

A VISION FOR THE SAN FRANCISQUITO WATERSHED

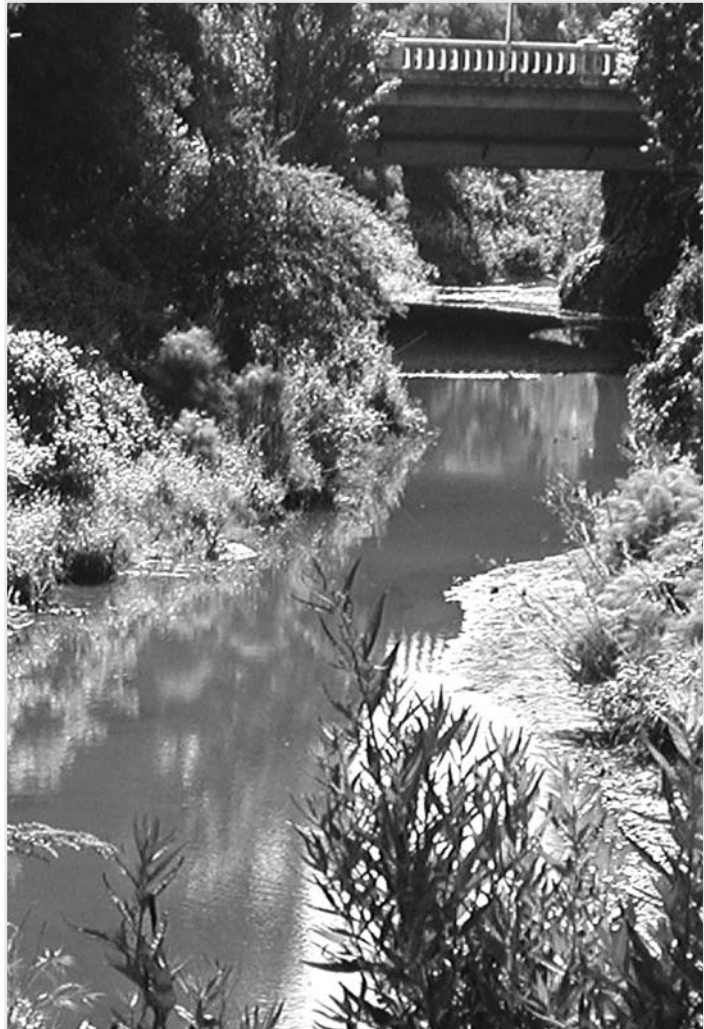
A VIEW FROM 2005



Published by the San Francisquito Watershed Council



A VISION FOR
THE SAN FRANCISQUITO WATERSHED
A VIEW FROM 2005



UNIVERSITY AVENUE BRIDGE Photo by Katie Pilat



ACKNOWLEDGMENTS

In addition to the members of its staff and Steering Committee, the San Francisquito Watershed Council extends special thanks to the following individuals for their help in the realization of this document:

Jae Abel	Santa Clara Valley Water District
Phil Bobel	City of Palo Alto
Michael Closson	Acterra
Philippe S. Cohen	Jasper Ridge Biological Preserve, Stanford University
Marge DeStaebler	Conservation Committee, Portola Valley
Geoff Brosseau	Bay Area Stormwater Management Agencies Association
Linda Drey-Nightingale	Los Trancos Woods Community Association
Jerry Hearn	Acterra
Paul Heiple	California Native Plant Society
Kevin Kinsella	Bear Creek League of Advocates for the Watershed
Art Kraemer	Member, Crescent Park Neighborhood Association
Trish Mulvey	Community volunteer, Palo Alto
Kevin Murray	San Francisquito Creek Joint Powers Authority
Debbie Mytels	Acterra
Debra O'Leary	U.S. Army Corps of Engineers and City of East Palo Alto
Erik Schmidt	NOAA Fisheries
Bill Springer	Santa Clara Valley Water District

This project was made possible by a grant from the CALFED Bay-Delta Watershed Program.



TABLE OF CONTENTS



Acknowledgments 1

Table of Contents 2

Executive Summary 3

Watershed Map 4

Introduction 5

GOALS

Natural Resources 7

Pollution Prevention 8

Flood and Erosion Management 9

Land Use and Management 10

Social Issues 11

Public Education and Involvement 12

ACCOMPLISHMENTS

Natural Resources 13

Pollution Prevention 17

Flood and Erosion Management 18

Land Use and Management 21

Social Issues 22

Public Education and Involvement 23

Contributors 26

Additional Reading 27

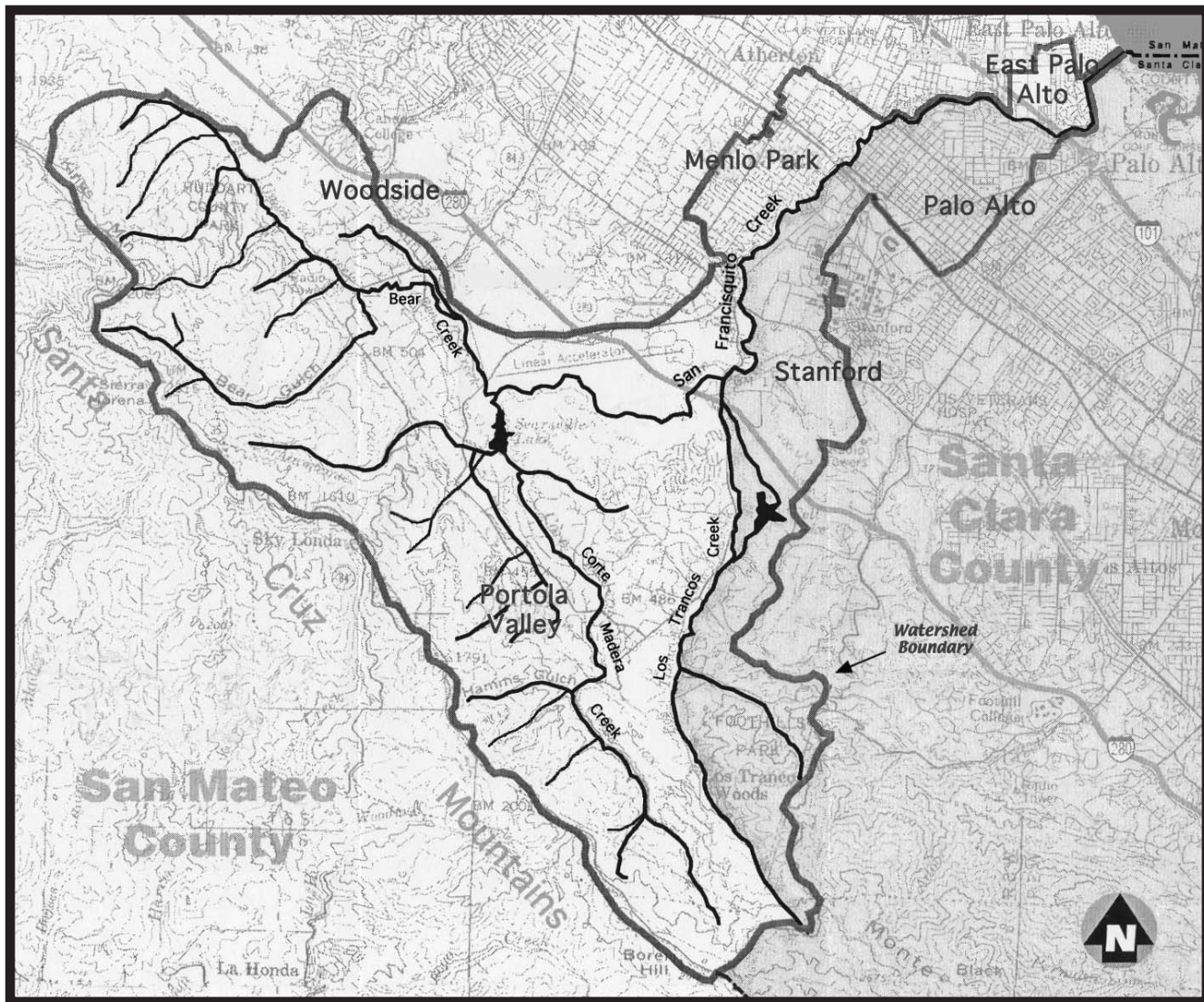
About the San Francisquito Watershed Council 28

EXECUTIVE SUMMARY

This document offers a vision for securing the future of the San Francisquito watershed as a vital community resource. Its authors are a group of stakeholders with a range of perspectives as representatives from neighborhood associations, local cities, environmental groups, Stanford University, and local, state, and federal resource agencies. While they do not always agree on paths of action to a given goal, they put forward this vision as their collective expression of what it means to live in a watershed and keep it healthy and safe for the future. They intend it to be useful guidance to all the watershed's residents; they also hope it leads the watershed's many constituencies to talk with each other about their goals and priorities for managing this resource.



