program priorities and staged implementation (CALFED Ecosystem Restoration Program Plan (ERPP) Vol. II 2000). The CALFED Draft Stage 1 Implementation Plan sets the development and implementation of restoration actions in collaboration with the SRCA as a priority, as well as the restoration of fish habitat, particularly for spring-run chinook salmon and steelhead trout, as a restoration priority (p. 57). The properties proposed for restoration all fall within the Sacramento River Conservation Area (SRCA) "inner river zone" (IRZ), an area along the river that is prone to erosion and flooding (California Resources Agency 2000). Given voluntary landowner participation the SRCA has stipulated that areas within the IRZ should be prioritized for preservation (California Resources Agency 2000).

The lands border remnant riparian areas currently owned by the State of California, and managed by the Department of Parks and Recreation (DPR) as a portion of the Bidwell-Sacramento River State Park. Following acquisition and restoration, the properties are expected

to be placed under long-term ownership with the DPR for addition to the Bidwell-Sacramento River State Park. When purchased, the project lands will combine with lands in existing conservation ownership to create approximately 400 acres of nearly contiguous riverine habitat. As seen in Figure 1, additional conservation ownership in the area, on both sides of the river, both upstream and downstream from the project area, is significant, further increasing the ecological value of the proposed project area.

**Conceptual Model**

Many different factors combine to determine the state of a particular ecosystem, including the physical, biological and anthropogenic influences. In a river ecosystem, physical (fluvial) processes are especially important because they provide the input of energy and material needed to create and maintain riverine landscapes and associated biological communities (Poof *et al.* 1997, Kondolf 2000). Horticultural restoration techniques provide an important and established method for revegetating floodplain habitats in certain situations (Goodwin, *et al.* 1997, Griggs and Peterson 1997, Alpert *et al.* 1999), but are in themselves insufficient to maintain ecological integrity in systems where natural processes have been highly altered. Such is the condition of many habitats along the Sacramento River's mainstem. Recognizing this we have planned both horticultural and natural process restoration activities for the project area. Our expectation for how this project will unfold is illustrated in Figure 3, a conceptual model that shows how restoration activities are hypothesized to interface with site-specific and landscape-scale characteristics of the project area to produce desired ecosystem responses. A subset of these responses is specified as hypotheses in section A.1.

**Testing Hypotheses and Reducing Uncertainty**

It is not possible to test the above hypotheses in the term of this grant and we are not seeking funds in this proposal for research and monitoring of the type required to address critical uncertainties regarding ecosystem response to proposed management actions. The stated hypotheses will, however, be tested in studies focusing on a larger suite of restoration sites on the Sacramento River. TNC and its partners have restoration projects ongoing at multiple sites along the river. Ecosystem response monitoring activities currently underway at TNC restoration sites include those listed at the end of section A.5. In addition to these important science projects, we are seeking funds for additional studies to increase the scientific attention that this project area receives. A proposal submitted in response to the 2002 PSP entitled *The Effects of Local Site Characteristics and Landscape Factors on Restoration Success at The Sacramento River: A Multi-Disciplinary Study using Statistical Modeling and GIS* represents a major effort by our project to conduct research of this type.

**Adaptive Management**

Over the past 13 years, TNC has worked to implement many of the conservation initiatives outlined in the SRCA handbook (California Resources Agency 2000). TNC has planted a suite of native woody species, trees and shrubs, and more recently, forbs and grasses, on over 2,800 acres of floodplain habitat in an effort that may represent the most extensive replicated horticultural restoration ever undertaken anywhere. Concurrently, TNC and its partners have taken significant steps to restore natural river processes through removal of levees and bank protection to restore a limited meander and to reconnect the river to its historic

floodplain. Restoration of both riparian habitats and river processes requires an adaptive management approach.

The restoration designs that our project develops are the products of an integrative adaptive management process that draws from extensive past experiences in planning, implementing, managing and evaluating restoration on the Sacramento River. We are continually refining our restoration planning methodologies by incorporating information from past experiences into a multifaceted adaptive management process. Information that feeds into this process includes a variety of perspectives on restoration outcome. Ecological appraisals of restoration success come from our Research and Monitoring program, which focuses on ecosystem response monitoring and ecosystem function modeling. Societal appraisals of our restoration work come from our coordinated floodplain management planning program which gathers stakeholder feedback and evaluates restoration management actions from the standpoint of their impacts on important human services (e.g., flood control and water quality) and infrastructure (e.g., bridges and water-conveyance facilities). For further illustration of how our project's programs interface in an adaptive management context see section B.5. and Figure 4.

## A3. Approach

The proposed work is part of a four-phase project. Phase I (Cooperative Integrative Floodplain Management Planning) is near completion. Phase II (Land Acquisition, Baseline Assessment and Restoration Planning) is the subject of this proposal. Phase III (Restoration Implementation and Short-term Monitoring) is to be the subject of future fund raising efforts. Phase IV (Ecosystem Response Monitoring & Research) is an initiated program and the subject of continued fund raising efforts.

For this project, Phase I is mostly completed. Through a grant from the Anadromous Fish Restoration Program (AFRP) of the U.S. Fish and Wildlife Service, TNC has been working on a conceptual restoration plan for this area that includes: focal-area environmental analysis, planning and stakeholder outreach. An option was signed for the Singh property and initial due diligence activities have been completed.

In addition to this focal-area planning, TNC has other planning efforts in progress that, once completed, will coordinate all management and restoration activities TNC conducts along the Sacramento River between river miles 178-206. TNC's other planning efforts, which are being partially funded under CALFED's 97-NO2 grant, involves an increase in the scope and scale of restoration planning to incorporate multiple uses and benefits on the floodplain as a whole. This additional planning process began in 1998 and to date has initiated the following tasks: 1) identifying the elements of baseline assessments to inform parcel-specific restoration plans (such as ortho-rectified aerial photography); 2) drafting a larger scale conceptual riparian vegetation model; 3) implementing geomorphic modeling; 4) implementing hydraulic modeling and conducting a geotechnical investigation for the Hamilton City area; and 5) conducting stakeholder meetings.

**Phase II Tasks**:

*Task 1: Land Acquisition*

Acquisition of the Singh, Nicholas and Nock properties include (See Figure 1 and section B.6. for a detailed description of the properties): obtaining appraisals; negotiating option agreements with landowners; conducting due diligence (environmental site assessments, surveys, title review, property inspections); resolving any issues with the landowner; coordinating escrow

and closing. After closing, the costs of acquisition will be invoiced per the grant agreement. The acquisition schedule will depend on the pace of successful negotiations, but if all due diligence matters are successfully resolved, the acquisitions are expected to be completed within three years of the date of the grant agreement. TNC will report progress to date and provide financial summaries quarterly.

*Task 2: Complete Baseline Assessment and Restoration Planning*

Baseline assessment for a restoration site includes: 1) conducting soil stratigraphy, 2) creating ArcView files on field boundaries, 3) determining current land use and ground cover, 4) utilizing GIS layers to evaluate topography, flood frequency, and bank erosion projections, 5) characterizing adjacent riparian communities, 6) compiling wildlife records, and 7) analyzing replanting successes on similar revegetation sites.

The restoration planning process then utilizes information collected in the Phase I planning process and the baseline assessments as a foundation for a detailed unit plan for each proposed restoration site. Information in the unit plan will include location, background information, ecological objectives, management goals and plans, a three-year detailed schedule of activities, and figures (topographic, flood recurrence, plant design maps, and aerial photographs).

While completing the baseline assessments and unit plans, TNC will contract with EDAW, Inc. (EDAW) to complete the required CEQA and NEPA documentation, and assist in obtaining required local, state or federal permits and approvals. EDAW has over fifty-five years of experience in environmental assessment and environmentally sustainable planning and design. EDAW has more than 20 offices worldwide, including 6 offices in California, and has prepared over 500 CEQA and NEPA documents for projects in northern California. EDAW has a diverse staff of environmental professionals, permitting and regulatory specialists, wetland and wildlife biologists, botanists and vegetation management specialists, restoration ecologists, cultural resources specialists, landscape architects, economists, recreation planners, and regional and urban planners.

