

61040

Attachment H

COVER SHEET (PAGE 1 of 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Proposal Title: Union School Slough Watershed Improvement Program
 Applicant Name: National Audubon Society-California
 Mailing Address: 555 Audubon Place, Sacramento, CA 95825
 Telephone: (916) 481-5332
 Fax: (916) 481-6228

Amount of funding requested: \$ 711,592.00 for 3 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
- Floodplain and Habitat Restoration
- Fish Harvest
- Watershed Planning/Implementation
- Fish Screen Evaluations - Alternatives and Biological Priorities
- Fish Passage Improvements
- Gravel Restoration
- Species Life History Studies
- Education

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

- Sacramento River Mainstem
- Delta
- Suisun Marsh and Bay
- San Joaquin River Mainstem
- Landscape (entire Bay-Delta watershed)
- Sacramento Tributary: _____
- East Side Delta Tributary: _____
- San Joaquin Tributary: _____
- Other: Yolo Basin Ecological Zone
- 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
- Late-fall run chinook salmon
- Delta smelt
- Splittail
- Green sturgeon
- Migratory birds
- Spring-run chinook salmon
- Fall-run chinook salmon
- Longfin smelt
- Steelhead trout
- Striped bass



COVER SHEET (PAGE 2 of 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

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

- | | |
|--|--|
| <input type="checkbox"/> State agency | <input type="checkbox"/> Federal agency |
| <input type="checkbox"/> Public/Non-profit joint venture | <input checked="" type="checkbox"/> Non-profit |
| <input type="checkbox"/> Local government/district | <input type="checkbox"/> Private party |
| <input type="checkbox"/> University | <input type="checkbox"/> Other: _____ |

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

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> Planning | <input checked="" type="checkbox"/> Implementation |
| <input type="checkbox"/> Monitoring | <input type="checkbox"/> Education |
| <input type="checkbox"/> 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)

II. Executive Summary

a. Project title and applicant name:

The Union School Slough Watershed Improvement Program, submitted by the National Audubon Society-California (Audubon-CA) in partnership with the Yolo County Resource Conservation District (RCD) and local landowners.

b. Project description and primary biological/ecological objectives: This project is not simply another watershed planning process. Rather, it is a mechanism for coordinating and putting into place restoration practices already identified in the Willow Slough Integrated Resources Management Plan (Yolo RCD, et. al. 1996), of which Union School Slough is a part. The RCD's years of experience working with landowners to develop and implement small-scale, and on-farm restoration projects has demonstrated that even the most committed landowners need technical, practical, and financial assistance to ensure long term success. This project addresses that need by establishing California's first community-based restoration and vegetation management "service" for the sole purpose of assisting landowners with on-the-ground conservation practices. The project is based on a landowner stewardship group that serves as the information-sharing, problem-solving, and "neighbor-convincing" nerve center. Project staff will work with the landowner group and an advisory committee comprised of stakeholder agencies to implement a set of conservation and restoration practices, identify further opportunities and project partners, overcome barriers and constraints, and disseminate technical, practical, and legal information. This watershed model will be replicable throughout the greater Bay-Delta ecosystem.

The proposed activities have been shown to reduce sedimentation and erosion, improve water quality, reduce flooding and increase wildlife habitat. Models for some activities have already been implemented successfully by the RCD and local landowners on a smaller scale. These successes and the technical blueprints for the projects are documented in several recent publications (see Applicant Qualifications, below). Project objectives of the proposed watershed program will include development of a diverse, community based watershed stewardship group that will use resource information to implement ecological solutions. The stewardship group will address program objectives and will develop a mutually beneficial strategy for the balanced implementation of watershed restoration projects.

c. Approach/tasks/schedule: The overall approach is to work with landowners, both individually and as a group, to plan, execute, maintain, monitor, and evaluate a set of six or more practices in the watershed. Audubon-CA and the Yolo RCD will provide both institutional and practical/technical support. Staff members and consultants (as needed) will coordinate activities on the ground, with a major emphasis on training landowners in ongoing maintenance to insure long term success. The project team will also coordinate activities with local stakeholder agencies and cost-share programs.

The nine project tasks and their implementation schedules are: 1) Convening a landowner stewardship group and advisory committee (Year 1, ongoing); 2) Landowner training workshops (Year 1: 2 workshops, Year 2: 2 workshops) 3) Upper slough riparian restoration (Year 1: implementation, Year 2,3: ongoing maintenance and evaluation); 4) Upper slough rangeland

restoration (Year 1: implementation; Year 2,3: ongoing maintenance); 5) Construction of hill ponds for wildlife (Year 1: planning, Year 2: construction, Year 3: maintenance and evaluation) 6) Construction of tailwater ponds (5 ponds throughout project term) 7) Revegetation of irrigation canals (Year 1: establishment; Year 2,3: weed control, maintenance, evaluation); 8) Lower slough and floodplain planning and restoration (Year 1,2: Planning, evaluation, coordination; Year 3: Implementation); 9) Project management and administration, reporting, legal compliance (throughout).

d. Justification for project and CALFED funding: Union School Slough is a tributary of Willow Slough and, as such, is contained in the Willow Ecological Unit described in the CALFED ERPP (Vol. II, pp. 324-335) which lists implementation objectives, targets and programmatic actions to restore ecological processes. The ERPP (Vol. II, p. 328) also highlights the Willow Slough Integrated Resource Management Plan and the Yolo County RCD's role in its development and implementation.

e. Budget costs and third party impacts: Total budget is \$711,592. Third party impacts include changes in flow regimes or land use on properties adjacent to or downstream of those upon which conservation practices are implemented. Conflicts arising from such changes will be minimized through the Landowner Stewardship Group, hydraulic study, and ongoing communication between project staff and landowners not participating in the project. Impacts are expected to be small.

f. Applicant qualifications: The RCD has implemented four major demonstration projects since 1995 and provides a network between growers, agencies, and private groups for resolving complex resource and watershed problems. For the past four years, Audubon-CA has been working with the Farm Bureau, landowners, resource agencies and the state legislature to provide incentives for farmers and ranchers to restore habitat. The combination of the RCD's practical experience and local connections and Audubon's legal expertise and statewide network, gives this partnership an unparalleled set of resources.

g. Monitoring and data evaluation: Monitoring includes photo point analysis of individual conservation practices, measurement of ecological indicators, automatic stream flow analysis for water quality parameters. Project staff will submit an Ecological and Biological Monitoring Plan and Quality Assurance Project Plan.

