

COASTAL CONSERVANCY

Staff Recommendation  
September 28, 2017

**Big Canyon Creek Restoration and Estuary Adaptation**

Project No. 17-018-01  
Project Manager: Evyan Sloane

**RECOMMENDED ACTION:** Authorization to disburse up to \$640,000 to the Newport Bay Conservancy to conduct feasibility studies and prepare designs, engineering, environmental analysis, and permit applications for the restoration of coastal sage upland, riparian, and freshwater marsh habitats within the 60-acre Big Canyon Nature Park in the City of Newport Beach and County of Orange.

**LOCATION:** Big Canyon Nature Park, City of Newport Beach, County of Orange

**PROGRAM CATEGORY:** Resource Enhancement

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**EXHIBITS**

- Exhibit 1: [Project Location](#)  
Exhibit 2: [Phase I Project 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 31111 and Sections 31251-31270 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of up to six hundred forty thousand dollars (\$640,000) to the Newport Bay Conservancy to conduct feasibility studies and prepare designs, engineering, environmental analysis, and permit applications for the restoration of approximately 19.2 acres of coastal sage upland, riparian, and freshwater marsh habitats at Big Canyon Nature Park. Prior to the disbursement of funds, the Newport Bay Conservancy shall submit for review and written approval of the Conservancy’s Executive Officer a work program, including budget and schedule, and any contractors to be employed under the 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:

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1. The proposed authorization is consistent with Section 31111 of the Public Resources Code regarding grants to undertake plans and feasibility studies, and with Chapter 6 of Division 21 of the Public Resources Code, regarding enhancement of coastal resources.
  2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
  3. The Newport Beach Conservancy is a nonprofit organization existing under section 501(c)(3) of the U.S. Internal Revenue Code, and whose purposes are consistent with Division 21 of the Public Resources Code.”
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**PROJECT SUMMARY:**

Staff recommends the Conservancy provide up to \$640,000 to the Newport Bay Conservancy (NBC) to conduct feasibility studies and prepare design, engineering, environmental analysis and permit applications for the restoration of native habitats within the 60-acre Big Canyon Nature Park in Orange County (Exhibit 1). NBC, in partnership with the City of Newport Beach, proposes to plan the restoration of coastal sage upland, riparian and freshwater marsh habitats for a total of at least 19.6 acres of restored land.

The proposed project aims to improve the water quality, restore natural riparian habitat, protect and restore estuary habitats, and develop a sea-level rise adaptation strategy for coastal habitats.

First, the project’s potential water quality benefits will be assessed by conducting a feasibility study of how best to stabilize selenium-impacted vegetation and sediment within 5.8 acres of freshwater pond and wetland habitat (see Phase 2B project area in Exhibit 1). The City has already successfully decreased selenium concentrations in an earlier phase of the project upstream from the project area (see Phase I project area in Exhibit 1 and Phase I photos in Exhibit 2), and developing a plan for minimizing the release of selenium downstream of Phase I in the proposed project area, would further help minimize selenium impacts to wildlife. Once the feasibility study is complete, the project will complete designs and environmental analyses for the needed restoration activities.

Second, the project will complete designs and environmental analyses to restore approximately 9.2 acres of riparian corridor habitat (see Phase 2C project area in Exhibit 1). The site currently contains dense stands of invasive Brazilian pepper trees. This restoration work will utilize methods that were successful in an earlier phase of the project.

Last, the feasibility of restoring 4.6 acres of estuarine-upland transition zone habitat will be analyzed. This feasibility analysis will include actions such as removing invasive pepper trees to allow for marsh migration as sea levels rise. (See Phase 2C project area in Exhibit 1.) Once the feasibility study is complete, the project will complete designs and environmental analyses for the selected adaptation strategy.

**Site Description:** The proposed project is located within the 60-acre Big Canyon Nature Park (Canyon) at the downstream end of the Big Canyon watershed in the City of Newport Beach and Orange County.

