

COASTAL CONSERVANCY

Staff Recommendation
August 22, 2019

LOS PEÑASQUITOS LAGOON MONITORING, PHASE 6

Project No. 78-046-05
Project Manager: Joel Gerwein

RECOMMENDED ACTION: Authorization to disburse up to \$150,000 to the Southwest Wetlands Interpretive Association to continue physical, chemical, and biological monitoring of Los Peñasquitos Lagoon in San Diego County.

LOCATION: Los Peñasquitos Lagoon, San Diego County

PROGRAM CATEGORY: Resource Enhancement

EXHIBITS

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

Exhibit 2: [Los Peñasquitos Lagoon 2017-2018 Monitoring Report](#)

Exhibit 3: [Project Letters](#)

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31251 et seq. of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of an amount not to exceed one hundred fifty thousand dollars (\$150,000) to the Southwest Wetlands Interpretive Association (“SWIA”) to continue physical, chemical, and biological monitoring of Los Peñasquitos Lagoon in San Diego County, consistent with the Los Peñasquitos Lagoon Enhancement Plan. Prior to commencement of the project, SWIA 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 SWIA has entered into agreements sufficient to enable the grantee to implement the project.”

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 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 Southwest Wetlands Interpretive Association is a nonprofit organization organized 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 the disbursement of up to \$150,000 to the Southwest Wetlands Interpretive Association (SWIA) to continue physical and biological monitoring of Los Peñasquitos Lagoon (LPL) (See Exhibit 1). SWIA will collaborate with the Tijuana River National Estuarine Research Reserve (TRNERR) to conduct LPL monitoring. TRNERR supports monitoring at LPL because it is a regionally significant site that informs wetlands restoration projects at the Tijuana River Estuary and elsewhere in the region.

The proposed funding will enable the long-term monitoring program at LPL to continue uninterrupted for an additional five years. The long-term monitoring program is the heart of the adaptive management program at LPL and is crucial to the implementation of the LPL Enhancement Plan (Enhancement Plan). Results guide management actions by the LPL Foundation (Foundation), the California Department of Parks and Recreation (State Parks) and the City of San Diego, as well as track responses to these actions. Continuing the long-term monitoring for five years will result in a total of 35 years of monitoring data, a rare data set that will provide valuable longitudinal data on the condition of the lagoon and similar coastal lagoons along coastal California.

Monitoring parameters include water quality, nutrients, soil salinity, lagoon inlet monitoring, fish and invertebrates, and vegetation. Water quality monitoring is conducted at three stations, using YSI Exo dataloggers, which measure temperature, salinity, dissolved oxygen, pH, turbidity, and water level every 15 minutes. Nutrient levels (orthophosphate, nitrate / nitrite (combined), ammonium, and chlorophyll) are monitored monthly at one site. Soil salinity is

measured using soil cores sampled along sixteen transects. In addition, a nearby weather station measures air temperature and local rainfall. These data are telemetered and delivered via website (torreypines.trnerr.org). The open or closed state of the lagoon inlet and the level of tidal exchange is assessed with a webcam, which is streamed on the same website. Water level data, collected via YSI Exo dataloggers as described above, are also used to analyze the spatial and temporal extent of tidal influence. A profile of the channel at the mouth is obtained monthly using a laser measuring device. Vegetation monitoring (Percent cover of total and for each species, bare ground, and litter) occurs annually on sixteen transects, varying in length from 20 to 325 m. Fish sampling consists of annual seine sampling at five sites, as well as bimonthly deployment of an enclosure trap and BINCKE net at one site and minnow traps at four sites. Invertebrates are assessed annually with core sampling at five sites for benthic invertebrates and transects for epifaunal invertebrates. Sampling methods are designed to make results comparable to ongoing monitoring at the Tijuana River Estuary, which is part of a nationwide NOAA effort. SWIA will prepare annual monitoring reports (Exhibit 2), and monitoring data will be available in real time via their website.