*Project Management*

During the three years of the grant agreement, TNC will oversee all phases of the project, including acquisition and related contracts for professional services. TNC will continue to participate in outreach activities, including presentations to the Sacramento River Conservation Area (SRCA) Board of Directors, membership on SRCA committees, such as the Technical Advisory Committee and Payment in Lieu of Taxes Committee, participation in local landowner meetings (including the Sacramento River Reclamation District), and cooperation with local environmental organizations, other private and public agencies. Quarterly reports will be submitted for each task. As each task is completed for each property, copies of deeds for Task 1 and the baseline assessments and unit plans for Task 2 will be provided.

*Long-term Ownership*

The State of California Department of Parks and Recreation (DPR) has expressed a desire to be the long-term owner and stewards of the Singh, Nock and Nicholas properties as additions to the Bidwell-Sacramento River State Park. The Singh and Nock properties are directly adjacent to the State Park and the Nicholas property is adjacent to the Nock property. TNC would be responsible for restoration and management planning and would work with local DPR staff to ensure that long-term plans for these properties will provide for appropriate public use

consistent and compatible with the ecosystem restoration objectives of CALFED and this proposal. The properties would be transferred with the appropriate restrictions in place.

## A.4. Feasibility

TNC has a proven track-record of placing land in conservation ownership. Along the Sacramento River, TNC has worked with public agencies and private organizations for over fifteen years to acquire conservation land within the Sacramento River Conservation Area (SRCA). In the last four years, TNC's Sacramento River Project received and successfully implemented four CALFED grants that provided the funds to acquire, or place into conservation ownership, 2,324 acres and restore, or complete start-up stewardship activities, on 2,301 acres.

Each transaction described in this proposal involves a willing seller who is eager to complete the transaction. TNC already has an option to purchase the Singh property and the owners of the Nock and Nicholas properties have signed letters of intent. All three land owners have granted to TNC access to their land to complete due diligence and baseline assessment activities. TNC has commenced pre-acquisition due diligence activities for the Singh property under the CVPIA-AFRP grant more fully described in section B.3. The State of California Department of Parks and Recreation has been identified as a long-term landowner. The three properties are described in more detail in section B.6.

This proposal includes budgeted items necessary to complete an Environmental Impact Report under CEQA and an Environmental Assessment under NEPA, as well as obtaining required local, state or federal permits and approvals. As a non-governmental agency, TNC does not typically submit CEQA/NEPA documentation. The scope of work contemplated by this proposal and budget assumes the funding agency will be the lead agency for CEQA/NEPA documentation; TNC will work with the lead agency and provide information as needed. If additional CEQA/NEPA documentation, other than an Environmental Impact Report and an Environmental Assessment respectively, is required, additional funding will be necessary.

## A.5. Performance Measures

The following are the performance measures for the objectives of the proposed project:

- *Acquire fee-title interest in the three properties listed in this proposal.* The performance measure for this objective is the closing of escrow for each of the three properties. The baseline for this objective is that the properties are currently not in conservation ownership. The metric used for this performance measure is the completion of the following five steps necessary to complete each transaction: 1) obtaining an appraisal; 2) negotiating an option agreement with the landowners; 3) conducting due diligence; 4) resolving any issues with the landowner; and 5) coordinating escrow and closing. The target for this objective is to have all three properties acquired and in conservation ownership by the end of the three years of this proposed project.

- *Conduct baseline assessments and integrate findings of earlier planning efforts to develop draft restoration designs and management plans for each of the three properties listed in this proposal.* The performance measure for this objective is that the following characteristics of each property are investigated to complete each baseline assessment: 1) soil stratigraphy, 2) field boundaries, 3) current land use and ground cover, 4) estimate of topography, flood frequency, and bank erosion projections, 5) characteristics of adjacent riparian communities, 6) wildlife records, and 7) analysis of replanting success on similar revegetation sites; and an initial restoration and management plan is developed for each of the three properties. The baseline for

this objective is that this information is not yet known for these three properties and there are no existing restoration and management plan for these three properties. The metric used for this performance measure is the completion of the investigation of the seven items listed above and the completion of baseline assessments and the development of restoration and management plans. The target for this objective is to have all seven components of a baseline assessment collected for each of the three properties and have an initial restoration and management plan for each of the three properties by the end of the three years of this proposed project.

- *Conduct stakeholder outreach to gather input.* The performance measure for this objective is to identify and meet with adjacent landowners of the three properties and other interested stakeholders to share restoration information and to gather input from them. The baseline for this objective is that an initial group has been identified; an initial stakeholder meeting took place on August 27, 2001. See section E. for more information. The metric used for this performance measure is the number of meetings held and the number of stakeholders engaged in the restoration process of these three properties. The target for this objective is to create a process where all interested stakeholders can engage in and contribute to the initial restoration plans for the three properties by the end of the three years of this proposed project.

**Measuring Long-term Performance**

TNC is engaged in long-term studies of ecosystem response to our restoration activities. Restoration designs use adaptive management to incorporate findings from studies conducted by various researchers to develop restoration designs (i.e., community composition, distribution and structure) that will be most beneficial to native flora and fauna dependent on riparian habitat. Biologists from the Point Reyes Bird Observatory have monitored TNC riparian restoration sites annually since 1993 in cooperation with TNC, U.S. Fish and Wildlife Service, and California Partners in Flight. In addition, under CALFED 97-NO2, TNC is working with California State University, Chico (CSUC) researchers, Marchetti, Wood and Hoover to develop indicators of ecosystem response focusing on fish, vegetation, and geomorphic processes. Under CALFED 97-NO3, TNC is also working with CSUC researchers Brown and Wood to monitor site-based ecological functions including groundwater quality, soil development, and nutrient cycling (C and N dynamics) as functions of restoration site age.

## A.6. Data Handling and Storage

Data collected as a result of this proposed project will be presented as reports, documents, and photos. TNC will maintain the collected data in its offices and provide requested documents when appropriate. Appraisals, surveys, and other necessary documents related to pending real estate transactions are confidential and will be used by TNC without CALFED's prior approval to negotiate acquisitions. See also section F.

## A.7. Expected Products/Outcomes

The expected outcome will be the fee-title acquisition, and completion of restoration and management plans that include stakeholder input for 311 acres of flood-prone agricultural land located at the confluence of the Sacramento River, Big Chico Creek and Mud Creek. The expected work product for Task 1 will be appraisals, Phase I environmental site assessments, land surveys, title insurance policies and grant deeds. The expected work product for Task 2 will be a baseline assessment report (including soil and vegetation assessments), restoration and

management plans, CEQA/NEPA documentation and maps. Long-term, this project will allow us to better understand the effects of restoration on ecological, economic and social systems.

## A.8. Work Schedule

TNC's acquisition of the proposed properties is expected within the first two years of the grant agreement. TNC will obtain appraisals, negotiate with the landowners, enter into option agreements, conduct due diligence (including the completion of environmental site assessments, land surveys, and title review), negotiate any outstanding issues with the landowners, and close, provided that all identified issues are resolved satisfactorily. Because negotiations associated with conservation purchases can be extensive, close of escrow may not occur until year three.

Baseline assessments for each property will begin no later than the second year of the grant agreement. TNC expects that the restoration and management planning will continue throughout the three-year term of the grant agreement. Key Task 2 milestones for each property include the completion of baseline documentation reports and maps, a restoration and management plan, stakeholder outreach and input, and, if required, satisfaction of CEQA and/or NEPA compliance.

Full or partial funding for fee-title acquisition of the three properties is separable from the funding for restoration planning. The funding for the acquisition of each individual property, with or without the funding for restoration planning, is also separable.

# B. Applicability to CALFED ERP and Science Program Goals and Implementation Plan and CVPIA Priorities

## B.1. ERP, Science Program and CVPIA Priorities

The primary focus of TNC's Sacramento River Project is to "develop and implement management and restoration actions in collaboration with local groups such as the Sacramento River Conservation Area Non-Profit Organization." (SR-1). TNC's Sacramento River Project is concurrently submitting five coordinated, complementary proposals in response to the PSP. Each proposal is designed to stand-alone; however, together they accomplish habitat protection, habitat restoration, ecosystem processes, coordinated floodplain management, and habitat restoration monitoring to address CALFED's Implementation Plan goals and CVPIA priorities (Sacramento Region Restoration Priorities 1, 3, 4, 7, ERP Goals 1, 2, 4, 6, Key CALFED Science Program Goals and CVPIA Goals). This proposal, designed to protect and restore riparian habitat at the confluence of an important tributary area to the Sacramento River, specifically addresses many of the ERP, Science Program goals, and CVPIA priorities.

