

C1023

FILE:ZN\0-0-20 CALFED GRANTS PRELIM.

July 2, 1998

CALFED Bay-Delta Program
1416 Ninth Street, Suite 1155
Sacramento, CA 95814

Re: CALFED Bay-Delta Program Proposals for Ecosystem Restoration Projects and Programs from the Sonoma County Water Agency in Response to the 1998 Request for Proposals (RFP)

Dear Ms. Hansel:

Enclosed please find ten (10) copies of the following CALFED Bay Delta Program Proposal submitted to you, as required, by 4:00 p.m., on July 2, 1998, by the Sonoma County Water Agency: Napa -Sonoma Marsh Wildlife Area Wetland Restoration

Each of these projects meets the eligibility criteria as presented in the RFP. Please direct all questions and correspondence regarding these grant requests to Sean White on my staff. He can be reached at (707)547-1908.

We look forward to your prompt review and favorable response to these proposed projects, which are located within the identified geographic priority area of the North San Francisco Bay. Thank you.

Sincerely,

A handwritten signature in black ink that reads "Randy D. Poole" with a small "smk" written at the end.

Randy D. Poole
General Manager/Chief Engineer

Enc.

c: Sean White

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C1023

Attachment H

COVER SHEET (PAGE 1 of 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Proposal Title: NAPA-SONOMA MARSH WILDLIFE AREA WETLAND RESTORATION
 Applicant Name: SONOMA COUNTY WATER AGENCY
 Mailing Address: PO. BOX 11628, SANTA ROSA CA 95409
 Telephone: (707) 547-1908
 Fax: (707) 524-3782

Amount of funding requested: \$ 22,050,000 for 7 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: _____
- Delta
- East Side Delta Tributary: _____
- Suisun Marsh and Bay
- San Joaquin Tributary: _____
- San Joaquin River Mainstem
- Other: _____
- Landscape (entire Bay-Delta watershed)
- North Bay: NAPA-SONOMA MARSH

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

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 type="checkbox"/> Non-profit |
| <input checked="" 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

NAPA-SONOMA MARSH WILDLIFE AREA WETLAND RESTORATION

The purpose of the proposed project is to provide an appropriate source of freshwater to facilitate restoration of several of the former bittern ponds at the California Department of Fish and Game (CDFG) Napa-Sonoma Marsh Wildlife Area. The North Bay Marshes and San Pablo Bay provide habitat for many of the fisheries on the Priority Species list including chinook salmon, delta smelt, splittail, steelhead trout, green sturgeon, striped bass, and also for hundreds of thousands of migratory waterfowl, shorebirds, and wading birds.

In 1950, Leslie Salt Company acquired approximately 10,000 acres of the diked farmland in the North Bay region and converted it into a series of salt ponds. Water from the North Bay was progressively moved through the series of ponds as evaporation continually increased the salinity. Once the salinity reached a point of saturation the salt was harvested in special crystallizing basins. Following the annual salt harvest, a residual liquid containing extremely high concentrations of seawater compounds, including salts other than NaCl, remained in the salt crystallizers. This byproduct is known as "bittern." Each year, the bittern was pumped from the crystallizers into several bittern ponds to be stored indefinitely. This annual cycle occurred for a period of approximately 45 years.

In 1994, the State of California acquired all of the salt and bittern ponds in the North Bay and created the CDFG Napa-Sonoma Marsh Wildlife Area. The bittern ponds are located in the northern portion of the CDFG Napa-Sonoma Marsh Wildlife Area near Fly Bay and Coon Island and are totaling 750 acres in size and store an estimated 2.5 billion gallons of bittern. Restoring these ponds through levee breaching or other more common techniques is not feasible because the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) does not allow bittern to be discharged into the Bay. However, the SFBRWQCB will allow discharge from these ponds if the compounds in the bittern are diluted to near background levels. To sufficiently dilute the quantity of bittern stored in the three ponds will require enormous amounts of fresh water. Unfortunately, adjacent surface waters are brackish, rendering them unsuitable for the dilution process.

The Sonoma County Water Agency (SCWA) is requesting CALFED funds to construct the necessary pipelines and pump stations from the Sonoma Valley County Sanitation District (Sonoma Valley CSD) and City of Petaluma (Petaluma) wastewater treatment plants to provide reclaimed water to these bittern ponds for the dilution process. The project would provide approximately 5,000-8,000 acre feet (AF) of secondary-and/or tertiary-treated water per year to the bittern ponds. Engineering analysis indicates that the ponds would be restored to background salinities in approximately 13 years. As the restoration progressed and demand for the reclaimed water decreased, supply would be made available to riparian diverters along the pipeline alignment. With sufficient funding, the distribution pipeline system could be completed in approximately 6 years.

Implementation of the proposed project will provide enormous benefits to the entire North Bay ecosystem and economy. By making reclaimed water available the project will restore over 750 acres of wetlands, improve water quality in the North Bay, eliminate discharges from both plants, reduce riparian diversions, and increase the value of adjacent agricultural lands.

This project has the support of the California Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. EPA, U.S. Army Corps of Engineers, and the Bay Conservation and Development Commission.

NAPA-SONOMA MARSH WILDLIFE AREA WETLAND RESTORATION

SUBMITTED BY
SONOMA COUNTY WATER AGENCY
2150 WEST COLLEGE AVENUE
SANTA ROSA CALIFORNIA 95401
PHONE: (707) 526-5370
FAX: (707) 544-6123

TAX ID # 94-6000

TECHNICAL CONTACT

NAME

PHONE

FAX

SCWA@ISPC.EG.COM

FINANCIAL CONTACT

Neda W...

IV. PROJECT DESCRIPTION

A. Project Description and Approach

The purpose of the proposed project is to provide an appropriate source of freshwater to facilitate restoration of several of the former bittern ponds at the CDFG Napa-Sonoma Marsh Wildlife Area (Figure 1).

In 1950, Leslie Salt Co. acquired many of the diked farmland areas in the North Bay region and converted them to salt ponds. In salt production, bay water is transferred through a series of ponds called evaporators. Through intensively managed evaporation this process eventually creates a series of ponds with increasing salinities, with some ponds attaining salinities exceeding 200 ppt. Finally, the concentrated seawater is transferred to crystallizers where the salt is harvested. After the salt is harvested from these ponds, a small residual liquid containing extremely high concentrations of seawater compounds, including salts other than NaCl, remains. This byproduct is known as "bittern." Each year, the bittern is pumped from the crystallizers into a bittern pond to be stored indefinitely (Figure 1).

