

Sutter County Watershed Assessment and Monitoring Program

1. Project Description

<i>Project Type:</i>	Surface water/groundwater planning
<i>Location:</i>	Sutter County
<i>Proponent(s):</i>	Sutter County, Department of Public Works
<i>Project Beneficiaries:</i>	County water users, water quality in rivers and Delta
<u>Total Project Components:</u>	Complete a watershed assessment of surface water and groundwater quality, identify flora and fauna in watersheds, establish watershed database, identify potential sources of watershed contamination
<i>Potential Supply:</i>	None
<i>Cost:</i>	\$430,000
<i>Current Funding:</i>	None
<u>Short-term Components:</u>	See Total Project Components
<i>Potential Supply (by 2003):</i>	None
<i>Cost:</i>	\$86,000
<i>Current Funding:</i>	None
<i>Implementation Challenges:</i>	Coordination among many water agencies, interest groups, and land owners; obtaining funding
<i>Key Agencies:</i>	Sutter County; water districts; water companies; reclamation districts; U.S. Fish and Wildlife Service (USFWS); California Department of Fish and Game (CDFG); Placer, Butte, Colusa, Sacramento, Yolo, and Yuba counties; Ducks Unlimited; U.S. Bureau of Reclamation (USBR); Sacramento Area Flood Control Agency; local citizens, and citizen groups

Summary

Sutter County encompasses approximately 607 square miles and is transected by the Sacramento River, the Feather River, and the Sutter Bypass (Figure 20B-1). Water use is primarily for agricultural purposes with 40 percent of the supply consisting of groundwater. Agriculture in Sutter County supports numerous endangered species including the western yellow-billed cuckoo, Swainson's hawk, bank swallow, wood duck, bald eagle, and giant garter snake. A healthy population of migratory waterfowl is also supported in Sutter County agricultural lands. The county is experiencing the conversion of open spaces to residential and industrial areas which affects the natural hydrologic function of the original landscape thereby affecting water quality and wildlife habitat.

The county recognizes the importance of the water resources to the local economies and for environmental quality in its watersheds. Currently, Sutter County does not have a comprehensive approach to identifying watershed issues. The county proposes a watershed assessment and monitoring program. This assessment would establish a baseline of data for surface water and groundwater quality, as well as biological health of the watersheds. The data obtained would help identify sources of contamination in the watershed and support future detailed investigations on water quality issues. Other aspects of the program would be to improve coordination with other related watershed management entities and to establish a public outreach program. Sutter County also proposes to identify, classify, and assess the numbers and health of the species of flora and fauna in each of the watersheds. The county would establish a database and also Geographic Information Systems (GIS) mapping capabilities for future watershed monitoring and enhancement programs.

Project Components

The proposed watershed program would not produce water, but would establish a monitoring program for surface water and groundwater quality as well as the flora and fauna in the county's watersheds. A baseline of data would be developed to assess the current condition of watersheds and to compare them to future watershed conditions. The baseline data would be used to establish a countywide watershed database incorporated with GIS mapping capabilities. The proposed watershed program is necessary to identify contaminants in water, the potential effects on the biological environment, and the sources of contamination.

The watershed assessment and monitoring program comprises the tasks described below. The project could begin in January 2002 if funded. The project is expected to take 4 years to complete, ending in December 2005.

Task 1: Develop Watershed Monitoring Plan

The plan includes development of all monitoring protocols for water quality and also species investigations in all watersheds. The watershed monitoring objectives would be defined with stakeholder input. The plan would also identify locations of monitoring that include the upper reaches of the county watersheds, discharge points, and agricultural wells and drains. This process would be coordinated with existing watershed programs in adjacent counties and within Sutter County.

Task 2: Water Quality Sampling in All Sutter County Watersheds

The county intends to sample water at the upstream watershed boundaries as it enters the county and also at major discharge points in the watershed. Because Sutter County is surrounded by levees, rivers, and well-defined interior drainages, monitoring sites would be easily identifiable and accessible. Agricultural groundwater wells would also be tested for contaminants. As contaminants are detected, potential sources of contamination would be identified. Agricultural drainwater would also be sampled for salinity and other contaminants.

