

COASTAL CONSERVANCY

Staff Recommendation

April 18, 2024

SANTA CRUZ COASTAL LAGOONS & EAST CLIFF DRIVE RESILIENCY STUDY

Project No. 24-008-01

Project Manager: Irvin Tang

RECOMMENDED ACTION: Authorization to disburse up to \$650,000 to the County of Santa Cruz to undertake the Santa Cruz Coastal Lagoons & East Cliff Drive Resiliency Study, consisting of a technical feasibility study of nature-based adaptation strategies to increase resilience to sea level rise for the three coastal lagoons (Schwan Lagoon, Corcoran Lagoon, and Moran Lagoon) along East Cliff Drive in central Santa Cruz County.

LOCATION: East Cliff Drive, Santa Cruz County

EXHIBITS

Exhibit 1: [Project Location Map](#)

Exhibit 2: [Photos](#)

Exhibit 3: [Project Letters](#)

RESOLUTION AND FINDINGS

Staff recommends that the State Coastal Conservancy adopt the following resolution and findings.

Resolution:

The State Coastal Conservancy hereby authorizes a grant of an amount not to exceed six hundred fifty thousand dollars (\$650,000) to the County of Santa Cruz (“the grantee”) to conduct a technical feasibility study of nature-based adaptation strategies to increase resilience to sea level rise for the three coastal lagoons (Schwan Lagoon, Corcoran Lagoon, and Moran Lagoon) along East Cliff Drive in central Santa Cruz County.

Prior to commencement of the project, the grantee shall submit for the review and written approval of the Executive Officer of the Conservancy (Executive Officer) the following:

1. A detailed work program, schedule, and budget.
2. Names and qualifications of any contractors to be retained in carrying out the project.

Findings:

Based on the accompanying staff recommendation 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 the Climate Ready Program.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria.

STAFF RECOMMENDATION

PROJECT SUMMARY:

Staff recommends the Conservancy authorize a \$650,000 grant to County of Santa Cruz (the County) to conduct a technical feasibility study of nature-based adaptation strategies to increase resilience to sea level rise for the three coastal lagoons (Schwan Lagoon, Corcoran Lagoon, and Moran Lagoon) along East Cliff Drive in central Santa Cruz County. The feasibility study includes conducting site monitoring, identifying and assessing options for nature-based adaptation, and conducting sea level rise modeling of the three coastal lagoons. The County will engage local community members and stakeholders in the latter steps of the feasibility study findings.

The proposed feasibility study of the three coastal lagoons will inform nature-based adaptation strategies against future sea level rise events to protect coastal resources and ecosystems, public infrastructure, and coastal access. Currently, a half mile of East Cliff Drive runs across the three coastal lagoons in mid-Santa Cruz County. The lagoons are intermittently separated from the ocean and only connected through culverts under East Cliff Drive at each site when tidal and beach conditions permit during storm events. On one side of the lagoons, East Cliff Drive acts as an artificial barrier between the lagoons and the Pacific Ocean that prevents the natural tidal exchange of a lagoon system. On the other surrounding sides, the lagoons receive a high volume of nutrient loading from urban runoff from their surrounding urban watersheds. As a result, the lagoons suffer from poor water quality resulting in lagoon systems dominated by non-native aquatic species, diminished recreational opportunities, bank erosion, and multiple fish kills in the last decade. Additionally, the low elevation of East Cliff Drive as it dips to pass over each lagoon mouth, results in frequent road flooding and impassable conditions during high-wave events, which cuts off a major transportation arterial in the neighborhood. Further, critical sewer infrastructure underlies East Cliff Drive at Schwan and Moran Lagoons, and past failures have led to raw sewage entering the lagoons and ocean. The effects of coastal flooding and erosion at these locations have been exacerbated by the effects of climate change and sea-level rise in recent years.

The proposed project will conduct a feasibility study at the three lagoon sites that involves a background data review and sea level rise vulnerability assessment; convening a Technical Advisory Committee (TAC); monitoring the lagoons' conditions; and developing preliminary adaptation strategies that prioritize nature-based solutions against sea-level rise (SLR) and coastal erosion. The project will collect and use lagoon condition monitoring data to create

place-specific models for each site that can predict wave action and run-up, coastal erosion, and coastal lagoon dynamics under a range of SLR scenarios. A similar approach was used to create a model for Moran Lagoon as part of an earlier Coastal Conservancy grant. This model accurately predicted wave action and wave run-up for the extreme 2023 tidal surge event that resulted in significant damage to Moran Lake County Park, thereby proving its relevancy for predicting extreme events and climate change/SLR impacts. In addition to creating the models, the project data will also serve to inform future scientific studies and monitoring of lagoons and help to explain why the three lagoons respond differently to algal blooms and nutrient loading. While monitoring data is being collected, the County will convene a TAC, review background data for the three locations, and coordinate project study efforts with the countywide Sea Level Rise Vulnerability Assessment Study to integrate past studies with this project. The County will lead public engagement efforts as part of the proposed project, which will inform the public on the predicted impacts of SLR at each location and incorporate public input to define the scope of the project and the development of preliminary adaptation strategies.

