

# Tijuana River National Estuarine Research Reserve (TRNERR)

## Program Manager Reports

Report Period: 1 July 2025 through 31 March 2026

### **TASK: REFUGE MANAGER REPORT**

**Sally Brown, Wildlife Refuge Manager, San Diego Bay NWR  
and Tijuana Slough NWR**

#### **1. Nesting Shorebirds**

It is nesting season for our threatened and endangered birds. There are western snowy plover eggs in the fenced beach nesting area and chicks on the beach. These eggs are well camouflaged, and the chicks are small and unable to fly. Please help us provide a safe refuge for them by keeping dogs leashed and observing from a distance. California least tern numbers have been very low in the early part of the 2026 nesting season but they are expected to be nesting on the beach soon.

Last summer, during the 2025 nesting season, we had 26 plover nests and 77 tern nests on the beach north of the river, a decrease from the 56 plover nests and 208 tern nests documented in 2024. In addition, there were 99 tern nests and 21 plover nests at Border Field State Park. The reduction in numbers has been attributed to limited prey fish availability, predation by corvids, harriers, peregrines, and gull billed terns, and an ongoing long-term trend of limited fledging success.

Our new BARK Rangers program will be kicking off on the beach in May with the help of the Bird Alliance and the Friends of San Diego Wildlife Refuges. Our four-legged friends and their caretakers will be invited to take the BARK Rangers pledge to **B**ag your pet's waste, **A**lways leash your pet, **R**espect wildlife, and **K**now where you can go. Newly sworn in BARK Rangers will earn a bandana.

#### **2. Light-footed Ridgway's Rail**

We are continuing our work with Team Ridgway's Rail in a captive rearing effort between State and Federal wildlife agencies, San Diego Zoo Wildlife Alliance, SeaWorld San Diego and the Living Coast Discovery Center. We've revised our propagation plan to address the genetics of the captive population based on the results of a genetic study conducted by the U.S. Geological Survey. The genetic study produced an estimate of the effective population size throughout the species range of only 158 reproducing adults. To improve the genetics of our captive rearing population, trapping was conducted in December and January, and egg collection is ongoing this spring. Four adult females were collected, and two chicks have hatched from collected eggs. Two more eggs are being incubated at SeaWorld. Based on the results of the USGS study, collections were targeted for the most genetically diverse rail populations, and rails have been incorporated into the captive rearing program from three different north San Diego County marshes this year.

A new survey protocol for the rail annual census is being tested by the U.S. Fish and Wildlife Service this year as well that includes a standardized level of effort and randomly selected survey points to produce results are statistically comparable and allow for the estimation of detection probabilities and calculation of population size.

### **3. Other Wildlife**

Refuge staff continue to work as part of a consortium of scientists, NGOs and resource agencies investigating possible reintroduction sites for the critically endangered Pacific pocket mouse. Refuge staff attended the Pacific pocket mouse working group meeting in January. Researchers conducted a habitat assessment on the refuge in August, access routes were cleared during the winter months, and surveys are planned for summer. The Refuge Manager will attend a Pacific pocket mouse release organized by the San Diego Zoo Wildlife Alliance and USGS at North San Mateo, Orange County, in May.

Surveys for endangered salt marsh bird's-beak were conducted in the marsh in 2025 as part of the Rare Plant Inspect and Manage Monitoring effort by the San Diego Management and Monitoring Program. You can read about this management and monitoring effort here:

[https://sdmmp.com/view\\_project.php?sdid=SDID\\_sarah.mccutcheon%40aecom.com\\_57cf0196dff76#data-files-tab](https://sdmmp.com/view_project.php?sdid=SDID_sarah.mccutcheon%40aecom.com_57cf0196dff76#data-files-tab)

Following winter rains, the presence of San Diego fairy shrimp was documented within a vernal pool on the refuge for the first time since 2008.

### **4. Facilities Improvements**

Nine beautiful new interpretive signs have been installed along the north and south McCoy trails and provide information on native species, habitats, and restoration efforts within the reserve. A sign dedication event was held to celebrate the installation in February.

Post and cable fencing has been repaired at several locations along the McCoy trails.

Maintenance clearing was performed along the refuge trails at the west end of Sunset Avenue this winter and spring. We ask that trail users please remain on the trails due to the presence of sensitive habitat areas adjacent to the trails.