SAN FRANCISQUITO WATERSHED MAP



INTRODUCTION

Watershed (noun) – an area of land that catches rain draining into a common waterway such as a river, creek, or reservoir.

THE SAN FRANCISQUITO WATERSHED

San Francisquito Creek and its tributaries drain a funnel-shaped area covering 47.5 square miles on the eastern San Francisco Peninsula. This land, the watershed for the creek, is bounded to the southwest, along the longest edge, by the Santa Cruz Mountains. It contains Portola Valley, unincorporated land in the counties of San Mateo and Santa Clara, and parts of Woodside, Menlo Park, East Palo Alto, Palo Alto, and Stanford University. It reaches its narrowest point at the northeastern edge, where it flows through an engineered channel 115 feet wide into San Francisco Bay (see map on opposite page).

Within this small area, natural processes and human activity have created a landscape of tremendous variety and complexity. While the watershed owes its special character to many factors, two are particularly influential. One is climate, which produces substantial annual rainfall during a few months in winter. The other is local geology, marked by soft underlying rock west of the San Andreas Fault, which creates large amounts of sediment and unusual drainage patterns.

Climate and geology help explain the watershed's most prominent human and natural features. Yearly cycles of rain and erosion mean that much of the creek system goes dry in summer but becomes a muddy torrent in winter that can threaten life and property. In the uplands, winter runoff collects in crevices of soft bedrock, creating springs that feed year-round pools in the upper tributaries. Supported by the cover of native plants, which provide



shade and food, the pools provide ideal conditions for one of the Bay Area's last native populations of steelhead, a fish listed as threatened under the Endangered Species Act. Variations in topography, soil, and weather across the watershed shape patterns of human land use as well, which are strikingly diverse: commercial nurseries, grazing lands, suburban developments, shopping centers, a university, a biological preserve, creekside trails, parks, and open space preserves, to name a few.

As the Bay Area continues to attract new residents, it seems likely that the next chapter of the watershed's history will depend at least as much on humans as on natural processes. For the 143,000 people who live in the communities of the watershed, setting the course of that history carries a special responsibility. As the present stewards of this unique resource, they have a decisive role in preserving it for the future.



INTRODUCTION

A VISION FOR THE WATERSHED

Managing the many needs within this complex watershed has long been a challenge. It is governed by a mosaic of jurisdictions, including the counties of Santa Clara and San Mateo, the towns of Woodside and Portola Valley, the cities of Menlo Park, Palo Alto and East Palo Alto, a dozen regional, state, and federal agencies, and Stanford University. Coordination among these entities has often proven difficult.

In 1993 a group of the watershed's stakeholders met to address these complexities. Recognizing that resource management based on political boundaries alone often ignores the behavior of natural systems, they examined an alternative, holistic approach based on ecologically defined boundaries. Participants included private landowners and representatives from community groups, fly-fishing associations, environmental organizations, Stanford University, local cities, and state and local resource agencies. Their efforts resulted in a draft management plan for the watershed published in 1997. It proposed planning goals and actions for implementing them in six topic areas: natural resources, flood and erosion control, pollution prevention, land use, social issues, and public education and involvement.

While their interests were not always aligned, the participants drafted the plan from a shared perspective: that a holistic approach, by looking beyond city and county lines to all the activities within the watershed, allows for more efficient, cost-effective management. To provide an ongoing forum for addressing issues in this way, a core group formed the San Francisquito Creek Coordinated Resource Management and Planning process, or CRMP, a broad-based collaborative planning effort. This work continues through the San Francisquito Watershed Council, a consensus-based stewardship organization formed from the CRMP in 2001 (for more information, see "About the San Francisquito Watershed Council," p. 28).

Important changes have occurred since the plan was published and the Watershed Council formed. In 1999 the San Francisquito Creek Joint Powers Authority was created to protect and maintain the creek and its watershed. This multijurisdictional agency, the first of its kind in the watershed, fulfilled a longstanding need for local coordination. Several collaborative stakeholder groups also formed to assist with watershed planning, including the Santa Clara Basin Watershed Management Initiative and the Santa Clara Valley Water Resources Protection Collaborative.

In 2005 local stakeholders working through the Watershed Council revisited the 1997 draft plan to address these changes. *A Vision for the San Francisquito Watershed* is the result. In presenting it to the watershed community, the authors wish to call readers' attention to the following points:

- **This is a vision document for the watershed. It is not a planning document for any single entity.**
- **The document covers six issue areas and is divided into two main sections: (1) goals and desired outcomes and (2) accomplishments. Suggestions for additional reading about the watershed and information about the San Francisquito Watershed Council can be found on pp. 27-28.**
- **The goals and desired outcomes described here reflect ideas offered by a range of stakeholders, including neighborhood associations, local cities, environmental groups, Stanford University, and local, state, and federal resource agencies. They agree that this document offers sound guidance for preserving the resources of this watershed.**
- **The authors invite others involved in watershed planning to use the document in their work. It takes into account the pillars of watershed planning – science, policy, and community participation – and may help others avoid duplicating effort.**
- **They also encourage watershed residents to use this document as an educational tool, in the hope that it sparks wide-ranging discussion about how to care for the watershed. Indeed, it is with lively public engagement, more than any other mechanism, that the watershed's future becomes secure.**



NATURAL RESOURCES

GOAL

To protect and restore native plant, wildlife, and aquatic communities within the watershed and the natural functions of the waterways needed to sustain those communities.

DESIRED OUTCOMES

1 Identification of trends and threats within critical wildlife populations. A key component of this effort is to create a long-term record with:

- Baseline data for native plant and animal species, habitat characteristics, and nonnative invasive species;
- Maps showing locations of critical species; and
- Ongoing monitoring.

2 Preservation of current levels of native biodiversity and, where possible, an increase in native biodiversity. Key components of this effort include:

- Protection of wildlife species and the native riparian vegetation that provides their habitat;
- Enhancement and protection of stream conditions needed by steelhead, such as sufficient flows, spawning gravels, appropriate water temperatures, and shade, shelter, and migration within the watershed;
- Control of nonnative invasive vegetation;
- Elimination of poaching; and
- Public education about the importance of biodiversity.



3 Identification of potential sites for ecological restoration to:

- Reintroduce native plants; and
- Make it easier for fish to migrate up and down the creek system.

4 Preservation of a continuous native riparian vegetation corridor¹ along the creek.

¹ Riparian Corridor:

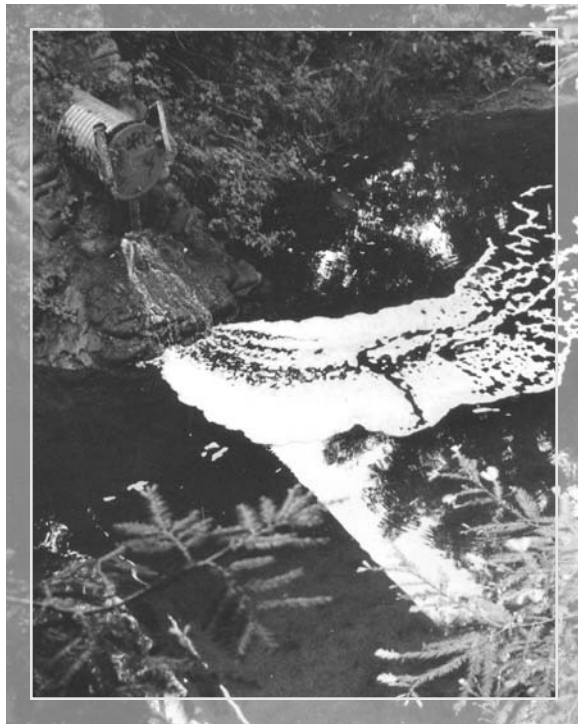
Vegetative and wildlife areas adjacent to perennial and intermittent streams and other freshwater bodies, such as lakes, ponds, and reservoirs. Riparian corridors can be delineated by the existence of riparian vegetation.