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The Big Canyon watershed covers approximately two square miles located on the east side of the Upper Newport Bay. Big Canyon Creek winds through the Canyon in a general southeast to northwest direction and then discharges into Upper Newport Bay. The Big Canyon Nature Park (Canyon) is the only natural, undeveloped portion of the Big Canyon watershed and is the only significant remaining natural canyon on the east side of Newport Bay. The Canyon has been influenced by the construction of a freshwater pond that is now almost completely filled with cattails, historical placement of dredge and fill material, an interim restoration effort, and other anthropogenic activities within and adjacent to the Canyon including the construction of Back Bay Drive, installation of culverts, and construction of utility roads. Stockpiling of dredge fill during the 1950s and 1960s within Big Canyon raised the elevations within the Canyon and consequently channelized the creek to the north. The Canyon has also been heavily invaded by non-native species especially the hyper-invasive Brazilian pepper tree (*Schinus terebinthifolius*). Finally, Big Canyon Creek runs through the Canyon and is one of the few perennial streams that discharges to Newport Bay. Big Canyon Creek is listed as an impaired waterbody for selenium. A total maximum daily load (TMDL) has been established for the creek and concentrations of selenium above water quality guidelines have been measured in dry weather flows.

The 45-acre parcel of the Canyon is owned by the City of Newport Beach (City) and the lower 15-acre portion of the Canyon is owned by the California Department of Fish and Wildlife (CDFW).

**Project History:** The Conservancy has been funding Big Canyon technical studies to support more developed restoration plans since 2002. While those studies and the initial restoration plans were successful in determining the necessary hydrologic and biological changes required to restore ecosystem function in Big Canyon, the discovery of high levels of selenium prevented the implementation of any previous design plans. In 2009 through 2011, the source of selenium and the extent of contamination were unknown. With completion of Conservancy-funded technical studies, the selenium source has been identified as a seepage at the base of Jamboree Road at the top of the Canyon that flows through a geologic formation containing California Monterey Rock. This type of rock naturally contains high concentrations of selenium.

The City of Newport Beach along with the Santa Ana Regional Water Quality Control Board (SARWQCB) are currently implementing an early phase of the project aimed to restore riparian habitat, reduce selenium inputs, and monitor water quality in Big Canyon (see Phase I project area in Exhibit 1 and Phase I photos in Exhibit 2). By diverting and capturing the water that flows through the Monterey Rock formation, the City has successfully reduced the amount of selenium entering the proposed project area. The monitoring results to-date demonstrate this success. In light of this new scientific evidence and the need to now address the remnant selenium concentrations present in the project area (i.e. mainly in the freshwater pond), there is momentum among the landowners and agency partners to move forward with a new restoration design.

**PROJECT FINANCING**

<b>Coastal Conservancy</b>	<b>\$640,000</b>
<b>Project Total</b>	<b>\$640,000</b>

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The anticipated source of funding for this project is the 2016 fiscal year appropriation from the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1, Water Code § 79700 *et seq.*). These funds appropriated to the Conservancy derive from Chapter 6 of the Act (commencing with § 79730) and may be used “for multi-benefit water quality, water supply, and watershed protection and restoration projects for the watersheds of the state” (Section 79731). Section 79732(b) states more specifically that these funds may be used for “implement[ing] watershed adaptation projects in order to reduce the impacts of climate change on California’s communities and ecosystems” and “protect and restore aquatic, wetland, and migratory bird ecosystems.” Consistent with these provisions, the proposed project will conduct a feasibility study to develop the most effective sea-level rise adaptation strategy to protect coastal salt marsh in the Upper Newport Bay and it will prepare designs, engineering, environmental analysis and permit applications for restoration of watershed aquatic ecosystems.

