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COVER SHEET (PAGE 1 of 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Proposal Title: Lower Feather River Watershed Stewardhsip Program

Applicant Name: Daniel Taylor

Mailing Address: National Audubon Society, 555 Audubon Place, Sacramento, CA 95825

Telephone: 916/481-5332

Fax: 916/481-6228

Amount of funding requested: $279,251.00 for 2 years

Indicate the Topic for which you are applying (check only one box). Note that this is an important decision: see page __ of the Proposal Solicitation Package for more information.

- ☐ Fish Passage Assessment
- ☐ Fish Passage Improvements
- ☐ Floodplain and Habitat Restoration
- ☐ Gravel Restoration
- ☐ Fish Harvest
- ☐ Species Life History Studies
- ■ Watershed Planning/Implementation
- ☐ Education
- ☐ Fish Screen Evaluations - Alternatives and Biological Priorities

Indicate the geographic area of your proposal (check only one box):

- ☐ Sacramento River Mainstem
- ■ Sacramento Tributary: Feather River
- ☐ Delta
- ☐ East Side Delta Tributary: _____
- ☐ Suisun Marsh and Bay
- ☐ San Joaquin Tributary: _____
- ☐ San Joaquin River Mainstem
- ☐ Other: _____
- ☐ Landscape (entire Bay-Delta watershed)
- ☐ North Bay: _____

Indicate the primary species which the proposal addresses (check no more than two boxes):

- ☐ San Joaquin and East-side Delta tributaries fall-run chinook salmon
- ☐ Winter-run chinook salmon
- ■ Spring-run chinook salmon
- ☐ Late-fall run chinook salmon
- ☐ Fall-run chinook salmon
- ☐ Delta smelt
- ☐ Longfin smelt
- ■ Splittail
- ☐ Steelhead trout
- ☐ Green sturgeon
- ☐ Striped bass
- ☐ Migratory birds

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May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Indicate the type of applicant (check only one box):

☐	State agency	☐	Federal agency
☐	Public/Non-profit joint venture	■	Non-profit
☐	Local government/district	☐	Private party
☐	University	☐	Other: _____

Indicate the type of project (check only one box):

■	Planning	☐	Implementation
☐	Monitoring	☐	Education
☐	Research		

By signing below, the applicant declares the following:

(1) the truthfulness of all representations in their proposal;

(2) the individual signing the form is entitled to submit the application on behalf of the applicant (if applicant is an entity or organization); and

(3) the person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section II.K) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

(Signature of Applicant)

THE LOWER FEATHER RIVER
WATERSHED STEWARDSHIP PROGRAM

Submitted by: National Audubon Society
In association with: Jones & Stokes Associates

II. Executive Summary

a. Project Title and Applicant Name: The Lower Feather River Watershed Stewardship Program submitted by the National Audubon Society (Audubon) and Jones & Stokes Associates (JSA), with participation from the State Reclamation Board (Board), the California Department of Water Resources (DWR), the California Department of Fish and Game (DFG), the Riparian Habitat Joint Venture, Partners for Wildlife Program, Natural Resource Conservation Service (NRCS), the U.S. Army Corps of Engineers (ACOE), and California Waterfowl Association.

b. Project Description and Biological/Ecological Objectives
Audubon and cooperating stakeholders propose to develop a community-based, watershed stewardship program (watershed program) for the lower Feather River from Marysville to Verona. The watershed program will include a stewardship group that will use resource information to define economic and ecological problems and solutions in the project area. It will address the CALFED Bay-Delta Program (CALFED) and Central Valley Project Improvement Act (CVPIA) program objectives for the lower Feather River. Goals of the group will include restoring ecosystem processes, reducing stressors, and maintaining agricultural and water use viability through the development of a mutually beneficial implementation strategy of floodplain restoration projects, agricultural economic enterprise programs, and flood-management-system enhancement opportunities. The project will be the first phase of Audubon's proposed Lower Feather River Restoration Program, a multiphased, multiyear effort to restore and improve the health of the lower Feather River ecosystem while maintaining and enhancing local economic viability. The proposed watershed program will be coordinated with two proposed demonstration projects on the lower Feather River (e.g., Nelson Slough Wildlife Area Floodplain Habitat Restoration Demonstration Project and Bobelaine Audubon Sanctuary Floodplain Habitat Restoration Demonstration Project for the Lower Feather River).

This portion of the Feather River is leveed and contains a floodplain covered by thick deposits of hydraulic mining debris. Remnant borrow pits from levee construction form lakes, ponds, and sloughs, which provide aquatic, wetland, and riparian habitats that support a variety of priority species, including spring-run, and fall-run chinook salmon and steelhead. Land use adjacent to the levee system is predominantly agricultural. Numerous growers rely on Feather River water diversions to maintain agricultural economic viability for themselves and the surrounding region. The continued stability of the flood management system is also vitally important to residents and land users in this region. The lower 10 miles of the proposed project area include the lower end of the Sutter Bypass, which, in wet years, carries the overflow of the Sacramento River, Butte Creek, and other Sacramento tributaries, and provides rearing habitat for winter-run, spring-run, late-fall-run, and fall-run chinook salmon; steelhead; splittail; and green and white sturgeon of the Sacramento River or its tributaries.

c. Approach/Tasks/Schedule
Audubon, with technical and facilitation services by JSA, proposes to develop the watershed stewardship program with the support of a diverse group of community-based stakeholders. The tasks

included in this initial phase will be: (1) organizing the stewardship group; (2) collecting, analyzing, and presenting resource information needed to develop the restoration strategy; (3) conducting meetings and workshops; (4) soliciting input from resource agencies; and (5) preparing the watershed restoration implementation strategy. These tasks are anticipated to take 2 years to complete.