Task 3: Watershed Flora and Fauna Investigation

The biological assessment would be coordinated with various groups willing to assist with identification and monitoring. A general health assessment of the flora and fauna for each watershed would be undertaken. Migratory birds would also be part of the general biological assessment. Species of concern in the county would be noted. The species data would also be part of the watershed database.

Task 4: Establish Watershed Database and GIS Mapping Capability

The creation of a database with baseline data and available historical data would enable the county to identify contamination of watersheds and to assess the health of the watersheds. The database would utilize GIS technology to allow for easy and understandable data results that could be disseminated to interested parties.

Task 5: Public Involvement

The county would engage the general public and all water entities affected by watershed quality. The public outreach campaign would include small group meetings with local agencies that emphasize monitoring activities and assessing identified problem areas. The county would make public presentations and briefings for government agencies, environmental groups, agricultural groups, and other interested parties. Progress reports, web site information, and general news releases would complete the planned public involvement.

The focus of the short-term component is to establish a baseline of information on the quality of the water in the watershed and groundwater. Also, a general biological assessment would also define the baseline conditions.

A long-term goal of Sutter County is to establish permanent monitoring sites where regular monitoring would improve assessment of watershed water quality. The county would also develop specific watershed enhancement programs for watersheds demonstrating degraded water quality and biological health when compared to the baseline conditions established in the short-term component of this project.

2. Potential Project Benefits/Beneficiaries

Water Supply/Management Benefits

The proposed project does not produce any water. The main goal is to protect the watersheds and, thus, the majority of water supply for agricultural, industrial, municipal, and recreational uses in Sutter County.

Another important benefit would be increased public involvement with watershed quality issues and increased coordination with other similar programs in Butte and Placer counties and watershed agencies.

Environmental Benefits

Habitat assessment in watersheds would assist in determining the effects of changing watershed conditions on the habitat and species. Future flora and fauna investigations would be compared to the baseline data established by this proposed project. An increase in overall water quality as a result of the monitoring program would be beneficial to fisheries and wildlife in all Sutter County watersheds.

Water Quality Benefits

Identifying sources of contamination would not only provide a higher quality of water for use in the county, but also a higher quality of water left in the various drainages of Sutter watersheds to be used downstream for environmental or other purposes. The monitoring program would alert the county of new or increasing surface water or groundwater contamination and assist in identifying potential sources of water contamination. The data obtained could lead to studies that correct specific sources of contamination and improve the overall water quality in Sutter County watersheds. Improving water quality of the Sutter watersheds improves the water quality downstream on the Sacramento River and the Delta.

3. Project Costs

The cost opinions shown, and any resulting conclusions on project financial or economic feasibility or funding requirements, have been prepared for guidance in project evaluation from the information available at the time of the estimate. It is normally expected that cost opinions of this type, an order-of-magnitude cost opinion, would be accurate within +50 to -30 percent. Project costs were developed at a conceptual level only, using data such as cost curves and comparisons with bid tabs and vendor quotes for similar projects. The costs were not based on detailed engineering design, site investigations, and other supporting information that would be required during subsequent evaluation efforts.

The final costs of the project and resulting feasibility will depend on actual labor and material costs, competitive market conditions, actual site conditions, final project scope, implementation schedule, continuity of personnel and engineering, and other variable factors. As a result, the final project costs will vary from the opinions presented here. Because of these factors, project feasibility, benefit/cost ratios, risks, and funding needs must be carefully reviewed prior to making specific financial decisions or establishing project budgets to help ensure proper project evaluation and adequate funding.

Table 20B-1 presents a project cost estimate for the short-term project components.