The monitoring program is designed to inform management of LPL. Water quality provides one example of how monitoring informs management. Water quality parameters (dissolved oxygen and salinity) are the regulatory triggers for performing mouth maintenance. Monitoring thus informs management decision regarding when to use heavy equipment to open the lagoon mouth. Monitoring also documents lagoon water quality response to mouth opening. Vegetation is another example of a strong nexus between monitoring and management. Long-term monitoring of vegetation at the lagoon has documented dramatic changes due to anthropogenic inputs of water. Historically, all three tributaries to the lagoon were dry during summer months, aside from Los Peñasquitos Creek that may have flowed year-round during exceptionally wet seasons. The lagoon was characterized by vegetation that could tolerate the high salinities that occurred during the dry season, when the lagoon closed and the mix of ocean and creek water in the lagoon evaporated and became hypersaline. As the watershed developed and became urbanized, however, dry-weather flows into the lagoon dramatically increased. Lagoon vegetation shifted, with declines in species associated with saline habitats and increases in fresh- and brackish-water species. Because long-term monitoring documented these vegetation changes, the Foundation and State Parks were able to identify potential restoration responses and management actions related to these dry season freshwater inputs.

Importantly, this monitoring program is not designed to simply continue measuring the same parameters indefinitely. While the program retains a core element of consistently monitoring some key parameters, it has also added additional monitoring to address changing management needs. For example, vegetation transects have been added in the marsh-upland transition zone to monitor shifts in natural communities with sea level rise and climate change.

Site Description: Los Peñasquitos Lagoon is a 0.62-square-mile intertidal wetland located in the north coastal area of the City of San Diego, about sixteen miles north of downtown, and just north of the intersection of Interstates 5 and 805, between the communities of La Jolla and Del

Mar (Exhibit 1). Much of LPL is owned and managed by State Parks as the LPL Preserve. It is adjacent to Torrey Pines State Park and State Beach, which lie immediately to the west and south.

The 98.5-square-mile LPL watershed is an urbanized area of the City of San Diego and is comprised of three major drainages: Carroll Canyon, Los Peñasquitos Canyon and Carmel Canyon. LPL and its watershed have been identified by the State Water Resources Control Board as an impaired water body with sedimentation and siltation from nonpoint sources threatening habitats, particularly in the lagoon and lower stream corridors.

Grantee Qualifications: SWIA has successfully managed Conservancy funding for LPL monitoring since 2012. Since its founding in 1979, SWIA has been dedicated to the acquisition, preservation, and restoration of wetlands, and to educating the public about the value of wetlands. SWIA has managed \$30 million of wetlands projects, mostly in the Tijuana Estuary, but also in LPL. SWIA works in collaborative partnerships with federal, state, and local agencies and is a cooperating association with California State Parks, which owns most of the study area, and the U.S. Fish and Wildlife Service.

Project History: The Conservancy approved the LPL Enhancement Plan in 1985. The Plan provides for a monitoring program “...to gauge the health and ecological value of the lagoon system...to document changes in the functional values of the lagoon...and to evaluate the success of the various elements of the enhancement program.” The Foundation and the Pacific Estuarine Research Laboratory (PERL) at San Diego State University began the monitoring program in 1987 with a baseline study sampling adult and juvenile fishes, benthic invertebrates, vegetation and physio-chemical parameters within the lagoon. Until 2004, PERL carried out the LPL monitoring program under an agreement with the Foundation. In 2004, PERL’s monitoring functions and staff were transferred to SWIA, which continues to carry out LPL monitoring and is also conducting the NOAA monitoring of the Tijuana River National Estuarine Research Reserve (TRNERR) and post-construction monitoring of the South San Diego Bay Salt Pond Restoration Project. The Conservancy has supported the monitoring program since 1991, with an authorization in that year and subsequent augmentations in 1996, 2004, 2006, and 2012. In 2006, the Conservancy authorized a grant of \$250,000, later augmented by \$3,000, to the Foundation and to the TRNERR, which funded monitoring through 2011. In 2012, the Conservancy authorized an additional grant of \$250,000, later augmented by \$37,500, to SWIA to fund monitoring through 2019. While SWIA now manages LPL monitoring, the Foundation and other interested entities (e.g., State Parks) will continue to be engaged in this work and will help shape a monitoring program that addresses management needs.

