

COASTAL CONSERVANCY

Staff Recommendation
June 20, 2013

**SAN FRANCISQUITO CREEK:
BONDE WEIR FISH PASSAGE IMPROVEMENT PROJECT**

Project No. 13-020-01
Project Manager: Amy Hutzler

RECOMMENDED ACTION: Authorization to disburse \$35,000 to the San Mateo County Resource Conservation District to construct the Bonde Weir Fish Passage Improvement Project on San Francisquito Creek in El Palo Alto Park.

LOCATION: San Francisquito Creek in El Palo Alto Park, at the border of Menlo Park in San Mateo County and Palo Alto in Santa Clara County

PROGRAM CATEGORY: San Francisco Bay Area Conservancy

EXHIBITS

- Exhibit 1: [Project Location and Site Map](#)
Exhibit 2: [Construction Diagrams](#)
Exhibit 3: [Project Letters](#)
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RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31160-31165 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of up to thirty-five thousand dollars (\$35,000) to the San Mateo County Resource Conservation District (RCD) to implement the Bonde Weir Fish Passage Improvement Project on San Francisquito Creek at El Palo Alto Park, at the border of Palo Alto in Santa Clara County and Menlo Park in San Mateo County. Prior to the disbursement of funds, the RCD shall submit for review and approval by the Executive Officer of the Conservancy:

1. A work program, including a schedule and budget for the project;
2. The names and qualifications of all contractors to be employed for the project;
3. Evidence that the RCD’s access to the construction site is assured, and that all necessary permits and approvals have been obtained; and,
4. A signing plan for the project acknowledging Conservancy funding.”

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed project is consistent with the current Project Selection Criteria and Guidelines.
2. The proposed authorization is consistent with the purposes and objectives of Chapter 4.5 of Division 21 of the Public Resources Code, regarding resource and recreational goals in the San Francisco Bay Area.”

PROJECT SUMMARY:

Staff recommends disbursement of up to \$35,000 to the San Mateo County Resource Conservation District (RCD) to construct the Bonde Weir Fish Passage Improvement Project (project) along San Francisquito Creek, which forms the border of San Mateo and Santa Clara Counties. The Conservancy funds would be heavily matched with the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA) and U.S. Environmental Protection Agency (EPA) funds and would provide the final amount necessary to implement the project, which will be constructed by the RCD in the summer and fall of 2013, assuming timely receipt of regulatory permits.

The RCD proposes to remove a bank-to-bank concrete sill, known as the Bonde Weir, that acts as a barrier to fish passage under current conditions and replace it with a re-graded and “roughened” channel. This channel type uses engineered streambed materials to maintain and improve stability over a wide range of streamflows while providing vastly improved conditions for fish migration and movement. In particular, the project is intended to benefit steelhead trout (*Oncorhynchus mykiss*), as the San Francisquito Creek watershed provides roughly 40 miles of habitat for this species above the Bonde Weir and below Searsville Dam on the Stanford University campus. The Bonde Weir, originally constructed as a grade control structure on San Francisquito Creek to protect the toe of a retaining wall that serves as the foundation for the former Union Pacific Railroad and current CalTrain crossing, has been degraded over time and is no longer structurally sound. The deteriorating condition of the weir may also pose a risk to channel stability. The project will also improve channel stability over existing conditions.

San Francisquito Creek is an urban stream that flows through the communities of East Palo Alto, Menlo Park, Palo Alto, Woodside, Portola Valley, and Stanford University. The watershed is part of the Central California Coast steelhead Evolutionarily Significant Unit in which steelhead are considered “threatened” under the federal Endangered Species Act. San Francisquito Creek hosts one of the last remaining wild steelhead populations among Bay Area streams (Smith and Harden, 2001) and has been identified as one of eight “anchor watersheds” in the San Francisco Bay Area having the highest restoration potential for steelhead (Center for Ecosystem Management and Restoration).

