

COASTAL CONSERVANCY

Staff Recommendation

February 2, 2017

Marshes on the Margins in Southern California

Project No. 97-001-04

Project Manager: Megan Cooper

RECOMMENDED ACTION: Authorization to disburse a total of up to \$239,470 to the University of California Davis; U.S. Geological Survey; Southern California Coastal Water Research Project; Point Blue; Aquatic Science Center; Southwest Wetlands Interpretive Association; and the University of Southern California Sea Grant to conduct marsh migration and estuary dynamics studies for the Southern California Wetlands Recovery Project *Regional Strategy*, Santa Barbara, Ventura, Los Angeles, Orange and San Diego counties.

LOCATION: Santa Barbara, Ventura, Los Angeles, Orange and San Diego counties coastal wetlands.

PROGRAM CATEGORY: Resource Enhancement

EXHIBITS

Exhibit 1: [Project Location Map](#)

Exhibit 2: [Grant Application to NOAA](#)

Exhibit 3: [Letters of Support](#)

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31111 and 31251-31270 of the Public Resources Code:

“The State Coastal Conservancy hereby approves disbursement of up to \$239,470 of funds received from the National Oceanic and Atmospheric Administration (NOAA) to conduct a sea-level rise analysis update to the Southern California Wetlands Recovery Project 2001 *Regional Strategy* as follows:

- 1) An amount of up to thirty-nine thousand two hundred and ninety-two dollars (\$39,292) to the University of California Davis;
- 2) An amount of up to sixty-two thousand one hundred and eighty-seven dollars (\$62,187) to the U.S. Geological Survey;
- 3) An amount of up to one thousand four hundred and thirty-one dollars (\$1,431) to the Southern California Coastal Water Research Project;

- 4) An amount of up to four thousand six hundred and fifty-seven dollars (\$4,657) to Point Blue;
- 5) An amount of up to ninety-seven thousand nine hundred and forty-five dollars (\$97,945) to the Aquatic Science Center;
- 6) An amount of up to eleven thousand four hundred and sixty-seven dollars (\$11,467) to the Southwest Wetlands Interpretive Association; and
- 7) An amount of up to twenty-two thousand five hundred and ten dollars (\$22,510) to the University of Southern California Sea Grant.

Prior to the disbursement of any funds to a grantee, the grantee shall submit for the review and written approval of the Conservancy's Executive Officer a work program, including budget and schedule, and any contractors to be employed for these work program 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 authorization is consistent with Chapter 3 of Division 21 of the Public Resources Code, regarding the funding of feasibility studies and plans, and with Chapter 6 of Division 21 of the Public Resources Code, regarding resource enhancement.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
3. The USC Sea Grant, Point Blue and the Southwest Wetlands Interpretive Association are 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."

PROJECT SUMMARY:

Staff recommends that the Conservancy authorize disbursement of up to \$239,470 of federal funds from the National Oceanic and Atmospheric Administration (NOAA) to seven grantees for technical assistance needed to conduct a sea-level rise analysis required to update the 2001 *Regional Strategy* for the Southern California Wetlands Recovery Project (WRP). The *Regional Strategy* serves as decision-making guidance for management of coastal wetlands and requires updating to reflect current conditions. The funds for this project will come from NOAA's Ecological Effects of Sea Level Rise grant awarded to the Conservancy specifically for the WRP, and that includes funding for Conservancy staff time.

In order to better support its mission, the WRP is currently engaged in the development of a *Regional Strategy* - a regional plan that will guide wetland restoration that is sustainable and adaptable to the effects of sea-level rise. The *Regional Strategy* will develop quantifiable and spatially-explicit restoration objectives for wetlands recovery by conducting a science-based analysis of the current extent and state of tidal wetlands, the historical structure and functions of

those wetlands, and the future vulnerabilities in the face of sea level rise. Over the past year the Science Advisory Panel of the WRP has identified some key uncertainties that remain in completing the *Regional Strategy*. One key gap in knowledge is how the dynamic estuaries of Southern California, most of which are intermittently-open estuaries (IOEs), will be affected by sea-level rise. Another deficiency is the understanding of how and where to restore upland transition zones for wetland migration—an aspect of wetland restoration that will likely become the main opportunity for many estuarine systems to persist in the future. This proposed project will analyze these questions and incorporate the answers into the *Regional Strategy*.