POLLUTION PREVENTION

GOAL

To ensure that the waters of the San Francisquito creek system are of suitable quality for human use and for wildlife.



DESIRED OUTCOMES

- 1** Identification of problem activities and pollution resulting from failing septic and sewer systems and improper storage, use, and disposal of materials such as pesticides, yard and animal waste, and water from pools and spas not attached to sanitary sewers.
- 2** Development and implementation of alternatives to prevent pollution, such as best management practices (BMPs).
- 3** Coordination among stakeholders in complying with storm drain pollution prevention requirements set by the National Pollutant Discharge Elimination System (NPDES) regulations.
- 4** Well-informed stakeholders engaged in preventing pollution. Stakeholders include commercial and residential property owners, tenants, and contractors and other businesses in both rural and urban areas.



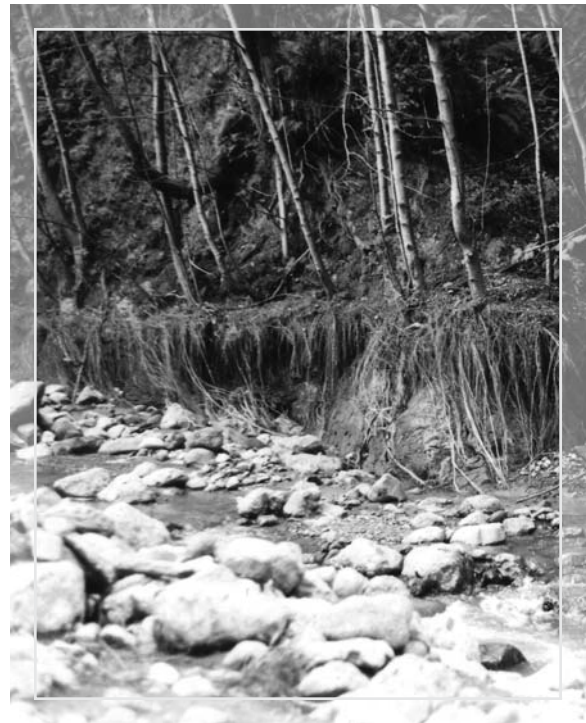
FLOOD AND EROSION MANAGEMENT

GOAL

To minimize damage and costs from flooding and erosion throughout the watershed while ensuring the continued vitality of the natural creek environment.

DESIRED OUTCOMES

- 1** A flood management system that will reduce risks to life, the environment, and property.
- 2** Identification and reduction of problems due to siltation and erosion within the watershed.
- 3** Reduction of impacts from impervious surfaces on runoff and ground water flows.
- 4** Preservation of unpaved open space to allow for water percolation into the soil.
- 5** Protection of riparian vegetation and other habitat features that minimize bank erosion.
- 6** Watershed residents who are well informed about flood preparedness and floodplain management practices.



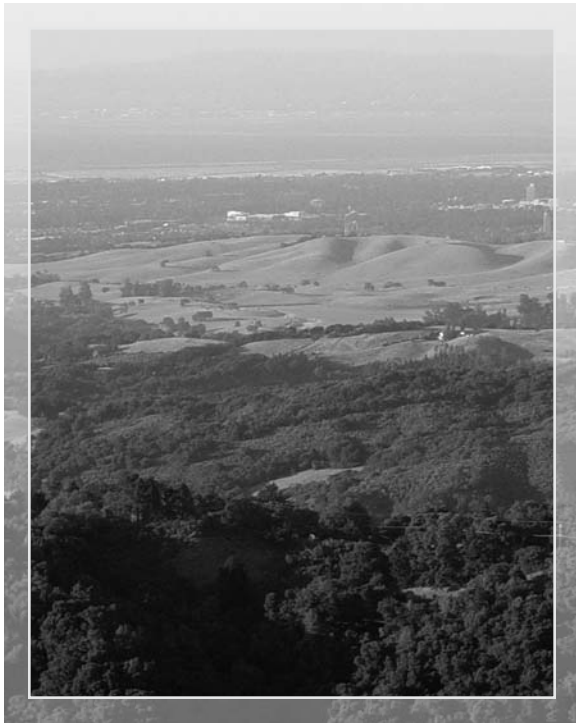
LAND USE AND MANAGEMENT

GOAL

To have jurisdictions within the San Francisquito watershed implement land use policies and ordinances that advance responsible stewardship of the watershed's natural resources, protect people and property from flooding, reduce erosion, and prevent pollution.

DESIRED OUTCOMES

- 1** Policies and ordinances that provide for protection and restoration of creeks, riparian habitat, and wetlands while respecting property rights.
- 2** Participation in the San Francisquito Creek Joint Powers Authority by all jurisdictions in the watershed to advance flood damage reduction and ecosystem restoration.



- 3** No net loss of riparian and wetland areas, consistent with federal and state wetland mitigation policies that recommend mitigation within the same watershed for riparian or wetland areas lost or damaged as a result of development.
- 4** Broader use of stream protection guidelines published by the Bay Area Stormwater Management Agencies Association for new and redevelopment projects in:
 - *Start at the Source: Design Guidance Manual for Stormwater Quality Protection (1999)*; and
 - *Using Site Design Techniques to Meet Development Standards for Stormwater Quality (2003)*.
- 5** Improved coordination, communication, and cooperation among federal, state, and local permitting agencies to foster an efficient, integrated regulatory process that encourages responsible stewardship of natural resources.
- 6** Identification of lands of critical significance that might be preserved by purchase or easement for wildlife habitat, flood control, or recreation.
- 7** Widely available resources for technical assistance to developers in designing and building stream-friendly projects.



SOCIAL ISSUES

GOAL

To facilitate the creation of uniform public policies, ordinances, and planning mechanisms to discourage inappropriate and illegal uses of the creek corridor and encourage appropriate alternatives where needed.

DESIRED OUTCOMES

Coordination with:

- Public agencies and property owners to disband encampments along the creek;
- Social service agencies to advocate for adequate resources and improved services for displaced individuals; and
- Public works staff and contract services such as the California Conservation Corps to remove debris and large items such as furniture from the riparian corridor.



PUBLIC EDUCATION AND INVOLVEMENT

GOAL

- *To broaden awareness of, and appreciation for, the values of a safe, healthy watershed and a natural riparian corridor;*
- *To inform the public about stewardship methods to protect these values; and*
- *To facilitate communication and cooperation among the various stakeholders concerning watershed issues.*

DESIRED OUTCOMES

1 A shared understanding of the health of the San Francisquito watershed based on ongoing monitoring to help identify specific problem areas, the sources of these problems, and actionable remedies.

2 A shared understanding among watershed stakeholders, including public officials and staff, watershed residents, the general public, and youth, of the following key concepts:

- There is a need for a holistic approach to the watershed to address flooding, habitat concerns, and natural stream functions in an integrated manner;
- Individuals, by their actions within the watershed, generate impacts on other watershed residents;
- Successful watershed management depends on overcoming obstacles associated with socioeconomic disparity among watershed residents; and
- A number of emerging issues will potentially impact long-term watershed management, such as global warming, water supply reliability, invasive species, sustainability, and emerging contaminants.

3 Education on the concepts described above using mechanisms such as the following:

- Hands-on creekside programs;
- Stakeholder groups such as the San Francisquito Watershed Council and its subcommittees; and
- Existing public forums, such as neighborhood associations, schools, churches, and public meetings.



ACCOMPLISHMENTS

The following is a partial list of projects undertaken by stakeholders in the San Francisquito watershed between 1997 and 2004.

NATURAL RESOURCES

ENHANCEMENT OF LAGUNITA DIVERSION FISH LADDER

Stanford University's Department of Utilities undertook this project to rehabilitate a fish passage ladder on the old Lagunita diversion dam in San Francisquito Creek. It was completed in September 1994 and opened 2.5 miles of steelhead habitat; additional modifications were underway in 2005.