h. Local support/coordination with other programs/compatibility with CALFED objectives: Five watershed landowners have already signed onto the project and staff will continue outreach through the project term. The RCD has long-standing relationships with important resource agencies as well as individual landowners. The project will dovetail with the RCD's new 319 program to identify and evaluate sites for slough channel enhancement and hill pond construction; and to develop a streamlined permitting process integrated with a restoration strategy

**THE UNION SCHOOL SLOUGH
WATERSHED IMPROVEMENT PROGRAM**

Applicant:

**The National Audubon Society~California
555 Audubon Place
Sacramento, CA 95825
Contact: Daniel Taylor, Executive Director
(916) 481-5332**

in partnership with

**The Yolo County Resource Conservation District
221 West Court Street, Suite 8
Woodland, CA 95695
Contact: Katy Pye, Executive Director
(530) 662-2037 ext. 202**

with cooperation and support from:

U.S. Fish and Wildlife Service, USDA Natural Resources Conservation Service,
California State Water Resources Control Board, University of California, Davis,
National Fish and Wildlife Foundation

Type of organization: Non-profit Organization

Tax Identification Number: 13-1624102

RPF Project Group Type: Watershed Stewardship

IV. Project Description

a. Project Description and Approach

“Landowner stewardship” has become a conservation watchword in recent years, yet few models exist for implementing voluntary conservation practices at the local watershed level. More often than the not, the very landowners upon whom stewardship responsibility rests lack the time, resources, and expertise to get the job done. The Yolo County Resource Conservation District (RCD) has pioneered practical restoration techniques since 1990. Its experience shows that even the most committed landowners need assistance for successful implementation in the long term.

Union School Slough is a tributary of Willow Slough and, as such, is contained in the Willow Ecological Unit described in the CALFED ERPP (Vol. II, pp. 324-335), (see Exhibits 1 and 2). In 1996, the Yolo RCD, together with landowners and other agencies, published the Willow Slough Integrated Resources Management Plan. Now, the RCD has teamed up with Audubon-CA to enact portions of the plan in the Union School Slough watershed and to develop a watershed model that can be replicated throughout the greater Bay-Delta ecosystem. This project will develop California’s first restoration and vegetation management “service” for the sole purpose of assisting landowners with on-the-ground conservation practices. The approach centers on a landowner stewardship group for information-sharing, problem-solving, and “neighbor-convincing.” Conservation activities include: 1) restoring upper watershed riparian areas and rangelands; 2) revegetating canals and drainage ditches; 3) constructing wildlife and tailwater ponds; and 4) restoring natural riparian function to the highly-altered lower portion of the slough.

b. Proposed Scope of Work

Task 1: Organize Landowner Stewardship Group and Advisory Committee

The project team will organize a stewardship group comprised of landowners and those leasing farm or ranchlands in the project area; and recruit an advisory committee consisting of partners from stakeholder agencies (see attached organizational chart). To date, five Union School landowners have signed on; staff will maintain one-on-one outreach and seek additional project participants. The stewardship group, assisted by the advisory committee, will prioritize opportunities for conservation activities in the watershed, assist in landowner outreach, share information, and evaluate project success. Information will be made available to all interested parties through technical memoranda and a web page.

Deliverables: Up to 4 landowner and advisory committee meetings per year as needed. Technical memoranda. World Wide Web home page. Budget/costs: \$25,428

Task 2: Landowner training workshops

Project staff will conduct a total of four training workshops modeled on the RCD’s popular “Farming for Wildlife” program and its additional workshops on riparian fencing, controlled burns, and weed control. Workshops will include guidance by experienced practitioners, strategies on permitting and regulatory issues, and field trips.

Deliverables: 4 workshops. Packets of training materials. Budget/costs: \$21,985

Task 3: Upper slough riparian restoration

Three primary stressors affect the upper watershed: invasion of exotic vegetation, impacts due to grazing, and geological mass wasting. Project staff will work with a cooperating landowner (Rich Stewart) to develop and implement a restoration program for a one-mile section of the slough. The program will include site preparation, revegetation, and weed control. The restored area will be fenced to facilitate optimal grazing. This task will also establish an automatic stream flow analysis system to monitor sediment transport, water discharge, and baseline annual stream morphology. Project staff will conduct ongoing outreach to identify those who may be interested in similar programs. As additional landowners are brought on board, staff will identify cost-share sources.

Deliverables: Restoration and fencing of one-mile upper slough. Additional project sites for future implementation. Budget/costs: \$105,465

Task 4: Upper slough rangeland restoration

Rangelands in the upper watershed have been invaded by exotic vegetation, including noxious weeds such as medusahead and goat grass that reduce forage quality. Controlled fire combined with restoration of deep-rooted native perennial grasses species can reduce and prevent invasion of noxious weeds, stabilize soils, increase groundwater supplies, and provide edible forage over a longer portion of the growing season. Preliminary research also indicates that some native grasses have nutritional values equal to or exceeding traditional forage species. Scott Stone has agreed to work with project partners to develop a Vegetation Management Plan to restore a portion of his 7200 ranch. Project staff will work with the California Department of Forestry to develop and execute a controlled burn on 1000 acres followed by restoration of 200 acres with native perennial grasses. Staff will provide ongoing vegetation management, evaluation, and landowner training in years two and three. Staff will conduct outreach to identify those interested in similar programs and identify cost-share funding.

Deliverables: 1000-acre controlled burn. 200 acres of restored upper slough rangeland. Analysis of cost share opportunities. Budget/costs: \$168,970

Task 5: Construction of one hill pond for wildlife

Ponds in the low hills can store storm runoff and provide watering sites for domestic livestock and wildlife. Construction involves site selection, surveying, excavation, dam construction, compaction, installation of pipe spillways and emergency overflow, and revegetation. The project will work with RCD's 319 project on site selection, planning and permitting issues (see Task 8, below). A new watershed resident (Barbara Dieter) has indicated her willingness to construct a hill pond; a second landowner is also interested as a backup. Staff will assist the landowner in developing a construction plan according to standards set by the U.S. Army Corps of Engineers and USDA's Natural Resource Conservation Service (NRCS), hiring subcontractors for construction, applying for water right

permits and cost share funding. Other activities include establishing pond vegetation, weed control, and fencing. The goal is construction in the year two but permitting may delay it until year three.

Deliverables: Pre-permit coordination and planning. Analysis of cost-share opportunities. Construction and vegetation of one hill pond. Budget/costs: \$75,534

Task 6. Construction of five tailwater ponds

Without intervention, irrigation runoff removes topsoil and transports it downstream where expensive excavation of ditches, sloughs, and canals becomes necessary. This run-off may also harbor excess nutrients and pesticides that degrade water quality. NRCS and the Yolo RCD have developed a simple double-pond tailwater system that can be easily managed with a back-hoe and does not require permits. The ponds trap sediment and provide wildlife habitat. A number of examples of these ponds have already been installed in Yolo County. Because tailwater ponds are well-demonstrated, we are confident that 5 ponds can be installed in three years.

