

COASTAL CONSERVANCY

Staff Recommendation

October 2, 2014

**SOUTH BAY SALT POND RESTORATION:
ADAPTIVE MANAGEMENT STUDIES**

Project No. 02-070-04

Project Manager: Brenda Buxton

RECOMMENDED ACTION: Authorization to disburse up to \$230,000 to Ducks Unlimited, Inc. for applied scientific studies associated with implementation of Phase I projects of the South Bay Salt Ponds Restoration Project.

LOCATION: San Francisco Bay, south of the San Mateo Bridge, in Alameda, San Mateo, and Santa Clara Counties (Exhibit 1).

PROGRAM CATEGORY: San Francisco Bay Area Conservancy

EXHIBITS

Exhibit 1: [Project Location](#)

Exhibit 2: [Eden Landing Pond Complex](#)

Exhibit 3: [South Bay Salt Pond Restoration Project Area](#)

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31160 *et seq.* of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes disbursement of up to two hundred thirty thousand dollars (\$230,000) of Conservancy funds to allow Ducks Unlimited, Inc. to undertake applied studies associated with the implementation of Phase I projects. Prior to the disbursement of any Conservancy funds, Ducks Unlimited, Inc. shall submit for the review and approval of the Conservancy’s Executive Officer a work program, including schedule and budget, and the names of any contractors it intends to use.”

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 project is consistent with the Conservancy’s current Project Selection Criteria and Guidelines.

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2. The proposed authorization is consistent with the purposes and objectives of Chapter 4.5 of Division 21 of the Public Resources Code, regarding the Conservancy's mandate to address the resource and recreational goals of San Francisco Bay Area.
 3. Ducks Unlimited, Inc. is a nonprofit organizations existing under Section 501(c)(3) of the U.S. Internal Revenue Code, and whose purposes are consistent with Division 21 of the Public Resources Code.”
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PROJECT SUMMARY:

This authorization would allow the Conservancy to provide \$230,000 for Ducks Unlimited, Inc. (DU) to undertake critical applied studies associated with the implementation of Phase I of the South Bay Salt Pond (SBSP) Restoration Project, a multi-agency effort to restore 15,100 acres of former Cargill salt ponds in South San Francisco Bay.

The SBSP Restoration Project has an Adaptive Management Plan (AMP) to guide the project through the significant scientific uncertainties associated with a project of this scale. This authorization focuses on two of these uncertainties: 1) can the project maintain current populations of species currently using the salt ponds? and, 2) what are the impacts of public use on wildlife?

One of the species of particular concern to the project is the federally-listed threatened Western Snowy Plover which is found throughout the project, particularly on dry salt flat habitat. The SBSP Restoration Project seeks to balance this species' need for dry salt pond habitat with the project's goal of converting former salt ponds to tidal wetlands and enhancing the ponds for waterbirds. One of the SBSP Restoration Project's strategies for maintaining and increasing Snowy Plover populations is to enhance the existing areas set aside for the Snowy Plover by distributing oyster shell over the salt flats to create additional cover. An early pilot study suggested the presence of shell decreased predation on Snowy Plover eggs and chicks but not enough data was available for a definitive assessment. With cost-savings from the construction of the enhanced managed ponds at Eden Landing (E12 and E13), DU has purchased and will install oyster shells over 50 acres in Pond E14. However, while DU has funds for post-project monitoring and applied studies, it was not known at the time of project funding whether or not oyster shells would even be available, so no allowance was provided for a study of the effectiveness of oyster shells. This management measure could possibly be a key tool for the SBSP Restoration Project to successfully meet its goals. This authorization would provide DU with \$80,000 to conduct a study assessing the effectiveness of oyster shell placement in increasing Snowy Plover nesting and fledging success at Eden Landing.

The second uncertainty regards the impacts of recreation on wildlife habitat. One of the applied studies called for in the AMP to address this question is a study of the public access trail at E12 and E13. This authorization includes \$150,000 for a study that would assess baseline conditions of the site post-construction, but before opened to the public, and compare those with wildlife use after the site is opened to public use. This information will help with design of future public access projects and better quantify existing impacts.

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DU received a \$9 million grant from WCB to construct Ponds E12 and E13. DU is recommended for funding because it is already coordinating many of the post-construction monitoring studies and will be able to efficiently administer these applied studies in conjunction with the other scientific work it is overseeing. In addition to extensive construction experience, DU has also conducted several studies for the SBSP Restoration Project, such as the South Bay Fish Telemetry Study, funded by NOAA-ARRA funds in 2010-13. Construction and science support is part of DU's mission to increase wetland habitats throughout the country.