## **TASK: OVERSIGHT AND IMPLEMENTATION OF RESERVE OPERATIONS**

**Chris Peregrin, TRNERR Reserve Manager, California State Parks**

### **1. Development and Coordinated Implementation of Reserve Programs**

Start In coordination with the Core Program Managers, the Reserve Management Team worked to ensure all core-programs are integrated and maintain effective communications, consistency of purpose, and remain mutually supportive and dependent on each other.

The Reserve Management Team facilitated weekly NERR program manager meetings, including the core programs of research education, stewardship and training and engagement. The Reserve Management Team worked with the program managers to facilitate a monthly all-staff meeting that included sharing of topics across programs. The Reserve Manager contributed to monthly manager meetings with the CA State Parks San Diego Coast District core managers, including management, education, natural resources, law enforcement, maintenance, and administration. The Reserve Manager supported weekly education sector meetings as the sector has been going through growth and re-structuring. The Reserve Management Team supported bi-weekly stewardship sector check-ins. The Reserve Management Team facilitated an analysis of staff workspace needs and availability and adjustment of workspaces to support the growing education program and the Tijuana Estuary Foundation.

The Management Team worked with the Core Program Managers and NOAA Office for Coastal Management on refinements to the submitted TRNERR Comprehensive Management Plan.

Efforts continued to ensure that TRNERR is effectively coordinated with the NERR national program. The Management Team worked with Reserve Staff, NOAA, and additional partners to continue to make progress on the necessary action and recommendations of the Section 312 findings.

The Reserve Manager contributed to regular meetings of the California-based NERRS, including NERR managers from Elkhorn Slough and San Francisco Bay and the Office for Coastal Management liaison. The Reserve Manager contributed to regular NOAA West Coast Region management meetings, including coastal management representatives from California, Oregon, Washington and Alaska and Office for Coastal Management managers.

The Reserve Manager supported and attended the NERRS Managers sector meeting in South Carolina, October 2025. The Assistant Reserve Manager and GIS Specialist attended the NERRS Stewardship sector meeting at the Weeks Bay NERR in Alabama. TRNERR was represented at the NERRS Education sector meeting at the GTM NERR in Florida in November 2025 by the Education Specialist and CSP District Interpreter II (now the Education Coordinator).

The Management Team worked with the Core Program Managers and partners to attract, retain, and develop exceptional staff at TRNERR, and cultivate a strong commitment by the management organizations to those individuals and their career development pathways.

The Management Team worked with CA State Parks Interpretation and Education Program to re-structure the education staffing for the San Diego Coast District. This includes the designation of the TRNERR Education Coordinator as a CA State Park

Interpreter II, that will share some education program management responsibilities throughout the San Diego Coast District.

The Management Team worked with the TRNERR Core Programs to on-board a new TRNERR Volunteer Coordinator.

The Management Team worked with the Tijuana Estuary Foundation to integrate the new Communications Specialist fellow.

The Management team worked with CA State Parks administration on the promotion of a Stewardship Assistant position from Park Maintenance Aide to Forestry Aide.

The Management Team worked with Core Program Managers to develop the annual NOAA grant application, prepare required performance reports, provide all appropriate information for regulatory reviews, and report as necessary on all NERRS performance measures. Reports were submitted consistent with specified time, format requirements, and outcomes in accordance with OCM and NOAA deadlines.

The Management Team worked with Core Program Managers to monitor and report on the various NERRS performance measures instituted for each sector, and to meet the intent and reporting requirements of the Section 312 evaluation metrics.

## **2. Management of Reserve Budget**

The Management Team coordinated with the Core Program Managers, CA State Parks and the Tijuana Estuary Foundation (Foundation) staff, to ensure that funds supported the on-going implementation of the NOAA approved management plan and the outcomes presented in this award, and the award allocated to our non-profit partner (Tijuana Estuary Foundation). The Management Team worked with Core Program Staff to seek additional funding and support as needed, and to ensure existing funds and budgets within each program were effectively managed.

The Management Team held weekly meetings to review active accounts and spending. The Reserve Manager contributed to quarterly budget review meetings with San Diego Coast District management. The Assistant Manager and Staff Services Analyst work with District and Headquarters administrative staff to track budgets.

