

Final (Revised)
**CALFED Drinking Water Quality Program
2001 Proposals Recommended for Funding
February 2002**

See attached map for general locations.

Copies of full proposals selected for funding and associated reviews will be posted on the CALFED website at: <http://calfed.ca.gov>.

TREATMENT TECHNOLOGY

Bromate Control with Carbon Dioxide Addition (Map Detail T1)

Contact Name: Issam Najm Telephone: (818) 701-9555 E-Mail: issam.najm@wqtsinc.com
Applicant: Water Quality & Treatment Solutions, Inc
Collaborators: Alameda County Water District
Funds Requested: \$120,000 (CALFED recommends full funding)
Applicant Cost Share: \$50,000 (CALFED concurs)
Total Project Cost: \$170,000

Summary:

Proponents will evaluate the design and economic feasibility of carbon dioxide as a pH depression strategy for reducing bromate formation during ozonation of SWP water, and the use of air stripping to remove excess carbon dioxide from the ozone contactor.

Integrating Ultraviolet Light to Achieve Multiple Treatment Objectives (Map Detail T2)

Contact Name: Bradley M. Coffey Telephone: (909) 392-5045 E-Mail: bcoffey@mwdh20.com
Applicant: Metropolitan Water District of Southern California
Collaborators: None
Funds Requested: \$610,000 (CALFED recommends full funding)
Applicant Cost Share: \$305,000 (CALFED concurs)
Total Project Cost: \$915,000
Conditions of Award: Establish peer review panel at applicant cost in coordination with DHS

Summary:

MWD will evaluate the ability of ultraviolet light treatment, when integrated with water treatment oxidants such as chlorine, ozone, and chlorine dioxide, to protect public health.

SCIENCE AND SOURCE ASSESSMENT

Resolution of Outstanding Issues in Delta Hydrodynamics and Water Quality Models (Map Detail S1)

Contact Name: K.T. Shum
Applicant: K.T. Shum
Collaborators: US Geological Survey
Funds Requested: \$155,000 (CALFED recommends full funding)
Applicant Cost Share: \$0 (CALFED concurs)
Total Project Cost: \$155,000
Conditions of Award: Coordinate with DSMII staff at DWR and the Stockton Dissolved Oxygen Depletion Modeling Project

Summary:

This project uses higher-dimensional models in order to implement new empirical formulations in existing one-dimensional Delta models. The final stage includes evaluation of the accuracy of the model results on applications such as carriage water evaluations, impacts of Delta Cross Channel gates operations, and effects on seawater intrusion due to increase in tidal habitats in the Delta.

SCIENCE AND SOURCE ASSESSMENT (continued)

Determining the Contribution of Riverine, In-Delta, and Aqueduct Sources of Organic Carbon to Loads in the State Water Project using AMS Carbon Dating and Stable Isotope Characteristics (Map Detail S2)

Contact Name: James Sickman Telephone: (916) 327-1724 E-Mail: sickman@water.ca.gov
Applicant: California Department of Water Resources
Collaborators: None
Funds Requested: \$396,088 (CALFED recommends full funding)
Applicant Cost Share: \$320,479 (CALFED concurs)
Total Project Cost: \$716,567
Conditions of Award: Establish peer review panel at applicant cost under the auspices of CALFED Science Program

Summary:

The Department of Water Resources will use environmental isotopes of carbon (C), nitrogen (N) and sulfur (S) to trace organic carbon sources in the Delta and determine the contribution of natural organic matter (NOM) derived from peat island soils using Accelerator Mass Spectrometry (AMS). The project will evaluate the impact of future CALFED Delta alternatives on carbon sources and loads in the SWP. Information regarding the chemical characteristics of organic carbon cycling in the Delta will also be provided.

Improving Delta Drinking Water Quality: Managing Sources of Disinfection Byproduct-Forming Material in the State Water Project (Map Detail S3)

Contact Name: Brian Bergamaschi Telephone: (916) 278-3053 E-Mail: bbergama@usgs.gov
Applicant: US Geological Survey
Collaborators: Metropolitan Water District, Department of Water Resources, University of Georgia, UC Santa Barbara, Flow Science, Lawrence Livermore Laboratory
Funds Requested: \$1,368,813 (CALFED recommends full funding)
Applicant Cost Share: \$840,951 (CALFED concurs)
Total Project Cost: \$2,209,764
Conditions of Award: Coordinate with Department of Water Resources AMS carbon dating project

Summary:

US Geological Survey will identify and quantify the dominant processes and sources that control the concentration of natural organic matter (NOM) and disinfection by-product precursor (DBP) forming materials in the State Water Project. The project will also identify mitigation efforts or management actions that may be implemented to reduce the concentration of DBP-forming materials at water treatment plants.

