

COASTAL CONSERVANCY

Staff Recommendation  
November 30, 2023

**BOLINAS LAGOON WYE RESILIENCY PROJECT**

Project No. 18-009-02  
Project Manager: Su Corbaley

**RECOMMENDED ACTION:** Authorization to disburse up to \$1,504,990 of Coastal Conservancy and US Fish and Wildlife Service funds to the Marin County Open Space District to implement the Bolinas Lagoon Wye Resiliency Project, which will reduce localized flooding and increase resilience to sea level rise and which consists of restoring 20 acres of tidal and riparian wetlands and returning Lewis Gulch Creek to its historic floodplain by, in part, removing and elevating roads at the northern end of Bolinas Lagoon in Marin County, and adoption of findings under the California Environmental Quality Act.

**LOCATION:** Intersection of California Highway 1 and Olema Bolinas Road, Marin County

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EXHIBITS

- Exhibit 1: [Project Location Map](#)
  - Exhibit 2: [Site Condition Photos](#)
  - Exhibit 3: [Project Design Components](#)
  - Exhibit 4: [Project Letters](#)
  - Exhibit 5: [Initial Study/Mitigated Negative Declaration](#)
  - Exhibit 6: [Mitigation Monitoring and Reporting Program](#)
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**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 five hundred four thousand, nine hundred ninety dollars (\$1,504,990) to the Marin County Open Space District (“the grantee”) to implement the Bolinas Lagoon Wye Resiliency Project, which will reduce localized flooding and increase resilience to sea level rise and which consists of restoring 20 acres of tidal and riparian wetlands and returning Lewis Gulch Creek to

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its historic floodplain by, in part, removing and elevating roads at the northern end of Bolinas Lagoon in Marin 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.
3. A plan for acknowledgement of Conservancy funding.
4. Evidence that all permits and approvals required to implement the project have been obtained.
5. Evidence that the grantee has entered into agreements sufficient to enable the grantee to implement, operate, and maintain 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 enhancement of coastal resources.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria.
3. The Conservancy has independently reviewed and considered the “Final Revised Initial Study/Mitigated Negative Declaration for the proposed Bolinas Lagoon Wye Wetlands Resiliency Project” adopted by the Marin County Open Space District on October 10, 2023, pursuant to the California Environmental Quality Act (“CEQA”) and attached to the accompanying staff recommendation as Exhibit 5. 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 may have a significant effect on the environment, as defined in 14 Cal. Code Regulations Section 15382.

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## **STAFF RECOMMENDATION**

### **PROJECT SUMMARY:**

Staff recommends the Conservancy authorize a \$1,504,990 grant to the Marin County Open Space District (MCOSD) to implement the Bolinas Lagoon Wye Resiliency Project on Bolinas Lagoon in Marin County (Exhibit 1). The project consists of removing and elevating roads, realigning Lewis Gulch Creek and restoring its historic floodplain, and removing invasive plants and planting native plants to restore 20 acres of tidal and riparian wetlands and increase sea level rise resilience at the north end of the lagoon. The funds derive from a grant to the Conservancy of \$814,590 from the US Fish and Wildlife Service (USFWS) National Coastal Wetlands Conservation (NCWC) Grant Program specifically for this project and \$710,400 of Conservancy funds, including a proposed nonfederal match for the NCWC grant of \$210,400,

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and another \$500,000 to complete the project, as noted in the “Project Financing” section, below. The Conservancy will retain \$20,000 of the total NCWC grant for staff time to manage the grant. The activities covered by this authorization will occur between 2024 and 2026.

Bolinas Lagoon is a world-renowned tidal estuary with unique habitats and ecosystem services that support wildlife and people. It is part of a larger protected natural habitat complex including Greater Farallones National Marine Sanctuary, Point Reyes National Seashore, and the Golden Gate National Recreation Area, and is one of only four Ramsar-designated Wetlands of International Importance on the West Coast. It is a vital stopping point along the Pacific Flyway and has been designated an Audubon Important Bird Area in recognition of its valuable open water, mudflat, and marsh habitats. The project is located near the town of Bolinas, where Olema Bolinas Road splits off from Highway CA-1 and where Crossover Road, an extension of Bolinas Fairfax Road, was installed to connect these two larger roads to form what is known as the Bolinas Wye intersection (Exhibit 1). The northern end of the lagoon and its fringe marshes border these three roadways, and several streams flow into the lagoon through culverts under the roads. Lewis Gulch and Wilkins Gulch Creeks are the primary streams that enter the lagoon in the project area.