In 1994, the State of California acquired all of the salt ponds in the North Bay from the Cargill Corporation and created the CDFG Napa-Sonoma Marsh Wildlife Area. Three of the ponds (covering approximately 750 acres) at the Napa-Sonoma Marsh Wildlife Area contain bittern from 45 years of salt pond operations. Restoring these ponds through levee breaching or other more common techniques is not feasible because the SFBRWQCB does not allow bittern to be discharged into the Bay. However, the SFBRWQCB will allow discharge from these ponds if the compounds in the bittern are diluted to near background levels. To sufficiently dilute the quantity of bittern stored in the three ponds will require enormous amounts of fresh water. In addition, since adjacent surface waters are brackish, they are unsuitable for the dilution process.

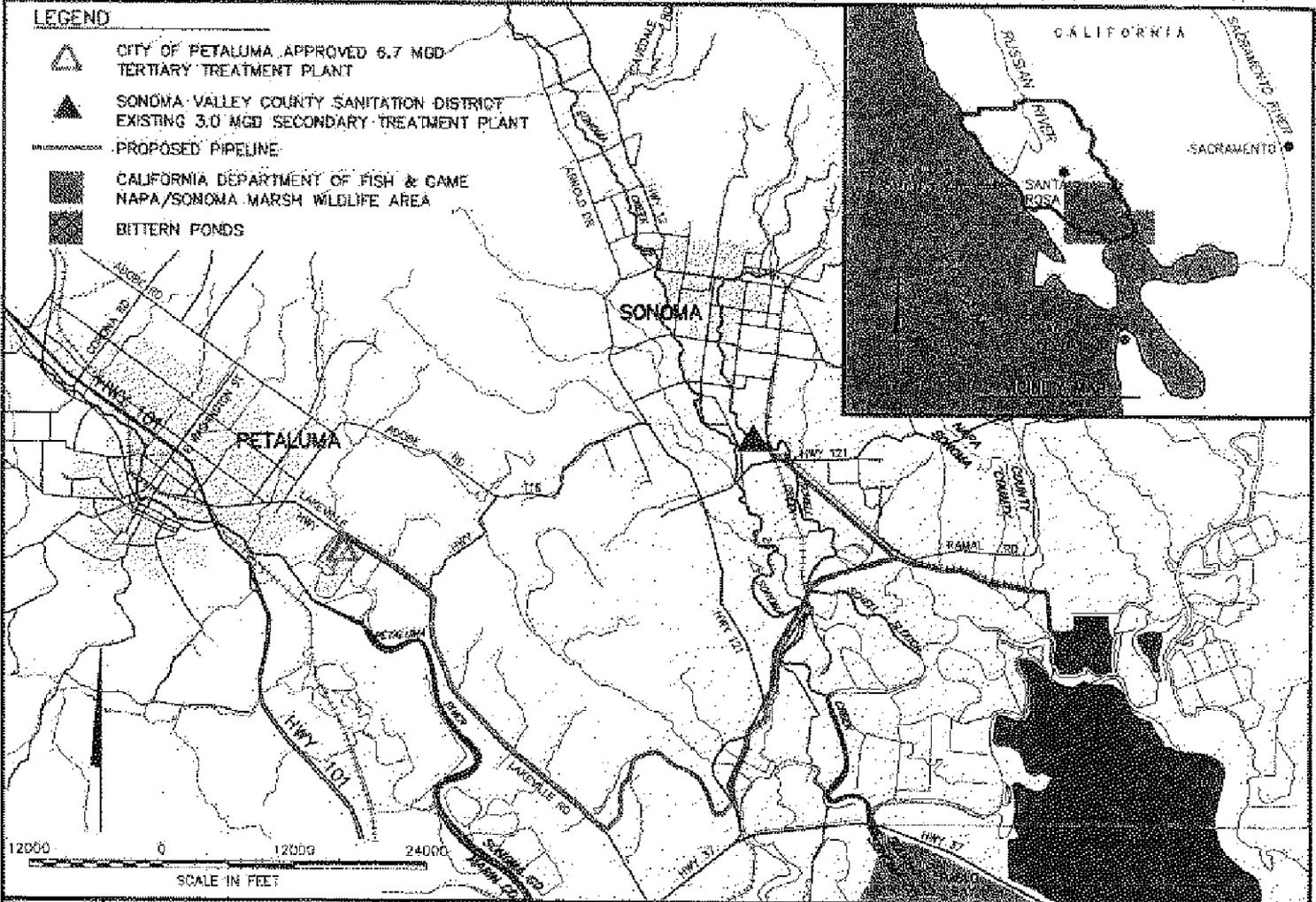
The proposed project would consist of constructing the necessary pipelines and pump stations from the Sonoma Valley CSD and Petaluma wastewater treatment plants to provide reclaimed water to these bittern ponds for the dilution process. The project would provide approximately 5,000 acre feet (AF) of secondary- and/or tertiary-treated reclaimed water per year to the bittern ponds. A similar amount of reclaimed water would also be provided to agricultural areas in the southern Petaluma and Sonoma Valleys.

Petaluma and Sonoma Valley CSD operate treatment plants that provide wastewater treatment for a population of approximately 100,000 people in Petaluma, the City of Sonoma, and surrounding areas (Figure 1). These treatment plants annually produce 2.9 billion gallons of reclaimed water that meets secondary standards. Between November 1 and April 30, reclaimed water from these plants is discharged to the Petaluma River and Schell Slough, which are tributaries to San Pablo Bay. Between May 1 and October 31, the water is stored until the winter and some is used for agricultural irrigation in Sonoma Valley and the southern Petaluma area.

The improvements necessary to complete the project include distribution pipelines and pumping stations. Installation of the pipeline will require the acquisition of pipeline easements from private property owners, a railroad company, and public agencies. With sufficient funding, the distribution pipeline system could be completed in approximately 6 years. The project would also result in a

LEGEND

-  CITY OF PETALUMA APPROVED 6.7 MGD TERTIARY TREATMENT PLANT
-  SONOMA VALLEY COUNTY SANITATION DISTRICT EXISTING 3.0 MGD SECONDARY TREATMENT PLANT
-  PROPOSED PIPELINE
-  CALIFORNIA DEPARTMENT OF FISH & GAME NAPA/SONOMA MARSH WILDLIFE AREA
-  BITTERN FONDS



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SCALE IN FEET



SONOMA COUNTY WATER AGENCY
2150 West College Avenue
Santa Rosa, CA 95401

**PROPOSED RECYCLED WATER DISTRIBUTION SYSTEM
TO CALIFORNIA DEPARTMENT OF FISH & GAME
NAPA/SONOMA MARSH WILDLIFE AREA**

FIGURE 1

1-009328

1-009328

reduction or elimination of reclaimed water discharges to Schell Slough from the Sonoma Valley CSD treatment plant and to the Petaluma River from the Petaluma treatment plant. Additionally, reclaimed water would be available to riparian diverters along the proposed alignment as surplus water became available.

