

COASTAL CONSERVANCY

Staff Recommendation

May 24, 2018

SAN FRANCISCO BAY LIVING SHORELINES PROJECT

File No. 10-010-01

Project Manager: Marilyn Latta

RECOMMENDED ACTION: Authorization to disburse up to \$370,000 of National Fish and Wildlife Foundation grant funds for native oyster restoration and monitoring for the San Francisco Bay Living Shorelines Project at Giant Marsh in the Point Pinole Regional Shoreline, in City of Richmond, Contra Costa County.

LOCATION: Giant Marsh on the Point Pinole Regional Shoreline (City of Richmond, Contra Costa County).

PROGRAM CATEGORY: San Francisco Bay Area Conservancy

EXHIBITS

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

Exhibit 2: [December 1, 2016 Staff Recommendation](#)

RESOLUTION AND FINDINGS:

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

“The State Coastal Conservancy authorizes disbursement of up to \$370,000 (three hundred seventy thousand dollars) of National Fish and Wildlife Foundation (NFWF) grant funds, to implement the Living Shorelines Project (LSP) in San Francisco Bay, at Giant Marsh on the Point Pinole Regional Shoreline in the City of Richmond, Contra Costa County, as follows:

1. Up to \$250,000 (two hundred fifty thousand dollars) for preparation and installation of native oyster elements.
2. Up to \$120,000 (one hundred twenty thousand dollars) to monitor the native oyster elements following installation.

These funds may be used to retain environmental services contractors or augment existing contracts needed to monitor the Living Shorelines projects at Giant Marsh, or to augment existing grants or provide new grants to nonprofit organizations and public entities to implement or monitor the Living Shoreline projects at Giant Marsh. Disbursement of the funds shall be subject to the following conditions:

1. If the grant is to a nonprofit organization, the grantee must be a nonprofit organization recognized under Section 501(c)(3) of the United States Internal Revenue Code whose purposes are consistent with Division 21 of the California Public Resources Code.
2. Prior to initiating any project work and prior to disbursement of any funds, each grantee shall submit for review and approval of the Executive Officer:
 - a. A plan detailing the proposed project work, including a work program, schedule and budget.
 - b. All contractors the grantee intends to retain for the project.
 - c. Documentation that all permits and approvals needed for the project work have been obtained.
 - d. Any agreements required to enable the grantee to implement, maintain and monitor the project and to protect the state's interest in the installed oyster elements.
3. In carrying out any work, the grantee or contractor shall comply with:
 - a. All applicable mitigation and monitoring measures that are required by any permit or approval for the project.
 - b. To the extent that the work is funded by NFWF grant funds, all requirements of that grant.”

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 remains 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 remains consistent with the Project Selection Criteria and Guidelines adopted on October 2, 2014.
3. The California Wildlife Foundation and the Smithsonian Environmental Research Center, potential grantees, are both nonprofit organizations recognized under Section 501(c)(3) of the United States Internal Revenue Code, whose purposes are consistent with Division 21 of the California Public Resources Code.”

PROJECT SUMMARY:

The multi-habitat San Francisco Bay Living Shorelines Project (LSP) 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 tidal wetland sites, as well as areas of the San Francisco

Bay shoreline that are vulnerable to sea level rise and shoreline erosion. At its August 5, 2010, December 2, 2010, March 29, 2012, December 5, 2013, March 26, 2015, and December 1, 2016 public meetings (see Exhibit 2), the Conservancy approved funding for the LSP in the cumulative amount of \$3,400,000, of which: \$1,450,000 were Conservancy funds, \$950,000 were U.S. Fish and Wildlife Service (FWS) grant funds to the Conservancy, \$700,000 were Wildlife Conservation Board (WCB) grant funds to the Conservancy, and \$300,000 were U.S. Environmental Protection Agency (EPA) funds granted to the Conservancy through the Association of Bay Area Governments (ABAG). These funds have been utilized to conduct planning, site selection, final project and monitoring design, and implementation of LSP pilot projects at two sites (San Rafael and Hayward), as well as post-implementation monitoring of those projects. The funds have also been used to assess seven additional sites in San Francisco Bay, and planning for the future project at Giant Marsh in Richmond.

Staff proposes the authorization of an additional disbursement of up to three hundred seventy thousand dollars (\$370,000) in National Fish and Wildlife Foundation NFWF grant funds in order to fund preparation, implementation and monitoring of native oyster elements, including reef balls and oyster blocks, at a third LSP pilot project site - at Giant Marsh on the Point Pinole Regional Shoreline in the City of Richmond, Contra Costa County. Conservancy staff has secured an additional \$950,000 in federal funds through two U.S. Fish and Wildlife Service (FWS) grants (National Coastal Wetlands Conservation grant and North American Wetlands Restoration Act grant) to conduct this work at Giant Marsh.