CREATION OF GEOGRAPHICAL INFORMATION SYSTEM (GIS) DATABASES FOR THE WATERSHED

The Coyote Creek Riparian Station created a GIS database in 1994 incorporating information collected in a biological resources inventory for the watershed. The GIS is housed by the San Francisco Estuary Institute and will be incorporated into database systems of several resource agencies (among them the Santa Clara Valley Water District) and city planning departments to use in determining future mitigation sites and in making land-use planning decisions. The U.S. Geological Survey developed a GIS database for the watershed and in 2005 began planning a web-accessible, interactive site for public use.

SAN FRANCISQUITO CREEK NATIVE PLANT NURSERY

Volunteers with the San Francisquito Creek CRMP created the nursery in 1996 to propagate native plants from the watershed. It has provided plants for use in revegetation projects by the San Francisquito Watershed Council and landowners. In 2004 the nursery became a project of Acterra.

REDD SURVEYS

From 1996 to 1999 Golden Gate National Recreation Area (GGNRA) inventoried stream habitat conditions and conducted spring redd (steelhead nest) surveys in the headwaters of West Union Creek, where it owns part of the former Phleger estate. Assisted by staff and volunteers of the San Francisquito Watershed Council, an aquatic ecologist for GGNRA conducted the surveys in this heavily forested spawning reach from Kings Mountain Road to an impassible waterfall on the neighboring estate. Between five and nine nests of large steelhead were found each year.

WATERSHED VOLUNTEER MONITORING PROJECT

With sponsorship from the San Francisquito Creek CRMP, the Coyote Creek Riparian Station and Balance Hydrologics conducted this study in 1997-98 to monitor flow, sediment, and water quality at seven sites from the



ACCOMPLISHMENTS

U.S. Geological Survey gauging station and above. Measurements were taken for air and water temperature, pH, conductivity, dissolved oxygen, turbidity, suspended sediment, stream flow, pebble counts, stream bank heights, water levels, and thalweg profile.

INVASIVE NONNATIVE PLANT CONTROL PROJECTS

In 1998 volunteers with the San Francisquito Creek CRMP began identifying and removing infestations of invasive nonnative plants that posed hazards to the creek. A number of entities now cooperate in these efforts; a list of the most prevalent plants, and efforts to control them, follows:

***Arundo donax* (giant reed):** This large invasive grass exacerbates flood potential, carries fire readily, and replaces native vegetation with a monoculture. After a flood of record in 1998, when two large clumps above the University Avenue Bridge blocked flood flows



there, the San Francisquito Watershed Council began work to eliminate the plant from the watershed. The project is funded by a grant from CALFED administered by Sonoma Ecology Center.

***Genista monspessulanus* (French broom):** Volunteers with the San Francisquito Watershed Council began pulling French broom, a fast-growing bush that creates fire hazards, at several sites in the upper watershed in 2000. The Portola Valley Conservation Committee also leads annual broom-pulling days in Portola Valley.

***Hedera canariensis* (Algerian ivy):** The San Francisquito Watershed Council began leading volunteers in work days to remove Algerian ivy in 1999. One of the most commonly planted landscape vines, Algerian ivy blankets woods and streambanks and chokes underlying vegetation.

***Brachypodium sylvaticum*:** The first infestation of this invasive grass in California was discovered in 2003 by San Francisquito Watershed Council staff, primarily on Midpeninsula Regional Open Space District (MROSD) land. MROSD began a mapping and control program.

RECONNAISSANCE ON CHINESE MITTEN CRABS

San Francisquito Creek CRMP staff first found Chinese mitten crab exoskeletons in the creek bed in 1998. The crab, an invasive species first observed in the South Bay in 1992, threatens creeks by burrowing into banks and feeding on local species. The Council contributed knowledge about the crab's burrowing behavior on intermittent streams to the U.S. Fish and Wildlife Service, which is developing a national management plan. A sedimentologist with the U.S. Geological Survey conducted research on the crab's behavior.



ACCOMPLISHMENTS

SAN FRANCISQUITO CREEK RIPARIAN HABITAT PROJECT REPORT

Produced by the Coyote Creek Riparian Station in 1999 with funding from the San Mateo Countywide Stormwater Pollution Prevention Program, this report contained data and maps characterizing the quality of riparian habitat on both banks of San Francisquito Creek from San Francisco Bay to Searsville Dam.

WATER QUALITY AND STREAMFLOW MONITORING ON BEAR CREEK

From December 1999 to December 2002 Balance Hydrologics monitored flows and water quality at nine stations in the Bear Creek subwatershed for the San Francisquito Watershed Council. The water quality parameters used were nitrate, ammonia, total suspended solids, turbidity, some dissolved metals, conductance, temperature, diazinon, and chlorpyrifos. Funding was provided by the David and Lucile Packard Foundation and the Santa Clara Valley Urban Runoff Pollution Prevention Program.

SAN FRANCISQUITO WATERSHED COUNCIL REVEGETATION SITES

Since 1997 the San Francisquito Watershed Council has established nine long-term revegetation projects in the watershed, most on public land and most in response to disturbance or damage. About 2,900 volunteers have worked at the sites to eliminate weeds, install erosion control where necessary, and plant native plants grown at the native plant nursery from locally collected seed. The sites, with locations and dates of establishment, are:

- Manhattan Avenue, East Palo Alto (2001)
- Waverley/Willow Place Bike Bridge, Palo Alto and Menlo Park (2004)
- El Palo Alto Park, Palo Alto (1997)
- University Drive, Menlo Park (2003)



- Woodside Elementary School, Woodside (2002)
- Ormondale Elementary School, Portola Valley (1999)
- Alpine Inn, Portola Valley (2003)
- Georgia Lane (Grove Trail), Portola Valley (2002)
- Upper Alpine Road, Portola Valley (2003)

FORMATION OF THE SAN MATEO COUNTY WEED MANAGEMENT AREA (WMA)

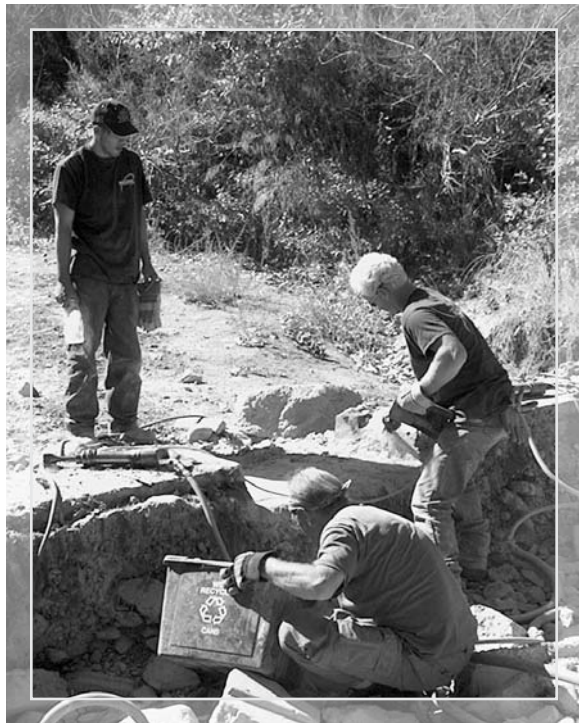
Seeking to combat the rising threat of invasive plants, the San Mateo County agricultural commissioner worked with government agencies, conservation groups, landowners, and other stakeholders to form the WMA in 2001. The agency has played a critical role in coordinating local efforts in the watershed, including one underway to eradicate *Brachypodium sylvaticum*, an invasive grass.



ACCOMPLISHMENTS

ADULT STEELHEAD PASSAGE IN THE BEAR CREEK WATERSHED

Dr. Jerry Smith, a faculty member of the Department of Biological Sciences at San Jose State University, and Dr. Deborah Harden, a faculty member of the Department of Geology at San Jose State University, conducted a study to identify impediments to fish passage in the Bear Creek watershed. Smith and Harden evaluated the barriers for severity, recommended improvements, and developed criteria for prioritizing action. The study, which was funded by the California Department of Fish and Game, was published in July 2001. The final document included an evaluation of other significant barriers in the San Francisquito watershed.