B. Proposed Scope of Work

Completion of the proposed project will require the preparation of a CEQA/NEPA compliance document, an engineering feasibility study, and a financial plan. The proposed project will also include design and specifications of a distribution pipeline system, project construction, and distribution system operation and maintenance. Descriptions of these tasks are presented below.

Task 1 - CEQA/NEPA Compliance Document: An evaluation of potential environmental impacts associated with the construction of the distribution pipeline system and the delivery of reclaimed water to the bittern ponds at the CDFG Napa-Sonoma Marsh Wildlife Area will be required. It is anticipated that this CEQA/NEPA compliance process will be completed within 18 to 24 months of receiving authorization to proceed.

Task 2 - Engineering Feasibility Study: As part of the CEQA/NEPA process, an engineering feasibility study would be performed to evaluate pipeline alignment alternatives for the project. An engineering feasibility study report would be prepared concurrent with preparation of the CEQA/NEPA compliance document and would be completed within 18 to 24 months of receiving authorization to proceed.

Task 3 - Financial Plan: As part of the CEQA/NEPA process, a financial plan would be prepared that evaluates the financing options for the proposed project. A financial plan would be prepared concurrent with preparation of the CEQA/NEPA compliance document and would be completed within 18 to 24 months of receiving authorization to proceed.

Task 4 - Project Design: Following certification of the EIR, design plans and specifications for construction of the project would be prepared. These plans and specifications will be prepared within 18 to 24 months after the CEQA/NEPA compliance process has been completed.

Task 5 - Project Construction: Project construction activities will include solicitation of bids for construction of the project based on the design plans and specifications, selection of a construction contractor, construction of improvements, project management, and construction inspection. The deliverable product resulting from these activities will be the distribution pipeline system. This task will be completed within 24 to 36 months after preparation of the design plans and specifications.

Task 6 - Pipeline Distribution Operation and Maintenance: Following completion of the proposed project, the distribution system will require ongoing operations and maintenance. Monitoring reports that are associated with the operation of the system will be used to document these operations.

C. Location and/or Geographic Boundaries of Project

The CDFG Napa-Sonoma Marsh Wildlife Area is located along San Pablo Bay, between the Napa River and Sonoma Creek, and is approximately 8,000 acres in size. The bittern ponds are located in

the northern portion of the CDFG Napa-Sonoma Marsh Wildlife Area near Fly Bay and Coon Island and are approximately 750 acres in size (Figure 1).

The City of Petaluma is located in southern Sonoma County approximately 30 miles north of San Francisco (Figure 1). The Petaluma River bisects the town of Petaluma and flows in a southerly direction into San Pablo Bay. The Petaluma River watershed covers an area of 146 square miles. Several of the tributaries to the Petaluma support anadromous fisheries. The lower portion of the Petaluma River forms one of the largest tidal marshes in the Bay-Delta region.

The Sonoma Valley CSD is located in southern Sonoma County in the center of the Sonoma Creek watershed (Figure 1). The Sonoma Creek watershed covers an area of approximately 170 square miles. Sonoma Creek flows in a southerly direction through the Sonoma Valley into central San Pablo Bay. Sonoma Creek has many small tributaries, most of which still support small anadromous fisheries. The lower portion of the creek is joined by a number of tidal sloughs and bordered by tidal marsh. The Sonoma Valley CSD treatment plant discharges into Schell Slough.

D. Expected Benefits

The primary stressor categories (as defined by the ERPP) addressed by the proposed project are (1) Water Quality, and (2) Alteration of Flows and Other Effects of Water Management. Priority species, habitat and expected benefits are summarized in Table 1. Further details on expected benefits are discussed below for each primary stressor.

Primary Stressors and Benefits

The ERPP has identified several water quality stressor subcategories within the North Bay region, including increased contaminants and increased salinity, that will benefit from implementation of the proposed project.

Increased Contaminants: Currently the Sonoma Valley CSD and Petaluma treatment plants annually discharge 2.9 billion gallons of secondary-treated wastewater into the San Pablo Bay/North Bay Marsh complex. Implementation of the proposed project will make this water available for wetland restoration at the CDFG Napa-Sonoma Marsh Wildlife Area and to agricultural irrigators along the pipeline alignment. This process will reduce, and potentially eliminate, discharge from both facilities by using the water for agriculture and allowing any water that is to be discharged to be put to a beneficial use by diluting the residual salts in the Napa-Sonoma Marsh Wildlife Area.

Increased Salinity: Reducing the salinity in the salt ponds at the Napa-Sonoma Marsh Wildlife Area was identified by the Technical Team Report of Stressors and Example Restoration Action Summary Report as a project consistent with 1997 Category III funding. Dilution of the accumulated salts will be a complex process that is being addressed by a number of agencies including the CDFG, the US Army Corps of Engineers (USACE), the Environmental Protection Agency (EPA), and SCWA. While CDFG and USACE have not yet determined the final methodology, they have acknowledged the obvious need for a consistent supply of fresh water to accomplish the task. The proposed project could supply up to five million gallons of reclaimed water per day to assist in the process. Completion of the

dilution process will restore 750 acres of wetland habitat which is currently too saline for use by fish or wildlife.

