

COASTAL CONSERVANCY

Staff Recommendation
November 21, 2024

GREENWOOD BEACH RESTORATION PROJECT

Project No. 24-058-01
Project Manager: Linda Tong

RECOMMENDED ACTION: Authorization to disburse up to \$1,403,200 to the Town of Tiburon to undertake the Greenwood Beach Restoration Project, consisting of preparing final designs, constructing, monitoring, and adaptively managing a restored natural beach system at Greenwood Beach in Marin County; and adoption of findings under the California Environmental Quality Act.

LOCATION: Greenwood Beach, Town of Tiburon, Marin County.

EXHIBITS

- Exhibit 1: [Project Location and Site Map](#)
- Exhibit 2: [Project Designs and Photographs](#)
- Exhibit 3: [Project Letters](#)
- Exhibit 4: [Final Initial Study/Mitigated Negative Declaration for the Greenwood Beach Restoration Project](#)

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 one million four hundred three thousand and two hundred dollars (\$1,403,200) to the Town of Tiburon (“the grantee”) to prepare final designs, construct, monitor, and adaptively manage a restored natural beach system at Greenwood Beach in Marin County (“the project”).

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.
3. A plan for acknowledgement of Conservancy funding.
4. Evidence that all permits and approvals required to implement the project have been obtained.

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 4.5 of Division 21 of the Public Resources Code, regarding restoration and enhancement of natural habitats as a goal of the San Francisco Bay Area Conservancy Program.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria.
3. The Conservancy has independently reviewed and considered the Final Initial Study/Mitigated Negative Declaration for the Greenwood Beach Restoration Project adopted by the Town of Tiburon on September 20, 2024, pursuant to the California Environmental Quality Act ("CEQA"), and attached to the accompanying staff recommendation as Exhibit 4. The Conservancy finds that the proposed project as designed and mitigated avoids, reduces, or mitigates the potentially significant environmental effects to a less-than-significant level, and that there is no substantial evidence based on the record as a whole that the project will have a significant effect on the environment.

STAFF RECOMMENDATION

PROJECT SUMMARY:

Staff recommends the Conservancy authorize a grant of up to \$1,403,200 to the Town of Tiburon to implement the Greenwood Beach Restoration Project (the project), consisting of preparing final designs, constructing, monitoring, and adaptively managing a restored natural beach system at Greenwood Beach in Marin County (Exhibit 1).

The Greenwood Beach shoreline is currently comprised of artificial fill supporting mixed salt marsh and degraded beach habitat, bounded by boulder armoring and low bluffs consisting of sand and gravel. The artificial fill of earthen material, asphalt, concrete, and debris was created prior to the 1960s, and has been actively eroded by waves, leaving scattered rubble at the shore. Erosion of this fill, coupled with ongoing loss of the beach system, progressively exposes hazardous substrates and decreases habitat and community value. At current rates of sea level rise, the shoreline and existing marsh will likely erode and expose additional asphalt and concrete rubble, leaving a steeper, narrower, rocky shoreline by 2050.

The project will replenish and stabilize coarse beach sediment to address erosion and restore and expand existing beach habitat. The project aims to demonstrate that bay beaches as a living shoreline design approach are a viable alternative to riprap and seawalls. Living shoreline

techniques reinforce the shoreline and minimize erosion, while restoring natural estuarine and coastal habitats. Through strategic placement of native vegetation and natural sediments, bay beaches can protect tidal marshes behind them from further erosion. The proposed project phase builds on prior planning and design work funded through a partnership between the Marin Community Foundation and California State Coastal Conservancy, followed by a grant from the San Francisco Bay Restoration Authority. The goal of the project is to complete final design and implementation of a gravel beach design that will provide nature-based shoreline protection and enhance valuable coarse-grained beach habitat.

The project relies on nourishing the existing beach system with sediment, including mixed sand and gravel, of the proper size. Sediment will be placed nearshore, and wave action is expected to redistribute the sediments to form a natural, dynamic beach profile. The design also includes drift-sills, which are sediment-retaining and semi-permeable cobble-salt marsh structures. The drift-sills would be perpendicular to the shore, reducing beach erosion by acting as partial barriers to longshore drift, which is the movement of sand and other material along the shore by wave action. The eroding scarp at the backshore of Greenwood Beach will be re-graded to a ramp-like bluff profile with gentler slopes, and the exposed artificial fill at the shore surface will be removed. The gently sloping shoreline, along with several other restoration elements, has been designed to dissipate wave energy and slow shoreline erosion (Exhibit 2).