The proposed project will make use of the well-established WRP management, agency and scientific networks in order to expand existing modeling tools, better address sea-level rise effects on IOEs, and explore natural and nature-based features for these systems. It will leverage existing networking, research, and modeling platforms, while also developing new methodologies and supporting field-based studies. The results of this proposed project will answer vital questions needed to complete and implement the *Regional Strategy* over the next century.

In order to maximize collaboration with on-going SLR modeling efforts and minimize redundancy, the proposed project will work with the following seven expert organizations to identify vulnerabilities and opportunities for tidal wetland resiliency.

University of California Davis (UC Davis)

UC Davis will develop and test a methodology for predicting closed and open phases in intermittently open estuaries (IOE) throughout Southern California. This methodology will project how the probability, timing, frequency, and duration of mouth closure may change under future sea-level rise conditions. Further, UC Davis will develop conceptual models to predict how water levels and salinity within IOE wetlands may change during closed-mouth phases. The results from these modeling efforts will then be tested at a number of case-study sites to be determined at the beginning of the project.

UC Davis will also be coordinating the proposed project's SLR modeling components to ensure that all the proposed grantees for this authorization adhere to the scope, timeline and budget.

U.S. Geologic Survey (USGS)

USGS will integrate existing modeling efforts for Southern California, the Coastal Storm Modeling System (CoSMoS) and Wetland Accretion Rate Model for Ecosystem Resilience (WARMER), at four fully tidal, open-mouth marsh sites (Pt. Mugu, Seal Beach, Tijuana River Estuary, and Newport Bay). This integration will help better understand how SLR and storm events interact to affect marsh accretion and long-term vulnerability. Further, USGS will use outputs from UC Davis to explore how habitats within IOEs may change during tidal marsh closure periods.

Southern California Coastal Water Research Project (SCCWRP)

SCCWRP will translate the results from UC Davis and USGS into an on-going, regional assessment of wetland vulnerability for the WRP *Regional Strategy* Update (funded by the U.S. Fish and Wildlife Service, Landscape Conservation Cooperative – see “Project History” section, below). SCCWRP is currently developing a model to assess wetland vulnerability to SLR across Southern California. While this approach is providing a vital regional assessment of SLR vulnerability for the *Regional Strategy*, it is still a course approach that lacks an analysis of future IOE inlet response. By integrating the results from this proposed project, the *Regional Strategy* will be more accurate in identifying vulnerable wetlands, making it possible to provide useful guidance for resiliency adaptation to wetland managers.

Point Blue

Point Blue will integrate products from the three SLR modeling-focused grantees (UC Davis, USGS, & SCCWRP) into its existing *Our Coast, Our Future* (OCOF) online visualization tool. Putting the proposed project’s products on OCOF will allow the user to visualize opening or closing of IOEs, and query and download information relative to different mouth closure states. Specifically, OCOF will allow users to seamlessly view and query the changes in inundation and habitat and plant communities in those areas. The OCOF tool is already successful in the San Francisco Bay Area in expanding wetland vulnerability information throughout the restoration community.

Aquatic Science Center (ASC)

ASC, a joint powers authority staffed by the San Francisco Estuary Institute, will work with Conservancy staff and WRP constituent groups to develop SLR adaptation strategies for tidal wetlands throughout Southern California. One key adaptation strategy that will likely be important in Southern California is to allow wetland to migrate landward over the upward sloping ground behind the marshes, also known as the transition zone (T-zone). Considering that, ASC and the Conservancy will work with the WRP Wetland Managers Group and Wetland Advisory Group to define T-zone criteria required for mapping existing and potential future T-zone restoration areas. ASC will then develop a T-zone restoration guidance to be a part of the *Regional Strategy* Update for the WRP.

Southwest Wetlands Interpretive Association (SWIA)

In order to ensure that the products from the proposed project team work descriptions, above, are effective in informing on-the-ground wetlands management, SWIA will use 2-4 case studies to better understand how the proposed models and tools can be integrated into management activities such as conservation and restoration planning. Case studies may include specific wetland sites and/or urban landscapes managed by local governments adjacent to protected wetlands in Southern California. SWIA will develop work plans, including interactions with case study stakeholders, as appropriate, for each site and leverage ongoing efforts of the proposed project team.

