

COASTAL CONSERVANCY

Staff Recommendation
September 29, 2016

CARDIFF STATE BEACH LIVING SHORELINE PHASE 2

Project No. 15-003
Project Manager: Evyan Borgnis

RECOMMENDED ACTION: Authorization to disburse up to \$322,000 to the City of Encinitas for the planning and design of a dune restoration project at Cardiff State Beach, County of San Diego.

LOCATION: San Elijo Lagoon, City of Encinitas, County of San Diego (Exhibit 1).

PROGRAM CATEGORY: Climate Adaptation, Resource Enhancement

EXHIBITS

Exhibit 1: [Project Location Map](#)

Exhibit 2: [Photos of Proposed Project Area and Design](#)

Exhibit 3: [Project Letters](#)

Exhibit 4: [Mitigated Negative Declaration for the Cardiff State Beach Living Shoreline Project](#)

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31111, 31113 and 31251-31270 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of up to three hundred twenty-two thousand dollars (\$322,000) to the City of Encinitas (“City”) to plan and design a dune restoration project at Cardiff State Beach. Prior to the disbursement of funds, the City shall submit for the review and written approval of the Conservancy’s Executive Officer a work program, including budget and schedule, and 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 regarding funding feasibility studies and plans (Section 31111) and
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addressing impacts of climate change (Section 31113), and with Chapter 6 of Division 21 of the Public Resources Code (Sections 31251-270) regarding resource enhancement.

2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
3. As a responsible agency, the Conservancy has independently reviewed the Mitigated Negative Declaration (MND) approved by the California Department of Parks and Recreation, attached to the accompanying staff recommendation as Exhibit 4, and finds that the MND identifies potentially significant effects from the proposed project that are avoided, reduced, or lessened to a level that is less than significant. The Conservancy further finds that there is no substantial evidence in the record that the proposed project, as mitigated, will have a significant effect on the environment as defined in 14 California Code of Regulations Section 15382.”

PROJECT SUMMARY:

Staff recommends that the Conservancy authorize the disbursement of up to \$322,000 to the City of Encinitas (“City”) for planning and design of a dune restoration project at Cardiff State Beach, owned by California Department of Parks and Recreation (“State Parks”).

The dune restoration project (“Cardiff Living Shoreline Project”) will provide natural sea-level rise protection to Cardiff State Beach and Highway 101 by utilizing a “living shoreline” approach that creates four acres of beach dunes. Dune restoration is a useful sea-level rise adaptation strategy because dunes can reduce coastal storm damage by buffering the shoreline from waves and tides. Coastal dunes have been heavily-impacted by development and very little of this habitat type remains in Southern California, so this proposed project will both restore a heavily-impacted habitat and provide natural sea-level rise adaptation at Cardiff State Beach. The plan and design for the Cardiff Living Shoreline Project (“Cardiff LSP”) will include plans for the construction of four acres of beach dunes from materials generated from the adjacent San Elijo Lagoon either as a part of its annual mouth maintenance dredging or the San Elijo Lagoon Restoration Project (“SELRP”), the construction of a footpath along the dunes, and a scientific monitoring program.

The proposed project will build on Phase I of the Cardiff LSP, a project authorized for funding by the Conservancy on March 26, 2015, which investigated the appropriate design and approach for restoring historic dunes along Coast Highway at Cardiff State Beach and that identified a preferred restoration alternative. The future implementation of the Cardiff LSP will potentially reduce the vulnerability of Coast Highway, San Elijo Lagoon, and other coastal infrastructure and natural resources to sea level rise and restore a habitat that has been severely impacted in this area. The eventual construction of the Cardiff LSP will see significant cost savings through utilization of approximately 30,000 cubic yards of beach-compatible material from the San Elijo Lagoon, which will be enough material for constructing the entire 4-acres of dune habitat.

Specific tasks for the proposed project include scientific coordination with a regional science advisory committee to prepare final design and plans for grading and construction of the Phase I preferred alternative and finalizing all required environmental permits. The final design and plans will detail dune finish grades, revetment design and pedestrian improvements and construction documents including the required land survey and geotechnical studies necessary for the City to obtain contract bids. In Phase I the City received letters of determination from the U.S. Army Corps of Engineers and the Regional Water Quality Control Board that both found the Cardiff LSP area to be outside of their jurisdictional boundaries and thus neither agency required a permit. The proposed project will finalize the remaining necessary Cardiff LSP entitlements: the Coastal Development Permit (processed under the City's Local Coastal Plan), a right-of-entry permit from the State Parks, a lease of state lands (California State Lands Commission), and a Major Use Permit (City of Encinitas).