Deliverables: 5 tailwater ponds. Budget/costs: \$85,942

Task 7. Revegetation of irrigation canals and drainage ditches

Irrigation canals and drainage ditches are an important part of watershed since water flows freely between these manmade structures and natural waterways. Revegetation with native grasses, sedges, and rushes can reduce weed invasion and thus reduce herbicide use, minimize soil erosion, filter excess nutrients; and enhance biological diversity and aesthetics (see Exhibits 3 and 4). The Yolo RCD has developed a proven protocol for canal and ditch revegetation using different species mixes on upper (dry) and lower (wet) sections. Project staff will work with landowner Duane Chamberberlain and appropriate agencies to implement this protocol on 3 miles of canal and/or ditchbank. Activities include shaping and weeding canal banks, establishing vegetation, and three years of weed abatement.

Deliverables: 3 miles revegetated canal and ditch bank. Weed abatement for 3 years. Budget/costs: \$60,598

Task 8. Lower slough and floodplain planning and restoration

Stream channel alteration and management on the lower slough has resulted in a narrow, unvegetated channel unable to carry high flows during storms and with little habitat value. Exhibits 5 and 6 show an NRCS simulation of how reintroducing a more natural bank and native plant systems on Union School Slough can stabilize the bank, increase flood capacity, suppress weeds, and provide habitat. Restoration of a natural flooding regime will serve to store nutrients, sediment, and water while decreasing catastrophic flooding elsewhere. One of the stumbling blocks to landowner participation is the permitting process, which can be lengthy, costly, and frustrating. This fall, the RCD will begin work on an EPA 319 grant to develop a streamlined permitting processes integrated with a restoration strategy. The Union School Slough project team will collaborate with the 319 project. During the first two years, staff (with assistance from the advisory committee and 319 team) will develop plans for slough and floodplain restoration to serve as models for the watershed. The plans

will include the necessary hydrological and analyses, site selection, technical specifications, and an implementation strategy. During this time, staff will work with landowner Duane Chamberlain to develop a restoration demonstration project for a 1/2 mile segment of the slough that will be implemented in year three.

Deliverables: Model plans for slough and floodplain restoration. Analysis of cost share opportunities. Restoration of 1/2 mile of lower slough. Budget/costs: \$87,757

Task 9. Project management and administration, legal compliance, reporting

Audubon-CA will be responsible project administration, management, subcontracting, and ensuring that contract requirements are met through completion of quarterly reports. The Yolo RCD will hire a Project Director to work with individual landowners on planning and implementation, permitting, and cost-share funding. Audubon will hire a Vegetation Manager to provide revegetation expertise on the ground. Audubon will also provide legal consultation on issues relating to compliance with state and federal regulations (see Implementability, below).

Deliverables: Project administration. Quarterly reports. Budget/costs: \$79,913

c. Location and Geographic Boundaries

Union School Slough is a component of the Willow Slough Watershed that lies between Putah and Cache Creeks in Yolo County (see Exhibits 1 and 2). Approximately 13 miles long, Union School Slough drains a watershed of 13,000 acres including the foothills of the inner Coast Range and a relatively flat portion of the Sacramento Valley floor. The project area extends from the top of the slough to its confluence with Willow Slough, west of Country Road 98.

d. Expected Benefits

CALFED Priority Habitats that will benefit from this program include: seasonal wetland and aquatic habitat, instream aquatic habitat, and shaded riverine aquatic habitat. The program will also restore significant acreage of perennial grassland habitat. The CALFED priority species likely to realize the greatest benefits in the short term are migratory waterfowl and neotropical migrant birds. Over a longer term, CALFED priority fish species will benefit through reduction of primary stressors, including alternation of flows, floodplain changes, channel form changes, water quality and temperature, adverse species interactions, and land use.

Specific primary benefits to Priority Species include:

- Increased nesting and foraging habitat (for migratory birds).
- Reduced sedimentation from erosion and grazing practices
- Reduced adverse impacts from invasive plant species
- Restored natural flow regimes
- Increased water quality through filtering of non-point source pollutants
- Reduced water temperature through shading

**UNION SCHOOL SLOUGH WATERSHED STEWARDSHIP
PROJECT TEAM**

Joint Venture
National Audubon Society / Yolo County Resource Conservation District

- Potential Partners**
- California Fish & Game
 - Yolo County
 - USDA-Farm Service Agency
 - US Fish & Wildlife Service
 - Yolo County Flood Control & Water Cons. District
 - Wildlife Conservation Board
 - State Water Resource Control Board
 - University of California
 - USDA-Natural Resource Conservation Service
 - US Army Corp of Engineers

Executive Committee
Dan Taylor, National Audubon Society--California
Katy Pye, Yolo County Resource Conservation District
Representative, Landowner Stewardship Committee

Landowner Stewardship Committee
Union School Slough Landowner Stakeholders

Project Director



1-011896

1-011896

Other benefits include:

- Increased habitat for non-priority imperiled species such as the California Swainson's Hawk, Valley Elderberry Longhorn Beetle, Pacific Pond Turtle, Loggerhead Shrike, Red-legged Frog, Giant Garter Snake and Tri-colored Blackbird.
- Increased habitat for waterfowl.
- Maintenance and enhancement of the physical and economic conditions for agriculture
- Decreased problems associated with local flooding

e. Background and Ecological/Biological/Technical Justification

Historically, the Union School Slough watershed was a rich and biologically diverse system of interconnected streams, wetlands, and dry uplands. Much of this ecosystem has been altered by agricultural practices. Where areas of natural slough remain, seasonal flows support riparian vegetation consisting of valley oak, willows, toyon, buckeye, wild rose, elderberry and associated species. Native perennial grasses, sedges and rushes provide cover and bank stability. These remnant patches provide habitat and movement corridors for species such as deer, quail, migratory birds and waterfowl, raptors, gray fox, tree squirrels, and others.

At its upper reaches, Union School Slough suffers from intensive grazing practices, invasion of exotic vegetation, and geologic mass wasting. On its lower reaches, the channel and vegetation of the slough has been dramatically altered so that it is unable to carry high flows during storms. Removal of vegetation on farm edges, canal banks, and the slough itself has resulted in erosion of topsoil, erosion of canal and stream banks, water pollution, and loss of wildlife habitat. Agricultural run-off carries sediment that may contain pesticides and nutrients.