TABLE 20B-1
Estimated Project Costs
Sutter County Watershed Assessment and Monitoring Program

Item	Quantity	Units	Unit Price (\$)	Total Cost (\$)	Assumptions
Develop Watershed Monitoring Program	1	Lump sum	120,000	120,000	Develop protocols, coordination, design monitoring program
Water Quality Sampling	1	Lump sum	50,000	50,000	Surface water in upper basin and discharge, groundwater sampling
Watershed Flora and Fauna Investigation	1	Lump sum	20,000	20,000	Species identification, coordinate with interested parties to assist
Establish Watershed Database	1	Lump sum	75,000	75,000	Baseline data, historical data, GIS mapping
Public Involvement	1	Lump sum	65,000	65,000	Meetings, reports, presentations
Subtotal ->				330,000	
Contingencies and Allowances (30%) ->				100,000	
Total Project Cost ->				430,000	

Initial Funding Requirements and Sources

Sutter County requires the full \$430,000 to complete the proposed watershed project. The county submitted an application for a CALFED Watershed Program grant earlier in 2001, but was not awarded any funding.

4. Environmental Issues

This project is primarily an exercise in data collection and analysis. As mentioned in Section 2, benefits in the form of increased water quality and habitat formation could occur as a result of the project. No physical impacts are anticipated to occur as a result of this phase of the project, although the results of the project may lead to the development of future projects.

A draft CEQA checklist was not prepared for this proposed project because no physical alterations to the environment would occur as a result of this proposed action.

5. Implementation Challenges

Key Stakeholders

Table 20B-2 lists the key stakeholders that are expected to provide input to the watershed assessment and monitoring program and cooperate with monitoring activities.

TABLE 20B-2
 Stakeholder Roles and Issues
Sutter County Watershed Assessment and Monitoring Program

Stakeholder	Role/Concerns/Issues
Sutter County	<ul style="list-style-type: none"> • Lead agency • Coordination of all watershed planning
Water agencies, districts, companies: Butte Water District (WD), Sutter Extension WD, Sutter Bypass WD, Butte Slough Water Users' Association, Meridian Farms Water Company (WC), Butte Slough Irrigation District (ID), Pelger WD, Sutter Mutual Water Company (MWC), Pleasant Grove/Verona MWC, Natomas Central MWC, South Sutter WD, Tudor MWC, Garden Highway MWC, Feather WD, Newhall Land Farming Company, Sutter County Waterworks Dist. #1, Rio Ramaza CSD, East Nicolaus MWC	<ul style="list-style-type: none"> • Water supply quality • Drainwater quality • Monitoring cooperators
Reclamation districts: 70, 1660, 1500, 777, 1001, 1000	<ul style="list-style-type: none"> • Water quality issues • Flood control effects on watersheds
Municipalities: Yuba City, Robbins, Live Oak	<ul style="list-style-type: none"> • Water quality and quantity for municipal use • Monitoring cooperator
Neighboring counties: Butte, Placer, Yuba, Sacramento, Colusa, Yolo	<ul style="list-style-type: none"> • Regional watershed concerns
Private citizens and citizen groups	<ul style="list-style-type: none"> • Groundwater overdraft concerns • Water quality concerns • Potential land subsidence issues • Monitoring cooperators
Sacramento Area Flood Control Agency	<ul style="list-style-type: none"> • Watershed flood issues and effects on water quality and habitats
USFWS, CDFG	<ul style="list-style-type: none"> • Potential environmental issues • Species identification and assessments
Ducks Unlimited and other environmental conservation groups	<ul style="list-style-type: none"> • Habitat and species assessments

Countywide Coordination

The county would involve the stakeholders listed in Table 20B-2 from the onset of program development. Coordinating among the vast number of public and private water agencies and interest groups would be an implementation challenge. This coordination would be

required if the watershed assessment and monitoring is to enhance the future water resources and habitats of Sutter County watersheds.

Program Funding

Currently, Sutter County lacks the financial resources to take an active role in coordinated watershed planning and monitoring. In addition to coordination, the key components of watershed planning are a baseline set of data and continued monitoring. With the proper funding, the county would take an active role in watershed planning into the future.

6. Implementation Plan

This project is ready to proceed upon complete funding. Public involvement could begin immediately by Sutter County personnel. The selection of an engineering consultant would be required to perform the majority of tasks in assessing the current condition of watersheds and water quality as well as developing the monitoring program.