Implementation of the Cardiff LSP (referred to as "Phase III") will not only provide currently absent dune habitat and sea-level rise protection, it will also expand the San Elijo Lagoon Conservancy's environmental education program to include living shoreline and dune education as well as increase public access to Cardiff State Beach with the construction of a dune footpath. Phase III will include dune and footpath construction, monitoring, maintenance, and education programming and is estimated to cost \$2.3 million. Phase III is already fully funded through grant awards to the Conservancy from the Ocean Protection Council and the Coastal Commission. The Conservancy has not yet authorized those awarded funds for disbursement.

The Cardiff LSP is a type of project relatively new and innovative for California. The City will work with the San Diego Regional Climate Collaborative's regional Science Advisory Committee on the proposed project to develop a scientific monitoring program to measure the Cardiff LSP success. A rigorous monitoring program will also facilitate sharing the lessons learned from Cardiff LSP with other local agencies throughout the State.

The City is a successful partner with the Conservancy. Most recently, the City completed Phase I of the Cardiff LSP that developed three restoration alternatives, analyzed alternative feasibility, prepared the environmental document, started environmental permitting, and collected native dune plant's seeds for Phase III of the Cardiff LSP. Additionally, in 2005, the City implemented the Cottonwood Creek Restoration Project, that recreated approximately 2.4 acres of riparian habitat along one-quarter mile of stream corridor on Cottonwood and Moonlight Creeks, in northern San Diego County. The City has also formed a partnership with the San Elijo Lagoon Conservancy (SELC), a current and long-time partner of the Conservancy, to implement the Cardiff LSP. The City will provide the project management, administration, engineering, and planning, while the SELC will provide the dune biologists. The Coastal Commission, San Diego Association of Governments (SANDAG), and State Parks will also be members of the Phase III Cardiff LSP team.

Site Description: The Cardiff LSP area is located at Cardiff State Beach in the City of Encinitas (Exhibit 1). The Cardiff LSP area extends from the south end of Restaurant Row to the north end of the Seaside State Park parking lot (See Exhibit 1). The Cardiff LSP area straddles the Swami's State Marine Conservation Area (SMCA) and the San Elijo Lagoon SMCA, both

managed by the California Department of Fish and Wildlife. The Cardiff LSP area consists of the back beach portion of Cardiff Beach owned and managed by State Parks.

Project History: For over 25 years, the Conservancy has been working with the SELC on the restoration and management of San Elijo Lagoon. Currently, the Conservancy staff maintains its involvement in the San Elijo Lagoon Restoration Project (“SELRP”) and staff has been on the SELRP stakeholder group for seven years. The Conservancy also partially funded the preliminary engineering for the SELRP. The SELRP will include the export of approximately one million cubic yards of beach-compatible materials over ten months. A number of beneficial re-use options are being considered for the placement of sediment including beach nourishment and nearshore placement. Other less desirable options are also being considered such as disposal offshore at the LA-5 site and at SANDAG borrow pits. The Cardiff LSP complements the SELRP by providing a potential beneficial reuse placement site for approximately thirty thousand cubic yards of export materials generated during construction. The Cardiff LSP also complements the SELRP by investigating options for protecting the estuary, and the SELRP, from sea level rise.

The Cardiff LSP is related to and generally consistent with the SELC’s Seaside Terrace Dune Plant Restoration Project. The Cardiff LSP will be implemented directly adjacent to the Seaside Terrace Dune Plant Restoration Project, and SELC’s involvement in both projects will promote consistency between the two projects.

