



Note from the Program Manager

From its inception in 1998, the CALFED Watershed Program has been a product of active and committed involvement from a broad and diverse collection of interested people. When the Programmatic Record of Decision was released in August 2000, these same people were faced with the challenge of implementing the Watershed Program Plan they had worked

so hard to develop. One of the first steps toward Plan implementation was taken during the summer of 2000 when the Watershed Program issued an "Initial Implementation Strategy." The strategy included a purpose statement and set of major objectives. The purpose of initial implementation of the Watershed Program is to demonstrate the value and contributions of watershed management using a community-based and locally led approach to achieving CALFED goals for the Bay-Delta system and broader solution area. The Watershed Program initiated this demonstration by soliciting, evaluating, and selecting an initial set of projects that best:

- define and illustrate relationships between watershed processes and the primary goals and objectives of the CALFED Bay-Delta Program;
- address one or more specific outcomes identified as a priority by CALFED during Stage I;
- demonstrate the value of watershed efforts to CALFED in geographically diverse locations within the solution area;
- demonstrate the value of a community-based approach in addressing a diversity of issues, circumstances, and community characteristics found in different watersheds within the solution area; and
- further the long-term objectives of CALFED.

The projects and activities described in this catalog were the first set selected by the Program to help meet the stated purpose and objectives

of the Initial Strategy. We are proud to be able to support these important projects and are confident that these projects will contribute significantly to successful implementation of the Watershed Program.

John Lowrie
John Lowrie

Watershed Program Manager



Note from the Chairs

The continued challenge of reinvestment in watersheds of the Bay-Delta has been the focus of the Watershed Subcommittee since its inception. With the commitment of three administrations and countless volunteers, the Watershed Program has developed into one of the most successful and productive of all the CALFED elements. Our dedication and emphasis on local community involvement in developing solutions have been cornerstones of the Program. The Program has brought communities within the solution area to a better understanding of how management through reinvestment in our watersheds is directly linked to the economic engine of the State.



We are pleased that the Program has served as a forum where people from all over the State have come together to develop policies that have fostered the realization of a Watershed Program for all of California.

Martha Davis

Martha Davis
*Inland Empire Utilities Agency
Watershed Subcommittee Co-Chair*

Robert C. Meacher

Robert Meacher
*Plumas County Board of Supervisors
Watershed Subcommittee Co-Chair*

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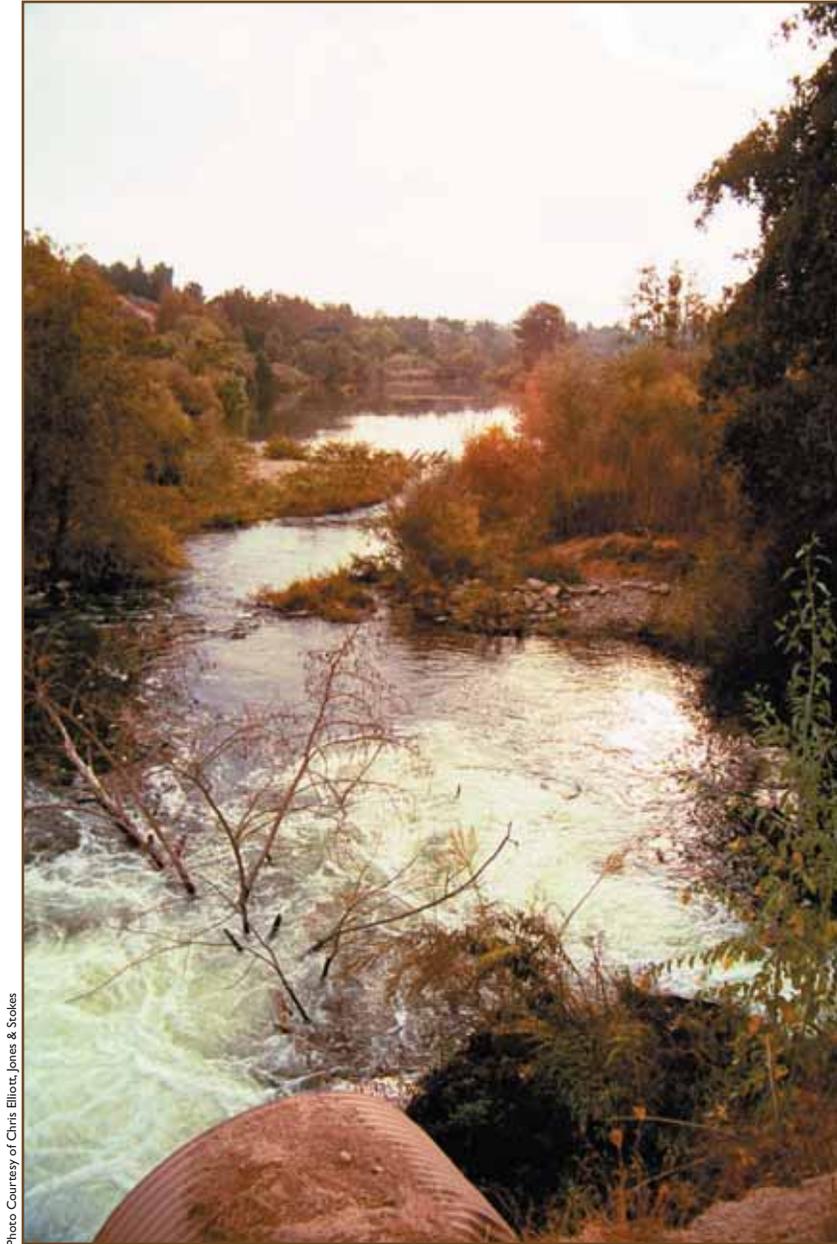


Photo Courtesy of Chris Elliott, Jones & Stokes



Photo Courtesy of Jeff Peters, Jones & Stokes



Photo Courtesy of Department of Water Resources Environmental Services Office

Introduction

We all depend on the Bay-Delta. The Bay-Delta system provides drinking water for 22 million people. It supports California's trillion-dollar economy, including its \$27 billion agricultural industry. Its levees protect farms, homes, and infrastructure. It is the largest estuary on the west coast—home to 750 plant and animal species—and it supports 80% of the State's commercial salmon fisheries. For these reasons, sound management of the Bay-Delta Watershed is critical to the State and its inhabitants. Such a valuable resource needs to be well protected and cared for. The health and future of the Bay-Delta watershed depend not only on the success of the Bay-Delta Program, but also on the contribution of every local community, landowner, and stakeholder connected to it. This includes residents in the watersheds of the Sierra Nevada, northern California, Bay Area, Delta, San Joaquin Valley, and cities and communities in Southern California. That is why the Watershed Program strives to build and enhance the capacity of communities to better manage their watersheds—because their watersheds directly affect the health of the Bay-Delta.



Overview of the CALFED Bay-Delta Program

The CALFED Bay-Delta Program (CALFED Program) was initiated in 1998 with the mission of developing and implementing a long-term comprehensive plan to restore ecological health and improve water management for beneficial uses of the Bay-Delta system. The Program addresses four interrelated resource management objectives concurrently:

- water supply reliability
- water quality
- ecosystem restoration
- levee system integrity

Launched in the summer of 2000 with the signing of the Record of Decision (ROD), the Program sets forth a 30-year plan to address these objectives. The Plan identifies 11 major program elements, each designed to operate in complementary fashion to meet the objectives:

- Water Management
- Storage
- Conveyance
- Water Use Efficiency
- Water Transfers
- Environmental Water Account
- Drinking Water Quality
- Watershed
- Levee System Integrity
- Ecosystem Restoration
- Science

Overview of the Watershed Program

The Watershed Program was officially established in March 1998, at the urging of stakeholders, to work with the community at a watershed level to help achieve the overarching goal of the CALFED Program to restore ecological health and improve water management. The underlying premise of the Watershed Program is to help integrate a watershed approach into the CALFED Program as a whole. The Watershed Program recognizes that in order to weave a common theme of a watershed approach into all of the CALFED Program elements, as well as to implement an effective and meaningful Watershed Program, broad involvement and dedicated participation by a diverse group of stakeholders is needed. By empowering a diverse set of stakeholders to collaborate and work with the CALFED Program, invaluable partnerships are created that help attain maximum benefits for the Bay-Delta Watershed and its communities.

The goals of the Watershed Program are to provide assistance—both financial and technical—for watershed activities that help achieve the mission and objectives of the CALFED Program, and to promote collaboration and integration among local watershed programs. Although it recognizes the importance of project implementation, the Watershed Program also acknowledges that watershed management comprises more than just projects. It includes such varied issues as land use decision-making, development of watershed assessments and management plans, monitoring, education and outreach, and capacity building.

Implementing Agencies

After the ROD was signed in 2000, 20 Federal and State agencies signed a Memorandum of Understanding (MOU) to provide a framework for long-term implementation of the Watershed Program Plan. The MOU named the following agencies as “management agencies” with primary responsibility for Watershed Program Plan implementation:

- CALFED Bay-Delta Program
- California Department of Water Resources
- State Water Resources Control Board
- U.S. Environmental Protection Agency

With the creation of the California Bay-Delta Authority in 2003 (Senate Bill 1653-Costa), the following four additional agencies were designated “implementing agencies” for the Watershed Program, and the California Bay-Delta Authority assumed a new role of Program oversight and coordination:

- California Department of Fish and Game
- California Resources Agency
- USDA Natural Resources Conservation Service
- U.S. Fish and Wildlife Service

Initial Implementation

The first major implementation action of the Watershed Program began in 2000 with the release of a Proposal Solicitation Package (PSP). The purpose of this action was to solicit, identify, and fund a set of local activities designed to “demonstrate the value and contributions of watershed management using a community-based and locally led approach to achieving the goals of the CALFED Program.” Stated priorities for this first year action were to:

- build local community capacity to assess and effectively manage watersheds that affect the Bay-Delta system;
- develop or refine watershed assessments and plans; and
- design, develop, and implement specific watershed conservation, maintenance, and restoration actions.

At the request of stakeholders, the PSP application was designed as a two-step process. The first step requested concept proposals from local communities and watershed groups. The concept proposals were brief descriptions of the proposed activity, what the activity would accomplish,

and its relevance to the CALFED Program goals and objectives. The Watershed Program received 161 concept proposals. A team of agency representatives and professional experts in various fields reviewed the concept proposals and invited 104 applicants to submit full proposals. A total of 83 full proposals were received, and ultimately 53 were selected for funding.

Evaluation Criteria

The criteria used to evaluate concept proposals and select the 53 funded proposals included:

Concept Proposals

- The degree to which the concept emphasizes the importance of community involvement and support.
- The level to which the project contributes to the goals and objectives of the CALFED Program.
- The level of agreement with the first-year priorities of the Watershed Program.

Full Proposals

- The level of ability and experience to conduct the project and administer funds.
- The degree to which the project will address multiple CALFED Program objectives.
- The degree to which the project will help the Watershed Program define and illustrate relationships between watershed processes, watershed management, and the goals of the CALFED Program.

After a set of full proposals was recommended for funding, reviewers assessed the set to ensure that the following criteria were met:

- Does the set of proposals represent a balance of diverse watershed activities that demonstrate potential to improve the Bay-Delta system?
- Does the set of proposals represent a variety of watershed settings (such as forested, agricultural, urban, mixed, snow-based or rainfall-based hydrology, etc.)?
- Does the set of proposals represent a diverse geographic distribution?

Purpose and Organization of This Document

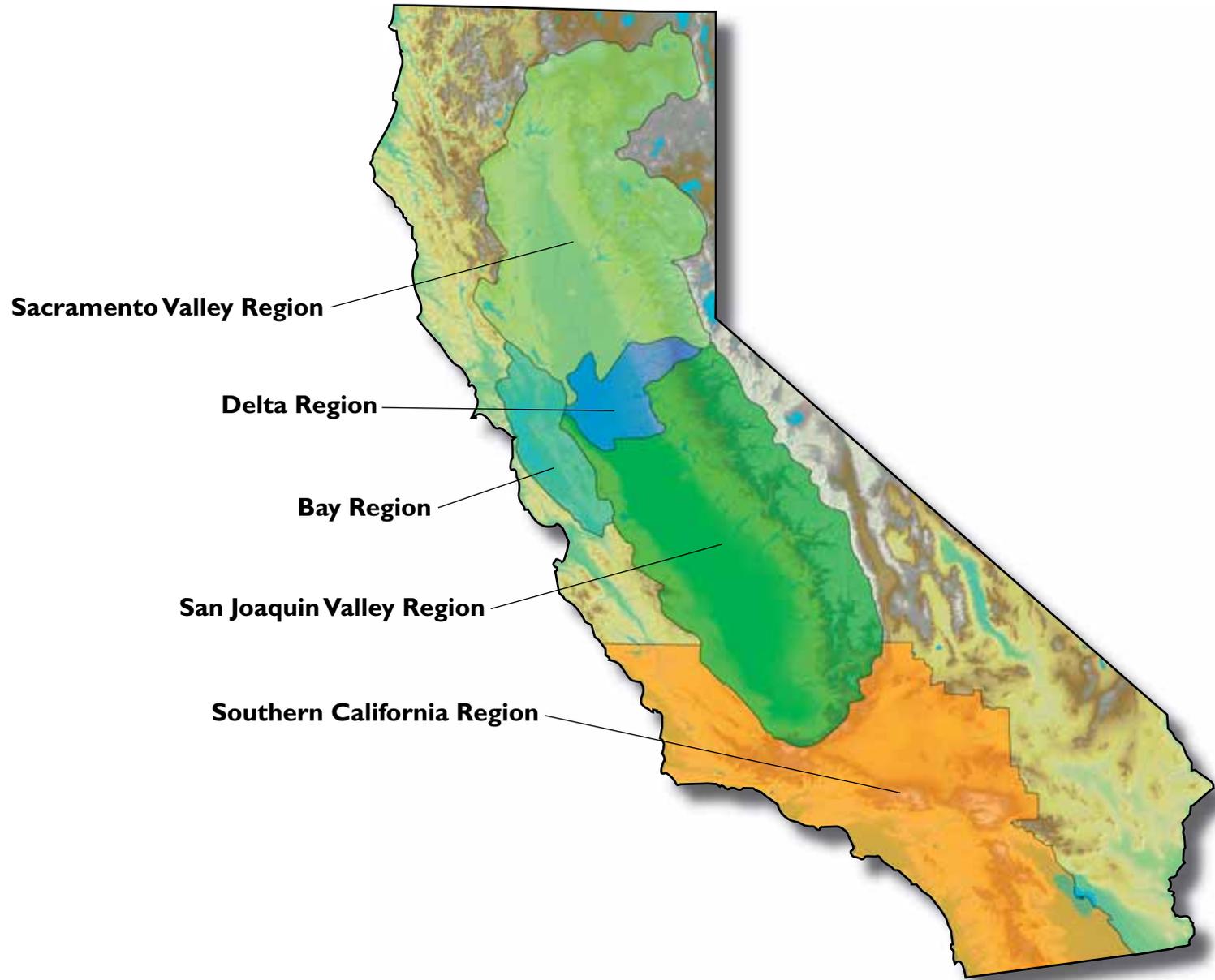
The purpose of this document is to highlight the 53 projects that were funded by the Watershed Program in 2001 and to illustrate their contributions to the goals and objectives of the CALFED Program. Project descriptions are organized by region (Sacramento Valley, Delta, Bay, San Joaquin Valley, and Southern California) and contain the following information:

- name of applicant,
- project title,
- award amount,
- watershed,
- region,
- project purpose,
- project goals,
- legislative and congressional districts,
- benefits to the CALFED Program,
- project overview, and
- contact information.

Supplemental tables identifying projects and legislative districts, and projects funded by the Watershed Program in 2002, are also included.

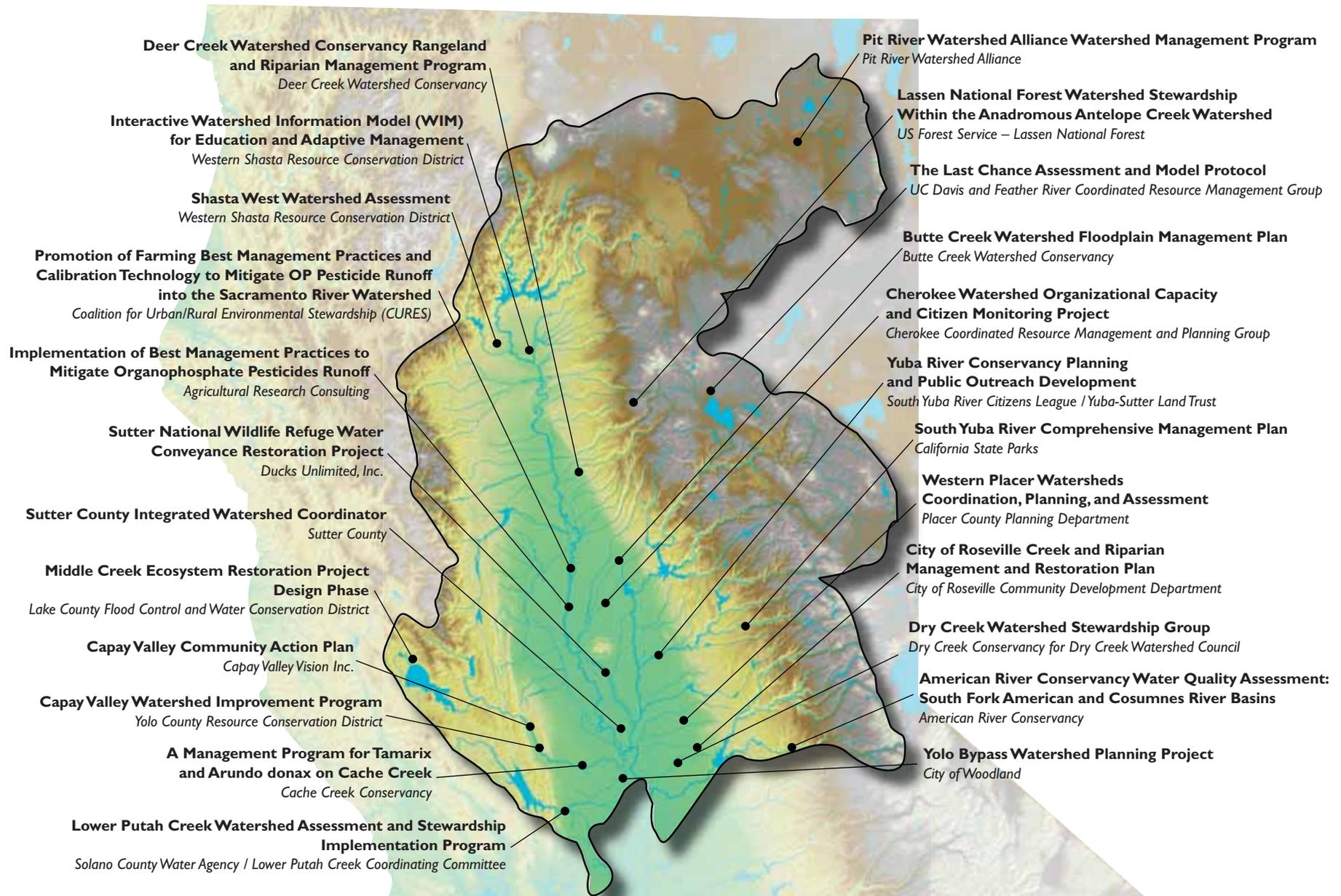
We hope you enjoy this catalog and find the project descriptions useful and informative.

Program Regions





Sacramento Valley Region



Sacramento Valley Region Projects

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The Last Chance Assessment and Model Protocol

UC Davis and Feather River Coordinated Resource Management Group



The proximity of a road caused constant sedimentation in Artray Creek, as seen in this pre-restoration photo.

Award Amount
\$582,000

Watershed
Feather River and Last Chance Creek Watersheds

County
Plumas County

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 2
State Assembly: 4
State Senate: 3

Purpose

This project measures watershed health and evaluates the suitability of future projects through use of the University of California Davis Hydrologic Research Laboratory (UCDHRL) model.

Project Goals

- Purchase and install additional field equipment to increase field monitoring capabilities in the Last Chance Creek Watershed.
- Provide assessments of environmental and water balance impacts of recent and currently funded restoration projects under flood and drought scenarios.
- Help select future restoration projects.
- Create a general protocol to be applied to other Bay-Delta Watersheds.

Benefits to the CALFED Program

The Ecosystem Restoration Program Plan states that the Feather River Watershed contributes to the health of the Bay-Delta system by sustaining ecological processes that support anadromous fish and other aquatic and terrestrial wildlife and plant habitats. Streamflow, sediment, and nutrients coming from this watershed are important to the Bay-Delta. This project provides a tool that will build community capacity to assess and manage the Last Chance Creek Watershed as well as other major subwatersheds that make up the Feather River basin, the major water supply basin for the State Water Project, which is an integral inflow component to the Bay-Delta system. The assessment protocol developed as a result of the project will be available for use in other watersheds in the CALFED Program.

Project Overview

The Feather River Watershed is unique as a Sierran river in that approximately 10% of the watershed area is occupied by meadows and valleys. These features historically have served as water, sediment, and nutrient sinks that buffered the watershed from extreme floods, droughts, and landscape disturbances. Over time, approximately 98% of the meadows and valleys in the watershed have become severely entrenched and incised through the cumulative effects of mining, logging, grazing, road building, and extreme wildfire. Thus the watershed has lost the helpful function of these sinks.

The Last Chance Assessment and Model Protocol project is the result of a collaborative effort between the Feather River Coordinated Resource Management Group, the Plumas County Department of Public Works, the Plumas National Forest, and the University of California Davis Hydrologic Research Laboratory (UCDHRL). The project is developing, implementing, and field calibrating an assessment protocol for restoration projects in the Last Chance Creek Watershed, which is a 200 km² subwatershed of the Feather River. The assessment protocol examines the impact that restoration projects have had on the Last Chance Creek Watershed and is general enough so that it can be applied to other watersheds. As part of this assessment protocol, a watershed model is being developed using the UCDHRL watershed model. The model will cover subwatersheds within the whole of the Last Chance Creek Watershed, and it will be capable of assessing both the seasonal and long-term water balances of drought and wet periods, including floodflows and sediment load. The model will also be used to select future restoration projects and project sites, and has the potential to be used to evaluate the watershed effects of large-scale land management decisions in the Feather River basin.



A post-restoration view of Artray Creek, where the road and gully were removed, and cattle access has been restricted.

Contact Information

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City of Roseville Creek and Riparian Management and Restoration Plan

City of Roseville Community Development Department



A sunny day at Secret Ravine, one of the creeks in the City of Roseville.

Award Amount
\$228,470

Watershed
Dry Creek and Pleasant Grove Creek Watersheds

County
Placer County

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 4
State Assembly: 4
State Senate: 4

Purpose

To develop a comprehensive creek and riparian management and restoration plan for City of Roseville creeks.

Project Goals

- Engage the community and identify stakeholders' issues and values.
- Develop a plan for the City's creeks that balances public health and safety needs with natural resource functions.
- Identify and prioritize riparian restoration projects.
- Establish a long-term public outreach program that fosters partnerships and builds community capacity to implement the Plan.
- Increase community water conservation to improve water supply reliability.

Benefits to the CALFED Program

The City of Roseville is an integral part of the CALFED solution area as well as one of the fastest-growing communities in the Sacramento Valley region. Implementation of the Plan will produce measurable results for typical urban watershed stressors such as flooding, stormwater quality, erosion, and siltation. The result is improved wildlife habitat, water quality, and overall watershed health both in Roseville and in the Bay-Delta. The Plan will enhance local capacity to manage watersheds through actively involving community members in the stakeholder process. The project's community water conservation plan will help the Water Use Efficiency Program meet their goal of increasing urban water conservation measures.

Project Overview

The City of Roseville has 38 miles of creeks in two watersheds that drain into the Sacramento River. Using a consensus-based approach, the City is developing a management plan for these watersheds. Implementing the Plan will benefit the ecosystem and enhance the community's capacity to make better land use decisions.

Development of the City of Roseville Creek and Riparian Management and Restoration Plan (Plan) is coordinated with other watershed planning and restoration projects undertaken by Placer County, the Dry Creek Conservancy, the Dry Creek Watershed Council, and the City of Roseville. Together, they are producing a comprehensive creek and riparian management and restoration plan suitable for adoption by the City of Roseville. The Plan also promotes specific watershed conservation, maintenance, and restoration actions by developing a comprehensive restoration strategy for the City's creek and riparian areas.

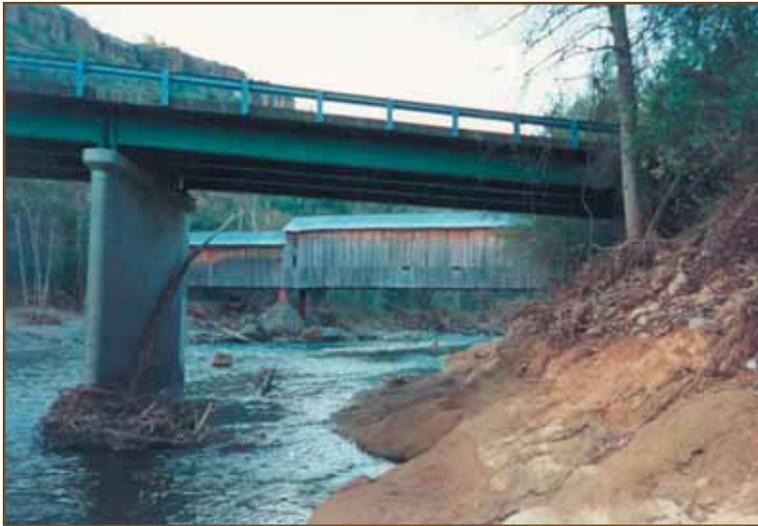
The other major component of the Plan is the establishment of a long-term public outreach program to foster partnerships with complementary organizations and build community capacity to implement the plan successfully. Outreach materials educate the community about the CALFED Program and sound watershed stewardship principles, including how local land management practices affect city creeks and, in turn, the Bay-Delta system. Increasing community water conservation to enhance local water supply reliability is an additional goal of the outreach program. Both treated water and runoff drain into local creeks. Reduction in water use results in reduced runoff and reduced need for wastewater treatment, improving water quality for the watersheds as well as the Bay-Delta.



Project workshop attendees discuss City of Roseville creeks.

Contact Information

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Heavy debris buildup on Butte Creek caused by a large storm.

Award Amount
\$582,510

Watershed
Butte Creek Watershed

County
Butte, Tehama, Plumas, Glenn, Colusa, and Sutter Counties

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 2
State Assembly: 3
State Senate: 4

Purpose

This project develops a Floodplain Management Plan (FMP) for the Butte Creek Watershed in alignment with an Integrated Hazard Mitigation Plan for Butte County.

Project Goals

- Develop flood protection measures that protect life and property as well as enhance fish and wildlife habitat.
- Encourage coordination among the agencies responsible for providing flood protection, post-flood restoration, and protection of habitat.
- Build on an existing stakeholder process for public involvement and outreach, and develop/initiate public education in local schools.
- Support the development of pre- and post-flood emergency response efforts.