d. Justification for Project and Funding by CALFED

Restoration of riparian and stream channel habitats in the lower Feather River is consistent with CALFED's Ecosystem Restoration Program Plan (ERPP); however, there is no organized effort to do so while maintaining protection of land and water use and agricultural economic viability. CALFED funding is seen as a unique opportunity to organize stakeholders, analyze problems, and identify and implement solutions. There is presently no forum in which agricultural landowners can discuss land use and restoration options with other stakeholders, nor are there political or financial incentives for stakeholders to independently organize. Development and implementation of regional habitat restoration plans that are mutually acceptable to agency, resource advocacy, and land and water stakeholders are not likely until stakeholders are organized into a public forum.

e. Budget/Cost and Third-Party Impacts

The estimated cost of the watershed program is $279,251, including task options as described. Long-term restoration activities will be compatible with flood-control-system integrity, water supply needs, and water quality objectives. Future restoration projects within the active floodplain and outside existing levees (e.g., setback levees and overflow basins) may improve the flood capacity of the lower Feather River and reduce the risk of flooding to adjacent lands. Without concurrent expansion of floodplain capacity, additional hydraulic roughness associated with habitat features such as riparian forests will not be permitted. Changes in existing land uses within and adjacent to the active floodplain will be explored only with the expressed approval of landowners and users.

f. Applicant Qualifications

Audubon is committed to the long-term restoration of fish and wildlife habitats in the lower Feather River watershed. Audubon has owned and operated the Bobelaine Sanctuary on the lower Feather River for over a quarter century. Audubon has worked closely with several participating stakeholders to protect remaining habitat values in the lower Feather River. JSA has highly qualified technical and public-involvement staff and is presently the project manager for the Lower Butte Creek Project, a similar and highly successful stakeholder-driven process that is developing fish passage alternatives balanced with maintenance of agricultural viability and a managed waterfowl habitats program.

g. Monitoring and Data Evaluation

Early phases of the program will include data collection, review, and analyses, as well as field verification of existing information. These data and analyses will form the baseline for future planning and benefit evaluations.

h. Local Support/Coordination with Other Programs/Compatibility with CALFED Objectives

Audubon and its partners have extensive experience working to protect and enhance habitat resources in the lower Feather River floodplain. Together they will take a strong interest in the ecological and nonecological objectives of CALFED.

III. Title Page

THE LOWER FEATHER RIVER
WATERSHED STEWARDSHIP PROGRAM

Applicant:

Audubon - California
555 Audubon Place
Sacramento, CA 95825
Contact: Dan Taylor
Telephone: 916/481-5332

with the support of

Jones & Stokes Associates
2600 V Street
Sacramento, CA 95818
Contact: Mike Rushton
Telephone: 916/737-3000

with participation from

California Reclamation Board, California Department of Water Resources, California Department of Fish and Game, Riparian Habitat Joint Venture, Northern California Water Association, U.S. Fish and Wildlife Service - Partners For Wildlife Program, Natural Resources Conservation Service, U.S. Army Corps of Engineers, California Waterfowl Association

Type of Organization: Nonprofit Organization
Tax Identification Number: Not Applicable

RFP Project Group Type: Watershed Stewardship

July 2, 1998

IV. Project Description

a. Project Description and Approach

The watershed program will be created to develop and implement a watershed strategy that will restore ecosystem processes, reduce ecological stressors, maintain and enhance agricultural economic viability, and improve the flood management system in the lower Feather River and Sutter Bypass (Marysville downstream to Verona). The watershed program will organize local land and water users, resources agencies, and conservation organization stakeholders into a "grassroots" watershed stewardship group (stewardship group) that will evaluate current natural resources, economic, and land use conditions. With the assistance of technical experts, the stewardship group will conduct needed natural resources and economic studies and will potentially design floodplain restoration projects, agricultural economic enterprise programs, and flood-management-system enhancement opportunities. The stewardship group will then develop a mutually beneficial strategy for balanced implementation of these items.

b. Proposed Scope of Work

The project will be the first phase of the Audubon's proposed Lower Feather River Restoration Program, a multiphased, multiyear effort to restore and improve the health of the lower Feather River ecosystem while maintaining and enhancing local economic viability. The proposed watershed program will be coordinated with two proposed demonstration projects on the lower Feather River (as described in the Bobelaine Sanctuary and Nelson Slough Wildlife Area habitat restoration demonstration CALFED proposals). Phase 1 is envisioned as a 2-year effort. This proposal requests funding for Phase 1 of The Lower Feather River Watershed Stewardship Program. Phase 1 projects will provide the foundation for future phases that include alternatives development, design, funding, permitting, and mutually beneficial implementation of habitat restoration activities that include provisions for continued agricultural practices.

Task 1. Organize Stewardship Group

The project team will organize stakeholders comprising local landowners and water users; local, state, and federal resources and planning agencies; local governments; conservation organizations; farmers; and others to develop the restoration strategy. Project staff will identify and organize stakeholders and solicit their involvement. Initial organization efforts will most likely require meetings with individuals and small groups to assure them that the goals and benefits of the project will be developed by them and for their benefit. Project staff will develop a locally focused facilitation method to be used at all stewardship group functions. The method is anticipated to be collaborative, equitable, flexible, and informal. Information developed in Task 2 below will be presented to stakeholders to prepare them for developing the watershed strategy. Information will be made available to all interested public parties through a public information program that will include, but not be limited to, newsletters, technical memorandums and an "Internet" home page. **Schedule:** All quarters. **Budget/Costs:** $55,474. **Deliverables**: Potential and final stakeholder lists, facilitation-method report, newsletters, technical memorandums and "Internet" home page.