California State Parks established the San Diego Coast District NOAA Grant Review Team primarily for oversight of the reserve operations award submittal process as well as staffing of positions split between the Tijuana Estuary Foundation and California State Parks. The Grant Review Team is composed of the Assistant Reserve Manager, San Diego Coast District (District) Natural Resources Program lead, the District Superintendent, the District environmental coordinator, and the Reserve Research Coordinator who is an employee of the Tijuana Estuary Foundation, and the Foundation's Administrative Director. The Grant Review Team has the decision-making authority over all state park agreements, grants, and contracts associated with reserve

operations including the NOAA operations award and the Coastal Training Program (Training & Engagement) contract.

The San Diego Coast District NOAA Grant Review Team was updated on the status on the application timeline for the upcoming operations award and changes to the process.

The Reserve Manager continued work with the Assistant Reserve Manager, Staff Services Analyst and CA State Parks Administration staff to manage the NOAA and CA State Parks operating budgets and to verify that the grant had been fully expended. The Assistant Reserve Manager and Staff Services Analyst to close out grant expenditures.

### **3. Development of TRNERR Partnerships**

The Management Team worked with Core Program Managers to maintain and improve upon the existing partnerships that help make this reserve effective and unique. For example, primary management of the Reserve involves a collaborative effort between CA State Parks, the Tijuana Estuary Foundation, and the US Fish and Wildlife Service, along with guidance and support from NOAA. The structure of this partnership is outlined in several MOUs between these partners.

A subset of the San Diego Coast District NOAA Grant Review Team continued work with the CA State Parks Partnerships Division to further develop an update to the Memorandum of Agreement between CA State Parks and the Tijuana Estuary Foundation for management of the TRNERR.

The Management Team continued work with CA State Parks legal and San Diego County Parks on a Memorandum of Agreement for the joint operation of the Nelson Sloan Quarry- a project that will beneficially re-use excess sediment from TRNERR for the landform and habitat restoration of an abandoned quarry adjacent to the Reserve.

The Management Team worked with the U.S. Navy to advance an application to the Navy's REPI program to support conservation efforts for nesting bird habitat in the San Diego South Bay area.

The Management Team continued to collaborate with the Tijuana River Valley Recovery Team (TRVRT), a working group of government and public representatives led by San Diego Regional Water Quality Control Board. Within grant period 2012, the TRVRT published a Recovery Strategy which is intended for use by each participating partner to shape plans for the River Valley, and to seek funds for implementation of key components that will help create long-term sustainable habitat and infrastructure in the River Valley. Toward this partnership-

- The Management Team contributed to quarterly TRVRT meetings.
- The Management Team contributed to the development and submittal of annual report and communication for California and Mexico Border Relations Council.
- The Management Team continued collaboration with International Boundary and Water Commission Area Operations Manager and other staff on Tijuana River Valley pollution issues.

- The Management Team continued support for the development improvements at the South Bay International Wastewater Treatment Plant.

The Management Team facilitated quarterly meetings of the TRNERR Advisory Council and work to ensure continued and effective communication between the Council members and the public. The Management Team worked with the Core Program Managers to serve as a liaison for those seeking to learn about the Tijuana Estuary.

The Management Team continued increased efforts to strengthen the partnerships within the NOAA Regional context, with specific focus on partnerships between TRNERR and the Coastal Zone Management Program for California- including the CA Coastal Commission and the State Coastal Conservancy.

The Management Team worked with the Core Program Managers to build upon relationships with Native American Tribes. The Management Team supported the Support the alignment of grant funding for a Kumeyaay representative to work at TRNERR through a fellowship opportunity.

The Management Team attended and provided brief presentation/remarks at the annual Tribal Heritage Preservation Officer state-wide meeting held in San Diego County at the Jamul Indian Village of the Kumeyaay Nation.

#### **4. Oversight of Reserve Facilities and Public Access Opportunities**

Through matching funds from CA State Parks, the Management Team worked with appropriate Reserve staff and partners, including CA State Parks staff, to coordinate maintenance of reserve facilities, development of new facilities when appropriate, and ensure a safe Reserve environment. The Management Team worked with partners to identify, facilitate, and evaluate appropriate public access opportunities. The Management Team worked with partners to identify and resolve conflicts between public use, operational needs, and resource conservation.

The Management Team worked with the CA State Parks design office to further the Border Field State Park Resilience, Access and Habitat Restoration Project (RAHR), including design consultation and environmental review. This project is expected to go out to bid in the Summer 2026.