Site Description: The two studies in this authorization are largely focused on Ponds E12, E13, and E14 in the Eden Landing pond complex (Exhibit 2). E12 and E13 are being transformed with earthwork and water control structures into enhanced managed ponds. These ponds are intended to provide habitat to the shorebirds and other bird species that prefer higher salinities so that former salt ponds in the South Bay can be converted to tidal wetlands. Salt ponds surround nearly the entire San Francisco Bay south of the San Mateo Bridge (Exhibit 3), on lands that were formerly tidal marsh. An estimated 85 percent of the historic tidal marshes in the San Francisco Bay-Delta Estuary have been filled or significantly altered over the past two centuries for urban development, agriculture, and salt production. Although dramatically different from 150 years ago, the South Bay's wetland habitats, including the salt ponds, tidal marshes, sloughs, mudflats, and open bay, are used by large populations of waterfowl and shorebirds, by harbor seals, and by a number of threatened and endangered species, including the California clapper rail, California black rail, California brown pelican, California least tern, western snowy plover, salt marsh harvest mouse, and steelhead trout.

Project History: In March 2003, 15,100 acres of South Bay salt ponds, along with 1,400 acres of crystallizer ponds along the Napa River, were acquired from Cargill with \$72 million from the Wildlife Conservation Board, \$8 million from the U.S. Fish and Wildlife Service, and \$20 million from the Goldman Fund, Hewlett Foundation, Moore Foundation, and Packard Foundation.

Immediately after acquisition, the landowners, California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service implemented the Initial Stewardship Plan which was designed to maintain open, unvegetated pond habitats with enough water circulation to prevent salt production and provide some habitat values. The longer-term planning effort, a 50-year programmatic level plan for restoration, flood protection, and public access that included a first phase of projects, was facilitated by the Conservancy and completed in January of 2009. (The SBSP Restoration Project EIR/S is available at southbayrestoration.org). Phase I implementation began in 2009 and included the construction of 3,040 acres of tidal or muted tidal wetlands, 710 acres of enhanced managed pond, and 7 miles of new public access. The last Phase I construction project will be complete this year and planning for Phase II is underway and will be complete in early 2015. The ponds that were not part of Phase I, nor planned to be part of Phase II, will continue to be actively managed according to the goals set forth in the Initial Stewardship Plan until further implementation planning and the appropriate adaptive management studies are completed.

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PROJECT FINANCING

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| Coastal Conservancy | \$230,000 |
| Total Costs | \$230,000 |

While there are currently no matching funds for the specific studies proposed in this authorization, these are the only funds the Conservancy has provided towards construction of E12 and E13. The Wildlife Conservation Board has provided \$9 million for the construction and post-construction applied studies of these ponds.

The source of the funding for this project is expected to be the Conservancy's fiscal year 2010 appropriation from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84). This funding source may be used for the protection of bays and coastal waters, including projects to prevent contamination and degradation of coastal waters and watersheds, projects to protect and restore the natural habitat values of coastal waters and lands, and projects and expenditures to promote access to and enjoyment of the coastal resources of the state pursuant to the Conservancy's enabling legislation, Division 21 of the Public Resources Code. See Public Resources Code section 75060. The proposed project protects coastal waters and restores natural habitat values by collecting scientific information that will be used to adaptively manage existing tidal wetlands and shallow water ponds in order to prevent undesired ecological outcomes and to design the next phase of project implementation. Finally, as discussed below, the project is consistent with Chapter 4.5 of Division 21.

Consistent with Proposition 84 requirements, the proposed project also includes funding for monitoring and reporting necessary to ensure successful implementation of the project objectives. See Public Resources Code section 75005(n).

Another requirement of Proposition 84 is that for projects that restore natural resources, the Conservancy give priority to projects that meet one or more of the criteria specified in Section 75071. The proposed studies support a restoration project that satisfies the following specified criteria: (a) Landscape/Habitat Linkages – one of the largest wetland restoration projects on the west coast of North America, the project will facilitate wildlife movement, botanical transfer, and sustain large acreage of habitat over time, and (b) Watershed Protection – the project will contribute to long-term protection of and improvement to the water and biological quality of the San Francisco Bay.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

This project would be undertaken pursuant to Chapter 4.5 of the Conservancy's enabling legislation, Public Resources Code Sections 31160-31165, to address resource goals in the San Francisco Bay Area.

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

Under Section 31162(a), the Conservancy may undertake projects to improve public

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access to and around the Bay, without having a significant adverse impact on environmentally sensitive areas and wildlife, such as wetlands, through completion of regional trails, local trails connecting to population centers and public facilities and which are part of a regional trail system, and through the provision of related facilities. The proposed applied studies will include assessing the impacts of public access and recreation on sensitive wildlife areas.