**CALFED ERP Goals**

By increasing riparian habitat by 311 acres in Butte County at the confluence of the Sacramento River, Big Chico Creek, and Mud Creek, this proposed project is designed to protect and restore the stream meander corridor between Red Bluff and Colusa (SR-1) and add riparian habitat to an ecologically important tributary area known to be important to the health and survival of juvenile salmonids and other sensitive aquatic species (SR-2). Both aquatic and terrestrial at-risk riparian species, as well as common riparian species, will benefit from protection and restoration of large expanses of habitat along the mainstem and at the confluences of tributaries to the Sacramento River (ERP Goals 1 and 4).

The restoration of the project area will allow natural processes of erosion and deposition (channel meander); will increase transport of spawning gravel to the main channel, an important factor in anadromous fish reproduction success; and, long-term, will provide additional large woody debris and improve in-stream complexity (SR-2 and SR-4, ERP Goal 2).

Replacing flood-prone agriculture with restored riparian habitat will decrease pesticide and herbicide applications on land adjacent to the river, thereby increasing water and sediment quality. Additionally, restored riparian forests will buffer and filter toxic and organic matter that originate further away from the river, thereby further enhancing water and sediment quality (ERP Goal 6).

**CVPIA Priorities**

The proposed project addresses the following CVPIA goals and AFRP objectives:

- Protect, restore, and enhance fish, wildlife, and associated habitats in the Central Valley and Trinity River basins of California
- Improve habitat for all life stages of anadromous fish by providing flows of suitable quality, quantity, and timing, and improved physical habitat
- Involve partners in the implementation and evaluation of restoration actions

Restoring complex riparian habitat to 311 acres in the project area will improve habitat for fish and wildlife. Fish benefit from complex riparian areas that become flooded at high flows, slow floodwaters down and provide refugia for young and juvenile fish. Additionally, large woody debris, a result of increased riparian habitat, provides food and cover for critical life stages of anadromous fish (Bryant 1983).

**CALFED Science Program Goals**

This proposal, *Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks,* will help further the CALFED Science Program goals by collecting baseline data and analyzing existing data (SR-7), providing a basis for adaptively developing our restoration principles and guidelines. Additionally, a succession of restoration sites up to ten-years old and natural riparian forests provide reference sites on which to evaluate the long-term and continued success of our restoration work. A complementary proposal, *The Effects of Local Site Characteristics and Landscape Factors on Restoration Success at the Sacramento River: A Multi-Disciplinary Study using Statistical Modeling and GIS*, will analyze data from TNC's restoration sites and incorporate data collected in this project's performance measures to adaptively manage and improve riparian protection and restoration along the Sacramento River.

## B.2. Relationship to Other Ecosystem Restoration Projects

TNC's Sacramento River Project is part of a collaboration of public agencies and private organizations whose goal is to re-establish an approximately 30,000-acre riparian corridor with limited meander within the Sacramento River Conservation Area (SRCA). This collaboration is formalized under a Memorandum of Agreement with project activities coordinated through the SRCA non-profit organization. Public agencies and private organizations involved in the collaboration included the local governments, stakeholders, U. S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Parks and Recreation, California Department of Water Resources, U.S. Army Corps of Engineers, Riparian Habitat Joint Venture, Sacramento River Preservation Trust, Sacramento River Partners, Northern California Water Association, and the Farm Bureau, among others.

This proposal continues a project that began under a grant from the Anadromous Fish Restoration Program (AFRP) of the U.S. Fish and Wildlife Service that provided funding to TNC to:

- secure an option, conduct pre-acquisition due diligence activities, complete baseline biological assessments and environmental surveys, garner stakeholder input, and develop an interim restoration and management plan for the Singh property; and
- examine the confluence area of the Sacramento River, Big Chico Creek and Mud Creek surrounding the Singh property at a focal-area scale to identify restoration potential in the project area and establish context for restoration planning at the parcel level.

AFRP staff has been supportive of focal-area planning efforts, recognizing that this is perhaps the best way to gather important ecological data related to restoration potential, identify stressors in the area, and inform local interests, ultimately strengthening future efforts to acquire and restore important parcels of land along the Sacramento River and its tributaries.

The protection and restoration of the Singh, Nock and Nicholas properties will add 311 acres to 2,887 acres currently under conservation protection from river mile 199 to river mile 193 (see Figure 1). A long-term management plan prepared under CALFED 97-NO2 will provide a basis for coordinated management strategies and restoration implementation by managers of conservation lands between river miles 178-206, an area that encompasses this proposal's project area.

## B.3. Requests for Next-Phase Funding

This proposal builds on earlier efforts that began with CVPIA-AFRP funding (USFWS Agreement #11332-0-G014) (see section B.2.). Completed tasks under the grant include: the acquisition of a signed option for the Singh property, pre-acquisition due diligence and the facilitation of a local stakeholder meeting conducted to discuss restoration plans within the project area. A report (Ginney 2001) will be submitted in fall 2001 that outlines baseline and ecological considerations with restoration alternatives for the project area. With this report, the terms of the AFRP grant will be completed. Acquisition of, and restoration planning for the Singh property, along with the Nock and Nicholas properties in the project area, are the subject of this 2002 CALFED proposal. Please see Attachment A for a more detailed description of the biological assessment and restoration planning activities conducted under Phase I.

## B.4. Previous Recipients of CALFED Program or CVPIA funding

To date TNC's Sacramento River Project has been awarded five CALFED and three CVPIA grants to further the goals of protection and restoration within the Sacramento River Conservation Area. Two grants focused on restoration planning, and the remaining six grants have been used to plan and implement protection and restoration actions on approximately 2,985 acres. Project titles and numbers, specific accomplishments, and progress to date are summarized in Table 1.

## B.5. System-Wide Ecosystem Benefits

TNC's Sacramento River Project works with public agencies and private organizations to restore a riparian corridor and limited river meander within Sacramento River Conservation Area (SRCA). Four programmatic phases comprise TNC's Sacramento River Project synergistic approach to conservation implementation in an adaptive management framework (see Figure 4):

1. cooperative integrative floodplain management planning;
2. habitat acquisition and baseline assessment;
3. horticultural and process restoration; and
4. ecosystem response monitoring and research.

This framework furthers the goals of the following programs: SRCA non-profit organization, Central Valley Project Improvement Act, Central Valley Habitat Joint Venture, Sacramento River National Wildlife Refuge, Department of Fish and Game's Sacramento River Wildlife Area, California Riparian Habitat Conservation Program, Riparian Habitat Joint Venture (Partners in Flight), and the Army Corps of Engineers Comprehensive Study.

Through our work with partners and stakeholders, this approach offers substantial system-wide ecosystem benefits. By using both horticultural and natural-process restoration in an adaptive management framework, these collective efforts are successfully restoring the viability of native species and reducing the proliferation and adverse impacts of non-native invasive species. Specifically, the effort to establish a continuous riparian corridor along the Sacramento River is already improving the health of local wildlife populations by promoting the recolonization of areas where local extirpations have taken place. Several taxa, including the state threatened yellow-billed cuckoo and the federally threatened Valley elderberry longhorn beetle, have colonized and successfully bred on restoration sites.

The ecological benefits of our restoration activities extend far beyond the reaches of the project area. For many species the mainstem of the Sacramento River is a migratory pathway. By making the habitat in this region more supportive of migratory species this project will bolster breeding and wintering populations in areas physically removed, but ecologically linked to the Sacramento River. Examples include the habitat benefits to neotropical migratory birds and anadromous fish. Additionally, improvements in water quality as a result of restoration efforts have positive impacts all the way down the Sacramento River into the Bay-Delta.

## B.6. Additional Information for Proposals Containing Land Acquisitions

**Acquisition Criteria**

Before TNC considers whether it will acquire a property, the property must meet the minimum following criteria:

1. The landowner is a willing seller.
2. The property is located within the inner river zone (IRZ) of the Sacramento River Conservation Area (SRCA), within the project levee system, or along a priority tributary.
3. The property exhibits at least one of these characteristics:
    a. floodprone,
    b. eroding or erodable, or
    c. adjacent to other lands in conservation.
4. The property exhibits at least one of these biological characteristics:
    a. excellent habitat restoration potential,
    b. biological richness, or
    c. unique habitat characteristics, e.g. bank swallow colonies.

