

COASTAL CONSERVANCY

Staff Recommendation  
October 18, 2012

**MISSION CREEK FISH PASSAGE ENHANCEMENT PROJECT**

Project No. 12-040-01  
Project Manager: Rachel Couch

**RECOMMENDED ACTION:** Authorization to disburse up to \$300,000, including \$100,000 of grant funds from the National Oceanic and Atmospheric Administration (NOAA), to the City of Santa Barbara to implement fish passage improvements in lower Mission Creek, in southern Santa Barbara County.

**LOCATION:** Mission Creek, Santa Barbara, California

**PROGRAM CATEGORY:** Integrated Marine and Coastal Resources Enhancement

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**EXHIBITS**

Exhibit 1: [Project Location and Site Map](#)

Exhibit 2: [Figures and Photos](#)

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 31220 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes disbursement of up to three hundred thousand dollars (\$300,000), including one hundred thousand dollars (\$100,000) of grant funds from the National Oceanic and Atmospheric Administration, to the City of Santa Barbara (the City) to implement fish passage improvements on the lower channel of Mission Creek, as shown on Exhibit 1 to the accompanying staff recommendation. Prior to commencement of construction and to disbursement of any Conservancy funds, the City shall submit for the review and approval of the Executive Officer of the Conservancy the following items:

1. A work program, schedule and budget and the names and qualifications of any contractors or subcontractors that the City intends to employ to construct the project.
2. Evidence that the City can provide all remaining funds needed to complete construction.
3. Evidence that all applicable permits and approvals for the project have been obtained.”

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 5.5 of Division 21 of the Public Resources Code, regarding integrated coastal and marine resources protection.
3. The project area has been identified in the certified Local Coastal Program of the City of Santa Barbara as environmentally sensitive habitat area requiring public action to resolve existing or potential resource protection problems.”

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**PROJECT SUMMARY:**

Staff is recommending that the Conservancy provide a grant of up to \$300,000 to the City of Santa Barbara, including \$100,000 of grant funds from the NOAA Community-based Habitat Restoration Partnership Program, to the City of Santa Barbara to implement fish passage improvements on the lower channel of Mission Creek, in southern Santa Barbara County. The City of Santa Barbara proposes to modify the lower concrete flood control channel on Mission Creek to improve conditions for Southern California steelhead to migrate upstream to access suitable spawning habitat.

Mission Creek is located in the City of Santa Barbara. Its watershed extends from the Santa Ynez Mountains on the north to the Pacific Ocean on the south and is considered the most viable stream for steelhead trout restoration within the City. The watershed is habitat to an existing population of rainbow trout (freshwater version of steelhead trout), has a documented historic run of steelhead trout (Exhibit 2), and contains high quality spawning and rearing habitat within the stream channels in the mid and upper watershed. Seven of the last ten years steelhead trout have attempted to migrate and spawn within the lower stream channel.

For the last 50 years, two trapezoidal concrete flood control channels on Mission Creek, referred to as the Upper and Lower Caltrans Channels, have completely blocked steelhead trout from swimming upstream to spawning habitat in the upper watershed (Exhibit 2). During normal migratory storm events, the water is either too shallow and/or moves too fast within the channels to allow fish to migrate upstream.

The primary goal of the project is to improve upstream migration of the endangered steelhead trout in order to provide access to pools in the upper watershed with year-round water and eventually restore a healthy population of steelhead in Mission Creek. Without modifications to the concrete channels on Mission Creek, steelhead will not be able to migrate upstream to spawn, which could lead to extirpation of this species from Mission Creek. The project site is designated critical habitat for the Southern California Steelhead under the Endangered Species Act. Mission Creek, including the project site, is identified as a “Core 1” (Top Tier) stream in the *NMFS Final Southern California Steelhead Recovery Plan* (January 2012). A previous study found that, among southern Santa Barbara County creeks, Mission Creek ranked the 5th highest, out of 24

watersheds, for its steelhead habitat score and steelhead recovery priority ranking (Stoecker et al. 2002). In addition, the proposed project is a Tier 1 priority on the work plan of the Southern California Wetlands Recovery Project (SCWRP).