Additionally, SWIA will lead stakeholder workshops in Orange and San Diego counties. The workshops will include the WRP Wetlands Advisory Group—a WRP group made up of wetland resource managers who were selected based on their unique knowledge of local wetlands. SWIA will also invite outside stakeholders to the workshops including local government representatives, whose decisions directly affect the resilience of wetlands in the face of SLR.

University of Southern California Sea Grant (USC Sea Grant)

USC Sea Grant will lead the same stakeholder workshops as described in the SWIA section, above, except that it will lead the workshops in the counties of Santa Barbara, Ventura, and Los Angeles.

Site Description: The proposed project area includes the WRP region that consists of the coastal wetlands and watersheds within the counties of San Diego, Orange, Los Angeles, Ventura, and Santa Barbara. The WRP region spans from Point Conception south to the U.S./Mexico border (see Exhibit 1).

Project History: The WRP is a broad-based partnership established in 1997 that is chaired by the California Natural Resources Agency Director and led by Conservancy staff. There are 18 member agencies of the WRP, including thirteen State and five Federal agencies. WRP partners include non-profits, scientists, and local communities. In 2001, the WRP published its *Regional Strategy*, which is the guidance document that explains WRP’s restoration, conservation and scientific goals. The *Regional Strategy* needs to be updated to reflect new data and information and contemporary approaches to ecological restoration. Incorporating an understanding of how climate change will impact the WRP’s approach to restoration is a primary impetus for updating the *Regional Strategy*.

The Conservancy has provided financial, technical and in-kind staff support to the WRP since its inception in 1997. The typology of wetland archetypes that will form the basis of this project was developed through a grant from the Conservancy to San Francisco Estuary Institute in May 2007. The SLR model that will form the basis of the SLR climate adaptation strategies will be the Coastal Storm Model System (“CoSMoS”) for Southern California, funded by the Conservancy in April 2013. In September 2014, the Conservancy was awarded a grant from the U.S. EPA on behalf of the WRP to update a regional restoration strategy for Southern California’s wetlands. The Conservancy received a grant from the U.S. Fish and Wildlife Service, Landscape Conservation Cooperative in October 2014 and funded SCCWRP to develop the SLR adaptation strategies for the *Regional Strategy* update on January 29, 2015. In September 2016, the Conservancy was awarded a grant from NOAA on behalf of the WRP to further the scientific analyses supporting the regional restoration strategy for Southern California’s wetlands. This NOAA grant is the subject of the proposed authorization.

PROJECT FINANCING

NOAA grant funds to UC Davis	\$39,272
NOAA grant funds to USGS	\$62,187

NOAA grant funds to SCCWRP	\$1,431
NOAA grant funds to Point Blue	\$4,657
NOAA grant funds to ASC	\$97,945
NOAA grant funds to SWIA	\$11,467
NOAA grant funds to USC Sea Grant	\$22,510
Project Total for Year 1	\$239,470

The expected fund source for this project is a grant from the NOAA's National Ocean Service's Center for Coastal Ocean Science through the Ecological Effects of Sea-level Rise Grant Program. (See Exhibit 2.) Although the total grant award to the Conservancy is \$850,330.63, NOAA will award its grant funds on an annual basis over the four year-long project, called Marshes on the Margins. Staff intends to return to the Conservancy each year to authorize disbursement of the annual portion of the total NOAA grant award.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The proposed project would be undertaken pursuant to Chapters 3 (Section 31111, regarding plans) and 6 (Sections 31251-31270, regarding resource enhancement) of the Conservancy's enabling legislation, Division 21 of the Public Resource Code.

Section 31111 permits the Conservancy to award grants to public agencies and non-profit organizations for the purpose of funding and undertaking plans. Consistent with this section, the proposed project will grant funds to seven entities, all of which are nonprofit organizations or public agencies, to develop information for the WRP's *Regional Strategy*, a plan for guiding the WRP's and its partners' actions.