**Ecological Criteria and Property Descriptions:**

Each of the three properties that are the subject of this proposal meet TNC's acquisition criteria. In addition, these properties collectively present a unique habitat opportunity because

they are located at the confluence of the Sacramento River, Big Chico Creek and Mud Creek. The protection and restoration of these properties will increase the quality and quantity of essential spawning and rearing habitats and migratory pathways for chinook salmon, steelhead, Sacramento splittail, and other declining species. Longer-term ecological benefits include the protection and enhancement of the meander belt and associated floodplain of the Sacramento River. Important ecological processes that create and maintain natural channel and bank conditions will be restored, including sediment transport, channel erosion and deposition, and ecological succession. The three properties that are the subject of this proposal are located across the Sacramento River from an area that has been identified as having high avian species richness (Point Reyes Bird Observatory, unpublished data). The protection and restoration of the three properties contained in proposal will add 311 acres to 2,887 acres of existing protection and restoration from river mile 199 to river mile 193 (see Figure 1).

Singh

This approximately forty-acre floodprone property is located along the east bank of the Sacramento River, immediately east of River Road and approximately one-half mile north of Big Chico Creek. The property has historic channel topography and existing shaded riverine aquatic habitat along Mud Creek. The property is bordered by River Road on the west, Mud Creek on the east, Bidwell-Sacramento River State Park on the south, and private fallow farmland to the north. Approximately thirty-four acres of the property are planted to walnuts, ranging in age from one-year replants to ten-year old trees.

Nock

This approximately 125-acre floodprone property is located to the east of the Sacramento River, at the confluence of Mud Creek and Big Chico Creek. The property has existing shaded riverine aquatic habitat along Mud Creek and Big Chico Creek. The triangular shaped property is bordered by Mud Creek on the west, Big Chico Creek on the east, and a private orchard to the north. Approximately 103 acres of the property are planted to walnuts, with twenty-five acres planted in 1974 and the remaining seventy-eight acres planted in 1984. In addition, some seedlings were planted in 1997 to fill in holes in the orchard created by the growth pattern.

Nicholas

This approximately 146-acre floodprone property is located along the east bank of the Sacramento River, immediately east of River Road and approximately two miles north of Big Chico Creek. The property has historic channel topography and existing shaded riverine aquatic habitat along Mud Creek. The property is bordered by River Road on the west, Mud Creek on the east, private row crop farmland on the south, and a private orchard to the north. Approximately 104 acres of the property are planted to walnuts, ranging in age from six-year old trees to eleven-year old trees. The property also contains a thirty-two acre almond orchard, planted approximately ten years ago.

**Willing Sellers:**

Singh, Nock and Nicholas are willing sellers. TNC has entered into an option agreement on the Singh property and the seller is eager to close as soon as acquisition funding is secured. Nock and Nicholas have signed letters of intent with TNC and have granted TNC access to their land to complete due diligence and baseline assessment activities. All three sellers have attended

stakeholder meetings, personally and through representatives, and are willing to write letters of support for acquisition funds.

**County General Plan:**

The Butte County General Plan classifies the properties as orchard and field crops. The Butte County General Plan does not contain a separate classification for riparian habitat. Along with general plan policies to protect agricultural land, Butte County also promotes policies to facilitate the survival of identified rare and endangered plants and animals, and encourage the creation and expansion of natural and wilderness areas. Butte County is a signatory to the SRCA Memorandum of Agreement and both county appointees are active participants on the SRCA Board of Directors.

**Farmland Mapping:**

The project area has not been mapped under the California Department of Conservation's Farmland Mapping and Monitoring Program.

**Acquisition Opportunities:**

The proposed acquisitions present unique opportunities to provide multiple benefits, including: riparian habitat and meander belt protection and restoration, flood damage reduction, and increased recreation. These three properties are currently for sale. The majority of the proposed project area has a flood recurrence interval of 2.5 years or less, and the entire area lies within an area projected to flood every four years (California Department of Water Resources 2001) despite the presence of an extensive system of private and federal levees. If acquisition funds are not approved, the landowners risk further erosion and flood damage.

Acquiring conservation easements to accomplish the goals and objectives of CALFED and the SRCA is not a viable alternative for the proposed project. The Singh, Nock and Nicholas properties are located within the active meander zone of the Sacramento River, Big Chico Creek and Mud Creek; they are floodprone and eroding, and, as a result, the landowners wish to remove their agricultural operation to property that is less subject to persistent flooding. Other alternatives, such as acquiring narrow strips of riparian land, are not desired by the landowners, because the landowner would be left with a farming unit that is not economically viable. Additionally, neither easements or the sale of riparian strips would reduce the cost required to protect the landowner's agricultural investment from flooding. Finally, these alternatives are incompatible with a full-scale meanderbelt and floodplain protection and restoration project as stated in the Sacramento River Ecological Management Vision (ERPP Vol. II 2000) and the goals and objectives of the SRCA (California Resources Agency 2000).

## C. Qualifications

The project will be conducted under the guidance and management of TNC's Sacramento River Project. The Sacramento River Project does not have any conflicts of interest or any potential problems with availability to do the proposed work within the proposed timeline.

**The Nature Conservancy**

TNC is an international non-profit corporation; our mission is to preserve the plants, animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. Founded in 1951, TNC and its one million members have

safeguarded more than 11.6 million acres in the United States. TNC of California, headquartered in San Francisco, has 110,000 members and has protected nearly one million acres in the state.

TNC employs an integrated conservation framework called "Conservation By Design" to fulfill its long-term vision and achieve its goals. Conservation by Design directs the organization to systematically identify the array of places around the globe that embrace the full spectrum of the Earth's natural diversity; to develop the most effective strategies to achieve tangible, lasting results; and to work collaboratively to catalyze action at a scale great enough to ensure the survival of entire ecosystems (TNC Conservation by Design 2001).

Our strength and reputation are built on the policy and practice of applying the best conservation science available and of building partnerships to achieve mutual conservation goals. We respect the needs of local communities by pursuing strategies that conserve biological diversity while at the same time enabling humans to live productively and sustainably on the landscape. We know that lasting conservation success requires the active involvement of individuals from diverse backgrounds and beliefs, and we value the participation of individuals in the conservation of their communities and environments.

**TNC's Sacramento River Project**

Headquartered in Chico, California for more than ten years, the Sacramento River Project has a proven track record, having helped protected more than 18,000 acres of riparian land within the Sacramento River Conservation Area (SRCA), and having restored more than 2,800 of marginal agricultural land along the Sacramento River to riparian habitats. An active participant in the SB 1086 process and now the SRCA non-profit organization, TNC is collaborating with federal and state agencies, local government, landowners, and other stakeholders and nonprofit organizations to achieve the SRCA goal of restoring a continuous riparian corridor with limited river meander between Red Bluff and Colusa.

The Sacramento River Project is organized into teams focused on planning, science, restoration, acquisition, government relations and outreach, and administration. Legal, finance, and government contracting are overseen by TNC's regional office in San Francisco. Overall project management is the responsibility of TNC's Sacramento River Project Director, Sam Lawson, who has more than thirty years experience in community and economic development, transactional real estate, enterprise development, and organizational management. Dr. Greg Golet, Senior Project Ecologist, oversees the planning, science, and restoration teams. Dr. Golet has received his Ph.D. in biology from U.C. Santa Cruz in 1999 and was a wildlife biologist for the U.S. Fish and Wildlife Service before joining TNC. He has extensive experience coordinating and conducting research in California and Alaska. Cathy Morris, Field Representative, and Dawit Zeleke, Agriculture and Restoration Programs Manager, will manage the specific tasks outlined in this proposal. Ms. Morris obtained her Juris Doctorate in 1993 from the University of Iowa and has over eight years experience negotiating and completing real estate transactions. Mr. Zeleke has worked for TNC since 1992 and has managed the implementation of over 1,500 acres of native ecosystem restoration along the Cosumnes and Sacramento Rivers. Mr. Zeleke currently manages 4,000 acres of land that TNC and its partners are transitioning from agriculture to wildlife habitat. Ryan Luster (M.S. Rangeland Resources 2001) will oversee all restoration activities. Mr. Luster has worked on native ecosystem restoration projects since 1994.

## D. Cost

### D.1. Budget

Please see detailed budget and justification included in the web forms.