The philosophy behind Integrated Resource Management Plan and this project is that farmers and ranchers are the key players in local real-world solutions and their voluntary participation is the only way to ensure long term conservation goals. This project maximizes effectiveness of the individual conservation measures by coordinating multiple activities and giving landowners the practical, technical, and legal assistance they need on an individual basis.

The program objectives are consistent with the following ERPP objectives:

- Restore basic hydraulic conditions in the Yolo Basin Ecological Zone to reactivate and maintain ecological processes that create and sustain habitat required for healthy fish, wildlife, and plant populations (ERPP, Vol. II, p. 329; also ERPP Vol. I, page 27))
- Conserve and enhance natural fluvial geomorphology in Yolo Basin Ecological Zone streams and rivers to promote natural sediment transport and deposition. This includes increasing overbank flooding potential to floodplains and establishing a desirable level of floodwater retention potential (ERPP, Vol. II, p. 329; also ERPP Vol. I, page 45)
- Restore upper watershed processes in the Willow Slough Ecological Unit (ERPP, Vol. II, p. 329).
- Create riparian vegetation corridors in the Yolo Basin Ecological Zone by developing cooperative programs to restore riparian vegetation, protect existing vegetation, and control non-native riparian plants (ERPP, Vol. II, pp 332-333).

- Maintain, improve, and restore natural stream meander processes (ERPP Vol. I, page 37)
- Maintain, improve, and restore nutrients (ERPP Vol. I, page 63)
- Restore riparian habitat (ERPP Vol. I, page 110)
- Assist in the recovery of the Swainson's Hawk (ERPP Vol. I, page 232)
- Maintain healthy populations of waterfowl, upland game birds, and neotropical migratory birds (ERPP Vol. I, page 260/262/264)
- Assist in maintaining healthy populations of the Valley Elderberry Longhorn Beetle (ERPP Vol. I, page 268)
- Reduce the effect of invasive riparian plants (ERPP Vol. I, page 311)
- Promote rangeland management practices and livestock stocking levels to maintain high quality habitats (ERPP Vol. I, page 273)

f. Monitoring and Data Evaluation

Monitoring will be accomplished through a program that combines photo point analysis of individual conservation practices (in cooperation with landowners) and comprehensive monitoring of key ecological indicators by graduate student from U.C. Davis. Participating landowners will be issued disposable cameras and instructed in a methodology for taking periodic photo points. Graduate students will be recruited and monitoring protocols developed according to standard methodologies for monitoring indicator species, plant cover, and other measures of restoration success. The upper slough riparian restoration plan (Task 3) includes automatic stream flow analysis to determine sediment transport, water discharge, and baseline annual stream morphology. Data will be analyzed and reported by project staff together with the Landowner Stewardship Group and Advisory Committee. Project staff will submit an *Ecological and Biological Monitoring Plan and Quality Assurance Project Plan* prior to beginning monitoring.

g. Implementability

The prognosis for successful implementation of the conservation activities described above is excellent, especially since the Yolo County RCD and project partners have a proven track record of cooperation and success (see applicant qualifications, below). Five landowners have already indicated their willingness to implement practices on their land (letters attached) and others continue to be contacted and through phone calls and letters. Long term success of the conservation activities will be insured by training individual landowners to manage restored areas and by applying for cost-share funding from appropriate agencies. Audubon-CA will provide legal assistance on a case-by-case basis to facilitate compliance with laws and regulations, especially with regard to the state and federal Endangered Species Acts, California Environmental Quality Act (CEQA) and the Clean Water Act. Where an endangered species might be a concern, staff will work closely with landowners and the natural resource trustee agencies to minimize localized impacts and maximize long-term benefits. Where applicable, safe-harbor agreements will be pursued for landowners who develop new habitat.

V. Costs and Schedule to Implement Project

a. Budget costs

The attached cost breakdown table covers the following costs over a three year period, as specified in this proposal: 1) The full time employment of a project coordinator, to be employed by the Yolo County Resource Conservation District; 2) The full time employment of an on-site vegetation manager to be employed by Audubon-CA; 3) Full compliance with existing state and federal laws for projects initiated by this proposal; 4) Project administration, accounting, and public information functions to be carried out primarily by Audubon-CA; 5) The acquisition, through purchase or lease, of capital equipment, such as pickups, spray rigs, seeding drills, and prescribed burn equipment needed to implement each task in the proposal; and 6) Contract costs for restoration consulting, fence construction, prescribed burns, earthwork, manual labor, and agricultural products such as native grass seed as required for each specified task. This project intends to restore essential watershed functions over a 13,000 watershed. The reason that watershed restoration at this scale is seldom done, despite the acknowledged need, is because landowners have neither the expertise, the time, nor the money to do it themselves. Through this program, CALFED can provide support a watershed approach that will improve habitat and water quality values in the region, and demonstrate the feasibility of restoration techniques that can be a model for restoration work in other watersheds.

b. Schedule and milestones (see attached table)

c. Third party impacts

Third party impacts include changes in flow regimes or land use on properties adjacent to or downstream of those upon which conservation practices are implemented. Conflicts arising from such changes will be minimized through the Landowner Stewardship Group, hydraulic study, and ongoing communication between project staff and landowners not participating in the project. Impacts are expected to be small. Successful implementation of the project should result in a net positive gain for land values through reduced sedimentation, increased water quality, reduced flooding, increased recreational opportunities, and improved aesthetics. Some practices such as canal bank revegetation and tailwater ponds may reduce the costs of weed abatement and excavation of silt from downstream ditches, canals, and roadsides.

VI. Applicant Qualifications

a. National Audubon Society-California

Audubon-California's mission 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 our chapter network; and participates as a division of the National Audubon Society on national and international campaigns to protect wildlife.

Audubon-CA has 53 chapters and over 67,000 members in California. It owns and manages seven wildlife sanctuaries in California, consisting of more than 12,000 acres. Two of these sanctuaries are located in the most important riparian habitats in California; the lower Feather River, and the South

Audubon-California Union School Slough Watershed Improvement Program
Cost Breakdown Table