Assuming that the project would begin in January 2002, the estimated completion date is December 2005. A preliminary implementation schedule for major project tasks is shown on Figure 20A-2.

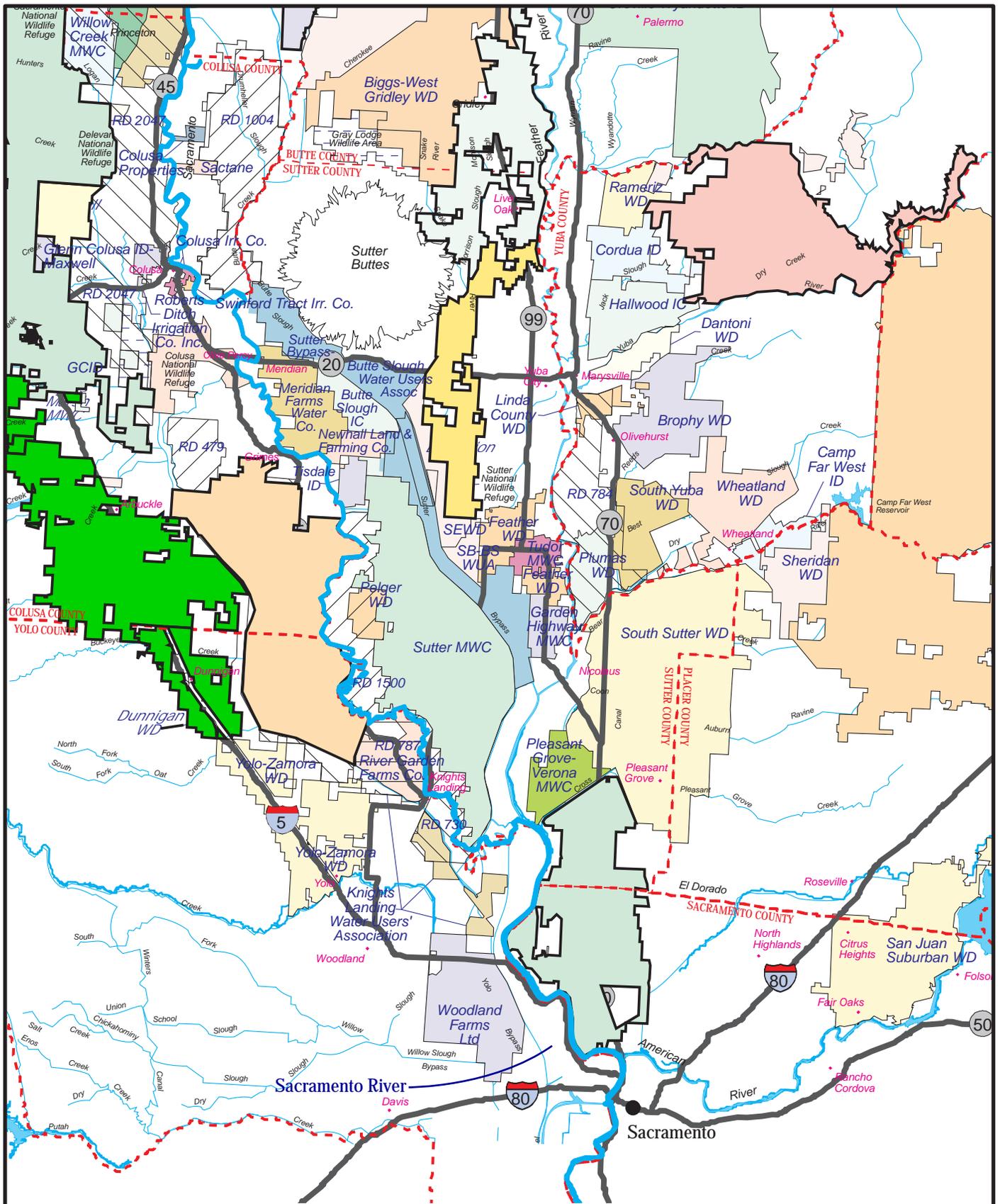


FIGURE 20B-1
PROJECT LOCATION MAP
 SUTTER CO. WATERSHED ASSESSMENT AND MONITORING PLAN
 SHORT-TERM PROJECT EVALUATIONS
 SACRAMENTO VALLEY WATER MANAGEMENT AGREEMENT