Additional effort included coordination with the County of San Diego Department of Park and Recreation to align reserve operations with County operations, including the newly developed Tijuana River Valley campground, the proposed sediment basin in Smuggler's Gulch and valley-wide access and restoration efforts. Seasonal closures of Border Field State Park continued in response to storm events, cross-border flows and flooding, and infrastructure impacts and failure. Out of precaution and public safety, the park was closed to hiking, biking, equestrian activity and vehicles when the roads and trails became inundated with cross-border flows. The City of San Diego and San Diego County have increased nearshore ocean water quality sampling efforts in order to improve our understanding of local pollution patterns and public health risks associated

with ocean water contact. The Management Team focused on safe public access related to these issues.

The Management Team worked with CA State Parks law enforcement and maintenance to manage road and trail opening/closures during flooding episodes. and maintenance on park opening. The Management Team worked with CA State Parks to facilitate clean-up funds and contracted work from the California Conservation Corps to clean up flood-related debris on Reserve roads and trails following flooding events of December 2025.

The Management Team worked with the Core Program Managers to coordinate use of Reserve facilities as a community resource for meetings and gatherings to support the TRNERR vision, including use of facilities by visiting professionals, or used for events as determined consistent with the vision of TRNERR and State and Federal policies.

The Management Team continued to work with the Core Program Managers and community representatives to support meeting space use for local community groups that align with the mission of the TRNERR.

## **TASK: EDUCATION PROGRAM**

**Haley Calhoun, TRNERR Education Coordinator, California State Parks**

### **1. Implementation of Education Programs**

#### *A. Formal and Non-formal Teacher Training*

Digital materials were created to prepare teachers for their field trip. These include an online booking system, teacher prep packets, and teacher prep videos. Teacher training for M.A.R.S.H. and Estuary Explorers have been eliminated as requirements, decreasing barriers to new teachers visiting the Reserve with their classes. The Education Coordinator began initial planning for optional training offerings.

#### *B. Student-centered Formal and Informal programs*

The education team led twelve in-person elementary school programs and four college tours with support from volunteers. In total, 264 elementary and 49 college students visited the Reserve. Bookings were limited to returning teachers only during the Fall semester as the education team reworked the booking system and teacher prep materials. Bookings were also limited to elementary programs as a new interpretive team learned the two elementary programs and worked to update the activities' content and appearance. Middle & High School programs will reopen in July.

The Education Specialist facilitated virtual field trips through California State Parks (CSP), Parks Online Resources for Teachers and Students (PORTS). The 3<sup>rd</sup> through 5<sup>th</sup> grade program titled *Salt Marsh Secrets* was provided to twelve schools serving a total of 401 students. The statewide program experienced a

significant drop in participation in the Fall of 2025 that carried over to Spring 2026.

The Reserve's virtual programs developed for PORTS are available on their own landing page on the PORTS website: <https://ports.parks.ca.gov/>

### C. *Interpretation*

TRNERR continued to offer two public walks every weekend that included general nature walks, bird walks and a walk utilizing all senses led by a docent who is blind. On average, 4-5 people attend each nature walk and 5-6 attended each bird walk. In addition to these regularly offered walks, the Education Specialist provided three specialized walks. One celebrated San Diego's first *Climate Week* and highlighted the resiliency of the Tijuana Estuary and ecosystem services that estuaries provide (this was part of Tijuana River Action Month and was by led by several Reserve staff across the programs). Fifty-five people attended this walk. In January, the annual King Tides Walk focused on how the estuary responds to rising sea levels and was attended by twenty-one people.

The Education Specialist and Park Interpretive Specialists continued facilitating *Junior Rangers* every Saturday. The statewide program is geared toward children aged 7-12 and is designed to help them discover the rich natural and cultural heritage preserved in parks. For this reporting period, *Junior Rangers* was offered 30 times and attended by 33 children.

Throughout this reporting period, TRNERR Education staff, with the help of volunteers, tabled at ten community events to engage participants with hands-on activities and provide information about the Reserve. These included *Love Your Wetlands Day*, science fairs, career fairs, and other events to engage families in the natural world. These outreach efforts resulted in thousands of visits to the TRNERR table.