The proposed project was reviewed and subsequently recommended for funding through a competitive grant process under the Conservancy’s *Proposition 1 Grant Program Guidelines* adopted in June 2015 (“Prop 1 Guidelines”). (See § 79706(a)). The proposed project meets each of the evaluation criteria in the Prop 1 Guidelines as described in further detail in the following sections of this staff recommendation: “Project Summary” (sections above) and “Consistency with Conservancy’s Project Selection Criteria & Guidelines” (section below).

The NBC, City of Newport Beach, and California Department of Fish and Wildlife will provide significant in-kind contributions of staff time, valued at seventy-eight thousand dollars (\$78,000).

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

Conservancy funding of the proposed project is consistent with Chapter 6 (Sections 31251-31270) of the Conservancy’s enabling legislation, Division 21 of the Public Resources Code, regarding enhancement of coastal resources, as well as Section 31111 of the Public Resources Code.

Pursuant to Section 31251, the Conservancy may award grants to nonprofit organizations to enhance of coastal resources that, because of human-induced events, or incompatible land uses, have suffered loss of natural and scenic values. Such grants may be used for to provide corrective measures that will enhance the natural and scenic character of coastal areas. The proposed project will plan the corrective measures, i.e., restoration, that are necessary to enhance the natural and scenic character of the Big Canyon Nature Park, which has been significantly degraded from fill and invasive species.

As required by Section 31252, the planning area for the proposed project is identified in the City of Newport Beach’s Local Coastal Program as an environmentally sensitive area and is designated for passive recreation and wildlife habitat restoration. See additional discussion in the “Consistency with Local Coastal Program Policies” section, below.

Section 31253 states that the Conservancy may provide up to the total cost of a coastal resource enhancement project. Consistent with Section 31253, the following factors were considered in determining the amount of Conservancy funding for this project: the total amount of funding available for coastal resource enhancement projects, the fiscal resources of the applicant, the urgency of the project, and the Conservancy’s project selection criteria, as described in detail

below, under the heading “Consistency with Conservancy's Project Selection Criteria & Guidelines.”

Pursuant to Section 31111, the Conservancy “may fund and undertake plans and feasibility studies, and may award grants to public agencies and nonprofit organization” for the purposes of restoring coastal habitat and undertaking other functions prescribed in Division 21. Consistent with this section, the proposed project provides funds to complete restoration and management planning to enhance estuarine and wildlife habitat.

**CONSISTENCY WITH CONSERVANCY’S 2013 STRATEGIC PLAN  
GOAL(S) & OBJECTIVE(S), AS REVISED JUNE 25, 2015:**

Consistent with **Goal 5, Objective A** of the Conservancy’s 2013-2018 Strategic Plan, the proposed project develops plans for the restoration and enhancement of stream corridors and coastal wetland 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:**
  - A Strategy for California @ 50 Million: Supporting California’s Climate Change Goals **Steward and Protect Natural and Working Landscapes; Incorporate climate change adaptation into all planning and investment.** The proposed project will accomplish these goals by developing plans to restore and enhance a sensitive coastal and riparian ecosystem by improving ecological functions in a way that supports native species as well as designing for tidal marsh migration as sea levels rise.
  - Safeguarding California: Reducing Climate Risk Plan (July 2014) **Ocean and Coastal Ecosystems and Resources; Improve management practices for coastal and ocean ecosystems and resources, and increase capacity to withstand and recover from climate impacts.** The proposed project will accomplish this goal by restoring a wetland system that has adequate areas of surrounding upland transitional habitat that will allow for wetland migration and transgression.
  - California Water Action Plan. **Protect and restore important ecosystems (restore coastal watersheds and strategic coastal estuaries):** The proposed project is designed to accomplish this goal.
  - Southern California Wetlands Recovery Project (WRP).

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**Preserve and restore coastal wetland ecosystems.** The proposed project is on the WRP Work Plan and is designed to accomplish the WRP's goals.