Table 1. Summary of priority species, habitat usage and expected benefits from implementation of the proposed Napa Sonoma Marsh Wildlife Area Wetland Restoration project.		
Priority Species	Habitat in Project Vicinity	Expected Benefits
Winter-run and spring-run chinook salmon	Chinook juveniles were found in the North Bay Marshes by CH2M Hill in 1996. Although these specimens were determined to be fall-run progeny, their presence indicates that the North Bay Marshes provide rearing habitat for chinook juveniles.	The North Bay Marshes and San Pablo Bay provide habitat for all of the fisheries on the Priority Species list. Implementation of the proposed project will restore approximately 750 acres of rearing and spawning habitat as well as improve water quality in San Pablo Bay, the North Bay Marshes, and their tributaries. Currently, the Petaluma and Sonoma Valley treatment plants discharge secondary-treated reclaimed water into the San Pablo Bay/North Bay Marshes complex between November 1 and April 30. The proposed project will reduce, and potentially eliminate, discharges from both plants to their respective receiving waters by making reclaimed water available for wetland restoration and agricultural irrigation. In addition, the project will reduce the number of instream diversions as agricultural irrigators substitute reclaimed water for instream diversions. Eliminating riparian diversions will increase fresh water inflows from tributaries as well as decrease potential fish screening problems.
Delta smelt	Delta smelt have been documented in the North Bay Marshes by CDFG (1977) and Wetlands Research Associates (1995). Delta smelt do not breed in the North Bay Marshes but use the area for juvenile rearing and foraging.	
Splittail	Sacramento splittail have been observed in the North Bay Marshes by CDFG (1977) and CH2M Hill (1996). Splittail use the North Bay Marshes during all life history phases including spawning, juvenile rearing and foraging.	
Steelhead trout	Steelhead are known to inhabit every major tributary to San Pablo Bay and the North Bay Marshes. Steelhead spawn in the tributaries and use the North Bay Marshes during migration and rearing.	
Green sturgeon	Green sturgeon have been collected in San Pablo Bay (Moyle 1976).	
Striped bass	Striped bass are an economically important game species throughout the entire San Pablo Bay region.	
Migratory birds	Hundreds of thousands of migratory waterfowl, shorebirds, and wading birds rely on the North Bay Marshes. The marsh is used by migratory birds during all phases of life history including breeding, foraging, roosting, and overwintering.	The proposed project will provide an appropriate source of freshwater to facilitate the restoration of several former bittern ponds at the California Department of Fish and Game Napa-Sonoma Marsh Wildlife Area. The bittern ponds currently contain large amounts of extremely concentrated sea water constituents that must be diluted to make the ponds suitable for migratory birds and other wildlife.

The ERPP has identified several water flow and management subcategories within the North Bay region including hydrograph alterations, entrainment, and migration barriers that will be addressed through implementation of the proposed project.

Hydrograph Alterations: By making reclaimed water available for agricultural irrigation, farmers will be able to substitute reclaimed water for existing riparian diversions. This substitution process may potentially augment stream flows in tributaries by eliminating numerous small scale diversions.

Entrainment: Reducing entrainment in the North Bay and Napa River vicinity was identified by the Technical Team Report of Stressors and Example Restoration Action Summary Report as a project consistent with 1997 Category III funding. By making reclaimed water available for agricultural irrigation, farmers will be able to substitute this source for existing riparian diversions. This substitution process may potentially eliminate many small scale unscreened diversions.

Migration Barriers: In addition to unscreened or poorly screened intakes, many riparian diverters use summer dams to retain water during low flow periods. Summer dams can be a significant migrational barrier for juvenile anadromous fish. Substituting reclaimed water for riparian diversions will make summer dam structures obsolete.

Potential Benefits to Other Ecosystem Restoration Programs

The project will provide reclaimed water to the former bittern ponds in the CDFG Napa-Sonoma Marsh Wildlife Area for wetland restoration. These ponds contain large amounts of extremely concentrated sea water constituents that must be diluted to make the ponds suitable for fish and wildlife. Currently this proposal would use secondary-treated reclaimed water produced by these treatment plants for dilution of the bittern pond water.

Potential Benefits to Third Parties

Agriculture: See Table 1 and above section entitled *Increased Contaminants*.

E. Biological Justification

Project Need: Currently there is no other feasible method for restoring the former bittern ponds in the Napa-Sonoma Marsh Wildlife Area.

Proposed Approach and Alternatives: The proposed approach is presented in detail in Project Description. Since the former bittern ponds cannot be restored without significant dilution, alternative approaches differ only in the proposed source of freshwater. Alternative sources considered include potable supply and flood flows from the Napa River. Potable supplies in the project vicinity are already over allocated and too expensive to consider. The detention of storm flows is still under consideration, however the large amount of water that would be needed poses several major problems. First, the Napa River, as stated in *EXPECTED BENEFITS*, provides habitat for a number of protected and special status fisheries. Therefore any diverted flood flows would need to be screened. However, constructing an onsite screen capable of processing vast amounts of flood flow during a relatively short period of time (flows in the Napa River are very flashy) would be prohibitively expensive. Secondly, if water was able to be successfully diverted and screened during peak flows it would need to be stored onsite until the dilution and discharge season. The construction of a suitable onsite storage facility would also be prohibitively expensive.

Basis for Expected Benefits: All of the priority species listed in *C. EXPECTED BENEFITS* are known to exist in the vicinity of the proposed project. The proposed project will restore approximately 750 acres of tidal wetlands (freshwater and brackish) and improve water quality in the largest (approximately 8,000 acres) contiguous marsh in California.

Durability of Expected Benefits: The expected benefits associated with the proposed infrastructure are anticipated to continue as long as the proposed facilities remain operable. Benefits associated with the restoration of the bittern ponds at the Napa-Sonoma Marsh Wildlife Area are expected to last in perpetuity.

Project Status: See *E. PROPOSED SCOPE OF WORK* and *G. IMPLEMENTABILITY* for information regarding Project Status. In addition, SCWA has submitted a grant proposal to the US EPA to obtain additional funds for this project.

F. Monitoring and Data Evaluation

To analyze the effectiveness of this program in improving quality of San Pablo Bay and tributary waters, a water quality monitoring program would be implemented. Water quality monitoring would be conducted near former discharge points into Schell Slough and the Petaluma River. Monitoring would involve analyzing water quality and quantity (flow volume). Baseline sampling would be conducted in these areas to determine water quality prior to reducing wastewater discharge and to provide data for future comparison. Monitoring would incorporate all elements typically tested in wastewater prior to discharge, including biological oxygen demand (BOD), total suspended solids, pH, chlorine residuals, copper, zinc, instream flow and others.

To analyze the effectiveness of this program in improving water and habitat quality of the bittern ponds, a comprehensive monitoring program would be implemented in conjunction with CDFG, USACE, and other relevant agencies or groups. Prior to project implementation, baseline sampling would be conducted on the following variables -- water quality, sediments, vegetation, invertebrates, fish, and birds. Once the project is initiated, water quality monitoring would be conducted on 1) reclaimed water prior to entering the bittern ponds and 2) the bittern ponds. Water quality monitoring would begin immediately after the project is implemented and would be conducted during neap tide series on a monthly to quarterly basis, depending on funding levels. Water quality variables assessed in bittern ponds would include: salinity, pH, dissolved oxygen (DO), and temperature.