As of the 16th annual Tijuana River Action Month (TRAM), TRNERR staff celebrated Latino Conservation Week with a kickoff to TRAM that was hosted at the visitor center and was attended by 73 people. On September 20th, the Reserve honored Coastal Cleanup Day with a beach cleanup. Twenty people attended and 298 pounds of trash were collected. There was even a local Girl Scout who not only volunteered but used part of their troop money to provide sunscreen and snacks for participants. In October, Reserve staff partnered with the Eyaay Ahuun Foundation and Friends of International Friendship Park to host a closing event to wrap up Tijuana River Action Month (TRAM). This event showcased all TRAM event organizers and a summary of why TRAM is important. It included guided walks, hands on art, Kumeyaay artisans, and a display of art submitted from various TRAM events. Twenty-seven people attended. (*See also Stewardship, and Training & Engagement*)

#### *D. Visitor Services*

The Tijuana Estuary Visitor Center had 3,521 visitors from October 1, 2025 to March 31, 2026. As of November, the visitor center is now closed on Sundays; the operating days are now Wednesday through Saturday.

### **2. Production of Outreach Materials**

The Education Specialist produced an e-newsletter each month this reporting period including highlighting volunteers, other special events, and accomplishments. Social media posts were created and shared once a week on average. The Park Interpretive Specialists created flyers and newsletters to promote education programs to local teachers and parents.

### **3. Volunteer Capacity Building**

Following the retirement of Reserve Volunteer Coordinator August, a new one was hired by November. Each program continued engaging long-term volunteers in work around the reserve and the Education Coordinator and Education Specialist trained a group of four volunteers for the Education Program before the start of Fall semester.

### **4. Environmental education and interpretive capacity and leadership roles**

The CSP K-12 Access Interpreter I, Haley Calhoun, was promoted to Interpreter II and became the Reserve's Education Coordinator effective in March. The team is the most robust it has ever been in terms of staffing capacity. There is an Education Coordinator, Part-time Education Specialist (Interpreter I), and two seasonal Park Interpretive Specialists. We hope to hire a full-time Education Specialist (Interpreter I) in 2026.

#### **Task: TRAINING AND ENGAGEMENT PROGRAM (*formerly COASTAL TRAINING PROGRAM (CTP)*)**

**Dr. Kristen Goodrich, TRNERR Training and Engagement Director,  
Tijuana Estuary Foundation, *formerly Southwest Wetlands Interpretive Association***

### **1. Deliver training and technical assistance to coastal decision-makers**

During this reporting period, TRNERR's Training and Engagement Program (TEP) continued to deepen its role as a connector across communities, disciplines, and borders informing environmental management throughout the Tijuana River Watershed.

TEP's work to elevate cultural heritage in planning for environmental change reached an important milestone. Following a series of collaborative workshops, a near-final assessment—co-developed with the California Office of Historic Preservation and Scripps Institution of Oceanography—was shared with participants for review. This work is already informing next steps: through the National Geographic Society's *Preserving Legacies Project*, TEP will carry these findings into implementation in the coming year. This period also included a deliberate focus on strengthening TEP's capacity for multinational engagement—both internally across staff and externally with partners.

At the same time, TEP expanded its leadership in addressing cross-border marine debris challenges. In October 2025, the Marine Debris Leadership Academy (MDLA) convened 27 participants across the U.S. and Mexico through immersive, hybrid sessions that combined:

- Site-based learning across the watershed
- Adaptive leadership development
- Cross-sector and cross-border relationship building

This effort marked a shift from coordination to sustained collaboration. Building on this momentum, TEP plans to launch a Marine Debris Leadership Coalition in the next reporting period, with quarterly convenings to support continued alignment and action among MDLA alumni.

TEP also made progress on binational planning tools and technical assistance in the area of flood response. In this reporting period, a near-final draft of the Binational Debris-Related Flooding Response Guide was distributed for review, reflecting priorities identified through earlier binational workshops.

Alongside this, TEP provided targeted technical assistance to a wide range of partners through:

- Facilitation and advisory support
- Evaluation and survey design
- Presentations and field-based learning opportunities

Specifically, technical assistance to advance efforts to integrate green infrastructure principles and nature-based solutions into the state of Baja California's policies continued. At the municipal and regional scale, TEP continued to serve as a trusted advisor and convener. This included participation in the Municipal Parks System Advisory Group and the IMPAC Environmental Sector Subcommittee, contributing to more coordinated and evidence-based urban sustainability planning.

This coordination was complemented by applied, on-the-ground work. Through a San Diego Foundation / Binational Resilience Initiative-funded project, TEP continued to support a site assessment at UABC Tecate to inform the design of a green infrastructure pilot, contributing technical analysis and context-specific design criteria for nature-based solutions in the watershed.

The Director of TEP continues to serve as President of the Board of the National Estuarine Research Reserve Association; on various local, regional, and national advisory bodies; and as the Reserve mentor for the Margaret A. Davidson Fellow.

