

COASTAL CONSERVANCY

Staff Recommendation
September 3, 2020

San Diego Bay Native Oyster Living Shoreline Project

Project No. 13-019-02
Project Manager: Evyan Sloane

RECOMMENDED ACTION: Authorization to disburse up to \$86,500 to the Southwest Wetlands Interpretive Association to augment the prior grant to develop studies, designs, and engineering, and to expand the scope of the project to include final designs and permitting for the San Diego Bay Native Oyster Living Shoreline Project in the County of San Diego. This authorization will augment the Conservancy’s previously authorized funding of \$313,953 for the Project.

LOCATION: San Diego Bay, City of Chula Vista, County of San Diego (Exhibit 1).

PROGRAM CATEGORY: Climate Adaptation, Resource Enhancement

EXHIBITS

Exhibit 1: [Project Location Map](#)

Exhibit 2: [June 20, 2013 Conservancy authorization](#)

Exhibit 3: [January 28, 2016 Conservancy authorization](#)

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31113 and 31251-31270 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of up to eighty-six thousand five hundred dollars (\$86,500) to the Southwest Wetlands Interpretive Association (“grantee”) to augment the prior grant to develop studies, designs, engineering, and permitting and to expand the scope of the project to include final designs and permitting for the San Diego Bay Native Oyster Living Shoreline Project (“Project”) in San Diego County. This authorization augments \$313,953 of funding previously authorized for the Project by the Conservancy.

Prior to the disbursement of funds, the grantee shall submit for the review and written approval of the Conservancy’s Executive Officer a work program, including budget and

SAN DIEGO BAY NATIVE OYSTER LIVING SHORELINE PROJECT

schedule, and the names and qualifications of any contractors to be employed for these work program tasks.”

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 3 of Division 21 of the Public Resources Code (Section 31113), regarding addressing the impacts of climate change and Chapter 6 of Division 21 of the Public Resources Code (Sections 31251-31270) regarding resource enhancement.
2. The project is consistent with the current Conservancy Project Selection Criteria and Guidelines.”

PROJECT SUMMARY:

Staff recommends the Conservancy authorize disbursement of \$86,500 to the Southwest Wetland Interpretive Association (“SWIA”) to augment the Conservancy’s January 28, 2016 authorization (Exhibit 2) of \$313,953. The prior authorization provided funding for SWIA to develop studies, designs, and engineering for the San Diego Bay Native Oyster Restoration Project (“SD Bay LSP”). The proposed augmentation will cover an expanded project scope including permitting and final designs and engineering. If completed, the SD Bay LSP is expected to create a 10 acre “living shoreline” (defined below), containing 0.68 acres of native oyster reef in South San Diego Bay adjacent to the Chula Vista Wildlife Reserve. The primary goal of the SD Bay LSP is to create a biologically rich native oyster reef in San Diego Bay that also to protect Bay tidelands and shorelines from the impacts of sea level rise and storm events.

San Diego Bay was historically a shallow water system with significant intertidal habitat. However, decades of dredging and channelization have resulted in a loss of over 90% of all intertidal habitats since the late 1800s. At the same time, total wetland area has also declined by over 70%, with additional losses anticipated as a result of climate change-driven sea level rise and tidal inundation. Shoreline armoring, the dominant shoreline treatment in San Diego Bay, continues to exacerbate this trend of wetland loss, causing increased rates of erosion on armor-adjacent lands, preventing natural shoreline processes and sediment flows, and providing little to no functional habitat for aquatic species. The loss of shallow water and salt marsh habitats has increased the vulnerability of the Bay’s shoreline communities to extreme weather events and flooding.

Living shorelines present a resilient and long-term structural response to these concerns, providing an ecologically stable alternative to the destructive effects of shoreline armoring. Construction of a living shoreline in the form of a native oyster reef can help serve as a natural levee, reducing wind wave and boat wake energy along marsh shorelines while simultaneously restoring ecological functions to the estuarine system. This small-scale living shoreline

SAN DIEGO BAY NATIVE OYSTER LIVING SHORELINE PROJECT

demonstration project will increase understanding of how living shorelines can help promote wetland accretion in the face of rising tides while also restoring habitat benefiting numerous aquatic and avian species.