Tasks	Direct Labor Hrs	Salary & Benefits	Overhead on Labor	Service Contracts	Material Contracts	Misc and other costs	Task Total
Task 1: Organize Landowner Stewardship Group	852	22,702.00	1,962.00	-	-	764.00	25,428.00
Task 2: Landowner Training Workshops	502	12,242.00	1,648.00	7,600.00	-	495.00	21,985.00
Task 3: Upper Slough Riparian Restoration	1312	33,302.00	2,280.00	39,320.00	28,271.00	2,292.00	105,465.00
Task 4: Upper Slough Rangeland Restoration	1936	47,902.00	2,280.00	7,525.00	107,121.00	4,142.00	168,970.00
Task 5: Construction of Hill Ponds	1436	34,902.00	1,890.00	15,760.00	21,172.00	1,810.00	75,534.00
Task 6: Construction of Tailwater Ponds	1806	44,522.00	2,178.00	24,150.00	13,267.00	1,825.00	85,942.00
Task 7: Revegetation of Canals	1494	37,220.00	2,178.00	5,280.00	14,833.00	1,087.00	60,598.00
Task 8: Develop Lower Slough Restoration Strategy	1746	42,962.00	2,130.00	25,740.00	15,000.00	1,825.00	87,757.00
Task 9: Project Management, Administration and Compliance	2684	76,086.00	3,125.00	-	-	702.00	79,913.00
Totals	13768	351,840.00	19,671.00	125,375.00	199,664.00	15,042.00	\$ 711,592.00

210,000
 47,587

 162,413

1-011900

1-011900

Schedule and Milestones

Task	Year One	Year Two	Year Three
Task 1: Organize Landowner Stewardship Group	Hold 3-4 meetings Establish board Outline goals & objectives Recruit new stakeholders	Hold 2-3 meetings Evaluate process Establish funding mechanisms	Hold 2-3 meetings Obtain long term funding Mechanisms
Task 2: Landowner Training Workshops	Hold 2 workshops to train landowner cooperators and enlist new landowners	Hold 2 workshops and/or field demonstrations	Hold 2 workshops and/ or field demonstrations
Task 3: Upper Slough Riparian Restoration	Fence riparian area Initiate vegetation management plan with CDF Assess existing coordination Set up stream monitoring and Photo monitoring Spring burn for weed control	Initiate vegetation establishment Initiate grazing management plan Weed control Solicit more landowner cooperators	Continue vegetation establishment Grazing Burning Herbicides Evaluate success Solicit more landowner cooperators
Task 4: Upper Slough Rangeland Restoration	Initiate vegetation management Plan with CDF	Seed area and manage weed competitors with grazing, fire and herbicide Expand controlled fire to larger watershed area	Manage area with grazing, fire, and fire, and/or herbicides as needed Develop cost benefit ratios Hold field days to market concept Monitor & evaluate for adaptive management Initiate research If successful, seek funding mechanisms for larger scale programs
Task 5: Construction of Hill Ponds	Identify 5 sites Plan and engineer ponds Obtain necessary permits Use ponds as a model for RCD 319 permitting process plan	Construct fence Vegetate pond Explore cost share programs for additional ponds Monitor wildlife	Revegetate weed control Monitor for wildlife, and ground- water recharge capabilities Evaluate storage potential of of additional ponds

Schedule and Milestones *(continued)*

	Year One	Year Two	Year Three
Task 6: Construction of Tailwater Ponds	Identify landowners and pond sites Construct ponds Vegetate ponds Apply for additional cost share programs Enroll in SWRCB monitoring program	Identify landowners and pond sites Construct ponds Vegetate ponds Apply for additional cost share programs Establish cost / benefit ratio	Identify landowners and pond sites Construct ponds Vegetate ponds Apply for additional cost share programs
Task 7: Revegetation of Canals	Identify project sites Develop partnerships with Yolo County Flood Control & Water District	Reshape banks and plant Monitor & evaluate outcome: erosion, wildlife, weeds Seek cost share funding Manage weeds	Manage weeds Monitor and evaluate outcome: erosion, wildlife, weeds Test new restoration plant species Seek cost share funding
Task 8: Develop Lower Slough Restoration Strategy	Map existing systems Conduct hydrological analysis Develop engineering & design Identify additional landowners Baseline monitoring of hydrology, silt, water quality and wildlife Seek cost share funds Investigate permitting requirements	Seek cost share funding Solicit additional projects	Initiate pilot project for slough restoration Solicit additional projects Seek cost share funding
Task 9: Project Management, Administration and Compliance	Coordinate with state and federal agencies regarding compliance Establish accounting procedures Issue reports to responsible Agencies about the program	Ongoing	Ongoing

1-011902

1-011902

Fork of the Kern River. One of our sanctuaries, the Paul L. Wattis Waterfowl Sanctuary in Colusa is a restored valley wetland, 550 acres in size. It regularly winters over 20,000 migratory waterfowl.

For the past 4 years, Audubon-CA has been working with the Farm Bureau, state agencies, the state legislature, and other conservation organizations to ensure that California's laws encourage rather than discourage farmers and ranchers to restore habitat on their lands. In the wake of a successful Audubon-sponsored reform of the California Endangered Species Act in 1997, and with the help of a grant from the David and Lucile Packard Foundation, Audubon established a program to facilitate habitat restoration on agricultural lands. If funded, the Union School Slough Watershed Improvement Project will be an extension of that effort.

Key publications include:

Investing in Wildlife: Multiple Benefits for Agriculture and the American People. National Audubon Society Report, February 1995.

Common Ground: Farming and Wildlife (Video). National Audubon Society and Turner Broadcasting System. 1987.

b. Yolo County Resource Conservation District

For five years, the Yolo County RCD (covering most of Yolo County) has provided a network between progressive growers, agencies, and private groups for resolving complex resource and watershed problems. Guided by award-winning conservation practices, local partnerships are working to improve wildlife habitat, surface water quality, weed invasions, erosion, sediment, flooding and related watershed problems. Various approaches and grants present growers with solutions that solve their on-site problems. Conservation practices include: tail water and hill ponds, IPM hedgerows, and vegetated buffers, set-asides, and "farm edges" to restore roadsides, canals and creeks.

Past and present projects encompass resource education and outreach (funded by the US EPA), Model Farms Total Resource Management (US BOR), Irrigation Canal Re-vegetation (US BOR) Irrigation/Water Quality Practices (funded by S319/State Water Resources Control Board), IPM/Hedgerows (CA DPR), "Combining Forces: Bringing Watershed Restoration Off the Paper and Onto the Ground." (S319), and F.A.R.M.S. (NFWF). The RCD and Ms. Pye have been honored with state and national awards: from US EPA, Renew American, the California Department of Pesticide Regulation, and the California Association of RCD's.

Relevant materials and articles published by the RCD and its partners include:

Anderson, J.H. Levee revegetation with native grasses. 1998. *Grasslands* 8(1): 1, 5.

Anderson, J.H. 1997. Turning irrigation canals into waterfowl corridors. *California Waterfowl* (June-July): 18-19.

Anderson, J. H. and J. L. Anderson. 1996. Establishing permanent grassland habitat with California native perennial grasses. *Valley Habitats* 14: 1-12. Technical Guidance Series published by Ducks Unlimited, Inc.