## **2. Report training and technical assistance outcomes**

In this period, TRNERR's Training and Engagement Program (TEP) completed and reported on outcomes of several multi-year and -partner projects including:

- Completion of the NERRS Science Collaborative (NSC) transfer project ['Transferring Knowledge to Understand the NERRS Niche in Addressing Marine](#)

[Debris](#),’ (NERRS’ Niche) final deliverable - a virtual [webinar](#) hosted by the NERRS Science Collaborative to share and guide users through the [Roadmap](#) developed by the project team.

- Final [resource guide](#) and [webinar](#) for [Reciprocal Relationships in Reserves: Establishing a Community of Practitioners for Identifying and Using Cultural Ecosystem Services Approaches](#) project. Developed to offer pathways to understand cultural ecosystem services.
- Tijuana River Action Month (TRAM) 2025 involving cleanups, educational events, and outreach efforts in collaboration with local organizations and institutions. TEP reported notable outcomes including 1,767 participants, and 294,701 lbs of trash removed across 1,572 acres.
- Using various methods, CTP evaluated projects and related convenings and technical assistance and analyzed and submitted resulting data including but not limited to NERRS priority issues and focus areas, purpose, format, services, key partners, participation, contact hours, and outcomes among other metrics and indicators of success.

Additionally, TEP reported on technical assistance to support efforts to understand how communities in San Diego access and connect with the coast among various coastal decision-makers including the California Coastal Conservancy and California Marine Sanctuaries Foundation.

TEP continues to participate in training on new program standards and reporting for more efficient implementation and submits entries to the updated performance monitoring database in accordance with the FY reporting requirements and timeline.

## **TASK: STEWARDSHIP PROGRAM**

**Lorena Warner-Lara, TRNERR Assistant Reserve Manager,  
California State Parks**

### **1. Large-Scale Habitat Restoration and Protection**

#### *Goat Canyon Sediment Basins*

During this reporting period, Engineering/Environmental Resources Group Inc. exported approximately 20,000 cubic yards of sediment from the processing pad and excavated approximately 20,000 cubic yards of deposition material from the Goat Canyon Sediment Basin in Fall 2025.

The Goat Canyon Sediment Basins currently contain two types of debris capture infrastructure: stationary bollards and floating booms. The facility was originally constructed with the stationary bollards (2005) which were designed to capture large to medium sized debris and later upgraded with two floating trash boom systems (2011) designed to increase the capture efficiency of floating debris such as plastics and foam. Currently, the Goat Canyon Sediment Basins contain two floating trash booms, one in the upper basin, and one in the lower basin.

The existing trash capture infrastructure is effective at capturing and consolidating large volumes of debris within the Sediment Basins; however, the system can be overwhelmed with repeated storms and high volume of debris, reducing debris capture efficiency. In recent transborder flows, the existing trash boom interception technology in Goat Canyon has flipped over due to the high velocity flash flood nature of rain events in this ephemeral creek as well as the large volume of debris. A debris interception technology specialist has been consulted in order to address these vulnerabilities and the unique challenges of using trash boom technology in Goat Canyon's event dominated system, compared to more common aquatic environments with deep water, lower velocity, and year-round flows. Through competitive grant contests and by leveraging operational funding opportunities the Reserve has acquired support funding, through two sources, to upgrade the existing trash booms and implement clean-up and educational programming. These funding sources include:

- NOAA Marine Debris Program NOAA-NOS-ORR-2022-2007199; \$269,000
- NOAA NERRS Operations Award Supplemental NA23NOS4200172; \$80,000

#### *Nelson Sloan Quarry Restoration and Beneficial Reuse of Sediment Project*

The Reserve Management Team continued work on the Nelson Sloan Quarry Restoration and Beneficial Reuse of Sediment Project with the State Coastal Conservancy (SCC), San Diego County Parks, and consultant (Dudek) on final design and permitting. This project will help with long-term stabilization of Goat Canyon sediment management activities and can provide a receiving site for future sediment excavated from the Tijuana Estuary Tidal Restoration Program (TETRP). SCC granted \$250,000 in 2017, and an additional \$250,000 in 2020, to the California State Parks to support environmental compliance and the development of a use agreement for restoration of the abandoned Nelson Sloan Quarry in the Tijuana River Valley (TRV). These grants supplemented approximately \$800,000 additional funds from CA Department of Water Resources and San Diego County Water Authority toward this effort. On July 6, 2023, California State Parks issued a Notice of Determination (NOD) to certify the Final Environmental Impact Report (FEIR) for the Nelson Sloan Quarry Restoration and Beneficial Reuse of Sediment Project. The NOD and the FEIR were published on the [State Clearinghouse](#) on July 6, 2023.