Monitoring of additional variables would begin one year after the project is implemented. In addition to water quality monitoring, analysis of marine salts (NaCl), bittern salts (NaMgCl, etc.), pH, and reduction-oxidation of sediments would be conducted. Establishment of marsh vegetation would be assessed through monitoring of permanent transects and aerial photography mapping. For monitoring of fish and bird species, surveys would be designed to assess density/abundance and species composition during periods when both migratory and/or resident species would be present, such as late fall, spring, and summer. Abundance and species number of benthic invertebrates would also be sampled several times annually. Depending on the time scale anticipated for reclamation of the bittern ponds, monitoring could be conducted during years 1, 3, 5, 7, and 10 or on an annual basis for five years following project implementation. Subsequent monitoring of habitat development would be assumed by the managing agency.

G. Implementability

Construction of a distribution pipeline can be performed using conventional pipeline and pumping equipment. The Sonoma Valley CSD and Petaluma treatment plants currently provide reclaimed water to several agricultural users in the southern Sonoma and Petaluma Valleys that use the water for irrigating vineyard, hayfields, and pastures. Since July 1996, SCWA has worked with local

agriculture and community representatives to evaluate the potential for increasing the use of reclaimed water for wetland restoration and irrigation. Based on these efforts, there is wide ranging support for providing reclaimed water for beneficial use. The CDFG has indicated their support for the proposed Napa-Sonoma Marsh Wildlife Area Wetland Restoration project.

V. COSTS AND SCHEDULE TO IMPLEMENT PROPOSED PROJECT

A. Budget Costs

SONOMA VALLEY CSD AND CITY OF PETALUMA				
Task Description	Direct Salary and Benefits	Service Contracts	Construction Contracts	Total Cost
CEQA/NEPA Compliance Document	\$20,000	\$70,000	\$0	\$90,000
Engineering Feasibility Study	\$20,000	\$30,000	\$0	\$50,000
Financial Plan	\$10,000	\$0	\$0	\$10,000
Project Design	\$50,000	\$250,000	\$0	\$300,000
Project Construction	\$500,000	\$0	\$2,000,000	\$2,500,000
Total - SVCSD/Petaluma Funding	\$600,000	\$350,000	\$2,000,000	\$2,950,000

CALFED GRANT				
Task Description	Direct Salary and Benefits	Service Contracts	Construction Contracts	Total Cost
CEQA/NEPA Compliance Document	\$0	\$400,000	\$0	\$400,000
Engineering Feasibility Study	\$0	\$150,000	\$0	\$150,000
Financial Plan	\$0	\$100,000	\$0	\$100,000
Project Design	\$0	\$900,000	\$0	\$900,000
Project Construction	\$0	\$0	\$20,500,000	\$20,500,000
Total - CALFED Grant Funding	\$0	\$1,550,000	\$20,500,000	\$22,050,000

PROJECT TOTALS				
Task Description	Direct Salary and Benefits	Service Contracts	Construction Contracts	Total Cost
CEQA/NEPA Compliance Document	\$20,000	\$470,000	\$0	\$490,000
Engineering Feasibility Study	\$20,000	\$180,000	\$0	\$200,000
Financial Plan	\$10,000	\$100,000	\$0	\$110,000
Project Design	\$50,000	\$1,150,000	\$0	\$1,200,000
Project Construction	\$500,000	\$0	\$22,500,000	\$17,990,000
Total - Project	\$600,000	\$1,900,000	\$22,500,000	\$25,000,000

B. Schedule Milestones

It is anticipated that this project could be completed within 6 years of receiving the necessary funding. Schedule milestones for each task are presented below.

<u>Task</u>	<u>Estimated Completion (from start of project)</u>
CEQA/NEPA Compliance Document	24 months
Engineering Feasibility Study	24 months
Financial Plan	24 months
Project Design	48 months
Project Construction	84 months

VI. APPLICANT QUALIFICATIONS

Organization of Staff and Other Resources:

The Sonoma County Water Agency (SCWA) is a special District created by the California State Legislature (Statutes of 1949, Chapter 994 as amended). SCWA is empowered to produce and furnish surface and groundwater for beneficial uses; to control and dispose of flood, storm, and other waters; to generate electrical energy; to provide sanitary sewerage services; and to provide recreational services in connection with flood control and water conservation works. SCWA exercises all of these powers.

New legislation was enacted in 1994, to add wastewater disposal to SCWA's responsibilities. SCWA assumed management responsibilities for County sanitation districts and zones on January 1, 1995, from the former Sonoma County Department of Public Works. Included in the Sonoma County sanitation districts and zones are the Sonoma Valley CSD, Forestville County Sanitation District, Graton Sanitation Zone, Sonoma County Airport Sanitation Zone, Geyserville Sanitation Zone, South Park County Sanitation District, and Occidental County Sanitation District. SCWA's principal sanitation functions are to oversee, operate, and maintain the sanitation zones as determined by the various terms required by the National Pollution Discharge Elimination System (NPDES) permits issued by the North Coast and/or San Francisco Bay Regional Water Quality Control Boards.

SCWA has two principal water supply functions. SCWA owns and operates a water transmission system which delivers water to a number of public and investor-owned water distribution systems in Sonoma and Marin Counties. This transmission system is financed, constructed, and maintained pursuant to an Agreement for Water Supply and Construction of the Russian River-Cotati Intertie Project, dated October 25, 1974, and last amended June 28, 1995. SCWA also regulates the flow of the Russian River for the benefit of agricultural, municipal and instream beneficial uses within Mendocino and Sonoma Counties and municipal uses in Marin County. This function is carried out pursuant to Decision 1610 of the California Water Resources Control Board dated April 17, 1986. This Decision amended the several appropriative water rights permits held by SCWA and established the criteria for the coordinated operation of two federal projects, the Coyote Valley Dam Project on the East Fork Russian River and the Warm Springs Dam Project on Dry Creek. SCWA controls the water supply storage space of the U. S. Army Corps of Engineers Projects under contracts with the United States Government. The water transmission system is operated as an enterprise with revenues derived from water and power sales. The regulation of the Russian River is a governmental function and all costs associated with the USACE projects are paid with the proceeds of countywide levied property taxes, except in the case of Marin and Mendocino County beneficiaries which pay a water charge in lieu of the Sonoma County property tax.