This project at Giant Marsh is being coordinated by the Conservancy in collaboration with East Bay Regional Park District and other non-profit and government entities, and incorporates the lessons learned from the LSP pilot projects implemented in 2012 at San Rafael and Hayward. It also incorporates additional habitat types into the design, including tidal marsh and upland transition zone treatments, in order to test the ability of these habitats to provide both biological habitat benefits (for example nesting and food resources) as well as physical shoreline protection (for example wave attenuation and sediment stabilization).

The additional funding provided under this proposed authorization will help support the implementation and monitoring of the native oyster treatments in the project. This will result in further testing of the restoration benefits of native oyster elements in a living shorelines design, and data collected will help to inform future nature-based shoreline protection actions at additional sites in San Francisco Bay.

In addition to the NFWF grant and the previous FWS grants, staff is currently continuing to fundraise for the remainder of project management and monitoring costs for Giant Marsh beyond this current proposed authorization. The total estimate of remaining funds needed to complete the full Giant Marsh pilot project, including post-implementation monitoring, is \$500,000, and Conservancy staff and project collaborators are submitting a variety of additional grant proposals this year to cover these future anticipated expenses.

Project History: As explained in prior staff recommendations (See Exhibit 2 for more detail), the LSP 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, and to pilot climate adaptation project approaches, in the San Francisco Bay. In June of 2005, the OPC authorized funds for San Francisco Bay eelgrass and native oyster projects, and in January of 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 was completed in December of 2010.

Description of LSP Accomplishments to Date

The San Rafael and Hayward sites were completed in summer 2012, and the Conservancy's contractors have conducted high frequency monitoring activities through December 2017. Major benefits at San Rafael include more than four million native oysters that settled at the site at the height of recruitment, as well as more than 10 taxa and dozens of species of plants (seaweeds), invertebrates, fish, and birds that have been utilizing the reefs and have been documented at the site. The reefs provide an increase of 30% in wave attenuation at the site during mean tide levels, and the reefs have accumulated sediment. Eelgrass plantings have been successful and have expanded up to 300% during certain time periods, but both eelgrass and oysters are subject to impacts from periods of freshwater, and loss of both species occurred during the major atmospheric river event in winter 2016-17. Native oysters are recruiting at the site again as of Fall 2017, and the Conservancy plans to fundraise to plant additional eelgrass. While this type of habitat can be ephemeral and can fluctuate in densities between years, the short term benefits are substantial in terms of habitat and shoreline protection, and can continue over the long term with minimal maintenance over time.

The LSP implements specific recommendations in the *Subtidal Habitat Goals Project* (2010) and the *San Francisco Baylands Ecosystem Habitat Goals Report* (1999). In addition, the *Baylands Goals Science Update* (2015) recommends the use of "living shorelines" techniques to achieve multiple objectives and ecosystem services while protecting shorelines from climate changes such as sea level rise and wave inundation. The Conservancy has been a leader in the development of this restoration approach in San Francisco Bay and on the West Coast.

Site Description:

The initial LSP work has been done at a location along a portion of the San Rafael shoreline on property owned by The Nature Conservancy, and at a smaller site in Hayward on property owned by the Wildlife Conservation Board. The Giant Marsh LSP work will be conducted at Giant Marsh on the Point Pinole Regional Shoreline, managed by East Bay Regional Park District. The locations for this work are all in the upland ecotone, low intertidal, and shallow subtidal habitats, adjacent to and offshore from existing shorelines and tidal marshes. The purpose of this work is to continue testing a combined habitat approach to climate adaptation by restoring habitat features that may enhance and protect adjacent shorelines from sea level rise and other climate changes by providing biological values (feeding, breeding, nesting) as well as physical values (wave attenuation, sediment stabilization).

See the Project Location and Site Map (Exhibit 1) for precise location.

Grantee Qualifications: Although there may be other grantees, it is anticipated that California Wildlife Foundation (CWF) and the Smithsonian Environmental Research Center (SERC) will receive grants pursuant to this authorization to implement or monitor the Giant Marsh project. CWF and SERC are both highly qualified and appropriate for this project, as the project aligns with their core missions of protecting wildlife habitat and conserving natural resources. Both organizations are nonprofit corporations, entitled to receive charitable contributions under Internal Revenue Code Section 501(c)(3). Both have been past grantees of the Conservancy, and

have adequately administered the ongoing management and operation of prior projects. They both have successfully demonstrated their capacity to manage a state grant, have qualified staff or contractors to carry out the project activities, and a record of success completing similar projects.