The project area has been adversely affected by road construction, historical ranching, logging, and mining activities in the watershed that have damaged riparian wetlands and tidal marsh habitats and have disconnected Lewis Gulch and Wilkins Gulch Creeks from their natural floodplains in the estuary. Lewis Gulch Creek has been channelized in a ditch alongside Olema Bolinas Road, straightened in several reaches, and forced through severely undersized box culverts, resulting in aggradation and erosion causing heavy flooding. Portions of the creek lack mature riparian vegetation, and sediment is accreting in the channel and on adjacent berms rather than being deposited in the floodplain and riparian corridor. The Bolinas Wye acts as a dam that inhibits surface flows, segregates important wetland habitats used for waterbird high tide refugia and feeding, disrupts the movement and migration of other wildlife and restricts the fringe marshes from migrating landward to adapt to sea level rise. The culverts under the roads act as barriers to endangered coho salmon and threatened steelhead trout passage. The culverts and degraded channel have constrained Lewis Gulch Creek to the west side of Olema Bolinas Road, and disconnected it from its floodplain, thus blocking natural processes that provide the water, sediment, and nutrient exchange needed to support wetland habitat transitions and expansion. A portion of the site is owned by Marin County and a portion is owned by MCOSED. It abuts protected lands that are owned by the National Park Service and Audubon Canyon Ranch and is located within the Greater Farallones National Marine Sanctuary. Its location adjacent to these protected lands makes it an ideal location to advance resilience to sea level rise because these habitats can migrate upslope into these protected lands. See Exhibits 1 and 2 for location and photos of site conditions.

The Bolinas Lagoon Wye Resiliency Project (project) addresses this complex intersection of natural and built environments to re-establish hydrologic connectivity, increase the resiliency of wetlands to sea level rise, and improve habitat for special-status species. The project will remove Crossover Road and elevate Olema Bolinas Road, in order to restore coastal wetlands and transitional habitat, along with the hydrology they require. Project Design is shown in Exhibit 3.

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The project will:

- Restore hydrologic, geomorphic, and ecologic processes by redirecting Lewis Gulch Creek (1,225 linear feet) onto its former alluvial fan, removing the Crossover Rd. (1/3 acre) and installing an approximately 60-ft crossing just south of the reconfigured Olema Bolinas Rd./State Route 1 intersection.
- Accommodate sea level rise and improve climate change resiliency by providing areas for wetland migration and by restoring geomorphic and floodplain processes.
- Enhance existing marsh vegetation and freshwater wetland communities (approximately 2.75 acres of palustrine forest, 8.33 acres of estuarine intertidal emergent, 3.13 acres of palustrine emergent, and 4.63 acres of palustrine scrub shrub), including three California threatened special-status plant communities.
- Improve native plant communities by removing non-native invasive species and revegetating with native species, with over 1,129 native trees to be planted.
- Improve salmonid habitat by realigning Lewis Gulch Creek onto its former alluvial fan by routing it under a new full-span bridge, installing large woody debris to help create refugia habitat, and improving surface and groundwater connections.
- Prevent further stream bank erosion along Lewis Gulch Creek and protect water quality using bioengineering methods (installing large tree root wads) along the creek adjacent to State Route 1.
- Protect the main road for the coastal community of Bolinas by elevating Olema Bolinas Rd out of the areas predicted to be inundated with 5.5 feet of sea level rise and a 100-year storm event.

The project is the culmination of more than 20 years of restoration planning. In the late 1990s and early 2000s, the Conservancy received specific legislative appropriations to assist Marin County with restoration planning through a US Army Corps of Engineers planning process. Those plans were not implemented due to controversies over the significant proposed dredging and associated costs, and community concerns over project impacts. At that time, the County took the lead to develop a process-based approach to restoration. The extent of engagement is detailed in “Selection Criteria” (Criterion 6), below.