Benefits to the CALFED Program

The Butte Creek Watershed FMP reduces erosion and silt loads during flood events and reduces contaminants entering the Butte Creek Watershed, thereby improving water quality and overall watershed health. Butte Creek is a priority stream of the Ecosystem Restoration Program and flows to the Bay-Delta via the Sacramento River. These improvements also benefit the watershed's salmon runs, which include the endangered spring-run Chinook salmon. Using their stakeholder-driven process to develop a FMP, the Butte Creek Watershed Conservancy (Conservancy) facilitates and improves coordination, collaboration, and assistance among government agencies, other organizations, and local watershed groups, and familiarizes stakeholders with Conservancy and CALFED Program goals.

Project Overview

This project develops a Floodplain Management Plan (FMP) for the Butte Creek Watershed. The Butte Creek Watershed Conservancy (Conservancy) was formed to preserve, enhance, and restore the economic and ecological heritage of the Butte Creek Watershed by engaging local landowners to encourage stewardship and community participation. The impetus for this management plan was conceived through the Conservancy's stakeholder-driven process that facilitates coordinated management of resources to maintain a sustainable river ecosystem for the Butte Creek Watershed. Through this process, the Conservancy identified issues and concerns important to the local community. These are the cornerstones of the FMP. They include: education and public outreach, recreation, fisheries, fuel load, timber management, and roads. In addition, the current FMP work concerns groundwater, water supply, water quality, and flood damage control. Education and public outreach are important aspects of FMP development. Educating the public provides opportunities for the Conservancy to advance public awareness of the health of the community's watershed. Ultimately, the FMP will provide guidelines and measures for landowners and federal, state, and local government agencies to protect public health and safety from the impacts of flooding. Measures developed in the Plan will reduce the potential for soil erosion and release of chemicals during flood events; provide resource allocation guidelines for emergency response and preparedness, and present methodologies to potentially lower insurance costs to property owners. The FMP is integrated into, and used to define aspects of, an Integrated Hazard Mitigation Plan for countywide implementation. Through Conservancy partnerships with the Butte County Resource Conservation District, the City of Chico, Big and Little Chico Creek Watersheds, and the Cherokee Watershed, results and methods developed for the FMP will be disseminated across jurisdictional and watershed delineations.



Floodwaters can cause major damage. Floodwater management and damage reduction are key goals of the Butte Creek FMP.

Contact Information

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The east Sutter Bypass with the Sutter Buttes visible in the background.

Award Amount
\$195,200

Watershed
Sacramento River, Butte Creek,
Feather River, Yuba River, and Bear River Watersheds

County
Sutter County

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 2
State Assembly: 2
State Senate: 4

Purpose

Provide comprehensive coordination with watershed activities in Sutter County as well as those activities that directly affect the County (such as in Yuba, Butte, Colusa, Yolo, and Placer Counties, and along the Sacramento River) that will allow Sutter County to become more active in watershed-wide approaches to planning.

Project Goals

- Coordinate public workshops to provide opportunities for local, State, and Federal representatives to learn about various groups' and agencies' projects.
- Act as a conduit to provide and disseminate information among local stakeholders, watershed groups, and local and state agencies.
- Plan projects to implement the watershed management program.

Benefits to the CALFED Program

The CALFED Ecosystem Restoration Program (ERP) has targeted the Sacramento River, the Butte Basin, the Feather River, and the Sutter Bypass as priority watersheds for restoration activities addressing streamflow, coarse sediment supplies, stream meander, floodplain processes, and water temperature. A number of ERP species of concern, including splittail, winter-, fall-, and spring-run Chinook salmon, steelhead trout, giant garter snake, valley elderberry longhorn beetle, and greater sandhill crane, inhabit these Sutter County watersheds and stand to benefit from coordinated restoration actions. By establishing a watershed coordinator, Sutter County is ensuring complimentary management of restoration efforts, and facilitates information exchange among citizens, project managers, and local and State agencies.

Project Overview

The Sutter County Integrated Watershed Coordinator project provides funding for official watershed coordination within Sutter County. The County contains a variety of watershed resources, such as the Sacramento River, the Feather River, the Sutter Bypass, and numerous interior streams, as well as urban and agricultural drainages. The CALFED Program and others have made tremendous investments in watershed projects in upper watersheds that affect Sutter County. However, prior to this project, Sutter County oversaw no current watershed planning efforts, either through the CALFED Program or other funding sources. Funding for this program helps to ensure that these and other planning and restoration efforts are coordinated and managed from a watershed approach, and that projects in the region are complimentary.

This project provides the Sutter County Department of Public Works with the resources to maintain contact with watershed groups and other stakeholders and to coordinate public workshops for stakeholders, including planners, and provides a County representative at watershed planning events. The Integrated Watershed Coordinator assumes a liaison role among the County, other government agencies, and local watershed groups. This coordinator is responsible for communications with the various County departments with regard to watershed planning efforts. The coordinator also assumes public outreach and education responsibilities.

This project serves to streamline and coordinate, and therefore improve, local and regional efforts toward ecosystem restoration, water quality, and water use efficiency. The project also improves coordination and communication among surrounding watersheds in the region.



Coon Creek at the east main drain.

Contact Information

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An excavator removes sediment from a failed crossing, restoring the natural water drainage pattern.

Award Amount
\$673,200

Watershed
Antelope Creek Watershed

County
Tehama County

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 4
State Assembly: 3
State Senate: 1

Purpose

The purpose of this project is to make improvements to the upper Antelope Creek Watershed through restoration projects, improved forest management, and expanded outreach.

Project Goals

- Implement 34 restoration projects focusing on stabilization, restoration, and maintenance of ecological processes.
- Expand technology transfer/educational outreach to partners and watershed stakeholders.

Benefits to the CALFED Program

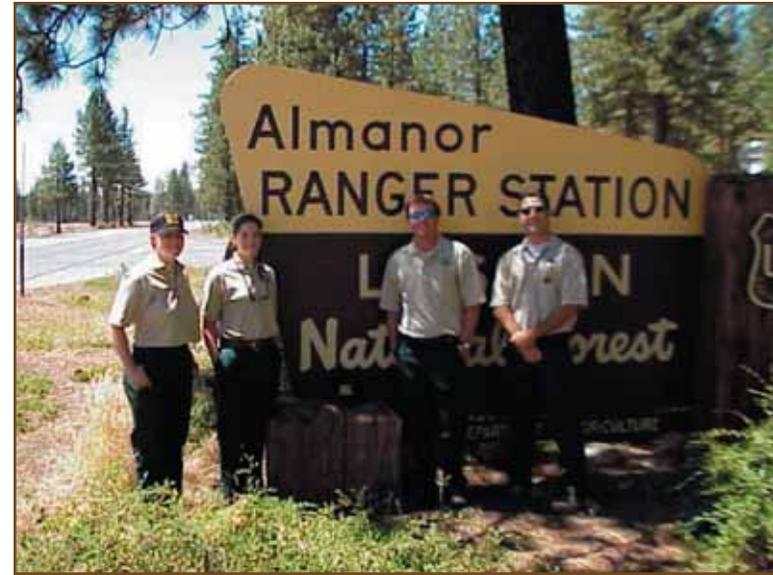
Antelope Creek is an eastside tributary to the Sacramento River and home to a number of important species, including anadromous fish. The Ecosystem Restoration Program Plan states that improved forest management in the Antelope Creek Watershed would protect riparian habitats and streamflows and help to prevent excessive sediment from being washed into the creek. This project addresses those concerns and improves forest management. It helps to achieve the goals of the CALFED Program through stabilizing and restoring riparian habitat, wetlands, and natural stream morphology, as well as aiding in the recovery of at-risk species. This project also encourages a greater understanding of ecological processes and links these projects to public education and the ongoing restoration efforts of other landowners.

Project Overview

Antelope Creek is an east side tributary to the Sacramento River that supports anadromous fish species, and is located within the Ecosystem Restoration Program's Butte Basin Ecological Management Zone. The creek historically supported fall- and spring-run Chinook salmon and steelhead trout. However, population estimates have declined significantly in recent years.

This project includes two primary elements. The first element is to implement 34 prioritized restoration projects in the upper Antelope Creek Watershed. The restoration activities focus on the stabilization, restoration, and maintenance of ecological processes and are designed to allow for adaptive management. This element includes the implementation of extensive erosion and sediment control projects and improved forest management designed to reduce source sediment production and produce more natural patterns of runoff. These actions will promote and maintain important ecological processes and functions. These activities will also protect and improve aquatic habitats by reducing sediment production through a variety of treatments. The restoration projects also include restoring wetlands and riparian areas through decommissioning roads, restoring natural stream morphology, and improving fish passage by upgrading culverts or replacing them.

The second element of this project works to expand public education and outreach. Public education and understanding of watershed restoration practices will increase the support for continued restoration work. This element will also expand the transfer and sharing of data and information with interested partners.



The campground education/patrol crew is responsible for teaching watershed stewardship principles and fishing regulations to campers and fishermen.

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Sutter National Wildlife Refuge Water Conveyance Restoration Project

Ducks Unlimited, Inc.



Construction of the first of six water control structures that improve water supply reliability and flow at the Sutter National Wildlife Refuge.

Award Amount

\$521,250

Watershed

Sacramento River Watershed

County

Sutter County

CALFED Region

Sacramento Valley Region

Legislative Districts

US Congress: 2

State Assembly: 2

State Senate: 4

Purpose

Increase the capacity of the existing water conveyance system of the Sutter National Wildlife Refuge to provide the highest quality habitat for wildlife and fish populations.

Project Goals

- Provide adequate water control to improve wetland management capability.
- Improve water supply reliability and flow.
- Restore the existing 5-mile-long water conveyance system.
- Replace or remove 40 water control structures.
- Stabilize and revegetate levees and other improvements.

Benefits to the CALFED Program

Much of California's wetlands have been lost to urban development and conversion to agricultural uses. This project provides direct ecosystem benefits by maintaining high quality habitat for wildlife by improving the supply and management of water on the Sutter National Wildlife Refuge. The refuge is part of the Lower Butte Creek system, identified by the Ecosystem Restoration Program as part of the Butte Basin Ecological Management Zone. This project includes improvements to better maintain and manage more than 1,600 acres of permanent and seasonal wetlands to support bird populations. Anadromous fish populations also benefit from the reliable flows that result from this project. Water quality improvements are achieved by stabilizing and revegetating levees to reduce siltation into the Bay-Delta system.

Project Overview

The 2,291-acre Sutter National Wildlife Refuge was established as part of a complex of refuges to provide habitat for migratory birds, particularly wintering species and those native to the Sacramento Valley. It is also intended to attract the migratory birds away from unharvested crops to minimize depredation. It is important that the refuge be managed to provide the highest quality habitat possible for wildlife and fish populations. The existing water conveyance system within the Sutter National Wildlife Refuge had reached a state of dilapidation to the point of marginal operation. Prior to this project, the water conveyance system was unable to meet essential management objectives that include:

- providing adequate water control for productive wetland management;
- enhancing ability to adaptively manage habitat to address resource needs;
- controlling and circulating adequate quantities of water to aid in the prevention or control of avian botulism and other disease outbreaks; and
- excluding endangered fish species from unsuitable habitats outside of flood events.

This project is restoring the existing 5-mile water conveyance system, replacing and removing water control structures, stabilizing and revegetating levees, and making additional improvements to enhance water use efficiency. It increases the water delivery capacity on the refuge and distributes greater flows to maintain wetland and other habitat and water quality improvements.



With Water Control Structure #6 near completion, water is turned into the system to supply wetlands with a drink.

Contact Information

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Deer Creek Watershed Conservancy Rangeland and Riparian Management Program

Deer Creek Watershed Conservancy



Upstream of the Devil's Den trailhead on Deer Creek.

Award Amount

\$212,000

Watershed

Deer Creek Watershed

County

Butte and Tehama Counties

CALFED Region

Sacramento Valley Region

Legislative Districts

US Congress: 2

State Assembly: 2

State Senate: 4

Purpose

Provide technical assistance for ranchers in the Deer Creek Watershed to prepare individual ranch plans to improve water quality and riparian areas.

Project Goals

- Assist ranchers in developing ranch management plans.
- Provide personalized technical plans and monitoring support for ranchers in the Deer Creek Watershed.

Benefits to the CALFED Program

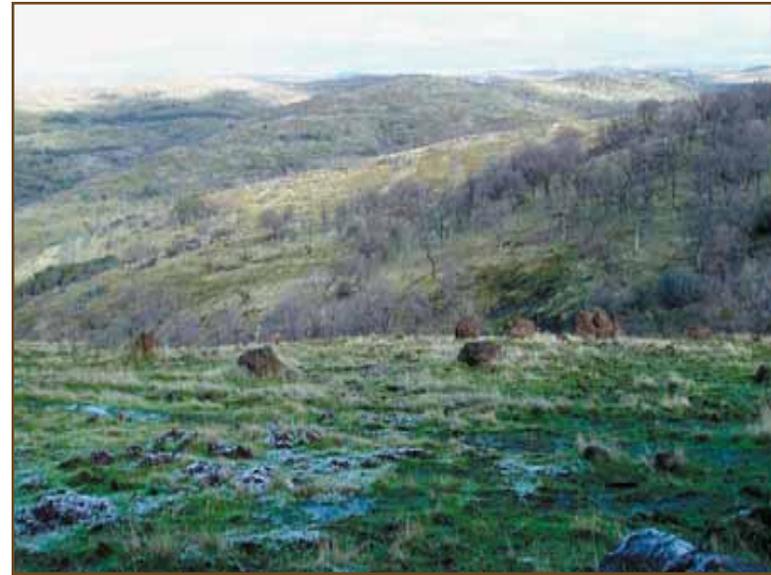
The Ecosystem Restoration Program Plan (ERPP) states that an investment in Deer Creek will provide the types of restoration information needed to successfully move the Ecosystem Restoration Program (ERP) forward. The ERPP further states that watershed planning through the locally driven Deer Creek Conservancy will help to preserve and restore spring-run Chinook salmon and steelhead trout and other important attributes of the watershed. Implementation of this project is directly connected to the ERP's goal of improving conditions in the Deer Creek watershed. It also furthers Watershed Program goals by supporting education and outreach, facilitating and improving coordination among government agencies and local stakeholders, and implementing a strategy to improve watershed stewardship.

Project Overview

Deer Creek is a significant tributary to the Sacramento River, originating upstream of Deer Creek Meadows on the slopes of Butte Mountain. The watershed drains 200 square miles and is 60 miles long. The creek supports fall- and spring-run Chinook salmon and steelhead trout. According to the Ecosystem Restoration Program Plan, Deer Creek has the greatest spring-run Chinook salmon restoration potential of all Sacramento Valley streams.

The Deer Creek Watershed Conservancy prepared a comprehensive watershed management plan for Deer Creek and has begun its implementation. One element of the watershed management plan is to develop individual ranch plans to improve water quality and riparian areas. The Conservancy has found that local ranchers are very willing to participate in the process but need guidance to develop their ranch plan. This project provides the needed technical and personalized support to compile and complete a ranch plan and a monitoring program for each ranch property in the Deer Creek Watershed. The ranch plans assess existing conditions, develop economically achievable management measures, and establish a monitoring program for each ranch. Implementing the plans will contribute to the prevention or control of erosion and sedimentation and improve aquatic and terrestrial habitat in the Deer Creek Watershed.

Consultants and resource agency specialists provide technical assistance to the ranchers. These specialists provide expertise in grasslands management, soil erosion, geographic information system (GIS) mapping, and vegetation management. This assistance helps ranchers assess existing conditions of their ranchlands for possible improvements and protections against present or potential sources of contaminated runoff. The project also serves to demonstrate development of comprehensive ranch assessments and plans to support other local watershed programs.



Upper watershed rangeland in the wintertime.

Contact Information

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Implementation of Best Management Practices to Mitigate Organophosphate Pesticides Runoff

Agricultural Research Consulting



Plum growers learn about orchard management practices that help reduce the amount of pesticides entering streams in field runoff.

Award Amount
\$400,000

Watershed
Sacramento and Feather River Watersheds

County
Sutter and Yuba Counties

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 2
State Assembly: 2 and 3
State Senate: 4

Purpose

Reduce runoff of organophosphate pesticides into surface waters of the Sacramento and Feather River Watersheds.

Project Goals

- Identify ten demonstration orchards in the Sacramento/ Feather River Watershed to test alternatives to existing methods of dormant application of organophosphate pesticides.
- Involve the grower community in demonstrating that alternatives to present practices of dormant application of diazinon can be cost effective as well as effective in addressing pest management needs.
- Determine the best methods of mitigating for organophosphate pesticide runoff from agriculture.

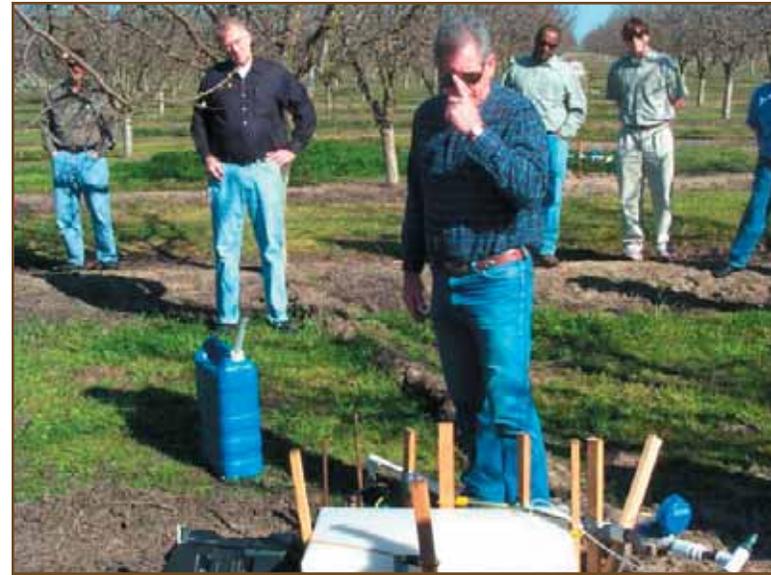
Benefits to the CALFED Program

Organophosphate (OP) pesticides, including diazinon and chlorpyrifos, have been identified by the CALFED Program as contaminants of concern in both the Central Valley and the Delta. The Water Quality Program Plan (WQPP) states that some of the highest concentrations of diazinon and longest exposures are typically in small water courses adjacent to high densities of orchards. The WQPP proposes a number of corrective actions be taken to resolve this water quality problem. Actions proposed include developing and demonstrating cost-effective management practices, which is the goal of this project. Through ten demonstration sites, this project shows local growers alternative methods to reduce the impacts of OP pesticides in their orchards and thereby improve water quality in adjacent Bay-Delta waterways.

Project Overview

This project includes the identification of ten demonstration orchards to conduct pilot projects to reduce the use of organophosphate pesticides. Organophosphate pesticides, such as diazinon, chlorpyrifos, methidathion, and matathion, are of particular concern in the Central Valley because of the number of applications to dormant orchards (trees that are not leafed out). This “dormant spraying” controls a number of insect pests and typically occurs from December through February. During this period, as much as one million pounds of active organophosphate pesticides are applied to 500,000 acres of almonds and stone fruits in the Central Valley. Storm events that follow the organophosphate pesticide applications can wash the recently applied pesticides into surface waters in concentrations toxic to sensitive invertebrates. Invertebrate communities are necessary food items for nearly all of the priority fish populations in the Bay-Delta system. Dormant season spraying coincides with the time when these fish (including delta smelt, Chinook salmon, and steelhead trout) are in the early life stages.

The ten demonstration watersheds, located in the Feather River Watershed are being used to involve the grower community. They demonstrate that alternatives to dormant application of diazinon can be cost effective as well as effective in addressing pest management needs. Runoff management practices are also being demonstrated.



Plum growers are shown how changing the timing of pesticide application can reduce the amount of pesticides entering local streams in runoff.

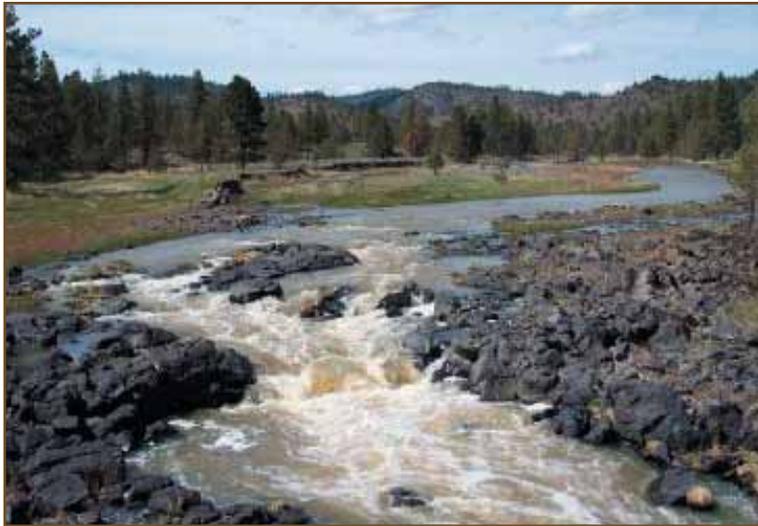
Contact Information

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Pit River Watershed Alliance Watershed Management Program

Pit River Watershed Alliance



A water quality monitoring location on the Pit River in the remote Stone Coal Valley.

Award Amount

\$542,456

Watershed

Pit River Watershed

County

Lassen, Modoc, Shasta, and Siskiyou Counties

CALFED Region

Sacramento Valley Region

Legislative Districts

US Congress: 4

State Assembly: 2

State Senate: 1

Purpose

Conduct a comprehensive watershed program with significant public outreach and capacity-building functions.

Project Goals

- Expand the Central Modoc Resource Conservation District monitoring program.
- Evaluate water quality by gathering and analyzing physical, chemical, biological, and human impact information of past and current land uses.
- Lead a community-based, cooperative rangeland management project.
- Conduct a paired watershed study on juniper management.
- Build capacity of the Pit River Watershed Alliance through education, outreach, and strengthening of partnerships.

Benefits to the CALFED Program

The Pit River supplies 20% of the water that flows into the Bay-Delta via the Sacramento River. This program ensures that that water is of higher quality by conducting a watershed assessment and monitoring program to guide decisions for water quality enhancement projects. This program is designing a system for storing water in the uplands for more timely releases to Bay-Delta users. Through the substantial public outreach components of this program, and the development of a comprehensive watershed assessment, the Alliance teaches stakeholders about the health of their watershed and how to assess it. It also provides stakeholders with information to make land management decisions on a watershed scale, and increase their capacity to meet the goals of the CALFED Program and the Alliance.

Project Overview

The Pit River Watershed Alliance (Alliance) is a volunteer grass-roots organization whose mission is to foster partnerships that achieve integrated long-term cultural, economic, and environmental health of the watershed through active community participation. The Pit River Watershed is 2 million acres in size and is located in northeastern California. The water from the Pit River Watershed makes up about 20% of the water that enters the Sacramento River, flowing eventually to the Bay-Delta.

Currently, no comprehensive baseline assessment incorporating data from both private and public land exists for the Pit River Watershed. The Alliance is leading the effort to conduct a watershed assessment upon which future management decisions can be based. The assessment includes gathering past and current data on all elements of the watershed, such as water, soils, forest lands, agriculture, wildlife, and recreation. It includes new and prior monitoring data, and identifies what additional data is needed. This effort provides the baseline information necessary to do a thorough assessment, from which current conditions and future trends can be estimated and potential future projects identified.

This is a comprehensive program with many additional components. These components each incorporate significant public outreach and local watershed management capacity enhancement. They include an expansion of the Central Modoc Resource Conservation District monitoring program, including water quality monitoring; a community-based, cooperative rangeland management project that will provide for livestock grazing in a manner that protects water quality in the Warner Mountains; a paired watershed study on juniper management in seeps and spring areas and its effects on water storage and release on a watershed scale; and building capacity of the Pit River Watershed Alliance through education, outreach, and the strengthening of partnerships.



Jeff Steinman takes a water sample to detect nutrients in Horse Creek.

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Shasta West Watershed Assessment

Western Shasta Resource Conservation District



A restoration plan will be created after studying streams within the project area.

Award Amount
\$131,600

Watershed
Shasta West Watershed

County
Shasta County

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 2
State Assembly: 2
State Senate: 4

Purpose

The purpose of this project is to conduct a watershed assessment to document the existing conditions of the Upper Clear Creek watershed in Western Shasta County, laying the groundwork for the development of a comprehensive watershed management plan.

Project Goals

- Gather and document existing data for five streams in Western Shasta County.
- Assess the effect that watershed conditions may have on anadromous fish species and beneficial water uses.
- Identify data gaps.

Benefits to the CALFED Program

CALFED's Ecosystem Restoration Program Plan (ERPP) states that "an investment in the Clear Creek watershed will provide direct benefits to the creek and provide the types of restoration information needed to move the ERPP into subsequent implementation phases successfully." The Shasta West Watershed Assessment is an important first step in assessing conditions and developing a plan for restoration and improvements of these watersheds. This assessment will lead to the development of a comprehensive watershed management plan that will identify a number of measures, including erosion control, reduction of forest fuels, and urban runoff control to improve water quality and increase habitat for endangered and threatened fish species in the Bay-Delta Watershed.

Project Overview

Shasta County streams flow into the Sacramento River and continue to the Bay-Delta system. The health of these northern streams is directly connected to the health of the Bay-Delta. Additionally, the Western Shasta County watersheds are home to a number of important threatened and endangered anadromous fish species, including Chinook salmon and steelhead.

This project entails conducting a watershed assessment for streams located in the western portion of Shasta County, which includes Middle, Salt, Rock, Olney, and Canyon Creeks. These watersheds are tributaries to Clear Creek and home to a number of important species, including steelhead, salmon, and rainbow trout. However, urban development and the threat of wild fires threaten the habitat of these species. An assessment is key to developing and implementing a long-term comprehensive plan to restore ecological health and improve water management. The assessment focuses on land use, hydrology, water quality, stream channel morphology, fisheries and aquatic habitat, sediment sources, transportation development, and recreation. Information and data are being gathered to document existing conditions within the county's western watersheds. The assessment will provide clear direction to the Resource Conservation District; federal, state, and local agencies; and other stakeholders during the next phase: developing a watershed management plan and implementing on-the-ground projects.



An area of dense vegetation such as this creates fire hazard within the watershed.

Contact Information

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Promotion of Farming Best Management Practices and Calibration Technology to Mitigate OP Pesticide Runoff into the Sacramento River Watershed

Coalition for Urban/Rural Environmental Stewardship (CURES)



Landowners and agricultural pesticide users learn the relationship between pesticides and water resources.

Award Amount
\$308,000

Watershed
Sacramento River Watershed

County
Butte, Colusa, Glenn, Sutter, Tehama, Yolo, and Yuba Counties

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 2
State Assembly: 2 and 3
State Senate: 4

Purpose

Motivate growers to integrate permanent changes in their farm management practices to protect surface water quality.