Native Olympia oysters (*Ostrea lurida*) are particularly well suited for use in construction of a living shoreline project in the Bay as they were a dominant native species until the early 1900s when their populations declined due to over-harvesting, pollution, and loss of wetlands. With a viable native oyster stock still existing in the Bay, providing hard substrate will allow oysters to establish reef populations. As critical building blocks to the benthic community, oysters act as ecosystem engineers, providing structurally complex habitat in which invertebrates and small fish can grow while hiding from predators. Oyster reefs also serve as a food source to fish, ducks, and other invertebrates. Creation of a living shoreline that utilizes native oyster reef components will provide multiple ecosystem benefits while also increasing the resiliency of the region's coastal salt marsh and shoreline infrastructure to projected climate change impacts. Building off the lessons learned from the Conservancy's San Francisco Bay Living Shorelines Project, the SD Bay LSP will serve as an innovative demonstration project for the San Diego region. As such, it is expected to provide vital data and improve understanding of the creation and use of living shorelines as a structural response to climate change.

As detailed in the January 28, 2016 staff recommendation (Exhibit 2), the proposed project consists of completion of studies, designs, and engineering. The project will now also include the preparation of permit applications and final design and engineering for the SD Bay LSP.

Additional funding was required to complete the design and technical analysis tasks due to late input from regulatory agencies, including the California Coastal Commission and California Department of Fish and Wildlife. The Coastal Conservancy worked with the regulatory agencies to address their concerns and eventually worked with the grantee to re-design and re-locate the project from E Street Marsh to the Chula Vista Wildlife Reserve. This re-design work resulted in an additional and unexpected two years of work to revise the originally proposed designs. These two years of re-design work required additional funding and now that a design alternative has been selected and the 30% re-design has been completed, the project team is ready to move forward with permitting and more detailed designs.

With the augmented funds, SWIA will have sufficient funds to develop the designs and required technical analyses for permitting. SWIA has worked with the Conservancy in the past and has proven records of accomplishment of competence and expertise for the project elements for which they are responsible.

Site Description: The SD Bay LSP area is located at the Chula Vista Wildlife Reserve (CVWR) in South San Diego Bay in the City of Chula Vista (Exhibit 1). The SD Bay LSP area extends along the east side of the CVWR island along the shallow intertidal shoreline. The actual footprint of the project is expected to be approximately 0.1 acres with a potential for up to 10 acres of improved subtidal habitat. The SD Bay LSP area consists of the shallow intertidal mudflats and is owned and managed by San Diego Unified Port District.

SAN DIEGO BAY NATIVE OYSTER LIVING SHORELINE PROJECT

As San Diego Unified Port District (Port) is a member of the project team, this site placement on lands within the Port’s jurisdiction assures that attention to the integrity of the project shall be sustained over the long term. Specifically, the oyster reef is expected to be included within the physical extent of the Port’s eelgrass survey monitoring that is conducted every three to five years as well as the Port’s fish monitoring program every five years.

Project History: This project is the result of five years of collaboration between federal, state and local agencies, academic partners, and non-profit organizations united by a shared interest in addressing climate change and shoreline protection in San Diego Bay through alternatives to shoreline armoring. Building off the success of the San Francisco Bay Living Shoreline Project, the partners worked together to move the idea of restoring San Diego Bay’s native oysters within a living shoreline demonstration project from concept to implementation-ready project.

On June 20, 2013, the Coastal Conservancy (funded through a NOAA grant) and the San Diego Unified Port District (SDUPD) awarded \$85,000 (Exhibit 2) to SWIA to develop the San Diego Bay Native Oyster Restoration Plan (“the Conceptual Plan”) (Merkel and Associates, 2015). The Conceptual Plan included native oyster population surveys in San Diego Bay, wave and current modeling, restoration site feasibility analysis, and design of scientific monitoring protocols necessary to guide a multi-year restoration and scientific study effort. Results of the Conceptual Plan led directly to the current engineering and design phase of the SD Bay LSP.

