

COASTAL CONSERVANCY

Staff Recommendation
October 5, 2006

PARSONS SLOUGH WETLANDS RESTORATION PLAN

File No. 06-072-01
Project Manager: Trish Chapman

RECOMMENDED ACTION: Authorize the disbursement of up to \$200,000 of grant funds from the U.S. Environmental Protection Agency to the Elkhorn Slough Foundation for preparation of a wetland restoration plan for the Parsons Slough area of Elkhorn Slough.

LOCATION: Elkhorn Slough, Monterey County

PROGRAM CATEGORY: Resource Enhancement

EXHIBITS

- Exhibit 1: Project Location and Site Map
 - Exhibit 2: Parsons Slough Photos
 - Exhibit 3: Strategic Planning Team and Science Panel participants
 - Exhibit 4: Letters of Support
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RESOLUTION AND FINDINGS:

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

“The State Coastal Conservancy hereby authorizes the disbursement of up to two hundred thousand dollars (\$200,000) of grant funds from the U.S. Environmental Protection Agency to the Elkhorn Slough Foundation for preparation of a wetland restoration plan for the Parsons Slough area of Elkhorn Slough, subject to the condition that prior to the disbursement of funds, the Executive Officer of the Conservancy shall approve in writing a work program, budget, schedule and any contractors to be employed for these tasks.”

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed project is consistent with the purposes and criteria set forth in Chapter 6 of the Public Resources Code (31251-31270) regarding enhancement of coastal resources.

2. The proposed project is consistent with the Project Selection Criteria and Guidelines adopted by the Conservancy on January 24, 2001.
 3. Elkhorn Slough has been identified in the County of Monterey's Local Coastal Plan as an environmentally sensitive habitat area which should be preserved and restored.
 4. The Elkhorn Slough Foundation is a nonprofit organization 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:

The proposed project would provide a grant of up to \$200,000 to the Elkhorn Slough Foundation to prepare a restoration plan for the Parsons Slough wetland complex within Elkhorn Slough. The project would be funded from a U.S. EPA grant awarded to the Conservancy.

The Elkhorn Slough estuary, containing California's second largest tract of salt marsh, is currently facing unprecedented rates of tidal wetland loss and degradation. Fifty percent of the tidal salt marsh in Elkhorn Slough has been lost in the past 70 years. This habitat loss is a result of diking and draining, increased tidal flooding which "drowns" the vegetation, and bank erosion which causes the marsh to collapse into the channel. It is predicted that the dramatic rates of tidal wetland loss and degradation in Elkhorn Slough will continue in the near future if no management actions are taken.

The Parsons Slough complex is a 415-acre area in the southeastern section of Elkhorn Slough. In the past, Parsons Slough was extensively covered with tidal salt marsh. Because of severe land subsidence from wetland diking and draining, the elevation is now two feet below a level that can support tidal marsh under current conditions. Muting the tidal prism¹ within the Parsons Slough subarea would enable salt marsh to be restored at the lowered elevation. Parsons Slough accounts for about 30% of the tidal prism systemwide at Elkhorn Slough. Therefore, muting the tides in this subarea could significantly reduce the overall tidal prism and potentially reduce ongoing marsh loss in the main system as well.

The ultimate goal for Parsons Slough would be to restore the area so that salt marsh habitat can be sustained without an artificial muting of the tides. To achieve this, sediment would have to be added to the area to raise the elevation; however, adding sediment to Parsons Slough presents both ecological and regulatory challenges. For this reason, the restoration plan will evaluate the technical and economic feasibility and biological and water quality benefits of different sediment addition alternatives.

The Restoration Plan will evaluate alternatives for restoring tidal marsh in Parsons Slough including options for controlling tidal exchange and adding sediment to mudflats. The plan will consider the effects of various alternatives both within the Parsons Slough complex and system-wide. A preferred restoration alternative will be identified as part of the plan. The selected approach must be flexible enough to be compatible with current conditions, conditions if sediment is added to Parsons, as well as with any future restoration at the mouth of Elkhorn

¹ The tidal prism is the volume of water that moves into and out of the estuary over a tidal cycle. Increasing the tidal prism will increase the velocity of tidal flows, often leading to increased erosion. The opposite may occur when the tidal prism is reduced.

Slough. Development of the plan will be overseen by a Strategic Planning Team and Science Panel similar in makeup to those are overseeing development of the Tidal Wetland Plan (See Project History section for more details).