During this reporting period, the project team continued efforts of the above project focused on regulatory permitting from the City of San Diego, the San Diego Regional Water Quality Control Board, and the US Fish and Wildlife Service. Additionally, the project team started discussions with the CA Department of Fish and Wildlife. The project team also continued to develop updated cost estimates for project implementation with input from the CA State Parks Southern Service Center.

#### *Tijuana Estuary Tidal Restoration Program (TETRP)*

The Reserve Management Team, Research Coordinator, Tijuana Estuary Foundation Project Manager, USFWS, and project team continued work on the Tijuana Estuary Tidal Restoration Program II Phase I. The State Coastal Conservancy granted \$340,000 (2017) and \$3.192 million (2023) to Southwest Wetlands Interpretive Association to support planning related to TETRP II Phase I, a tidal prism and wetland restoration

project in the Tijuana Estuary. These grants supplemented approximately \$900,000 additional funds from the CA Wildlife Conservation Board toward this effort. California State Parks issued a Notice of Determination on the Final EIR which was published in the [State Clearinghouse](#) on March 24, 2023. A Record of Decision for the Final EIS was issued by the U.S. Fish and Wildlife Service in May 2023 and the Notice of Availability was published in the [Federal Register](#) on March 31, 2023. Under Alternative 2, approximately 68 acres of coastal wetlands and 15 acres of native transitional and upland habitat would be restored within the Tijuana Estuary. In January 2024, the Coastal Conservancy Board approved a \$30 million grant to SWIA for project implementation- this represents about 50% of needed implementation funds. During this reporting period, the team continued to advance and adapt elements of the project design to fit current funding and to advance regulatory permit application packages. (see also Research)

*Border Field State Park Resilience, Access and Habitat Restoration Project (RHAR)*  
*See Oversight and Implementation.*

## **2. Small-Scale Habitat Enhancement and Protection**

During this period, the Manager and Assistant Reserve Manager continued to work with Stewardship staff to develop skills and understanding of projects to support healthy vegetation communities. One of the Stewardship Assistant positions is partially funded with funds from the CA State Parks Wildfire and Forest Resilience program, during this award period he was promoted to a Stewardship Forestry Aide. The other Stewardship Assistant is a split position between the Stewardship (CA State Parks) and Research (Foundation) programs funded by this NOAA operations award. The Assistant Reserve Manager also works as an Environmental Scientist for the Stewardship Program, however, is not funded by this award but is partially counted as match.

The Stewardship Forestry Aide, alongside Urban Corps crew, continued maintenance of priority restoration sites at Monument Mesa when feasible. They removed Canarian sea lavender (*Limonium perezii*) and other invasive weeds from the Orcutt's liveforever (*Dudleya attenuata ssp. attenuata*) stewardship project area.

During this period, the Volunteer Coordinator, Stewardship Maintenance Aides, and the USFWS Refuge Manager worked with the Reserve's weekly Stewardship Volunteers to maintain trails and a healthy native habitat primarily around the visitor center and the northern part of the Reserve. These volunteers, the Urban Corps crew, and volunteer groups also assisted the Stewardship team with several enhancement sites around the Tijuana Estuary Visitor Center that were cleared of big saltbush (*Atriplex lentiformis*) in 2023. The resulting space was used to further healthy ecosystem function by planting native enhancement, including California sagebrush (*Artemisia californica*), white sage (*Salvia apiana*), bladderpod (*Peritoma arborea*), California buckwheat (*Eriogonum fasciculatum*), and more.

The Stewardship Program maintained fencing and signage along dunes and coastal bluffs with the US Fish and Wildlife Service.

Running from September 13 through October 19, 2025, TRNERR (CTP, Education, and Stewardship) worked to coordinate the 16th Tijuana River Action Month which mobilized a network of approximately 40 different partners for educational and stewardship events in Imperial Beach, the river valley, and Tijuana and Tecate. There were 30 activities; the results reported (19 events) show participation from 1,767 individuals, and 294,701 lbs of trash removed across 1,572 acres. The TRNERR team has been discussing ways to improve TRAM 2026 and plans to host a TRAM networking event this spring.