Consistent with Section 31251 of the Public Resources Code, the proposed project will grant funds to four public agencies (USGS, SCCWRP, ASC and UC Davis) and three non-profit organizations (Point Blue, SWIA and USC Sea Grant), to undertake a SLR analysis for the WRP's strategic plan, identifying a priority list of Southern California natural resource areas most vulnerable to the natural or human-induced event of SLR. The proposed project will assist the Conservancy in meeting its purposes and objectives under this section by increasing the feasibility, cost-effectiveness, and persistence of wetland restoration and enhancement projects in Southern California's coastal zone and coastal watersheds in light of SLR. The work on the proposed project, in support of the WRP, will help to develop regional habitat goals and strategies that are needed to carry out successful coastal resource enhancement projects.

Consistent with Section 31251.2(a), the local public agencies that have jurisdiction in the proposed project areas that lie outside of the coastal zone are all members of the Wetlands Managers Group of the WRP and are guiding all of the work done on the *Regional Strategy* project, including the proposed project.

Consistent with Section 31252, the proposed project will provide SLR strategies for restoring and managing wetlands that are identified within the applicable certified local coastal plans or programs (LCPs) or that would benefit coastal wetlands and watersheds if the restoration

strategy will be implemented outside the coastal zone. All restoration and management recommendations provided for wetlands outside of the coastal zone will have direct ecological and resiliency benefits within the coastal zone such as migration space, water quality, and sediment supply to wetlands and watersheds.

Consistent with Section 31253, the proposed project is consistent with this section for the established project eligibility and priority factors. In determining the amount of Conservancy funding for this project, the factors identified in Section 31253 were considered and applied, as described in “Consistency with Conservancy’s Project Selection Criteria & Guidelines” section, below.

**CONSISTENCY WITH CONSERVANCY’S 2013 STRATEGIC PLAN
GOAL(S) & OBJECTIVE(S), AS REVISED JUNE 25, 2015:**

Consistent with **Goal 5, Objective A** of the Conservancy’s 2013-2018 Strategic Plan, the proposed project will inform the update of the WRP’s *Regional Strategy*. The *Regional Strategy* is the planning document used by the WRP to prioritize and select various restoration, conservation, and preservation efforts throughout southern California’s wetland habitats. The proposed project and the updated *Regional Strategy* will help local project proponents plan more successful projects by providing SLR decision-making tools and specific restoration guidance and management strategies for SLR resiliency.

**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 October 2, 2014, 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. **Promotion and implementation of state plans and policies:**
 - a. The *Regional Strategy* of the Southern California Wetlands Recovery Project (WRP, 2001) is currently utilized in planning and implementing coastal wetland restoration in Southern California and this update will incorporate resilience and future climate conditions into this on-going effort;
 - b. The update of the *Regional Strategy* was identified as a priority in the State’s 2014 Wetland Program Plan, a collaborative plan with the California Department of Fish and Wildlife, the State Water Resources Control Board, and the Delta Conservancy;
 - c. The proposed project as an update to the *Regional Strategy* will respond to the Governor’s Executive Order S-13-08 instructing all state agencies to plan and

- consider a range of SLR scenarios in order to increase resiliency to SLR for all projects in areas of SLR risk. The update to the *Regional Strategy* will include SLR adaptation measures for tidal wetlands and will incorporate these measures into site-specific guidance for wetlands restoration; and
- d. The proposed project as an update to the *Regional Strategy* also aligns with the goals listed in the *CA Climate Adaptation Strategy/Safeguarding California: Reducing Climate Risk Plan* (CA Natural Resources Agency, July 2014) in terms of improving management practices for coastal and ocean ecosystems and resources by including climate adaptation strategies.
4. **Support of the public:** The WRP has enjoyed the support of the general public for many years due to efforts in public outreach via its County Task Forces. The County Task Forces provide a county-wide forum for public, private, and non-profit wetlands and watershed stakeholders to help implement feasible projects, mobilize support for funding, channel community concerns to the WRP member agencies, and promote wetlands education and information-gathering. Key members of the County Task Forces now make up the Wetland Advisory Group, which will serve as the central stakeholder group on the proposed project. Additionally, expert scientists in the wetland restoration community and the WRP Science Advisory Panel support the project. See Exhibit 3 for support letters.
 5. **Location:** The proposed project as an update to the *Regional Strategy* addresses the coastal zone throughout the Southern California region and will benefit the coastal resources in Southern California by providing scientifically-sound information that is needed to develop and manage coastal restoration projects regarding future climatic conditions.
 6. **Need:** The Conservancy needs technical assistance to complete the update to the *Regional Strategy*. UC Davis, USGS, SCCWRP, and Point Blue are experts in the SLR modeling field. ASC is a leader in developing SLR adaptation strategies such as transition zones restoration. SWIA and USC Sea Grant have strong experience in gathering and engaging stakeholders in vulnerability projects across Southern California. All of these entities have the appropriate technical expertise to carry out the project's defined tasks. However, none of these entities has the funding to complete this necessary work absent this proposed authorization.
 7. **Greater-than-local interest:** By definition, the WRP is a regional partnership of agencies committed to promote and implement coastal restoration in Southern California. The proposed project as an update to include SLR in the WRP's *Regional Strategy*, will allow projects across the region to coordinate and learn from one another, ultimately facilitating more consistency in the restoration and management practices of Southern California's coastal resources.
 8. **Sea level rise vulnerability:** Tidal wetlands in Southern California are highly vulnerable to SLR because of their location on the coast and their inability to migrate inland due to existing infrastructure and development constraints. This proposed project is consistent with the Governor's Executive Order S-13-08 as it develops a strategy for incorporating sea level rise scenarios into planning for wetlands restoration projects, in an effort to reduce expected risks and increase resiliency to SLR.