### D.2. Cost-Sharing

TNC's Sacramento River Project is the recipient of a grant from the David and Lucile Packard Foundation that provide private funds to reimburse TNC for limited Singh, Nock and Nicholas acquisition costs that are not covered by public or other private funding. The Packard Foundation has preliminarily approved a cost-share up to ten percent of total capital and non-capital acquisition costs for the properties, to be applied first to non-capital costs.

## E. Local Involvement

TNC has introduced this proposal to interested parties and will continue to do so after proposal submission.

The proposal was presented at the August 23, 2001, Sacramento River Conservation Area (SRCA) Board of Directors meeting. The proposal was also presented at the SRCA's Technical Advisory Committee meeting on August 16, 2001 and again on September 19, 2001. In addition, TNC provided an update in the SRCA Notes sent to approximately 650 individuals and organizations. TNC attends SRCA Board and sub-committee meetings and will continue to give regular updates to the SRCA Board and interested SRCA stakeholders through these meetings and the SRCA Notes.

Butte County Supervisor and SRCA Board member, Jane Dolan, has been notified. Michael Madden, Butte County Emergency Services Officer, was present on August 10, 2001, when TNC introduced this proposal to the Sacramento River Reclamation District Board of Directors. TNC will notify Butte County when the proposal is submitted. TNC coordinates its activities in Butte County with local government and will continue to keep the County informed and updated.

TNC has presented this proposal at two meetings to notify local organizations and landowners about this proposal. One meeting, the Sacramento River Reclamation District Board of Directors meeting, was held on August 10, 2001, and included local landowners in attendance. This proposal was also discussed at a stakeholder meeting held on August 27, 2001. All landowners in the project area were invited and numerous landowners and other interested parties were in attendance. Local organizations represented at the stakeholder meeting include Sacramento River Preservation Trust and Big Chico Creek Watershed Alliance. TNC will continue to contact adjacent landowners and inform neighbors of its work in the project area. TNC will continue to listen to and address local government and private landowner concerns, as appropriate.

TNC is aware of potential third party impacts resulting from the conversion of agricultural lands to riparian habitat. To address this concern, TNC has contracted with the consulting firm of Jones and Stokes Associates to conduct a socioeconomic assessment that examines the potential costs and benefits associated with the acquisition and restoration of a riparian corridor along the Sacramento River between Red Bluff and Colusa. This assessment is funded under CALFED 2000-FO3. TNC will continue to work with the SRCA Board of Directors and committees to address landowner and local concerns.

## F. Compliance with Standard Terms and Conditions

TNC requests the following changes:

• *Attachment D, Section 3, Performance Retention*, TNC requests that the 10% retention not be required for capital costs.

• *Attachment D, Section 4, Expenditure of Funds*, TNC requests the following language currently being negotiated for the CALFED 2001 agreements with TNC: "Contractor shall expend funds in the manner described in the approved Budget. As long as the total contract amount does not increase, the Contractor may adjust (1) the Budget between individual tasks by no more than 10% and (2) the Budget between individual line items within a task by no more than 10%. Any other variance in the budgeted amount among tasks, or between line items within a task, requires approval in writing by CALFED or NFWF. The total amount to be funded to Contractor under this Agreement may not be increased except by amendment of this Agreement. Any increase in the funding for any particular Budget item shall mean a decrease in the funding for one or more other Budget items unless there is a written amendment to this Agreement."

• *Attachment D, Section 5, Subcontracts*, TNC requests the following language currently being negotiated for the CALFED 2001 agreements with TNC: "Contractor is responsible for all subcontracted work. Subcontracts must include all applicable terms and conditions as presented herein. An approved sample subcontract is attached as [an exhibit]. Contractor must obtain NFWF's approval prior to entering into any subcontract that will be funded under this Agreement, which approval shall not be unreasonably withheld if (1) contracted work is consistent with the Scope of Services and the Budget; and (2) the subcontract is in writing and in the form attached to this Agreement as [an exhibit]. Contractor must subsequently provide NFWF with a copy of the signed subcontract. Contractor must (a) obtain at least 3 competitive bids for all subcontracted work, or (b) provide a written justification explaining how the services are being obtained at a competitive price and submit such justification to NFWF with a copy of the signed subcontract. Notwithstanding the foregoing, the CALFED Program has acknowledged that the Contractor generally does not use a subcontract for routine land appraisals, surveys, and hazardous materials reports. For these one-time services, Contractor uses a group of vendors on a regular basis and pays no more than fair market value for such services by one-time invoice rather than written contract. Contractor will not be required to obtain competitive bidding for such services or to provide any further justification to NFWF."

• *Attachment D, Section 9, Rights in Data*, TNC requests the following language currently being negotiated for the CALFED 2001 agreements with TNC: "All data and information obtained and/or received under this Agreement shall be publicly disclosed only in accordance with California law. All appraisals, purchase and sale agreements and other information regarding pending transactions shall be treated as confidential and proprietary until the transaction is closed. Contractor shall not sell or grant rights to a third party who intends to sell such data or information as a profit-making venture. Contractor shall have the right to disclose, disseminate and use, in whole or in part, any final form of data and information received, collected, and/or developed under this Agreement, subject to inclusion of appropriate acknowledgment of credit to the State, NFWF, to the CALFED Program, and to all cost-sharing partners for their financial support. Contractor must obtain prior approval from CALFED to use draft data. Permission to use draft data will not be unreasonably withheld. CALFED will not disseminate draft data, but may make draft data available to the public upon request with an explanation that the data has not been finalized."

• *Attachment D, Section 13, Termination Clause*, TNC requests the following language currently being negotiated for the CALFED 2001 agreements with TNC:
"Default and Remedies.

1. In the event of Contractor's breach of any of Contractor's obligations under this Agreement, NFWF shall deliver to Contractor written notice which shall describe the nature of such breach (the "Default Notice"). If Contractor has not cured the breach described in a Default Notice prior to the expiration of the twenty (20) day period immediately following Contractor's receipt of such Default Notice, or, in the event the breach is not curable within such twenty (20) day period, Contractor fails to commence and diligently proceed with such cure within such twenty (20) day period, then Contractor shall be deemed to be in default under this Agreement, and NFWF shall have the right, after receiving approval from the CALFED, to terminate this Agreement by delivering to Contractor a written notice of termination, which shall be effective immediately upon receipt by Contractor (the "Termination Date"). Upon and following the Termination Date, NFWF shall be relieved of the obligation under this Agreement to make any payments to Contractor for any work that has been performed prior to the Termination Date; however, NFWF shall continue to be obligated to make any payments to Contractor for work properly performed and invoiced in accordance with the terms and conditions of this Agreement prior to the Termination Date. In no event shall Contractor be required to refund to NFWF, CALFED, the Agency or DWR any of the funds that have been forwarded to Contractor under this Agreement, except as provided in Section 10.I.2 below.
2. In the event of any termination of this Agreement by NFWF pursuant to Section 10.I.1 above prior to the close of escrow of Contractor's acquisition of any real property interest funded by this Agreement, NFWF's sole remedy shall be obtain the return of those funds that have been forwarded to Contractor under this Agreement to fund Contractor's acquisition of the Property."

• *Attachment D, Section 24, Fair Market Value*, may require revision depending upon the nature of the interest acquired by TNC.

• *Attachment D, Section 25, Use, Management, Operation, and Maintenance*, TNC requests the following language currently being negotiated for the CALFED 2001 agreements with TNC: "The Contractor shall use, manage, operate, and maintain the real property in a manner consistent with the purpose of the acquisition. The Contractor further assumes all management, operation, and maintenance costs associated with the real property, including the costs of ordinary repairs and replacements of a recurring nature, and costs of enforcement of regulations. The State shall not be liable for any cost of such management, operation, or maintenance which is not expressly set forth in the Scope of Services and/or the Budget attached to this Agreement, as amended from time to time in accordance with this Agreement."

• *Attachment D, Section 26, Transfer*, may require revision depending upon the nature of the interest acquired by TNC.