The proposed modifications to the lower concrete channel would open up 3.9 miles of riparian habitat for Southern California Steelhead, which includes approximately two miles of moderate- to high-quality spawning habitat. The upper channel was modified during the summer of 2011 and early 2012. The lower channel is scheduled to be modified during the summer of 2013.

The proposed design will create both a low flow channel (fishway) and resting areas within the bed of the concrete channel. The concrete channel is 0.8 mile (4,224 feet) long with a floor width of 26 feet. The fish way is designed to slow down water flow within the channel and increase water depth so that fish can successfully migrate upstream. The fishway will be approximately 4 feet wide and 3.5 feet deep (Exhibit 2). The resting areas are 2.5 feet wide, 3.5 feet deep and 10 feet long, and are spaced approximately 40 feet apart (every 6 inches in elevation drop). Approximately 100 resting areas (pools) will be constructed in the fishway. The fishway and resting areas will be constructed of smooth concrete (no cobble or large rocks). Approximately 100 small notched concrete weirs (18 inches in height) will be placed across the fishway between each resting area to provide increased water depth at low flows. One rock riffle will be constructed in the natural stream bed upstream of the channel to stabilize the creek bed so that erosion does not threaten the flood control channel or perch the fish passage improvements above the required jump height. Two large concrete weirs will be constructed at the upstream end of the concrete channel to create a transition zone between the natural channel and fishway. The project is designed to provide the proper water depth to allow fish to migrate upstream during low flows as well as provide reduced velocities and resting areas for upstream migration during higher flow events. The project also includes planting approximately 200 native trees on the banks above the concrete channel.

The proposed project is integral to the success of other fish passage projects on Mission Creek. Without the construction of the fish passage improvements on the lower flood control channel, the three projects in the watershed previously funded by the Coastal Conservancy (Tallant Road, SBNHM, and Highway 192 Bridges described in the Site Description section below) will not be effective. The lower concrete channel, which is a complete barrier to fish migration, is downstream of all three barriers. If the project is not constructed, steelhead will not have access to and through these project sites, resulting in no improvement for upstream migration and breeding.

The City of Santa Barbara Creeks Restoration and Water Quality Improvement Division (Creeks Division) was established in 2001. The purpose of the Creeks Division is to develop and implement creek and ocean water quality improvement, riparian habitat restoration, wetlands enhancement, and community education projects and programs. Since its inception, the Creeks Division has undertaken a number of riparian habitat restoration and wetlands enhancement projects on Mission, Arroyo Burro, Mesa, Las Positas, and Sycamore Creeks in the City. Funded by a permanent voter-approved 2% transient occupancy tax on hotel visitors, the Creeks Division currently has two full-time restoration specialists on staff available to manage fish passage and creek restoration projects and has dedicated annual operating funds for maintaining all of its projects in perpetuity. The Creeks Division will fund all maintenance of the Mission Creek fishway (e.g., sediment removal).

**Site Description:** Mission Creek watershed encompasses nearly 12 square miles, rises about 3,750 feet in elevation and flows approximately 8 miles to the Pacific Ocean. The headwaters of Mission Creek are located in the Los Padres National Forest, whose boundary is approximately 4.5 creek miles upstream from the project site. The headwaters contain excellent steelhead trout spawning habitat. The creek, through the project reach, runs between residential and commercial development on the northeast and U.S. Highway 101 on the southwest. Upstream of the project site, the riparian corridor transitions from an urban to a rural landscape through woodland and chaparral habitats of the Santa Ynez foothills. Mission Creek watershed land is approximately 39% publicly owned. The mainstem of Mission Creek is formed by the confluence of the similarly sized Rattlesnake Creek tributary and Upper Mission Creek basins.

There are two different sections of concrete channel on Mission Creek. The upstream (upper) section is 0.3 miles long and stretches from Los Olivos Street to Pedregosa Street. This concrete section was modified to include the fish passage improvements in 2012. The lower 0.8-mile section is located between Valerio Street and Canon Perdido Street (see Exhibit 2). The lower channel is approximately one mile upstream from the Mission Lagoon. Both channelized sections are trapezoidal in shape. The upper section was constructed in 1934 and the lower section was constructed in 1961 by the California Department of Transportation (Caltrans). The County of Santa Barbara Flood Control District owns and maintains the flood control channels. A secondary use agreement between the County of Santa Barbara Flood Control District and the City of Santa Barbara grants the City permission to modify the flood control channels to improve upstream fish migration and to maintain the channels in perpetuity.