Pursuant to a license from the Federal Energy Regulatory Commission, SCWA constructed and operates a 2.6 megawatt hydroelectric project at Warm Springs Dam. The power is sold to Pacific Gas and Electric Company pursuant to an "as delivered" Public Utilities Commission approved Interim Standard Offer No. 4 power purchase contract. The project was financed by the water transmission system enterprise fund and power sales revenues are pledged to that fund.

SCWA maintains recreational areas at a number of its facilities. The most important of these is Spring Lake Park which was constructed by SCWA and is operated by the County of Sonoma Regional Parks Department under a service contract with SCWA.

The County of Sonoma Board of Supervisors is, ex officio, the Board of Directors of SCWA. The County Administrator, County Clerk, County Assessor, County Tax Collector, County Auditor, County Treasurer, County Counsel, County Purchasing Agency and District Attorney are, unless otherwise provided by the Board of Directors, also ex officio officers of SCWA. SCWA is administered by the General Manager/Chief Engineer, Randy D. Poole, who serves at the pleasure of the Board of Directors.

Collaborating Participants

SCWA is an active participant in a multiagency task force assessing the restoration opportunities in the Napa-Sonoma Marsh. While the task force has yet to achieve full consensus on the best way to utilize reclaimed water for the restoration of the former bittern ponds, all participants agree that there is strong need for large consistent supply of fresh water to achieve restoration of the former salt and bittern ponds.

Technical, Administrative and Project Management Roles

Randy D. Poole, General Manager/Chief Engineer of the Sonoma County Water Agency (SCWA) will serve as the Principal Administrator for the project, providing direction and assigning project management and technical functions to SCWA staff. Fiscal review will be supervised by the Administrative Services Officer for SCWA.

Biographies

Randy D. Poole, General Manager/Chief Engineer, Sonoma County Water Agency

Randy D. Poole holds a Bachelor of Science degree in Agricultural Engineering from Oregon State University (1976) and is a registered Professional Civil Engineer in the States of California and Oregon. He is currently the General Manager/Chief Engineer for the Sonoma County Water Agency. Prior to that, his professional career includes service as Chief Engineer for the Sonoma County Water Agency (1991-94), Chief Engineer/Assistant General Manager for the Marin Municipal Water District (1989-91), and Senior Engineer for the City of Portland, Bureau of Water Works, in Portland, Oregon (1986-89).

Mr. Poole is experienced in CEQA/NEPA and environmental issues, all levels of management for the design, construction, operation, and maintenance of major water, wastewater, and recreational water facilities, including dams, treatment plants, reservoirs, pump stations, storage tanks, groundwater well field systems, larger-diameter pipelines, and other appurtenant facilities. He is also experienced in all phases of water and wastewater supply transmission, storage, pumping, distribution, water rights issues, and groundwater recharge-extraction programs. His professional memberships include the American Water Resources Association, American Water Works Association, and the American Society of Civil Engineers.

Renee T. Webber, Environmental Resource Manager, Sonoma County Water Agency

Renee T. Webber holds a Bachelor of Arts degree in Environmental Studies, with a minor in Water Resources, from California State University, Sacramento (1984). She is currently the Supervising Environmental Specialist (Environmental Impact Studies and Reports) for the Sonoma County Water Agency, where she supervises and coordinates the environmental review of public and private construction and development projects, is responsible for the preparation of appropriate environmental reports for such projects, and performs related duties as required.

Ms. Webber has a thorough knowledge of Federal, State, and local laws, regulations, current programs and court decisions pertaining to environmental protection. She is well informed about environmental considerations in the design, location, and construction of public (flood control, highway, water supply, sanitation) and private (residential, commercial, industrial) projects as well as citizen and public interest groups dealing with environmental matters.

Sean K. White, Principal Environmental Specialist, Sonoma County Water Agency

Sean K. White holds a Bachelor of Science degree in Fisheries Biology from Humboldt State University (1991). He is currently the Supervising Environmental Specialist (Fisheries) for the Sonoma County Water Agency, where he manages the Fisheries Enhancement Program. Prior to that, his professional career includes service as the resident Fisheries Biologist and Wildlife Ecologist for Wetlands Research Associates, Inc., in San Rafael, California, and also a Director on the Marin Municipal Water District Board of Directors.

Mr. White has authored the fisheries component for numerous environmental documents, including *Biological Assessment, Route 37 Improvements White Slough Specific Area Plan Environmental Studies (1995)*, *Cargill Salt Environmental Assessment (1994)*, and *Redwood High School Marsh Enhancement Monitoring(1993)*. In addition, he has engaged in a wide variety of fishery resource surveys and has utilized numerous restoration techniques.

Michael D. Thompson, Civil Engineer, Sonoma County Water Agency

Michael D. Thompson holds a Bachelor of Science degree in Civil Engineering from California Polytechnic State University, San Luis Obispo (1982). In addition, he holds a Master of Science degree in Civil Engineering and a Master of Business Administration degree, both from the University of California, Davis (1987). He is a registered Professional Civil Engineer as well as a Registered Environmental Assessor in the State of California. He is currently a Civil Engineer for the Sonoma County Water Agency. Prior to that, his professional career includes service at two Novato, California, firms -- as Senior and Associate Engineer for PES Environmental, Inc. (1989-96), Project Engineer for Harding Lawson Associates (1987-89) and as Staff Engineer for S. S. Papadopoulos, Davis, California.

Mr. Thompson has provided environmental engineering services to both private and public sector clients. He is familiar with a wide variety of civil and environmental engineering projects. He has prepared structural designs using steel, concrete, and earth building materials, performed groundwater modeling, become familiar with regulations associated with drinking water quality and wastewater discharge, directed earthwork grading projects, supervised and trained technical staff, and managed complex environmental investigation and remediation projects.

VII. COMPLIANCE WITH STANDARD TERMS AND CONDITIONS

Conflicts of Interest

The Sonoma County Water Agency, as Applicant, will comply with all State and Federal conflict of interest laws, including but not limited to, Government Code Section 1090, and Public Contract Code 10410 and 10411 for State conflict of interest requirements.