PROJECT FINANCING:

Funding Sources for LSP:

This authorization (for Giant Marsh):

National Fish and Wildlife Foundation Grant	<u>\$370,000</u>
Subtotal	<u>\$370,000</u>

Previous authorizations (for Giant Marsh and other project sites):

Conservancy*	\$1,450,000
Executive Officer Augmentations	\$510,000
FWS Grants (2)	\$950,000
Association of Bay Area Governments (EPA funds)	\$300,000
Wildlife Conservation Board	<u>\$700,000</u>
Subtotal	<u>\$3,910,000</u>

Total	<u>\$4,280,000</u>
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**The Conservancy authorizations do not include Executive Officer augmentations of those previous Conservancy authorizations, made under his delegated authority to augment by up to 15%. Those are shown above separately. The proposed authorization provides for additional funding in addition to the total amounts previously authorized by the Conservancy and augmented by the Executive Officer under his delegated authority.*

NFWF awards grants to improve and enhance aquatic habitats and wetlands in San Francisco Bay. The source of the funds is from the Cosco Busan oil spill in San Francisco Bay in November 2007, which resulted in a Natural Resource Damage Assessment where NOAA required mitigation funding to restore native oyster habitats that had been affected by the oil spill. NOAA provided the funds to NFWF to manage, and is engaged in coordination on the grant, which is for the benefit of wetlands-associated wildlife including the long-term protection, restoration, and/or enhancement of wetlands and associated subtidal habitats. The total amount of NFWF funding is \$400,000; up to \$370,000 will be used for project costs and up to \$30,000 will support Conservancy staff LSP project management.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

With the inclusion of the Giant Marsh project, the LSP remains consistent with Chapter 4.5, Sections 31160-31165, of Division 21 of the Public Resources Code regarding resource goals in the San Francisco Bay Area, as discussed in the prior staff recommendations (Exhibit 2).

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 LSP consists of work 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 San Francisco Bay Conservation and Development Commission (BCDC), other regional government bodies, and other interested parties in identifying and adopting long-term resource goals for San Francisco Bay area. The LSP is part of a program of activities that came about from the collaborative planning of four primary agencies that developed the San Francisco Bay Subtidal Habitat Goals (Conservancy, BCDC, National Oceanic and Atmospheric Association (NOAA), and the San Francisco Estuary Partnership). The Giant Marsh LSP is further consistent with the collaborative planning effort behind the Baylands Goals Science Update, also produced in collaboration with these agencies.

The LSP is appropriate for prioritization under the selection criteria set forth in Section 31163(c) in that: (1) it is consistent with San Francisco Bay Subtidal Habitat Goals report, the Baylands Goals Science Update, and the San Francisco Bay Plan (“Bay Plan”), as described below; (2) it involves the coordination of environmental solutions across several different agencies and many different jurisdictions within the San Francisco Bay Area, as mentioned above; (3) it will be implemented in a timely manner, with partners prepared to proceed; (4) it provides opportunities for habitat improvement, flood and sea level rise mitigation benefits that could be lost if the project is not implemented quickly; and (5) includes matching funds from other sources of funding or assistance.

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 proposed authorization will provide for monitoring that will serve as critical background data for future, large-scale Living Shorelines projects for habitat protection, restoration and enhancement projects involving subtidal habitats in the Bay.

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

Consistent with a top level objective listed for San Francisco Bay area of the Conservancy’s 2018-22 Strategic Plan, the proposed project will further the LSP by continuing to implement and monitor native oyster restoration and living shoreline approaches.

Consistent with **Goal 8, Objective C**, the project will implement projects to increase resilience to sea level rise or other climate change impacts using nature-based solutions.

Consistent with **Goal 12, Objective D**, the project will enhance 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 October 2, 2014, 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. Promotion and implementation of state plans and policies:** By enhancing native tidal marsh and subtidal habitat species, the project serves to promote and implement several statewide plans and policies including the:
 - **San Francisco Bay Water Quality Control Plan for the San Francisco Basin** (last amended in May 2017): This document was developed by the regional water quality control board and identifies the protection, preservation, and restoration of the Bay's tidal marsh system as essential for maintaining the ecological integrity, and thus water quality, of the San Francisco Bay. The proposed project will aid in achieving these goals. Project enhancements will aid in improving water quality of the San Francisco Bay by improving ecological connectivity and wetland function.
 - **San Francisco Bay Conservation and Development Commission's (BCDC) San Francisco Bay Plan** (last amended in October 2011): The objectives of the plan are to protect the bay as a great natural resource for the benefit of present and future generations and to develop the bay and its shoreline to its highest potential with a minimum of bay filling. The proposed project will further the BCDC's objectives by enhancing marsh and subtidal habitats for the benefit of multiple species.
 - **San Francisco Bay Subtidal Habitat Goals (2010) and Baylands Ecosystem Habitat Goals (1999, plus 2015 Science Update):** Both Goals documents, created by a consortium of federal, state and local non-profit and public entity stakeholders, including the Conservancy, recommend the restoration of native *Spartina* in the San Francisco Estuary in order to protect native biodiversity and ecosystem functions of mudflats, marshes, and associated upland habitats. The reports also recommend the restoration of native cordgrass and subtidal oyster and eelgrass habitats as part of a multi-objective habitat restoration approach to increased wave attenuation, sediment stabilization, and other climate adaptation benefits.
- 4. Support of the public:** The LSP and this Giant Marsh pilot project is supported by the National Fish and Wildlife Foundation, City of Richmond, East Bay Regional Park District, NOAA Fisheries Restoration Center, San Francisco Bay Joint Venture, and the San Francisco Estuary Partnership. The Project also has broad public support from non-governmental organizations such as The Watershed Project, California Conservation Corps, and others.
- 5. Location:** The LSP Giant Marsh sites are located entirely within the nine counties that make up the San Francisco Bay Area, consistent with Section 31162 of the Public Resources Code.