ACTIONS TO IMPROVE STEELHEAD PASSAGE IN THE WATERSHED

In 2000 the Steelhead Task Force, an advisory committee to the San Francisquito Watershed Council, began identifying projects to improve steelhead passage in the watershed. In 2001 the Council began implementing projects considered priorities by the task force and Smith and Harden. The following is a partial list of actions taken to improve fish passage (see also the description above of work done at the old Lagunita diversion dam):

Notches were cut in the following structures: a concrete grade control weir on San Francisquito Creek at Clarke Avenue, East Palo Alto (2000); three small concrete weirs on San Francisquito Creek near Waverley Street, Palo Alto (2003); a concrete dam one-tenth of a mile above Sand Hill Road on Bear Creek (2002); and an old flashboard dam on West Union Creek just upstream from Kings Mountain Road (2003).

In 2002 volunteers improved a weir below a flow gauge operated by the U.S. Geological Survey near Junipero Serra Boulevard on San Francisquito Creek. They moved concrete slabs at the foot of the weir to deepen the downstream pool and improve jumping conditions for migrating fish.

The San Francisquito Watershed Council began work in 2003 to secure landowner permissions, final designs, and environmental review for improvements to five barriers: a flashboard dam on Los Trancos Creek one-tenth of a mile above the intersection of Los Trancos and Alpine roads, a worn culvert on McGarvey Gulch in Huddart Park, two double-box culverts on Los Trancos Creek along Los Trancos Road, and a double-box culvert at Fox Hollow Road in Woodside.

In winter 2004-05 Stanford University removed a concrete golf cart crossing on the Stanford Golf Course that posed a significant barrier to fish passage on San Francisquito Creek. The channel was reconfigured with boulders and native vegetation.



ACCOMPLISHMENTS

POLLUTION PREVENTION

CREEK CLEANUPS

In the late 1980s and early 1990s a number of community organizations held creek cleanups, including Friends of El Palo Alto, Friends of San Francisquito Creek, Bay Area Action, and the Foothills College Green Futures Club. The San Francisquito Creek CRMP organized cleanups after 1993. The San Francisquito Watershed Council holds three cleanups a year, one around Earth Day, one on National Rivers Cleanup Day in May, and one on Coastal Cleanup Day in September. These efforts, combined with local enforcement of no-camping ordinances, have reduced the amount of debris in the creek.

WATER SAMPLING AND ANALYSIS

In winter 1997-98 San Francisquito Watershed Council staff collected water samples from seven stations throughout the watershed following storm events. The water was analyzed by the Palo Alto Regional Water Quality Control Plant and Sequoia Analytic of Redwood City for heavy metals, diazinon, chlorpyrifos, ammonia, nitrate, and orthophosphate.

STORM DRAIN POLLUTION PREVENTION

Local cities have led efforts to stencil storm drains with “Flows to San Francisquito Creek” and “Flows to Bay” labels. The Palo Alto Regional Water Quality Control Plant provides car wash kits for groups doing charity car washes to prevent soapy runoff from flowing to storm drains. The cities and counties in the watershed have conducted other educational efforts for residents, contractors, and businesses to prevent storm drain pollution.



STORM WATER DEMONSTRATION PROJECTS

In 2004 the San Francisquito Watershed Council undertook a project to modify two properties in the watershed to showcase methods for reducing the storm water runoff from impervious surfaces. Construction was scheduled for summer 2005.

POLICY, REGULATION, AND OPERATIONS REVIEW

In 2004 the San Francisquito Watershed Council began a project to evaluate the effectiveness of watershed jurisdictions' policies, regulations, and field operations at preventing storm water pollution and preserving steelhead habitat. The final report with results and recommendations was scheduled for completion by the end of 2005.

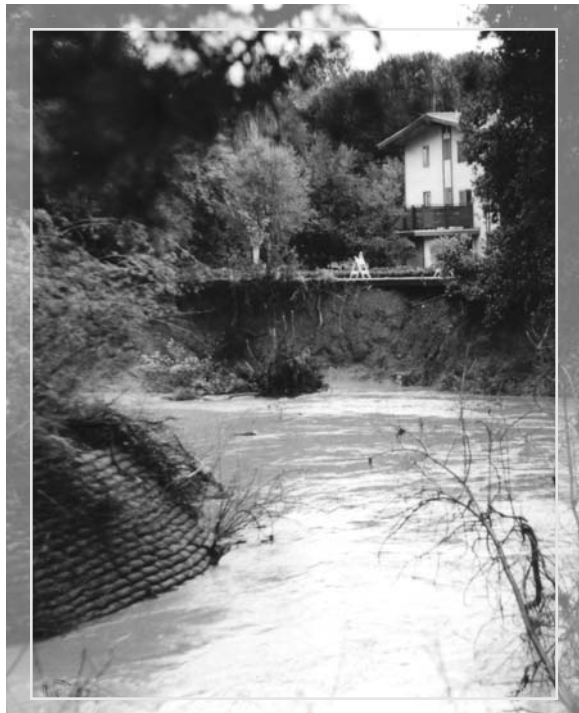


ACCOMPLISHMENTS

FLOOD AND EROSION MANAGEMENT

RECONNAISSANCE INVESTIGATION REPORT OF SAN FRANCISQUITO CREEK

Published in 1998 by the San Francisquito Creek CRMP, this report presented all existing hydrological data for areas of the lower watershed lying in the 100-year flood probability zone. It also explored various flood control strategies, including some that would preserve natural riparian habitat. The study was undertaken with support from the Santa Clara Valley Water District, the San Mateo County Flood Control District, Portola Valley, Woodside, Menlo Park, and Palo Alto. The report was published immediately after a flood of record in February 1998.



FORMATION OF THE SAN FRANCISQUITO CREEK JOINT POWERS AUTHORITY

In 1998, immediately after a flood of record, the Santa Clara Valley Water District, the San Mateo County Flood Control District, and the cities of East Palo Alto, Palo Alto, and Menlo Park formed the San Francisquito Creek Joint Powers Authority (SFCJPA) to address community concerns about flooding and environmental quality in the San Francisquito watershed. The formation of the agency was a recommendation of the *Reconnaissance Investigation Report of San Francisquito Creek*. Please see “Additional Reading” (p. 27) for information on the SFCJPA.

INTERAGENCY CREEK MAINTENANCE WALKS

In summer 1998 staff from the Santa Clara Valley Water District, the San Mateo County Flood Control District, Palo Alto, Menlo Park, East Palo Alto, Stanford University, and the San Francisquito Watershed Council took part in the first joint inspection walk from the Sand Hill Road bridge to the Highway 101 bridge to assess channel maintenance tasks and determine jurisdictional responsibility for removing debris. The walks are now coordinated annually by the San Francisquito Creek Joint Powers Authority.

SAN FRANCISQUITO CREEK BANK STABILIZATION AND REVEGETATION MASTER PLAN

The City of Menlo Park coordinated this study after the flood of 1998 in response to community concern about steep, erosive banks along San Francisquito Creek. Published in 2000, the study was undertaken to provide guidance to property owners and regulators contemplating work along the creek banks on the 6.5-mile stretch of San Francisquito Creek between Highway 101 and Junipero



ACCOMPLISHMENTS

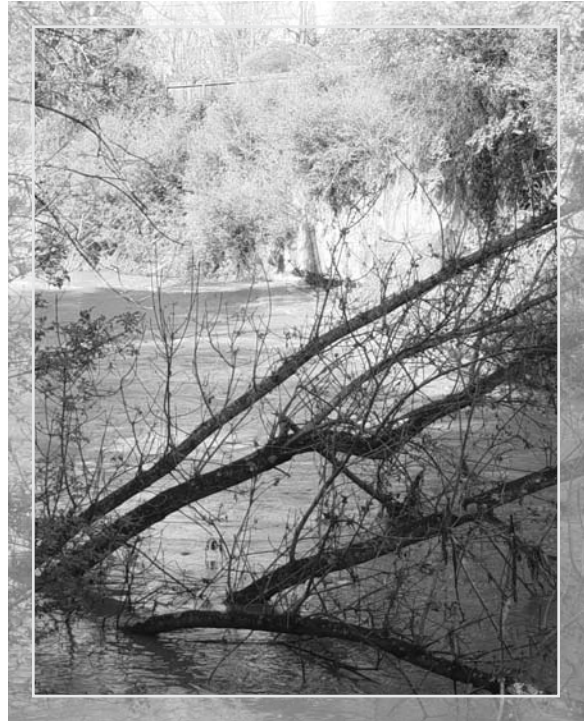
Serra Boulevard. It analyzed bank stability and vegetation conditions and suggested bank stabilization techniques and choices of vegetation that preserved the natural values of the creek to the maximum extent possible. The cities of Menlo Park, Palo Alto, and East Palo Alto, the San Mateo County Flood Control District, and the Santa Clara Valley Water District provided funds and conducted reviews. The document is available at the San Francisquito Creek Joint Powers Authority (SFCJPA), some libraries and city offices, and the web sites for the SFCJPA and the cities of Menlo Park and Palo Alto.