Additional Criteria

9. **Urgency:** The proposed project is urgent because this portion of the proposed project NOAA grant funds expires in September 2020. The Conservancy needs the proposed grantees' technical expertise on SLR to complete the update to the *Regional Strategy*.
10. **Leverage:** The Conservancy received a NOAA grant for the proposed project that covers approximately 93% of the proposed project cost. (See the "Project Financing" section, above.)
11. **Innovation:** The proposed grantees are at the forefront of SLR modeling and developing methods that incorporate historical ecology and climate change planning into landscape-level planning. They are also experts in developing innovative web-based platforms that make accessing complicated modeling information easy-to-do and understandable for local wetland managers. The proposed project's team of grantees is able to provide the best SLR information, including with respect to innovation, for this update to the *Regional Strategy*.
12. **Readiness:** The proposed project team already began to participate in meetings and discussions on the update to the *Regional Strategy*, and is ready to begin working on specific tasks upon Conservancy authorization.
13. **Realization of prior Conservancy goals:** "See "Project History" section, above.
14. **Return to Conservancy:** See "Project Financing" section, above.
15. **Cooperation:** The proposed project is part of the *Regional Strategy* guiding the WRP. The WRP is a cooperative effort between 18 state and federal agency partners. In addition, this proposed project is a collaborative effort among scientific institutions, non-profit organizations and the Conservancy.
16. **Vulnerability from climate change impacts other than sea level rise:** Coastal wetlands in the proposed project area are vulnerable to climate change impacts other than SLR. The proposed project will incorporate SLR in the update to the *Regional Strategy*; however, potential climate change impacts other than sea level rise will be assessed qualitatively and adaptation measures will be incorporated into the *Regional Strategy* as appropriate.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The California Coastal Act states that each local government lying in whole or in part within the coastal zone shall prepare an LCP for that portion of the coastal zone within its jurisdiction. See Section 30500(a) of the Public Resources Code. LCPs are basic planning and regulatory tools used by local governments to guide development in the coastal zone, in partnership with the Coastal Commission. LCPs specify appropriate location, type, and scale of new or changed uses of land and water.

Consistent with the intent of Section 30500(a), the proposed project will provide technical assistance to update the regional strategy for Southern California wetland restoration. The update includes a variety of tools for Southern California entities to use to design more resilient and successful wetland restoration projects, consistent with the respective LCP and other coastal plans.

COMPLIANCE WITH CEQA:

The proposed project is categorically exempt from review under the California Environmental Quality Act (CEQA) pursuant to 14 Cal. Code of Regulations (CCR) Section 15306, because it consists of “basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource.”

The proposed project includes data analysis, planning, and stakeholder coordination, all of which will not result in a serious or major disturbance to an environmental resource.

Additionally, the proposed project is statutorily exempt from CEQA pursuant to CCR Section 15262, because the proposed project involves only feasibility or planning studies for possible future actions which the Conservancy has not approved, adopted, or funded.

Upon approval, staff will file a Notice of Exemption for the project.