Task 2. Collect, Analyze, and Present Information Needed to Develop the Restoration Strategy

In the first year of the project, existing sources of information that could influence the development of the watershed strategy will be collected, analyzed, and presented to the stewardship group. This information will include physical, chemical, biological, social, and cultural resources of the lower Feather River that have a bearing on river and floodplain habitats, important species, and present and future agricultural land and water use. River hydraulics will be modeled to simulate the effects of

channel modifications or vegetation restoration on flood-conveyance capacity. In the second year of the project, an optional geographic information system (GIS) will be developed. GIS will be used to overlay various factors that define opportunities and constraints for habitat restoration and agricultural land use.

A hydraulics model will be developed for this project using the RMA-2 two-dimensional finite-element code. It will expand on a similar model developed for the lowermost 10 miles of the Feather River by adding the reach from Yuba City to Nicolaus, increasing spatial resolution of the model grid in selected areas, extending the grid to cover lands outside the existing levees, and simulating river stages at a wide range of flows. Previous models have been designed to simulate only 100-year flood stages within the existing levees and with existing vegetation. Considerable existing information is available on which to base the model, including a UNET model developed by ACOE for part of the lower Feather River, HEC-2 and HEC-6 models developed by ACOE for simulating flood profiles and sediment transport, aerial topographic surveys for selected reaches of the river, digital topographic data for other reaches and areas outside the levees, surveyed cross sections and levee-crown profiles, and streamflow data for four gages along the Feather River and several gages on tributaries. Frequency analysis of streamflows will be used with the hydraulics model to map floodplains at various seasons, frequencies, and durations.

Additional cross sections of the river channel will be needed along the reach between Yuba City and the Bear River and in selected locations targeted for restoration or flood control projects. A longitudinal profile of the river surface at low flow is also needed for calibration of the hydraulics model. DWR surveyors will complete these surveying tasks. **Schedule:** All quarters. **Budget/Costs:** $65,192. **GIS Option**: $27,810. **Deliverables:** Draft Existing Resources Report (atlas) will be presented at end of second quarter, an optional ARC-INFO GIS database (Subtask 2a) will be presented at end of the sixth quarter, a final report and database will be submitted at the end of the eighth quarter; field survey reports at end of each quarter.

Task 3. Conduct Meetings and Workshops
Stewardship group meetings will be conducted to create cohesion among stakeholders, discuss and resolve issues, identify problems, prioritize restoration needs and create mutually beneficial solutions. It is possible that, because of geographic constraints, an east and west stewardship group may be required to lessen the travel burden for stakeholders. If such groups develop, they will be linked by periodic meetings about the full project area as well as potentially by a steering committee with representatives from the north and south groups. Workshops with agricultural and local scientific experts will be held when and if appropriate to further enhance the stewardship program. All meetings will be facilitated by a facilitation specialist with a background in agricultural and natural resources issues. All meetings will be recorded by a note taker and minutes will be produced. **Schedule:** All quarters. **Budget/Costs:** $56,271. **Deliverables:** Meeting notification letters, 18 technical meetings/workshops, meeting/workshop minutes.

Task 4. Solicit Technical Input from Resources Agencies
The project team will also seek input and interaction with CALFED, Integrity Ecological Program, and CVPIA technical advisory teams. Agency interactions may include participation by selected team members in CALFED workshops and establishment of an agency technical advisory team for the lower Feather River watershed. **Schedule:** All quarters. **Budget/Costs:** $19,158. **Deliverables:** Notes/memoranda; updates of atlas in draft strategy document.

Task 5. Prepare The Watershed Implementation Strategy
The stewardship group (with support of the technical project team) will prepare the draft watershed strategy for general distribution, review, and comment. Approval of the strategy will be based on majority acceptance by all participating stakeholders. The strategy would potentially include, but will not be limited to, the following:

- a statement of natural resources and economic problems and causes (i.e., identified by CALFED, CVPIA, U.S. Environmental Protection Agency (EPA), and agricultural and water user organizations);
- statement of stakeholder needs;
- statement of stakeholder goals and objectives, (integrating those of CALFED, CVPIA, EPA, and agricultural and water-user organizations);
- future planning approach, including principles to follow, process, and local requirements;
- integration with other habitat restoration, agricultural enhancement, and flood management programs (e.g., CVPIA, SB1086, Proposition 70, Central Valley Habitat Joint Venture, Williamson Act, Riparian Habitat Joint Venture, Partners for Fish and Wildlife, and others.);
- future watershed stewardship program management, how it will be maintained, partnerships, roles, relationships with agencies, funding capabilities, and authorities;
- potential restoration locations and actions and the ecological basis for those actions and costs, constraints, and priorities (in compliance with the National Environmental Policy Act/California Environmental Quality Act [NEPA/CEQA]);
- future agricultural land and water use enhancements, costs, constraints, and priorities;
- schedule and priorities for implementation (e.g., short term, long term); and
- an implementation strategy/approach including permitting, public involvement, funding, strategy updates, and research and monitoring guidelines

Schedule: Sixth and eighth quarters. **Budget/Costs:** $55,346. **Deliverables:** Draft and final restoration strategy documents.

If this entire proposal can not be funded, Tasks 1 and 3 are linked and should be considered inseparable and necessary. Although initial development of the stewardship group can take place without resource data, long-range effectiveness of the stewardship group and watershed program will be reduced without Tasks 2, 4, and 5 being also included in this project.

c. Location and/or Geographic Boundaries of the Project
The lower Feather River project area straddles the boundary between Sutter and Yuba Counties (Figure 1). The project area extends from the mouth of the Yuba River downstream to the mouth of the Feather River at Verona on the Sacramento River. Portions of the land within the levees are owned by DFG, the Board, and Audubon (Figure 2).

d. Expected Benefits
The watershed stewardship program for the lower Feather River will provide benefits that are consistent with the goals and objectives of the CALFED and CVPIA Anadromous Fish Restoration Programs and will also:

- develop community awareness of the linkage between agricultural viability and natural resources protection,
- develop a watershed restoration implementation strategy for the lower Feather River,
- develop alternatives to protect and restore floodplain resources and reduce stressors,