STREAMFLOW HAZARDS EVALUATION, CORTE MADERA CREEK

In 2001 the town of Portola Valley hired the firm of Cotton, Shires and Associates to update a 1984 study of stream bank conditions and engineered channel modifications from Willowbrook Drive downstream to the town boundary. A significant increase in hardscaping, especially the use of gabion baskets, was documented and quantified.

FLOW GAUGES AND MONITORS

In 2001 the City of Palo Alto created a web page with real-time creek water surface elevation monitors at the Highway 101, Pope/Chaucer, and Waverley Street bridges. The web page, which is accessible through the city's official web site, also provides rainfall data from Foothills Park, tide heights, pictures of the flow at Highway 101 recorded by a "creek cam," and a link to real-time data from the flow gauge of the U.S. Geological Survey on the Stanford Golf Course. The USGS page contains frequently calibrated flow data in cubic feet per second for the last 31 days as a continuous record, as well as a wealth of information on flow history for the last 63 years.



LEVEE RESTORATION PROJECT

The members of the San Francisquito Creek Joint Powers Authority completed a levee restoration project in December 2002. The primary objectives of the project were to partially restore the original level of flood protection to the area downstream of Highway 101 by restoring the levees to their 1958 elevations, and to provide supplemental flood protection to the area until a comprehensive multiyear planning study could be completed for the entire watershed.



ACCOMPLISHMENTS

CORTE MADERA CREEK STUDY

The Town of Portola Valley undertook this study in 2002 to identify problematic bank stabilization methods on three reaches of the creek and propose best management practices to stabilize and repair failing banks. The town commissioned the study from the firm of Philip Williams and Associates; the San Francisquito Creek Joint Powers Authority and the San Francisquito Watershed Council lent support. Publication was anticipated in 2005.

SAN FRANCISQUITO CREEK WATERSHED ANALYSIS AND SEDIMENT REDUCTION PLAN

With funding from a Proposition 13 grant, the San Francisquito Creek Joint Powers Authority managed the preparation of the *San Francisquito Creek Watershed Analysis and Sediment Reduction Plan*. The plan partly fulfills National Pollutant Discharge Elimination System (NPDES) permit provisions that require the San

Francisquito watershed's eight co-permittees of the Santa Clara Valley Urban Runoff Pollution Prevention Program and the San Mateo Countywide Stormwater Pollution Prevention Program to assess and implement sediment management measures in the watershed.

U.S. ARMY CORPS OF ENGINEERS FLOOD MANAGEMENT PLANNING

Since fall 2000 the San Francisquito Creek Joint Powers Authority (SFCJPA) has been pursuing a contract with the U.S. Army Corps of Engineers (COE) for the planning, design, and construction of a watershed-wide flood management project, or General Investigation (G.I.). Collectively coordinating all of its member agencies, the SFCJPA will act as the local sponsor for the project. In 2002 the SFCJPA received Congressional Authorization for the G.I. federal project. This is the first step in securing the project, which was one of only five projects in the nation to be authorized that year. The Reconnaissance Phase (Phase I) was fully funded in the President's budget in fiscal year 2004. In fiscal year 2005 federal funding was appropriated for the first year of the Feasibility Phase (Phase II) of the project. Member agencies have passed a resolution committing funds for the local sponsor match of the project through Phase II. Phase II is expected to begin in fall 2005, and will take two to three years to complete. In summer 2004 the SFCJPA Board requested that the G.I. project be a watershed-wide Flood Damage Reduction and Ecosystem Restoration (FDR&ER) project. The SFCJPA continues on an annual basis to seek federal funding to continue the project.

From 2002 through 2004 the SFCJPA also pursued a Continuing Authorities Program (CAP205) project with the San Francisco District of the COE for increasing capacity in the creek channel downstream of West Bayshore Road. The project was studied through Phase I, at which time the COE recommended using the findings of the CAP205 Phase I to support moving the FDR&ER forward faster. This is the direction the SFCJPA and COE are now pursuing.



ACCOMPLISHMENTS

LAND USE AND MANAGEMENT

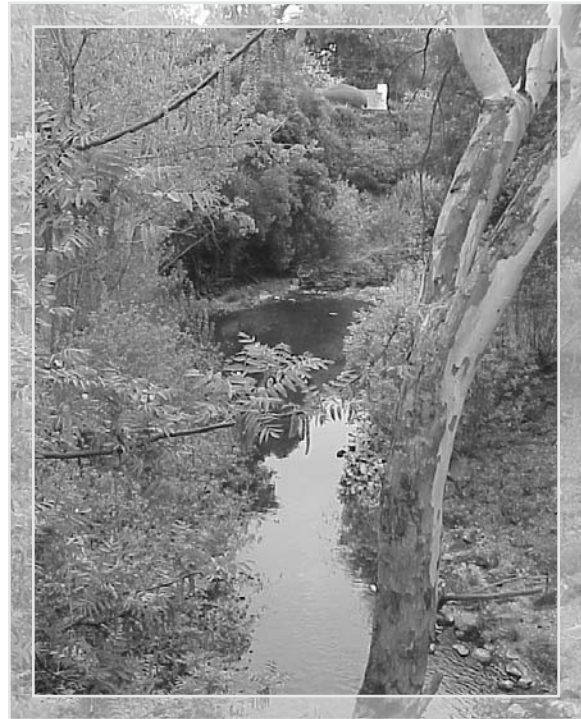
SAN MATEO GUIDE TO CREEK AND WETLAND PROJECT PERMITTING

To ensure proper agency review of proposed construction projects, the Land Use Task Force of the San Francisquito Creek CRMP worked with San Mateo County to create this brochure for property owners in 1999. It contains a checklist describing the types of permits needed for work adjacent to the creek and the agencies responsible for issuing them.

LONG-TERM MONITORING AND ASSESSMENT PLAN FOR THE SAN FRANCISQUITO CREEK WATERSHED

In 2002 a group of the San Francisquito Watershed Council's stakeholders published a document that members described as "a conceptual framework for integrating information needs into a cost-effective and predictable program that will guide decision-making on San Francisquito Creek watershed and floodplain issues and evaluate the success of those decisions." It is intended to be part of a scientifically based adaptive management process to help decision-makers. The document describes management efforts underway and the regulatory environment surrounding water issues in the San Francisquito watershed, including the drivers affecting actions by responsible agencies and organizations. It catalogues studies and reports (current, historical, and proposed) to inform a comprehensive understanding of the watershed and its functions.

The Long-Term Monitoring and Assessment Plan also describes six automated surface monitoring stations for placement at points chosen strategically to isolate data from the major streams within the system. Four stations have been built. Palo Alto operates one, at Newell Road, and Stanford University operates three: two at the



confluence of San Francisquito Creek and Los Trancos Creek and one on Jasper Ridge Biological Preserve at the mouth of Bear Creek. Data are collected for flow, rainfall, dissolved oxygen, temperature, conductivity, and pH. The stations automatically collect grab samples for later analysis of such parameters as heavy metals, hardness, selected pesticides, ammonia, nitrate, phosphorus, and total suspended sediments. Dioxins and furans are occasionally tested at the Newell Road station.

"STREAMSIDE PLANNING"

In 2000 the Santa Clara Valley Water District revised and published a new edition of its "Streamside Planning" document, subtitled "How the use of alternative street designs can preserve our natural creek and enhance streamside developments." This document was distributed to municipalities in Santa Clara County.



ACCOMPLISHMENTS

SOCIAL ISSUES

By 1997 ongoing efforts of the Social Issues Task Force of the San Francisquito Creek CRMP produced significant changes in creek management. Until that time the focused efforts of the task force, Friends of San Francisquito Creek, local residents, Stanford University, the Urban Ministry, and the cities of Menlo Park and Palo Alto produced general agreement about the problems caused by homeless encampments in the creek but were unable to form a consensus on solutions.

