

COASTAL CONSERVANCY

Staff Recommendation  
December 2, 2010

**SAN FRANCISCO BAY LIVING SHORELINES PROJECT**

File No. 10-010-01  
Project Manager: Marilyn Latta

**RECOMMENDED ACTION:** Authorization to disburse up to \$400,000 of grant funds from the Wildlife Conservation Board and up to \$300,000 of grant funds from the U.S. Environmental Protection Agency, provided through the Association of Bay Area Governments, to San Francisco State University and to environmental services contractors to augment the previously authorized San Francisco Bay Living Shorelines Project.

**LOCATION:** Up to three sites in San Francisco Bay: Corte Madera Ecological Reserve (Marin County), Eden Landing Ecological Reserve (Alameda County), and a site within Eastshore State Park (Contra Costa and Alameda Counties). See Exhibit 1.

**PROGRAM CATEGORY:** San Francisco Bay Program

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**EXHIBITS**

Exhibit 1: Project Site Map

Exhibit 2: August 5, 2010 Staff Recommendation

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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 (“Conservancy”) hereby authorizes the disbursement of up to \$400,000 (four hundred thousand dollars) of grant funds received from the Wildlife Conservation Board (WCB), and disbursement of up to \$300,000 (three hundred thousand dollars) of U.S. Environmental Protection Agency grant funds provided through the Association of Bay Area Governments (ABAG), to implement a multi-objective subtidal restoration and climate change adaptation pilot project, known as “Living Shorelines,” in San Francisco Bay. These funds will augment funds previously authorized by the State Coastal Conservancy Board on August 5, 2010. The total authorized funds may be disbursed to the following contractors in the approximate amounts that are identified below, which may change, so long as the total does not exceed \$700,000:

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1. Disbursement of up to approximately \$257,000 (two hundred fifty seven thousand dollars) to San Francisco State University for eelgrass restoration and monitoring (eelgrass, fish use, aquatic invertebrate use).
2. Disbursement of up to \$216,500 (two hundred sixteen thousand five hundred dollars) to one or more environmental services contractors to undertake native oyster restoration activities.
3. Disbursement of up to \$192,000 (one hundred ninety two thousand dollars) to one or more environmental services contractors for environmental services necessary to implement the project including monitoring of biological and physical effects of the pilot project.”

Prior to disbursement of funds to any contractor, the contractor shall submit for the review and approval of the Executive Officer of the Conservancy a work program, including schedule and budget, and the names of any subcontractors to be retained for project work.

Prior to disbursement of Wildlife Conservation Board funds, the Executive Officer shall enter into a Memorandum of Understanding with WCB authorizing the Living Shores as an approved project under WCB Agreement No. WC-3032BT, describing the budget and work to be performed, and providing for reimbursement of the Conservancy’s expenditures for this project.

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

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**PROJECT SUMMARY:**

Staff recommends that the Conservancy authorize disbursement of \$400,000 of Wildlife Conservation Board (“WCB”) funds and \$300,000 of U.S. Environmental Protection Agency (“EPA”) funds provided through the Association of Bay Area Governments (“ABAG”) to implement a multi-objective subtidal restoration and climate change adaptation pilot project, known as “Living Shorelines,” in San Francisco Bay. The disbursement of the WCB and EPA grant funds will augment the prior disbursement, under Conservancy Board authority, of \$300,000.

The multi-habitat Living Shorelines project integrates subtidal habitat restoration of native oyster and native eelgrass beds with designs that test the use of natural structures to buffer and protect adjacent high priority tidal wetland sites, and areas of the San Francisco Bay shoreline vulnerable to sea level rise and shoreline erosion. “Subtidal” refers to submerged areas below Mean Low Tide in San Francisco Bay. Please see Exhibit 2, August 5, 2010 Staff

Exhibit 2: December 2, 2010 Staff Recommendation  
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Recommendation for more detailed information on the project.

The State Coastal Conservancy will disburse the WCB and EPA/ABAG funds to design and implement the native eelgrass restoration, native oyster restoration, and biological and physical monitoring tasks for the project. The Conservancy will augment an existing inter-agency agreement with San Francisco State University for the eelgrass design and restoration component, and augment contracts for environmental services with specialized experts to implement the native oyster design and restoration, and biological and physical monitoring of the oyster and eelgrass project activities.

San Francisco State University is well-suited to provide science support to the Living Shorelines Project and has successfully managed similar work related to the San Francisco Bay Eelgrass Restoration Planning Project and the San Francisco Bay Subtidal Habitat Goals Project.