6. **Need:** The Giant Marsh LSP would not occur without Conservancy participation and funding from NFWF.
7. **Greater-than-local interest:** The LSP will help develop new approaches and new techniques for restoration of subtidal habitats in San Francisco Bay. The techniques and designs resulting from the project may have applicability at other sites in San Francisco Bay and in other estuarine systems on the Pacific Coast.
8. **Sea level rise vulnerability:** The LSP helps to improve resiliency of natural habitats, which is one of the overarching recommendations in climate change adaptation planning. The project itself is designed to help address sea level rise concerns and will not result in increased vulnerability.

Additional Criteria

9. **Urgency:** Without this NFWF grant and prior Conservancy, funding, the LSP Giant Marsh project would not occur at this time. The installation season for native oyster work is in May-August, so there is additional urgency with utilizing the NFWF funds in time for this season in 2018.
10. **Resolution of more than one issue:** The Giant Marsh pilot project, as part of LSP, implements subtidal habitat restoration designs, tests pilot climate change adaptation techniques, and will result in lessons learned that can be applied to additional sites.
11. **Leverage:** The NFWF grant helps cover Conservancy staff time, maximizing leverage of staff resources with less Conservancy fiscal outlay.
13. **Innovation:** The Giant Marsh project, as part of LSP, will implement recommendations in the San Francisco Bay Subtidal Habitat Goals Report and continues to build on new, innovative techniques developed through the San Francisco Bay Living Shorelines Projects initially built in San Rafael and Hayward.
14. **Readiness:** The implementation of the Giant Marsh project is ready to commence upon approval of disbursement of funding by the Conservancy.
15. **Realization of prior Conservancy goals:** See “Project History” section above.
16. **Cooperation:** The LSP is a collaborative project involving the Conservancy and many agencies, including San Francisco State University, University of California at Davis, United States Geological Survey, East Bay Regional Park District, and many others.
17. **Minimization of Greenhouse Gas Emissions** The LSP incorporates measures to minimize emissions throughout implementation of the Giant Marsh pilot project. Work is completed by local staff, contractors, grantees, and community volunteers that live in close proximity to the project locations. Recommended regional construction best management practices have been followed. Materials and equipment used for the project have been purchased by local vendors where feasible.

CONSISTENCY WITH SAN FRANCISCO BAY PLAN:

The San Francisco Bay Plan (“Bay Plan”) was completed and adopted by BCDC in 1968 pursuant to the McAteer-Petris Act of 1965 and last amended in October 2011. The Bay Plan

guides BCDC's management and permitting decisions in the Bay. The Project 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."

Through the Giant Marsh pilot project, the LSP will continue to assist in implementation of this policy by providing additional data on best techniques for restoration at a specific site, describe the densities, locations, and species associated with subtidal habitats at that site, and conduct five years of monitoring on herring presence before and after installation.

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 LSP Giant Marsh project is consistent with this policy because it will restore and increase subtidal habitat in San Francisco Bay.

COMPLIANCE WITH CEQA:

The Giant Marsh LSP is categorically exempt from the provisions of the California Environmental Quality Act (CEQA), for the reasons described in previous staff recommendations (Exhibit 2). In particular, the proposed authorization is categorically exempt from review under CEQA 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 LSP demonstration projects have been and will be designed as an experimental 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. The acreage represents a fraction of the 250,000 acres of subtidal habitat in the bay.

The Giant Marsh pilot project, along with the earlier pilot projects of the LSP is also categorically exempt from review under CEQA Guidelines Section 15333 (14 Cal. Code Regs. Section 15333) as a small habitat restoration project, well below five acres collectively for all pilot projects, whose purpose is to assure the restoration and enhancement of habitat for fish, plants, or wildlife, and with no significant adverse impact on endangered, rare or threatened species or their habitat, no known hazardous materials at or around the project site and, given the scale and methodology, no potential for cumulatively significant effects.

Conservancy staff will file a Notice of Exemption upon approval of the project.