CLARA-MATEO ALLIANCE AND ORDINANCE ENFORCEMENT AT EL CAMINO

In 1997 the Clara-Mateo Alliance opened a living and support facility for homeless individuals and families at the Menlo Park Veterans' Administration facility on Willow Road. With this safety net for local homeless in place, and with the agreement of the Urban Ministry of

Palo Alto that the creek was an inappropriate place for the homeless to live, the cities of Menlo Park and Palo Alto jointly began to enforce no-camping ordinances in the creek through their police and public works departments. The state Department of Transportation gave permission for the cities to enforce no-trespassing laws under El Camino Real (State Highway 82) where large numbers of homeless camped during the dry season.

These accomplishments represented a significant change in creek management. With policies in place, and a humane system of notification and cleanup enforced, the impacts to the creek environment by homeless have been significantly reduced. Safety has improved and trash and pollution problems have greatly abated.

OPPORTUNITY CENTER OF THE MIDPENINSULA

In response to local homelessness, especially after the flooding of the Urban Ministry of Palo Alto site in 1998, the Community Working Group, a nonprofit organization, formed to raise funds to build housing and provide medical and social services. Construction of the Opportunity Center of the Midpeninsula started in May 2004 on Encina Avenue next to the Palo Alto Medical Foundation. InnVision the Way Home, a nonprofit homeless agency, became the umbrella organization for Urban Ministry and the Clara-Mateo Alliance, and will manage all services at the Opportunity Center.



ACCOMPLISHMENTS

PUBLIC EDUCATION AND INVOLVEMENT

VOLUNTEER EFFORTS:

SAN FRANCISQUITO WATERSHED COUNCIL VOLUNTEER WORK DAYS

On alternate Saturday mornings from late September through May, San Francisquito Watershed Council staff leads community volunteers in a variety of projects to benefit the watershed. Activities include nonnative vegetation removal, revegetation with watershed-specific natives, and creek cleanups. The goals are to do needed work along the creek and educate volunteers about various aspects of the creek system. Volunteer work days have been funded by CALFED, the Institute for Fisheries Resources—NOAA Community-based Restoration Program Partnership, the Department of Water Resources Urban Streams Restoration Program, the Bella Vista Foundation, the San Mateo Countywide Stormwater Pollution Prevention Program, the Santa Clara Valley Water District, and the cities of Palo Alto and Menlo Park.

CITIZEN STREAMKEEPER PROGRAM

Participants in this program, which was created by the San Francisquito Watershed Council in 2001, adopt a section of creek and walk it regularly to look for wildlife, pollution, stream blockages, and trends in creek health. They receive training from Council staff, who also assist them in reporting incidents as needed. The Streamkeepers meet quarterly to share their observations and hear presentations about watershed issues by local experts.

BEAR CREEK LEAGUE OF ADVOCATES FOR THE WATERSHED (BEAR CLAW)

This watershed group formed in 2003 to advocate for the health of creeks in Woodside. In collaboration with the San Francisquito Watershed Council, Bear CLAW developed a one-page fact sheet titled “Creeks of Woodside,” which members distributed at the Woodside



Environment Festival in 2003 and 2004. Members hold creek cleanups, often take part in San Francisquito Watershed Council volunteer work days, and are involved in several watershed-related public education and remediation efforts with the town of Woodside.

PRESENTATIONS AND MATERIALS:

PRESENTATIONS TO COMMUNITY GROUPS

After the 1998 flood San Francisquito Creek CRMP staff presented findings from the Reconnaissance Investigation Report of San Francisquito Creek at a well-attended forum in Menlo Park. In 2000 and 2003 the San Francisquito Watershed Council took part in the U.S. Geological Survey’s Western Regional Headquarters Open House. Council staff conducts two creek walks every year and regularly takes part in the “Sense of Place” program at the Foundation for Global Community.



ACCOMPLISHMENTS

“NO FISHING” SIGNS

Beginning in summer 1996, members of the Natural Resources Task Force, a committee formed as part of the San Francisquito Creek CRMP, produced and installed signs to discourage poaching along San Francisquito Creek. The signs, written in both English and Spanish, inform readers that the creek is a protected waterway and describe the penalties for poaching. The task force worked with the California Department of Fish and Game to place the signs; materials were donated by the Izmirian Roofing Company. The signage has been periodically reinforced by educational efforts undertaken by task force members and the Stanford Management Company’s rural lessees.

STREAMSIDE PLANTING GUIDE

This booklet provides information for residents about the importance of using native plants in areas adjacent to the riparian corridor. It explains problems caused by nonnative

invasive plants, recommends stream care guidelines, lists native plants appropriate for various streamside situations, and includes contact information for agencies responsible for creek regulation. The Coyote Creek Riparian Station produced the first edition in 1999; the San Francisquito Watershed Council published an update in 2003 with a grant from the Bella Vista Foundation and additional funds from the San Mateo Countywide Stormwater Pollution Prevention Program.

“SAN FRANCISQUITO CREEK – OUR NATURAL RESOURCE”

This brochure informed watershed residents about the natural and human history of San Francisquito Creek and suggested ways to preserve its natural resources. Twenty thousand copies were printed, and by 2004 over 15,000 copies had been distributed to residents of Portola Valley, Woodside, and Ladera, to creekside residents in Menlo Park and Palo Alto, and to students in the Ravenswood School District in East Palo Alto. Scout troops, school classes, and other volunteers helped with distribution. Funds were provided by the San Francisco Estuary Project, the cities of Palo Alto and Menlo Park, the Palo Alto Medical Foundation, and the Santa Clara County Creeks Coalition.

ALLUVIAL FAN MODEL

After the flood of record in 1998, San Francisquito Watershed Council staff prepared a model of the alluvial fan of San Francisquito Creek to help the public and elected representatives understand the nature of flooding in alluvial fan systems. It was made of stacked foam-core board cut to the 10-foot contour lines on the 7.5-minute U.S. Geological Survey topographical map and has been used in numerous public meetings.



ACCOMPLISHMENTS

WATERSHED EDUCATION PANELS

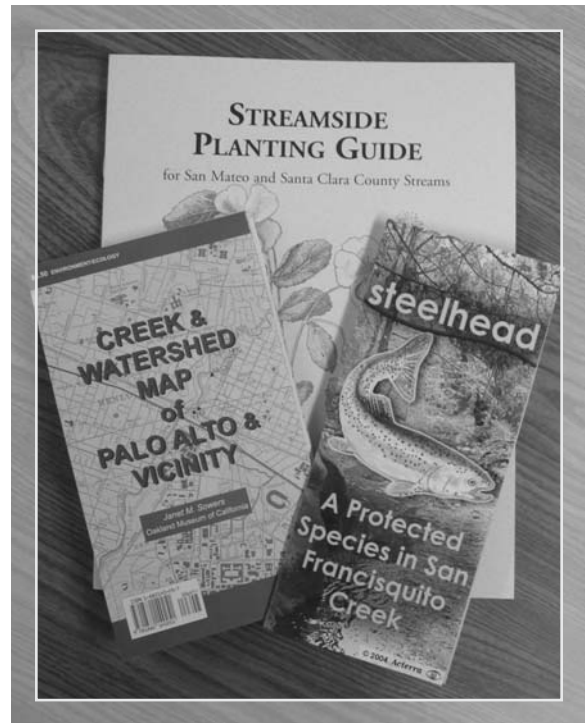
In 2001 the Peninsula Conservation Center created six panels about the human and natural history of San Francisquito Creek; they were placed in El Palo Alto Park and the landscaped area in Menlo Park across the Ira Bonde bike bridge. A committee of local naturalists and historians wrote the content. Funding was provided by the Palo Alto Fund, the Wheeler Fund, Varian Associates, Mr. Mel Lane, Stanford University, the Menlo Park Historical Association, and the Committee for Green Foothills.

“STEELHEAD: A PROTECTED SPECIES IN SAN FRANCISQUITO CREEK”

In 2004 the San Francisquito Watershed Council produced this brochure, which contains information about steelhead, their life cycle, impediments to their survival, and their threatened status in the San Francisquito watershed.