Project Goals

- Implement a 3-year outreach and education program.
- Minimize the off-site movement of pesticides from farms into the Sacramento River Watershed surface flows.
- Minimize the off-site movement of pesticides from farms into the Sacramento River Watershed surface flows.
- Minimize toxicity to aquatic systems.
- Educate landowners and agricultural pesticide users about their own vulnerability to off-site movement of pesticides into streams and rivers.

Benefits to the CALFED Program

This project addresses the use of pesticides, namely diazinon, in farming practices throughout the Sacramento River Watershed. Pesticides, including diazinon, have been identified by the CALFED Program as contaminants of concern in both the Central Valley and the Delta. The Water Quality Program Plan proposes a number of actions to correct this water quality problem, including the development of education and outreach programs. This project is an education and outreach program to encourage growers to integrate changes in their farm management practices that have the best potential to protect surface water quality. Implementation of this project helps further the goals of both the Water Quality and Watershed Programs.

Project Overview

This project is a 3-year education and outreach program in the Sacramento River Watershed. Its aim is to motivate growers to integrate permanent changes into their farm management practices that have the best potential to protect surface water quality. Implementation of these practices will minimize the off-site movement of pesticides into surface waters of the watershed. This project is being implemented in partnership with the Sacramento River Watershed Program Organophosphate Focus Group, which is working to address diazinon runoff in Sacramento River watersheds.

Elements of the project include identifying growers who farm adjacent to rivers and creeks; creating and distributing water quality educational materials; conducting voluntary site assessments; and promoting best management practices to protect surface water.

Implementation of this education and outreach program is:

- Raising the awareness level of growers in the Sacramento River Watershed about pest management strategies, pesticide application methods and on-site practices that can minimize pesticide runoff and improve water quality and ecosystem conditions.
- Showcasing these practices through educational materials and events in the watershed.
- Creating and encouraging the completion of farm environmental site reviews.
- Tracking the adoption of management practices to protect water quality by growers in the watershed.
- Conducting monitoring and reporting to assess performance of the project.



The field on the left side of this picture has the potential to affect the stream running alongside it.

Contact Information

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A sunny day in the South Yuba River Corridor.

Award Amount
\$524,671

Watershed
South Yuba River Watershed

County
Nevada County

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 4
State Assembly: 3
State Senate: 4 and 1

Purpose

Develop a comprehensive resource management plan for the South Yuba River.

Project Goals

- Develop a watershed-based cooperative river management plan for a 40-mile stretch of the South Yuba River.
- Use the plan to guide the protection and improvement of a wide range of resources in the South Yuba River Watershed.

Benefits to the CALFED Program

The Yuba River Watershed is tributary to the Feather River, which, in turn, feeds into the Sacramento River. The Yuba River is one of the few remaining wild steelhead fisheries in the Central Valley. According to the ERPP, steelhead and spring-run Chinook salmon may greatly benefit from actions to restore access to historical holding, spawning, and rearing areas upstream of Englebright Dam. By conducting a watershed assessment, collaborative agency planning, and implementing restoration actions, this project helps ERPP achieve this goal by improving the health of the watershed. This project also furthers the goals of the Watershed Program by improving coordination and assistance among government agencies, developing a watershed assessment, and facilitating public outreach.

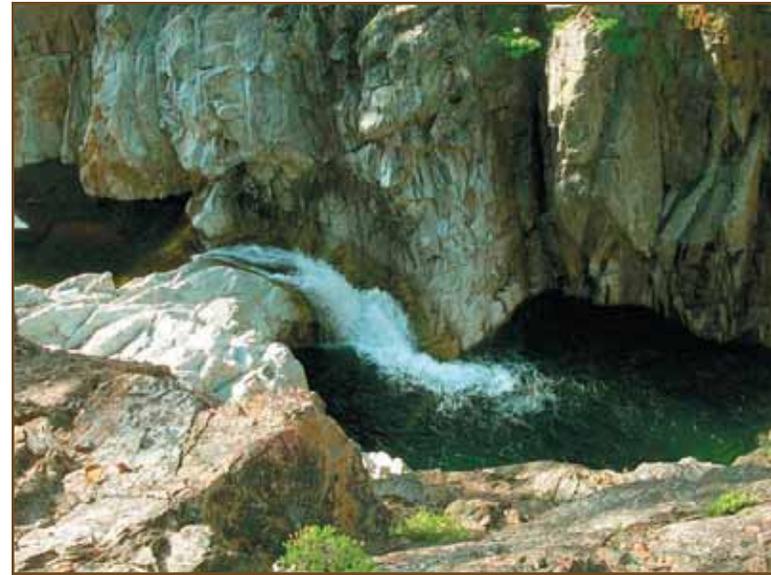
Project Overview

This project develops a resource management plan for a 40-mile reach of the South Yuba River between Spaulding and Englebright Reservoirs. The project reach is designated as a State Wild and Scenic River and is recommended for National Wild and Scenic River designation. The Yuba River supports highly valued populations of steelhead trout, resident rainbow trout, and fall-run Chinook salmon.

The project is led by a collaboration of agencies: the U.S. Forest Service, the Bureau of Land Management, and the California Department of Parks and Recreation. The management plan will serve as a long-term guide for the three cooperating agencies.

The project includes four major phases:

1. *Scoping.* The scoping phase includes a review of important resource planning and management issues, the identification of key-resource and social issues in the South Yuba River watershed, and the development of plan objectives using a community-based approach to guide the project.
2. *Watershed Assessment.* The watershed assessment conducted for the project reach identifies resource conditions. It also identifies land use and management practices (by location and type) that influence key resource conditions in the project area.
3. *Planning.* This phase includes the development of goals, objectives, and desired future conditions. These resource management interests are described through a community-based approach.
4. *Implementation.* This phase calls for implementing and monitoring actions identified in Phase 3 that address the range of desired future resource conditions.



The rushing South Yuba River cascades through a rocky canyon.

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Dry Creek Watershed Stewardship Group

Dry Creek Conservancy for Dry Creek Watershed Council



Water velocity is measured during a routine monitoring exercise.

Award Amount
\$266,990

Watershed
Dry Creek Watershed

County
Placer and Sacramento Counties

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 4
State Assembly: 4, 9, and 10
State Senate: 1, 4, and 6

Purpose

Develop technical and community support for watershed planning and plan implementation, and programs for long-term stewardship that can be transferred to similar, nearby watersheds.

Project Goals

- Develop ongoing watershed education for the community.
- Provide water quality monitoring services.
- Develop GIS information and data management to support planning and adaptive management.
- Develop organizational capacity to support ongoing planning and adaptive management.

Benefits to the CALFED Program

The Ecosystem Restoration Program (ERP) designates Dry Creek as part of the American River Basin Ecological Management Zone, contributing to one of the Delta's largest tributaries. The ERP identifies coordinated resource management and planning groups (CRMPs) as integral to the restoration of the Sacramento River Watershed. The Dry Creek Watershed Council is working to implement several Watershed Program and ERP goals for the American River Basin, including recovery of Central Valley steelhead and fall-run Chinook salmon, restoration of ecological habitats, reducing fine sediment loading, and supporting the development of locally sponsored watershed planning. Conservation is a locally driven activity that recognizes that communities must engage in collective behavior that improves natural systems at the local level.

Project Overview

This project consists of four groups of activities to improve management of the Dry Creek Watershed, a tributary to the Sacramento River. These activities are the result of ongoing discussions with state agencies and interested local parties in the Dry Creek Watershed.

Stewardship. Stewardship includes the Citizen Steward Program, which establishes a forum for the public to learn about watershed management and restoration, and the Sierra College Watershed Ecology Technician Program. Together these programs train interested individuals to do watershed assessment, monitoring, restoration, and ongoing maintenance.

Data Management. Data management focuses on developing a GIS database of watershed information to discover relationships among biological data, geomorphology, land use, and other features of the watershed. Existing data from visual assessments, macroinvertebrate monitoring, fish surveys, and habitat typing information are being expanded. Dry Creek Conservancy is researching the usefulness of integrating remote imagery into the database. GIS data and interpretation are shared within and outside the watershed and will contribute to the management plans being developed by Placer County and the City of Roseville.

Project Development. Project development activities support Dry Creek Conservancy contributions to stream and wetlands restoration projects, development of a watershed center, organization of cooperative flow monitoring with the Placer County Flood Control District and the City of Roseville, and completion of a visual assessment of erosion and deposition on Dry Creek.

Organizational Capacity Building. Organizational capacity building provides administrative support for the Dry Creek Conservancy to facilitate project development and funding.



Volunteers chip aianthus trees removed from a riparian area in Roseville.

Contact Information

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*Measuring flow in the Willow Slough Bypass,
on the western side of the Yolo Bypass.*

Award Amount
\$288,081

Watershed
Yolo Bypass Watershed

County
Yolo County

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 1 and 3
State Assembly: 8
State Senate: 2 and 5

Purpose

The overall goal of this project is to produce a comprehensive plan to improve water quality within the Yolo Bypass. The plan will account for the diverse interests in, and uses of, the Bypass and aims to make the best and most reasonable use of funds available.

Project Goals

- Identify specific Pollutants of Concern (POCs) currently impacting the beneficial uses of surface waters in the Bypass and downstream Bay-Delta.
- Identify effective, implementable controls for the high priority POCs.
- Develop a comprehensive management plan to improve water quality in the Bypass.

Benefits to the CALFED Program

The Yolo Bypass floodway drains into the Sacramento–San Joaquin River Delta, a source for a number of beneficial uses, including municipal drinking water supplies, water-related recreation, crop irrigation, and aquatic life and wildlife habitat. The Yolo Bypass Watershed Planning Project supports the improvement of Bay-Delta water quality and ecosystem health through a locally based watershed planning program. The project intends to reduce pollutants in the Yolo Bypass, including mercury, other trace metals, and pesticides, that have been identified by the CALFED Water Quality Program as contaminants of concern in the Central Valley. This project provides an opportunity for citizens to participate in watershed monitoring and management planning, and to increase local awareness of CALFED Program goals.

Project Overview

The Yolo Bypass Watershed Planning Project involves development of a water quality management plan for the Yolo Bypass. The 59,000-acre Yolo Bypass floodplain drains directly into the Sacramento–San Joaquin River Delta near Liberty Island. Water quality monitoring has indicated that surface waters in the Bypass do not consistently meet state water quality objectives for some conventional and toxic pollutants. Discharges to the Bypass have been found to include metals, pesticides, and other organic chemicals and toxins to sensitive aquatic life. Beneficial uses of concern for the Bypass include water-related recreation, crop irrigation, aquatic habitat, and wildlife habitat. A major additional beneficial use of the downstream Delta is municipal drinking water supply for northern and southern California. Delta waterways are listed on the State’s Clean Water Act (303d) list of impaired water bodies.

Through a locally led surface water monitoring program, the Yolo Bypass Watershed Planning Project identifies specific pollutants of concern that are currently affecting beneficial uses of surface waters in the Yolo Bypass and Sacramento–San Joaquin River Delta. This information is then used to inform a community-based, collaborative process to identify effective, implementable pollution control techniques for urban runoff, agriculture, and publicly owned dischargers.

The expected outcome of the watershed management planning project is the production of a comprehensive plan for improvement of water quality within the Yolo Bypass. Implementation of this plan will directly benefit Bay-Delta water quality and will improve aquatic ecosystem quality.



Agricultural drain looking eastward into the southern Yolo Bypass.

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American River Conservancy Water Quality Assessment: South Fork American and Cosumnes River Basins

American River Conservancy



Volunteers participate in a training session.

Award Amount
\$96,700

Watershed
American and Cosumnes River Watersheds

County
Amador, Calaveras, El Dorado, Nevada, and Placer Counties

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 3 and 4
State Assembly: 4 and 10
State Senate: 1

Purpose

Improve stream monitoring analyses and watershed management decisions within the South Fork American and Cosumnes River Basins.

Project Goals

- Identify reference stream conditions within the study region.
- Determine the effect of water diversion on stream habitat quality.
- Facilitate the communication of information among regional water quality monitoring groups and public agencies.

Benefits to the CALFED Program

The South Fork American and Cosumnes Rivers support endangered anadromous fish populations and have been identified by the Ecosystem Restoration Program (ERP) as target watersheds for restoration activities. The visions for the American and Cosumnes Rivers include restoring an ecologically based streamflow plan, modifying floodplain and channel conditions, and supporting the development of locally sponsored watershed planning. This project supports those goals by identifying stream conditions that can be used as models for natural streamflows, natural ecosystem and channel conditions, and restored watershed functions. This effort also ensures long-term sustainability of local watershed activities by collecting baseline data and providing a clearinghouse for information exchange among groups.

Project Overview

The goals of the American River Conservancy (ARC) Water Quality Assessment are to improve stream monitoring analyses and watershed management decisions within the South Fork American and Cosumnes River basins. This is a three-part process.

Identify reference stream conditions. Reference streams are those that most clearly approximate natural conditions and that have been relatively undisturbed by human activity. Reference streams help determine best-quality habitat conditions to which watershed managers and conservation groups may compare stream conditions to make more informed land and water-use decisions.

Determine the effect of water diversions on stream habitat quality. There are 247 known water diversions within the Cosumnes River Basin. Prior to this project, no data existed that addressed the effects of water diversions as a point source disturbance to Cosumnes stream communities. Determining the effects of such diversions on stream health is assisting watershed managers and conservation groups to prioritize actions and decisions within this region.

Facilitate communication among regional water quality monitoring groups and public agencies. Several independent stream monitoring groups are working in the 5-county central Sierra Nevada foothills region, from Nevada County to Calaveras County. Prior to this project, the regional usefulness of data within these groups was limited by a dearth of easily comparable data and a lack of communication among groups. This project creates a data organization and distribution repository to facilitate dissemination of stream monitoring information among these central foothill monitoring groups.



Stream monitoring in progress.

Contact Information

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Capay Valley Community Action Plan

Capay Valley Vision Inc.



A bedded field in Capay Valley.

Award Amount

\$40,000

Watershed

Cache Creek Watershed

County

Yolo County

CALFED Region

Bay Region

Legislative Districts

US Congress: 2

State Assembly: 2

State Senate: 5

Purpose

Develop a Community Action Plan for the Esparto–Capay Valley area of the Cache Creek Watershed.

Project Goals

- Establish a shared vision for the future of the region and identify actions necessary to achieve defined goals.
- Create a collaboration of farmers, ranchers, rural residents, and tribal representatives.
- Research and produce a Capay Valley Atlas.

Benefits to the CALFED Program

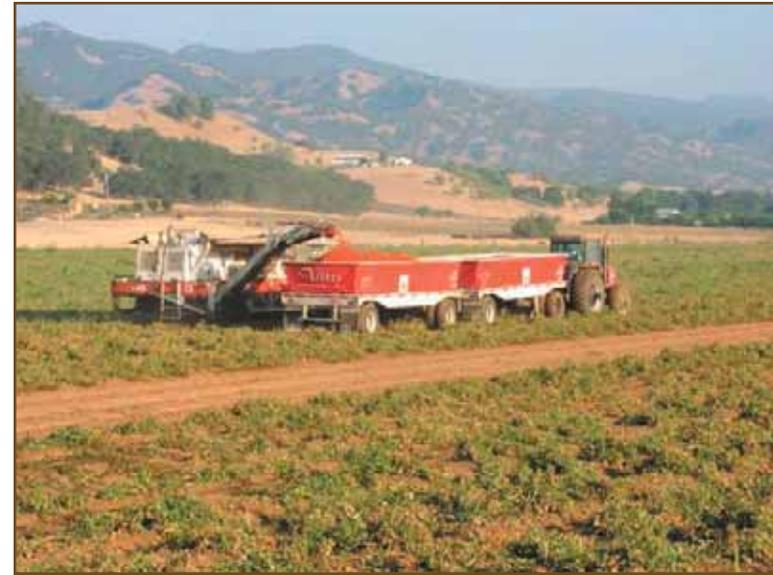
This project is a true grassroots effort to develop a shared vision for the future of the Capay Valley and the middle reach of Cache Creek. The project is a model for other rural communities and provides great benefits to the local community and to the CALFED Program. The Ecosystem Restoration Program Plan states that supporting the involvement of local citizens and interested parties would help to restore and maintain Cache Creek. The Watershed Program recognizes that the goals of watershed management can be achieved only if they are supported by those who are likely to influence changes in the watershed. Through implementing this project, Capay Valley Vision adds credibility and energy to effective watershed management and restoration efforts.

Project Overview

The Capay Valley is located in western Yolo County in the Cache Creek watershed. The rural area has been in agricultural use since the 1850s but is now facing increasing pressures from the Sacramento and the San Francisco Bay areas. New development in the town of Esparto, together with a rapidly developing Indian casino on tribal lands in the lower Capay Valley, is threatening to overwhelm the valley's rural character and agricultural economy. The increased development can have a significant impact on the natural resources of the Cache Creek Watershed, which is in some areas already degraded and in need of restoration.

This project develops an action plan for the rural communities of the Capay Valley. The plan's purpose is to establish a shared vision for the future of the region and to empower local residents to shape their future. The collaborative process involves farmers, ranchers, rural residents, farm workers, and tribal representatives of the Rumsey Rancheria. It is designed to achieve general agreement on a desired future for the Capay Valley and to foster civic engagement within the community. The Community Action Plan is helping to manage what many see as inevitable growth and development in a way that protects the rural values of the area and promotes the ecological health of the watershed within the context of environmental justice.

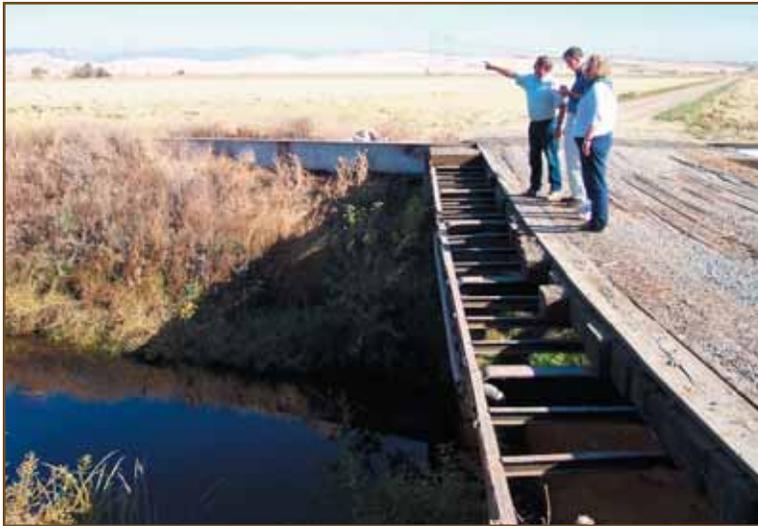
The project is designed in four phases. The first phase is the development of a Capay Valley Atlas. The Atlas includes local soil and water resources conditions, demographics, existing infrastructure and needs, and economic trends. The second phase entails a series of "Creating the Vision" workshops. The workshops are focused on developing consensus on a general vision statement. The next phase develops strategies to rank priorities for action, and subsequent accomplishment. Lastly, the fourth phase develops the Community Action Plan itself.



Tomato harvesting in progress.

Contact Information

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Cherokee Watershed stakeholders tour candidate water quality monitoring sites on Cottonwood Creek.

Award Amount
\$93,815

Watershed
Cherokee Watershed

County
Butte County

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 2 and 4
State Assembly: 2 and 3
State Senate: 4

Purpose

To build a formal, broad-based collaborative stakeholder watershed organization to address severe flooding, sedimentation, and heavy metal contamination issues in the Cherokee Watershed.

Project Goals

- Perform watershed assessments and ongoing monitoring.
- Develop a watershed plan.
- Implement stewardship activities.

Benefits to the CALFED Program

The Cherokee watershed is a part of the Ecosystem Restoration Program's (ERP's) Butte Basin Ecological Management Zone. It contributes to the waterfowl-friendly marshes of the Butte Sink and has been identified as a recharge zone for the Butte Basin Aquifer. This project is raising citizen awareness about the importance of overall watershed health and restoration. It synthesizes watershed data in a usable format and collects important new data through citizen monitoring efforts. Once this is completed, the Cherokee Coordinated Resource Management and Planning Group will pursue the next steps to complete the assessment and planning and begin implementation and restoration activities.

Project Overview

This project is the result of meetings held by an informal watershed group initiated in September 2000 by the Cherokee Coordinated Resource Management and Planning Group (CRMP). These meetings focused on scoping watershed issues and increasing citizen awareness and understanding of priority issues such as flood control, non-point source pollution, and endangered species. This informal watershed group developed a plan to build a sustainable, broad-based, collaborative stakeholder watershed group to perform assessments and ongoing monitoring, develop a watershed plan, and implement stewardship activities in the Cherokee Watershed.

Keystones of this 21-month capacity-building project are to hold community watershed meetings, develop a Citizen Monitoring Initiative, and conduct field tours. This project funds a half-time Watershed Coordinator to synthesize existing data sets, coordinate events and citizen monitoring, facilitate meetings, manage logistics, and conduct outreach activities.

Watershed meetings focus on raising awareness in the community, promoting communication, and getting organized. Participants are gaining a greater understanding of watershed problems and are working toward solutions in the watershed. They are also helping craft a formal collaborative organization to maintain and improve the watershed and working with the State Water Resources Control Board Clean Water Team to ensure appropriate sampling and monitoring protocols for water quality data.

Concurrent with this effort, the group is working to compile existing scientific studies and data for the watershed into a summary document that identifies additional data needs and serves as a reference for public discussions and individual landowner decisions about the watershed.



View upstream from a water quality monitoring station on Dry Creek.

Contact Information

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Large equipment is often necessary to remove nonnative invasive species.

Award Amount
\$222,200

Watershed
Cache Creek Watershed

County
Yolo County

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 1
State Assembly: 8
State Senate: 5

Purpose

The purpose of this project is to remove and control nonnative species Tamarix and Arundo donax, encourage revegetation with native riparian species, and conduct long-term monitoring along a 14-mile stretch of the lower Cache Creek Watershed.

Project Goals

- Remove nonnative invasive species (Tamarix and Arundo donax) in the lower Cache Creek Watershed.
- Conduct post-removal management.
- Conduct monitoring along 13 sites in the lower Cache Creek Watershed.
- Conduct community outreach.

Benefits to the CALFED Program

Cache Creek flows into the Sacramento River floodplains of the Yolo Bypass and has been identified as a target of the Ecosystem Restoration Program. Control of the invasive species Arundo donax and Tamarix is of particular concern because they displace native flora, offer marginal value to fish and wildlife, and cause channel instability. Heavy infestation of these species can increase sediment deposition, which in turn substantially reduces channel capacity, increasing the potential for levee overtopping and subsequent failure. These species also offer little shading over the creek, causing higher water temperatures and altered water chemistry. Controlling Arundo donax and Tamarix in the lower Cache Creek Watershed will greatly benefit the local watershed and contribute to the goals of the CALFED Program.

Project Overview

Nonnative species, specifically *Arundo donax* and *Tamarix*, have been a part of the Cache Creek Watershed for decades. Originally introduced as ornamentals and recommended for erosion control, these invasive species have quickly worked their way into much of the watershed and have become a dominant species on creek banks and in adjacent riparian areas. These nonnative species are crowding out the remaining native vegetation, building midstream islands, disrupting the flow regime, and increasing flooding on adjacent lands. *Tamarix* and *Arundo donax* are efficient sediment traps that over time can build islands to a height of 10 feet.

This project removes approximately 300 acres of *Tamarix* and *Arundo donax* within riparian areas between the Capay region and the Interstate 5 bridge. The invasive species are removed mechanically with specially designed equipment and the biomass left in place. At sites where mechanical removal is not feasible, manual methods are used. One herbicide spray application will be applied within 30 days of mechanical treatment.

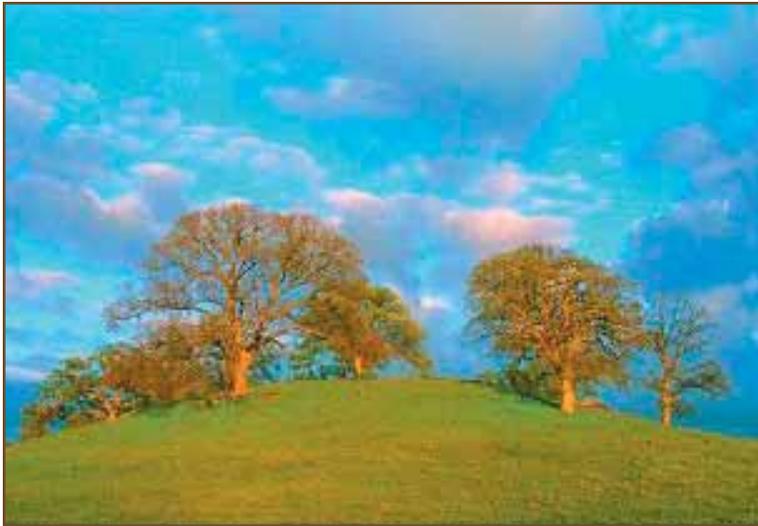
An essential component for success in nonnative invasive species control projects is post-removal management. The target weeds routinely shed hundreds of thousands of seeds per plant. Removal of invasive species will be followed by a resprout spray program. Follow-up spraying will continue at the sites as needed for the life of the grant. In addition, an ongoing endeavor to implement an integrated pest management program will be coordinated with the invasive species removal. The project will also be complemented by a monitoring program at 13 sites along the lower Cache Creek Watershed and a community outreach program.



Dedicated workers attempt to remove nonnative invasive species by hand.

Contact Information

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A sunny day in the Pleasant Grove/Curry Creek Watershed area.

Award Amount
\$425,764

Watershed
Auburn Ravine, Pleasant Grove, and Curry Creek Watersheds

County
Placer County

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 4
State Assembly: 4
State Senate: 4

Purpose

Facilitate the development and implementation of a comprehensive resource management plan (CRMP) for the Pleasant Grove/Curry Creek Watersheds and refine an ecosystem restoration plan for the Auburn Ravine and Coon Creek Watersheds.

Project Goals

- Prepare a coordinated resource management plan for the Pleasant Grove/Curry Creek Watersheds.
- Refine an ecosystem restoration plan for Auburn Ravine and Coon Creek Watersheds.
- Develop a formal sampling and monitoring plan.
- Increase outreach and education efforts.

Benefits to the CALFED Program

Implementation of the Comprehensive Resource Management Plan will result in the reduction of a number of primary stressors, including alteration of flows and other effects of water management, channel form and floodplain changes, erosion, water quality, water temperature, and land use. Reduction and/or removal of these stressors will provide direct and indirect benefits to species of high priority to the Ecosystem Restoration Program such as steelhead, spring-run and fall-run Chinook salmon, splittail, delta smelt, and red- and yellow-legged frogs. In addition, increased citizen involvement and monitoring will enhance the community's ability to take care of and make decisions for the health of its own watersheds.

Project Overview

This project encompasses the Auburn Ravine, Coon Creek, Pleasant Grove, and Curry Creek Watersheds in western Placer County. The creeks, by way of the Cross Canal, are tributaries to the Sacramento River. The Pleasant Grove and Curry Creek Watersheds are the only watersheds in western Placer County that do not have a coordinated resource management program (CRMP) in place, yet they are experiencing the most significant changes as a result of a major population increase in the area. Currently, many decisions are being made regarding flood control, water supply, wastewater treatment, and erosion control with little or no knowledge of the implications for long-term watershed health. A comprehensive plan to address watershed issues is needed and will assist decision-makers in making more informed choices.