The weir is the most significant lower watershed impediment to steelhead migration. Under low flow conditions, stream flow pools upstream from the weir resulting in a lack of flow over the weir or in sheet flow unfavorable to migrating fish due to inadequate water depth. Under higher

flow conditions, water velocity further limits migration opportunities. The majority of the San Francisquito Creek watershed's spawning and rearing habitat occurs upstream of the weir, rendering this barrier to migration a high priority for remediation. Further, under low flow conditions, juvenile fish may be prevented or delayed from moving downstream to favorable habitats or to out-migrate, possibly resulting in unnecessary mortality. The project will greatly improve upstream and downstream passage conditions and opportunities for steelhead and other fish and aquatic species.

One hundred percent of the barrier removal construction area will be monitored through visual inspection by engineers from the RCD and their consulting firm. Photo monitoring will occur at specific sites yet to be identified. These locations will be finalized once designs are 100% complete. Currently designs are 85% complete. Survey benchmarks have been established by the RCD's consultants in their design preparation and can be used to assess post-project conditions if visual observation of the streambed suggests significant deviation from the design criteria. Construction project success will be measured by the contractor's adherence to the design plans and specifications. The RCD will ensure the contractor is meeting specifications by reviewing project submittals required in the technical specifications for materials used in the project (i.e. rock hardness) and closeout submittals (i.e. as-built surveys and plans). The RCD will provide construction services and be on-site to inspect mixing and placement of the engineered streambed material and will perform pebble counts to confirm specified design gradations are being met. The RCD will work with the contractor in placing critical project components, such key rocks in the boulder buttresses in the roughened slope to ensure the constructed project meets the intended design. The contractor will be required to complete a post-construction survey as part of the closeout submittal process. The contractor will also be specified to demonstrate that a surface flow can be maintained during low flow conditions.

The RCD is a non-regulatory public benefit district formed in 1939 in order to help people protect, conserve, and restore natural resources through information, education, and technical assistance programs. The Coastal Conservancy has previously granted funds to the RCD for the Frenchman's Creek Fish Passage Improvement Project in coastside San Mateo County. The RCD uses diverse means to further resource conservation and acts as a focal point for local conservation efforts on public and private lands working in voluntary partnerships with landowners, resource agencies, jurisdictions, and others by providing services in four program areas: (1) conservation and watershed planning, (2) conservation project implementation, (3) education and technical assistance, and (4) permitting. The Bonde Weir Fish Passage Project is consistent with the RCD's mission and a typical conservation implementation project. This project was approved by the RCD Board of Directors at a publicly noticed meeting, and a California Environmental Quality Act Notice of Exemption was filed by the RCD staff on March 20, 2013.

Site Description: Bonde Weir is located on San Francisquito Creek, an urban stream that flows through the communities of East Palo Alto, Menlo Park, Palo Alto, Woodside, Portola Valley, and Stanford University. San Francisquito Creek forms the boundary between San Mateo and Santa Clara Counties, and the Weir sits on the border between Palo Alto and Menlo Park. The project site is owned by the cities of Menlo Park and Palo Alto, as well as CAL TRAIN and one private landowner who owns a very small portion of the creek at the tail end of the project. That portion of the project area is included in a public utilities easement. The creek hosts one of the

last remaining wild steelhead populations among Bay Area streams. The creek channel has retained its original configuration, though urbanization of the surrounding area is evidenced by numerous storm drain outfalls, train, vehicle and pedestrian crossings, and individual bank protection structures. Large, episodic flows are common due to natural watershed characteristics and have been exacerbated in frequency and magnitude over time due to urbanization. The project site is located on a stream reach that has been incised significantly over time due to the effects of urbanization. Invasive plants populate but do not dominate the stream reach.

Bonde Weir, originally constructed as a grade control structure on San Francisquito Creek to protect the toe of a retaining wall that serves as the foundation for the former Union Pacific Railroad and current CalTrain crossing, has been degraded over time and is no longer structurally sound. The Weir is the most significant lower watershed impediment to steelhead migration in San Francisquito Creek.