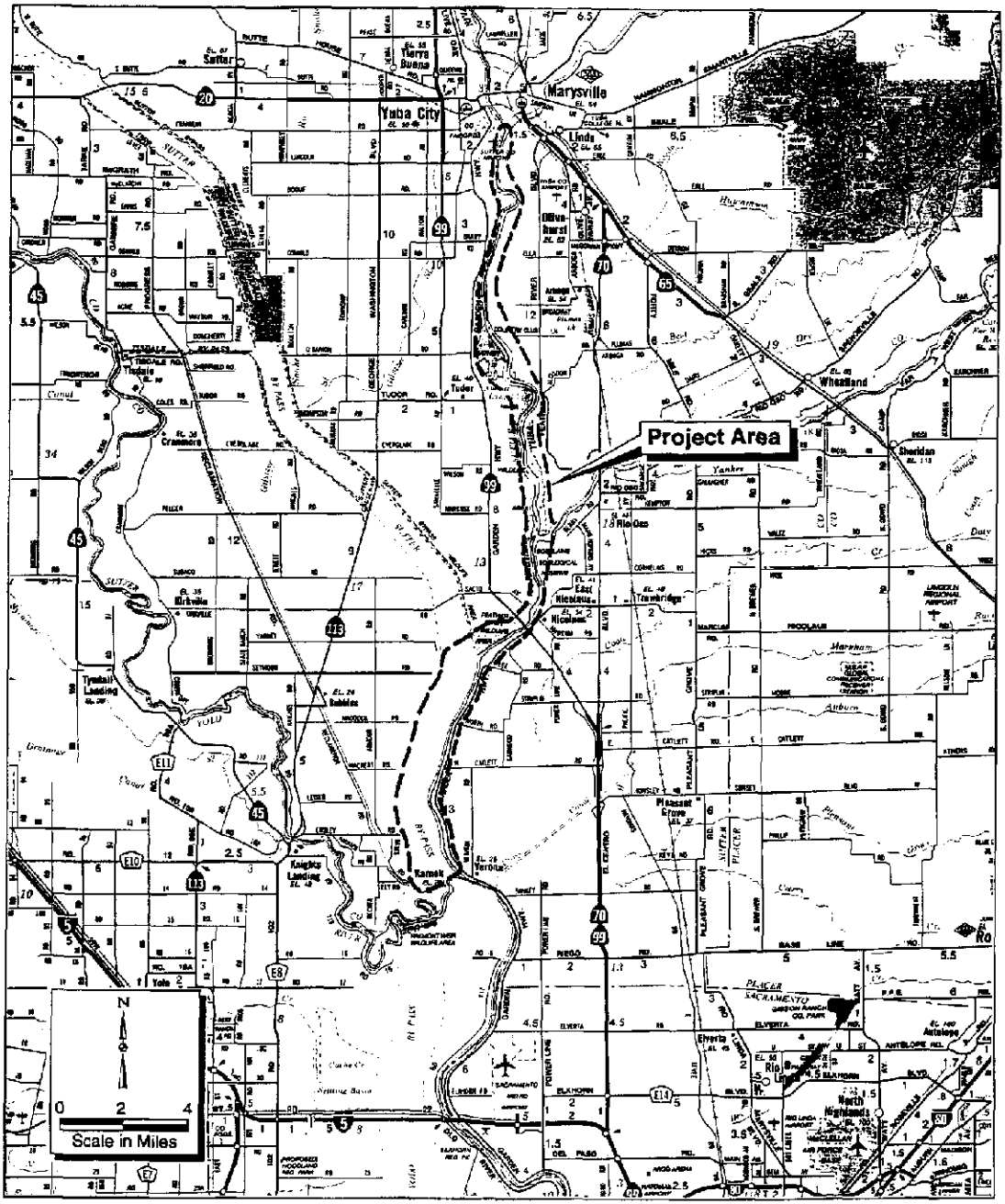

Figure 1. Project Location Map

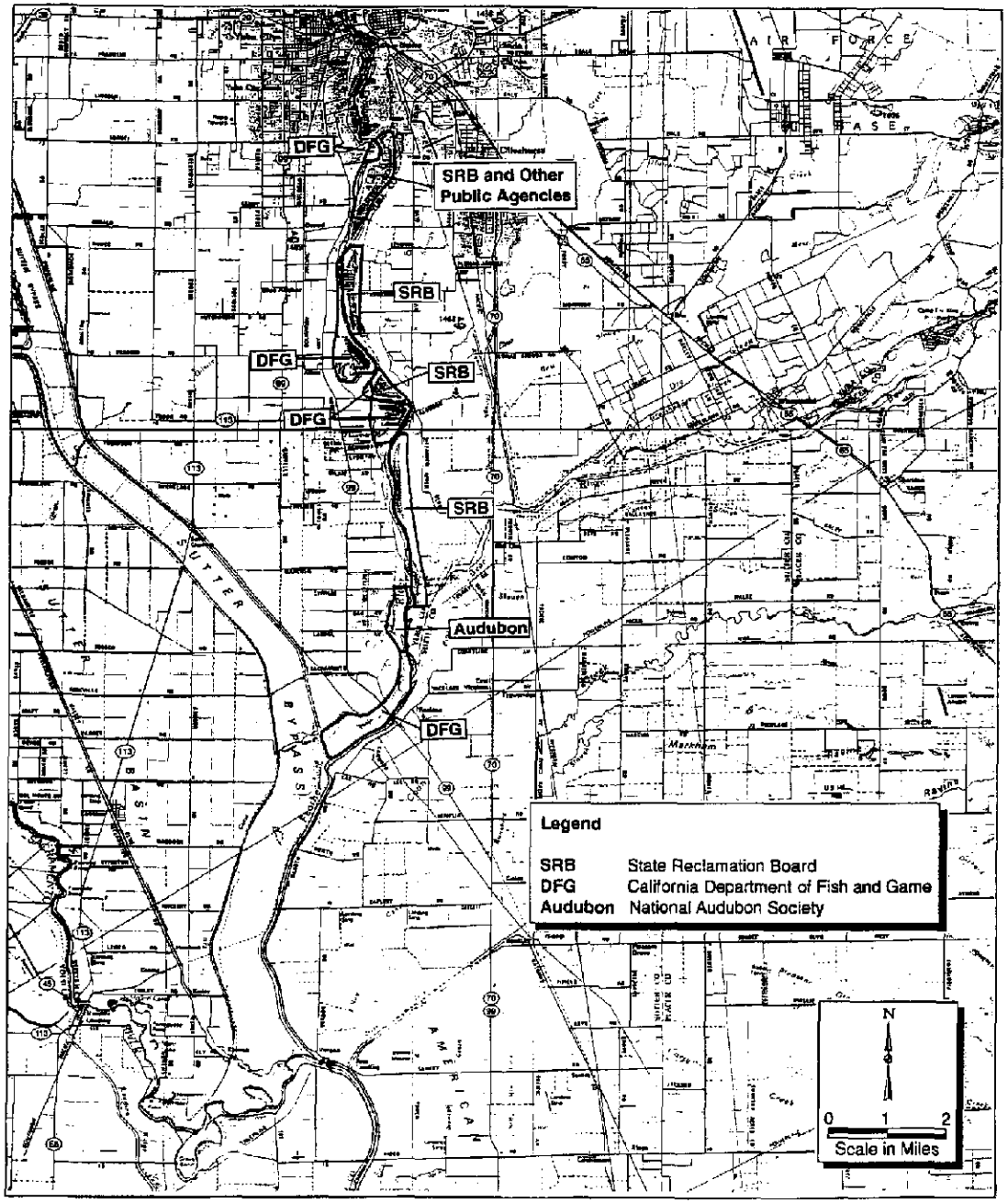

Figure 2. Public Lands within Feather River Floodplain

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- develop alternatives to maintain and enhance agricultural economic viability in concert with habitat and floodplain restoration activities,
- improve and maintain water quality for human and natural resources use, and
- provide technical information and flood control consistency analysis methods that can be applied to other similar areas.

e. Background and Ecological/Biological/Technical Justification

Historically, the lower Feather River floodplain supported a wide variety of fish and wildlife that utilized the river and its natural environs. Gold mining, particularly hydraulic mining in the Yuba and Bear River watersheds in the latter half of the 1800s, caused huge influxes of sediment debris into the lower Feather River. Despite the debris, riparian vegetation continued to regenerate and flourish, as evident from California Debris Commission maps circa 1910; however, later changes (levee construction during from 1915 through 1920, the completion of Oroville Dam in 1968, and vegetation clearing for floodways) led to subsequent incision of the low-flow channel into the debris deposits, lowering the local water table and decreasing the frequency of inundation of the high floodplain. This further disrupted natural floodplain processes and regeneration of riparian forests.

Previous efforts to restore habitat along the lower Feather River have largely been limited to maintaining existing (often degraded) habitat value on scattered properties. By teaming together for this program, Audubon and the contributing partners hope to implement sound community-based watershed projects that are sensitive and supportive of agricultural land and water needs, will increase public awareness of projects that can be mutually beneficial to a wide range of land users, and will provide educational and recreational use of appropriate lands. The project partners also hope to complete technical background work needed to develop fisheries alternatives that will support site-specific restoration efforts to increase fish populations while maintaining agricultural water use.