This project conducts the following tasks:

- facilitate and support the development and implementation of a CRMP for the Pleasant Grove/Curry Creek Watersheds in order to reduce the long-term sediment load carried by the creeks and to identify sources of water quality contamination;
- expand an existing citizen monitoring program to include all of the western Placer watersheds;
- increase citizen involvement and coordination of all activities in the watersheds through the utilization of a watershed coordinator; and
- refine an Auburn Ravine/Coon Creek baseline condition report presently under development.



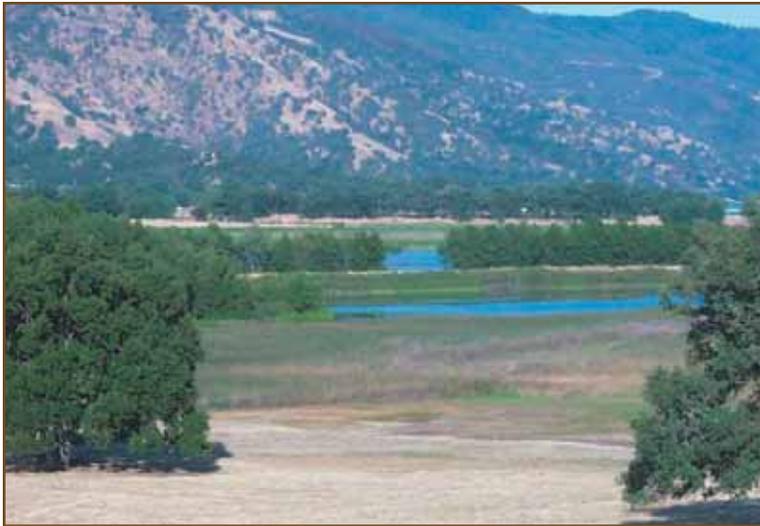
Members of the Placer County Planning Department analyze resource information.

Contact Information

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Middle Creek Ecosystem Restoration Project—Design Phase

Lake County Flood Control
and Water Conservation District



Rodman Slough and the south end of the project area.

Award Amount

\$135,818

Watershed

Clear Lake Watershed

County

Lake County

CALFED Region

Sacramento Valley Region

Legislative Districts

US Congress: 1

State Assembly: 1

State Senate: 2

Purpose

Preparation of a detailed plan with specifications and cost estimates to restore up to 1,218 acres of wetland and open water and 480 acres of floodplain of previously reclaimed land at the north end of Clear Lake.

Project Goals

- Restore wetlands and habitat.
- Reduce flood damage.
- Improve water quality in Clear Lake.
- Preserve existing resources.
- Enhance recreation and tourism.

Benefits to the CALFED Program

This project restores habitat and water quality at Clear Lake, the largest natural freshwater lake located entirely within California. Clear Lake is a naturally shallow lake and is the headwaters of Cache Creek, a tributary to the Sacramento River and Bay-Delta system. This project involves habitat restoration design for approximately 1,700 acres of wetland, open water, and floodplain habitats on Clear Lake. Completion of environmental documentation and design of the project will lead to implementation that will provide direct benefits to the Bay-Delta system. It meets CALFED Program goals to restore riparian, wetland, and open water ecosystems, and to improve water quality by improving flood control and reducing erosion and siltation to Clear Lake, which flows to Cache Creek and on to the Bay-Delta.

Project Overview

This project is the third of four phases in the Middle Creek Ecosystem Restoration Project. The overall project will restore up to 1,218 acres of wetland and open water and 480 acres of floodplain of previously reclaimed land at the north end of Clear Lake. Phase One, the Reconnaissance Study, has been completed and Phase Two, the Feasibility Study and environmental documentation, are underway. This project is Phase Three. It generates a detailed plan, specifications, and cost estimates of the selected construction alternative, in preparation for construction in Phase Four.

The project area was reclaimed from Clear Lake for agricultural and residential purposes between 1900 and 1958. Most of the land behind the levees is below the normal high water level of Clear Lake. Because of the soil type in the project area, the levees are subject to settlement and failure, and the U.S. Army Corps of Engineers estimates that the current levees provide only 4 years of protection.

Restoration in the project area includes acquiring property below the 100-year floodplain of Clear Lake, removing structures and unnecessary infrastructure, retrofitting roads and utilities that pass through the project area, constructing passive recreation opportunities, constructing channels to direct flows through the project area, planting native plants, and breaching levees to allow flooding and flow. The area will be allowed to revegetate naturally and will revert to natural habitat after the initial years of restoration, increasing the shoreline habitat around Clear Lake. Restoration of flows from nearby creeks into the project area will result in settling some of the suspended sediments prior to entering Clear Lake, thereby reducing the nutrient loading in Clear Lake, resulting in improved water quality.



Project site looking to the northwest.

Contact Information

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Lakeport, CA 95453
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E-mail: bob_l@co.lake.ca.us



Spawning gravel is injected just below Whiskeytown Dam as the Dam prevents the natural flow from the upper reaches of the watershed.

Award Amount
\$378,899

Watershed
Sacramento River Watershed

County
Shasta County

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 2
State Assembly: 2
State Senate: 4

Purpose

Acquire, generate, analyze, and interpret watershed data needed by watershed groups, government agencies, and other organizations interested in watershed management.

Project Goals

- Acquire, analyze, interpret, and generate scientific data for use by citizens.
- Develop a WIM to help make sound scientific data readily available to watershed groups; local, state, and federal agencies; education institutions; and other interested citizens to help improve watershed management.
- Provide an online data catalog of GIS files with interactive viewing capabilities and real time updates.
- Include an outreach program to advertise the availability of the WIM.

Benefits to the CALFED Program

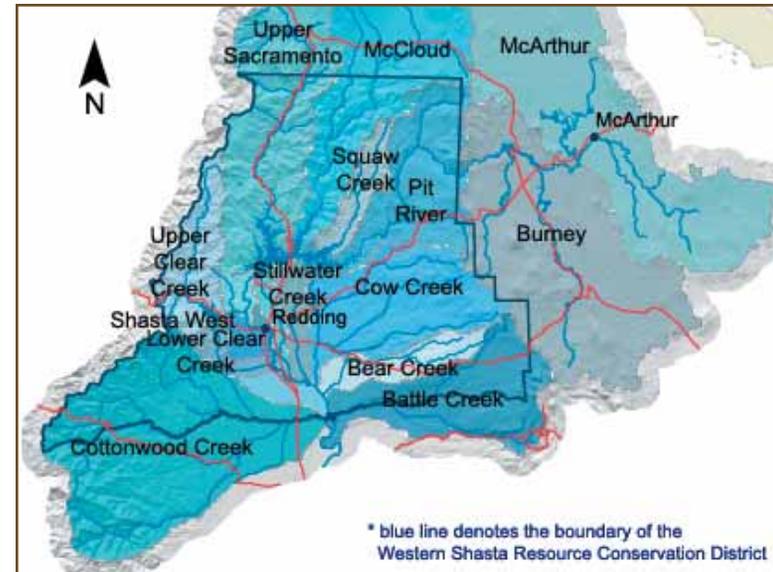
The WIM recognizes the importance of linking scientific research and scientific data to support watershed management decisions. Better informed decisions are crucial to achieving the CALFED Program goals of improving ecosystems and water quality. This project provides development and exchange of sound scientific data among citizen groups and organizations; local, state and federal agencies; and others interested in improving watershed management and the Bay-Delta system. The WIM is providing web-based data, including historical data, physical attributes of watersheds, and other information that will help meet current and future data needs. The available information ultimately will lead to improved understanding and management of the watersheds of the Bay-Delta system.

Project Overview

This project makes sound scientific data available through the Internet to watershed groups; local, state, and federal agencies; education institutions; and other interested citizens. The data are used to improve decision-making and adaptive watershed management intended to improve watershed health in the Western Shasta watersheds. The project helps to link scientific research with science education and science-based watershed management. It offers unprecedented opportunities for the scientific community to acquire, analyze, interpret, and distribute new science data to formal and informal learning settings for use by students, citizens, and watershed groups.

This project is developing a Watershed Information Model (WIM). A WIM is an information resource center that enables watershed-related data sharing. The data include historical information, physical features, and other watershed attributes. The WIM includes readily accessible web-based data, a data catalog of GIS files with interactive viewing capabilities, real time updates, and other features.

The WIM links agency and research data with education and land management activities, offering interactive information instead of a static website. The WIM also supports opportunities for student research, internships, and mentoring at the college level. The WIM adds support for decision-making in watershed management, including monitoring, research, and project planning and implementation. It enables feedback loops to integrate knowledge and experience to improve adaptive management. Information exchange also helps to improve communication among agencies, watershed groups, individuals, trade organizations, interest groups, and others active in the watershed. It provides a shared database of science information necessary for making responsible decisions on watershed issues.



Watersheds within the Western Shasta Resource Conservation District are detailed in this WIM.

Contact Information

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The Yuba River is a haven for recreationists of all types.

Award Amount
\$192,300

Watershed
Yuba River Watershed

County
Yuba County

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 2 and 4
State Assembly: 3
State Senate: 4

Purpose

Develop a community-based planning process and strategy for economically, socially, and environmentally sustainable natural resource and habitat management practices in the lower Yuba River Watershed.

Project Goals

- Develop a comprehensive, detailed plan to coordinate and facilitate acquisition of priority land and conservation easements from willing sellers.
- Conduct public participation and outreach to inform the local community about conservation of important heritage lands along the Yuba River.

Benefits to the CALFED Program

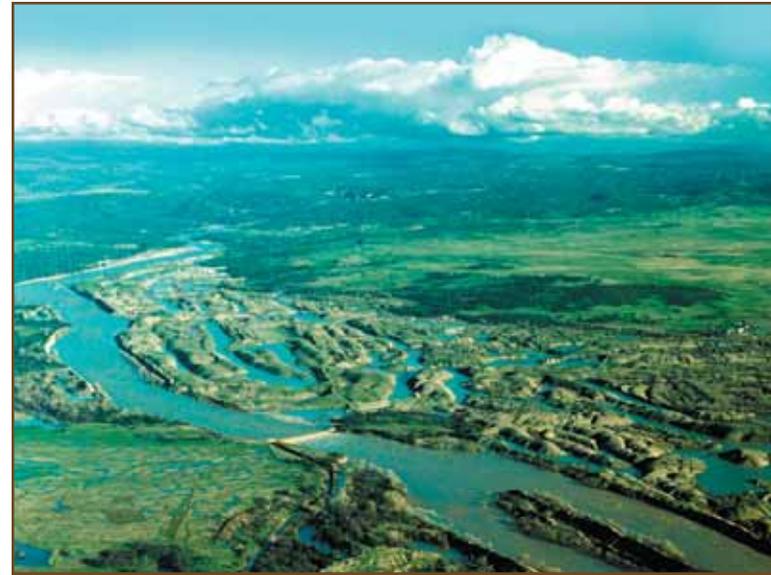
According to the Ecosystem Restoration Program Plan (ERPP), the Yuba River is one of the most important ecological management units in the Feather River Ecological Management Zone. The river supports highly valued populations of steelhead trout, resident rainbow trout, and fall-run Chinook salmon. The lower Yuba River also supports a seasonal American shad sport fishery. By protecting and conserving riparian areas in the lower Yuba River watershed, this project will help to ensure the survival of these highly valued species. In furthering the restoration of this ecosystem, this project also helps to protect water quality for beneficial uses.

Project Overview

According to growth projections for the Central Valley, population growth in the lower Yuba River Watershed is rapidly accelerating. While this population growth creates new economic opportunities, it also creates new challenges for managing natural resources—particularly for managing sensitive aquatic and wildlife habitat and water quality. Pressures to convert open space and working agricultural landscapes are increasing and will likely continue to do so.

The Yuba River Conservancy (YRC) is a collaborative alliance of public agencies, private organizations, businesses, landowners, and other citizens. The YRC is dedicated to conserving and restoring wildlife, aquatic and terrestrial habitats, and public access and recreation in the lower Yuba River Watershed. The YRC has begun a collaborative community-based planning process to identify high priority lands and riparian areas for protection and restoration through acquisition of habitat lands, conservation and agricultural easements, and conservation management practices. A key principle in this endeavor is that any land transactions planned or contemplated will be done only with willing sellers.

The goals of this YRC project include improving water quality in the Yuba River and Bay-Delta and enhancing ecosystem functions and terrestrial and aquatic habitats along the lower Yuba River corridor. The project supports sustainable and diverse plant and animal species as well as other beneficial uses, including agriculture and drinking water supplies. YRC is focusing this planning process on the lower Yuba River Watershed. Key members engaged in land acquisition and management are operating in the context of a watershed approach to their decisions and actions.



Daguerre Point Dam and the Yuba Goldfields in flood.

Contact Information

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Lower Putah Creek Watershed Assessment and Stewardship Implementation Program

Solano County Water Agency/Lower Putah Creek Coordinating Committee



Bird box program field work in progress.

Award Amount
\$600,000

Watershed
Lower Putah Creek Watershed

County
Solano and Yolo Counties

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 7 and 10
State Assembly: 8
State Senate: 5

Purpose

Restore ecosystem processes and aquatic and terrestrial habitats in Lower Putah Creek Watershed.

Project Goals

- Facilitate stakeholder process to identify issues of concern.
- Conduct a comprehensive biological and physical resource assessment.
- Develop a stakeholder-based Watershed Management Action Plan.
- Implement restoration and enhancement projects.

Benefits to the CALFED Program

The Ecosystem Restoration Program Plan identifies improvements to streamflow and riparian habitats within the Sacramento Valley as critically important, and has set a priority for providing permanent connections between the mouth of Putah Creek and the Delta to increase opportunities for steelhead trout and fall-run Chinook salmon to use Putah Creek. This project is assisting with this goal and leading to a healthier, more intact stream system; providing high quality habitat for fish, wildlife and native plant species; and increasing recreational opportunities for the communities along the creek. This project also contributes to the goals and objectives of the CALFED Program by building local capacity to better manage the Putah Creek Watershed and achieve improved water quality within the Bay-Delta system.

Project Overview

This project is a component of a three-phased approach to restore ecosystem processes and aquatic and terrestrial habitats in the Lower Putah Creek Watershed, including Lower Putah Creek and its tributaries. The lower Putah Creek Watershed begins at Monticello Dam (Lake Berryessa) and continues 30 miles downstream to Putah Creek's confluence with the Yolo Bypass, which carries Putah Creek water to the Bay-Delta. Although the lower Putah Creek represents one of the most extensive remaining tracts of high quality wildlife habitat in Yolo and Solano Counties, and is home to a unique assemblage of fish and special-status wildlife species, it suffers from substantial infestations of invasive weeds, eroding banks and causing habitat loss and degradation, flood-related problems, and non-point source pollution. The three-phased approach includes:

- Phase I: Stakeholder facilitation and identification of issues
- Phase II: Development of a comprehensive biological and physical resource assessment and development of a stakeholder-based Watershed Management Action Plan
- Phase III: Implementation of technically defensible and sustainable restoration and enhancement projects.

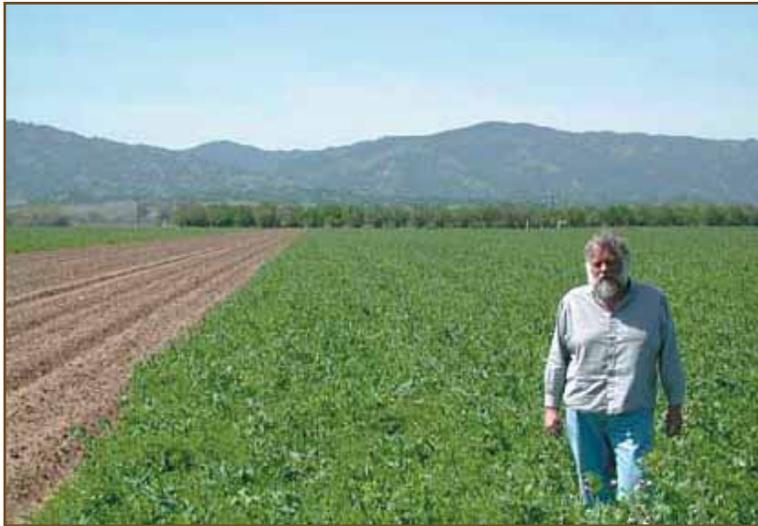
This project continues the progress made under Phase I and expands its geographic scope to include Pleasant Creek. This project also initiates and implements the Phase II comprehensive resource assessment of lower Putah Creek and its tributaries. As part of Phase III, this project implements the specific prioritized and urgent restoration and enhancement actions and continues projects already identified or underway. As the project progresses, additional Phase III projects will be identified that could be funded by other sources.



Lake Berryessa's morning glory spillway.

Contact Information

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Cover crop trials in progress.

Award Amount
\$118,000

Watershed
Cache Creek Watershed

County
Yolo County

CALFED Region
Sacramento Valley Region

Legislative Districts
US Congress: 2
State Assembly: 2
State Senate: 5

Purpose

Provide resources for outreach to diverse participants to coordinate activities in support of better management of the watershed.

Project Goals

- Educate landowners and support watershed stewardship through on-the-ground demonstration and education projects.
- Promote collaboration and partnerships between diverse stakeholders and agencies involved in activities in the watershed.
- Facilitate landowner conservation efforts.
- Monitor the project's effects and communicate results within the community and throughout the CALFED region.

Benefits to the CALFED Program

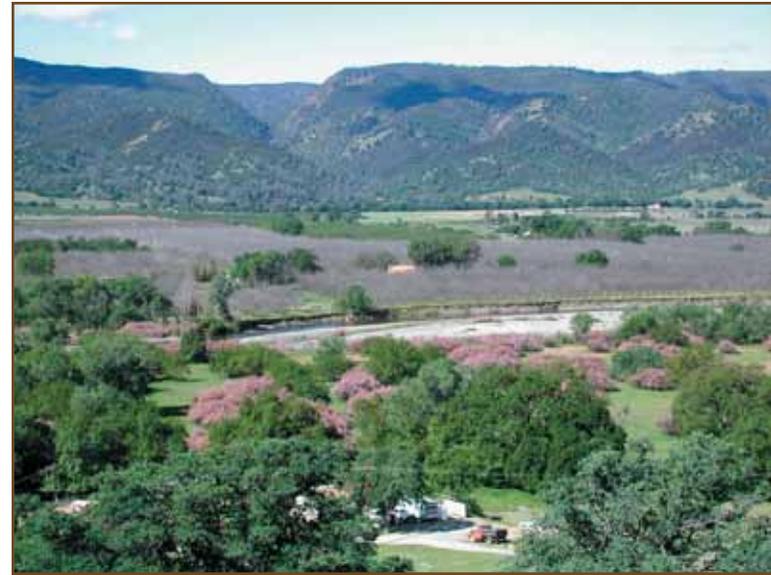
Cache Creek is part of the Ecosystem Restoration Program's (ERP) Yolo Basin Ecological Management Zone. The ERP Plan (ERPP) acknowledges the need to reduce mercury loads into the watershed, improve riparian habitat, and control streambank erosion within the watershed. The ERPP also states that supporting the involvement of local citizens and interested parties in existing organizations such as the Cache Creek Stakeholders Group would help to restore and maintain Cache Creek. Therefore, this project, which is being implemented in collaboration with the Cache Creek Stakeholders Group, is helping to achieve both the goals of the local community and those of the CALFED Program.

Project Overview

The Capay Valley subwatershed of Cache Creek in Yolo County consists of roughly 60,000 acres with 24 miles of meandering river. The upstream watershed's history of gold and mercury mining has left a legacy of high mercury levels in the creek. Upstream management practices as well as natural fluvial processes have also contributed to high sediment loads traveling downstream. Other issues of concern include invasive noxious plants and excessive streambank erosion in the Capay Valley.

In order to alleviate and reverse these problems, the Yolo County Resource Conservation District (RCD) and the Cache Creek Watershed Stakeholders Group (CCWSG) are working together on the Capay Valley Watershed Improvement Project (CVWIP). The goals of the CVWIP are to (1) educate landowners and support watershed stewardship, (2) facilitate landowner conservation efforts, and (3) develop a comprehensive watershed management plan to direct conservation efforts. The RCD and the CCWSG are working closely with Capay Valley Vision and the Cache Creek Conservancy to encourage collaborative watershed stewardship.

This project focuses on outreach to diverse stakeholders, watershed groups, agencies, and others to coordinate activities supporting better watershed stewardship. There are three primary tasks. The first task is to plan and implement hands-on demonstration projects in the watershed and create a framework to provide permitting assistance to landowners for restoration projects. The second task is to maintain and monitor the demonstration project sites for successful establishment, effectiveness, and watershed health benefits for use in outreach and adaptive management. The third task is to communicate project techniques and results within and beyond the watershed through an outreach program, regular stakeholder meetings, and coordination among various watershed groups.



A view of Cache Creek and the Capay Valley.

Contact Information

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E-mail: robins@yolorcd.ca.gov



Bay Region

-
- Napa River Watershed Mapping Partnership**
San Francisco Regional Water Quality Control Board
 - Stewardship Support and Watershed Assessment in the Napa River Watershed: A 2-Year Project**
Napa County Resource Conservation District
 - Sonoma Creek Watershed Conservancy: Outreach and Restoration**
Sonoma Ecology Center & others
 - Codornices Creek Watershed Restoration Action Plan**
Urban Creeks Council
 - Partnership for Sub-regional Watershed Forums and a Watershed Center**
Merritt College Environmental Program
 - Yosemite Watershed Restoration Assessment Project**
Bayview – Hunters Point Community Advocates/ARC Ecology
 - San Francisquito Creek Watershed Enhancement Program**
San Francisquito Watershed Council, a Project of Acterra
 - Almaden Reservoir Watershed Restoration Project**
Santa Clara Valley Water District
 - Lagoon Valley Watershed Restoration**
City of Vacaville Community Services Department
 - Citizen Involvement and Regional Outreach Program**
Aquatic Outreach Institute
 - Contra Costa County Watersheds Altas and Creek Restoration Strategy**
Contra Costa County Community Development Department
 - Walnut Creek Watershed**
Contra Costa Flood Control District & Water Conservation District
 - Upper Guadalupe River Tributary Monitoring Program and Pilot Restoration Project**
Guadalupe Coyote Resource Conservation District
 - Stewardship Plans for West Valley, Guadalupe, and Lower Peninsula Watershed areas of Santa Clara County**
Santa Clara Valley Water District

Bay Region Projects

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Picturesque Lagoon Valley is situated between the Vaca Mountains to the west and the Laguna Hills.

Award Amount
\$431,000

Watershed
Lagoon Valley Watershed

County
Solano County

CALFED Region
Bay Region

Legislative Districts
US Congress: 7
State Assembly: 8
State Senate: 2

Purpose

Reduce sediment production into Lagoon Valley and associated waterways affecting the Bay-Delta.

Project Goals

- Initiate a localized sediment capture system.
- Improve water quality in the lake, drainages, and downstream areas.
- Restore wetland/riparian areas.
- Initiate remedial actions for a quality watershed.
- Educate and inform watershed stakeholders.

Benefits to the CALFED Program

The Lagoon Valley encompasses a number of watersheds that drain to the Bay-Delta, including Putah Creek—a priority stream for the Ecosystem Restoration Program. This project contributes to the goals of the Water Quality Program by helping to reduce sediment and eliminate negative impacts on beneficial uses of the surface water, including ecosystem benefits and municipal uses. The anticipated outcome of this project is the immediate and long-term reduction of sediment production into the Lagoon Valley and associated waterways eventually affecting the Bay-Delta. This project also seeks to reduce erosion and soil loss, improve water quality, restore vegetative cover, and improve education of public and private entities about watershed restoration.

Project Overview

Resource conditions in Lagoon Valley Watershed include a lake, wetlands, and riparian areas that are in degraded states. Fisheries in the lake, streams, and other riparian areas have declined because of extensive sedimentation from the surrounding watershed. The upper watershed appears to be a major source of sediment. Many drainages are incised and lack stabilizing vegetation along channel slopes. Hillside slump areas are also found, and evidence of the degree of sedimentation in the drainages can be seen in the upper storm collection system, where large volumes of sediment collect annually.

The Lagoon Valley Watershed Restoration project improves water quality in the watershed by implementing an integrated watershed management program in the upper watershed. This integrated program includes drainage stabilization, trail/fire road assessment and maintenance, and grazing management. Additionally, the project includes grant/project administration, monitoring, and public education programs.

Water bodies affected by the Lagoon Valley Watershed include Alamo, Putah, Laguna, and Ulatis Creeks. This project, therefore, will also improve water quality in these creeks as well as in the Bay-Delta system.



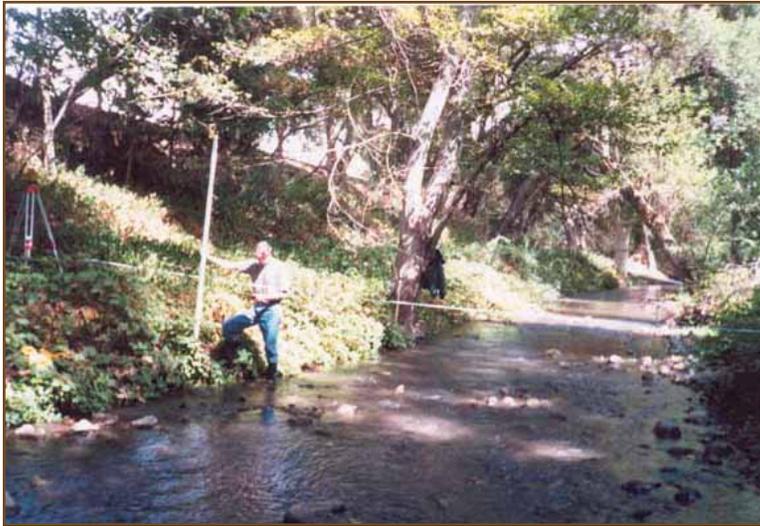
Parkland space in Lagoon Valley.

Contact Information

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Upper Guadalupe River Tributary Monitoring Program and Pilot Restoration Project

Guadalupe Coyote Resource Conservation District



A volunteer performs monitoring work on Guadalupe Creek.

Award Amount
\$47,000

Watershed
Guadalupe River Watershed

County
Santa Clara County

CALFED Region
Bay Region

Legislative Districts
US Congress: 14, 15, and 16
State Assembly: 27 and 28
State Senate: 11 and 15

Purpose

To develop and implement a comprehensive monitoring program for 12 upper Guadalupe River tributaries. The monitoring data will be used to select and develop a pilot restoration project for one section of degraded channel.

Project Goals

- Establish 12 permanent monitoring sites along upper Guadalupe River tributaries.
- Monitor flow conditions regularly and resurvey sites annually.
- Enhance data collection efforts with GIS and GPS computer equipment.
- Design a pilot restoration project at one selected stream site.
- Develop a proposal to implement the pilot restoration project.