“CREEK & WATERSHED MAP OF PALO ALTO & VICINITY”

In 2005 the Oakland Museum of California produced the “Creek & Watershed Map of Palo Alto & Vicinity,” a new map featuring the San Francisquito watershed. It shows the watersheds in the area from Redwood City to Mountain View as well as creeks, marshes, shorelines, storm drains, and engineered channels. The reverse side shows the alluvial fan for San Francisquito Creek, which indicates former channels as evidenced by the surface topography and historical documents. The map was commissioned by the San Francisquito Watershed Council and funded by a grant from the CALFED Bay-Delta Watershed Program and contributions from the Santa Clara Valley Water District, the Silicon Valley Pollution Prevention Center, and the cities of Palo Alto and Mountain View.



CONTRIBUTORS

The following people contributed to *A Vision for the San Francisquito Watershed*:

<u>Name</u>	<u>Affiliation*</u>
Vivian Blomenkamp	League of Women Voters of Palo Alto
Phil Bobel	City of Palo Alto
Philippe S. Cohen	Jasper Ridge Biological Preserve, Stanford University
Cynthia D'Agosta	San Francisquito Creek Joint Powers Authority
Marge DeStaebler	Conservation Committee, Portola Valley
Dianne Dryer	City of Menlo Park
Judy Fulton	Stanford Linear Accelerator Center
Jerry Hearn	Acterra
Paul Heiple	California Native Plant Society
Ginger Holt	Families for Fair Government
Jim Johnson	Streamkeeper, San Francisquito Watershed Council
Art Kraemer	Member, Crescent Park Neighborhood Association
Leslie Lambert	Town of Portola Valley
Marty Laporte	Stanford Utilities Division
Trish Mulvey	Community volunteer, Palo Alto
Kevin Murray	San Francisquito Creek Joint Powers Authority
Walter Nelson	Families for Fair Government, Institute
Debra O'Leary	U.S. Army Corps of Engineers and City of East Palo Alto
Katie Pilat	San Francisquito Watershed Council
Erik Schmidt	NOAA Fisheries
Jack Sculley	Woodside Conservation and Environmental Health Committee and Bear Creek League of Advocates for the Watershed
Bill Springer	Santa Clara Valley Water District
Pam Sturner	San Francisquito Watershed Council
Annette Walton	Stanford Management Company

* Affiliation for identification purposes only



ADDITIONAL READING

Reports, books, and booklets

- *Adult Steelhead Passage in the Bear Creek Watershed* (Jerry Smith and Deborah Harden, 2001)^a
- *Comprehensive Conservation and Management Plan* (San Francisco Estuary Project, 1993)
- *Draft Watershed Management Plan* (San Francisquito Creek Coordinated Resource Management and Planning, 1997)
- *Long-Term Monitoring and Assessment Plan for the San Francisquito Creek Watershed* (San Francisquito Watershed Council, 2002)^a
- *Reconnaissance Investigation Report of San Francisquito Creek* (San Francisquito Creek Coordinated Resource Management and Planning, 1998)^a
- *Restoring Streams in Cities* (Ann Riley, 1998)
- *San Francisquito Creek Bank Stabilization and Revegetation Master Plan* (Royston Hanamoto Alley & Abey, et al., 2000)^b
- *San Francisquito Creek Levee Restoration and Floodwall Reconstruction Project* (Thomas Reid Associates, 2002)^b
- *San Francisquito Creek Watershed Analysis and Sediment Reduction Plan* (Northwest Hydraulic Consultants and Jones & Stokes, 2004)^b
- *San Mateo Guide to Creek and Wetland Project Permitting* (San Mateo Countywide Stormwater Pollution Prevention Program – a program of C/CAG, 1999)
- *Start at the Source: Design Guidance Manual for Stormwater Quality Protection* (Bay Area Stormwater Management Agencies Association, 1999)
- *Stream Care Guide* (Santa Clara Valley Water District)
- *Streamflow Hazards Evaluation, Corte Madera Creek* (Cotton, Shires and Associates, 2001)
- *Streamkeeper Manual* (San Francisquito Watershed Council, 2004)
- *Streamside Planting Guide* (San Francisquito Watershed Council, 2003)
- *Using Site Design Techniques to Meet Development Standards for Stormwater Quality* (Bay Area Stormwater Management Agencies Association, 2003)

^a Available for download on the San Francisquito Watershed Council web site (see below)

^b Available for download on the San Francisquito Creek Joint Powers Authority web site (see below)

Brochures

- “Creek and Watershed Map of Palo Alto and Vicinity” (Oakland Museum of California, 2005; available for purchase at <http://www.museumca.org/creeks/index.html>)
- “San Francisquito Creek – Our Natural Resource” (San Francisquito Creek Coordinated Resource Management and Planning, 1994)
- “Steelhead: A Protected Species in San Francisquito Creek” (San Francisquito Watershed Council, 2004)

Web sites

- City of Palo Alto creek level monitor and webcam – <http://www.cityofpaloalto.org/earlywarning/creeklevels.html> (for real-time rainfall data, stream depth information at three bridges over San Francisquito Creek, and a webcam image of the creek at the West Bayshore Road bridge)
- San Francisquito Creek Joint Powers Authority – <http://www.cityofpaloalto.org/jpa/> (for information about the SFCJPA, interagency creek maintenance walks, U.S. Army Corps of Engineers projects, and flow gauges and monitors)
- San Francisquito Watershed Council – <http://www.acterra.org/watershed/> (for information about the San Francisquito Watershed Council and its programs)
- U.S. Geological Survey San Francisquito Creek web site – <http://geography.wr.usgs.gov/sfcreek/> (for data, GIS products, and information from research, monitoring, and environmental management activities concerning San Francisquito Creek)



ABOUT THE SAN FRANCISQUITO WATERSHED COUNCIL

MISSION

The mission of the San Francisquito Watershed Council is to foster a diverse and healthy watershed, valued as a natural and community resource, in a manner consistent with public health and safety and respect for property rights.

HISTORY

The San Francisquito Watershed Council is a consensus-based stewardship organization of stakeholders from the San Francisquito watershed. It is governed by a Steering Committee whose participants include landowners and representatives from neighborhood associations, Stanford University, environmental organizations, local cities, and federal, state, and local resource agencies. The Council formed in 2001 from a resource planning process known as Coordinated Resource Management and Planning, or CRMP. Developed in the western U.S. in the 1960s, this planning model relies on the voluntary participation of everyone with a stake in resource management decisions in a given area. It emphasizes inclusiveness, collaborative decision-making, and an approach to planning based on the major resources present, rather than political boundaries. The goal in using a CRMP process is to reduce conflict and improve the outcomes and cost-effectiveness of resource management.

The San Francisquito CRMP formed in 1993 with support from the Peninsula Conservation Center Foundation, a resource center for people working on solutions to environmental problems in the San Francisco Bay Area. The CRMP brought together 100 stakeholders who met at Stanford University to examine a holistic approach to managing the watershed based on ecologically defined boundaries. Participants included private landowners and representatives from community groups, fly-fishing associations, environmental organizations, Stanford University, local cities, and state and local resource agencies. An important outcome was the publication of a draft management plan for the watershed

in 1997. It contained goals and proposed actions to address issues identified by task forces in six areas: natural resources, pollution prevention, flood and erosion control, land use, social issues, and public education and involvement. In 2001 the CRMP was renamed the San Francisquito Watershed Council and became a project of Acterra, and environmental organization formed from the merger of the Peninsula Conservation Center Foundation and Bay Area Action, an environmental advocacy group. In 2005 the Steering Committee and Acterra's Board of Directors took steps to transform the Council into an independent organization with fiscal sponsorship from Acterra.

PROGRAMS

The San Francisquito Watershed Council works to improve water quality, reduce flood dangers, restore riparian habitat, and provide a forum for the exchange of ideas about watershed stewardship. It accomplishes these goals through five programs areas. It serves as a clearinghouse of information about the watershed and conducts public education through creek walks, presentations, and events. Through volunteer work days it enlists community members to take part in creek cleanups, remove invasive plants from the riparian corridor, and plant native species along the creek. Its Streamkeeper Program trains local residents to monitor the ecology of the creek, report unusual events, and educate their neighbors about watershed stewardship. The Steelhead Task Force, an expert advisory committee to the Council, works to improve watershed conditions and maintain a viable population of native steelhead and rainbow trout. The Council also facilitates the Long-Term Monitoring and Assessment Program, which monitors water quality, flows, and sediment on key tributaries and provides data, including research by the U.S. Geological Survey and Stanford University, to the public and decision-makers.