Restoration of vegetation on river floodplains and along channels must be done within the constraints imposed by flood safety considerations. Flood control, habitat restoration, and agricultural land use must be jointly managed so that revegetation from potential restoration activities does not decrease flood-conveyance capacity. Specifically, flow resistance created by increased inchannel vegetation must be offset by increased cross-sectional area of flow. Analysis of hydrologic conditions and hydraulics is essential for delineating vegetation restoration potential, mapping shallow floodplain habitat, and ensuring adequate flood-conveyance capacity.

The watershed strategy will identify habitat restoration locations and management measures for a variety of aquatic and terrestrial species and thereby help achieve multiple objectives of ERPP. The Bobelaine Audubon Sanctuary and Nelson Slough Wildlife Area habitat restoration demonstration projects are examples of specific projects that will benefit from the systemwide analysis and regional coordination provided by the watershed strategy. Stakeholder assessment of measures such as recontouring the river channel, relocation of levees, development of flood and conservation easements to compensate landowners, establishing riparian vegetation, scoping changes in agricultural and grazing activities, and designing improvements in water delivery systems will lead to a restoration program that will increase the extent and connectivity of riparian vegetation, decrease fish stranding, improve populations of high-risk species, and increase inundation of low floodplains and side channels, and do so in a manner sensitive to the needs of the local agricultural community. The program objectives are consistent with the following ERPP objectives:

- Restore hydraulic conditions (ERPP Vol I, page 27);