## G. Literature Cited


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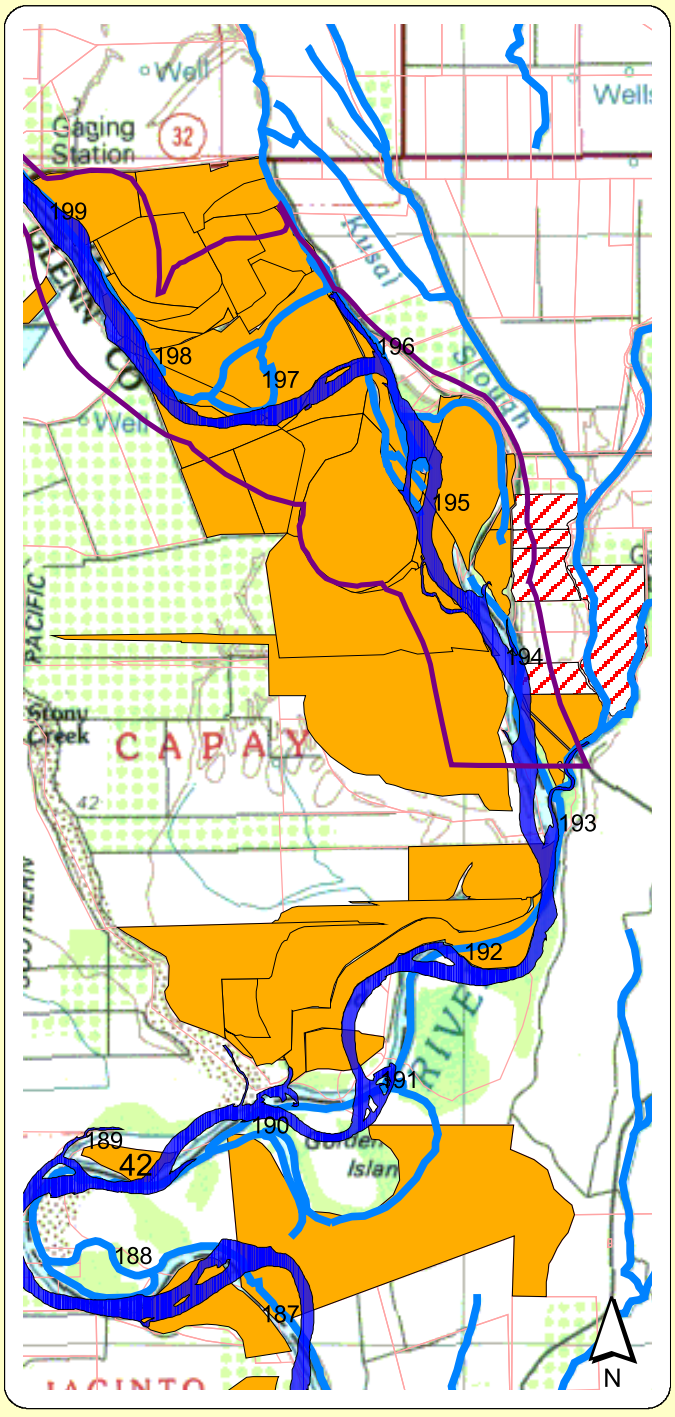
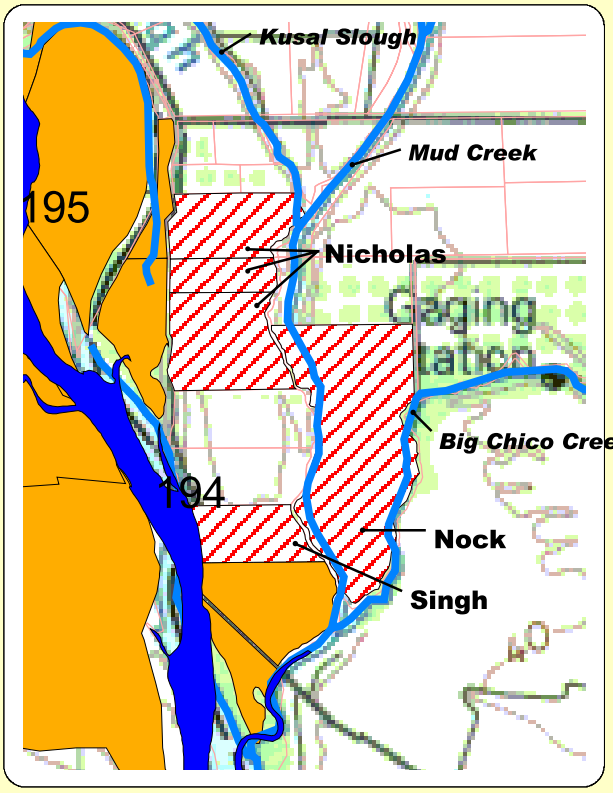
# Figure 1:
# Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks



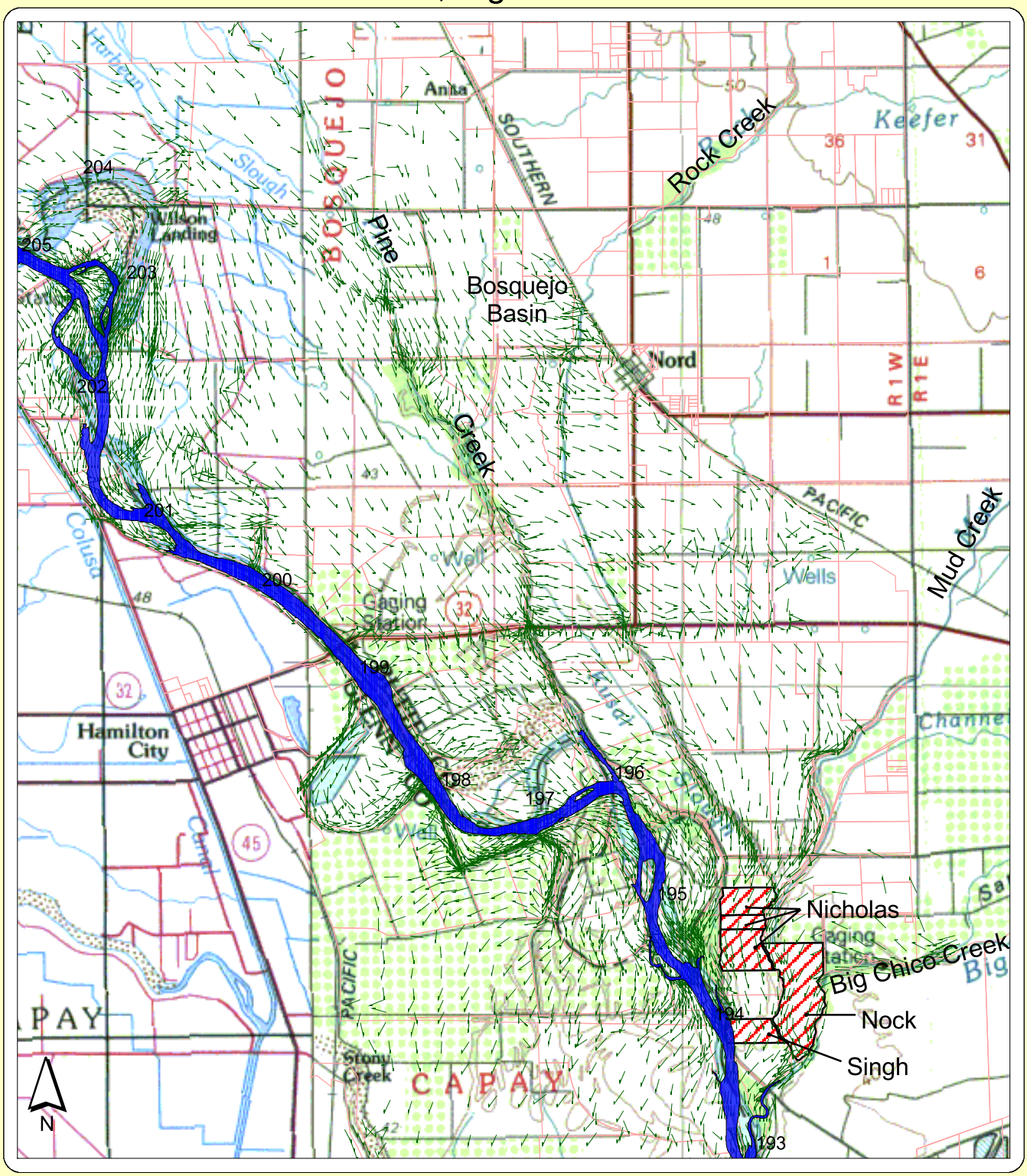

CALFED Ecosystem Restoration Program Geographic Scope

3.2 Red Bluff Diversion Dam to Chico Landing and 3.3 Chico Landing to Colusa


Proposed Protection - Restoration
Public Ownership
1999 River Channel
Parcel Lines
SRCA Inner River Zone
Tributaries

Prepared by: The Nature Conservancy, Sacramento River Project
Sources: USGS, DWR, TNC, BLM, FWS, DFG, GIC
September 27, 2001

# Figure 2:
# Restoration of the Confluence Area of the Sacramento River, Big Chico and Mud Creeks




Prepared by: The Nature Conservancy, Sacramento River Project
Sources: USGS, DWR, TNC, BLM, FWS, GIC, DFG
September 27, 2001
Note: Hydraulic Modeling results displayed as vectors are preliminary. Model was developed for TNC by Ayres & Associates with CALFED 97-NO2 funding.