Anderson, J.H., J.L. Anderson, R.R. Engel, and B.J. Rominger. 1995. Establishment of on-farm native plant vegetation areas to enhance biodiversity within intensive farming systems of the Sacramento Valley. *Proceedings: Environmental Enhancement Through Agriculture*, Boston, MA: 95-102.

Anderson, J.H. and B. Young. 1995. Native grass restoration in flood zones: preliminary observations and cautions. *Grasslands* 5(3): 1230

Bring Farm Edges Back to Life. Yolo County Resource Conservation District, 1997.

Bugg, R.L., C.S. Brown, and J. H. Anderson. Establishing Native Grasses to Rural Roadsides in the Sacramento Valley of California: Establishment and Evaluation. *Restoration Ecology* 5: 214-228.

Rose, C. R. 1998. Final Draft Report: Water Quality and Irrigation Ecosystem Management Project: Yolo County Resource Conservation District. Yolo RCD, March 30, 1998.

Willow Slough Watershed Integrated Resource Management Plan. Yolo County RCD, California Wildlife Conservation Board, Yolo County Flood Control and Water Conservation District, Yolo County. Woodland, CA, 1996.

Wrynski, J., P. Robbins, and G. Vesperat. Native Grass Forage Quality Pilot Study. *Grasslands* 8(2): 3-4.

c. **Project structure**

The project will be organized according to the structure depicted in the attached organizational chart and described in Task 9 (above). An executive committee consisting of representatives of Audubon-CA, the RCD, and the Landowner Stewardship Group will provide project oversight and communication between project partners (i.e. agencies) and landowners. A Project Director will supervise project implementation with support from a Vegetation Manager, subcontractors, university researchers and Audubon-CA's existing legal staff.

The project team includes the following individuals by area of responsibility and qualifications:

Daniel Taylor, Executive Director, Audubon-California. Project oversight. Mr. Taylor has served on the Audubon staff for over 20 years. He has a master's degree in biology with an emphasis on plant ecology. He is the current chair of the Central Valley Habitat Joint Venture, and past chair of the California Riparian Habitat Joint Venture. He has served on several state commissions including the California Timberlands Task Force (as established by SB 1580) and the Upper Sacramento River Fisheries and Riparian Habitat Advisory Council (as established by SB 1086).

Katy Pye, Executive Director, Yolo County RCD. Educated in natural resource management at UC Davis, Katy Pye has served as the Yolo RCD's executive director since 1993. Under her leadership, the district has gained a national reputation as a conservation model - one of the handful to integrate successful restoration practices alongside real-world agricultural operations. Ms. Pye now oversees four major projects and an annual budget over \$350,000. She represents the RCD on various Yolo County steering committees.

John Anderson, Hedgerow Farms. Restoration consultation and landowner outreach. Dr. Anderson is a habitat restorationist and the owner of Hedgerow Farms, a major producer of native grass seed located in the Union School Slough watershed. He is also a member of the Board of Directors of Audubon-CA and the Yolo Basin Foundation, and a former boardmember of the Yolo RCD. Dr. Anderson has designed and implemented many of his own projects and served as an advisor for others including native grass establishment on rural roadsides in Yolo County, vegetating irrigation and drainage canals, restoring foothill rangeland in Yolo County, Vegetating agricultural drainage tailwater ponds, and riparian and wetland restoration. Dr. Anderson received a B.S. in zoology from Oregon State University in 1966 and a D.V.M. from U.C. Davis in 1970.

John McCaull, California Legislative Director, Audubon-California. Regulatory analysis and permitting assistance. Mr. McCaull is an attorney specializing in the regulatory requirements of the California and federal Endangered Species Acts (CESA and ESA), California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA), and the Clean Water Act. He was a key player in recent legislative reforms of CESA to provide incentives for farmers and ranchers to restore habitat.

A Program Director and Vegetation Manager will be hired prior to project initiation to oversee project implementation on the ground. The Program Director will be experienced in project management and coordination of diverse stakeholder interests. The Vegetation Manager will have practical experience in restoration techniques and weed control.

Program support will be provided by the following organizations and key individuals:

U.S. Fish and Wildlife Service – Deborah Schlafman
USDA Natural Resources Conservation Service – Phil Hogan, Diane Holcomb
State Water Resources Control Board – Stephen Lorenzato
University of California – Deborah Elliot-Fisk, Department of Wildlife, Fisheries, and Conservation Biology; Ken Tate, U.C. Cooperative Extension
National Fish and Wildlife Foundation – Ms. Greg Elliot

VII. Compliance with Standard Terms and Conditions

The applicant will comply with all appropriate terms and conditions required of grantees by the United States and the State of California.

Letters of Support

**Audubon-CA, Yolo RCD
Union School Slough Watershed Improvement Program**



116 NEW MONTGOMERY STREET
SUITE 203
SAN FRANCISCO, CALIFORNIA 94105
(415) 778-0999 (415) 778-0998
c/o PRBO, 4990 Shoreline Hwy, Stinson Beach, CA 94970

June 29, 1998

Katy Pye
Executive Director
Yolo County Resource Conservation District
221 West Court Street, Suite 8
Woodland, CA 95695

Dear Ms. Pye:

I am writing this letter in support of the draft preproposal for restoration of Union Slough, which John Anderson recently sent to my office on behalf of the RCD and the National Audubon Society. Although there are many details that remain to be clarified, the Foundation is definitely supportive of this type of comprehensive watershed scale approach to conservation working in cooperation with private land owners. We would like to request that NAS and the RCD submit a full grant application to the National Fish and Wildlife Foundation, as we may be interested in supporting the lower slough restoration demonstration project. Deadline for receipt of the NFWF grant application is July 31.

Subsequent to receipt of your grant application, NFWF will consider the application along with all others received; staff will make recommendations for funding; and our Board of Directors will make final grant allocation decisions at our upcoming Board meeting in October. All NFWF grant applications require nonfederal matching funds, and CALFED Category III funds that originate from California Proposition 204 funds do qualify as matching funds (federal Category III funds do not). If you have any questions, please do not hesitate to contact me at 415-868-2882. Good luck with your project.

Sincerely,

A handwritten signature in cursive script that reads "K. Greg Elliott".

K. Greg Elliott
California Program Director
Western Bird Conservation

cc: Dan Taylor

printed on recycled paper

I - 0 1 1 9 0 7

I-011907

Chamberlain Farms

34530 County Road 29 Woodland, California 95695
(916) 662-2620

July 1, 1998

Tom Muller, Chairman
Yolo County Resource Conservation District
221 W. Court St., Ste. 1
Woodland, CA 95695

Dear Chairman Muller:

I am pleased to support the Yolo County Resource Conservation District and the California state program of the National Audubon Society in their grant proposal to the CalFed Bay Delta Ecosystem Restoration Program. I own 1,500 acres in the Lower Union School Watershed and lease another 2,000 acres and am interested in possibly participating in the proposed implementation project. I understand that, if the proposal is funded, I would have the chance to work with the RCD, Audobon, and others to determine appropriate conservation measures for my property. I am particularly interested in:

Task 7. Revegetation of irrigation canals and drainage ditches

Task 8. Develop Lower slough restoration strategy

I look forward to learning more about the project.