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. Resolving scientific uncertainties through the Adaptive Management Plan's recommended Applied Studies, such as these studies, is an essential element of the phased restoration plan for the SBSP Restoration Project.

Under Section 31162(d), the Conservancy may act to promote, assist, and enhance projects that provide open space and natural areas that are accessible to urban populations for recreational and educational purposes. The public access applied studies will help the SBSP Restoration Project design, construct and manage open space resources for recreational purposes.

Consistent with Section 31163(c), these studies are part of the on-going restoration of the SBSP Restoration Project which meets the following criteria: (1) is supported by adopted regional plans (*San Francisco Bay Plan*, *San Francisco Baylands Ecosystem Habitat Goals Report (1999)*, and the *San Francisco Basin (Region 2) Water Quality Control Plan (June 29, 2013)*), (2) is multijurisdictional (spanning three counties) and serves a regional constituency (the restoration project is of national significance and will provide a regional recreational resource), (3) can be implemented in a timely way, and (4) provides opportunities for habitat and public access benefits that could be lost if the project is not quickly implemented.

The project is also consistent with Sections 31163(a) and (b), directing the Conservancy to participate in and support interagency actions and public/private partnerships in the San Francisco Bay Area to implement long-term resources and outdoor recreational goals. The planning, construction, monitoring, science and management of the SBSP Restoration Project has been a collaborative effort between many federal, state, and local agencies, nonprofit organizations, private foundation, and private businesses.

CONSISTENCY WITH CONSERVANCY'S 2013 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 11, Objective C** of the Conservancy's 2013 Strategic Plan, the proposed studies will assist with the development of recreation and restoration plans for the 11,350 acres remaining in the project.

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 June 4, 2009, in the following respects:

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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. **Support of the public:** This project is supported by Senator Dianne Feinstein, the Richard and Rhoda Goldman Fund, the William and Flora Hewlett Foundation, the Gordon E. and Betty I. Moore Foundation, the David and Lucile Packard Foundation, Resources Legacy Fund, the California Resources Agency, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Santa Clara Valley Water District, Alameda County Flood Control District, the San Francisco Bay Joint Venture, Save The Bay, The Bay Institute, National Audubon Society, Citizen’s Committee to Complete the Refuge, Cargill, and many other agencies, organizations, and individuals.
4. **Location:** The SBSP Restoration Project is in the nine-county San Francisco Bay Area consistent with Section 31162 of the Public Resources Code. These studies are largely based in the northern portion of the Eden Landing pond complex but will benefit the entire project.
5. **Need:** Approximately 85 percent of the tidal marsh in San Francisco Bay has been lost since the Gold Rush, leading to dramatic losses of fish and wildlife, decreased water quality and increased turbidity in the Bay, and changes to physical processes as the size of the Estuary shrank, increasing the need for dredging and the local hazards of flooding. The need for restoration of tidal marsh in San Francisco Bay in order to aid in the recovery of at-risk species, and improve water quality and the physical health of the Bay, is well recognized among scientists and resource managers. Without the resolution of the scientific uncertainties, the ability of the project to continue to restore wetlands will likely be curtailed. Conservancy funding is needed to fill the funding gap for required studies to support on-going SBSP Restoration Project efforts.
6. **Greater-than-local interest:** Restoration of this area is of national significance and will result in the largest tidal wetland restoration project on the west coast of the United States. When combined with other restoration projects underway in San Francisco Bay, including Napa-Sonoma Marsh, Hamilton/Bel Marin Keys, Bair Island, Eden Landing, and Sonoma Baylands, the project is on scale with other national restoration efforts, such as the Everglades and Chesapeake Bay. Restoration of the South Bay salt ponds to a mix of tidal marsh and managed ponds will provide benefits to a large number of species, including migratory waterfowl and shorebirds, and aid in the recovery of several threatened or endangered species, including the California clapper rail and salt marsh harvest mouse.
7. **Sea level rise vulnerability:** Due to their location, all tidal wetland restoration projects can be vulnerable to sea-level rise impacts. However, once the marsh plain of a restored wetland is colonized by vegetation, marshes become efficient sediment traps. Hydrological modeling done as part of the SBSP Restoration Project’s geomorphological analysis indicates that the south Bay’s wetlands are likely to keep

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up with an accelerated pace of sea-level rise. If sea-level rise rates are higher than modeled, it could take longer for marsh vegetation to develop or, in more extreme scenarios, may mean that the restoration sites do not evolve past the intertidal mudflat or shallow open water stage. However, much of the SBSP Restoration Project area is likely to withstand the impacts from sea-level rise for several reasons. The south bay is relatively sediment-rich and Phase I projects have shown much more rapid than predicted sedimentation and colonization by vegetation. These studies will help resolve scientific uncertainties and by doing so, allow wetland restoration to proceed sooner, helping the wetlands establish before sea-level rise accelerates.