Project History: Ecosystem restoration in the San Francisquito Creek watershed has long been a priority of the Conservancy and its partners. Beginning with a grant to the non-profit organization Acterra, the Coastal Conservancy funded the San Francisquito Watershed Council's steelhead enhancement efforts in San Francisquito Creek in 2003. Under this grant, the Council worked with project partners to improve fish passage and conduct bank revegetation efforts on the main stem of San Francisquito Creek and in two of its subwatersheds - Los Trancos Creek and Bear Creek.

In 2004, the Steelhead Task Force of the San Francisquito Watershed Council surveyed San Francisquito Creek and its tributaries for impediments to steelhead migration. The task force, made up of biologists representing the Department of Water Resources, Stanford University, San Jose State University, Jasper Ridge Biological Preserve, California Department of Fish and Wildlife, Santa Clara Valley Water District and the San Francisquito Creek Joint Powers Authority (SFCJPA), identified the Bonde Weir as a barrier to fish passage, noted the need for remedial action and rated its priority level as "high." The structure had also been under observation by the City of Menlo Park and the City of Palo Alto due to concerns about the degrading stability of the structure. Acting on the consensus recommendation of the task force, the SFCJPA engaged the City of Menlo Park, which owns the majority of the property on which the Bonde Weir sits, to begin project planning.

Concurrently, and as part of a larger effort, the Conservancy worked closely with the Center for Ecosystem Management and Restoration (CEMAR) to assess steelhead resources in the San Francisco estuary, and then identify high priority steelhead fishery restoration projects.

Historical Distribution and Current Status of Steelhead/Rainbow Trout (Oncorhynchus mykiss) in Streams of the San Francisco Estuary, CA was completed in 2005, the most authoritative account prepared of steelhead/rainbow trout distributions in watersheds tributary to the Bay.

Using this information, CEMAR completed *The San Francisco Estuary Watersheds Evaluation* in 2007. In this report, the San Francisquito Creek watershed, due largely to its size and protected watershed status, ranked as one of the eight "anchor watersheds" of the estuary with respect to available habitat for steelhead and other aquatic species, and necessary for the protection and enhancement of steelhead in the estuary. CEMAR also identified specific actions in promising locations that would enhance steelhead recovery in the San Francisco Bay estuary. Again, and informed in part by the efforts of the Council, San Francisquito Creek ranked high, and the Bonde Weir was specifically identified as a high priority action for recovery in that

watershed. These efforts were the first such comprehensive evaluation of the region's streams and identification of all the problems preventing sustainable fishery runs in a watershed. This effort has informed selection of fishery restoration projects in the Bay Area.

SFCJPA initiated alternatives analysis for the Bonde Weir, and developed a concept design to replace the existing structure. Due to the high cost and the numerous landowners involved, this concept was determined to be neither practical nor feasible. Development of a simpler construction approach, led by the City of Menlo Park, was subsequently recommended. This approach included the installation of a fish ladder, a design approach that was rejected by the California Department of Fish and Wildlife. New designs were then developed by the RCD in cooperation with NOAA and CEMAR, and the current designs are supported by the resource agencies. Permits are expected to be issued within a matter of months.

PROJECT FINANCING

Coastal Conservancy	35,000
NOAA/National Fish and Wildlife Foundation	187,000
Environmental Protection Agency	<u>75,000</u>
Total Project Costs	297,000

The anticipated source of Conservancy funds for this project is the FY 2007 budget appropriations for the San Francisco Bay Area Conservancy Program from the Safe Neighborhood Parks, Clean Water, Clean Air and Coastal Protection Act of 2000 (Proposition 12). These funds, reappropriated in 2010, can be used for projects consistent with Chapter 4.5 of Division 21 of the Public Resources Code, described in the CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION section, below.

The grantee will provide nearly \$52,000 in important commitments of resources including: 1) \$4,800 of voluntary labor for revegetation of the project site; 2) \$5,700 from NOAA Restoration Center in design review and consultation; 3) \$15,000 in site access preparation work by the cities of Palo Alto and Menlo Park; 4) \$1,215 in waived permit fees by the City of Menlo Park, and 5) \$25,000 towards design work from Pacific Gas and Electric.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The project is consistent with Chapter 4.5 of Division 21 of the Public Resources Code Sections 31160 et seq. regarding resource and recreational goals for the San Francisco Bay Area.