CH2MHILL
 in association with
MONTGOMERY WATSON HARZA
MBK
SWRI

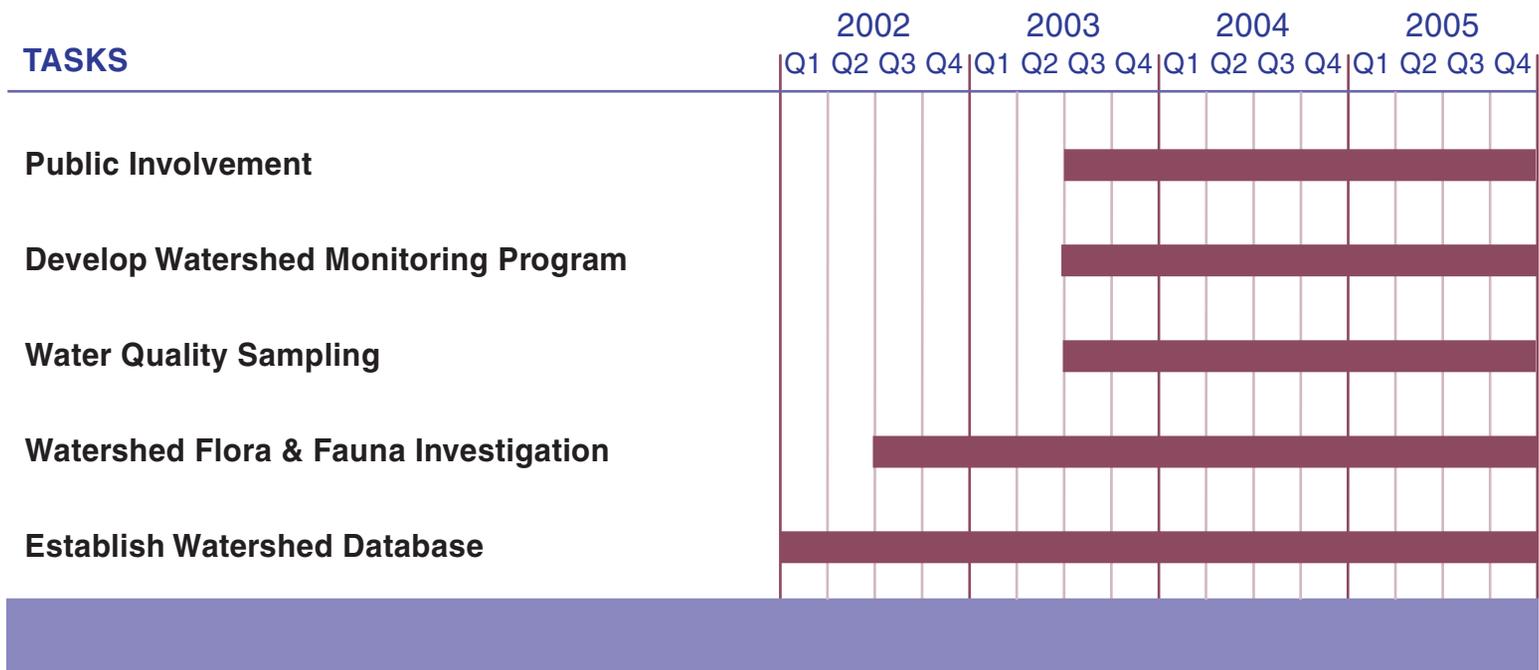


FIGURE 20B-2
PRELIMINARY IMPLEMENTATION SCHEDULE
 SUTTER CO. WATERSHED ASSESSMENT AND MONITORING PROGRAM
 SHORT-TERM PROJECT EVALUATIONS
 SACRAMENTO VALLEY WATER MANAGEMENT AGREEMENT