In addition to funding LPL monitoring, the Conservancy has funded enhancement and restoration planning for LPL. In 2007, the Conservancy granted \$328,000 to the Foundation to construct a sediment detention basin on Los Peñasquitos Creek and to educate the public regarding the importance of reducing sediment inputs to LPL. In 2008, the Conservancy granted \$341,500 to the Foundation, later augmented by \$44,550, to mechanically open the LPL mouth when water quality monitoring indicated that it was necessary to do so. In 2016, the

Conservancy granted \$183,320 to the Foundation to prepare a Programmatic Environmental Impact Report for LPL Enhancement and to prepare a feasibility study for a 23-acre pilot enhancement project. The 2016 project is still underway. LPL monitoring is critical to inform this ongoing enhancement planning effort.

PROJECT FINANCING

Coastal Conservancy

(Los Peñasquitos Lagoon Special Deposit Fund)	\$150,000
National Oceanic and Atmospheric Administration	\$185,000
Project Total	\$335,000

The Los Peñasquitos Lagoon Special Deposit Fund consists of fees assessed on development permits issued by the City of San Diego and the California Coastal Commission in the coastal zone portion of the LPL enhancement area. (Pub. Res. Code section 30526(a)). These funds are held by the Conservancy and may be spent only for enhancement activities in the lagoon. (Pub. Res. Code sections 30526 and 31108.5.) The proposed actions are consistent with the purposes of the fund because the monitoring program is an element of the enhancement plan for the lagoon as approved by the Conservancy and Coastal Commission in 1985. The Conservancy has supported the monitoring program since 1991 with an authorization from the fund in 1991 and subsequent augmentations in 1996, 2004, 2006, and 2012.

The National Oceanic and Atmospheric Administration (NOAA) is providing approximately \$185,000 for this project. Approximately \$25,000 is in the form of funding for general operations at the Tijuana National Estuarine Research Reserve from the Office of Coastal Management within NOAA. In addition, NOAA's National Centers for Coastal Ocean Science program is providing approximately \$160,000 for the continued operation and maintenance of two dataloggers at LPL.

TRNERR will provide in-kind support for the monitoring project valued at \$15,000 annually. Core operations of the TRNERR, including lab space, technical training, and project supervision, will support this project and are funded by annual awards from NOAA. The dataloggers and telemetry equipment used for monitoring were purchased with a prior grant from the County of San Diego Vector Control Program, with an approximate cost of \$40,000.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The proposed action is consistent with Chapter 6 of the Conservancy's enabling legislation, Division 21 of the Public Resources Code Sections 31251-70. Consistent with Section 31251, the proposed action is part of a coastal resource enhancement plan and will provide information to

enhance the natural and scenic character of an area inside the coastal zone that has been impacted by incompatible land uses. Consistent with Section 31252 the proposed action is identified in City of San Diego, North City Local Coastal Program as requiring public action to help resolve questions concerning impact of local development on natural resources.

Consistent with Section 31263, the Conservancy may fund up to the total cost of the resource enhancement activities proposed. The amount of funding recommended for the proposed project is based on the amount of funding available for LPL resource enhancement projects, the fiscal resources of the applicant and its project partners, and the urgency of the project relative to other projects eligible for funding.

**CONSISTENCY WITH CONSERVANCY'S [2018-2022 STRATEGIC PLAN](#)
GOAL(S) & OBJECTIVE(S):**

Consistent with **Goal 6, Objective A** of the Conservancy's 2018-2022 Strategic Plan, the proposed project will inform the ongoing restoration and enhancement planning for LPL, as well as guiding ongoing management actions to restore and enhance the lagoon.

**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:** The project supports the implementation of the plans and policies below.

California @ 50 Million: The Environmental Goals and Policy Report (2015): Steward and Protect Natural and Working Landscapes; Provide resources for long-term stewardship of lands. The proposed project is designed to accomplish this goal by monitoring a natural landscape to identify restoration and enhancement opportunities.