As part of the stakeholder and community engagement efforts of the proposed project, the County will lead interviews and small focus groups with local representatives, and host online and in-person community workshops to capture the feedback from members of the public. With input from the TAC, the public, and project stakeholders, including tribal representatives, the County will develop preliminary SLR adaptation strategies for each lagoon site. The strategies will prioritize nature-based solutions, protection of coastal resources and ecosystems, improvement of lagoon function and water quality, maintenance of coastal access, and protection of infrastructure and property.

Site Description: East Cliff Drive is a coastal road in mid-Santa Cruz County which runs west to east from the San Lorenzo River to 41st Avenue. The proposed project focuses on a half-mile stretch of East Cliff Drive where it crosses three coastal lagoons (Schwan, Corcoran, and Moran Lagoons). These three lagoons are characterized by beaches between the lagoon and ocean, and intermittent connection to the ocean when tidal, waves, and beach conditions permit. East Cliff Drive crosses all three lagoons over various-sized culverts and serves as an artificial barrier between the lagoon and ocean that prevents the natural functions of the lagoons.

Schwan Lagoon, part of Twin Lakes State Beach, is an artificially impounded 24.5 acre freshwater body. Prior to the construction of East Cliff Drive, the system functioned like a sand bar-built estuary characterized by open tidal conditions during the winter and spring with a sand bar forming in the summer and fall, creating a brackish lagoon. The Santa Cruz Small Craft Harbor, constructed in 1962, altered sediment dynamics, increased the size of the sand bar beach and prevented tidal exchange at Schwan Lagoon except during extreme wave and rain events. After substantial community support, a weir gate was installed on the inland side of East Cliff Drive in 1977 to permanently impound water, creating the freshwater system that we see today. No special-status species are found in the lagoon.

Corcoran Lagoon, the most tidally connected of the three lagoons, still functions as a bar-built estuary. It provides a mix of shallow lagoon, emergent marsh, beach, and riparian habitats where it is home to a population of endangered tidewater goby. A public access trail runs along the western edge of the lagoon and beach.

Moran Lagoon, part of Moran Lake County Park is a coastal lagoon which seasonally connects to the Pacific Ocean and Monterey Bay National Marine Sanctuary through a box culvert under East Cliff Drive. Moran Lagoon supports populations of endangered tidewater goby and endangered three-spine stickleback, despite frequent water quality problems. The trees planted on the perimeter of the lagoon function as a critical windbreak for overwintering Monarch butterflies.

Schwan and Corcoran Lagoons have more extensive, gently sloping beaches with some minor dune formation in front of East Cliff Drive, whereas Moran has a narrow, steep beach that is constrained by East Cliff Drive and the rock revetment that currently protects the roadway from damage. The County of Santa Cruz owns Corcoran Lagoon and Moran Lagoon. Schwan Lagoon is owned by State Parks which will be involved in the proposed feasibility study and has expressed support for the project (Exhibit 3).

Grant Applicant Qualifications: The proposed project will be carried out by the County's Department of Parks, Open Space and Cultural Services (County Parks), which manages over 1,500 acres of parkland, including 38 neighborhood, community, regional, or rural parks; 27 coastal access points; 23 playgrounds; 19 parks with athletic facilities; 5 parks with community rooms; and one regional swim center. County Parks employs financial analysts who administer and track grant funding, planners who oversee the public engagement, permitting, design, and construction processes, and park operations and maintenance staff who maintain the parks in a safe manner. County Parks has implemented numerous state grants for revegetation, restoration, and related projects, including the 2012 Proposition 84 Strategic Growth Council Urban Greening Program Phase 1 projects at the Farm County Park, the 2013 Habitat Conservation Fund for Quail Hollow Ranch County Park, the 2018 CA River Parkway Grant for Heart of Soquel Pathway, and the 2019 Habitat Conservation Fund for Heart of Soquel Pathway Phase 2 and 3. In addition, County Parks has almost completed work for two previous Coastal Conservancy grants, both in 2021 for Moran Lake Restoration and Public Access planning and the North Coast Facilities Management Plan. In partnership with the County, both State Parks and the Department of Public Works will be involved in the feasibility assessment of the three lagoon sites along East Cliff Drive.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA:

The proposed project is consistent with the Conservancy's Project Selection Criteria, last updated on September 23, 2021, in the following respects:

Selection Criteria

1. Extent to which the project helps the Conservancy accomplish the objectives in the Strategic Plan.

See the "Consistency with Conservancy's Strategic Plan" section below.