Sincerely,



Duane Chamberlain

June 29, 1998

Dear Chairman Miller,
I recently purchased 458 acres in
the Union School Watershed. I support the
Yale County Resource Conservation District
& the California state program of the
National Audubon Society in their great proposal
to the Colard Bay Delta Ecosystem
Restoration Program.

I would be interested seeing what
my options would be if such a project is
funded. I am particularly interested in
building ponds for livestock to reduce leeching
encourage wildlife, fencing for better grazing,
planting streams with native vegetation &
weed control.

I hope to learn more about your
project.

Sincerely,
Barbara Miller

Daniel B. Hrdy
214 Second St.
Davis, CA 95616

June 28, 1998

Tom Muller, Chairman
Yolo County RCD
221 W. Court St, #1
Woodland, CA 95695

Dear ^{Tom}Chairman Muller,

I am pleased to support the Yolo County RCD and the California state program of the National Audubon Society in their grant proposal to the CalFed Bay Delta Ecosystem Restoration Program. I own 1010 acres in the Union School Watershed and am interested in possibly participating in the proposed implementation project. I understand that, if the proposal is funded, I would have the chance to work with the RCD, Audubon, and others to determine appropriate conservation measures for my property. I am particularly interested in building ponds, weed control, planting streams, and fencing.

I look forward to learning more about the project.

Sincerely,



Daniel B. Hrdy



July 1, 1998

Mr. Tom Muller, Chairman
Yolo County Resource Conservation District
221 W. Court St., Suite 1
Woodland, Ca. 95695

Dear Tom:

I am interested in supporting the Yolo County Resource Conservation District and the California State program of the National Audubon Society in their grant proposal to the CalFed Bay Delta Ecosystem Restoration Program. We own 7,500 acres in the Union School Watershed and are interested in possibly participating in the proposed implementation project providing the program guidelines are agreeable to our family. I understand that, if the proposal is funded, I would possibly have the chance to work with the RCD, Audubon, and others to determine appropriate conservation measures for our property. I am particularly interested in prescribed burning, restoration of native perennial grasses, and construction of Hill ponds for livestock and wildlife benefits. I look forward to learning more about the project.

Sincerely,

Scott A. Stone

725 Main Street, Suite 201 • Woodland, CA 95695
(530) 662-4093 • fax: (530) 662-4251

HELEN FREDERICKS
DAVID FREDERICKS
22823 COUNTY ROAD 8
WINTERS, CA 95644

JULY 1, 1998

TOM MULLER, CHAIRMAN
YOLO CO. RESOURCE CONSERVATION DISTRICT
221 W. COURT ST., SUITE 1
WOODLAND, CA 95694

DEAR CHAIRMAN MULLER:

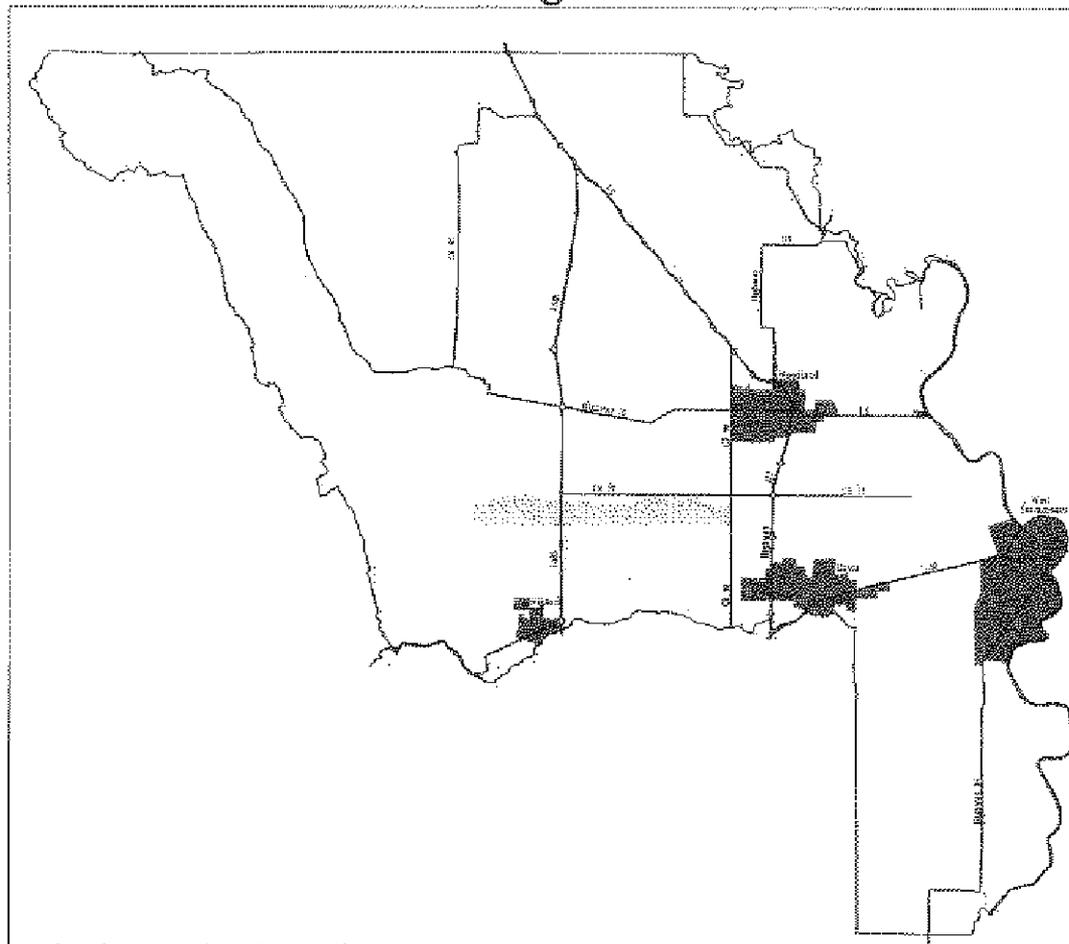
WE ARE PLEASED TO SUPPORT YERCO AND THE CALIFORNIA STATE PROGRAM OF THE NATIONAL AUDUBON SOCIETY IN THEIR GRANT PROPOSAL TO THE CALIFED BAY DELTA ECOSYSTEM RESTORATION PROGRAM. WE OWN 100 ACRES IN THE UNION SCHOOL SLOUGH WATERSHED AND ARE INTERESTED IN PARTICIPATING IN THE PROPOSED IMPLEMENTATION PROJECT. WE UNDERSTAND THAT, IF THE PROPOSAL IS FUNDED, WE WOULD HAVE THE CHANCE TO WORK WITH THE R.CO., AUDUBON, AND OTHERS TO DETERMINE APPROPRIATE CONSERVATION MEASURES FOR OUR PROPERTY. WE ARE PARTICULARLY INTERESTED IN CLEARING THE WATER CHANNEL OF LOG JAMS AND DEBRIS TO EASE FLOODING AND REMOVAL OF NON-NATIVE ~~RESTORATION~~ VEGETATION THAT IS CHOKING THE WATERWAY, AS WELL AS RESTORATION OF NATIVE HABITAT TO ENCOURAGE WILDLIFE.