PROJECT FINANCING

Phase I Coastal Conservancy Funds	\$172,500
Phase II Coastal Conservancy Funds	\$322,000
Phase III Ocean Protection Funds	\$2,195,932.40
Phase III Coastal Commission Funds	\$85,000
Project Total	\$2,775,432.4

The anticipated source of funding for this project (\$322,000) is the fiscal year 2015 appropriation from the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1, Water Code § 79700 *et seq*). 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(a) states more specifically that these funds may be used to “implement watershed adaptation projects in order to reduce the impacts of climate change on California’s communities and ecosystems” and to “protect and restore aquatic, wetland, and migratory bird ecosystems.” Consistent with these provisions, the proposed project will plan for the restoration of 4 acres of native dune habitat, an aquatic ecosystem that supports many native species including some state and federally listed bird species. Implementation of the Cardiff LSP will also further the City’s adaptation to climate change by testing a “living shoreline” approach to flood protection in the face of rising seas. As required by Proposition 1, the Cardiff LSP will provide multiple benefits. First, the Cardiff LSP will fill an ecological void for the

region by restoring native dune habitat. Second, the Cardiff LSP will test a sea-level rise adaptation strategy using a “living shoreline” approach rather than grey infrastructure such as a sea wall. The Cardiff LSP will also utilize beneficial re-use of dredge material from the San Elijo Lagoon. Finally, the proposed project includes designing a foot path and access points throughout the project area that, when the Cardiff LSP is implemented, will provide additional public access to Cardiff State Beach.

In accordance with Section 79707(b) which requires agencies to prioritize “projects that leverage private, federal, or local funding or produce the greatest public benefit”, the proposed project leverages local in-kind contributions as discussed in this section, below.

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 Financing” and “Project Summary” (sections above) and “Consistency with Conservancy’s Project Selection Criteria & Guidelines” (section below).

The City will provide significant in-kind contributions of staff time, as will the other agency participants in the technical advisory committee. The value of these in-kind contributions is estimated at \$100,000. While Phase III of the Cardiff LSP will not begin until the proposed project is complete (Phase II), the funds for Phase III have been secured for implementation through grants to the Coastal Conservancy from the Ocean Protection Council and the California Coastal Commission.

CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:

The proposed project will be undertaken pursuant to Chapter 3 of the Conservancy’s enabling legislation, (Public Resource Code Sections 31111 and 31113) and Chapter 6, resource enhancement (Public Resources Code Sections 31251-31270).

Section 31111 permits the Conservancy to award grants to public agencies for the purpose of funding and undertaking plans and feasibility studies. Consistent with this section, the proposed project is a grant to the City to develop a dune restoration plan for Cardiff State Beach.

Section 31113 permits the Conservancy to address the impacts and potential impacts of climate change on resources within its jurisdiction. Pursuant to this authorization, the proposed project will develop plans for a project that is a natural solution for resource adaptation to address sea level rise.

Consistent with Section 31251, the proposed project will plan corrective actions (dune restoration) to enhance natural resources, the dunes along the coast at Cardiff State Beach, that have suffered the loss of natural and scenic values due to indiscriminate dredging and filling, improper location of improvements, human-induced events, and incompatible land uses. The proposed project is intended to assist the Conservancy in meeting its purposes and objectives under this section by increasing the feasibility, cost-effectiveness, and persistence of wetland restoration and enhancement projects in Southern California’s coastal zone and coastal

watersheds. The City is a local public agency within the meaning of Public Resources Code Section 31010, and therefore qualifies for a grant from the Conservancy under Chapter 6.

The proposed project is consistent with Section 31252 because the City's current Local Coastal Program (LCP) identifies coastal resources, such as this proposed area, as requiring public action to resolve existing or potential resource protection problems to preserve the integrity, function, productivity, and long-term viability of environmentally-sensitive habitats. Additionally, the LCP specifically cites the proposed area as a coastal area to be publicly improved (e.g. roadway, parking, traffic control, and drainage). The Cardiff LSP is consistent with both goals as it will provide native dune habitat as well as protect the roadway from the undercutting and overtopping of waves.

Section 31253 permits the Conservancy to provide up to the total cost of any coastal resource enhancement project, consistent with established project eligibility and priority factors. In determining the amount of Conservancy funding for this proposed project, the factors identified in Section 31253 were considered and applied, as described in detail in the section "Consistency With Conservancy's Project Selection Criteria & Guidelines," below. Additionally, 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)).

**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 will develop a plan for the restoration of coastal dunes.

Consistent with **Goal 7, Objective B**, the proposed project will develop an adaptation strategy to address threats to coastal communities and public infrastructure in a way that protects natural resources and provides maximum public benefits.