2. Project is a good investment of state resources.

The project is a good investment of state resources because it builds on previous investments and is supported by various state agencies. The project is consistent with the California Climate

Adaptation Strategy’s priority to “build public health and safety to protect against increasing climate risks”. Specifically, the project is consistent with Goal B to “consider future climate impacts in governmental planning and investment decisions” and “improve infrastructure’s climate resilience to protect public health and safety” by planning to maintain multiple coastal uses with near-term sea level rise including public access, public infrastructure, and transportation options. The project is also consistent with the Strategy’s priority to accelerate nature-based climate solutions and strengthen climate resilience of natural systems, specifically Goal C to integrate nature-based climate solutions into relevant infrastructure and investments. The proposed project contributes to studying a range of future infrastructure relocation and interim sea level rise adaptation project options including managed retreat that will serve as a model for other nature-based climate adaptation projects in both the Santa Cruz region and other parts of the state. Furthermore, the project builds on the 2013 Santa Cruz County Climate Adaptation Strategy which identified the following as a priority action: “Consider developing a plan to elevate E. Cliff Drive at Twin Lakes State Beach, Corcoran Lagoon, and Moran Lake to alleviate frequent coastal flooding and potential inundation.”

3. Project benefits will be sustainable or resilient over the project lifespan.

The project is centered around resiliency and climate adaptation, and plans will identify the expected lifespan of proposed actions in light of sea-level rise or other climate change impacts.

4. Project delivers multiple benefits and significant positive impact.

The project will advance planning and adaptation efforts that will: a) provide co-benefits and alleviate multiple stressors within communities, such as improving flood protection, improving lagoon habitats, maintaining beach access, protecting water quality, and other environmental benefits, b) increase community-preparedness and resilience to future climate change impacts such as sea-level rise, storm surge high tide events, and flooding. The project will also add to the building body of literature on the feasibility and efficacy of coastal lagoon SLR adaptation in geographies similar to Santa Cruz.

5. Project planned with meaningful community engagement and broad community support.

The County project team has a good track record of working within communities and incorporating insights gained from community engagement into project planning. As described above, this project will engage with the local community and stakeholders and adapt adaptation strategies based on their feedback.

PROJECT FINANCING

Coastal Conservancy	\$650,000
Project Total	\$650,000

Conservancy funding is anticipated to come from a FY 2022/23 appropriation to the Conservancy from the General Fund for the purpose of “urgent sea level rise adaptation and coastal resilience needs using nature-based solutions or other strategies” (Budget Act of 2022, SB 154 as amended by the Budget Act of 2023, SB 101). The coastal resilience funds are

available for the purposes described in Section 52 of SB 155 (Chapter 258, Statutes of 2021). The proposed project is consistent with this funding source because it will plan for future coastal adaptations that will increase resilience to sea-level rise and storm surge thereby building resilience for a coastal community, public access, and critical infrastructure.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The project is consistent with Section 31113 of Chapter 3 of Division 21 of the Public Resources Code, which establishes the Climate Ready Program and authorizes the Conservancy to address the impacts and potential impacts of climate change on resources within the Conservancy's jurisdiction.

Pursuant to Section 31113(b), the Conservancy is authorized to award grants to public agencies to undertake projects within the Conservancy's jurisdiction, "including, but not limited to, those that reduce greenhouse gas emissions, address extreme weather events, sea level rise, storm surge, beach and bluff erosion, saltwater intrusion, flooding, and other coastal hazards that threaten coastal communities, infrastructure, and natural resources."

Pursuant to Section 31113(c), the Conservancy must, to the extent allowed, prioritize projects that maximize public benefits and accomplish certain purposes, including reducing emissions of greenhouse gases, preserving and enhancing coastal wetlands and natural lands, and providing recreational opportunities.

Section 31113(d)(1) requires the Conservancy to prioritize projects that use natural infrastructure to help coastal communities adapt to climate change and projects that provide multiple public benefits, including, but not limited to, protection of communities, natural resources, and recreational opportunities.

Consistent with these sections, the proposed project will facilitate the development of nature-based adaptation strategies at three lagoons along the Santa Cruz coastline, which is located within the coastal zone and therefore within the Conservancy's jurisdiction, to reduce the impacts of sea level rise on coastal habitats, recreational features, and infrastructure and enhance coastal habitats and natural lands, where feasible.

CONSISTENCY WITH CONSERVANCY'S [2023-2027 STRATEGIC PLAN](#):

Consistent with **Goal 4.1 Sea Level Rise Adaptation Projects**, the proposed project will complete a feasibility study for adapting public infrastructure to increase the resiliency of the natural and built environment to the impacts of sea level rise at three coastal lagoons along East Cliff Drive in central Santa Cruz County.

CEQA COMPLIANCE:

The proposed planning project consists of preparing a feasibility study and preliminary designs. The activities include only data gathering, resource evaluation, planning, and feasibility analyses for possible future actions that have not yet been approved or funded. Thus, the project is

statutorily exempt from review under the California Environmental Quality Act (CEQA) pursuant to Title 14 of the California Code of Regulations Section 15262, which exempts planning and feasibility studies for possible future actions that have not yet been approved, adopted, or funded. The project is also categorically exempt pursuant to Section 15306, which exempts data collection and resource evaluation activities that do not result in a serious or major disturbance to an environmental resource. Consistent with Section 15262, the project will consider environmental factors. Consistent with Section 15306, the data collection and resource evaluation components of the project will not cause major or serious disturbance to the environment.

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