References for Similar Projects

Similar projects in which the Sonoma County Water Agency has served as a partner, participant, or lead agency are described in the following project reports:

1. Sonoma Valley County Sanitation Districts Hudeman Slough Discharge Management Plan, 1994
2. Hudeman Slough Mitigation and Enhancement Wetlands, 1996
3. Sonoma County Water Agency Fisheries Enhancement Program
4. Adobe Creek Fishway Construction and Habitat Restoration
5. Russian River Action Plan

APPENDICES

LETTERS OF SUPPORT

BARBARA BOXER
CALIFORNIA

COMMITTEES:
APPROPRIATIONS
BANKING, HOUSING, AND
URBAN AFFAIRS
BUDGET
ENVIRONMENT
AND PUBLIC WORKS

United States Senate

HART SENATE OFFICE BUILDING
SUITE 112
WASHINGTON, DC 20510-0605
(202) 224-3853

senator@boxer.senate.gov
http://www.senate.gov/~boxer

July 25, 1997

Kate Hansel
CALFED Bay-Delta Program
1416 9th Street, #1155
Sacramento, CA 95814

Dear Ms. Hansel:

I am writing in support of the Sonoma County Water Agency's application for CALFED Bay-Delta funding.

I understand that the five proposed projects would create significant environmental benefits while improving the quality of life for Sonoma County residents.

These important restoration efforts are designed to provide critical improvements to water quality, protect and restore the ecosystem by helping sustain diverse and valuable plant and animal species, and facilitate wetlands restoration. More specifically, the Sonoma County Water Agency plans to upgrade wastewater treatment centers to meet tertiary-treatment levels, reduce discharges of treated wastewater to San Pablo Bay, provide recycled water to local agriculture, supply an alternative to freshwater use for wetland restoration, and off-set freshwater diversions in the San Antonio Creek Watershed.

CALFED funding is important to the advancement of these worthy projects. I urge you to give Sonoma County Water Agency's application your most serious consideration. If you have any questions, please contact Gia Daniller in my San Francisco office at 415-403-0113.

Thank you for your attention to this matter.

Sincerely,

Barbara Boxer
United States Senator

BB/gd/jls

- 1709 MONTGOMERY STREET SUITE 240 SAN FRANCISCO, CA 94111 (415) 602-0100
- 2260 EAST IMPERIAL HIGHWAY SUITE 240 EL SEGUNDO, CA 90225 (714) 414-5700
- 650 CAPITOL MALL SUITE 650A SACRAMENTO, CA 95814 (916) 448-2787
- 2280 TULARE STREET SUITE 100 PLEASANTON, CA 94571 (925) 437-5100
- 525 B STREET SUITE 800 SAN DIEGO, CA 92101 (619) 235-2884
- 310 NORTH E STREET SUITE 310 SAN BERNARDINO, CA 92401 (909) 889-8225

PRINTED ON RECYCLED PAPER

Richard Charter

6947 Cliff Avenue, Bodega Bay, CA 94923
(707)875-3482 (707)875-2345 fax (707)875-2947

July 22, 1997

CALFED Bay-Delta Program
1416 Ninth Street, Suite 1155
Sacramento, CA 95814

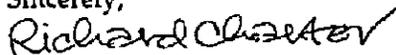
To Whom It May Concern:

I am writing in support of a grant proposal by the Sonoma County Water Agency for a recycled water distribution pipeline connecting the City of Petaluma and the City of Santa Rosa Subregional Treatment Plants. It is clear that this project could facilitate the restoration of degraded bayfront wetland habitat at the Cargill site and would also provide a very significant contribution to the utilization of treated wastewater for agricultural irrigation and for other constructive purposes.

I have been a direct participant in the restoration of tidal wetlands at the Sonoma Baylands Project and the Petaluma River Tidal Marsh Restoration Project during my former tenure as Executive Director of the Sonoma Land Trust. I appreciate the complexity of habitat restoration projects and the challenges faced by agencies seeking to carry out such projects, particularly when it comes to securing an allocation of fresh water in a water-scarce region.

My support is contingent upon thorough environmental review of the proposed project and the concurrence of all relevant regulatory agencies that the project would enhance the health of San Francisco Bay.

Sincerely,



Richard Charter

July 22, 1997

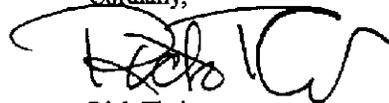
CALFED Bay Delta Program
1416 Ninth St., Suite 1155
Sacramento, CA 95814

RE: Sonoma County Water Agency Fund Requests

The Sonoma County Grape Growers Association urges you to support the five major restoration planning efforts by the Sonoma County Water Agency. All projects will have a beneficial effect on the Sonoma County environment. These projects will significantly improve habitat for fisheries, migratory waterfowl, shorebirds and wading birds in the Bay Area. A healthy wildlife habitat is important to achieve a sustainable Bay Area where agriculture can thrive. Also, one of the projects may potentially benefit agriculture in the Lakeville area, which we strongly support.

Thank you for your consideration.

Cordially,

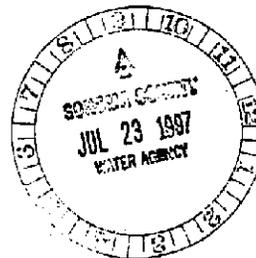


Rick Theis
Executive Director



850 Second Street, Suite C • Santa Rosa, California 95404 • (707) 576-3110

1 - 0 0 9 3 4 4



File: zn 0-0-20 Cal/Fed
Grants (Preliminary)

SONOMA COUNTY CONSERVATION ACTION

540 Pacific Avenue, Santa Rosa, CA 95404

Phone: (707) 571-8566 • FAX: (707) 575-8903

Tuesday, July 22, 1997

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- Bill Kortum, Chair
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- Richard Day
- Una Glass
- Kate Sater
- Jerry Waxman

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- Joan Vilms
- Jim Winston
- Suzanne Whipple
- Jody Young

Technical Advisors

- Paula Blaydes
- Tim Haddad
- Ned Orrett
- Liza Prunuske
- Krista Rector
- Rick Theis

Executive Director

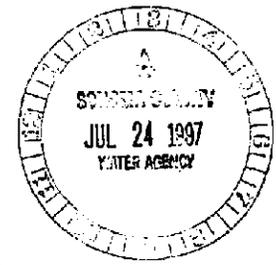
Mark Green

Program Director

Joelle Goncalves

FPPC ID #911196

Randy Poole
 General Manager
 Sonoma County Water Agency
 2150 West College Ave.
 Santa Rosa, CA 95401



Dear Randy:

I am writing on behalf of Sonoma County Conservation Action, the county's largest conservation organization with more than 7,500 member households in Sonoma County. Conservation Action organizers personally contact 50,000 households per year, which provides us with a clear sense of the local political pulse.