**Site Description:** The project is located at the north end of Bolinas Lagoon, near the town of Bolinas in Marin County. A portion of the site is owned by Marin County and a portion is owned by MCOSD. The site encompasses approximately 20 acres of degraded wetlands that have become functionally hydraulically disconnected from the lagoon by roads and historic upland management practices. The Wye wetlands are physically disconnected from the fringe marshes at the north end of Bolinas Lagoon by the Crossover Road, resulting in migratory and foraging barriers for terrestrial wetland species.

Bolinas Lagoon, which is owned by Marin County, is managed by Marin County Parks and is within the Bolinas Lagoon Open Space Preserve, the Golden Gate Biosphere Reserve, and the Greater Farallones National Marine Sanctuary. Bolinas Lagoon supports tidal marsh habitat that transitions to brackish and freshwater vegetation supported by the surrounding tributaries. The project site includes riverine, palustrine (forested and shrub), and estuarine intertidal emergent

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wetlands. These include six distinct wetland vegetation alliances, including fresh and brackish wetland species, as well as transitional habitat between wetland and upland communities. Of the six vegetation alliances, Alkali-Bulrush Marshes and Pickleweed Mats are considered California threatened special-status plant communities. The lagoon's unique wetland habitats are severely threatened by climate change and sea level rise, and the north end of the lagoon is the only area that can accommodate future tidal wetland migration and transitional habitat. The lagoon's habitats support many rare and special status species. Among them is the endangered salt marsh annual Point Reyes bird's beak. The salt marsh and upland transition areas provide valuable high tide refugia and feeding areas for many species including the San Francisco yellowthroat, a State Species of Special Concern, as well as the state threatened California black rail. Both Lewis Gulch and Wilkins Gulch Creeks are home to threatened steelhead, California red-legged frogs, and California giant salamanders. The north end also supports USFWS-designated habitat for endangered tidewater gobies and freshwater shrimp. The lagoon is also home to the endangered coho salmon and threatened steelhead juveniles.

**Grant Applicant Qualifications:** MCOSD has worked with partner agencies for more than 25 years to address resource conservation in the lagoon, analyze restoration opportunities, and engage public participation to prioritize opportunities that will result in greatest public benefit. MCOSD has recently successfully completed two Coastal Conservancy grants for planning, outreach, final designs, and environmental analysis for the project, and has secured state and federal funds to complete construction by 2026. Marin County Parks manages the Bolinas Lagoon Preserve on behalf of Marin County and MCOSD will ensure long term maintenance and management of the restored area. MCOSD provides funding for stewardship and monitoring of the land post construction in concert with funding from Marin County Parks Measure A. A Monitoring and Performance Plan has been developed and is currently under permitting review by the California Department of Fish and Wildlife and the Regional Water Quality Control Board. The project will be monitored for a minimum of 5 years post construction.

### **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 and enhance habitats in Bolinas Lagoon, one of four areas on the West Coast that have been designated as Wetlands of International Importance by the Ramsar Convention. The lagoon is part of a larger protected natural habitat complex that includes Gulf of the Farallones National Marine Sanctuary, Point Reyes National Seashore, and the Golden Gate National Recreation Area, and provides critical wildlife benefits for the thousands of wintering and migrating birds. It therefore has regional, state, and national significance. As described in the Project Summary, above, the project will provide multiple benefits to public

resources including opening spawning habitat for threatened and endangered salmonids and increasing resilience of critical road infrastructure to sea level rise, thereby securing ingress and egress for the local community and for visitors.

**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.**

MCOSD contacted the Native American Heritage Commission on October 27, 2020, informing them of the project and requesting a review of their Sacred Lands File and a list of contacts who might have knowledge concerning cultural and tribal resources within the proposed Project. From the list of potentially interested Native American individuals and organizations provided, MCOSD sent letters to the Federated Tribes of Graton Rancheria (FIGR) and Guidiville Indian Rancheria to initiate Project outreach, inform them of the background environmental studies, and invite their participation in the consultation process. Based on a response from FIGR, formal consultation was initiated, and meetings were held to discuss the project details. As a result of consultation, FIGR requested, and the county performed, deep core testing to determine the presence or absence of cultural resources and artifacts in locations proposed for deep disturbances. The county conducted the testing on September 13, 2021. FIGR staff were present during the drilling operation and during the offsite examination. No cultural deposits were encountered. Following the geoarchaeological study, MCOSD sent update letters to FIGR on November 15, 2022, and on April 12, 2023, MCOSD provided FIGR with a Draft Archaeologic Survey Report and Cultural Landscape Report for their review and comment. MCOSD continues to engage with FIGR to ensure their input is received and considered and will work with FIGR to develop the archaeological monitoring plan.