Benefits to the CALFED Program

Establishing baseline conditions is a critical first step in developing local watershed management efforts. Only then can improvements in the watershed be quantitatively measured for success. By engaging the community in these data-gathering efforts, the Guadalupe Coyote Resource Conservation District is promoting local community involvement in the CALFED Program, enhancing local skills in watershed management, and building community capacity to assess and effectively manage a watershed that affects the Bay-Delta system. Overall, the project is building a foundation for improved watershed stewardship, including improved ecosystem quality, water quality, and water supply, and initiating the process of adaptive management in a watershed that contributes directly to the Bay-Delta system.

Project Overview

The Guadalupe River and its tributaries flow from the Santa Cruz Mountains and Santa Teresa Hills through the Santa Clara Valley and into San Francisco Bay. The US Environmental Protection Agency lists this watershed as severely impaired. A number of factors have contributed to this overall impairment, including urban development, pollution, erosion, flood control projects, water diversions, and land use practices.

The Guadalupe Coyote Resource Conservation District (GCRCD) is implementing the Upper Guadalupe River Tributary Monitoring Program and Pilot Restoration Project to gather comprehensive data on the current stream characteristics and health of 12 Guadalupe River tributaries as well as to monitor trends in the tributaries' conditions over time. Students and community volunteers collect cross-section measurements and flow data at both undisturbed "reference sites" and at selected degraded "monitoring sites." This data collection effort will culminate in the design of a pilot restoration project and proposal for one of the degraded channels monitored by the GCRCD.

The data collected by the GCRCD and community volunteers are shared with the CALFED Program and other regional, national, and international databases. Data obtained from established reference sites also are used to support watershed assessment efforts and restoration project designs for disturbed and degraded areas of the watershed. This information is also useful to the Santa Clara Basin Watershed Management Initiative's Watershed Assessment work and the efforts of local environmental educational organizations.



Golf Creek, a tributary to the Guadalupe River, during a no-flow season.

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Walnut Creek Watershed

Contra Costa Flood Control and Water Conservation District



A portion of the Walnut Creek drainage with State Route 4 and Mount Diablo in the background.

Award Amount

\$260,000

Watershed

Walnut Creek Watershed

County

Contra Costa County

CALFED Region

Bay Region

Legislative Districts

US Congress: 7

State Assembly: 8

State Senate: 2

Purpose

Restore and revegetate the lower Walnut Creek Channel by reducing point and non-point source sedimentation into the Walnut Creek drainage.

Project Goals

- Restore riparian areas in the Walnut Creek Watershed.
- Reduce excessive erosion and soil loss.
- Improve water quality.

Benefits to the CALFED Program

Walnut Creek flows to the Bay-Delta via the Suisun Bay and is a component of the Ecosystem Restoration Program Plan's Suisun Marsh Ecological Management Zone. Implementation of this project addresses multiple CALFED Program objectives. Ecosystem benefits include improvements in aquatic and terrestrial habitat. Water quality improvements include reductions in pollutant loads and control of point and non-point source pollution. This project also contributes to water supply reliability by enhancing the watershed's ability to absorb, store, and release water.

Project Overview

The 180-square-mile Walnut Creek Watershed is located in central Contra Costa County and is a tributary to the Suisun Bay. Major cities in the watershed include San Ramon, Lafayette, Danville, Walnut Creek, Pleasant Hill, and Concord. Water quality in Walnut Creek and its tributaries is degraded owing to excessive erosion and sedimentation associated with stormwater runoff from construction sites, pesticide and fertilizer runoff from agricultural and residential areas, storm drain contamination owing to improper oil and grease disposal, illegal dumping of toxic fluids, and accidental spills of contaminants. These water quality problems result in accidental fish kills, degraded aquatic habitat, and potential public health hazards.

This project develops an integrated watershed plan for Walnut Creek. The plan addresses a number of issues, including sedimentation, re-vegetation, fish migration barriers, toxic pollutant contamination, non-point source pollution, restoration, and information sharing. The anticipated outcome is immediate and long-term reduction in point and non-point sediment production into Suisun Bay. Other expected outcomes include reduced erosion and soil loss, improved water quality, enhanced ecosystems along the corridor, restoration of vegetative cover, and continued education of public and private entities about watershed restoration.



Water flows through revegetated areas in the lower Walnut Creek channel.

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Pre-project erosion at the edge of a local road.

Award Amount
\$300,000

Watershed
Guadalupe River Watershed

County
Santa Clara County

CALFED Region
Bay Region

Legislative Districts
US Congress: 15 and 16
State Assembly: 27 and 28
State Senate: 11 and 15

Purpose

Restore approximately 2 acres of aquatic and riparian habitat in the Guadalupe River Watershed to support sensitive and endangered species.

Project Goals

- Restore 2 acres of riparian habitat in the Guadalupe River Watershed.
- Reduce sedimentation to the Almaden Reservoir.
- Reduce loadings of mercury to the Almaden Reservoir and the San Francisco Bay ecosystem.
- Assess watershed habitat restoration as a means of sedimentation control.
- Engage local community members in citizen monitoring efforts.

Benefits to the CALFED Program

One of the CALFED Program's objectives for water quality is mercury and sediment reduction to levels that do not adversely affect aquatic organisms, wildlife, or human health. This project helps to meet this objective by restoring habitat in the Guadalupe River Watershed to reduce the amount of sedimentation and mercury entering the watershed. In doing so, this project restores valuable habitat for sensitive species and improves water quality. By engaging local community members in monitoring efforts, this project increases local capacity to assess conditions and to make informed watershed management decisions.

Project Overview

The Almaden Reservoir sits in the southern portion of the Guadalupe River Watershed within the eastern foothills of the Santa Cruz Mountains. The watershed is 170 square miles and spans a range of rural, suburban, and urban land uses. The Guadalupe River is on the Regional Water Quality Control Board's 303(d) list as an impaired waterbody for mercury and diazinon.

This project restores two sites that are degraded as a result of historical mining activity that caused excessive sedimentation. The areas are downcut and eroding into the Almaden Reservoir. The sites are located in a northwestern drainage to the reservoir on public land under the management of the Santa Clara County Parks and Recreation System. The County will take responsibility for maintenance upon completion of the restoration.

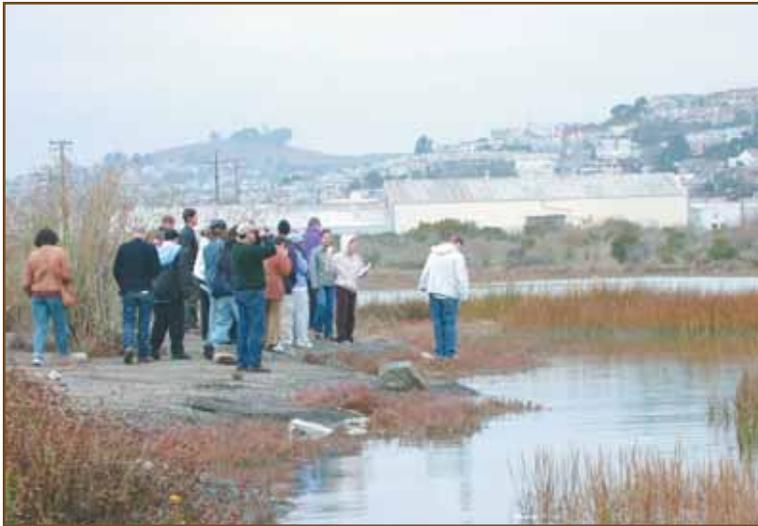
Elements of this restoration project include conducting an assessment to evaluate existing conditions, conducting soil stabilization practices, and rehabilitating streambanks with biotechnical measures. The primary intent of the biotechnical measures is simultaneous reduction of streambank erosion and improved riparian and stream habitat. Restoration of the two sites provides multiple benefits, including the restoration of habitat for sensitive and endangered species and reduction of sedimentation and mercury into the watershed.



Eroding masses in this stream contribute heavy metal contamination to the system.

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A group of local youth at a water quality sampling location.

Award Amount
\$771,000

Watershed
Yosemite Creek/Slough/South Basin Watershed

County
San Francisco County

CALFED Region
Bay Region

Legislative Districts
US Congress: 12
State Assembly: 12
State Senate: 8

Purpose

Conduct an assessment for the Yosemite Watershed to serve as a model for other urban watersheds.

Project Goals

- Identify and address conditions that have an impact on water quality in the Yosemite Creek/Slough/South Basin.
- Improve water quality for the Bayview–Hunter’s Point community and the portion of the San Francisco Bay Delta affected by Yosemite Slough.
- Improve access to restored habitats and natural areas in the Bayview–Hunters Point community.

Benefits to the CALFED Program

This project may serve as a model for other urban communities to conduct watershed assessments, particularly in those communities with environmental justice issues. Environmental justice means that all people, regardless of race, culture, national origin, or income, are able to enjoy equal environmental protection and to benefit from environmental improvements. The CALFED Program is committed to addressing environmental justice challenges related to the management of water in the Bay-Delta. By integrating environmental justice into this community-based watershed assessment, this project is helping the CALFED Program achieve this commitment as well as its watershed health goals.

Project Overview

Yosemite Creek/Slough/South Basin is located in the heavily urbanized Bayview-Hunters Point community in the City and County of San Francisco. Bayview-Hunters Point is a low-income community largely comprising people of color. Cumulative air, land, and water pollution affect the community; it has some of the highest rates of breast and cervical cancer, asthma, and respiratory illnesses in California. The watershed has experienced significant loss of ecological function and habitat for aquatic and avian species and presents a health hazard for those who use it for recreation and subsistence. To date, the land use planning and development processes in the Bayview-Hunters Point have not included any watershed-level analysis or management approach.

In the first phase of a long-term effort to restore this urban watershed, this project conducts a community-based watershed assessment aimed at identifying the water quality impacts on, and ecological conditions of, Yosemite Creek/Slough. It includes:

- community skills training, education, capacity-building, and technical assistance targeted to youth, seniors, and unemployed/underemployed local residents, landowners, and organizations;
- community-based watershed planning process to design a restoration and management plan for the watershed;
- gathering of baseline watershed data to inform ongoing redevelopment plans;
- examination of the impact of sewage treatment plant outflow and the effectiveness of urban water quality best management practices;
- identification of the extent of impervious surfaces that increase non-point source pollution runoff;
- and evaluation of the opportunities for restoration of surrounding wetlands.



The Yosemite Creek inlet.

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Assessing steelhead population health in Sonoma Creek.

Award Amount
\$270,541

Watershed
Sonoma Creek Watershed

County
Sonoma County

CALFED Region
Bay Region

Legislative Districts
US Congress: 6
State Assembly: 1
State Senate: 2

Purpose

Address needs for community dialogue, conduct assessment of at-risk species, and implement restoration projects in the Sonoma Creek Watershed.

Project Goals

- Conduct public outreach and education regarding watershed issues and expand public participation.
- Provide environmental education for primary classes.
- Conduct an assessment of existing steelhead populations in Sonoma Creek.
- Implement restoration projects on Sonoma Creek tributaries.

Benefits to the CALFED Program

Watershed conditions in Sonoma Creek and the North Bay contribute to the function of the Bay-Delta system because all Central Valley anadromous fish pass through the North Bay and depend on the North Bay and marshes for some critical part of their life cycle. Investing in restoration projects in the North Bay is a highly efficient way to leverage benefits to the entire CALFED Program area. The Ecosystem Restoration Program Plan states that major factors limiting steelhead populations in Sonoma Creek include agricultural and urban development, barriers, and other water quality impacts from urban and agricultural runoff. This project develops better understanding of steelhead populations in the Sonoma Creek Watershed and enhances fish survival by removing barriers and stabilizing streambanks.

Project Overview

The Sonoma Creek Watershed is tributary to San Pablo Bay, arguably the least developed watershed of any size that drains directly to San Francisco Bay. This project's focus is to improve coordination, expand public outreach, assess watershed conditions for steelhead, and implement restoration projects in the Sonoma Creek Watershed. This collaborative project consists of six primary elements:

Provide public outreach and education. The Conservancy provides a forum for agricultural, environmental, scientific, residential, educational, and governmental sectors to discuss watershed issues and seek mutually acceptable solutions to improve management.

Provide environmental education. The project provides environmental and science education classrooms, including lessons and field trips to local assessment and restoration projects. Activities are compatible with California State science education standards.

Conduct an assessment of the steelhead population. This assessment quantifies the locations, age distribution, and year-to-year survival rates of Sonoma Creek's steelhead population and will be used to guide restoration of a self-sustaining steelhead population.

Improve fish passage. Plans are underway to remove a barrier to fish passage on Carriger Creek, a tributary to Sonoma Creek to improve access to several miles of high-quality steelhead habitat.

Stabilize streambanks. The project stabilizes a 1,000-foot stretch of Carriger Creek, a high quality habitat for steelhead.

Restoration planning. This project develops a restoration plan for the Nathanson Creek Preserve and Trailway, an urban greenway in Sonoma that supports steelhead and Chinook salmon.



A local geologist teaches Sonoma Valley students about water quality and stream health.

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A group of volunteers stand near a pile of invasive plants they pulled near Manhattan Avenue in East Palo Alto.

Award Amount
\$250,225

Watershed
San Francisquito Creek Watershed

County
San Mateo and Santa Clara Counties

CALFED Region
Bay Region

Legislative Districts
US Congress: 14 and 15
State Assembly: 21, 22, and 24
State Senate: 8, 11, and 15

Purpose

To update the Watershed Management Plan and conduct an education and outreach program for the San Francisquito Creek Watershed.

Project Goals

- Update the Draft Watershed Management Plan for San Francisquito Creek.
- Expand the community education, outreach, and monitoring program.
- Produce a Creek and Watershed Map of Palo Alto and South Peninsula.

Benefits to the CALFED Program

The San Francisquito Creek watershed is located in Palo Alto and drains to the San Francisco Bay. This project provides multiple benefits to the CALFED Program including improving water quality, controlling invasive species, protecting endangered species and their habitat, and expanding public outreach. San Francisquito Creek supports one of the South Bay's last viable runs of steelhead, a species of concern to the Ecosystem Restoration Program. Implementation of this project helps to ensure steelhead survival in the watershed. The project addresses constituents of concern to the Water Quality Program by controlling urban runoff and conducting creek clean-ups. The project's education and outreach component educates citizens about watershed processes and encourages them to make responsible land use decisions.

Project Overview

The San Francisquito Creek Watershed is located in the South Bay, runs through the city of Palo Alto, and drains to the Bay-Delta. The watershed is home to several important species, including red-legged frogs, and is one of the last viable steelhead runs in the South Bay. The San Francisquito Creek Watershed Enhancement Program is a three-step process to more effectively educate and engage citizens in the watershed to make good decisions regarding watershed management and conservation.

The first step revises the Draft Watershed Management Plan for San Francisquito Creek, originally drafted in 1997, to address new issues. These include an infestation of Chinese mitten crabs in the creek and pollutants such as urban pesticides, manure from horse stables, and silt from development. The updated plan also outlines goals and priorities for pollution prevention, flood and erosion control, land use, social issues, and education and outreach.

The second task is the implementation of the Stewardship Program and Streamkeepers Program. Streamkeepers is a watershed-wide outreach program that educates the community about the importance of creek health, builds local involvement, increases watershed awareness, encourages stewardship activities, and expands public involvement in watershed management. The program centerpiece is Saturday workdays that invite citizens, local businesses, and schools to participate in creek clean-ups, removal of nonnative invasive plant species, and native plant revegetation.

The project's last step is the production and distribution of a Creek and Watershed Map of Palo Alto and South Peninsula, depicting the surface water and hydrology of the area. This easy-to-use map will provide public access information about the urban watershed and will be used for environmental education curriculum on school fieldtrips and in classroom presentations.



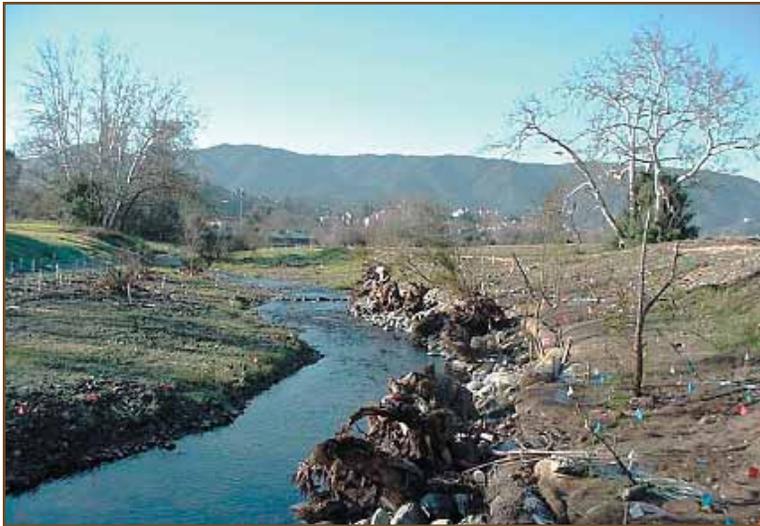
Volunteers hard at work planting vegetation along the riverbank.

Contact Information

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Stewardship Plans for West Valley, Guadalupe, and Lower Peninsula Watershed areas of Santa Clara County

Santa Clara Valley Water District



A segment of the restored Guadalupe Creek with a lowered floodplain, stabilized banks, and native plantings.

Award Amount
\$700,000

Watershed
West Valley, Guadalupe, and Lower Peninsula Watersheds

County
Santa Clara County

CALFED Region
Bay Region

Legislative Districts
US Congress: 14, 15, and 16
State Assembly: 27 and 28
State Senate: 11 and 15

Purpose

Develop a comprehensive stewardship plan to achieve protection, enhancement, and restoration of natural resources in each of the three watersheds within the Santa Clara Basin.

Project Goals

- Provide a strategic approach for watershed management.
- Pursue the District's stewardship responsibilities.
- Create a systematic and dynamic tool for project ranking and basis for budgeting.
- Identify high-priority projects requiring outside funding assistance.

Benefits to the CALFED Program

The Santa Clara Valley Water District (District) is demonstrating its commitment to a holistic watershed approach to its management activities. It is providing increased flood protection in a way that also protects and enhances local streams and is becoming more engaged in efforts to clean and protect riparian habitats. The District provides flood protection through maintenance of 700 miles of creeks and rivers and is involved in local public education. This project furthers CALFED Program goals by supporting stewardship of local streams and waterways to restore and enhance the local ecosystem, implementing programs to protect and improve water quality, and developing a multi-objective planning process for flood protection programs.

Project Overview

The Santa Clara Valley Water District (District) is Santa Clara County's wholesale drinking water supply manager. It coordinates flood protection for many of its 1.7 million residents and supports the stewardship of the county's more than 700 miles of streams. This project develops Stewardship Plans for three watershed areas within the District's jurisdiction—West Valley, Guadalupe, and Lower Peninsula Watersheds.

Each plan provides a strategic approach to achieve the District's responsibilities within a given watershed. The plans provide an opportunity to translate complex watershed management issues into coordinated, achievable, and acceptable measures to improve effectiveness and efficiency on a watershed-by-watershed basis. The plans involve:

- developing community-based visions, goals, and objectives;
- identifying and prioritizing projects and programs within a watershed;
- developing outreach strategies; and
- developing timelines for implementation of projects and programs.

The models for these stewardship plans are the Coyote Watershed Stream Stewardship Plan developed by the District and Santa Clara Basin's Watershed Management Planning process. The major elements of the plans are an outreach strategy, existing conditions description, vision, goals and objectives, programs and projects, policies, performance measures, prioritization criteria, resources and timelines, and feedback mechanisms. The tools developed in these planning processes foster coordination, collaboration, and cooperation among resource agencies, community groups, and landowners in each of the three watershed areas.



Coastal Cleanup Day, fall 2003.

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Sediment source identification fieldwork in progress on Carneros Creek.

Award Amount
\$318,300

Watershed
Napa River Watershed

County
Napa County

CALFED Region
Bay Region

Legislative Districts
US Congress: 1
State Assembly: 7
State Senate: 2

Purpose

Create a “desktop watershed model” to help guide management decision-making in the Napa Basin.

Project Goals

- Provide tools to help resolve potential pollutant problems.
- Identify and prioritize stream/riparian habitat restoration programs.
- Collect high-resolution digital topographic data to develop a digital terrain model covering the entire watershed.

Benefits to the CALFED Program

This project addresses all of the primary CALFED Program objectives by demonstrating a powerful and cost-effective tool for analyzing physical and biological functions of watersheds. It allows prediction of likely responses to a variety of potential land and water management strategies. It also fills a need for a new approach to ecosystem quality assessment in a system such as the Napa River, which the Ecosystem Restoration Program has identified as a target watershed for restoration activities, yet where the cost of assessment is prohibitive and access to sampling sites is difficult. The modeling approach used in this project will lead to a better understanding of aquatic habitat characteristics and help determine how the system can best be restored to improve water quality, water supply, and ecosystem values.

Project Overview

This project advances ongoing watershed management and restoration efforts in the Napa River basin by using airborne laser altimetry to generate topographic maps and watershed data of much higher resolution than currently exists. It also demonstrates the application of desktop watershed models that take advantage of these higher resolution data to improve understanding of watershed processes, conditions, restoration opportunities, and constraints.

The desktop watershed model created by this project will provide a far more accurate and complete representation of watershed topography than is currently available. The added accuracy will allow the entire stream channel network and important hillslope features of the region to be accurately located and mapped. The data will become part of a spatial geographic information system (GIS), permitting combination with other GIS information. It will enable more robust physical and ecological analyses of the watershed.

This approach facilitates the development of hypotheses about expected resource conditions, the extrapolation of site-specific information to entire watersheds, and the modeling of causal linkages between land use impacts and resource conditions. This project creates a spatially explicit information database of sufficient resolution to allow rapid yet comprehensive watershed analysis and restoration planning.



The technical science team meets in Napa to discuss the project.

Contact Information

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Whitney Dotson leads a field workshop at Pt. Pinole in North Richmond.

Award Amount
\$496,122

Watershed
Multiple Bay Area Watersheds

County
Alameda and Contra Costa Counties

CALFED Region
Bay Region

Legislative Districts
US Congress: 7, 9, and 13
State Assembly: 14, 16, and 18
State Senate: 9

Purpose

Improve awareness of, and capacity for, local watershed stewardship and management within the northeast San Francisco Bay area.

Project Goals

- Develop databases and conduct watershed forum discussions on policy, science, education, and participation.
- Create a watershed center and subset of riparian centers.
- Build watershed group organizational capacity.
- Include underrepresented communities in watershed planning.
- Develop a field program in watershed awareness and organization, monitoring, project implementation, fire, and watershed vegetation management.

Benefits to the CALFED Program

Alameda County is located in the primarily urban San Francisco Bay Area, for which the Water Use Efficiency Program has identified objectives for improved water supply. One of the goals of the regional watershed center program is to educate citizens about landscaping with native species to reduce urban landscape irrigation demand. This program builds a durable, self-sustaining infrastructure that combines technical assistance, collaboration, monitoring, adaptive management, outreach and education, and funding assistance to build the capacity of local watershed groups. The regional watershed center concept facilitates a flow of information between neighboring watershed groups, local stakeholders, and the CALFED Program, ultimately increasing the scale and effectiveness of local watershed projects.

Project Overview

This 3-year capacity-building program creates an accessible prototype watershed center that lays the groundwork for expansion into a network of locally led watershed centers throughout the state. This prototype serves Alameda County, a part of the CALFED Program Solution Area. The goal of this project is to improve the awareness of, and capacity for, local watershed stewardship and management by citizen groups, schools, planners, landowners, businesses, and elected officials. These groups already execute or oversee many small projects that cumulatively affect streamflow, water quality, habitat, and human use benefits.

This network of locally led watershed centers is designed to fill a gap between regional resources and local needs and to increase communication among neighboring watersheds' groups. The prototype watershed center builds on the well-developed experience of several partner organizations with field programs, outreach, technical skills, and websites. The watershed center makes it possible for fragmented local watershed groups to better connect for a healthier, more stable, and cleaner watershed ecosystem with increased communication. Groups benefit from connection to new and existing regional, state, and federal watershed resources from varying locations and in various formats. Watershed centers modeled on this prototype will aid with collaborative funding efforts that will enhance long-term sustainability. Support for infrastructure connections will increase the scale and effectiveness of local individual watershed projects.

The strategy is to include underrepresented communities in watershed planning and outreach and conduct science-based watershed assessment through these tasks. Learning to assess and plan within these urban watersheds provides a large population with direct experience of watershed values and of the impacts of various planning alternatives.



A breakout group discusses citizen involvement at an East Bay Watershed Forum meeting at the Oakland City Hall.

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Volunteers get their feet wet during a watershed monitoring training exercise.

Award Amount
\$50,000

Watershed
Multiple Contra Costa County Watersheds

County
Contra Costa County

CALFED Region
Bay Region

Legislative Districts
US Congress: 7 and 10
State Assembly: 11 and 15
State Senate: 7

Purpose

Development of a countywide planning document consisting of baseline data for all 20 primary watersheds in Contra Costa County.

Project Goals

- Harness grassroots citizen volunteer energy for a Global Positioning System (GPS) inventory of creek resources and unique watershed features.
- Expand citizen involvement in the development of restoration strategies and priorities for each watershed.
- Facilitate local leadership to develop educational outreach.
- Expose the hidden value of creeks to our communities.
- Identify the potential benefits of enhancing these resources.

Benefits to the CALFED Program

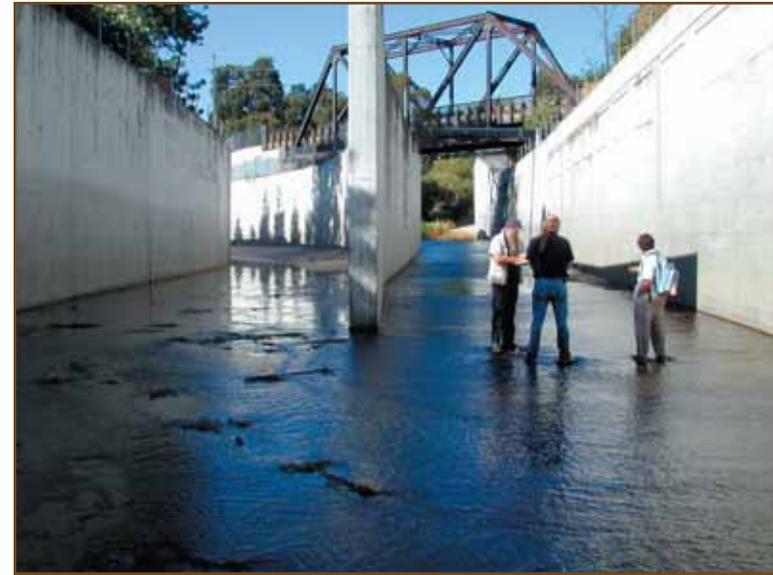
The Watershed Atlas project demonstrates the key role that locally driven watershed groups can play in the CALFED Program's larger effort to restore the Bay-Delta system. The more informed and involved communities and agencies are about local watershed issues, the better they can work together to protect and restore the land that drains to the Bay-Delta. The Watershed Atlas provides comprehensive baseline data, including topography, hydrology, planned land use, detailed GPS data, and social/political boundaries and enhances local capacity by providing a practical and powerful resource for the public, policy-makers, community groups, and resource professionals. It also presents restoration opportunities that demonstrate how local support is essential for long-term success and sustainability.