- Maintain, improve, and restore natural stream meander processes (ERPP Vol I, page 37);
- Modify channel and basin configuration to improve floodplain function (ERPP Vol I, page 45);
- Maintain, improve, and restore nutrients (ERPP Vol I, page 63);
- Restore riparian habitat along rivers (ERPP Vol I, page 110);
- Assist in the recovery of splittail (ERPP Vol I, page 144);
- Restore the distribution and abundance of white sturgeon and ensure the recovery of green sturgeon (ERPP Vol I, page 148);
- Restore four races of Sacramento chinook salmon (ERPP Vol I, page 153);
- Ensure recovery of steelhead (ERPP Vol I, page 160);
- Maintain and restore the distribution of resident fishes (ERPP Vol I, page 172);
- Assist in the recovery of the Swainson's hawk (ERPP Vol I, page 232);
- Assist in the recovery of the yellow-billed cuckoo (ERPP Vol I, page 242);
- Assist in the recovery of the bank swallow (ERPP Vol I, page 245);
- Maintain healthy populations of waterfowl, upland game birds, and neotropical migratory birds (ERPP Vol I, page 260/262/264);
- Assist in maintaining populations of the valley elderberry longhorn beetle (ERPP Vol I, page 268);
- Reduce entrainment of juvenile fish (ERPP Vol I, page 276);
- Increase the connection of upstream spawning habitat and rearing habitat with mainstem rivers (ERPP Vol I, page 280);
- Reestablish or reactivate geomorphological processes in artificially confined channel reaches (ERPP Vol I, page 284);
- Reduce the effect of invasive riparian plants (ERPP Vol I, page 311);
- Reduce catastrophic fires in floodplain riparian forests (ERPP Vol I, page 334); and
- Promote rangeland management practices and livestock stocking levels to maintain high-quality habitats (ERPP Vol II, page 273).

Additional agricultural, water use, and economic objectives that are similar in approach and tone to the ERPP objectives will be defined in the early efforts of stakeholder development.

f. Monitoring and Data Evaluation

Limited monitoring is proposed to supplement the information presently available to develop the watershed strategy. As previously stated, development of research and monitoring guidelines are anticipated as part of the watershed strategy. Project staff will obtain important data available from other programs as identified earlier. More intensive monitoring will be necessary during and after implementation of future restoration projects to assess program effectiveness of specific actions. Monitoring is an essential element of each action because each action will be conducted as a learning experiment under the watershed program's adaptive management framework.

g. Implementability

Audubon and its partners can best describe the potential implementability of this watershed stewardship program as "excellent". There has been a change in management direction in flood-management agencies from seeking to maximize the flood capacity of regional rivers to protecting, enhancing, and restoring ecosystem values where such opportunities are appropriate and responsive to local land and water user needs. Although local stakeholders understandably remain extremely concerned about flood risks, land use conversions, availability of water supplies, introduction of special-status species, and loss of economic viability, there is a growing willingness to participate in local and regional stakeholder-driven processes that include ecosystem restoration goals and objectives. This is especially true of

processes and implementation programs in which stakeholders have the active approval role in future decisions. There also appears to be a willingness to allow land use change on floodplain lands that have proven difficult to cultivate (assuming adequate financial compensation occurs). County governments also recognize that these lands provide limited tax revenues and little potential for development, while providing significant potential for aesthetic, natural resources, and recreational value.

With so many special-status species in the lower Feather River corridor, all restoration, research, and monitoring activities will require close coordination with natural resources trustee agencies to minimize localized impacts and maximize long-term general benefits. These activities will require extensive cooperation between agencies and agricultural interests, including, but not limited to, "safe harbor" provisions that support and protect agricultural land and water users who have demonstrated a willingness to accommodate high-risk species on and near managed properties.

Audubon has teamed with JSA because of a long-term relationship with its staff, who conduct research and have management responsibilities for Audubon's Bobelaine Sanctuary, and its successful project development and management efforts on the Lower Butte Creek Project. This successful stakeholder-driven, community-based project has focused on improving fish passage while maintaining agricultural and managed wetland water use. The project is a model for future successful stewardship efforts in the Central Valley. JSA has established important relationships with numerous local stakeholders and has developed a substantial level of trust for being objective facilitators and scientists. As part of developing this proposal, Audubon and JSA have already begun discussions with water users and water user associations. They full intend to expand these discussions to include appropriate county elected officials and staff, water management districts, flood control agencies, and homeowner organizations.

V. Costs and Schedule to Implement Proposed Project

a. Budget Costs: Costs are presented by task in Tables 1, 2, and 3. Audubon and its partners estimate the cost of Phase 1 of the watershed stewardship program will be approximately $279,251 (including GIS option). These funds include those necessary for project team staff of Audubon and JSA to perform Phase 1 tasks for developing the watershed program for the lower Feather River.

Audubon would require some funds for project management and oversight, contract administration, technical support, and facilitation. Funds are requested for JSA to be integral members of Audubon's team and an extension of Audubon staff to support carrying out project tasks. CALFED funding is necessary to implement Phase 1 of the watershed program. The intent is to develop the necessary resource analysis work simultaneously with stakeholder support during the first 2 years before implementing Phase 2 restoration actions. Funding of Phase 2 should be available from a variety of sources, including CVPIA, CALFED, National Fish and Wildlife Foundation (NFWF), and other federal and state programs and private entities.

As previously discussed, Tasks 1 and 3 of this proposal are inseparable and necessary to the goals of Audubon. Tasks 2, 4, and 5 are very highly recommended to be considered for eligible funding during this CALFED process.

Audubon has recently received a pledge of $250,000 from a private foundation that we have dedicated specifically to the establishment of the Lower Feather River Restoration Program. Portions of the startup money have been earmarked to support preliminary planning efforts and an onsite program coordinator/local liaison staff position that will be available to work directly with local stakeholders. Additionally, DWR has pledged in-kind support on Task 2 regarding development of river-channel cross sections and longitudinal profiles.

b. Schedule Milestones
The project is scheduled by quarters with deliverables forming the basis of billing by task and subtask. Project costs will be billed by task either by deliverable or schedule of completion, whichever is last.

c. Third-Party Impacts
No third-party impacts are expected as a result of Phase 1. Implementation of the program may lead to some land use and local tax revenue changes. Impacts are expected to be minimal and there should be an overall improvement in land values and public use of the area that should benefit the local tax base and economy.