Other fish passage barriers on Mission Creek have been removed in recent years or will be removed in the near future. In 2007, with financial assistance from the Coastal Conservancy (Conservancy), the County of Santa Barbara developed preliminary plans for removal of two other significant fish passage barriers on Mission Creek, upstream from the project site at the Tallant Road and Highway 192 bridges. In 2008 the City received funding to complete construction level design plans for both bridge projects. In 2010, the City completed construction of the Tallant Road Bridge project. Final design plans and specifications for the Highway 192 project have been completed, and the Cachuma Operations and Maintenance Board is scheduled to start construction on the fish passage project as part of a larger water line replacement project in the summer of 2013. The Conservancy also funded a restoration project on Mission Creek at the Santa Barbara Museum of Natural History (SBMNH), which included fish passage improvements. This project, located between Tallant Road Bridge and the Highway 192 bridge, modified a concrete barrier located in the creek bed to allow fish to migrate upstream.

**Project History:** The recent effort to restore steelhead on Mission Creek began when the *Steelhead Assessment and Recovery Opportunities in Southern Santa Barbara County, California* (Stoecker, 2002), a fish barrier inventory, identified the two concrete channels on Mission Creek as total barriers to upstream migration. That same year, the City commissioned a preliminary investigation of potential alternatives for modification of the concrete channel sections of Mission Creek to permit fish passage upstream (Penfield and Smith). Because the alternatives identified proved to be infeasible due to high costs, at the request of the City the U.S. Army Corps of Engineers (ACOE) initiated a Section 206 project to restore fish passage through the concrete channel reaches of the Mission Creek channel. This effort was later abandoned due to loss of ACOE funding.

In June 2005, a conceptual feasibility study was prepared by Northwest Hydraulic Consultants (NHC) to develop cost effective restoration alternatives for the concrete channel reaches of Mission Creek. The study found only one alternative that would not raise the flood elevations in the channel above existing conditions. The chosen design alternative consisted of a low flow channel cut into the existing floor of the concrete flood control channels with small periodic resting areas in the sidewalls. The final report was completed in November 2008 and the City then funded preparation of final designs and environmental review. In March 2011, the City was awarded a grant from California Department of Fish and Game to construct the first phase of the project on the upper concrete channel. This project was completed in July 2012. In January 2011, the City requested Conservancy funding for the second phase of the project.

**PROJECT FINANCING**

Coastal Conservancy	\$200,000.00
NOAA Community-based Habitat Restoration Partnership Grant	\$100,000.00
CA Department of Fish and Game	\$1,735,000.00
CA Wildlife Conservation Board	\$775,000.00
City of Santa Barbara	\$750,000.00
Private Foundations and other sources	<u>\$642,000.00</u>
<b>Total Project Costs</b>	<b>\$4,202,000.00</b>

The expected source of Conservancy funds is an appropriation to the Conservancy from the California Clean Water, Clean Air, Safe Neighborhood Parks and Coastal Protection Fund created under The California Clean Water, Clean Air, Safe Neighborhood Parks and Coastal Protection Act of 2002, Public Resources Code section 5096.600 et seq. (Proposition 40) Proposition 40 funds are generally available for the development of water resources, including the improvement, rehabilitation, restoration, enhancement and protection of watersheds. (Pub. Resources Code § 5096.650) The Watershed, Clean Beaches and Water Quality Act of 2002 (Stats. 2002, ch.727, § 4) appropriated funds from Proposition 40 to the Conservancy and added Chapter 5.5 to the Conservancy’s enabling legislation for the purpose of carrying out coastal watershed protection projects that are described under Section 31220 of the Public Resources Code. The proposed authorization is consistent with the Conservancy’s enabling legislation, Section 31220 of Division 21 of the Public Resources Code, as discussed in the “Consistency with Conservancy’s enabling legislation” section below.

The remaining \$100,000 of the grant will come from a grant from the NOAA Community-based Habitat Restoration Partnership Grant Program received by the Conservancy on behalf of the Southern California Wetlands Recovery Project. The proposed project is identified as a Tier 1 priority on the SCWRP work plan.

**CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:**

This project would be undertaken pursuant to Chapter 5.5 of the Conservancy’s enabling legislation, Section 31220 of Division 21 of the Public Resources Code, regarding integrated coastal and marine resources protection.

Subsection 31220(a) authorizes the Conservancy to undertake and award grants for projects that meet one or more criteria of Subsection 31220(b). Consistent with Subsection 31220(b), the proposed project aims to achieve the following objectives: 1) protects or restores fish and wildlife habitat within coastal and marine waters and coastal watersheds by reducing an impediment to fish passage; 2) reduces threats to coastal and marine fish and wildlife by providing an endangered species access to critical upstream breeding grounds thus preventing decline or extirpation of the species from the watershed. Consistent with Section 31220(a), Conservancy staff has consulted with the State Water Quality Control Board in developing this project.

Subsection 31220(c) requires the proposed project is consistent with local and state watershed plans. Consistency is discussed in detail below under “Consistency with Local Watershed Management Plan/State Water Quality Control Plan.” Subection 31220(c) also requires that projects include a monitoring and evaluation component. Consistent with this section, the project includes a monitoring and evaluation component as required by the DFG Fisheries Restoration Program, which will be carried out by the City.

**CONSISTENCY WITH CONSERVANCY’S 2007  
STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):**

Consistent with **Goal 6, Objective D**, the proposed project will remove a fish passage barrier and restore access to 3.9 miles of upstream spawning habitat for the endangered Southern Steelhead.

**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 has the support of state and local elected officials including U.S. Congresswoman Lois Capps, Assembly member Das Williams, and Santa Barbara County Supervisors Salud Carbajal and Janet Wolf. The project also has support from NOAA, U.S. Fish and Wildlife Service, Department of Fish and Game, and the U.S. Army Corps of Engineers, and community support from Environmental Defense Center and the Santa Barbara Urban Creeks Council.
4. **Location:** The proposed project would be located approximately one mile from the coast outside the coastal zone of the City of Santa Barbara. The project will benefit coastal

resources by improving access to spawning habitat for steelhead trout, an anadromous fish that spends part of its life in the ocean.

5. **Need:** While the City of Santa Barbara has obtained commitments of funding from a variety of sources, these alone are not sufficient. Conservancy assistance is needed at this time to enable to the proposed project to move forward and to ensure that funding awarded from other agencies will not be jeopardized or expire.
6. **Greater-than-local interest:** Southern steelhead have been designated an endangered species under the federal Endangered Species Act. Mission Creek has been identified as a Core 1 Population in the NOAA National Marine Fisheries Service's Recovery Plan for the species in Southern California. The Department of Fish and Game has established restoration of the southern steelhead as a statewide priority.
7. **Sea level rise vulnerability:** The project is one mile upstream from the shoreline at elevation approximately 43 feet above sea level at the downstream end.

**Additional Criteria**

8. **Urgency:** The project will allow steelhead to return to spawning habitat that has been inaccessible for over 50 years. Without modification of the concrete channel, the last major barrier to steelhead migration on lower Mission Creek, the fish will not be able to migrate in the watershed and will continue dying in the pools of the lower creek during unsuccessful spawning attempts. If the situation is not addressed, extirpation of the species from Mission Creek watershed is likely.
9. **Leverage:** See the "Project Financing" section above.
10. **Innovation:** Once constructed, the project's innovative design will serve as a demonstration project for other California streams with similar fish passage barriers. This will ultimately assist in bringing Southern California Steelhead back from the brink of extinction by providing other communities with a proven design for improving fish passage in urbanized areas while maintaining the capacity of flood control issues.
11. **Readiness:** The City is expects to commence the proposed project in spring of 2013.
12. **Realization of prior Conservancy goals:** See the "Project History" section above.
13. **Vulnerability from climate change impacts other than sea level rise:** The exact impacts of climate change are difficult to predict. The Santa Barbara area may become drier but precipitation could also increase as a result of climate change. Should the area become drier as a result of climate change, then fish migration and spawning would be negatively impacted due to the reduced amount of water within the creek. However, should the climate become wetter, the additional water in the creek would improve migration and spawning conditions. If drought does become more frequent as a result of climate change, the project will have a long-term positive impact because it will enable steelhead trout in the ocean to recolonize creeks that may dry-up during prolonged droughts.