**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:** The proposed project is consistent with the following state plans and policies promoting global climate change resilience and adaptation:

- a. The proposed project implements *California @ 50 Million: The Environmental Goals and Policy Report* (Governor's Office of Planning and Research, 2013 Draft) by pursuing the action to invest in climate adaptation pilot programs, tools and approaches.
 - b. The proposed project aligns with the goals listed in the *CA Climate Adaptation Strategy/Safeguarding California: Reducing Climate Risk Plan* (CA Natural Resources Agency, July 2014) by implementing an innovative shoreline management project. The proposed project will provide insight into managing shorelines in the era of rising sea levels and storm surges.
 - c. The proposed project will implement the *Regional Strategy* for the Southern California Wetlands Recovery Project (2001) by restoring dunes to buffer wetland habitat.
4. **Support of the public:** The proposed project is supported by a number of elected officials and community organizations. See Exhibit 3 for support letters.
 5. **Location:** The Cardiff LSP area, the subject of the proposed project, is located within the coastal zone at Cardiff State Beach between the cities of Encinitas and Solana Beach.
 6. **Need:** The stretch of Coast Highway at Cardiff State Beach, which provides coastal access for about 20,000 users each day, is already affected by coastal erosion and wave overtopping. With predicted rates of sea level rise, the impacts to Coast Highway are predicted to increase. The City wants to investigate the use of natural solutions for shoreline protection, such as dune restoration, instead of waiting until it is too late to implement natural solutions so that hard structures are the only option. The City does not have the funding available for this kind of project and the proposed project will not occur without Conservancy funding.
 7. **Greater-than-local interest:** Developing and implementing living shorelines projects is of interest for the entire State. The information gathered from the proposed project will allow the Conservancy and other state and federal agencies and non-profits to replicate projects like this throughout the State.
 8. **Sea level rise vulnerability:** Coast Highway at Cardiff State Beach is highly vulnerable to sea level rise because of its location on the coast. The proposed project will investigate an innovative method for the City to protect built and natural infrastructure from sea level rise, while also restoring habitat.

Additional Criteria

9. **Urgency:** The proposed project is urgent as threats of SLR continue to increase in California's coastal zones. In addition, the SELRP is on schedule to begin construction in January 2017. The proposed project will use the beach sand from San Elijo Lagoon as a possible low-cost source to restore dunes along Coast Highway. The City must develop the proposed project before the SELRP begins in order to potentially take advantage of the availability of beach sand.
10. **Leverage:** The City will provide approximately \$100,000 of in-kind services for the proposed project in City staff time. In addition, implementation of the Cardiff LSP (Phase

III) is estimated to save approximately \$1,000,000 in project costs by using sand from the San Elijo Lagoon.

12. **Innovation:** Living shorelines projects, such as the one proposed, are an innovative approach to sea level rise adaptation.
13. **Readiness:** The project team is ready to begin working on specific tasks as soon as Conservancy funding is authorized.
14. **Realization of prior Conservancy goals:** “See “Project History” above.
16. **Cooperation:** The City, the SELC, State Parks, the Coastal Commission, and SANDAG have coordinated and will work together in the development of the proposed project. (See also Exhibit 3).
17. **Vulnerability from climate change impacts other than sea level rise:** While the proposed project area is not vulnerable to sea level rise, projected increases in storm events and El Niño may exacerbate those effects. An implementation goal of the Cardiff LSP is to protect the surrounding areas from these events and if any of the Cardiff LSP elements requires maintenance, the annual source of sand from the management of the San Elijo Lagoon will provide sand material needed to rebuild the dune features.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The proposed project is consistent with the City’s current Local Coastal Program in its goals to undertake programs to ensure that coastal areas are maintained and remain safe and scenic for both residents and wildlife, and to preserve the integrity, function, productivity and long-term viability of environmentally-sensitive habitats throughout the City.

COMPLIANCE WITH CEQA:

State Parks, a project partner and the landowner, as lead agency under the California Environmental Quality Act (CEQA) approved on March 24, 2016 a Mitigated Negative Declaration (MND) and Mitigation Monitoring and Reporting Program (MMRP) for the Cardiff LSP project (See Exhibit 4). The proposed project is included in the Cardiff LSP and is analyzed in the MND. The term “project” in the MND and therefore in this section, below, refer to the Cardiff LSP.