The Elkhorn Slough Foundation (ESF) has partnered with California Department of Fish and Game (DFG) and the National Oceanic and Atmospheric Administration (NOAA) on several projects related to restoration and management of Elkhorn Slough's resources. ESF is partnering with the Elkhorn Slough National Estuarine Research Reserve to lead the effort to draft a Tidal Wetland Plan for the slough and has secured funding from multiple sources for that project. In 1999, ESF completed a Conservation Plan for Elkhorn Slough that serves as a guide for future conservation activities by identifying critical resources, the most significant threats to those resources, and strategies to protect the resources over time. ESF is extremely qualified to undertake this project.

Site Description: Elkhorn Slough is a biologically rich wetland complex located on the edge of Monterey Bay. Its 3400 acres provide habitat for numerous resident and migratory birds and serves as an important fish nursery and source of nutrients for the bay. The slough ecosystem encompasses an array of wetland types, including salt, brackish, and freshwater marshes, mudflats and subtidal channels. Due to its ecological importance, Elkhorn Slough was designated as a National Estuarine Research Reserve (NERR) in 1979. The Elkhorn Slough NERR is funded by NOAA and managed by DFG. It encompasses approximately 1,400 acres of the Elkhorn Slough ecosystem.

Elkhorn Slough's hydrology has been intensely impacted by humans for well over a century. The construction of the railroad and roads isolated marshes and restricted tidal exchange along the eastern edge of Elkhorn Slough and in areas of Moro Cojo Slough. Ranchers and farmers ditched and diked the lands to remove tidal flow over low-lying marshes and create pasture for cattle grazing between the 1880s and 1940s. In 1947, Moss Landing Harbor was dredged along with a new mouth for the slough dramatically changing the system's hydrography and igniting a positive feedback loop of increased erosion leading to increased tidal prism leading to more erosion.

The Parsons Slough complex is located on the southeast side of Elkhorn Slough and consists of the 255-acre Parsons Slough area and the 160-acre South Marsh area (Exhibit 1B). In the past, the Parsons Slough/South Marsh complex was extensively covered with tidal salt marsh and tidal creeks. In 1872 a railroad embankment was built along the western edge of the complex cutting off several tidal creeks. A bridge was constructed over two of the main creeks at the mouth of Parsons Slough leaving a limited tidal connection. Over the next 90 years, levees were built throughout the complex progressively draining the tidal marsh. As a result of the drying out of the marsh lands, by 1956 the sediments had subsided by several feet (Exhibit 2).

In 1980 the majority of the Parsons Slough complex was purchased and designated as part of the Elkhorn Slough NERR. The land is owned and managed by the DFG. In 1983, a restoration project returned tidal circulation South Marsh and winter storms in 1981-1982 caused a levee breach and returned tidal circulation to Parsons Slough. This change significantly increased the overall tidal prism and exacerbated the systemwide erosion problem. Due to the severe land subsidence that occurred during the years that Parsons Slough was drained, the average land elevation in the complex is now only 1.9 feet above mean lower low water. As a result the areas is primarily mudflat with a fringe of tidal marsh around the edges. Land subsidence has also led

to an increased tidal prism within the complex, creating a similar positive feedback loop to what is seen in the main channel.

Project History: In 2004, the Elkhorn Slough Reserve initiated a planning effort to evaluate the tidal erosion issues at Elkhorn Slough and develop a restoration and management plan for the tidal wetland areas within the slough. Coastal Conservancy staff have participated on the Strategic Planning Team for this effort. Through this planning process, experts from multiple disciplines agreed that without intervention, excessive erosion will continue widening the tidal channels and converting salt marsh to mudflat. This would result in a significant loss of habitat function and decrease in biodiversity. Several projects to address this problem have been identified through preparation of the Tidal Wetland Plan. Restoration of Parsons Slough was identified as the highest priority project because significant habitat improvements can be achieved within the complex, while also potentially achieving systemwide benefits; and yet the project is small enough to be accomplished within 5-8 years. In early 2006, Conservancy staff worked with ESF and the Reserve to develop a proposal for an EPA Wetland Program Development Grant to fund restoration planning at Parsons. Grant funds were awarded to the Coastal Conservancy, and the recommended authorization would provide them to ESF to carry out the restoration planning.

PROJECT FINANCING:

U.S. Environmental Protection Agency (grant to Coastal Conservancy)	\$200,000
Coastal Conservancy (in-kind)	10,015
Packard Foundation	43,177
Elkhorn Slough Foundation	10,000
Calif. Department of Fish and Game	<u>3,920</u>
Total Project Cost	\$267,112

The Coastal Conservancy has received a \$200,000 Wetlands Program Development Grant from the U.S. EPA for preparation of a wetland restoration plan for Parsons Slough. This would be the source of funds for the grant to the Elkhorn Slough Foundation. Conservancy staff time and travel costs would be contributed as an in-kind match to the EPA funds.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

Pursuant to Section 31104 of the Public Resources Code, the Conservancy may "...apply for and accept federal grants and receive gifts, subventions, rents, royalties and other financial support from public and private sources."