**Site Description:** San Francisco Bay is the largest estuary on the West Coast of North America. San Francisco Bay is designated as a NOAA National Estuarine Research Reserve and National Estuary Program site, a Habitat Area of Particular Concern and contains several State Ecological Reserves as well as the first urban National Wildlife Refuge in the United States. It provides habitat for approximately 23 state and federal endangered species and 105 threatened species. San Francisco Bay is a dynamic, urban, estuarine environment that provides important habitat for fish, waterfowl and other aquatic organisms and wildlife, and also is a valuable commercial and aesthetic resource (see Exhibit 2).

The geographic scope of the Living Shorelines Project is the subtidal regions of three areas of San Francisco Bay (see Exhibit 2), including Corte Madera Ecological Reserve (Marin County), Eden Landing Ecological Reserve (Alameda County), and a site within Eastshore State Park (Contra Costa and Alameda Counties).

There are three sites for the project:

1. Corte Madera Bay: adjacent to Muzzi Marsh/ Corte Madera Ecological Reserve
2. Eastshore State Park: Berkeley North Basin, Albany Beach, or Breuner Marsh
3. Eden Landing pond complex within the South Bay Salt Pond Restoration Project

Please see Exhibit 2, August 5, 2010 Staff Recommendation for more detailed information about the sites.

**Project History:** The Living Shorelines Project is part of a continuing effort by the Conservancy and the Ocean Protection Council (“OPC”) to promote long-term management and restoration of subtidal habitat in the San Francisco Bay. In June 2005, the OPC authorized funds for San Francisco Bay eelgrass and native oyster projects, and in January 2006, the OPC designated the San Francisco Bay Subtidal Goals Project as a high priority for ocean conservation and requested funding by the Conservancy to study and prepare a report identifying threats to the Bay ecosystem, and develop restoration and research priorities. The final report will be completed in January 2011.

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The Living Shorelines Project will complement the Subtidal Goals Project and the San Francisco Baylands Ecosystem Habitat Goals Project prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project in 1999, as well as the Conservancy-funded Upland Habitat Goals Project, an on-going effort to develop a comprehensive, long-term management vision for the San Francisco Bay Area by the Bay Area Open Space Council. Specific recommendations for the management, restoration, and research of eelgrass beds and multi-habitat restoration project approaches are made in the San Francisco Baylands Ecosystem Habitat Goals Report. The Living Shorelines Project is consistent with these recommendations.

**PROJECT FINANCING:**

**Funding Sources:**

State Coastal Conservancy (previously authorized)	\$300,000
Association of Bay Area Governments (EPA funds)	\$300,000
Wildlife Conservation Board	<u>\$400,000</u>
<b>Total</b>	<b>\$1,000,000</b>

The EPA, through ABAG, has provided a grant to the Conservancy in the amount of \$300,000. These funds were awarded specifically for planning, design, and implementation of eelgrass and oyster restoration that will occur at the Corte Madera project site. Of these funds, the ABAG grant authorizes \$265,500 to be disbursed for the native eelgrass and native oyster planning, design, permitting, and implementation at the Corte Madera site. This amount will be disbursed to San Francisco State University and additional consultants under contracts initially authorized through the Executive Officer’s delegated authority. The ABAG grant permits the remainder of the grant, \$34,500, to be used to offset costs incurred by the Conservancy staff.

The State Coastal Conservancy previously authorized \$300,000 of Conservancy funds for these same activities at the Eastshore State Park site.

Conservancy funding for the proposed disbursement of \$400,000 for the Living Shorelines Project is expected to be provided under an existing grant agreement by which WCB may provide funds to the Conservancy for San Francisco Bay projects. Under the grant agreement with WCB, the Conservancy may use these funds for habitat restoration projects within the nine-county San Francisco Bay Area that implement the restoration goals of the San Francisco Bay Joint Venture and the San Francisco Baylands Ecosystem Habitat Goals Report and that meet the priorities of the Conservancy as described in Section 31162 of the Public Resources Code. Specific recommendations for the management, restoration, and research of eelgrass beds and multi-habitat restoration project approaches are made in the 1999 Baylands Habitat Goals Report. The Living Shorelines Project is consistent with these recommendations. In addition, any proposed project must, under the WCB grant agreement, be a “high priority” project as identified in the grant agreement or otherwise authorized as a priority project by WCB in the “Memorandum of Understanding” between WCB and the Conservancy that is required before any project may move forward.