Vernalis Real-Time Water Quality Monitoring Station (Map Detail S4)

Contact Name: Dan Otis Telephone: (916) 327-1657 E-Mail: dotis@water.ca.gov
Applicant: Department of Water Resources
Collaborators: None
Funds Requested: \$515,000 (CALFED recommends full funding)
Applicant Cost Share: \$100,000 (CALFED concurs)
Total Project Cost: \$615,000
Conditions of Award: Subject to site investigation by CALFED staff and coordination of monitoring efforts with USGS and USBR

Summary:

Department of Water Resources will construct a water quality monitoring station at Vernalis on the San Joaquin River. A telemetry system is also planned to facilitate real-time posting of all water quality data and flows.

SCIENCE AND SOURCE ASSESSMENT (continued)

Adaptive Real-Time Monitoring and Management of Seasonal Wetlands in the San Luis National Wildlife Refuge to Quantify Contaminant Sources and Improve Water Quality in the San Joaquin River (Map Detail S5)

Contact Name: Nigel Quinn Telephone: (510) 486-7056 E-Mail: nwquinn@lbl.gov
Applicant: Berkeley National Laboratory
Collaborators: US Fish and Wildlife Service, CVRWQCB, and Grassland Water District
Funds Requested: \$578,511 (CALFED recommends providing funding at \$320,000, with lowest priority for funding in the PSP)
Applicant Cost Share: Approximately 10% as in-kind services (CALFED recommends applicants provide cost share of \$320,000; in addition, referral for cost-share to CALFED Ecosystem Restoration Program)
Total Project Cost: \$640,000
Conditions of Award: Establish peer review panel under the direction of the CALFED Science Program prior to project initiation; increase cost share from 10% to \$320,000 by applicant and/or CALFED Ecosystem Restoration Program

Summary:

Berkeley National Laboratory and collaborators will construct and maintain monitoring station systems at San Luis National Wildlife Refuge to evaluate managed wetland drainage and water quality. Data obtained from this study will be used to develop a multi-objective habitat evaluation and salinity management program to optimize wetland functions and minimize water quality impacts on the San Joaquin River.

Assessing the Occurrence and Sources of Microbial Contamination in the Sacramento-San Joaquin Delta Region (Map Detail S6)

Contact Name: Paul A. Rochelle Telephone: (909) 392-5155 E-Mail: prochelle@mwdh20.com
Applicant: Metropolitan Water District of Southern California
Collaborators: US Geological Survey
Funds Requested: \$973,311 (CALFED recommends full funding)
Applicant Cost Share: \$69,384 (CALFED concurs)
Total Project Cost: \$1,042,695
Conditions of Award: Focus sampling efforts on urban water intakes in the Delta

Summary:

MWD and the US Geological Survey will conduct microbial monitoring within the Delta to establish: 1) baseline data on the occurrence of human pathogens in the region; 2) sources of microbial contamination, whether agricultural, wildlife, or urban; and 3) levels of pathogen flux resulting from storm events.

DELTA AGRICULTURAL DRAINAGE

Rock Slough and Old River Drainage Management (Map Detail D1)

Contact Name: David Briggs Telephone: (925) 688-8073 E-Mail: dbriggs@ccwater.com
Applicant: Contra Costa Water District
Collaborators: None
Funds Requested: \$4,018,000 (CALFED recommends providing funding at \$1,300,000)
Applicant Cost Share: \$0 (CALFED recommends local cost share and/or matching funds of \$710,000)
Total Project Cost: \$2,010,000
Conditions of Award: Fund up to design and construction at 1/3 cost share; peer review process should be added at applicant cost under the auspices of CALFED Science Program.

Summary:

This proposal collectively refers to the agricultural drainage management projects in the Rock Slough and Old River watersheds. CCWD will identify sources of water quality degradation from Byron Tract, Veale Tract, and into Old River.

SAN JOAQUIN VALLEY DRAINAGE

Agricultural Drainage Treatment: Intermediate-Scale Experiments (Map Detail SJD1)

Contact Name: Dennis Falaschi Telephone: (209) 364-6136 E-Mail: mbhedrick@aol.com

Applicant: Panoche Drainage District

Collaborators: UC Berkeley

Funds Requested: \$1,062,000 (CALFED recommends providing funding at \$750,000)

Applicant Cost Share: \$60,000 (CALFED recommends applicant provide a cost share of \$362,000)

Total Project Cost: \$1,112,000

Conditions of Award: Requesting a minimum of 1/3 applicant cost share; peer review process should be added at applicant cost under the auspices of CALFED Science Program.

Summary:

UC Berkeley has developed an Algal-Bacterial Selenium Removal (ABSR) process to remove selenium and nitrogen from subsurface agricultural drainage in the Panoche Drainage District. This project will construct, operate, and monitor a 16-fold scale-up (1 acre-foot/day or 220 gpm) ABSR facility at a site adjacent to the existing ABSR pilot facility.