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

The project has been designed to account for 5.5 feet of sea level rise with a 100-year storm (8 feet total). Under this sea level rise scenario, tidal wetlands would be allowed to migrate inland with the removal of the Crossover Road.

**5. Project delivers multiple benefits and significant positive impact.**

Removing and elevating roads from the project area provides the space needed for wetlands to migrate as the sea level rises by restoring a natural transition from uplands to the lagoon shoreline. Restoring and enhancing emergent tidal wetlands provides nutrient-rich habitat for federally and state listed fish species and foraging habitat for shorebirds. This approach will also protect a designated community emergency coastal access route from regular flooding that is projected to worsen over time. The project will pilot a process-based creek restoration approach on an alluvial fan, which will inform future projects utilizing a similar approach and act as a model for regulatory agencies and restoration practitioners.

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

The public has been involved in meaningful engagement since 2002 when a Draft Environmental Impact Report/Environmental Impact Statement prepared by the US Army Corps of Engineers (Bolinás Lagoon Ecosystem Restoration Project Draft Feasibility Study) proposed dredging 1.4 million cubic yards of sediment from the lagoon and sparked a community call for

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a more adaptive and innovative approach to restoration. Community involvement led to years of review and reconsideration of the approaches to restore the lagoon, leading to the 2008 Bolinas Lagoon Ecosystem Restoration Project – Recommendations for Restoration and Management (Locally Preferred Plan), which focused on restoring ecosystem processes, thus guiding the project to its current design.

Throughout project development, MCOSD has shared progress during regularly scheduled and special meetings of the Bolinas Lagoon Advisory Council, Marin County Parks and Open Space Commission, and Marin County Board of Supervisors. This has included project designs as well as special studies. Local non-governmental organizations, including the Marin Conservation League, Marin County Bicycle Coalition, and Environmental Action Committee of Marin, have received regular updates as well. In total, there have been over 14 separate public meetings focused on the design and feasibility of the project. These have occurred through the biannual State of Bolinas Lagoon Conference, the Bolinas Lagoon Advisory Committee meetings, and briefings to the Board of Supervisors. The County maintains an up-to-date webpage dedicated to the status of the north end restoration of the Wye (<https://www.parks.marincounty.org/projectsplans/land-and-habitat-restoration/wye-wetlands-bolinas-lagoon>). Regulatory, state, and federal land management entities have been involved through a Technical Advisory Committee and regularly held Bolinas Partners Meetings.

The project is supported by Congressman Jared Huffman, California Senator Mike McGuire, Assemblymember Damon Connolly, the Golden Gate National Parks Conservancy, the Greater Farallones Association, and the Greater Farallones National Marine Sanctuary. Letters are included in Exhibit 4.

**PROJECT FINANCING**

<b>Coastal Conservancy</b>	<b>\$710,400</b>
US Fish and Wildlife Service ( <i>via</i> a grant to the Conservancy)	\$794,590
Marin County Open Space District	\$1,376,410
Marin County	\$2,000,000
National Fish and Wildlife Foundation	\$3,675,600
Wildlife Conservation Board	\$3,142,000
<b>Project Total</b>	<b>\$11,699,000</b>

A portion of the funding for the proposed authorization is a USFWS NCWC Grant awarded to the Conservancy for this project. As described in the Project Summary section of this staff report, the USFWS has awarded \$814,590 to the Conservancy including the \$794,590 proposed for this authorization and \$20,000 to support Conservancy staff costs.

A portion of the funding for the proposed authorization is anticipated to come from a FY 2022/23 appropriation to the Conservancy from the General Fund for the purposes 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

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(Chapter 258, Statutes of 2021). The proposed project is consistent with this funding source because it is a coastal resilience project that will restore coastal wetlands and elevate a roadway, increasing resilience to sea level rise for a coastal community, critical infrastructure, and endangered species.