We are writing in reference to the application for Cal/ Fed grant funding by the Sonoma County Water Agency for proposed wastewater pipeline projects which would serve to provide irrigation with tertiary-treated wastewater to agriculture in southern Sonoma County and to flush the Cargill salt pond site in southern Napa County with overflow wastewater for purposes of restoring the Cargill site as a functioning bay wetland.

Conservation Action supports the Agency's application for Cal/ Fed funding for the southern Sonoma County project, for the following reasons and subject to the caveats listed on the following page:

- Tertiary treated wastewater is a high-quality resource developed at great cost by the communities of our county.
- Local agriculture should benefit from the use of this water rather than demanding more withdrawal of fresh water from the Russian River.
- A vital agricultural economy is the best defense against urban encroachment into the world-class agricultural lands of Sonoma County.
- In light of the historical eradication of 90% of San Francisco Bay's wetlands, the restoration of 10,000 acres of bay wetlands at the Cargill site would constitute a major step forward in enhancing the biological health of the Bay.

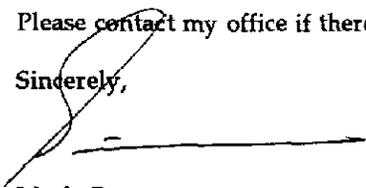
Conservation Action's tentative endorsement of this project is subject to the following conditions:

- That the net environmental impacts of the proposed projects be thoroughly studied and that all appropriate regulatory agencies agree that the project would enhance the health of land and waterways in Sonoma County and of San Francisco Bay ecosystems.
- That the Sonoma County Water Agency adopts policies which commit the Agency to principles of stewardship and environmental responsibility in managing its reclaimed water collection and distribution systems.
- That the Agency commit to creating permanent mechanisms, such as advisory committees, through which the local environmental community will have greater access to information about the activities of the Agency and greater input into the decision-making of the Agency.

If these criteria are agreed to by the Sonoma County Water Agency, Sonoma County Conservation Action supports SCWA's application for Cal/ Fed grant funding for the Cargill project.

Please contact my office if there are questions.

Sincerely,



Mark Green
Executive Director



Madrone Audubon Society

INCORPORATED

JUL 23 1997

July 22, 1997

CALFED

1416 9th Street #1155
Sacramento, CA 95814

Re: Bay Delta Program
Sonoma County Water Agency

Dear Sir or Madam:

The Madrone Audubon Society, a local chapter of the National Audubon Society, expresses its support for a CALFED grant for the Napa-Sonoma Marsh Wildlife Project proposed by the Sonoma County Water Agency.

This project would enable millions of gallons of tertiary treated wastewater from the Laguna Subregional Wastewater Treatment Plant to be piped to the former Cargill Salt Ponds in order to de-salinize the ponds so that they may be used for wildlife habitat. Madrone Audubon supports the concept of re-use of wastewater because it furthers the laudable goal of the Clean Water Act to prevent outfall to our natural waterways while at the same time reducing the strain on natural water sources. Madrone Audubon Society also strongly favors restoring former wetlands to their original state as we have lost far too many acres of wetlands to development and agriculture. Another potential benefit from this project is that it may encourage the City of Santa Rosa to opt for a re-use method, rather than discharge into the Russian River, when it determines which wastewater disposal option it will choose later this year. The project, as proposed by the Water Agency, is truly a win-win situation.

The support of Madrone Audubon is premised upon the understanding that there will be a significant and direct environmental benefit from the project. We urge CALFED to approve the grant request of the Water Agency but with the proviso that the capital improvement that results from the grant continue to be used in a way that is of primary benefit to the environment.

Thank you for your consideration of our position in this important issue.

Very truly yours,

Dan Kahane, Vice-President



North Bay Chapter, 632 Fifth Street, Santa Rosa, CA 95402

July 22, 1997

CALFED Bay-Delta Program
1416 Ninth Street Suite 1155
Sacramento, CA 95814

Dear CAL-FED Bay-Delta Program:

This letter is to confirm Trout Unlimited's support for the Sonoma County Water Agency proposal to reuse reclaimed water from the Santa Rosa Subregional Treatment plant for restoration of Bay Wetlands at the Cargill Salt Ponds.

Trout Unlimited is a cold water fishery conservation organization with 95,000 members internationally and 1,100 members in the North Bay Chapter. Our membership is particularly concerned about the Coho Salmon and Rainbow Steelhead Trout fisheries of the Russian River and opposes any further degradation of the Laguna de Santa Rosa (an Impaired Waterway), Mark West Creek, and the Russian River by resource wasteful waste water discharges to threatened and endangered salmonid habitat.

A program to reuse the Subregional plant's reclaimed water for restoration of Bay Wetlands is the type of proposal we can support that will actually use this valuable water resource for environmental enhancement rather than waste over 8 billion gallons of water annually discharging it to the once thriving salmonid habitat of the Russian River.

We urge CALFED to approve funding for the upgrading of the Sonoma Valley and Petaluma treatment plants to tertiary treatment and restoring 8,000 acres of Cargill salt pond to important wetland and fishery nursery habitat by providing a pipeline from Santa Rosa's Subregional treatment plant to the Petaluma Plant and the Sonoma Valley plant to the Cargill salt ponds. This pipeline will also allow for North Bay agricultural economic development by reuse of the nutrient-rich water along the pipeline's route.

Trout Unlimited would be pleased to be represented on a citizen advisory committee to the Sonoma County Water Agency to help in the implementation of this project and restoration work planned in the North Bay and Russian River watersheds.

Sincerely,
TROUT UNLIMITED

R. Brian Hines
Board of Directors
North Bay Chapter

Sincerely,
TROUT UNLIMITED

Mike Swaney
Conservation Chairman
California State Council

cc: Stan Griffin, Regional VP

LITERATURE CITED

California Department of Fish and Game. 1977. The Natural Resources of the Napa Marsh. Coastal Wetlands Series #19.

CH2M Hill. 1996. Sonoma Baylands Fish Sampling and Water Quality Monitoring Results: February-April, 1996. Technical Memorandum prepared for US Army Corps of Engineers, San Francisco District.

Moyle, P.B. 1976. Inland Fishes of California. University of California Press, Berkeley.

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