POLLUTION PREVENTION AND SOURCE CONTROL

North Bay Aqueduct Watershed Management and Alternative Intake Study (Map Detail P1)

Contact Name: David Okita Telephone: (707) 451-2904 E-Mail: dokita@scwa2.com

Applicant: Solano County Water Agency (SCWA)

Collaborators: None

Funds Requested: \$940,460 (CALFED recommends full funding for the intake study at \$188,560)

Applicant Cost Share: \$48,800 (CALFED concurs with \$29,000 cost share for intake study)

Total Project Cost: \$217,560

Conditions of Award: Fund intake study only, refer applicant to DHS SRF loan program and SWRCB Prop. 13 NPS/Watershed RFP for fencing.

Summary:

SCWA proposes to fence the main drainage channel, the Noonan Drain, in the North Bay Aqueduct (NBA) watershed to prevent livestock from entering the channel, and conduct an engineering, cost, and environmental analysis of an alternate intake for the NBA.

Proposals Invited Back to CALFED DWQP

TREATMENT TECHNOLOGY

Advanced Pretreatment Using Ion Exchange for Organic Carbon Removal from Delta Water (Map Detail T3)

Contact Name: David Okita Telephone: (707) 451-2904 E-Mail: dokita@scwa2.com
Applicant: Solano County Water Agency
Collaborators: Montgomery Watson Harza
Funds Requested: \$400,000
Applicant Cost Share: \$100,00
Total Project Cost: \$500,000
Conditions of Award: Invite applicant to reapply to the CALFED DWQP considering panel comments; project should be conducted at bench scale first and evaluate resins by several manufacturers.

Summary:

SCWA proposes to evaluate ion exchange resins as an advanced pretreatment process to remove organic carbon from North Bay Aqueduct water, which may substantially reduce disinfection by-product (DBP) formation.

SAN JOAQUIN VALLEY DRAINAGE

Little Panoche and Cantua Creek Watersheds (Map detail SJD2)

Contact Name: Morris A. Martin Telephone: (559) 227-2489 E-Mail: redmartin@psnw.com
Applicant: Westside Resource Conservation District
Collaborators: None
Funds Requested: \$200,000
Applicant Cost Share: \$50,000
Total Project Cost: \$250,000
Conditions of Award: Invite applicant to reapply considering panel comments, potential future CALFED Drinking Water Quality/Watershed Program joint proposal; also direct applicant to available SWRCB Nonpoint Source/Watershed grants.

Summary:

WCRD will conduct assessments of Little Panoche and Cantua Creek watersheds to identify and quantify significant sources of sediment and selenium, as well as erosion and transport mechanisms that affect land use in the Valley floor and water quality in the California Aqueduct.

Proposals Not Recommended for Funding At This Time

TREATMENT TECHNOLOGY

City of Brentwood: Well 11 Biological Denitrification (Referred to DHS SRF)

Applicant: City of Brentwood

Advanced Technology and Energy Utilization Strategies for Treating Delta Water

Applicant: Zone 7 Water Agency

SCIENCE AND SOURCE ASSESSMENT

Extension of Delta Simulation Model II in the California Aqueduct, South Bay Aqueduct and Delta-Mendota Canal

Applicant: *Montgomery Watson Harza*

Pilot Study to Assess Relative Impact of Confined Operations And A Wastewater Plant On Delta Drinking Water Quality

Applicant: *Department of Water Resources*

San Joaquin County Groundwater Monitoring Program Enhancement (Referred to CALFED Water Management Program)

Applicant: *San Joaquin County Flood Control and Water Conservation District*

Real-Time Flow and Velocity Measurements for Sacramento & San Joaquin River Transfer Flows (Referred to CALFED Water Management Program)

Applicant: *Department of Water Resources*

Delta Drinking Water Nutrient Management

Applicant: *G. Fred Lee & Associates*

Delta Pathogen Monitoring and Health Alert Project

Applicant: *Waterkeepers*

DELTA AGRICULTURAL DRAINAGE

Investigating In-Situ Low Intensity Chemical Dosing to Decrease Delta Waters DOC Concentrations and DBP Precursors while Accelerating Wetland Peat Accretion Rates and Reducing Flood Risks (Currently in CALFED ERP PSP; referred to SWRCB Prop. 13 NPS/Watershed RFP)

Applicant: *US Geological Survey*

SAN JOAQUIN VALLEY DRAINAGE

Comprehensive Compliance Monitoring Plan for the Grassland Bypass Project Phase II

Applicant: *US Bureau of Reclamation*

POLLUTION PREVENTION AND SOURCE CONTROL

The Nature of Dairy Manure Particles, their Impact on Treatability, Treatment Design, and Fate of Residual Constituents of Concern (Referred to SWRCB Prop. 13 NPS/Watershed RFP)

Applicant: *California State University, Fresno*

Lake Perris Pollution Prevention and Source Protection Proposal (Referred to SWRCB Prop. 13 NPS/Watershed RFP and DHS SRF)

Applicant: *Metropolitan Water District of Southern California*