SINCERELY

David Frederickson, - Helen E. Frederickson

Union School Slough Watershed

-  Union School Slough Watershed
-  Cities
-  Major Roads & Highways



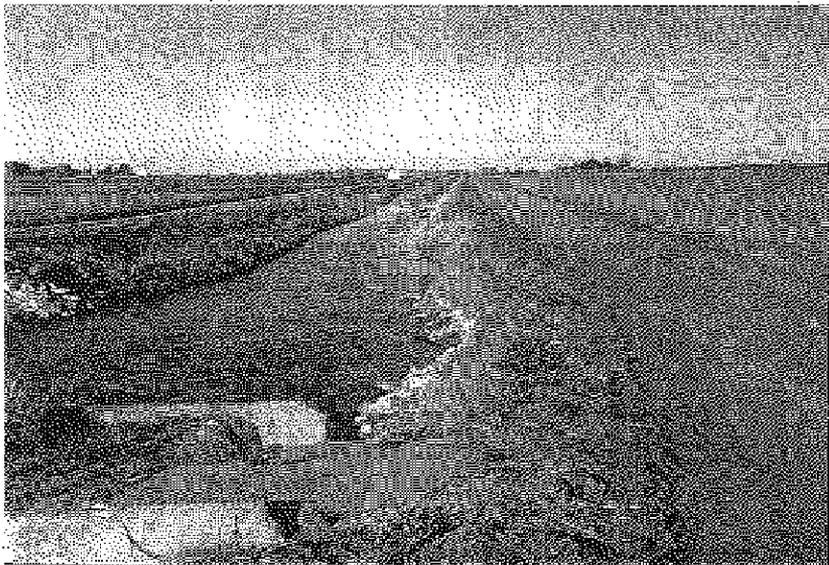
Scale in Miles
0 5 10
1 : 450,000



Produced by the Yolo County Planning and Public Works Department - July, 1998

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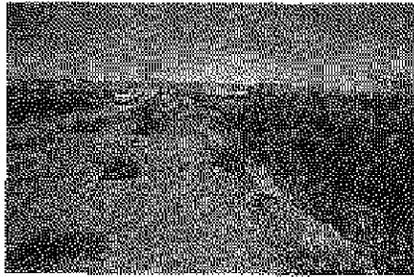
Typical non-vegetated irrigation canal-Yolo Central Canal, Willow Slough Watershed:

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Vegetated irrigation canal and riparian buffer: Yolo Central Canal,
Willow Slough Watershed



Union School Slough
Existing view looking west.

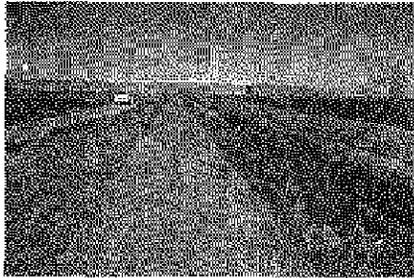


Photo simulation of graded and widened channel.



Photo simulation of revegetated channel banks
with native species.



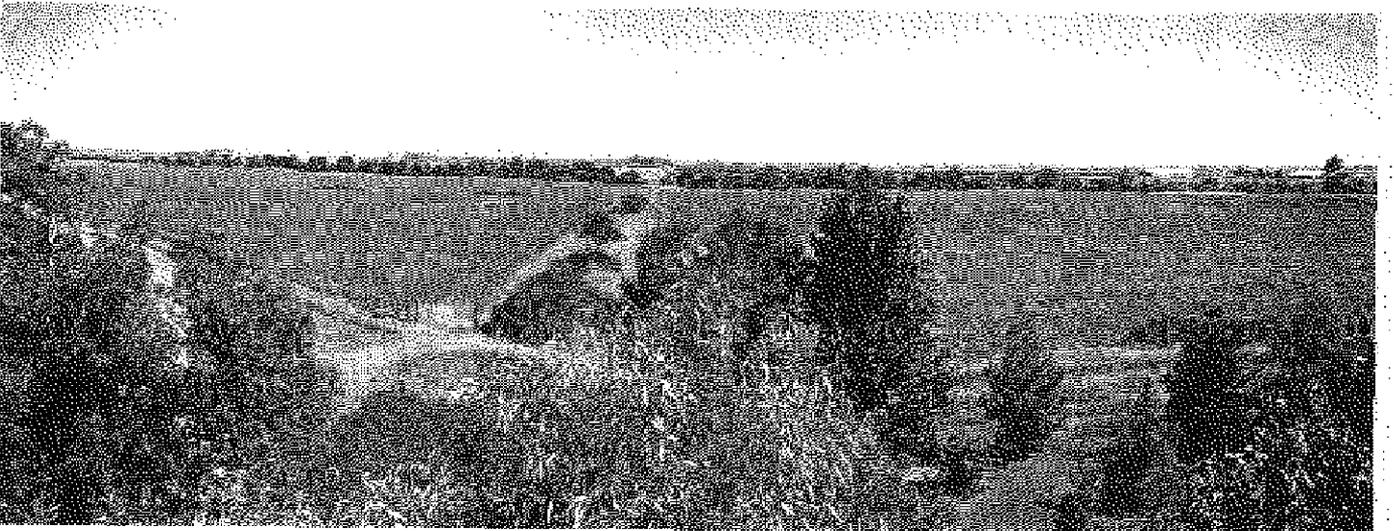
Photo simulation of revegetated channel after a
few years growth.



Photo simulation of flood capacity of widened
channel.



Existing View of Union School Slough corridor from Chamberlain Farm viewing tower.



Simulation of riparian corridor restoration along the slough.

Natural Resources Conservation Service **USDA**
DOWNEY