The project will provide substantial habitat benefits through enhancing the beach system and marsh area behind the beach. Constructed bay beaches can provide breeding or foraging habitat for Forster's terns, black-necked stilts, American avocets, black oystercatchers, and other shorebirds. Bay beaches can also provide unvegetated, high-tide roosts for shorebirds and high-tide refuge for marsh wildlife. The backshore of the project site will be designed to have gentle slopes that can support native salt-tolerant shoreline vegetation, such as gumplant, pickleweed, and California sea-blite.

In addition to the Town of Tiburon as the project lead and landowner, the project team includes the same core group of restoration practitioners who developed the preliminary design and have been at the forefront of developing living shorelines projects. The project team has put effort into engaging the local community, regulatory agencies, and others early in the planning and design phases of the project, given the project site is a well-used and highly visible location in the Town. Staff from Marin County Department of Public Works, who led the prior planning and design phases, presented the project design multiple times at Tiburon Parks Open Space and Trails (POST) Commission and Tiburon Town Council meetings to hear and obtain input from community leaders and residents to inform the planning process.

The objectives of the project are as follows:

1. Develop final engineering designs for Greenwood Beach, based on a design-with-nature approach that uses coarse-grained beach sediment nourishment and restoration of native beach and salt marsh vegetation to combat shoreline erosion.
2. Prepare final plans and specifications and the bid package for construction of the gravel beach design.

3. Construct all components of the restoration project and conduct biological and cultural monitoring before and during project construction.
 - a. Restore approximately 0.65 acre of beach habitat, 0.2 acre of wetland habitat, and enhance 0.25 acre of transitional habitat along approximately 600 linear feet of the shoreline.
 - b. Remove asphalt and other debris from approximately 0.06 acre (150 linear feet) of the shoreline where the beach scarp will be regraded.
 - c. Plant approximately 0.4 acres with native wetland and backshore beach vegetation, including the endangered California seablite, an endemic threatened plant that both helps stabilize beach habitats and provide ecological values.
4. Conduct post-construction monitoring, maintenance, and adaptive management for three years to ensure the project goals are achieved.

This project will demonstrate the viability of restoring bay beaches as a nature-based shoreline adaptation technique, and it will help inform the development of projects at many other potential sites around the Bay Area.

Site Description:

The Greenwood Beach Restoration Project site (including Greenwood Beach and Brunini Beach) is located along the shoreline of Richardson Bay and a much-loved public park in Tiburon, Marin County. The park, owned by the Town of Tiburon, is a popular spot for social gatherings, exercising, wildlife watching, and more. The project site was historically a wide, mixed sand and gravel beach with associated high salt marsh. Then, up to the 1960s, asphalt, concrete, debris, and other fill was dumped along the shoreline, as was done in many other locations around the San Francisco Bay. Erosion of this artificial fill, along with erosion of the marsh and sand along the shoreline, created a mix of degraded marsh and beach habitat and old Bay fill.

The west end of the beach is well-used for recreation, but the rocky concrete and asphalt shoreline around it is avoided. Over the years more fill and sand has been placed to combat wave erosion at the park shoreline. The wave erosion has been scattering the fill across the mudflats. The boulders and angular asphalt and concrete rubble coupled with the eroding vertical shoreline make this area of the shoreline potentially hazardous and poor wildlife habitat. As the shoreline erodes further, more asphalt and concrete rubble may be deposited into the bay.

Greenwood Beach is an ideal demonstration site location for gravel beach restoration. The site has characteristics important for a demonstration project – the location is publicly accessible, and the historical ecology of the site prior to urbanization aligns with the full beach system that can be restored under current conditions. The shoreline conditions found at Greenwood Beach are common to many areas along the San Francisco Bay shoreline. This project will serve regional significance by providing a publicly accessible design-with-nature model for similar locations around San Francisco Bay.