The project is located in San Mateo and Santa Clara Counties, which are within the nine-county San Francisco Bay Area, consistent with Section 31162.

Pursuant to Section 31162(b), the Conservancy award grants that will "protect, restore, and enhance natural habitats and connecting corridors, watersheds, scenic areas, and other open-space resources of regional importance." In addition, under Section 31165, the Conservancy may undertake projects and award grants "for activities that are compatible with the preservation, restoration, or enhancement of ocean, coastal, bay, or watershed resources..." Consistent with Section 31162(b) and 31165, the project involves enhancement of the San Francisquito Creek watershed and its habitats by the replacement of a barrier to fish passage.

Pursuant to Section 31162(c), the Conservancy may grant awards to “assist in the implementation of the policies and programs of ... the adopted plans of local governments and special districts.” The project will implement the policies and programs of the San Mateo County RCD and the San Francisquito Creek JPA.

The project satisfies all of the criteria for determining project priorities under the San Francisco Bay Program (as articulated in Section 31163(c)) in that:

1. The project is consistent with several approved plans including: a) The San Francisquito Creek Watershed Council’s 2004 Steelhead Task Force Report that identified remediating Bonde Weir as a high priority for conservation and restoration of steelhead; b) The Center for Ecosystem Management and Restoration’s 2007 San Francisco Estuary Watersheds Evaluation Report that identified the San Francisquito Creek as an “anchor watershed” where restoration and conservation efforts could have the most impact on steelhead populations; c) The 2007 Federal Recovery Outline for the Distinct Population Segment of Central California Coast Steelhead prepared by National Marine Fisheries Service Southwest Regional office, and; d) CDFW’s 2012 Updated Statewide Task List for the Steelhead Restoration and Management Plan for California, which lists modification of in-stream fish passage barriers as a priority for implementation within this watershed.
2. The project serves a regional constituency by enhancing habitat access for steelhead trout, a special-status species, in an “anchor watershed” in the San Francisco Bay Area.
3. The project can be implemented in a timely way as the remaining funds are secured and the RCD is prepared to begin work upon project approval and receipt of regulatory permits.
4. The removal and replacement of the Bonde Weir structure provides an opportunity for habitat benefits and access that could be lost without this funding.
5. The project includes significant matching funds from NOAA and EPA.

CONSISTENCY WITH CONSERVANCY’S 2013-2018 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 11, Objective F** of the Conservancy’s 2013-2018 Strategic Plan, the proposed project will enhance watershed function for the benefit of wildlife and specifically remove a barrier to fish passage, by replacing the Bonde Weir structure, a significant barrier to fish passage on the lower San Francisquito Creek watershed.

CONSISTENCY WITH CONSERVANCY’S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy’s Project Selection Criteria and Guidelines, last updated on November 10, 2011, in the following respects:

Required Criteria

1. **Promotion of the Conservancy’s statutory programs and purposes:** See the “Consistency with Conservancy’s Enabling Legislation” section above.
2. **Consistency with purposes of the funding source:** See the “Project Financing” section above.