Unless specifically identified as “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 proposed project will be undertaken pursuant to Section 31113 of Chapter 3 of Division 21 of the Public Resources Code, which authorizes the Conservancy to address the impacts and potential impacts of climate change on resources within the Conservancy’s jurisdiction (Section 31113(a)).

Pursuant to Section 31113(b), the Conservancy is authorized to award grants to nonprofit organizations and public agencies to undertake projects, including those that reduce greenhouse gas emissions or address extreme weather events, sea level rise, flooding, and other coastal hazards that threaten coastal communities, infrastructure, and natural resources.

Pursuant to Section 31113(c), the Conservancy must prioritize grants for projects that maximize public benefits and have several listed purposes, including reducing greenhouse gas emissions and enhancing coastal wetlands. Pursuant to Section 31113(d), the Conservancy must prioritize projects that provide multiple public benefits, including protection of communities and natural resources; and the Conservancy must consider a variety of ecosystems along the state’s coastline, including protection and expansion of coastal estuaries and lagoons that provide critical feeding and nursery habitat for juvenile fish species and foraging habitat for migratory waterfowl and other waterbirds.

Consistent with these provisions, the proposed project is located in the coastal zone and will restore tidal wetlands adjacent to Bolinas Lagoon which will improve habitat, provide a buffer against the impacts of sea level rise, help sequester carbon pollution, and provide for upslope/landward migration of the wetlands, thus ensuring that the restored wetlands are themselves resilient to sea level rise over the coming decades.

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

Consistent with **Goal 3.2 Restore or Enhance Habitats**, the proposed project will restore 20 acres of tidal wetlands habitat that supports both aquatic and terrestrial species.

Consistent with **Goal 3.2 Anadromous Fish Habitat or Watershed Projects**, the proposed project will restore 20 acres of wetland that will provide nursery habitat for anadromous salmonids.

Consistent with **Goal 4.1 Sea Level Rise Adaptation**, the proposed project will implement a sea level rise project to restore wetland function and provide sea level rise resilience for critical habitat and community infrastructure.



**CEQA COMPLIANCE:**

Marin County Parks prepared the "Revised Final Initial Study/Mitigated Negative Declaration (IS/MND) for the Proposed Bolinas Lagoon Wye Wetlands Resiliency Project" ("IS/MND"). MCOSD, the lead agency under CEQA, submitted the IS/MND to the State Clearing House (SCH # 2023070046) for public and state agency review from July 5 through August 8, 2023. MCOSD received comments from 27 individuals, including agencies and organizations. None of the comments resulted in changes to the CEQA analysis or the proposed project that would require recirculation of the IS/MND. On October 10, 2023, MCOSD adopted the IS/MND (Exhibit 5) and the Mitigation, Monitoring and Reporting Plan for the project (Exhibit 6).

The IS/MND addresses the proposed project and provides information regarding the setting of the project area, the project description, analysis of any potentially significant environmental impacts that could result from implementation of the proposed project, and mitigation measures to reduce potentially significant environmental impacts to a less than significant level. The IS/MND identifies potential project impacts to **biological resources** (steelhead and coho salmon, California red-legged frog, California black rail, native nesting birds, roosting bats, trees, and waters of the U.S. and the state), **cultural resources** (historic roads, unknown archaeological and tribal resources), **water quality** (temporary construction impacts), **noise** (temporary construction impacts), and **transportation** (temporary construction impacts). Mitigation measures proposed in the IS/MND would reduce these impacts to below a level of significance and include resource agency-identified measures to avoid impacts to individual special-status species (including pre-construction surveys and compliance with applicable work windows), the use of signage and traffic control during specific periods of construction work, and the implementation of best management practices for the control of pollutants at construction sites. The IS/MND concludes that, with implementation of the mitigation measures, the proposed project would not result in significant environmental impacts.

A comprehensive listing of mitigation measures, by category and topic is included in Section XIV (pages 76 - 84) of the IS/MND (Exhibit 5) and in the MMRP Exhibit 6).

Staff has independently evaluated the IS/MND and concurs that there is no substantial evidence that the proposed project will have a significant effect on the environment. Staff recommends that the Conservancy find that the project as mitigated avoids, reduces, or mitigates the possible 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 as that term is defined by 14 Cal. Code Regs. § 15382.

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