Climate Change could also increase storm frequency and intensity. This could result in more frequent and severe flooding events and creek erosion. The project as designed does not reduce the flooding capacity of the creek and will maintain sediment flows to the ocean without increasing erosion of the creek bed and banks.

14. **Minimization of greenhouse gas emissions:** Greenhouse gas emissions from the proposed project will be minimal and temporary. Only during the six month construction period will greenhouse gas emissions be released and this will be minimized because a majority of the project will be constructed using hand labor, with very short periods of time needed for backhoe and other construction vehicles. In addition, the project includes planting 200 native trees using hand labor. Thus, after construction, there will be no greenhouse gas emissions from the project, but there will be 200 native riparian trees.

**CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:**

The proposed project is consistent with the City of Santa Barbara's Local Coastal Plan (Adopted May 1991) Policy 6.8, which states that "the riparian resources, biological productivity, and water quality of the City's coastal zone creeks shall be maintained, preserved, enhanced, and, where feasible, restored." The proposed project will preserve, enhance, and restore steelhead and its habitat on Mission Creek.

The proposed project is also consistent with Policy 6.11, which states that "channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) Necessary water supply projects; (2) Flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or; (3) Developments where the primary function is the improvement of fish and wildlife habitat.

**CONSISTENCY WITH LOCAL WATERSHED MANAGEMENT PLAN/  
STATE WATER QUALITY CONTROL PLAN:**

Projects undertaken pursuant to Chapter 5.5 of Public Resources Code Division 21 (Section 31220) must be consistent with local watershed management plans, if available, and with water quality control plans, adopted by the state and regional water boards. The proposed project is consistent with the Water Quality Control Plan for the Central Coastal Basin adopted by the Regional Water Quality Control Board because the project will facilitate the restoration of fish and wildlife habitat in a coastal watershed thereby furthering the following beneficial use objectives: cold fresh water habitat, wildlife habitat; rare, threatened or endangered species; migration of aquatic organisms; and spawning, reproduction, and/or early development. The project is included in the current Santa Barbara County Integrated Regional Water Management Program "Project Descriptions" section (Appendix C). The project will help advance the IRWMP's "Ecosystem Restoration" objective by restoring and enhancing natural processes and habitats. There is no watershed management plan that addresses the South Coast hydrologic unit in general or Mission Creek, specifically.

The 2002 report on *Steelhead Assessment and Recovery Opportunities in Southern Santa Barbara County, California* (Stoecker <http://conceptioncoast.org/>) identifies Mission Creek as a high priority for fish passage improvement within the region. The report recommends the study of various design alternatives to restore fish migration through the concrete flood control channels on Mission Creek. Consistent with the recommendation, a number of design alternatives have been explored and a feasible design has been identified.

The *NMFS Final Southern California Steelhead Recovery Plan* (January 2012) identifies Mission Creek as a Core 1 population. Core 1 populations are those populations identified as the highest priority for recovery actions. Core 1 populations have specific critical recovery actions. The proposed project is consistent with the critical recovery action for Mission Creek identified in the Recovery Plan, to “physically modify road crossings, highways, flood control channels, debris basins, and railway crossings to allow steelhead natural rates of migration to upstream spawning and rearing habitats, and passage of smolts and kelts downstream to the estuary and ocean.”

**COMPLIANCE WITH CEQA:**

The proposed project is categorically exempt from the California Environmental Quality Act (CEQA) pursuant to 14 California Code of Regulations section 15333, relating to small habitat restoration projects. To be exempt under section 15333, a project must meet the following conditions: 1) be less than five acres in size; 2) not have a significant adverse impact on endangered, rare or threatened species or their habitat; 3) not have hazardous materials at or around the project site that may be disturbed or removed; and 4) not result in significant cumulative impacts when considered with other projects in the area.

The proposed project encompasses approximately 1.26 acres. The project has been designed to avoid any significant adverse environmental impacts, including any impacts on rare or threatened species or their habitat by avoiding construction when there are creek flows in the flood control channel. A review of the Geotracker website shows that there is no known hazardous materials contamination in the project area. The project would result in long term beneficial impacts to fish passage and the survival of the federally endangered Southern California steelhead by enabling the fish to access breeding areas further upstream and would not contribute any significant cumulative impacts.

Upon approval, staff will file a Notice of Exemption for this project.