Table 1. Audubon California: Cost Estimate for the Lower Feather River Watershed Restoration Strategy

	Task Description	Direct Labor Hours	Salary and Benefits	Overhead on Labor	Other Direct Costs	Total Cost	Audubon Funding	Total Grant Request
1.	Organize Stewardship team	140	$5,200.00	$1,040.00	$2,700.00	$8,940.00	($3,500.00)	$5,440.00
2.	Collect, analyze, present information	412	$13,720.00	$2,780.00	$8,200.00	$24,700.00	($8,900.00)	$15,800.00
3.	Conduct meetings and workshops	140	$5,200.00	$1,040.00	$4,200.00	$10,440.00	($4,000.00)	$6,440.00
4.	Solicit technical input	110	$3,400.00	$720.00	$2,500.00	$6,620.00	($3,500.00)	$3,120.00
5.	Prepare implementation strategy	160	$6,000.00	$1,200.00	$3,400.00	$10,600.00	($5,500.00)	$5,100.00
	Totals	962	$33,520.00	$6,780.00	$21,000.00	$61,300.00	($25,400.00)	$35,900.00

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Table 2. Jones & Stokes Associates: Cost Estimate for Lower Feather River Watershed Stewardship Program

Task Description	Direct Labor Hours	Direct Salary Totals	Overhead G & A Expense, Fee	Other Direct Costs	Total Cost
1. Organize Stewardship group	635	$15,140.57	$33,251.11	$1,642.50	$50,034.18
2. Collect, analyze, present information	640	$15,282.19	$33,562.15	$547.50	$49,391.84
2.a. Option: Conduct GIS services	470	$8,529.79	$18,732.79	$547.50	$27,810.09
3. Conduct meetings and workshops	650	$14,905.59	$32,735.06	$2,190.00	$49,830.65
4. Solicit technical input	180	$4,949.38	$10,869.64	$219.00	$16,038.03
5. Prepare implementation strategy	605	$15,035.62	$33,020.64	$2,190.00	$50,246.26
Totals	3,180	$73,843.16	$162,171.39	$7,336.50	$243,351.05

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Table 3. Summary Cost Breakdown*

Task Description	Audubon Costs	JSA Costs	Total Grant Request
Task 1. Organize Stewardship Group	$5,440.00	$50,034.18	$55,474.18
Task 2. Collect, analyze, and present information	$15,800.00	$49,391.84	$65,191.84
Task 2a: GIS option		$27,810.09	$27,810.09
Task 3. Conduct meetings and workshops	$6,440.00	$49,830.65	$56,270.65
Task 4. Solicit technical input	$3,120.00	$16,038.03	$19,158.03
Task 5. Prepare implementation strategy	$5,100.00	$50,246.21	$55,346.21
Totals	$39,900.00	$243,351.00	$279,251.00

* Audubon will provide $25,400 in-kind funding for project implementation (as described in Table 2 of this document). DWR will provide an unspecified amount of support on Task 2.

VI. Applicant Qualifications

Audubon Qualifications, Project Staff, and Staff Responsibilities:
The mission of Audubon is to conserve and restore California's important ecosystems, focusing on birds, other wildlife, and their habitats, for the benefit of humanity and the earth's biological diversity. Audubon owns land and restores habitats, provides leadership on state conservation and environmental education programs, develops and strengthens local conservation action through its network of 53 chapters and 67,000 members, and participates as division of the National Audubon Society on state, national, and international campaigns to protect fish and wildlife. In California, Audubon owns and manages seven wildlife sanctuaries comprising more than 12,000 acres, including two sanctuaries located in several of the most important riparian habitats in the state: Bobelaine Sanctuary on the lower Feather River and the Kern River Preserve on the South Fork Kern River.

Daniel Taylor will be the program manager and leader for The Lower Feather River Watershed Stewardship Program. Mr. Taylor is the executive director of Audubon-California and has served on the Audubon staff for over 20 years. He has a M.S. in biology with an emphasis in plant ecology. He is the current chair of the Central Valley Habitat Joint Venture and past chair of the California Riparian Habitat Joint Venture. Mr. Taylor has also served on several state commissions, including the California Timberland Task Force (as established by Senate Bill 1580) and the Upper Sacramento River Fisheries and Riparian Habitat Advisory Council (as established by Senate Bill 1086). Should this project be granted support by CALFED, Audubon will hire, with other funds, an additional professional skilled in riparian and fisheries conservation to assist Mr. Taylor in the day-to-day coordination of the project schedule and product deadlines.

JSA Qualifications, Project Staff, and Staff Responsibilities:
JSA provides the project with a breadth and depth of expertise from its Sacramento-based headquarters, where the company maintains a full-time staff of over 170 professionals, including biologists skilled in riparian and aquatic ecology, fisheries and wildlife management, botany, wetland biology, habitat evaluation and restoration, and vegetation management; hydrologists and engineers skilled in environmental and water resources engineering; and planners, economists, and attorneys, as well as a full support staff. As an employee-owned company, each professional is personally committed to the highest quality of client service. The staff adheres to a problem-solving philosophy and believes that the keys to high-quality client service are objectivity, scientific accuracy, and decision-oriented work products. JSA's diverse experience includes over 3,000 environmental and natural resources studies and reports throughout the western United States.

David Ceppos will be the JSA project coordinator for the stewardship program and will report to Mr. Taylor of Audubon on all project issues. He will be responsible for the design and implementation of the facilitation methods and the public-involvement program for the project, including stakeholder organization and meeting facilitation. He will also be responsible for day-to-day management of project staff, project deliverables, and JSA's budget. Mr. Ceppos is a natural resources planner and conflict resolution and facilitation specialist. He has extensive experience in public participation and public involvement and mediation, including serving as project manager and lead facilitator for the Lower Butte Creek project, where he was responsible for the design, implementation, and management of a public-involvement program and conflict resolution plan incorporating 16 diverse public and private water- and land-user stakeholders groups, as well as numerous individual agricultural landowners to develop anadromous fish passage solutions, riparian and aquatic habitat assessments, agricultural land

use, and watershed assessments along the lower Butte Creek in Sutter and Butte Counties, California. Mr. Ceppos is also the Sacramento Basin Coordinator for ACOE's Sacramento and San Joaquin Rivers Comprehensive Watershed Study, which focuses on flood-damage reduction and ecosystem restoration in those Central Valley watersheds. He is also the project manager for ACOE's proposed Upper Putah Creek Watershed Management Plan in and near Middletown California. Mr. Ceppos received a B.L.A. in landscape architecture from the University of Florida, Gainesville, in 1985.