Additional Criteria

8. **Urgency:** These studies need to start immediately in order to collect baseline information on public access and on the placement of oyster shells before the 2015 breeding season. If these studies are delayed the opening of the access to the public will also need to be delayed and an entire year of data on Snowy Plovers will be missed.
9. **Resolution of more than one issue:** The Adaptive Management Plan addresses multiple scientific uncertainties that arise when trying to restore habitat for many species, many of which have conflicting habitat needs while at the same time providing public recreation to serve the urban Bay Area.
10. **Leverage:** See the “Project Financing” section above.
11. **Innovation:** Restoration of the South Bay salt ponds is a national model for how to coordinate a scientifically sound, publicly-supported, multi-objective, multi-agency project, on scale with the Everglades and Chesapeake Bay.
12. **Realization of prior Conservancy goals:** This project builds on the Conservancy’s participation in the development of the *San Francisco Baylands Ecosystem Habitat Goals Report*, which has goals, objectives, and recommendations for restoration in San Francisco Bay, and the Conservancy’s participation in wetland acquisition and restoration projects in San Francisco Bay, including Napa Marsh, Bair Island, and Hamilton/Bel Marin Keys. This authorization builds upon previous authorizations by the Conservancy for the SBSP Project, totaling \$20 million in Conservancy funds and \$190 million in federal, other state agencies, local, foundation, and mitigation funding to date.
13. **Cooperation:** The Conservancy has facilitated the long-term restoration planning, by working closely with Department of Fish and Wildlife and U.S. Fish and Wildlife Service, the land managers. A mix of private foundations and federal, state, and local agencies have funded the restoration planning and implementation. In addition, over 50 entities have been identified as stakeholders in this restoration project, including local, state, and federal agencies, nongovernmental organizations, special districts, and utilities, as well as the general public.

CONSISTENCY WITH SAN FRANCISCO BAY PLAN:

The SBSP Restoration Project is within the permit jurisdiction of the San Francisco Bay Conservation and Development Commission (“BCDC”).

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The proposed studies will further the implementation of the project which is consistent with the following policies of BCDC's San Francisco Bay Plan (Reprinted March 2012):

Part III: The Bay as a Resource

Fish, Other Aquatic Organisms and Wildlife (p. 16)

- To assure the benefits of fish, other aquatic organisms and wildlife for future generations, to the greatest extent feasible, the Bay's tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased.

Water Quality (p.19)

- The Bay's tidal marshes, tidal flats, and water surface area and volume should be conserved and, whenever possible, restored and increased to protect and improve water quality.

Water Surface Area and Volume (p. 20)

- Water circulation in the Bay should be maintained, and improved as much as possible.

Tidal Marshes and Mudflats (p. 23-24)

- Where a transition zone does not exist and it is feasible and ecologically appropriate, shoreline projects should be designed to provide a transition zone between tidal and upland habitats.
- Where feasible, former tidal marshes and tidal flats that have been diked from the Bay should be restored to tidal action in order to replace lost historic wetlands or should be managed to provide important Bay habitat functions, such as resting, foraging and breeding habitat for fish, other aquatic organisms and wildlife.
- Any ecosystem restoration project should include clear and specific long-term and short-term biological and physical goals, and success criteria, and a monitoring program to assess the sustainability of the project.

Part IV: Development of the Bay and Shoreline

Public Access (pp. 67-68)

- In addition to the public access to the Bay provided by waterfront parks, beaches, marinas, and fishing piers, maximum feasible access to and along the waterfront and on any permitted fills should be provided in and through every new development in the Bay or on the shoreline, whether it be for housing, industry, port, airport, public facility, wildlife area, or other use, except in cases where public access would be clearly inconsistent with the project because of public safety considerations or significant use conflicts, including unavoidable, significant adverse effects on Bay natural resources. In these cases, in lieu access at another location preferably near the project should be provided.
- Public access to some natural areas should be provided to permit study and enjoyment of these areas. However, some wildlife is sensitive to human intrusion. For this reason, projects in such areas should be carefully evaluated in consultation

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with appropriate agencies to determine the appropriate location and type of access to be provided.

COMPLIANCE WITH CEQA:

Scientific studies are categorically exempt from CEQA review under 14 California Code of Regulations Section 15262. Similarly, 14 Cal. Code of Regulations Section 15306 exempts basic data collection, research, and resource-evaluation activities that will not result in a serious or major disturbance to an environmental resource.