Project Overview

The Contra Costa Watershed Forum is a partnership organization of nonprofit groups, local governments, environmental education groups, and regulatory agencies called the Contra Costa Watershed Forum. The purpose of the Watershed Forum is to coordinate countywide discussion of, and planning for, creek and watershed issues. The Forum also seeks to identify opportunities for multi-objective enhancements of creeks and watersheds. To that end, the Watershed Forum is developing a countywide planning document called the Contra Costa County Watersheds Atlas and Creek Restoration Strategy (Atlas).

The Atlas project is gathering, assessing, and cataloging existing map-based and statistical data on watersheds and creeks in the county; compiling an inventory of creek restoration projects in the county; developing GIS data for watersheds in the county; and creating both online and paper versions of the Atlas document. The Atlas contains separate chapters on each watershed containing maps, statistics, charts, and text and will ultimately serve as a tool for making watershed management decisions, initiating formal watershed-specific planning processes, and implementing actual restoration projects.

The grant provided by the Watershed Program was used to develop a community GPS creek data collection program to augment the Atlas' baseline data. Implementation of the program entailed training citizen volunteers to follow collection and data evaluation protocols using GPS units to inventory creek resources and unique watershed features. The GPS data collection program not only provided important information on local creeks, but it also expanded citizen involvement in the development of restoration strategies within each watershed. It also facilitated local leadership in educational outreach efforts. Samples of the data are displayed in the Atlas.



Information is gathered for the GPS inventory of watershed features.

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Stewardship Support and Watershed Assessment in the Napa River Watershed: a 2-Year Project

Napa County Resource Conservation District



A young student participates in a Carneros Creek stewardship group activity.

Purpose

This project addresses environmental stressors and enhances resource conservation, management, and restoration using collaborative planning, monitoring, and outreach approaches that encourage broad stakeholder participation in the Napa River Watershed.

Project Goals

- Carry out physical and biological watershed assessments that involve community group volunteers in data-gathering.
- Incorporate stakeholders in writing watershed management plans that include conservation, maintenance, and restoration strategies based on the assessments.
- Share data with multiple agencies interested in comparative analyses and linked projects.

Award Amount
\$360,900

Watershed
Sulphur Creek and Carneros Creek Watersheds

County
Napa County

CALFED Region
Bay Region

Legislative Districts
US Congress: 1
State Assembly: 1
State Senate: 2

Benefits to the CALFED Program

Development of watershed assessments for the Sulphur and Carneros Creek Watersheds serves as the foundation for multiple-interest groups to better manage the Napa River Watershed. This project provides support for development of watershed management plans promoting community-based watershed monitoring efforts to address a broad range of ecological, biological, and social values. These plans will result in coordination of restoration activities to improve water quality and ecosystem habitat of the Napa River Watershed, a watershed that has been identified by the Ecosystem Restoration Program as in need of enhanced riparian vegetation. Progress monitoring will result in efficient and long-term coordination of restoration activities and ensure sustainability of the watershed and benefits to the Bay-Delta System.

Project Overview

The Napa River flows directly into San Pablo Bay. The ecological health and water quality of the Napa River Watershed have a direct linkage to the Bay-Delta system. The Napa River Watershed provides important habitat for many CALFED Program species of concern.

The focus of the Napa County Resource Conservation District has been development of local watershed stewardship groups that are broad-based, multi-interest groups open to all who live or work in a local tributary watershed. This project works with two watershed groups to conduct baseline watershed assessments, create adaptive watershed management plans, and promote community-based watershed monitoring efforts to address a broad range of ecological, biological, and social values in the watersheds.

Sulphur Creek and Carneros Creek are important tributaries of the Napa River. By facilitating management of these two watersheds, the project is building a common base of understanding by assessing the physical, ecological, and social conditions of the watersheds and, using a scientific approach, defining priorities for restoration that are socially acceptable. In so doing, the project will improve the connection between watershed processes and land management in the Sulphur Creek and Carneros Creek Watersheds.



Technical fieldwork (fish habitat surveying) in progress.

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Telephone: (707) 252-4188
E-mail: bob@naparcd.org



Steelhead captured and measured as part of CCWRAP's fish trapping and identification efforts.

Award Amount

\$200,000

Watershed

Codornices Creek Watershed

County

Alameda County

CALFED Region

Bay Region

Legislative Districts

US Congress: 13

State Assembly: 15, 16, and 18

State Senate: 9 and 10

Purpose

Assess conditions on Codornices Creek and the potential for restoration of salmonid passage and habitat, improve water quality, and promote community outreach and watershed education.

Project Goals

- Assess Codornices Creek's habitat and habitat restoration potential for salmonid recovery, particularly steelhead.
- Assess barriers and unstable bank sites and determine solutions and costs.
- Conduct community outreach and watershed education.
- Develop the Codornices Creek Watershed Restoration Action Plan.

Benefits to the CALFED Program

This project is focused on restoring habitat conditions for steelhead in the Bay Area's Codornices Creek. Steelhead is a species of high concern to the Ecosystem Restoration Program (ERP). The ERP Plan states that a major factor limiting steelhead populations in urban streams is development, including water diversions and barriers such as diversion dams, high water temperatures, and other water quality impacts from urban runoff. This project is working to address barriers such as these and seeking collaborative and locally driven solutions to overcome them. The project is providing benefits to both the local community and the CALFED Program.

Project Overview

Codornices Creek begins near the western edge of Tilden Regional Park in the heavily urbanized hills of Berkeley and flows downhill nearly 7 miles before entering San Francisco Bay just north of the Golden Gate Fields racetrack. The upper reaches of the stream are in the backyards of homes. Much of the lower reaches was paved over during the 1940s but has been re-exposed in the past two decades.

Restoration efforts by groups such as the Urban Creeks Council, the Friends of Five Creeks, and the Live Oak Codornices Creek Neighborhood Association have dramatically improved the health of the creek, to the point that the creek now supports a population of steelhead. However, much more work and restoration are still needed before steelhead can move up and down the stream with any annual certainty. There are old hanging culverts that can block migrating steelhead, and there are streambanks that are sloughing sediment and filling pools, which is smothering the stream's rocky substrate.

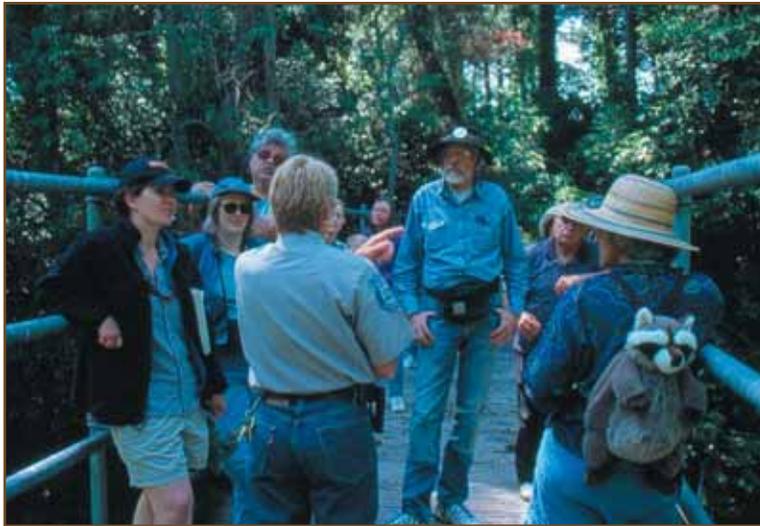
This project represents a collaboration of several community groups to assess the condition of Codornices Creek and to interest local government and other community members in the welfare of the creek and its steelhead population. This project assesses the stream's habitat and habitat recovery potential, including unstable bank sites and the current barriers to migration. Water quality impairment is also being assessed. The Codornices Creek Watershed Restoration Action Plan includes priority restoration actions to revitalize the creek. The project includes community outreach, watershed education, and a community monitoring program.



Volunteers conduct a depth survey along Codornices Creek.

Contact Information

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Participants at the Gardening for Wildlife Watershed tour.

Award Amount
\$608,132

Watershed
Multiple Bay Area Watersheds

County
Contra Costa, Alameda, and San Mateo Counties

CALFED Region
Bay Region

Legislative Districts
US Congress: 1, 7, 8, 9, 10, 12, 13 and 14
State Assembly: 7, 8, 12, 13, 14, 15, 16, 18, 19, 20 and 21
State Senate: 2, 3, 7, 8, 9, 10 and 11

Purpose

Develop and expand community watershed awareness programs to support informed watershed management decisions.

Project Goals

- Provide support for Bay Area citizen-based creek and watershed groups.
- Foster strong community watershed programs to support improved watershed management.
- Present watershed education material and workshops to develop community involvement in reducing adverse impacts on water quality and restoring the ecosystem.
- Implement Gardening for Wildlife workshops to provide residents with information on how to incorporate native plants into their home gardens, eliminate pesticides, conserve water, and reduce green waste.

Benefits to the CALFED Program

This project is achieving the Bay Delta Program's goals of improving water quality, increasing water use efficiency, and restoring habitat in the San Francisco Bay by creating partnerships with a wide variety of agencies, groups, and individuals interested in improving environmental health in the Bay Area, and by supporting outreach programs that lead directly to citizen involvement in the health of local watersheds. AOI's programs educate and involve citizens and local government in local restoration projects and water quality monitoring and engage the community in efforts to reduce water use and pesticide runoff by educating them about gardening with native species.

Project Overview

The Aquatic Outreach Institute (AOI) involves teachers and other members of the public in educating the community to encourage water quality and ecosystem protection and water conservation. AOI fosters partnerships and helps promote watershed awareness and stewardship. AOI's Citizen Involvement and Regional Outreach Program consists of four components, which involve outreach to educators, students, and the general public in Contra Costa, Alameda, and San Mateo Counties.

Support for Specific Creek Groups. AOI provides support for local Watershed Awareness Programs in the form of publicity, meeting organization and facilitation, newsletter publication, restoration project coordination, and other support.

Regional Support for Bay Area Citizen-Based Creek and Watershed Groups. The Regional Project Assistance Grant Program offers local groups service grants to support education, capacity building, and event coordination. AOI also coordinates regional events, publishes a regional newsletter "Creeks Speak," and is developing web-based resources.

Watershed Education Workshops. AOI provides additional support for teachers and students involved in "Kids in Creeks," "Kids in Gardens," and "Watching Our Watersheds" workshops; participants receive classroom visits, referrals, grant-writing assistance, and other resources. Through these workshops and follow-up, thousands of students each year learn about pollution prevention, organic gardening, watershed ecosystems, and other topics.

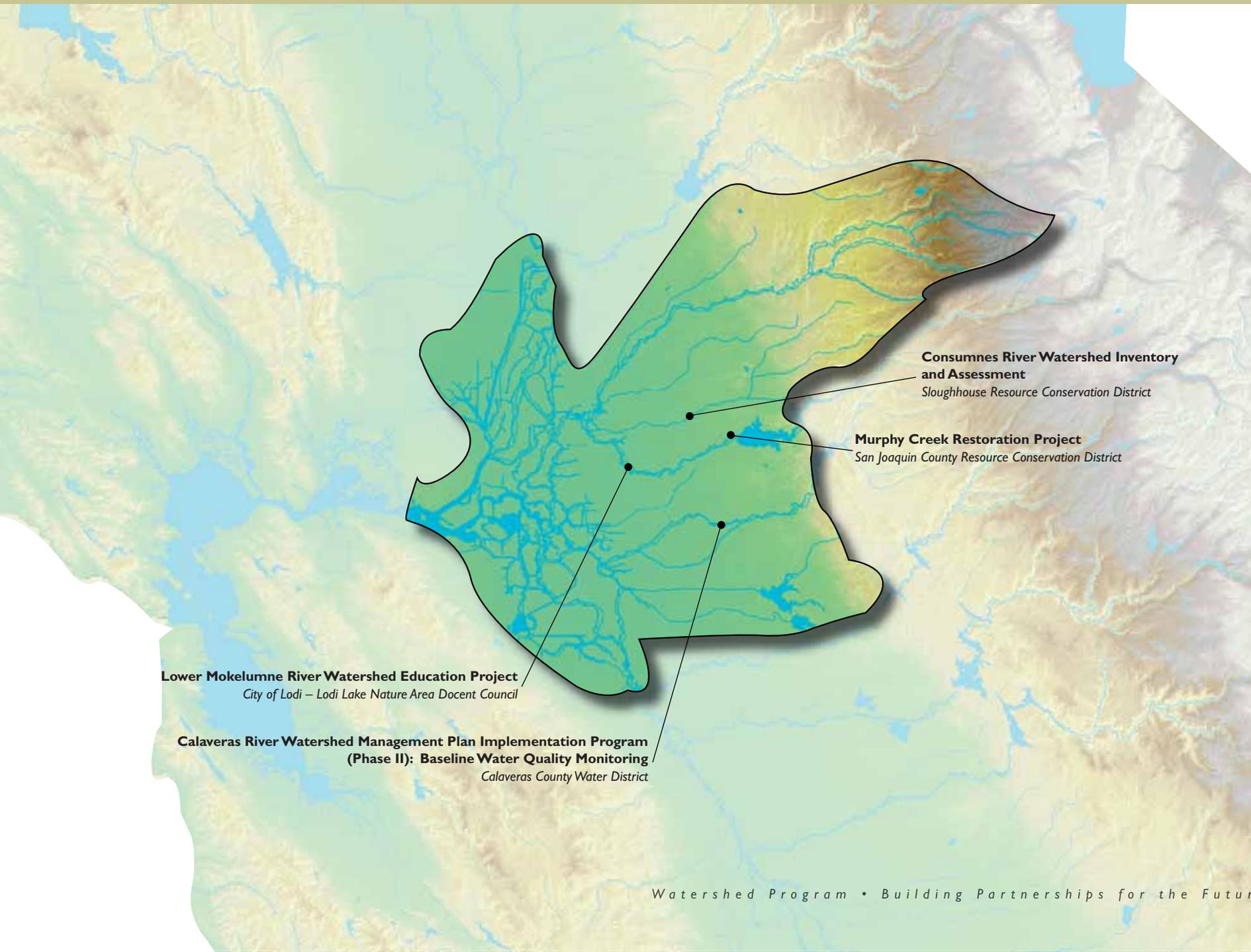
Gardening for Wildlife Program. This program includes workshops, restoration workdays, and watershed walks/plant collection events designed to interest gardeners in incorporating native plants into their gardens, reducing chemical inputs, and conserving water.



Volunteers work to clean up the area around Baxter Creek.

Contact Information

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Consumnes River Watershed Inventory and Assessment
Sloughouse Resource Conservation District

Murphy Creek Restoration Project
San Joaquin County Resource Conservation District

Lower Mokelumne River Watershed Education Project
City of Lodi – Lodi Lake Nature Area Docent Council

Calaveras River Watershed Management Plan Implementation Program (Phase II): Baseline Water Quality Monitoring
Calaveras County Water District

Delta Region Projects

Calaveras River Watershed Management Plan Implementation Program (Phase II):

Base line Water Quality Monitoring

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Lower Mokelumne River Watershed Education Project

City of Lodi-Lodi Lake Nature Area Docent Council.....93

Calaveras River Watershed Management Plan Implementation Program (Phase II): Baseline Water Quality Monitoring

Calaveras County Water District



An Adopt-a-Watershed program field trip is conducted on the Calaveras River at Monte Vista Recreation Area, just below New Hogan Dam.

Award Amount
\$300,000

Watershed
Calaveras River Watershed

County
Calaveras and San Joaquin Counties

CALFED Region
Delta Region

Legislative Districts
US Congress: 3
State Assembly: 25
State Senate: 1

Purpose

The purpose of this project is to conduct water volume and water quality monitoring that will lead to improvements in the Calaveras River Watershed.

Project Goals

- Design and implement a baseline water quality, stream condition, habitat, and best management practice (BMP) monitoring program.
- Coordinate development of watershed management policies and oversee project implementation.
- Continue public outreach programs aimed at building a more informed and involved stakeholder group.
- Use data collected during baseline monitoring to identify protective and restorative measures.

Benefits to the CALFED Program

The Calaveras River Watershed is a component of the Ecosystem Restoration Program Plan's Eastside Delta Tributaries Ecological Management Zone and supports fall-run Chinook salmon and other fish, wildlife, and plant resources. Rapid growth and land use changes are threatening water quality and ecosystem resources in the watershed, as well as water supply to the San Joaquin River and the Bay-Delta. The Ecosystem Restoration Program's vision for the Calaveras River watershed is to restore and maintain important ecological processes that support a sustainable migration corridor for fall-run Chinook salmon. This project conserves and protects water volumes and water quality in the Calaveras River, which aids in restoring instream flows and makes the area less dependent on alternative sources of water.

Project Overview

The Calaveras River is located in Calaveras, Stanislaus, and San Joaquin Counties and flows downstream directly into the San Joaquin River System and then on to the Bay-Delta. The Calaveras River watershed is experiencing degradation of water quality and impairments to the ecosystem because of increased population and land use intensity.

It is the responsibility of the Calaveras County Water District (CCWD) to provide clean, contaminant-free drinking water for residents and visitors to the CCWD service district. To do this and also ensure that the Calaveras River remains in a state that supports the beneficial uses of the Bay-Delta system, this project addresses future availability of sufficient water supply and water quality by monitoring baseline water quality and supply volumes to ensure they are adequate and of high quality. To do this, the project monitors baseline water quality and monitors water supply volumes to ensure they are adequate and of high quality. Conducting monitoring now will help avoid the need for expensive treatment in the future and ensure there is enough water for human consumption as well as for fish and wildlife. The project uses citizen monitoring groups to conduct much of the water quality monitoring.

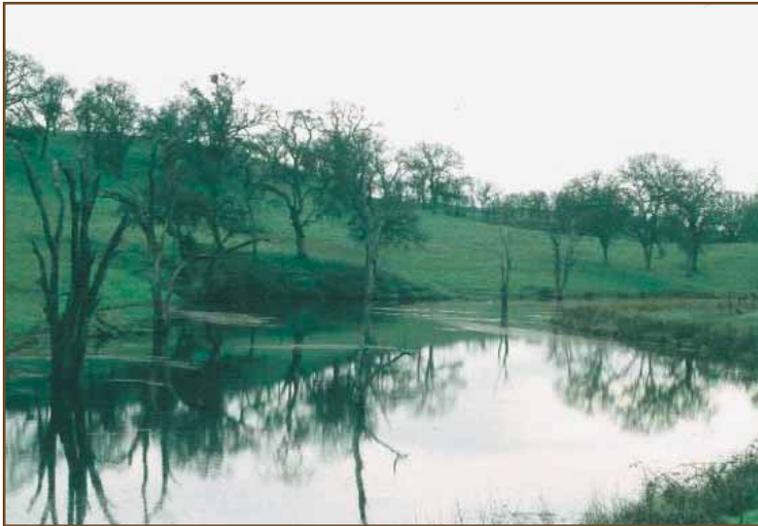
The project will help manage water supply and water quality in the watershed, which is critical to the health of the Calaveras and San Joaquin Rivers and the Bay-Delta system.



The Calaveras River just below New Hogan Dam at the Jenny Lind Water Treatment Plant intake.

Contact Information

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View above a livestock dam that will be breached in the Murphy Creek project.

Award Amount
\$282,500

Watershed
Murphy Creek Watershed

County
San Joaquin and Amador Counties

CALFED Region
Delta Region

Legislative Districts
US Congress: 11
State Assembly: 26
State Senate: 14

Purpose

This project improves fish passage for salmonids and restores ecosystem processes, along with aquatic and terrestrial habitats in the Murphy Creek Watershed.

Project Goals

- Restore rearing and/or spawning habitat for Chinook salmon and steelhead.
- Restore native riparian vegetation to encourage the reestablishment of neotropical migratory birds and other special-status wildlife species.
- Improve water quality and improve water flows within the creek.
- Promote sustainable agricultural practices that continue to support livestock and vineyard production within the watershed.

Benefits to the CALFED Program

Benefits of this project include greater collaboration and coordination between landowners and agencies. Improved coordination is leading to better management of the Murphy Creek Watershed and lower Mokelumne River Watershed. This project contributes directly to CALFED Program goals, including recovery of at-risk species through restoration of rearing and spawning habitat for salmonids, rehabilitation of ecosystem processes by restoring in-channel flow, gravel recruitment to the Mokelumne River, and restoration of native riparian vegetation. This project restores a free-flowing stream and improves water quality by controlling erosion and improving the riparian environment. These actions provide direct benefits to the Murphy Creek Watershed, the Mokelumne River, and the Bay-Delta system.

Project Overview

Murphy Creek is a 5-mile-long tributary of the Mokelumne River that traverses Amador and San Joaquin Counties, entering the Mokelumne River immediately below the Camanche Dam. The Murphy Creek Watershed encompasses approximately 3,100 acres and forms the northernmost boundary of the lower Mokelumne River Watershed. The Mokelumne River is an important tributary of the Bay-Delta System and provides valuable habitat for Chinook salmon and steelhead. Restoration of Murphy Creek will provide the opportunity for landowners, agencies, and other interested parties to implement elements of the Lower Mokelumne River Watershed Stewardship Plan, developed in 2002. Implementation activities include measures to:

- remove barriers to fish passage,
- increase canopy cover to improve habitat for coldwater fish species,
- remove nonnative plant species and replace with native vegetation,
- reduce livestock access to riparian zones,
- repair minor erosion/bank instability to reduce creek sedimentation, and
- promote sustainable agriculture within the watershed through the use of best management practices.

Expected outcomes of the project are the restoration of historical salmon and steelhead spawning and rearing habitat in Murphy Creek with an associated increase in populations of neotropical migratory birds and other special-status species through the maintenance of sustainable agricultural practices, increased water flows, and improved water quality.



A portion of Murphy Creek located below a dam and in need of riparian restoration and removal of invasive plant growth.

Contact Information

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A geomorphologist classifies an eroding area at the head of Clear Creek.

Award Amount
\$556,325

Watershed
Cosumnes River Watershed

County
Amador, El Dorado, and Sacramento Counties

CALFED Region
Delta Region

Legislative Districts
US Congress: 3 and 4
State Assembly: 4 and 10
State Senate: 1

Purpose

Gather information necessary to develop a long-range management plan for the Cosumnes River Watershed.

Project Goals

- Inventory and characterize stream channel erosion by subwatershed.
- Develop a map of unsurfaced roads in the entire watershed.
- Estimate relative sediment yield by subwatershed and land-cover/land-use type.
- Monitor and characterize sediment transport.
- Assess watershed conditions and identify resource problems.
- Prepare a watershed assessment report.
- Develop an extensive community outreach program.

Benefits to the CALFED Program

The Ecosystem Restoration Program has targeted the Cosumnes River Watershed for restoration of seasonally flooded habitat, tidal wetlands, splittail and Chinook salmon rearing habitat, sandhill crane habitat, and riparian plant communities. The inventory produced by the Cosumnes River Watershed Inventory and Assessment will be used to promote the CALFED Program's mission to restore ecosystem health by identifying problems in the Cosumnes River Watershed and by providing an information base for future watershed planning efforts. This project also supports water quality improvement and fish and wildlife habitat enhancement by prioritizing and recommending areas and resources for treatment to reduce erosion, sediment, and flood damage.

Project Overview

The Cosumnes River extends upstream from the marshes and valley oak riparian forests of the Delta to the coniferous forest at Plummer ridge in the Sierra Nevada above 7,600 feet. The Sloughouse Resource Conservation District (RCD), in coordination with the Cosumnes River Task Force (CRTF), is completing a resource inventory of the Cosumnes River watershed. The inventory will be used to develop a watershed management plan. The resulting watershed management plan will guide resource planning, restoration, enhancement, and water quality improvements in the watershed.

The RCD uses information collected from previous studies, ongoing studies, and new data collection efforts to develop a watershed conditions assessment identifying resource problems throughout the watershed. Based on stakeholder meetings led by the CRTF, there is a strong local desire to complete a comprehensive watershed plan for the Cosumnes River Watershed. Other ongoing studies are collecting some, but not all, data necessary to specifically support a watershed planning effort. This project provides the additional information needed to fully support the development of a watershed management plan.

To ensure extensive stakeholder involvement, the RCD and the CRTF conduct extensive public outreach and education with continued coordination and facilitation by CRTF. CRTF has demonstrated successful integration of watershed efforts over the past 5 years. Outreach activities include coordination with related watershed organizations, such as the Mokelumne-Cosumnes Watershed Alliance, monthly updates on the CRTF website regarding project progress, a quarterly newspaper, and public meetings to present preliminary and final conclusions and to get public input.



These well-vegetated banks provide bank stability on the Cosumnes River.

Contact Information

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Local high school students participate in the "Storm Drain Detectives" program.

Award Amount
\$70,140

Watershed
Lower Mokelumne River Watershed

County
San Joaquin County

CALFED Region
Delta Region

Legislative Districts
US Congress: 11 and 18
State Assembly: 17 and 26
State Senate: 5 and 14

Purpose

This project will establish the Lower Mokelumne River Watershed Education Project to expand and enhance monitoring and community outreach activities of the Lower Mokelumne River Citizen Monitoring Program.

Project Goals

- Continuation of Citizen Monitoring work on the Mokelumne River and the City of Lodi stormwater system, staffed by high school students and the general public.
- Research and painting of two Mokelumne River Watershed murals at the Lodi Lake Park.
- Feasibility study of the Lodi Lake Park area for a larger building to house environmental studies work.

Benefits to the CALFED Program

The Mokelumne River is the largest eastside Delta tributary and, therefore, an important element of the CALFED Program. The Ecosystem Restoration Program has targeted this watershed for habitat improvements, and the Water Quality Program is working toward improvements in dissolved oxygen levels and sedimentation in the Mokelumne River. This education project improves coordination and collaboration among agencies, organizations, and groups in the watershed. It validates and strengthens existing monitoring protocols, which aid decision-makers in making informed choices for water management. The project also expands an existing education and outreach program and helps define the relationship between watershed processes and the goals and objectives of the CALFED Program.

Project Overview

Funds were awarded in 2000 to the Lodi Lake Nature Area Docent Council for start-up activities of the Lower Mokelumne River Citizen Monitoring Program (Program) and to refurbish a part of the Lodi Lake Discovery Center for office space. This project will continue and expand on the work of the Program. The Program is a collaborative effort of the City of Lodi Public Works Department, the California Regional Water Quality Resources Board, Central Valley Region, and the Lodi Lake Nature Area Docent Council. It trains local students and citizens to serve as monitoring team members and also trains local high school science teachers to serve as monitoring team leaders. The Program established protocols and began regular sampling and testing of river, lake, and storm drain waters for certain physical and chemical parameters. Students use their field experiences to augment their classroom education and to satisfy their senior project requirements. The water quality data collected by the monitoring teams are made available to educators, agencies, and the public on a web site.