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The WCB grant funding, in turn, is derived from an appropriation from the Water Security, Clean Drinking Water, Coastal Beach Protection Fund of 2002 (Proposition 50), The Proposition 50 funds were appropriated under the specific authorization found in Section 79572(c) of the Water Code and may be used for the general purpose of acquisition, protection and restoration of coastal wetlands.

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

The proposed project would be undertaken pursuant to Section 31111 and Chapter 4.5, Sections 31160-31165, of Division 21 of the Public Resources Code regarding resource goals in the San Francisco Bay Area.

Consistent with Section 31111, the proposed project will develop a regional plan for the management, research, and restoration of subtidal habitats in San Francisco Bay.

Under Section 31162(b), the Conservancy may undertake projects and award grants in the nine-county San Francisco Bay Area to achieve the goal of protecting, restoring and enhancing natural habitats of regional importance. Consistent with this section, the proposed project consists of a grant that will result in sound scientific planning and restoration project implementation to help protect, restore and enhance subtidal habitats in an estuary of regional importance within the Bay Area.

Under Section 31163(a), the Conservancy is required to cooperate with the Bay Conservation and Development Commission (BCDC), other regional government bodies, and other interested parties in identifying and adopting long-term resource goals for the San Francisco Bay Area. The Living Shorelines is one of the first implementation projects to result from a collaborative planning effort involving four primary agencies who developed the San Francisco Bay Subtidal Habitat Goals (Conservancy and OPC, BCDC, NOAA, and the San Francisco Estuary Partnership), as well as academic, governmental, and non-profit parties who contributed to these long-term resource goals for subtidal habitats.

The proposed project is appropriate for prioritization under the selection criteria set forth in Section 31163(c) in that: (1) it is consistent with the San Francisco Bay Plan ("Bay Plan"), as described below; (2) it involves the coordination of several different agencies and many different jurisdictions within the San Francisco Bay Area; (3) it will be implemented in a timely manner; (4) the availability of EPA grant funds and the potential availability of WCB grant funds to restore subtidal habitat provide an opportunity for restoration activities that could be lost if the project is not quickly implemented; and (5) the proposal includes matching funds through in-kind services provided by NOAA, East Bay Regional Park District, and other staff; and grant funding provided by EPA.

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 and bay resources. The recommended grant is consistent with and helps to achieve these goals by providing design, planning, and restoration project implementation for habitat protection, restoration and enhancement projects involving subtidal habitats in the Bay.

### **CONSISTENCY WITH SAN FRANCISCO BAY PLAN:**

The San Francisco Bay Plan (“Bay Plan”) was completed and adopted by the San Francisco Bay Conservation and Development Commission (“BCDC”) in 1968 pursuant to the McAteer-Petris Act of 1965 and last reprinted in January 2007. The Bay Plan guides BCDC’s management and permitting decisions in the Bay. The Living Shorelines is consistent with the following policies articulated in Part III, Findings and Policy Section of the Bay Plan:

Subtidal Areas Policy 5 (adopted April 2002): “The [BCDC] should continue to support and encourage expansion of scientific information on the Bay’s subtidal areas, including: (a) inventory and description of the Bay’s subtidal areas; (b) the relationship between the Bay’s physical regime and biological populations; ... (e) where and how restoration should occur.” The proposed pilot projects will assist in implementation of this policy by providing additional data on best techniques for restoration at specific sites, describe the densities, locations, and species associated with subtidal habitats in the Bay, the relationships between aquatic species and their use of subtidal habitats and food webs in the Bay, and priority locations within the Bay for restoration implementation and further scientific study of subtidal habitats.

Fish, Other Aquatic Organisms and Wildlife Policy 1 (amended April 2002): “To assure the benefits of fish, other aquatic organisms and wildlife for future generations, to the greatest extent feasible, the Bay’s tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased.” The Living Shorelines Project is consistent with this policy because it will restore and increase subtidal habitat at multiple sites in San Francisco Bay.

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

Consistent with **Goal 10, Objective C**, the proposed project will restore six acres of subtidal habitat.

### **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 June 4, 2009, 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 Living Shorelines is supported by the NOAA Fisheries

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Restoration Center, BCDC, and the San Francisco Estuary Partnership. The Living Shorelines Project also has broad public support from non-governmental organizations such as Richardson Bay Audubon and others, and from members of the public who have participated in planning meetings. Refer to Exhibit 4 for letters of support for this project.

