

COASTAL CONSERVANCY

Staff Recommendation  
December 2, 2010

**HISTORICAL ECOLOGY STUDY OF NORTH SAN DIEGO COUNTY COASTAL  
WETLANDS**

Project No. 10-043-01  
Project Manager: Megan Cooper

**RECOMMENDED ACTION:** Authorization to disburse up to \$300,000 to the San Francisco Estuary Institute for the Historical Ecology Study of North San Diego County Coastal Wetlands.

**LOCATION:** North San Diego County

**PROGRAM CATEGORY:** Resource Enhancement

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**EXHIBITS**

Exhibit 1: [Project Location and Site Map](#)

Exhibit 2: [Project Letters](#)

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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 three hundred thousand dollars (\$300,000) to the San Francisco Estuary Institute (SFEI) for the Historical Ecology Study of North San Diego County Coastal Wetlands. Prior to the disbursement of any Conservancy funds, SFEI shall submit for review and approval of the Executive Officer of the Conservancy a work program and budget, and the names and qualifications of any contractors that it intends to employ in the study.”

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 current Project Selection Criteria and Guidelines.
2. The proposed project is consistent with the purposes and criteria set forth in Chapter 6 of the Public Resources Code, sections 31251-31270 regarding enhancement of coastal resources, and with the authority of the Conservancy under Public Resources Code, section 31111 to award grants to nonprofit organizations for planning and feasibility studies relating to those purposes.

3. The proposed project is identified in several Local Coastal Programs as requiring action to resolve existing or potential resource protection problems.
4. The San Francisco Estuary Institute is a nonprofit organization existing under section 501(c)(3) of the United States Internal Revenue Code, and whose purposes are consistent with Division 21 of the Public Resources Code.”

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**PROJECT SUMMARY:**

Staff recommends that the Conservancy authorize the disbursement of up to \$300,000 to the San Francisco Estuary Institute (SFEI) for the Historical Ecology Study of North San Diego County Coastal Wetlands (“the Study”). SFEI, in collaboration with the Southern California Coastal Water Research Project (SCCWRP) will synthesize diverse historical data about the coastal wetlands, analyze their natural conditions and modification history, and produce an illustrated technical report describing the findings and implications for sustainable wetland restoration planning.

The Study will address a significant data gap for restoration design, planning, and management of the coastal wetlands of North San Diego County. While several restoration projects are in the planning phases, there remains no consensus about the natural structure and function of the coastal wetland systems in this area. To address this need, the project team (SFEI, SCCWRP, and California State University, Northridge) will develop new information about the historical habitat mosaics, hydrology, and native species assemblages that characterized these systems, through a rigorous analysis of historical documents. This information will inform the development of locally appropriate, sustainable restoration strategies that maximize long-term restoration potential and are supported to the greatest possible extent by natural processes. The data will also help understand the limitations imposed by anthropogenic activities, so that realistic, attainable restoration targets can be set. Coastal wetlands in North San Diego County are the focus of the Study because major restoration planning is currently underway at Buena Vista and San Elijo Lagoons, and also because the proposed Interstate 5 widening project will have direct impacts to and require significant mitigation of coastal wetlands along approximately twenty miles between Los Peñasquitos and Buena Vista Lagoons.

The Study builds on the first regional assessment of historical wetland habitat types and distribution, the South Coast T-sheet Atlas (based on the 19th century US Coast Topographic Survey maps), which was supported by funding from the Conservancy. The Atlas provided a new perspective on Southern California coastal wetlands, indicating that historical wetland types and distributions were in some cases quite different from previous assumptions and demonstrating that this information can be directly useful to decision-making about coastal wetland restoration. Particular interest for the proposed Study has developed among agency coastal zone managers, scientists, and the public to better understand the historical characteristics of the North San Diego County coastal wetlands by acquiring additional data beyond the T-sheets.

Specific tasks for the Study will include research and documentation of information about the pre-modification fluvial and tidal channel geometry and habitat characteristics of the coastal

wetlands, historical extent of perennial, seasonal, and tidal wetland habitats, and historical information about the freshwater/tidal interface and wetland/upland ecotones. More detailed analyses of modern histories of the coastal wetlands might be needed for certain systems, which will be selected depending upon available data and management needs/interests. The research and documentation will be synthesized and presented through graphics, images and descriptions of the historical landscapes of the area in a technical report and several meetings and presentations.

SFEI is a nonprofit organization established by a broad range of public and private organizations to fill the niche between environmental science and environmental management/policy. SFEI is a center for developing new tools and methods for environmental assessment for use throughout the state. Over the past 12 years, SFEI has pioneered the use of historical ecology using new techniques for historical research, analysis and mapping to help both natural resource managers and the broader public to understand landscape changes in the San Francisco Bay Area and, increasingly, coastal California.