The current phase started with a Coastal Conservancy authorization on January 28, 2016 (Exhibit 3) of \$313,953 to SWIA to complete the studies, designs, and engineering.

PROJECT FINANCING

Conservancy	\$86,500
Conservancy’s January 28, 2016 authorization	\$313,953
Project Total	\$400,453

The expected source of Conservancy funds for this authorization is an appropriation to the Conservancy from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84, Public Resources Code sections 75001 et seq.). This funding source is available to the Conservancy for projects that are consistent with Division 21 of the Public Resources Code and that protect coastal waters and watersheds, protect and restore the natural habitat values of coastal waters and lands, and/or promote access to or enjoyment of coastal resources. (Section 75060(b).) Proposition 84 authorizes funding specifically for projects that protect San Diego Bay and adjacent watersheds (Section 75060(f).) The project is an appropriate use of Proposition 84 funds because it will plan to restore natural habitat values of coastal lands and to protect a coastal watershed in San Diego Bay through planning restoration of native oyster habitat at the Chula Vista Wildlife Reserve in South San Diego Bay.

Section 75071 provides for giving priority to restoration projects that meet one or more of a list of factors. The project is a priority because it will plan the SD Bay LSP, which will demonstrate

SAN DIEGO BAY NATIVE OYSTER LIVING SHORELINE PROJECT

“watershed protection” by restoring native oyster habitat and constructing the oyster reef to then dissipate wave energy and protect the shoreline from the erosional effects of storms and sea-level rise. (Section 75071(b).) This project is also a priority because the SD Bay LSP supports an area of an under-protected major habitat type, i.e. native oysters. (Section 75071(c).) Native oysters have experienced severe impacts largely as a result of water pollution, habitat destruction from dredging and filling, and competition with non-native species.

CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:

The project remains consistent with the Conservancy’s enabling legislation, as detailed in the January 28, 2016 staff recommendation (see Exhibit 3).

CONSISTENCY WITH CONSERVANCY’S [2018-2022 STRATEGIC PLAN](#)

GOAL(S) & OBJECTIVE(S):

On November 30, 2017, the Conservancy adopted an updated Strategic Plan. The project is consistent with the Conservancy’s updated 2018-2022 Strategic Plan, as follows:

Consistent with **Goal 6, Objective A** of the Conservancy’s 2018-2022 Strategic Plan, the project will develop plans to restore approximately 10 acres of coastal intertidal habitat.

Consistent with **Goal 8, Objective B**, of the Conservancy’s 2018-2022 Strategic Plan, the project will develop plans to restore coastal intertidal habitat that will provide sea level rise adaptation to the San Diego Bay shoreline.

CONSISTENCY WITH CONSERVANCY’S PROJECT SELECTION CRITERIA & GUIDELINES:

The project remains consistent with the Conservancy’s Project Selection Criteria and Guidelines, as detailed in the January 28, 2016 staff recommendation (see Exhibit 3).

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The project remains consistent with the Local Coastal Program policies, as detailed in the January 28, 2016 staff recommendation (see Exhibit 3).

COMPLIANCE WITH CEQA:

The proposed project remains statutorily exempt from the provisions of CEQA pursuant to 14 California Code of Regulations Section 15262, since it involves only feasibility or planning studies for possible future actions which have not yet been approved, adopted, or funded. The proposed project also remains exempt under Section 15262, in that it is intended to provide information needed to consider and assess environmental factors associated with the SD Bay LSP. The future implementation of the SD Bay LSP is expected to be exempt from CEQA

SAN DIEGO BAY NATIVE OYSTER LIVING SHORELINE PROJECT

pursuant to Section 15333 for projects not to exceed five acres in size to assure the maintenance, restoration, enhancement, or protection of habitat for fish, plants, or wildlife.

Staff previously filed a Notice of Exemption following the Conservancy's authorization of funding on January 28, 2016 and staff will file another Notice of Exemption following Conservancy approval.