3. **Support of the public:** The project is supported by the NOAA Restoration Center, Acterra, and the San Francisquito Creek JPA, which is made up of the cities of Menlo Park, East Palo Alto, Palo Alto, the County of San Mateo, and the Santa Clara Valley Water District. Letters are attached as Exhibit 3.
4. **Location:** The project is located on the border of San Mateo and Santa Clara Counties, both of which are within the nine-county San Francisco Bay Area.
5. **Need:** Conservancy funds are sought to fill a funding gap based on the higher than anticipated construction costs. If Conservancy funds are not made available the project will not be constructed during the summer of 2013. The project would likely be delayed by one to two years until the funding gap was filled. At that time, available funding may not remain, and costs may have increased further. With the addition of the requested funds this project can greatly improve the migratory corridor for steelhead trout during the 2014 water year. Doing so will significantly enhance steelhead recovery efforts in the San Francisco Bay estuary.
6. **Greater-than-local interest:** Restoration of urban streams as well as the protection and enhancement of coastal steelhead populations that remain in them is an issue of statewide and national importance. Steelhead trout-Central California Coast Evolutionarily Significant Unit (ESU) is federally listed as threatened. This ESU occurs from the Russian River in Sonoma County to Aptos Creek in Santa Cruz County. In addition, it occurs in San Francisco and San Pablo Bays to the Napa River. In most tributaries to San Francisco Bay, steelhead trout are considered extirpated. Thus, any improvement for the population in this region is significant.
7. **Sea level rise vulnerability:** The proposed project is inland and well away from any foreseeable impacts of sea level rise.

Additional Criteria

8. **Urgency:** The San Francisquito Creek steelhead population ranges from no apparent fish in dry years, to more than one hundred fish in wet years. The population decline adds urgency to providing unhindered passage to the 40 miles of stream above the Bonde Weir and below the Searsville Dam.
9. **Resolution of more than one issue:** This project, designed to improving steelhead habitat and migration opportunities, will resolve multiple issues by improving habitat, replacing failing transportation infrastructure and diminishing flood risk with improved instream structures at the site.
10. **Leverage:** See the “Project Financing” section above.
11. **Conflict resolution:** Barriers to fish passage that result in “take” of listed species under the Endangered Species Act (ESA) present a certain amount of risk to facility owners. Failure to remedy the deficiencies of the structure consistent with the ESA may result in litigation or fines for the facility owner. After a decade of numerous attempts to remediate this high priority fish barrier, the project proponents have finally identified a mutually acceptable project design worthy of immediate construction. Doing so will improve habitat and preclude future debate over the structure’s impacts to listed species.
12. **Innovation:** The proposed project provides a lower cost and likely more desirable approach to fish passage improvement than the construction of a fish ladder, most of which work

poorly and require frequent maintenance. NOAA has also dedicated significant and high quality engineering review outside of the permitting process to ensure that the project is well designed and prepared for an efficient permit review process.

13. **Readiness:** The RCD and its partners have prepared all permit application materials, are prepared to go to bid, have raised all necessary matching funds, and should be able to complete the proposed project in 2013 pending receipt of permits.
14. **Realization of prior Conservancy goals:** As discussed under “Project History,” above, the Conservancy long ago identified San Francisquito Creek generally, and the Bonde Weir specifically, as a promising opportunity to reconnect habitat in an “anchor watershed” of the San Francisco Bay.
15. **Cooperation:** See “Project Financing” section above.
16. **Vulnerability from climate change impacts other than sea level rise:** The viability of steelhead trout in many tributaries of San Francisco Bay in the future may be threatened by changes to the climate, including rising temperatures and changes in precipitation and hydrology. Implementing projects that open up larger areas of creek and river habitats for steelhead will increase the resilience of the species as it faces challenging conditions in the future, and focusing on habitat restoration and fish passage improvement projects within the eight “anchor watersheds” in San Francisco Bay is a promising approach to ensuring the future viability of steelhead.

COMPLIANCE WITH CEQA:

The RCD approved the project March 20, 2013, and determined that the project was categorically exempt from the California Environmental Quality Act (CEQA) under 14 California Code of Regulations Section 15333. This section of the CEQA Guidelines exempts habitat restoration projects that do not exceed five acres in size, constructed to assure the maintenance, restoration, enhancement, or protection of habitat for fish, plants or wildlife. Staff concurs that the project is exempt under this section. Consistent with the exemption, the project would not impose an adverse effect on species of concern, would not disturb hazardous materials at or near the project site, and would not cause cumulative effects.

The RCD filed a Notice of Exemption for the project March 20, 2013, and filed it with the State Office of Planning and Research as well as with the Santa Clara County Clerk’s office.

Staff will file a Notice of Exemption following Conservancy action.