Grant Applicant Qualifications: The Town of Tiburon has extensive experience leading implementation and construction projects, including park and trail projects. Town staff have experience managing state grants and retaining qualified contractors, and they will be working closely with the project team to ensure the success of the project. The project team—which includes coastal engineer Roger Leventhal, P.E.; coastal ecologist Peter Baye, Ph.D.; and wetland scientist Dan Gillenwater, PWE—has extensive experience working on shoreline habitat projects, including innovative living shoreline projects in the San Francisco Bay for estuarine beaches. The Town of Tiburon will be responsible for long-term management, maintenance, and monitoring needs of the project, in accordance with the project’s permit requirements.

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 will restore wave erosion-buffering benefits of a former sand-gravel bay beach, demonstrating a living shoreline approach that addresses shoreline erosion and protects a local tidal marsh that supports native vegetation. The project will be an easily accessible demonstration site for the broader Bay Area restoration community and will showcase the efficacy of coarse-grained beaches as a nature-based alternative to riprap and seawalls. Greenwood Beach is an ideal location for a gravel beach project that can serve as a model to address shoreline erosion impacts from sea level rise.

Members of the project team have been leading innovative living shoreline projects in San Francisco Bay for estuarine beaches for over a decade. The collective expertise of the project team will allow the project to be completed successfully within a reasonable budget, ensuring the project is a good investment of state resources.

3. Project includes a serious effort to engage tribes. Examples of tribal engagement include good faith, documented efforts to work with tribes traditionally and culturally affiliated to the project area.

The project team has made a serious effort to engage with the Federated Indians of Graton Rancheria (FIGR), the federally recognized tribe with ancestral claims to the project site. Outreach efforts included a specific project meeting with FIGR and extending the required response time for AB52 tribal consultation under CEQA by several months to allow for tribal

input. The project budget includes funds for both additional pre-construction cultural investigations along the shoreline by FarWestern Archaeology and for continuous cultural and tribal monitoring during construction excavation activities, as requested by FIGR.

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

The project will replenish lost beach sediment and construct natural sediment retention features that will maximize the resilience and longevity of the project. The sediment may be periodically replenished on an estimated ten-year cycle. The restored beach ecosystem will increase resilience of the shoreline’s physical and biological responses to sea level rise, while avoiding the negatives impacts caused by riprap and seawalls used for shoreline erosion control.

5. Project delivers multiple benefits and significant positive impact.

The project will restore a mosaic of beach, backshore, and wetland habitats on the currently degraded shoreline, improving habitat and recreational values while reducing shoreline erosion rates and increasing community resilience to rising sea levels. The value of this project extends well beyond the boundary of the Greenwood Beach project site. The project will demonstrate a viable and cost-effective method for adapting to wave erosion, and the designs and monitoring data from this project will support a next generation of regional bay beach restoration projects.

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

The project team has presented the project design at Tiburon POST Commission meetings, a Tiburon Town Council meeting, and a community meeting to obtain input that helped shape the planning process. The project has a range of supporters, including POST Commissioners and Town Councilmembers, staff from San Francisco Estuary Institute, and Marin County Supervisor Stephanie Moulton-Peters (Exhibit 3).

The Town of Tiburon aims to engage Conservation Corps North Bay, a local nonprofit, in the project implementation to provide young adults with hands-on experience in restoration construction and maintenance activities. Engaging local leaders and residents has been an important aspect of the prior planning and design phases of the project, as the site is along the shoreline of a local park that is well-used, highly visible, and easily accessible.

PROJECT FINANCING

Coastal Conservancy	\$1,403,200
Project Total	\$1,403,200

Conservancy funding is anticipated to come from a Fiscal Year 2023/2024 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 2023, Chapter 12 of Statutes of 2023 (SB 101) as amended by Chapter 38, Statutes of 2023 (AB 102)). The project is consistent with this fund source because it is a shoreline resilience project that includes restoration of beach systems as a living shoreline approach, which is a nature-based

strategy for addressing sea level rise. The project will address sea level rise impacts on shoreline habitat, communities, and public access.

Staff time from the Town of Tiburon will be provided as an in-kind contribution. This contribution has an estimated value of approximately \$20,000 during the final design and construction phase, plus cost associated with monitoring and maintenance in accordance with regulatory permits.

Unless specifically identified as a “Required Match,” the other sources of funding and in-kind contributions described above are estimates. The Conservancy does not typically require matching funds or in-kind services, nor does it require documentation of expenditures from other funders or of in-kind services. Typical grant conditions require grantees to provide any funds needed to complete a project.

CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:

The project will be undertaken pursuant to the Conservancy’s enabling legislation under Chapter 4.5 of Division 21, Public Resources Code Sections 31160-31165, to address resource goals in the San Francisco Bay Area.

The project is within the nine-county Bay Area as required under Section 31162 of the Public Resources Code.

Under Section 31162(b), the Conservancy may act to protect, restore, and enhance natural habitats and connecting corridors, watersheds, scenic areas, and other open-space resources of regional significance. This authorization would provide for the restoration or enhancement of approximately 0.65 acres of beach habitat, 0.2 acres of wetland habitat, and 0.25 acres of transitional habitat along approximately 600 linear feet of the Greenwood Beach shoreline. The project will also plant approximately 0.4 acres of native wetland and backshore beach vegetation, including the endangered California seablite, re-establishing an endemic threatened plant that helps to stabilize beach habitats.

Under Section 31162(d), the Conservancy may enhance projects that provide open space and natural areas that are accessible to urban populations. Greenwood Beach is along the shoreline of a local public park that is well-used and accessible in the Town of Tiburon in Marin County.

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

Consistent with **Goal 3.2 Restore or Enhance Habitats**, the project will restore or enhance up to 0.65 acres of beach habitat, 0.2 acres of wetland habitat, and 0.25 acres of transitional habitat along approximately 600 linear feet at the Greenwood Beach shoreline.

Consistent with **Goal 4.1 Sea Level Rise Adaptation Projects** the project will make the shoreline more resilient to sea level rise by replenishing and stabilizing compatible coarse beach sediment to reverse erosion loss and restore and expand existing beach habitat.

Consistent with **Goal 4.3 Multi-benefit Nature-Based Climate Adaptation** the project will construct nature-based features vegetated with native plants that support wildlife and help retain coarse sediment and reduce beach erosion.

CEQA COMPLIANCE:

On September 20, 2024, the Town of Tiburon adopted the “Final Initial Study/Mitigated Negative Declaration for the Greenwood Beach Restoration Project” (IS/MND) (SCH# 2024061144) pursuant to the California Environmental Quality Act (“CEQA”), and adopted the Mitigation Monitoring and Reporting Program for the project. The IS/MND (Exhibit 4) indicates that the project as designed and mitigated avoids, reduces, or mitigates the potentially significant environmental effects to a less-than-significant level.

The IS/MND identified project impacts that were Less Than Significant with Mitigation in the areas of Biological Resources, Cultural Resources, Hydrology and Water Quality, Tribal Cultural Resources. Potential impacts and mitigation measures are summarized below:

Biological Resources

Regarding potential impacts to special-status plants, the maximum amount and duration of weed invasion increase at the project site shoreline caused by sand import may be potentially significant. Mitigation BIO-1 will reduce this impact to a less-than-significant level. Best management practices applied during sand harvest will include scraping the surface of the sand prior to sand quarrying at Shollenberger Park to clear weeds and accumulated seeds in the top few inches of sand in excavation areas to minimize the contamination of weed seeds in imported sand.

Construction of the project may temporarily impact biological resources at the site. Terrestrial wildlife, such as San Pablo song sparrows and western meadowlarks, could be minimally disturbed during construction. However, the wetland habitat that are preferred by these species will be avoided during construction, and construction activities are planned to occur outside the nesting and breeding season, or buffers would be established around any active nests. Shorebirds that forage and rest in tidal flats may also be impacted during construction, particularly during the excavation of sand and gravel from a borrow area on site. However, that work will be limited in duration and to a specific extent of the site, and there is ample local foraging habitat available around Richardson Bay. Special-status fish may be impacted by potential short-term direct construction impacts from on-site borrow area excavation; potential short-term degradation of shallow aquatic habitat due to sediment disturbance, elevated turbidity and suspended sediment, caused by excavation of the tidal delta borrow area; persistence of shallow tidal pool or pond habitat within the on-site sediment borrow area depression, resulting in increased bird predation; and/or potential temporary aquatic habitat degradation and fish stranding due to seasonal tidal choking or damming at the mouth of the tidal flood control channel. However, impact mitigation measures will be taken to prevent direct and indirect construction-related impacts to fish, such as excavating the borrow area at low tide when the area is dry and there are no fish present and enlarging the borrow area outlet channel to ensure adequate tidal drainage and fish egress. Over the long term, the project would provide a net habitat benefit to native plants, fish, and wildlife, including special status species.