4. **Location:** The Living Shorelines Project is located entirely within the nine counties that make up the San Francisco Bay Area, consistent with Section 31162 of the Public Resources Code.
5. **Need:** The proposed project would not occur without Conservancy participation and funding.
6. **Greater-than-local interest:** In creating the San Francisco Bay Area Conservancy Program, the legislature identified San Francisco Bay as the central feature in an interconnected open-space system of watersheds, natural habitats, scenic areas, agricultural lands and regional trails of statewide importance. This project will help develop new research data, and new techniques for restoration of subtidal habitats in San Francisco Bay, and will experimentally test the ability of these treatments to buffer shorelines and protect tidal wetland sites from erosion and sea level rise impacts. These designs can be replicated at additional future sites in San Francisco Bay and in other erosive estuarine areas of the California Coast.
7. **Sea level rise vulnerability:** The proposed projects directly address sea level rise vulnerability by testing natural subtidal restoration designs and their ability to act as natural buffers to protect tidal wetland sites from shoreline erosion, and reduce expected risks and increase resiliency to sea level rise.

**Additional Criteria**

7. **Urgency:** Without Conservancy funding, the Living Shorelines would not be able to replicate designs across multiple sites to gather the best scientific data about best future Living Shorelines designs for use at additional sites in San Francisco Bay.
8. **Resolution of more than one issue:** The Living Shorelines will help fulfill one of the top five information and research needs identified in the California Ocean and Coastal Information, Research, and Outreach Strategy (adopted by the OPC September 2005) by evaluating specific research needs for the subtidal habitats of San Francisco Bay. The Living Shorelines also implements subtidal habitat restoration and tests new designs that can be applied as potential new climate change adaptation strategies for additional sites.
9. **Leverage:** Matching funds for the Living Shorelines have been provided by EPA and the San Francisco Estuary Partnerships. In-kind services will be provided by a variety of agencies and entities.
10. **Conflict Resolution:** The Living Shorelines will balance protection and enhancement of the subtidal habitats with appropriate use of these habitats. Using a science-based, collaborative process, the project will help resolve conflicts over management of the subtidal habitats.
11. **Innovation:** The Living Shorelines will develop plans for restoration of subtidal habitats,

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including native oyster and eelgrass beds, which include current, innovative techniques being developed by regional restoration practitioners.

- 12. Readiness:** The proposed project is ready to commence upon approval of funding by the Conservancy. The project schedule estimates completion in December 2013.
- 13. Realization of prior Conservancy goals:** See “Project History” section above.
- 14. Cooperation:** The Living Shorelines is a collaborative project involving many agencies. The Conservancy is the lead agency, and partners include EPA, San Francisco Estuary Partnership, San Francisco State University, CA Department of Fish and Game, East Bay Regional Park District, Marin County Department of Parks and Open Space, and many others.
- 15. Minimization of Greenhouse Gas Emissions** The Living Shorelines will make every effort to minimize emissions throughout implementation of the project. As this is a small pilot project, there will be minor vehicle and boat movement to implement the eelgrass and oyster restoration treatments. Work will be completed by local staff, contractors, and community volunteers that live in close proximity to the project locations. Materials and equipment used for the project will be purchased by local vendors. Further, the restored of eelgrass and oyster beds will serve to sequester additional carbon.
- 16. Vulnerability from climate change impacts other than sea level rise** The Living Shorelines will specifically test innovative new adaptation techniques for preventing increased shoreline erosion and scouring from storm surges and increased wind-waves, and study the ability of these natural treatments to better allow for future habitat migration due to estuary rollover.

**COMPLIANCE WITH CEQA:**

The proposed project is categorically exempt from review under the California Environmental Quality Act pursuant to 14 California Code of Regulations Section 15306, which exempts projects that involve basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. The Living Shorelines project is designed as an experimental pilot study to research the most effective subtidal restoration techniques and timing for oyster and eelgrass restoration that may be applied to larger future projects in San Francisco Bay and may lead to future additional action and funding that has not yet been approved. Further, this small pilot project involves one acre each of eelgrass and oyster restoration treatments at the three sites, which represents a fraction of the 250,000 acres of subtidal habitat in the bay. The project includes the placement of eelgrass seed buoys and oyster shell substrate on the bottom at each site, where the bay floor has already been disturbed due to adjacent dredging projects, ferry and boat wakes, and additional stressors. This project builds upon techniques used in previous efforts that have developed methods to reduce bottom disturbance and have documented minimal impacts to resources. Not only does this project have a minimal impact on resources, the restoration outcomes will have a net positive effect on subtidal areas of the bay through the enhancement of foundational eelgrass and oyster habitats that support multiple species of invertebrates, fish, and

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wildlife; act as a nursery for spawning and rearing of aquatic species; and help to stabilize sediments, reduce wave action, and protect critical wetland sites that have already been identified as regionally important.

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