Safeguarding California: Reducing Climate Risk Plan, 2018 Update: Identify and research evolving trends to anticipate climate impacts and proactively prepare for a range of potential scenarios. Secure and leverage funding for research and monitoring related to climate impacts on the ocean and coast. The proposed project will accomplish

this goal by monitoring a wetland system to identify climate-related and other trends in wetland health and inform management to enhance resilience.

California Water Action Plan: Protect and restore important ecosystems (restore coastal watersheds and strategic coastal estuaries). The proposed project is designed to accomplish this goal.

Southern California Wetlands Recovery Project (WRP): Preserve and restore coastal wetland ecosystems. The proposed project was developed at the request of the WRP and is designed to accomplish the WRP's goals.

4. **Support of the public:** Los Peñasquitos Lagoon remains a highly regarded natural area within the city. The community and public agencies concerned with the lagoon's management support the long-term monitoring program as a key element necessary to support management actions. See Exhibit 2 for project support letters.
5. **Location:** The proposed project would be located within the coastal zone of the City of San Diego.
6. **Need:** The recommended action is needed to maintain the continuity and integrity of the monitoring program outlined in the Los Peñasquitos Lagoon Enhancement Plan adopted by the Conservancy in 1985, and no other source of funding is currently available. The cost of the monitoring program exceeds the financial capacity of the Foundation.
7. **Greater-than-local interest:** Los Peñasquitos Lagoon and the Torrey Pines Reserve are major natural and recreational resources in the region. LPL itself is popular for bird watching and there is hiking on established trails. LPL is also part of a larger State Park and State Beach complex. LPL's tidal wetlands of the lagoon represent a habitat type that largely has been lost from the region. Also, the long-term monitoring program offers a 30-year perspective on this system and is a signature effort in Southern California. The LPL monitoring program provides insight into trends in condition of lagoons throughout Southern California and a source of monitoring methods that could be incorporated into monitoring programs at other estuaries and lagoons in the region.
8. **Sea level rise vulnerability:** This project is not vulnerable to the effects of sea-level rise since this is a monitoring project. However, it will track water level variations and other ecosystem responses to climate change.

Additional Criteria

9. **Urgency:** Funding is urgently needed to maintain the continuity of this long-term monitoring program.
10. **Leverage:** See the "Project Financing" section above.
11. **Conflict resolution:** The long-term monitoring record is highly regarded by regulatory agencies in evaluating development proposals including: the I-5/I-805 widening project, the

Pacific Coast Highway bridge replacement and the construction of sediment management basins in the lower watershed.

12. **Readiness:** SWIA is currently carrying out the monitoring program and is prepared to continue.
13. **Realization of prior Conservancy goals:** See “Project History” above.
14. **Return to Conservancy:** See the “Project Financing” section above.
15. **Vulnerability from climate change impacts other than sea level rise:** This project will not be affected by other climate change factors, but will track ecosystem changes in LPL.
16. **Minimization of greenhouse gas emissions:** The monitoring project involves limited driving to field sites, but the use of telemetered dataloggers will help minimize unnecessary trips by indicating when systems are functioning properly.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

Biological monitoring at LPL is consistent with the policies contained in the City of San Diego North City Local Coastal Program (LCP) effectively certified by the Coastal Commission in 1988. Specifically, the LCP states that: “A coastal restoration project should be undertaken with the Coastal Conservancy in order to properly establish the environmental management strategies necessary to enhance the natural viability of the Los Peñasquitos Lagoon.” (Torrey Pines Community Plan, LCP Addendum, 1981). Elsewhere, the LCP states, “The [LCP] concurs with the Los Peñasquitos Lagoon Enhancement Plan and Program, which has been developed to provide the measures necessary for restoring and enhancing the environmental qualities of the lagoon...” (Torrey Pines Community Plan, p. 33) An ongoing monitoring program is necessary to inform design of future restoration projects and evaluate the effectiveness of past restoration activities.

CEQA COMPLIANCE:

This authorization involves data collection, research and resource evaluation activities that will not result in a major or serious disturbance to the environment. Any future enhancement projects that may be developed from this data have not been reviewed, approved or funded by the Conservancy. The project therefore is categorically exempt pursuant to Title 14, California Code of Regulations section 15306. Upon approval, staff will file a Notice of Exemption.