The project would convert some artificial rocky shore habitat into cobble-salt marsh and beach habitat, but there is rocky shore habitat still readily available along eastern Richardson Bay. A small extent of existing intertidal mudflats would be minimally impacted by the placement of sand and gravel at the project site, but there are extensive adjacent mudflats. Long-term impacts to biological resources would be less-than significant.

Cultural Resources

The project will remove some of the artificial fill and excavate a depression. Because the project work will be limited to areas of artificial fill and recent sediments, the likelihood of grading and to encounter and disturb archaeological resources is low. While it is unlikely that intact deposits will be present, there is a possibility that redeposited midden soil, artifacts, and/or human remains could be present within the fill material. If such material were to be damaged or destroyed during construction of the project, a potentially significant impact may occur; however, this impact will be reduced to a less-than-significant level by implementation of Mitigation Measures CULT-1 and CULT-2. First, a focused archaeological testing program will be conducted in areas proposed for ground disturbance prior to construction and construction monitoring by qualified personnel will be conducted during project excavation activities. If archaeological remains are encountered during the focused testing or project activities, project ground disturbances at the find and immediate vicinity will be halted immediately until a qualified archaeologist can evaluate the finds. Second, the Town will hold a training session for all Contractor field personnel led by a qualified archaeologist to explain the types of cultural items that could be found, and the District will invite the Tribe to attend the training.

Although no prehistoric or historic-era human remains are known to exist on the project site, and none are expected to be encountered in the artificial fill and recent sediments, it is possible that presently undocumented human interments may be uncovered during grading. Implementation of Mitigation Measures CULT-3 will reduce this potentially significant impact to a less-than-significant level. If human remains are uncovered, all such activities in the vicinity of the find will be halted immediately and the Town shall be notified. If it is determined that the remains are those of a Native American, the Town or their appointed representative and a professional archaeologist will consult with a Most Likely Descendent, determined by the Native American Heritage Commission, regarding the removal or preservation and avoidance of the remains, and determine if additional burials could be present in the vicinity.

Hydrology and Water Quality

Construction both on the shoreline and in backshore upland areas could cause short-term, temporary impacts to water quality that would violate requirements in federal, state, and/or local stormwater control programs. Earth-moving and material placement within the shoreline enhancement areas could cause increases in suspended sediment concentration and introduce petroleum contaminants (such as oil, grease, or fuel) into the waters of the Bay, if work is done when there is water on the work area or if bare graded areas are subject to erosion. In addition, construction activities in backshore upland areas could introduce sediment and petroleum contaminants into the bay through rainfall runoff or storm wave over-wash. Several design elements and preventative measures will ensure that these potential impacts are reduced to a less-than-significant level. For example, ensuring that work on the shoreline and low tide

terrace occur during lower tides when the work area is dry; erosion control elements, such as straw wattles, will be used to prevent soil erosion and runoff before vegetation stabilization occurs; and imported sand will be tested for contaminants before being used for beach restoration. Over the long term, the project would have a net benefit on the water quality of Richardson Bay by reducing rates of shoreline erosion and resulting sediment pulses to the Bay.

Tribal Cultural Resources

The upland and shoreline area of the project site was previously filled and graded and is the location of an existing park facility, and the tidal areas are recent sediments unlikely to contain cultural resources. Because the project's upland earthmoving would not extend beyond the previously graded depths, and offshore excavation would be about two feet in depth and entirely in recent sediments, impacts to culturally sensitive sites would be unlikely. However, it is possible that some cultural resources may be included in upland fills in the project area. Potential impacts would be reduced to a less-than-significant level by implementation of Mitigation Measures CULT-1, CULT-2, and CULT-3 mentioned in the Cultural Resources Section. No adverse postconstruction effects are anticipated, and the project would assist in stabilizing the area.

With implementation of the project's mitigation measures, environmental effects to Biological Resources, Cultural Resources, Hydrology and Water Quality, and Tribal Cultural Resources will be less than significant. Staff recommends that the Conservancy find that the project as mitigated avoids, reduces or mitigates the potentially significant environmental effects to a level of less-than-significant and that there is no substantial evidence that the project will have a significant effect on the environment.

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