The following staff members will be the lead persons responsible for data collection, analysis, and presentation in their respective areas of expertise. They will be responsible for preparing technical reports on specific issues and coordination on these issues with agricultural stakeholders and local government and resources agency staff

John Ranlett is a Resource Ecologist with JSA and is responsible for designing habitat restoration and mitigation plans that have included work in riparian and oak woodland, permanent and seasonal emergent marsh, grassland, and vernal pool habitats. He is also the volunteer manager of the Bobelaine Audubon Sanctuary, where he coordinates actions to restore the mixed riparian woodland that was destroyed by fire in 1992. He also manages avian research, including coordinating a sanctuary-wide breeding-bird census program and operating a bird-banding station that is part of a nationwide program that monitors neotropical migrant songbird populations through continuous mist-netting and bird banding. Based on his knowledge of Bobelaine Sanctuary and the Feather River floodplain, he will ensure integration of restoration design elements that maximize benefits for fish and wildlife. Mr. Ranlett received a B.S. in biology from California State University, Sacramento, in 1985.

Warren Shaul is a Senior Environmental Scientist and project manager with JSA. He has extensive experience evaluating fisheries issues for Central Valley species to provide clear direction in meeting habitat restoration project objectives. Mr. Shaul first recognized the importance of floodplain habitat to juvenile chinook salmon and splittail during his field sampling in the Sutter Bypass in 1992 and 1993. Since then, he has documented passage problems and habitat use in the Sacramento and Yolo Bypasses and the floodplains of the Sacramento, Feather, and American Rivers. He has developed methods to assess impacts from proposed water-management changes on anadromous fishes in the Sacramento and San Joaquin River basins. His methods interface with hydrologic, water quality, and project operations and planning models. He is thoroughly familiar with the life history and environmental requirements of fishes throughout the Sacramento-San Joaquin River system. Mr. Shaul received an M.S. in fisheries from Oregon State University, Corvallis, in 1984 and a B.S. in biology from Humboldt State University, Arcata, California in 1972.

Tom Cannon is a Senior Environmental Scientist and project manager and has extensive experience working with agency and stakeholder interests on fisheries restoration issues. Since 1994, Mr. Cannon has extensively observed floodplain habitat use by juvenile chinook salmon and splittail, increasing his understanding of the importance of floodplain habitat. Mr. Cannon serves as lead aquatic and estuarine ecologist for Sacramento-San Joaquin River Delta ecosystem analyses, primarily for large federal and state water resources and ecosystem restoration projects. He has more than 25 years of experience modeling and managing complex estuarine systems; designing broad-based and integrated environmental monitoring programs for aquatic species; implementing large-scale sampling designs for large rivers and estuaries; and directing large-scale database design, development, and analysis programs. He provided a lead role in developing CALFED ecosystem objectives. Mr. Cannon received an M.P.H. in

biostatistics from the University of Michigan in 1972, an M.A. in biology from Northern Michigan University in 1971, and a B.S. in fisheries from the University of Michigan in 1969.

Gus Yates is a hydrologist specializing in groundwater and surface-water flow modeling and habitat hydrology. Using mathematical modeling and graphical, statistical, and optimization methods, Mr. Yates evaluates hydrologic constraints and opportunities for aquatic, wetland, riparian, and upland habitats. He integrates information regarding climate, streamflow, hydrogeology, water quality, and water requirements of aquatic and riparian habitats to evaluate impacts of development projects on affected habitats and to design habitat restoration projects. Mr. Yates' recent work includes integration of technical information related to hydrology, geomorphology, vegetation ecology, and fish biology into a conceptual and mathematical ecosystem functions model for Central Valley rivers. He also managed the development of the Willow Slough Watershed Integrated Resources Management Plan in Yolo County. Mr. Yates was certified as a professional hydrogeologist by the American Institute of Hydrology in 1992. Before joining JSA, he worked for 8 years as a groundwater hydrologist with the U.S. Geologic Survey (USGS). Mr. Yates received an M.S. in water science from the University of California, Davis, in 1985 and a B.A. in geology from Harvard University, Cambridge, Massachusetts in 1979.

Ray Weiss is an economist with extensive experience managing and preparing agricultural-land-conversion studies, agricultural policy documents, and natural resources economic studies. His work includes identifying project impacts on prime farmlands, evaluating production losses and resulting effects on employment and income, and determining consistency with regulatory policies, such as the Williamson Act. Mr. Weiss has prepared farmland-conversion impact sections for numerous environmental impact reports (EIRs), including agricultural impact analyses for the East Bay Municipal Utility District's Folsom South Canal Connection Project. Mr. Weiss has also prepared several natural resources economic studies, including an analysis of the economic costs and benefits to fish, wildlife, and recreation resources resulting from implementation of CVPIA and an assessment of the social and economic impacts of commercial fish landings on central and northern California coastal communities. Mr. Weiss has also managed the fish, wildlife, and recreation economics technical analysis for CALFED. Mr. Weiss received a B.A. in economics from California State University, Sacramento, California in 1994, with special emphasis in environmental and resources economics.

Additional project coordination, administrative, publications, and graphics staff members will be involved for the project as required and necessary.

VII. Compliance with Standard Terms and Conditions

Audubon will comply with all terms and conditions presented in the CALFED Proposal Solicitation Package.