This project will expand the Program to augment the capabilities and activities of the Program to:

- Continue and expand storm drain and river water monitoring activities, including recruitment, training, and deployment of four additional monitoring teams.
- Diversify and expand Lodi Lake Nature Area Docent Council activities related to water quality and stewardship education, including the creation of two watershed murals and the initiation of a feasibility study for remodeling the current Lodi Lake Discovery Center.

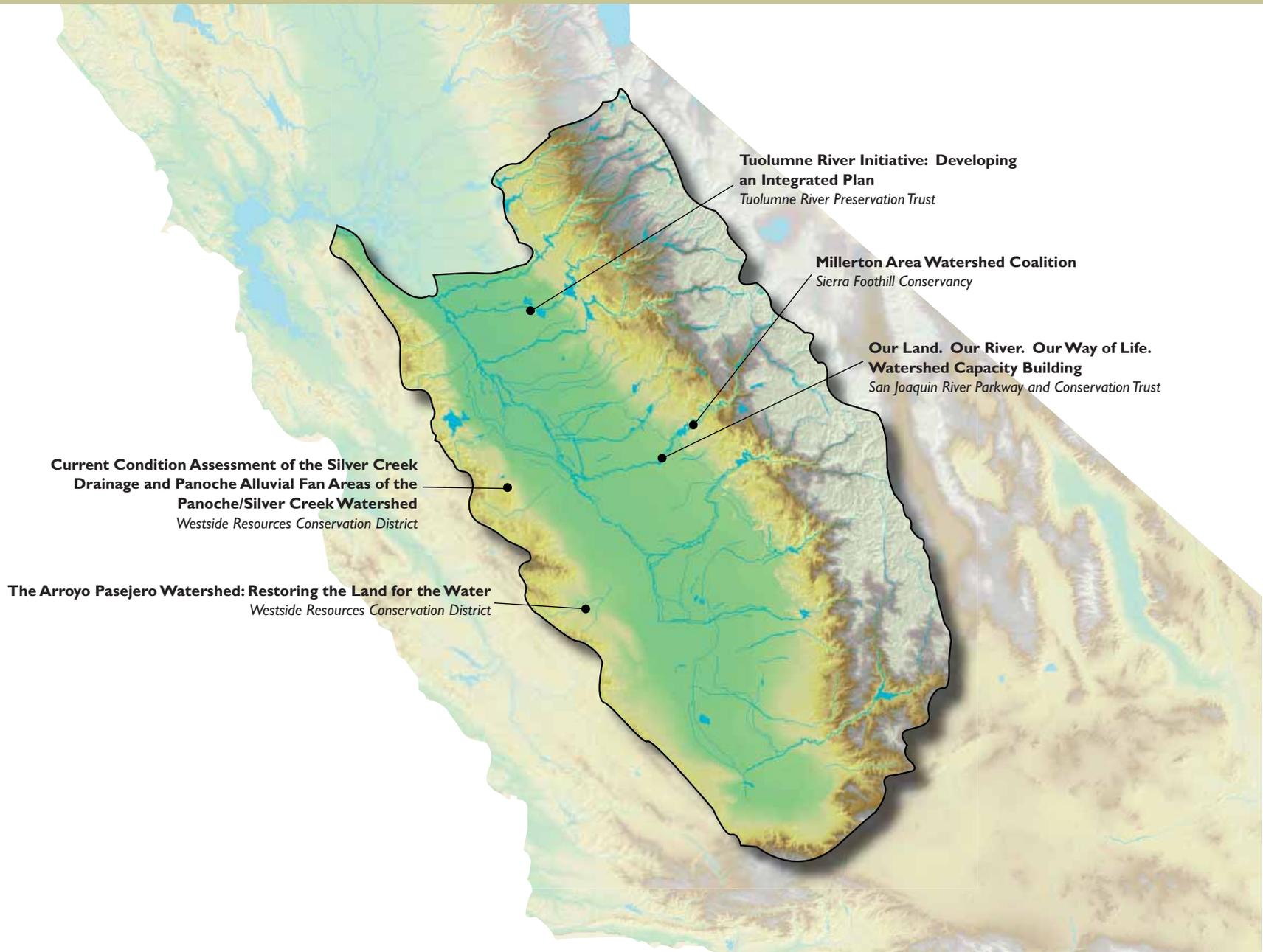


Student volunteers clean the storm drain path to enhance water quality.

Contact Information

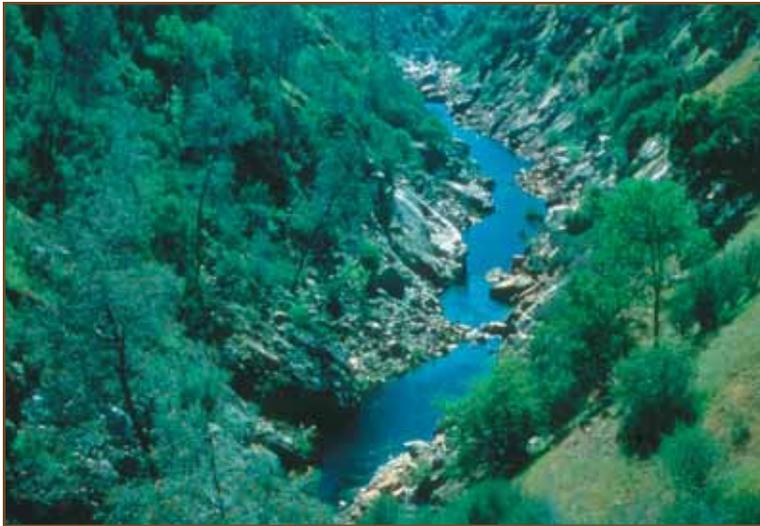
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San Joaquin Valley Region



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A view of the Upper San Joaquin River, which is part of the Millerton Area Watershed.

Award Amount
\$102,154

Watershed
Portions of San Joaquin River and tributaries, above Millerton Lake

County
Fresno and Madera Counties

CALFED Region
San Joaquin Valley Region

Legislative Districts
US Congress: 19
State Assembly: 25
State Senate: 14

Purpose

This project expands a small watershed group-the Millerton Area Watershed Coalition-into a broad-based coalition of property owners, policymakers, and other stakeholders in the Millerton Area Watershed.

Project Goals

- Build a community-based watershed group to focus on issues of concern in the Millerton Area Watershed.
- Collect and analyze data for a watershed assessment.
- Develop a proposal for a comprehensive watershed management plan.
- Provide education programs to landowners and local stakeholders.
- Create a repository for information about the Millerton Area Watershed.

Benefits to the CALFED Program

The Millerton Area Watershed is located in the foothills of the Sierra Nevada and includes multiple tributaries to the San Joaquin River. The primary uses for the land and water in the Millerton area are ranching and recreation, both of which affect water quality and the quality of the ecosystem. The Millerton Area Watershed Coalition focuses much of its attention on these land and water uses and coordinates citizen management of ranching and recreation to lessen sedimentation and improve water quality and ecosystem health, thus contributing to an objective of the Water Quality Program to reduce sediment in the San Joaquin River region. This project is also furthering CALFED Program goals by improving coordination and collaboration among government agencies, other organizations, and local landowners.

Project Overview

The Millerton Area Watershed consists of approximately 100,000 acres on both sides of the San Joaquin River. The majority of the watershed is privately owned and ranges from large cattle ranches to small-parcel home sites. The area also provides important recreational opportunities. Both ranching and recreation have potential to affect water quality as well as quality of the ecosystem. The formation of the Millerton Area Watershed Coalition is uniting local stakeholders to address issues of concern in their watershed. The Coalition is broad-based and inclusive of all interests with the ultimate goal of ensuring that water quality and quantity are sustainably managed with due consideration of economic and social issues.

Initial steps in the formation of the Millerton Area Watershed Coalition include informing all landowners and other stakeholders about the development of the Coalition. Their participation is encouraged and their input is solicited on key issues. Within the 2-year timeframe of the grant, the Millerton Area Watershed Coalition will be a fully functioning and effective body that will have accomplished the following:

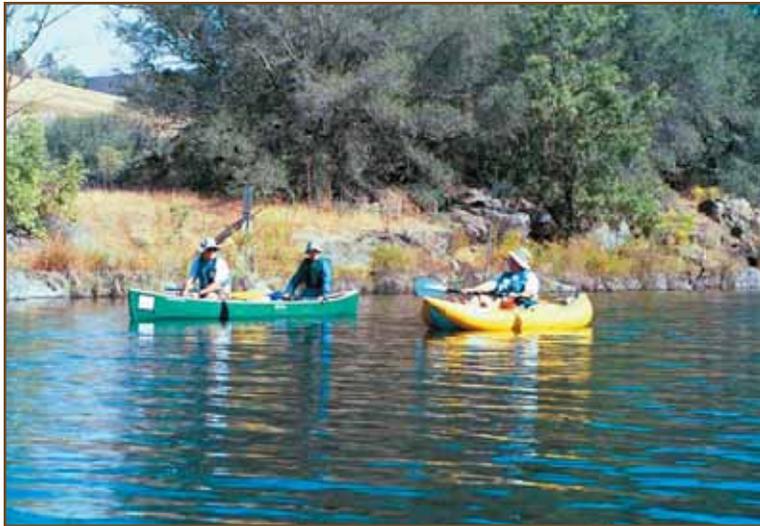
- Begin collecting and analyzing data for a watershed assessment to identify existing and potential stressors that affect water quality and quantity.
- Create a plan to fund and implement a comprehensive watershed management plan.
- Provide a minimum of four education programs to landowners and the local community focused on issues related to watershed protection and best management practices.
- Create a repository for information related to the Millerton Area Watershed.



Finegold Creek is an important water source for the San Joaquin River.

Contact Information

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This project is helping to enhance management of the San Joaquin River so it can be enjoyed for generations to come.

Award Amount
\$373,875

Watershed
San Joaquin River Watershed

County
Fresno and Madera Counties

CALFED Region
San Joaquin Valley Region

Legislative Districts
US Congress: 19
State Assembly: 25 and 29
State Senate: 14

Purpose

To improve watershed planning and management along the San Joaquin River by building local community capacity.

Project Goals

- Gage the level of public awareness and interest in San Joaquin River related issues.
- Conduct a balanced outreach program to increase awareness and provide public information on the San Joaquin River and watershed activities.
- Measure the success of the outreach program.
- Identify approaches to improve stakeholder awareness and participation in San Joaquin River watershed management.

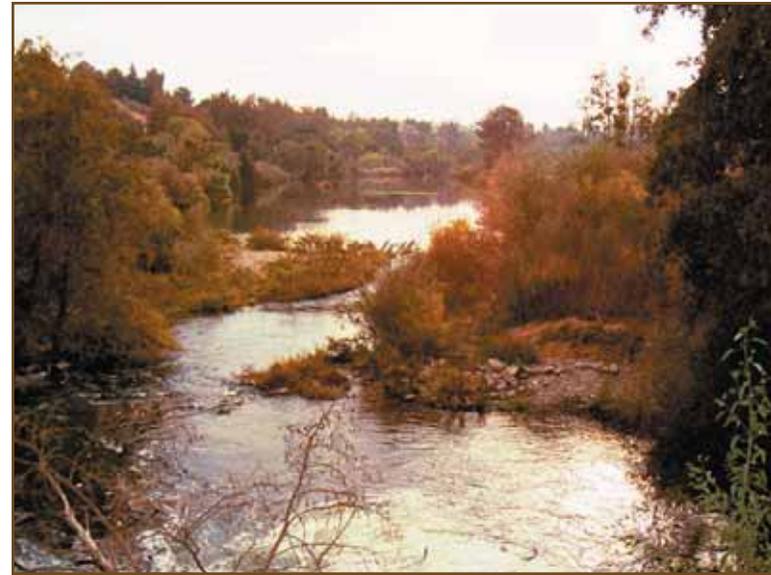
Benefits to the CALFED Program

The Ecosystem Restoration Program Plan (ERPP) states that the ecological integrity of the San Joaquin River is critical to the ecological health of the Bay-Delta system. The ERPP vision for the river includes increased streamflows, reduction of salts and other contaminants, and maintaining a diverse, self-sustaining riparian zone. Achieving this vision is largely dependent upon the landowners and residents living in the San Joaquin River Watershed. This project increases public awareness of the dynamics of the San Joaquin River and watershed processes and increases support of improved watershed management. This project provides multiple benefits, including improved habitat and water quality, and forms the foundation needed to make improvements in the health and productivity of the San Joaquin River Watershed.

Project Overview

Although interest in restoring the San Joaquin River is increasing, there remains a lack of public awareness and understanding of the watershed. This project provides important baseline data on public awareness of San Joaquin River watershed issues to enable local watershed groups and government agencies to identify and collaboratively address issues of common concern.

The project has four phases. The first phase includes conducting a poll, in both English and Spanish, in a geographically representative area of the watershed, to gauge the level of public awareness and interest in San Joaquin River watershed issues. The second phase is the development of a multimedia outreach program to increase awareness and provide public information on the San Joaquin River, CALFED Program, and watershed activities. The program includes signage, radio, television, and printed brochures. The next step is to conduct a second poll to measure the success of the outreach program and provide a feedback loop for further action. Results of the tracking survey will be evaluated and presented in a report. Lastly, the fourth phase includes providing a media training session to assist San Joaquin River Management Program members in understanding the key watershed messages that have been developed as part of the project and to practice clear and effective communication.



Education of the public on water-related issues is crucial to bringing balanced planning to the San Joaquin River.

Contact Information

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Current Condition Assessment of the Silver Creek Drainage and Panoche Alluvial Fan Areas of the Panoche/Silver Creek Watershed

Westside Resources Conservation District



Taking notes at a new automatic recording rain gauge in Griswold Hills.

Award Amount
\$200,000

Watershed
Panoche/Silver Creek Watershed

County
Fresno and San Benito Counties

CALFED Region
San Joaquin Valley Region

Legislative Districts
US Congress: 21
State Assembly: 29
State Senate: 14

Purpose

Assess the condition of the Silver Creek drainage and a portion of Panoche Creek drainage to determine current resource conditions and help to develop best management practices (BMPs).

Project Goals

- Gather baseline information on the natural resource conditions of the two sub-watersheds.
- Incorporate the baseline data into a geographic information system (GIS).
- Issue a final baseline data report.
- Develop BMPs for the two sub-watersheds and continue monitoring resources.

Benefits to the CALFED Program

The Panoche/Silver Creek Watershed has some of the most dramatic resource concerns in the state and flows directly into the Delta via the San Joaquin River. The Ecosystem Restoration Program's vision for the Westside San Joaquin Basin includes improved water quality and floodplain processes. The Water Quality Program specifically targets improvement in selenium and sedimentation levels in the San Joaquin Valley. This project fosters a clearer understanding of the geology, geomorphology, soils, and hydrology of this watershed through a coordinated resource management plan program that engages landowners and other local stakeholders. This effort is vital to the establishment of proper selenium and sediment standards, as well as to properly designing a floodway and wildlife corridor.

Project Overview

Runoff from Panoche and Silver Creek Watershed (PSCW) has historically created flooding and sedimentation problems for the City of Mendota and surrounding agricultural lands. The PSCW is a principal source of selenium, salts, and other trace elements, contaminating the soils and groundwater in the Panoche alluvial fan and San Joaquin River. The PSCW Coordinated Resource Management and Planning team (CRMP) is working toward a comprehensive, collaborative watershed program. The program uses a consensus process to encourage improvement in beneficial uses and minimize damage to the watershed. The PSCW CRMP's objectives include decreasing flood damage and erosion, increasing channel stability, enhancing riparian areas and wildlife habitat, and preventing the impairment of high quality water.

Assessments have been completed in other parts of this watershed. However, owing to the size of this watershed (approximately 300,000 acres), these were done on a sub-watershed basis. This project completes the assessment of the entire watershed. It enables the CRMP and its participants to continue development and implementation of a collaborative, comprehensive watershed management plan that will address the program's objectives.

Monitoring to assess current resource conditions measures vegetative cover and rangeland use, estimates erosion from streambanks and upland areas, and delineates flood and sediment damage areas. Citizen monitoring, including areas of streambank erosion and historical flood and sediment damage, is also incorporated. These data are then incorporated into a geographic information system (GIS). Evaluation of the collected data facilitates characterization of current resource conditions that will contribute directly to improved management and decision-making regarding PSCW soil and water resources.



Surveying a channel cross section for crest stage gauge setup on Panoche Creek.

Contact Information

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Fresno, CA 93726
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Students learn what permitting and equipment might be needed to remove invasive tamarisk.

Award Amount
\$200,000

Watershed
Arroyo Pasajero Watershed

County
Fresno and Kings Counties

CALFED Region
San Joaquin Valley Region

Legislative Districts
US Congress: 20
State Assembly: 30
State Senate: 16

Purpose

Develop ranch plans and implement best management practices (BMPs) to improve conditions in the Arroyo Pasajero Watershed

Project Goals

- Provide assistance to landowners in southwestern Fresno and Kings Counties for the development and implementation of farm and ranch plans.
- Decrease grazing impacts on the watershed.
- Reduce erosion through implementation of BMPs, including protecting stream channels and banks.
- Reduce flooding that enters the California Aqueduct and lowers water quality and threatens the integrity of the aqueduct.

Benefits to the CALFED Program

The Ecosystem Restoration Program Plan states that stressors to ecological processes, habitats, and species in the West San Joaquin Basin include livestock grazing, nonnative species, and agricultural practices. Through the implementation of BMPs, this project aims to address these stressors. Individually tailored ranch plans include a description of BMPs such as removal of invasive plant species, improvement of grazing patterns to decrease erosion and improve water quality, implementation of measures to control agriculture runoff, and stabilization of streambanks. Implementation of this project helps achieve the Ecosystem Restoration Program goals for the West San Joaquin Basin. The project will also reduce flooding, which impairs water quality and threatens the integrity of the California Aqueduct.

Project Overview

The 529-square-mile Arroyo Pasajero watershed is located in central San Joaquin Valley. The watershed is substantially impaired as a result of natural geologic erosion, which is accelerated by the decline of grassland and riparian vegetation. The area is prone to flooding, which moves massive amounts of sediment containing naturally occurring asbestos, salts, and other constituents to the valley floor. Floodwaters may enter the California Aqueduct, impairing water quality and threatening the integrity of the aqueduct. As a result, landowners in the watershed have formed the Stewards of the Arroyo Pasajero Coordinated Management Program (CRMP), whose goal is to reduce flooding and sedimentation through the implementation of best management practices (BMPs) in the Arroyo Pasajero Watershed.

The CRMP is working with farmers and ranchers to implement BMPs through individual ranch plans in an effort to address the flooding and sedimentation problems in the watershed. This project focuses on “low-infrastructure” solutions related primarily to drainage control, rangeland management, and cropland modifications that can be consistently implemented on a watershed-wide basis and uphold the traditional land usage. The process for obtaining a farm or ranch plan consists of a landowner submitting an application to the CRMP to have a plan designed. All infrastructure construction is done according to Natural Resource Conservation Service specifications and is administered through the Westside Resources Conservation District.

The implementation of BMPs through individual ranch plans will result in improved ranch and farm operations, including better distribution of cattle. Improved ranch operations will decrease grazing impacts and better stream channel and bank protection, which will reduce erosion and flooding.



Joe DiTomasso of UC Davis leads a session on weed identification and management.

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A riffle on the Tuolumne River in Stanislaus County.

Award Amount
\$250,000

Watershed
Tuolumne River Watershed

County
Stanislaus County

CALFED Region
San Joaquin Valley Region

Legislative Districts
US Congress: 18
State Assembly: 17 and 26
State Senate: 12

Purpose

Integrate existing plans, activities, and projects into a single comprehensive Integrated Plan for the Tuolumne River Initiative.

Project Goals

- Maintain the Lower Tuolumne River Coalition as a forum for stakeholder coordination of projects.
- Integrate existing plans and projects with multiple objectives into a single integrated plan to improve the opportunity to maximize the benefits of each project and plan.
- Build local networks and capacity by engaging members of the community in watershed management.

Benefits to the CALFED Program

The Tuolumne River is the largest tributary in the San Joaquin River Basin and supports fall-run Chinook salmon and steelhead trout. The Ecosystem Restoration Program Plan (ERPP) states that an investment in the Tuolumne River Watershed during initial implementation will provide direct benefits to the river and dependent fish and wildlife resources, and help set the stage for subsequent implementation phases. Implementation of this project is successfully coordinating watershed management activities for the lower Tuolumne River. This coordinated effort will help to ensure success for individual organizations and for the ERPP and CALFED Program.

Project Overview

Many entities have developed plans and are implementing projects related to ecosystem restoration, recreational opportunity enhancement, and flood management of the Tuolumne River. Although these plans are generally mutually supportive, the Tuolumne River Initiative (Initiative) is working to ensure coordination of the various efforts and create one overall plan that will provide guidelines for future related projects. The Tuolumne River Technical Advisory Committee's Habitat Restoration Plan for the Lower Tuolumne River Corridor forms the scientific and technical basis for this integrated plan.

The Tuolumne River Watershed presently offers the surrounding community limited opportunities to learn about the river, its habitats, and its watershed. Energy and ideas for watershed management lie untapped within the community because of the lack of a forum to engage individuals or entities. This project creates a forum to share ideas and coordinate efforts.

The project has several goals. The first goal is to maintain the Initiative as a forum for coordination of projects along the river and collaborate with the involved entities and individuals for support and guidance in implementing projects. The second goal is to engage more members of the community in watershed management in the Lower Tuolumne River Watershed and in this way to build local networks and capacity.

The most tangible outcome of this project is the integrated plan itself, which contains a "roadmap" for ongoing and potential projects and management in the Tuolumne River corridor. It also creates a functional network of local entities with interests and responsibilities related to the Tuolumne River and its watershed. The network and connections also include other watersheds that are undertaking similar processes or addressing similar goals.



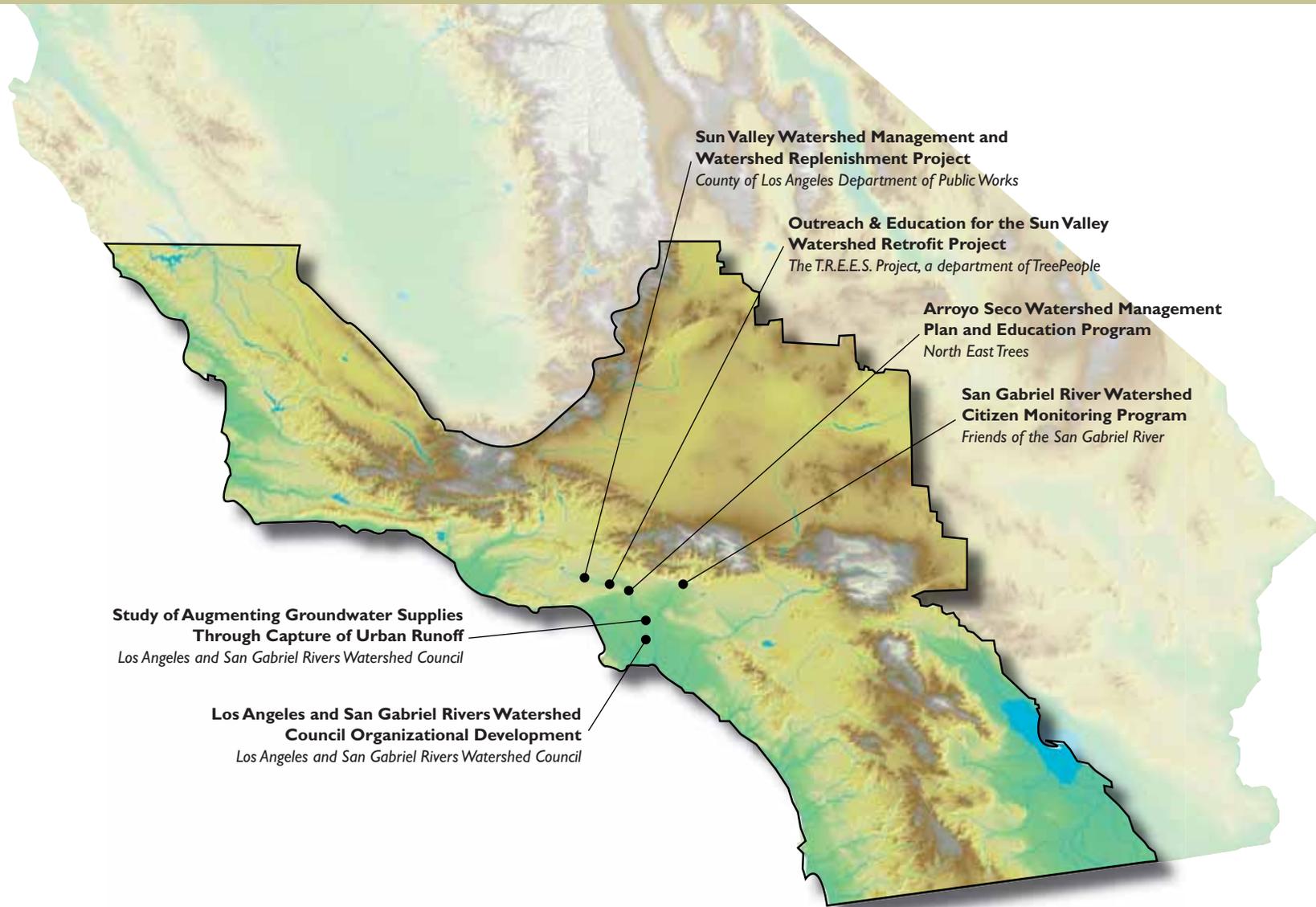
Photo courtesy of U.S. Fish and Wildlife Service.

Cranes on the San Joaquin River National Wildlife Refuge, where 12,887 acres have been set aside as year-round wetland habitat.

Contact Information

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Southern California Region



Southern California Region Projects

Outreach & Education for the Sun Valley Watershed Retrofit Project The Trans-agency Resources for Environmental and Economic Sustainability (T.R.E.E.S.) Project, a Department of TreePeople.....	109
Sun Valley Watershed Management and Water Replenishment Project County of Los Angeles Department of Public Works.....	111
Study of Augmenting Groundwater Supplies through Capture of Urban Runoff Los Angeles and San Gabriel Rivers Watershed Council.....	113
Los Angeles and San Gabriel Rivers Watershed Council Organizational Development Los Angeles and San Gabriel Rivers Watershed Council.....	115
San Gabriel River Watershed Citizen Monitoring Program Friends of the San Gabriel River.....	117
Arroyo Seco Watershed Management Plan and Education Program North East Trees.....	119

Outreach & Education for the Sun Valley Watershed Retrofit Project

The Trans-agency Resources for Environmental and Economic Sustainability (T.R.E.E.S.) Project, a Department of TreePeople



Home Forester workshop teaches Sun Valley residents hands-on landscaping techniques that will conserve water and reduce stormwater runoff.

Purpose

Expand education and outreach to encourage the implementation of best management practices (BMPs) to control and capture stormwater runoff and reduce demand for water.