Pursuant to Section 31251 of the Public Resources Code, the Conservancy may provide grants for "... corrective measures that will enhance the natural and scenic character ..." of coastal resource enhancement areas. The proposed project is consistent with and will help implement the Elkhorn Slough Conservation Plan, a resource enhancement plan adopted by the Conservancy in December 1999 pursuant to Chapter 6 of Division 21. The proposed project will help restore biological functions and reduce the erosion of marshes due to tidal scour as called for in the Conservation Plan.

Consistent with Public Resources Code Section 31252, the proposed project is consistent with the North Monterey County Local Coastal Program, as described in the “Consistency with Local Coastal Program Policies” section below.

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

Consistent with **Coastal Resources Conservation Goal 5 Objective A**, the proposed project will increase coastal resource conservation by facilitating restoration of 415-acres of degraded wetland habitat that is within a state ecological reserve and a national estuarine research reserve.

**CONSISTENCY WITH CONSERVANCY'S
PROJECT SELECTION CRITERIA & GUIDELINES:**

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines adopted January 24, 2001, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the “Consistency with Conservancy's Enabling Legislation” section above.
2. **Consistency with purposes of the funding source:** See the “Project Financing” section above.
3. **Support of the public:** Conservation and restoration of the Elkhorn Slough ecosystem has broad support from federal, state and local agencies, the community and elected officials. A list of participants on the Strategic Planning Team and Science Panel are provided in Exhibit 3. Support letters for the Parsons Slough project are provided in Exhibit 4.
4. **Location:** The proposed project would be located within the coastal zone of Monterey County.
5. **Need:** The Coastal Conservancy secured EPA funding for the proposed project because the Elkhorn Slough Foundation does not have sufficient funding to undertake the project on its own. Without this action, dramatic rates of tidal wetland loss and habitat degradation will continue to beset Elkhorn Slough.
6. **Greater-than-local interest:** Elkhorn Slough is one of the most ecologically important and largest estuarine systems in California as signified by its designation as a National Estuarine Research Reserve.

Additional Criteria

7. **Urgency:** Elkhorn Slough is eroding at a rapid rate due to the increased tidal prism. Restoration of Parsons Slough is an interim measure that could reduce erosion rates and help preserve the remaining marsh habitat while a larger-scale solution is researched, developed, and eventually implemented. The proposed project would complete restoration planning for Parsons Slough so that a project can be implemented.

8. **Leverage:** See the “Project Financing” section above.
9. **Readiness:** The Elkhorn Slough Foundation is ready to start the planning process and has set a realistic schedule for completion.
10. **Realization of prior Conservancy goals:** The Coastal Conservancy has worked with the Elkhorn Slough Foundation and other partner organizations for almost two decades to preserve and restore the resources of Elkhorn Slough. Tidal erosion and marsh loss within the Slough threaten the resources the Conservancy has worked hard to protect. Restoration of Parsons Slough could benefit the entire ecosystem by reducing the tidal prism and associated erosion within the Elkhorn Slough system.
11. **Cooperation:** The restoration planning will be overseen by a Strategic Planning Committee and Science Panel made up of representatives from federal, state and local agencies, community organizations, researchers and educators (Exhibit 3).

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

Section 2.1 of the North Monterey County Local Coastal Program (LCP) describes Elkhorn Slough as the most significant natural feature in the area, and identifies the need for effective management to protect it and other natural resources in the North County. The proposed project will help identify a preferred strategy for restoring and managing Parsons Slough to protect and restore the salt marsh habitat within the Parsons Slough area.

Section 2.3 defines environmentally sensitive habitats as “areas in which plant or animal life or their habitats are rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.” Section 2.3.1 states that environmentally sensitive habitats of North County “shall be protected, maintained, and, where possible, enhanced and restored.” The proposed will facilitate restoration of salt marsh habitat within Parsons Slough and preservation of marsh habitat within the main system.

COMPLIANCE WITH CEQA:

The proposed project is statutorily exempt from the California Environmental Quality Act (CEQA), pursuant to 14 Cal. Code of Regulations Section 15262. Consistent with §15262, the project will only involve preparation of planning documents and feasibility studies and will consider environmental factors. Upon approval, staff will file a Notice of Exemption for this project.