**Site Description:** The project area includes eight coastal wetland systems in North San Diego County, including, from south to north, Los Peñasquitos, San Dieguito, San Elijo, Batiquitos, Agua Hedionda, and Buena Vista Lagoons, Loma Alta Slough, and Santa Margarita River estuary (Exhibit 1). The total project area is approximately twenty linear miles and one mile inland from the ocean inlet of each coastal wetland. Recent research suggests that these systems had fairly distinct characteristics from other Southern California coastal wetland systems and may have unrecognized potential for habitat and species recovery.

These systems support numerous species of special concern and are the object of substantial recreational and public interest. They support an array of wetland habitat types, but little is known about the relationship of these current habitats to longer-term historical conditions, and there are questions about the long-term sustainability of these features, particularly in the face of anticipated climate changes.

**Project History:** This project will build on an approach consistent with previous Conservancy projects such as Ventura County Historical Ecology study and the Ballona Creek Historical Ecology Study. These projects extended the detail of a regional historical wetland inventory through more intensive local studies and are directly benefiting major Conservancy and other agency-funded restoration projects such as the Santa Clara River Parkway, Ormond Beach, and Ballona Wetlands. The proposed Study will build on the South Coast T-sheet Atlas, approved by the Conservancy on May 27, 2007. The Conservancy has also been involved with restoration planning at Buena Vista and San Elijo Lagoons for the past ten years and is currently involved with resource agency groups to guide the proposed I-5 expansion project to be compatible with, and enhance, the proposed lagoon restoration projects. The proposed Study will provide needed information for the Conservancy's extensive involvement in these projects. The project will also implement recommendations of the Wetlands Recovery Project through the Southern California Integrated Wetlands Regional Assessment Program (IWRAP) framework, which identified the needs for historical wetland inventories and the use of this information in setting local restoration priorities and targets, and will also provide a regional context for the Wetland Managers Group to begin developing subregional goals for wetland restoration and management.

**PROJECT FINANCING**

<u>Coastal Conservancy</u>	\$300,000
<b>Total Project Costs</b>	\$300,000

The anticipated source of Conservancy funds will be the fiscal year 08/09 appropriation of the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84). This funding may be expended, in accordance with the Conservancy's enabling statutes, "for the protection of San Diego Bay and adjacent watersheds" as specified in section 75060(f) of the Public Resources Code. "San Diego Bay and adjacent watersheds" includes all coastal and bay watersheds within San Diego County. (Pub. Res. Code § 75072.6) Consistent with Proposition 84, this Study will provide information necessary to protect the beaches, bays and coastal waters of the San Diego Bay and County for future generations. (Pub. Res. Code § 75003(d)) As discussed below, the project is consistent with Chapter 6 of Division 21.

**CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:**

The proposed authorization will help to accomplish the purposes and objectives set forth under Chapter 6 of the Public Resources Code, sections 31251-31270 by facilitating the identification, prioritization, planning and implementation of wetland restoration and enhancement opportunities in coastal southern California.

Pursuant to section 31251, the Conservancy may award grants to nonprofit organizations for the purpose of enhancement of coastal resources through corrective measures that will enhance the natural and scenic character of identified coastal resource enhancement areas. Pursuant to section 31111, the Conservancy may award grants to nonprofit organizations for planning and feasibility studies that will implement provisions of Division 21. The proposed grant to SFEI is consistent with these authorities because it will aid in the restoration of coastal resource enhancement areas.

Section 31253 permits the Conservancy to provide up to the total cost of any coastal resource enhancement project. The amount of funding provided for this project shall be determined by the total amount of funding available for coastal resource enhancement projects, the fiscal resources of the applicant, and the urgency of the project relative to other eligible coastal resource enhancement projects, and the application of other factors prescribed by the conservancy for the purpose of determining project eligibility and priority in order to more effectively carry out the provisions of this division. The amount of Conservancy funding for this project is appropriate based on the cost of previous historical ecology studies, the project's large geographic scope, the detailed data gathering and interpretation process, and the importance of the information for other Conservancy restoration projects.

**CONSISTENCY WITH CONSERVANCY'S 2007 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):**

Consistent with **Goal 5, Objective A** of the Conservancy's 2007 Strategic Plan, the proposed project will assist in the development of two restoration plans for San Elijo and Buena Vista Lagoons, and will also provide information for future planning processes.