The MND indicates that the Cardiff LSP, as mitigated, will not have a significant effect on the environment. The MND identifies potential environmental significant effects and reduces, avoids, eliminates or lessens these possible effects to a level of less than significant through mitigation measures in the areas of biological resources, cultural resources, hazards and hazardous material, and transportation/traffic, as follows:

BIOLOGICAL RESOURCES

MITIGATION MEASURES BIO-1

- Prior to substrate deposition or manipulation, areas within and adjacent to the project footprint shall be surveyed for special status species. Any such species found on-site shall be avoided to the maximum extent practical through project redesign, timing/seasonal restrictions, delineated buffers, or other measures deemed necessary by the SELC or State Parks staff.
- To avoid adverse impacts to any sensitive species (i.e. least tern, western snowy plover or grunion), construction activities shall occur between September 15th and February 28th of any given year.
- The project footprint shall be kept clear of trash to avoid attracting scavengers/predators of the western snowy plover. All food and garbage shall be placed in sealed containers and regularly transported from the site. Following construction, any trash, debris, or rubbish remaining within the work limits shall be collected and hauled off to an appropriate location/facility.

CULTURAL RESOURCES

AVOIDANCE AND MITIGATION MEASURES CULT-1

- In areas where existing ground disturbance (trenching associated with the riprap reconfiguration) is proposed, State Parks' Archaeologist shall be consulted such that archaeological and Native American monitors can be scheduled as necessary.
- The discovery of any archaeological or historical objects or features (including bone) shall be reported to the Cultural Resources specialist immediately and work shall cease in that location until the potential resource can be evaluated. Whenever possible, resources shall be protected and avoided through redesign in consultation with State Parks' District Archaeologist. If archaeological deposits and features are encountered during the project, resources shall be protected from construction impacts until a data recovery program can be implemented.
- Contractor educational efforts shall be completed prior to construction to alert workers to potential sensitive cultural resources and impact minimization measures to be implemented during construction.
- In the event that human remains are observed, there shall be no further excavation or disturbance of the site or any nearby area suspected to overlie adjacent human remains until the San Diego County Medical Examiner has evaluated the remains. If the Medical Examiner determines the remains to be Native American, the Medical Examiner shall contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission shall identify the person or persons to be the Most Likely Descendent (MLD). The landowner (State Parks) or its representative and the MLD will determine the appropriate course of action.

HAZARDS AND HAZARDOUS MATERIALS

MITIGATION MEASURES HAZMAT-1

- The contractor shall implement an applicable plan to avoid contamination from fuel or other potential hazards. A Spill Prevention, Containment and Countermeasures Plan (SPCCP) may be necessary. That plan specifies fueling procedures, equipment maintenance procedures, and containment and cleaning measures to be followed in the

event of a spill). If not deemed necessary (due to not requiring fuel storage on-site), similar procedures are specified in the required Stormwater Management Plan (SWMP) or Storm Water Pollution Prevention Plan ((SWPPP); see Section III of the MND).

TRANSPORTATION/TRAFFIC
MITIGATION MEASURES TRANS-1

- The City shall require the Contractor to implement a traffic control plan with a system of signs and flagmen to prevent accidents while construction vehicles access and egress from the project site. The traffic control plan shall include plans for traffic lane closure, shoulder closure, bike lane detour and pedestrian detour. The traffic control plan shall also consider the additional safety measures at the schools located within the vicinity of the haul routes (e.g., extra control at school crossings) to reduce potential hazards. The traffic control features shall reduce impacts to transportation and circulation to below a level of significance.

Pursuant to the MMRP adopted by State Parks, State Parks shall implement or cause to be implemented all mitigation measures for the project. (See MMRP, Exhibit 4).

Staff recommends that the Conservancy find, as a responsible agency and from its independent review of the MND, that the MND identifies potentially significant effects from the Cardiff LSP that, with mitigation, are avoided, reduced, or lessened to a level that is less than significant. Staff also recommends that the Conservancy further find that there is no substantial evidence in the record that the proposed project as mitigated will have a significant effect on the environment as defined in 14 California Code of Regulations Section 15382.

Upon approval, staff will file a Notice of Determination for the project.