Project Goals

- Demonstrate, at the watershed level, the economic, environmental, and social benefits of BMPs and cooperative watershed management to sustain communities in this urban watershed.
- Use outreach and education to increase environmental literacy in community households.
- Organize and support a neighborhood steward network to create an environmentally sustainable vision.
- Support families as they evaluate their properties, prescribe changes, and implement BMPs.

Award Amount
\$350,000

Watershed
Sun Valley Watershed

County
Los Angeles County

CALFED Region
Southern California Region

Legislative Districts
US Congress: 26
State Assembly: 36
State Senate: 17

Benefits to the CALFED Program

The Sun Valley Watershed is part of the CALFED Program's solution area and receives the majority of its water supply from imported sources. This project promotes BMPs to control and capture stormwater runoff and promote water conservation through a public outreach and education program. Retaining stormwater runoff can significantly augment the local water supply, thereby reducing the demand for imported Bay-Delta water. The education component fosters awareness of the ever-increasing demand on California's water supply and expands public awareness in Southern California of the area's dependence on imported water from the Bay-Delta. The project is intended as a pilot for the retrofit of the entire Los Angeles basin, which will eventually reduce demand on a much larger scale.

Project Overview

The Sun Valley project area is a 2,700-acre, 8,000-household urban watershed composed of multi-ethnic communities located in Los Angeles County's northeast San Fernando Valley. The area is a flat and near-treeless community located within the City of Los Angeles, prone to flashfloods because of the lack of storm drains. Unfortunately, the Los Angeles River Watershed is not engineered to capture this briefly abundant resource for local use. Instead, rain falls mostly on impervious surfaces, creating serious flood control challenges and eventually carrying a heavy pollutant load into stormdrains and the ocean. At the urging of T.R.E.E.S., Los Angeles County decided to favor an area-wide retrofit in accordance with best management practices (BMPs) that includes promoting ecological principles and water conservation rather than constructing stormdrains throughout Sun Valley.

This new vision allows regional stakeholders to pool their resources and retrofit the watershed with retention basins, cisterns, strategic tree planting, permeable pavement, groundwater infiltrators and other BMPs. These will help:

- eliminate flooding,
- promote conservation,
- reduce demand for water imports from the Bay-Delta,
- capture water,
- green the community,
- increase recreational opportunities,
- create jobs, and
- improve the quality of life for residents.

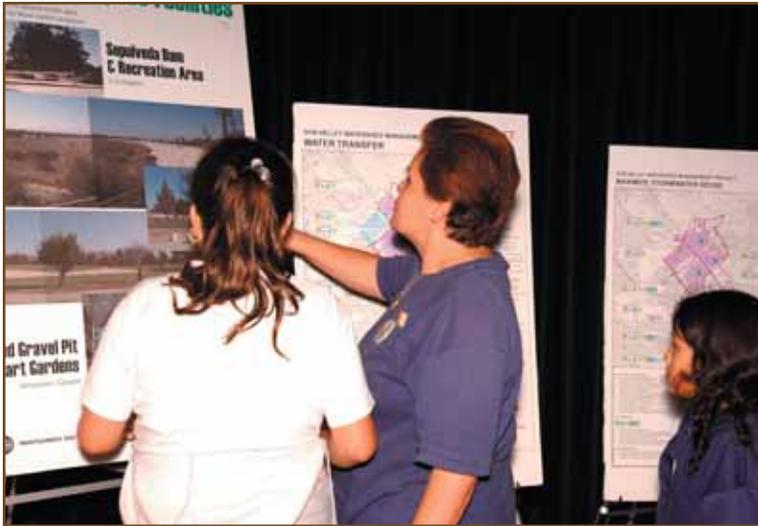
This project expands existing public outreach and education to promote the broad-scale adoption of water conservation BMPs in the Sun Valley Watershed. This project includes school education programs, community outreach, information sharing.



Zev Yaroslavsky, Maria Chong-Castillo, and Terri Grant at a recent Sun Valley Watershed Stakeholders Group Town Hall meeting.

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Community residents view displays at a town hall meeting.

Award Amount
\$430,000

Watershed
Sun Valley Watershed

County
Los Angeles County

CALFED Region
Southern California Region

Legislative Districts
US Congress: 27 and 28
State Assembly: 38, 39, and 43
State Senate: 17, 20, and 21

Purpose

To develop a Watershed Management Plan and a Programmatic Environmental Impact Report for the Sun Valley Watershed to assist in a pilot flood control and rainfall capture program.

Project Goals

- Develop a watershed management plan through a community process.
- Recharge and reuse an annual average of 2,100 acre-feet of rainfall from a 2,800-acre urban watershed tributary to the Los Angeles River.
- Reduce flooding and provide greater open space and recreational opportunities in this underserved community in the east San Fernando Valley.
- Reduce pollutant loading from urban runoff to the Los Angeles River.

Benefits to the CALFED Program

The CALFED Water Use Efficiency Program identifies implementation of water conservation and reuse measures as a primary focus in Southern California, a region that imports large amounts of Bay-Delta water. This project addresses chronic flooding problems in the Sun Valley Watershed by capturing, recharging, and/or reusing rainfall in the watershed and will result in conserving an annual average of approximately 2,100 acre-feet of water. In addition, the development of a watershed management plan with the local citizens empowers the community to develop solutions for a chronic flooding problem and increases local understanding of the importance of water conservation. As a pilot project that could be replicated elsewhere, this project stands to provide a large cumulative benefit to the CALFED Program.

Project Overview

The Sun Valley Watershed Management and Replenishment Project is a pilot watershed management project by the County of Los Angeles Department of Public Works (Department). The objective of the project is to retrofit a developed urban watershed with nontraditional structural best management practices (BMPs) to solve severe flooding conditions while retaining rainfall (approximately 2,100 acre-feet per year), increasing water conservation, recreational opportunities and wildlife habitat, and reducing stormwater pollution. The purpose of the current phase of this project is to develop a watershed management plan and a Programmatic Environmental Impact Report through a comprehensive community outreach and education program.

The Sun Valley Watershed is a 2,800-acre urban watershed tributary to the Los Angeles River, located northwest of downtown Los Angeles. The watershed includes the community of Sun Valley and portions of North Hollywood. The community is subject to chronic flooding conditions that have been present in the watershed for more than 30 years. Traditionally, flood control agencies like the Department have addressed these types of flooding conditions by constructing single purpose storm drains, which carry rainfall, a valuable resource, straight to the ocean. In the past, such a solution was proposed to address the flooding conditions in the watershed at an estimated construction cost of \$40 to \$45 million. In lieu of constructing storm drains, this pilot project implements the following structural BMPs to reduce flooding and capture rainfall in the watershed: dry wells, enhancement of rainfall absorption into the soil through mulching, multi-use of rainfall retention basins, pavement removal in areas such as schoolyards and parking lots, porous pavement, shallow grassy on-site retention systems (swales, basins, etc.), tree planting, underground municipal rainfall storage facilities, and underground residential cisterns.



Sun Valley residents are kept apprised of watershed news and project developments through public meetings and newsletters.

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Study of Augmenting Groundwater Supplies through Capture of Urban Runoff

Los Angeles and San Gabriel Rivers Watershed Council



A worker implements the CALFED-funded Water Augmentation Study.

Award Amount
\$971,800

Watershed
Los Angeles River and San Gabriel River Watersheds

County
Los Angeles County

CALFED Region
Southern California Region

Legislative Districts
US Congress: 30, 36, and 40
State Assembly: 41, 53, and 54
State Senate: 23, 25, and 27

Purpose

Assess the feasibility of capturing a currently wasted resource in urban stormwater that is associated with environmental problems and using it to augment groundwater supplies.

Project Goals

- Assess water quality implications of infiltrated urban runoff.
- Assess the effectiveness of various infiltration best management practices (BMPs) in reducing or eliminating pollutants.
- Quantify the amount of stormwater that could be realistically secured.
- Develop an implementation plan to deploy infiltration devices in appropriate locations and settings, along with guidelines for sustainability.

Benefits to the CALFED Program

This water augmentation study furthers the goals of the Water Use Efficiency Program by identifying and implementing new and innovative measures to improve the efficiency of local urban water use. The ultimate objective of this project is to reduce the impacts of water diversions on the Bay-Delta system through demand-side management and enhancement of available local water supplies. This study is a landmark endeavor that increases organizational collaboration and social capacity. It is a locally led effort that brings together ten federal, state, and local agencies to achieve a sustainable program for efficient water use. Local benefits are not limited to the Los Angeles and San Gabriel River Watersheds, as the results of the study and its design standards will be shared with other urban watershed groups.

Project Overview

This groundwater augmentation study is a pilot project with collaborative oversight of ten federal, state, and local agencies. The idea for an urban runoff capture program was conceived by these agencies as a possible way to reduce the amount of polluted stormwater runoff entering local streams. The project increases groundwater reserves by using infiltration best management practices (BMPs) to recharge groundwater with urban runoff. This study researches many unknowns about urban runoff retention in order to develop a sustainable stormwater capture program. Some of the research topics under study include:

- assessment of potential impacts on groundwater quality,
- identification of land uses that may have different impacts on contaminants found in runoff,
- determination of effectiveness of various recharge BMPs,
- identification of areas appropriate for installation of recharge BMPs,
- quantification of the amount of additional drinking water that could be harvested,
- assessment of the economic value of harvested water,
- development of design standards for BMPs, and
- identification and assessment of any institutional barriers to requiring or encouraging widespread installation of infiltration BMPs.

This water augmentation study grew out of the Los Angeles and San Gabriel Rivers Watershed Council's vision for their watersheds within the next generation (20-30 years). The vision statement includes a principal goal of "using all water resources efficiently," including increased use of reclaimed water, groundwater recharge, and detention of stormwater. When the vision is realized, the Los Angeles region, while still dependent on imported water, will be able to provide a far greater proportion of its own water needs.



A volunteer gets her hands dirty testing an urban stormwater supply area.

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Local citizens participate in the Volunteer Water Quality Sampling Event on the San Gabriel River.

Award Amount
\$288,000

Watershed
Los Angeles and San Gabriel River Watersheds

County
Los Angeles

CALFED Region
Southern California Region

Legislative Districts
US Congress: 30, 36, and 40
State Assembly: 41, 53, and 54
State Senate: 23, 25, 27, and 28

Purpose

Provide a watershed coordinator to facilitate expansion of community capacity to effectively manage the Los Angeles and San Gabriel River Watersheds.

Project Goals

- Manage the watershed for sustainable economic vitality, environmental health, and sustainability.
- Assist the communities in efficient use of water resources.
- Restore the watershed habitats for wildlife.
- Improve water quality to support boating, fishing, and swimming.
- Maintain current levels of public outreach.
- Expand activities in ways that would establish an ongoing relationship with the CALFED Watershed Program.

Benefits to the CALFED Program

The Los Angeles and San Gabriel River Watersheds are located in the Los Angeles area, a large-volume water importer from the Bay-Delta System. This project provides resources to the Los Angeles and San Gabriel River Watershed Council to develop long-term partnerships with communities in the watersheds to help educate citizens about groundwater protection and water conservation, develop watershed management plans, and promote better stewardship of the watersheds. The CALFED Water Use Efficiency Program identifies implementation of water conservation and reuse measures as a primary focus in urban Southern California. Reducing the amount of imported water to the watershed provides a direct benefit to the Bay-Delta System by leaving more water in the system for a variety of beneficial uses.

Project Overview

This project is located within the Los Angeles River and San Gabriel River coastal watersheds of Los Angeles County, a densely populated and urbanized area in southern California. Communities in the Los Angeles and San Gabriel River Watersheds import large quantities of water from the Bay-Delta system and also rely on groundwater for domestic water supplies.

The Los Angeles and San Gabriel River Watershed Council provides ongoing outreach and education to diverse communities in the watershed. Their work includes educational material and building community involvement to improve watershed stewardship practices in the watersheds. Their efforts have helped produce several watershed management plans in the area.

This project supports the Watershed Council to expand activities and to transition from volunteer staff to paid professional staff. The Watershed Council is expanding long-term partnerships with various communities in the watershed to promote improved watershed management. Their work results in more efficient use of water and reduction of contamination of groundwater resources.



Volunteers monitor water quality in the San Gabriel River.

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Photo courtesy of SCCWRP

Volunteers gathering samples from storm drains entering the San Gabriel River.

Award Amount

\$51,120

Watershed

San Gabriel River Watershed

County

Los Angeles County

CALFED Region

Southern California Region

Legislative Districts

US Congress: 25 and 26

State Assembly: 36 and 59

State Senate: 17 and 29

Purpose

Develop a citizen monitoring plan for the San Gabriel River Watershed and its tributaries.

Project Goals

- Develop a comprehensive Citizen Monitoring Plan through a stakeholder-driven process.
- Educate members of the community of the need to protect and conserve groundwater resources.
- Become a forum for community members to become involved in management of the watershed.
- Generate financial and community support and attract volunteers to implement the plan through outreach efforts.

Benefits to the CALFED Program

The San Gabriel River Watershed is located in the Los Angeles area, which imports large volumes of water from the Bay-Delta system. The Water Use Efficiency Program Plan states that improvements in urban water use efficiency and associated reductions can result in water savings that can be reallocated to meet other water uses resulting in benefits to water quality and the ecosystem. This project is implementing a citizen monitoring program that educates citizens in the watershed about groundwater protection and conservation, leading to better management of the groundwater in the San Gabriel River Watershed. Direct benefits will ensue, as imports to the watershed can be reduced, resulting in greater water supplies available for beneficial uses in the Bay-Delta system.

Project Overview

The project is located within the San Gabriel River Watershed, a largely urbanized coastal watershed of Los Angeles. The San Gabriel River Watershed imports water from the Bay-Delta system and also relies on groundwater for domestic water supplies. Capturing stormwater and diverting it into spreading basins recharges much of the groundwater, but there is still contamination by urban runoff in the watershed.

This project is developing a citizen monitoring plan to educate the San Gabriel River Watershed community about protection and conservation of their ground water resources. The plan includes a description of the watershed, existing monitoring efforts, evaluation of existing information, identification of data gaps, and other watershed information. Outreach materials are also being developed as a component of the project. The outreach materials are leading to an increased community awareness regarding water conservation and groundwater supply reliability.

Implementation of the citizen monitoring plan is providing a forum for the community and promoting community involvement in watershed management. The Plan includes the evaluation of the water quality impacts of different land uses, effectiveness of non-point source best management practices and landowner education. The monitoring plan will allow the success of different watershed measures to be evaluated.

Overall, the development and implementation of a citizen monitoring plan for the San Gabriel River Watershed is improving the education of community members about groundwater protection and conservation. This will provide an arena for the local communities to become involved in effective management of groundwater resources of the San Gabriel River Watershed.



Photo courtesy of SCCWRP

Sampling kits await volunteers for a day of sampling in the San Gabriel Watershed.

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A view of the Arroyo Seco project area.

Award Amount
\$237,656

Watershed
Arroyo Seco Watershed

County
Los Angeles County

CALFED Region
Southern California Region

Legislative Districts
US Congress: 25, 26, and 32
State Assembly: 36, 37, and 59
State Senate: 17 and 29

Purpose

Research and develop a long-term implementation plan for the 47-square-mile Arroyo Seco Watershed, a major tributary of the Los Angeles River.

Project Goals

- Restore a more natural hydrologic function to the watershed, including stream restoration.
- Better manage, optimize, and conserve water resources, and improve water quality.
- Improve habitat quality, quantity, and connectivity.
- Improve recreational opportunities.
- Foster long-term agency and organizational support and collaboration for better watershed management.
- Educate and involve the public in watershed stewardship.

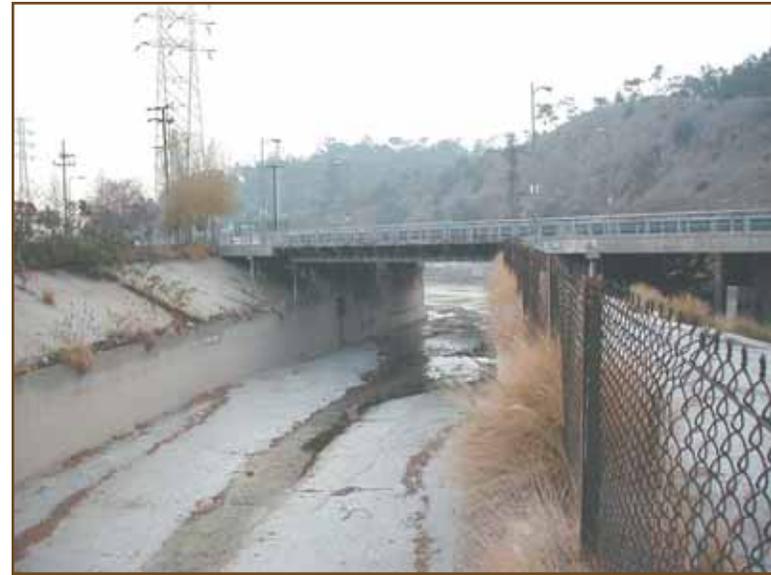
Benefits to the CALFED Program

The Arroyo Seco Watershed flows from the San Gabriel Mountains to the urbanized Los Angeles area, an importer of large volumes of water from the Bay-Delta system. This project builds from the Arroyo Seco Watershed Restoration Feasibility Study to develop a watershed resources plan. It also implements a citizen monitoring program to educate citizens about groundwater protection and water conservation to support better management of groundwater. This project creates a more informed citizenry and better management of water resources. Conservation of local water resources will make the watershed less dependent on water from the Bay-Delta, contributing to the Water Use Efficiency Program's goal of increasing urban water conservation, and leaves more water in the system for other beneficial uses.

Project Overview

The Arroyo Seco Watershed is drained by the Arroyo Seco River, a major tributary of the Los Angeles River, which extends from the San Gabriel Mountains above Pasadena to downtown Los Angeles. The watershed begins in the erosion-prone slopes of the San Gabriel Mountains and extends to the heavily urbanized setting of the lower watershed in Los Angeles. The Arroyo Seco Watershed community imports water from the Bay-Delta system and also relies on groundwater for domestic water supplies. The watershed is experiencing problems related to growth, including erosion and flood risks, degraded wildlife habitat, and polluted urban runoff and stormwater contaminating groundwater resources.

This project involves collaboration and support from diverse communities in the watershed to develop a Watershed Resources Plan. This plan integrates watershed management and education to inform citizens about groundwater conservation and protection of resources within the watershed. Outreach materials focus on increasing community water conservation and improving groundwater supply reliability. This project is also developing a citizen monitoring program to assess ecosystem improvements and water quality in the watershed. The long-term goal of the Arroyo Seco Watershed project is to implement projects that improve water conservation and water supply reliability, restore natural function to the Arroyo Seco River, and make other ecosystem improvements in the watershed.



A dry water channel in the Arroyo Seco Watershed.

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Projects by U.S. Congressional District (cont'd.)

Project Name	District Number																																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46				
Upper Guadalupe River Tributary Monitoring Program & Pilot Restoration Project															x	x	x																																	
Walnut Creek Watershed							x																																											
Western Placer Watersheds Coordination, Planning & Assessment				x																																														
Yolo Bypass Watershed Planning Project	x		x																																															
Yosemite Watershed Restoration Assessment Project												x																																						
Yuba River Conservancy Planning and Public Outreach Development		x		x																																														

Projects by State Senate District

Project Name	District Number																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
A Management Program for Tamarix & Arundo donax on Cache Creek					x																								
Almaden Reservoir Watershed Restoration Project											x				x														
American River Conservancy Water Quality Assessment: South Fork American and Consumnes River Basins	x																												
Arroyo Seco Watershed Management Plan and Education Program																		x											x
Butte Creek Watershed Floodplain Management Plan				x																									
Calaveras River Watershed Management Plan Implementation Program (Phase II): Baseline Water Quality Monitoring	x																												
Capay Valley Community Action Plan					x																								
Capay Valley Watershed Improvement Program					x																								
Cherokee Watershed Organizational Capacity and Citizen Monitoring Project				x																									
Citizen Involvement and Regional Outreach Program		x	x				x	x	x	x																			
City of Roseville Creek and Riparian Management and Restoration Plan				x																									
Codornices Creek Watershed Restoration Action Plan									x	x																			
Contra Costa County Watershed Atlas and Creek Restoration Strategy							x																						
Cosumnes River Watershed Inventory and Assessment	x																												
Current Condition Assessment of the Silver Creek Drainage and Panoche Alluvial Fan Areas of the Panoche/Silver Creek Watershed															x														
Deer Creek Watershed Conservancy Rangeland and Riparian Management Program				x																									
Dry Creek Watershed Stewardship Group				x																									
Implementation of Best Management Practices to Mitigate Organophosphate Pesticides Runoff				x																									
Interactive Watershed Information Model for Education and Adaptive Management				x																									
Lagoon Valley Watershed Restoration		x																											
Lassen National Forest Watershed Stewardship Within the Anadromous Antelope Creek Watershed	x																												
Los Angeles & San Gabriel Rivers Watershed Council Organizational Development																								x		x		x	
Lower Mokelumne River Watershed Education Project					x										x														
Lower Putah Creek Watershed Assessment and Stewardship Implementation Program					x																								
Middle Creek Ecosystem Restoration Project - Design Phase		x																											
Millerton Area Watershed Coalition															x														
Murphy Creek Restoration Project															x														
Napa River Watershed Mapping Partnership		x																											
Our Land. Our River. Our Way of Life. Watershed Capacity Building															x														
Outreach and Education for the Sun Valley Watershed Retrofit Project																			x										
Partnership for Sub-Regional Watershed Forums and a Watershed Center										x	x																		

Projects by State Senate District (cont'd.)

Project Name	District Number																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Pit River Watershed Alliance Watershed Management Program	x																												
Promotion of Farming Best Management Practices and Calibration Technology to Mitigate OP Pesticide Runoff into the Sacramento River Watershed				x																									
San Francisquito Creek Watershed Enhancement Program								x		x					x														
San Gabriel River Watershed Citizen Monitoring Program																	x												x
Shasta West Watershed Assessment				x																									
Sonoma Creek Watershed Conservancy: Outreach and Restoration		x																											
South Yuba River Comprehensive Management Plan	x			x																									
Stewardship Plans for the West Valley, Guadalupe, and Lower Peninsula Watershed Areas of Santa Clara County											x				x														
Stewardship Support and Watershed Assessment in the Napa River Watershed: A Two-year Project		x																											
Study of Augmenting Groundwater Supplies Through Capture of Urban Runoff																							x		x		x		
Sun Valley Watershed Management and Water Replenishment Project																		x											
Sutter County Integrated Watershed Coordinator				x																									
Sutter National Wildlife Refuge Water Conveyance Restoration Project				x																									
The Arroyo Pasajero Watershed: Restoring the Land for the Water																	x												
The Last Chance Assessment and Model Protocol				x																									
Tuolumne River Initiative: Developing an Integrated Plan												x																	
Upper Guadalupe River Tributary Monitoring Program & Pilot Restoration Project											x				x														
Walnut Creek Watershed		x																											
Western Placer Watersheds Coordination, Planning & Assessment				x																									
Yolo Bypass Watershed Planning Project		x																											
Yosemite Watershed Restoration Assessment Project								x																					
Yuba River Conservancy Planning and Public Outreach Development				x																									

Grants Awarded by the Watershed Program in FY 2001-2002

Project Applicant	Project Title	Award Amount	Program Region
Amador County Wine Grape Growers Association	Plymouth Area Vineyard Erosion Control	\$ 487,000	Delta
Central Modoc Resource Conservation District	Upper Pit River Watershed Enhancement and Protection Project	\$ 585,580	Sacramento Valley
City of Colfax	Colfax Community Watershed and Fire Safe Ecosystem Project	\$ 99,700	Sacramento Valley
Cottonwood Creek Watershed Group	Cottonwood Creek Watershed Management Program	\$ 200,000	Sacramento Valley
Deer Creek Watershed Conservancy	Deer Creek Watershed Erosion and Sediment Control Project-Phase II Implementation	\$ 493,175	Sacramento Valley
Friends of Deer Creek	Restoring Deer Creek: Building Partnerships to Overcome the Legacy of the Gold Rush Era	\$ 360,000	Sacramento Valley
Glenn County Department of Agriculture	Glenn County Surface Water Stewardship	\$ 275,000	Sacramento Valley
Glenn County Resource Conservation District	Stony Creek Watershed Management Program	\$ 200,000	Sacramento Valley
Lake County Flood Control and Water Conservation District	Clear Lake Watershed Mercury and Nutrient Assessment	\$ 147,182	Sacramento Valley
Lake County Flood Control and Water Conservation District	Invasive Species Inventory, Eradication and Monitoring	\$ 181,262	Sacramento Valley
Mariposa County Resource Conservation District	Upper Merced River Watershed Management Plan	\$ 199,825	San Joaquin Valley
Natural Heritage Institute	Enhancing Local Capacity in North Richmond and Parchester Village to Manage and Restore the Lower Rheem Creek Watershed	\$ 440,870	Bay
Natural Heritage Institute	Small is Beautiful:Scaling Adaptive Management to Restoration Projects	\$ 183,500	Program-Wide
Nevada County Dept of Environmental Health	Assessment, Investigation, Research and Abatement of Sources of Microbiological Health Hazards in Western Nevada County Watersheds	\$ 175,000	Sacramento Valley
Nevada County Land Trust	South Yuba Watershed Project	\$ 300,536	Sacramento Valley
Oakland Releaf	Oakland Releaf Watershed Protection Program	\$ 360,000	Bay
Plumas Corporation	Upper Spanish Creek Watershed Assessment and Restoration Strategy	\$ 170,000	Sacramento Valley
Sierra County Fire Safe and Watershed Council	Abandoned Mine Reclamation and Restoration	\$ 217,000	Sacramento Valley
Sierra Foothill Conservancy	Feingold Watershed Planning and Development of Watershed Management Plan	\$ 109,388	San Joaquin Valley
Solano County Water Agency	Putah Creek - Yolo Housing Authority Project	\$ 279,655	Sacramento Valley
South Yuba River Citizens League	Yuba River Water Quality Monitoring Project, Phase II	\$ 315,000	Sacramento Valley
Tehama County Resource Conservation District	Tehama West Watersheds Assessment	\$ 199,500	Sacramento Valley
Trinity County Resource Conservation District	Upper Trinity River Watershed Management Planning Project	\$ 200,000	Sacramento Valley
Upper Mokelumne River Watershed Authority	Upper Mokelumne River Watershed Assessment	\$ 200,000	Delta
Urban Creeks Council	A WRAP (Watershed Restoration Action Plan) for Wildcat/San Pablo Creeks	\$ 750,000	Bay
Western Shasta Resource Conservation District	Bear Creek Watershed Assessment	\$ 140,805	Sacramento Valley
Western Shasta Resource Conservation District	Lower Clear Creek Spawning Gravel Injections	\$ 335,489	Sacramento Valley
Western Shasta Resource Conservation District	Water Quality Improvement in Cow Creek Watershed	\$ 67,160	Sacramento Valley
Westside Resource Conservation District	Panoche Creek Stabilization Project	\$ 200,000	San Joaquin Valley
Westside Resource Conservation District	The Stewards of the Arroyo Pasajero Coordinated Resource Management Program: Sharing Our Success	\$ 55,000	San Joaquin Valley