**Figure 3** Conceptual Model of Restoration Project

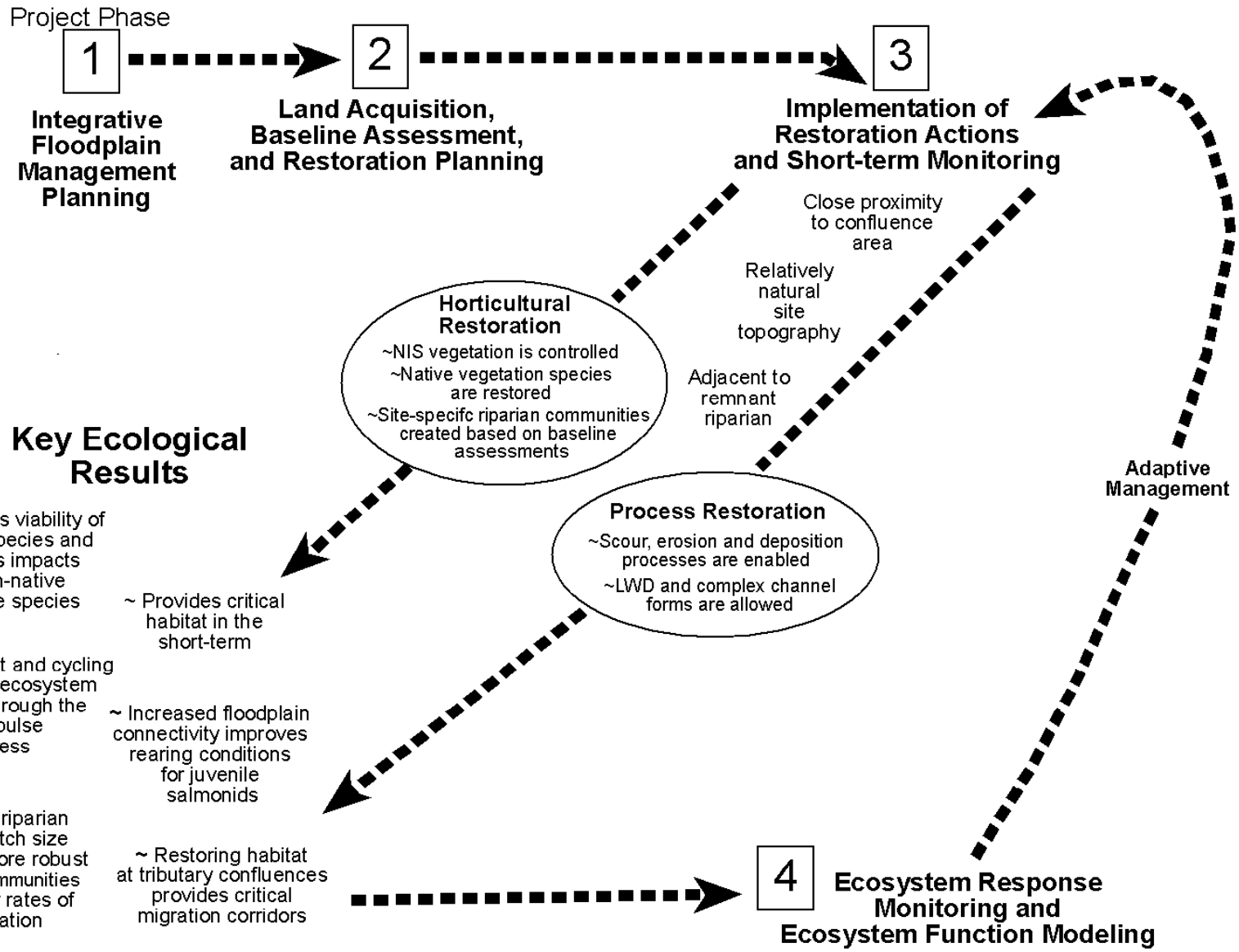


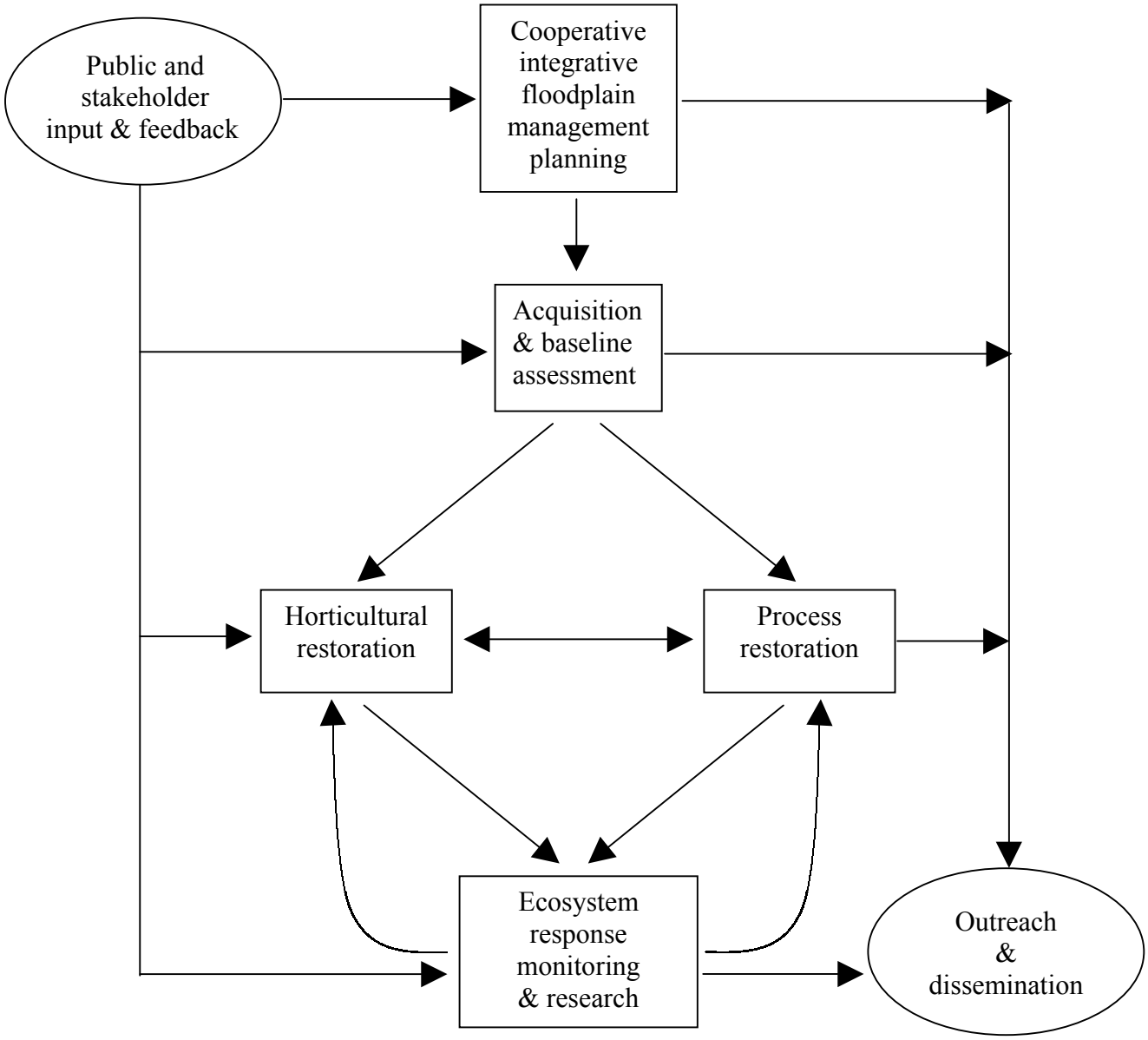
**Table 1. Previous Recipients of CALFED Program or CVPIA funding.**