**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:

**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:** The project is supported by local stakeholders, land managers, and resource agencies (see Exhibit 2). The project will also generate substantial public interest, engagement, and education about these coastal systems, including public participation in interviews and local presentations.
4. **Location:** The proposed project would be located partially within the coastal zone of the cities of San Diego, Del Mar, Solana Beach, Encinitas, Carlsbad, and Oceanside.
5. **Need:** The Conservancy has provided leadership in the area of historical ecology and the application of historical information to contemporary projects. The proposed Study was developed as a partnership between SFEI and the Conservancy and it would not be undertaken without funding from the Conservancy.
6. **Greater-than-local interest:** The coastal wetlands of North San Diego County are some of the few remaining coastal wetlands in southern California and are vitally important to the continued health of species that rely on these systems throughout the State. In addition, they are visited by tourists from throughout the State. The project will also provide a model for Southern California coastal lagoon ecological and hydrological function which will be useful not only to San Diego County but potentially to other coastal systems.
7. **Sea level rise vulnerability:** The project will provide needed information on the historical structure of coastal wetlands and how historical configurations and functions could potentially be integrated into restoration or management to help reduce vulnerability to sea level rise.

**Additional Criteria**

8. **Urgency:** To be most effective, the Study should take place in conjunction with the restoration planning at San Elijo and Buena Vista Lagoons and the planning for the I-5

corridor expansion. These planning processes are already underway so it is important that the Study begins soon.

9. **Resolution of more than one issue:** The Study will provide information to help address wetland habitat distribution, water quality issues, and climate change adaptation.
12. **Innovation:** The Historical Ecology Program of SFEI is working with geomorphologists and historical researchers to transform the science of wetland restoration using new historical research, analysis and mapping techniques to reveal the ecology and morphology of rivers and wetlands before they were changed from anthropogenic forces.
13. **Readiness:** SFEI is ready to begin work immediately.
14. **Realization of prior Conservancy goals:** See “Project History” above
17. **Vulnerability from climate change impacts other than sea level rise:** The project will help implement a number of adaptation strategies of the Conservancy’s Climate Change Policy by developing an understanding of how low-rainfall, high-sediment coastal wetlands naturally supported coastal wetland functions. This information will support innovative wetland restoration designs (4d) that use local sediment supply (4b) and living shoreline elements (4n), with transitional zones for wetland migration and planned retreat (4c). In the absence of this fundamental research into the relationship between California coastal wetlands and local climatic controls (5), current projects will not have access to these new concepts and approaches.

#### **COMPLIANCE WITH LOCAL COASTAL PROGRAMS:**

The City of San Diego, Torrey Pines Community Plan (the Local Coastal Program (LCP)) states, “Preserve, enhance and restore all natural open space and sensitive resource areas, including Los Peñasquitos Lagoon and associated uplands...[and] San Dieguito Lagoon.” (Resource Management and Open Space, Goal 5) The proposed project is consistent with the LCP because it will provide information essential to develop plans for accomplishing these goals.

The City of Encinitas LCP states, “The city will encourage and cooperate with other responsible agencies to plan and implement an integrated management plan for the long-term restoration and management of wetlands resources and San Elijo Lagoon (and, where it applies, Batiquitos Lagoon)...” (Policy 10.10, Resource Management Element) The proposed project is consistent with the LCP because it will provide information essential to development of a long-term management plan for San Elijo Lagoon.

The City of Carlsbad LCP states, “Any future restoration, enhancement and preservation of Batiquitos Lagoon shall be consistent with a Batiquitos Lagoon Enhancement Plan” (West Batiquitos Lagoon/Sammis Properties, Section E), which was funded by the Conservancy in 1984. The proposed project is consistent with the LCP because it will provide information essential to develop plans for accomplishing the goals of this plan.

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The City of Oceanside LCP states, “It is a goal of the City to work with other local, State, and Federal agencies... to protect the sensitive biological habitats and water quality of Buena Vista Lagoon.” (Section V. C. Objective 1) The proposed project is consistent with the LCP because it will provide information essential to develop plans for accomplishing this objective.

**COMPLIANCE WITH CEQA:** California Code of Regulations title 14, section 15262 states that a project involving only feasibility or planning studies for possible future actions that have not yet been approved does not require the preparation of an Environmental Impact Report (“EIR”) or Negative Declaration under the California Environmental Quality Act (CEQA) but does require the consideration of environmental factors. The proposed project consists of synthesizing diverse historical data about the coastal wetlands, analyzing their natural conditions and modification history, and producing an illustrated technical report describing the findings and implications for sustainable wetland restoration planning that has not been funded by the Conservancy (or approved by any other public entity). Furthermore, any wetland restoration plans and studies generated will consider environmental factors and will be subject to CEQA review and analysis prior to implementation. Accordingly, the proposed project does not require preparation of an EIR or Negative Declaration. Upon approval, staff will file a Notice of Exemption for the project.