4. **Support of the public:** The project is supported by the City of Newport Beach, California Department of Fish and Wildlife, Assemblyman Mathew Harper, and Senator John M. W. Moorlach (see Exhibit 3).
5. **Location:** The proposed project would be located within the coastal zone of the City of Newport Beach.
6. **Need:** Support from the Conservancy is critical at this moment because the City of Newport Beach has started implementation on the early phases of restoring Big Canyon Creek and in order for the adjacent areas to maximize those restoration benefits, feasibility studies and restoration designs must be developed quickly to implement restoration throughout the entire project area holistically.
7. **Greater-than-local interest:** The proposed project will conduct a feasibility analysis and develop designs for creating upland-estuarine transition zone habitat in order to adapt to rising sea levels. This type of strategy is theoretically well known in the wetland restoration community, but it has not been designed and implemented at many pilot sites. The proposed project will take a theoretical concept and develop site-specific restoration designs of transition zones that could be potentially used or built-upon elsewhere in the state.
8. **Sea level rise vulnerability:** The proposed project will include a site-specific analysis of the effects of flooding, inundation, accretion, and sea level rise on the project area using habitat evolution modeling. The modeling results will then be used to develop restoration designs for estuarine-upland transition areas needed for coastal wetlands to migrate upland as the sea rises.

### **Additional Criteria**

9. **Urgency:** Portions of the project area have been projected to be subject to flooding and inundation due to sea level rise. The restoration and enhancement of Big Canyon will include adaptation strategies that must be studied, designed, and implemented as soon as possible in order to maximize their capability to adapt to rising sea levels.
10. **Resolution of more than one issue:** The proposed project will not only restore valuable wetland and riparian habitat, it will also develop restoration plans to reduce the naturally-occurring water contaminant, selenium, as well as a strategy for coastal salt marsh to adequately adapt to sea level rise.
11. **Innovation:** The project is innovative in that it will use site-specific marsh evolution modeling to develop a sea level rise adaptation strategy (see "Sea level rise vulnerability" above).
12. **Readiness:** Project partners have already implemented an early phase of the project and are now ready to implement further phases.
13. **Realization of prior Conservancy goals:** "See "Project History" above."
14. **Cooperation:** The grantee will work with the City of Newport Beach and the California Department of Fish and Wildlife (property owners) to prepare the feasibility study to develop the least impactful and most cost-effective restoration approach to the freshwater pond.

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These partners are also moving forward with preparation of a Memorandum of Understanding describing their partnership roles and responsibilities.

15. **Vulnerability from climate change impacts other than sea level rise:** Estuarine-upland transition zone habitat that is infrequently influenced by tidal flows is more drought and fire tolerant compared to other upland habitats that experience no tidal inundation. The proposed project will develop restoration designs for estuarine-upland transition zone habitat thus increasing the project area's resiliency to predicted increases in drought and fires with global climate change.

**CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:**

A portion of the planning area, the mouth of Big Canyon, for the proposed project is identified in the City of Newport Beach's Local Coastal Program as an environmentally sensitive area and is designated for passive recreation and wildlife habitat restoration. More specifically, the LCP policies 4.2.1-1 & 4.2.1-2 recognize the freshwater wetlands of Big Canyon be protected and maintained for "biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes."

**COMPLIANCE WITH CEQA:**

The proposed project is 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 restoration design will incorporate environmental considerations into project conceptualization, design and planning consistent with Section 15004(b)(1), and will not have a significant adverse effect or limit the choice of alternatives or mitigation measures before CEQA compliance, consistent with Section 15004(b)(2). The design, engineering and permitting phases will be the subject of an environmental analysis approved by the City of Newport Beach prior to funding implementation of those improvements.

The proposed project is also statutorily exempt from CEQA pursuant to 14 California Code of Regulations Section 15306, to the extent that it also consists of basic data collection and resource evaluation activities, which do not result in a serious or major disturbance to an environmental resource, and which are for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded.

Staff will file a Notice of Exemption upon approval of the proposed project.