| Project Title | CALFED Program/ CVPIA Project | Term | Progress and Accomplishments | Status |
|---|---|---|---|---|
| Ecosystem and Natural Process Restoration on the Sacramento River: Floodplain Acquisition and Management | CALFED 97-NO2 ERP | 1/1/98-9/30/02 | Four properties along the Sacramento River totaling approximately 1,628 acres have been purchased (Kaiser, Dead Man's Reach, Gunnhill, RX Ranch). Task orders are in progress to fund portions of the purchase of two additional properties: the 238 acre Ward property purchased in April 2001, and the 77 acre Clendenning property under option and anticipated to close in October. Start up stewardship activities are underway, including preliminary hydrologic and geomorphic modeling that will help identify short and long-term conservation and management actions for these properties. | The Clendenning property will complete the acquisition terms of this grant. Restoration of 3 of the purchased properties is the subject of a 2002 CALFED proposal. CALFED recently approved a request for an extension of the term date and the shifting of funds under the agreement from Task 1 (direct acquisition costs) to Task 3 (Startup Stewardship) in order to complete the management and monitoring plans called for under Task 3. |
| Ecosystem and Natural Process Restoration on the Sacramento River: Active Restoration of Riparian Forest | CALFED 97-NO3 ERP | 12/1/98-6/30/02 | Site preparation and planting of two sites (River Vista and Flynn) to riparian habitat totaling 264 acres is complete. | Restoration terms of this grant are completed; monitoring is currently in progress. Maintenance will be complete fall of 2001. |
| Ecosystem and Natural Process Restoration on the Sacramento River: A Meander Belt Implementation Project | CALFED 97-NO4 ERP | 2/25/98-12/1/01 | The 94+ acre Flynn property and adjacent levee were purchased in December 1998. The levee was subsequently removed; as a result this site now supports one of the largest bank swallow colonies recorded on the Sacramento River. Restoration was implemented under CALFED 97-NO3 and 97-NO4. | Acquisition and restoration terms of this grant are complete; monitoring is currently in progress. Maintenance will be complete fall of 2001. |
| Floodplain Acquisition, Management and Monitoring on the Sacramento River | CALFED 98-F18, FWS Agreement #11420-9-J074 ERP | 7/20/99-6/30/02 | Funding was awarded for the acquisition portion of this grant. The 104+ acre Jensen property located in Colusa County was purchased in July 2000. This property is located within the setback levees of the Sacramento River Flood Control Project. Two additional properties, totaling 183+ acres will be wholly or partially funded under this agreement upon official approval of the agency, including: the 129 acre Boeger property scheduled to close by December, and the 54 acre Hays property purchased in May 2001. | The Boeger and Hays properties will complete this acquisition grant. Additional CVPIA funding has been obligated to complete the purchase of the Boeger property. |

(continued next page)

| Project Title | CALFED Program/ CVPIA Project | Term | Progress and Accomplishments | Status |
|---|---|---|---|---|
| Floodplain Acquisition and Sub-Reach/Site Specific Management Planning: Sacramento River (Red Bluff to Colusa) | CALFED 2000-F03, FWS Agreement #11420-1-J001 ERP | 6/1/01-5/31/03 | Funding was awarded to implement the Sub-reach/Site Specific Planning portion of this proposal. Four tasks are currently in progress to develop comprehensive conservation and management strategies for multiple benefits and uses of the river floodplain. Under Task 1 data collection is in progress, and the Beehive Bend Hydraulic analysis has been completed for RM 167-172. Under Task 2, a Socioeconomic Assessment for the riparian corridor of the SRCA between Red Bluff and Colusa is in progress with involvement from SRCA, stakeholders and local governments. Under Task 3 a newsletter went out to all stakeholders; stakeholder meetings have been conducted; updates are regularly provided to the SRCA. | During the first year of this 3-year grant, all tasks were initiated and are making good progress. A report to be developed under Task 4 will outline future conservation and management actions for the Beehive Bend sub-reach based on information developed within Tasks 1 – 3. |
| Acquisition of Southam Orchard Properties for Preservation of Riparian Habitat | CVPIA grant, BuRec Agreement #00FG200173 Sec. 3406 (b)(1)other | 9/12/00-9/30/02 | A portion of the grant was applied to the purchase of the 76+ acre Southam property, purchased in July 2000. The remainder of the funding was applied to the purchase of the 238 acre Ward property purchased in April 2001. | The grant is complete. Additional funding was used to purchase each of these properties. CVPIA (AFRP) and private funding was used to complete the purchase of the Southam property. CALFED 97-NO2, private funding and additional CVPIA funding (Section 3406 (b)(1)other) was used to complete the Ward purchase. |
| Hartley Island Acquisition | CVPIA grant, FWS Agreement #1448-11332-7-G017 AFRP | 8/14/97-9/30/01 | Funding was used toward the purchase of two parcels on Hartley Island, including the 321 acre Sandgren parcel. The remaining funds available were applied to the purchase of the 76+ acre Southam parcel. | The grant is complete. |
| Singh Walnut Orchard | CVPIA grant, FWS Agreement #11332-0-G014 AFRP | 9/18/00-12/31/01 | Completed tasks for this pre-acquisition and planning grant includes: pre-acquisition due diligence and signed option for Singh property, baseline assessment, and local stakeholder meeting conducted to discuss restoration plans. | A report will be submitted fall 2001 that outlines baseline and ecological considerations with restoration alternatives. This will complete the terms of this grant. Acquisition and restoration of this property is the subject of this 2002 CALFED proposal. |

**Figure 4. Conceptual Model of TNC Sacramento River Project's programmatic structure**



**Attachment A.**

**Section B.3. Request for Next-Phase Funding - Summary of Existing Project Status**

The purpose of this four-phase project is the restoration of the confluence area of the Sacramento River, Big Chico and Mud Creeks. Phase I (Cooperative Integrative Floodplain Management Planning) evaluates the historic and current physical and ecological conditions of the land surrounding the confluences of Big Chico and Mud Creeks with the Sacramento River (the "project area"), and provides a conceptual analysis evaluating alternative restoration options within the context of the potential ecological condition, local infrastructure, and the willing participation of landowners in conservation programs (acquisition & restoration). Phase I data evaluation shows that the floodprone lands associated with tributary confluences of the mainstem of the Sacramento River are of high ecological significance; specifically, confluence areas support diverse, complex habitat communities including high quality riparian forest, valley oak riparian woodlands, sloughs, and backwaters that are important rearing habitat for native resident and anadromous fish species.

Phase I consisted of two parts: 1) initial site reconnaissance and assessment of baseline conditions, and 2) interim restoration and management planning. Both components utilized an ecosystem approach, with an eye toward preserving and restoring physical and ecological processes following the principles of the Sacramento River Conservation Area Handbook, and the "strategic 5S conservation planning strategy" (systems, stresses, sources, strategies, success) developed by TNC.

The Phase I baseline assessment evaluates the existing, historic, and potential distribution of the following priority ecological systems:

- Native anadromous and resident fish species
- Riparian neo-tropical migrant songbird guild
- Central Valley Riparian forest
- Central Valley Oak Riparian forest

The Phase I baseline assessment also identifies and addresses potentially important factors for conservation of tributary resources along the Sacramento River.

Phase I interim restoration and management planning included stakeholder input during the development process. Upon completion of initial site reconnaissance and the baseline assessment, TNC invited representatives of the following groups and agencies to attend a stakeholder meeting detailing initial results of the assessment: California Department of Fish and Game, Wildlife Conservation Board, U.S.F.W.S. Anadromous Fish Restoration Plan, CALFED, California State Parks, Sacramento River Conservation Area, Army Corps of Engineers, Sacramento River Preservation Trust, California Regional Water Quality Control Board, City of Chico, Butte County (Public Works, Board of Supervisors, Mosquito Control, and Emergency Services), the Big Chico Creek Watershed Alliance, and neighboring landowners. Input from these groups has been incorporated in the interim restoration and management plan.

The interim restoration and management plan addresses priority restoration elements, guiding principles, short-term and tentative long-term goals, management strategies, and potential third party impacts. The interim plan also includes conceptual restoration alternatives for reconnecting the creeks and the floodplain, and for creation and maintenance of streamside and aquatic habitats. Alternatives also include creation of buffer strips to improve water quality and increase allochonthus inputs for the benefit of anadromous fish populations.