### **3. Habitat and Species Monitoring**

The Manager and Assistant Reserve Manager worked with CSP Natural Resources staff on permits and contracts for survey work for annual monitoring of CA gnatcatcher and least Bell's vireo in the Goat Canyon drainage and Bunker Hill. The Stewardship Program facilitated continued monitoring of the CA least tern and Western snowy plover in the dune habitat of the Reserve. Regular plover and tern monitoring began in March and will continue through the end of the bird breeding season in September. This work is largely accomplished through contract with a private consultant and through our partnership with the U.S. Fish and Wildlife Service staff at Tijuana Slough National Wildlife Refuge.

### **4. Invasive Plant Control to Maintain High Quality Habitat**

The Stewardship Assistants and the Urban Corps with assistance from the CSP District Natural Resources staff work to increase the footprint of primary treated areas and follow-up on previously treated areas. During this reporting period, they primarily treated castor bean (*Ricinus communis*), giant reed (*Arundo donax*), and tamarisk (*Tamarix ramosissima*) throughout the Goat Canyon drainage. Roundup Pro Concentrate, and Pathfinder II, post-emergent, broad-spectrum herbicides were used. Some annual forbs were mowed before herbicide treatment to reduce seed production and increase plant diversity while also creating some fuel reduction.

Annual weeds were hand-pulled around native plantings. Other plants treated included fennel (*Foeniculum vulgare*), iceplant (*Carpobrotus sp.*), Russian thistle (*Salsola sp.*), Australian saltbush (*Atriplex semibaccata*), lens-pod white top (*Lepidium draba*), bristly ox-tongue (*Helminthotheca echioides*), Sahara mustard (*Brassica tournefortii*), black mustard (*Brassica nigra*), catsear (*Hypochaeris radicata*), tocalote (*Centaurea melitensis*), globe daisy (*Glebionis coronaria*), Brazilian peppertree (*Schinus terebinthifolia*), panic veldtgrass (*Ehrharta erecta*), and pepperweed (*Lepidium latifolium*).

CA State Parks has allocated approximately \$90,000/year through a five-year program to control the invasive non-native giant reed (*Arundo donax*) in Border Field State Park. The effort is funded by CA State Parks Wildfire and Forest Resilience Program. In September 2024, a five-person crew from the Urban Corps of San Diego County started working at the Reserve, the crew is funded by the Ocean Corps Pilot Program grant from the Ocean Protection Council and will be at TRNERR for a year. The corpsmember crew has been focusing on removal of *Arundo donax* from the Goat

Canyon basin. As reported above they have assisted in the preparation of, establishment of, and on-going maintenance of habitat enhancement sites primarily at Border Field. The Urban Corps has also been maintaining and restoring public use trails and infrastructure that has been damaged by flooding and overgrowth of vegetation within the reserve.

#### **5. Support public access within the Reserve**

Stewardship staff supported public access in coordination with the public and Reserve partners to identify high priority access issues and, where feasible, worked to maintain and enhance public access at key locations throughout the Reserve. The crew from the Urban Corps of San Diego County cleared and opened up existing equestrian and pedestrian trails that were overgrown in Border Field State Park, they also worked on trails around the visitor center. (*see also Oversight and Implementation*)

### **TASK: TEACHERS ON THE ESTUARY**

**Haley Calhoun, TRNERR Education Coordinator, California State Parks**

#### **1. Educators increase their knowledge of and appreciation of estuaries**

No trainings were conducted during this reporting period. The Education Coordinator worked with NAT Geo Explorer partners to create and distribute promotional materials for May 15-17, 2026 TOTE training.

### **TASK: RESEARCH COORDINATION AND IMPLEMENTATION**

**Dr. Crooks, TRNERR Research Coordinator,  
Tijuana Estuary Foundation, *formerly Southwest Wetlands Interpretive Association***

#### **1. Research by TRNERR staff increases local knowledge**

The Research Program consists of four full-time employees: the Research Coordinator and three Research Associates. The two part-time Research Assistants, one of which is also a part-time California State Park employees, and this cross-program role helps strengthen coordination, communication, and integration across TRNERR programs. In addition, M.Cordrey, continues to support GIS and SWMP-related work through a contract, providing continuity and technical expertise for core monitoring and data-management efforts.

The Research Program is centered on the Tijuana Estuary, with particular emphasis on ecosystem health in relation to transboundary flows of polluted water. This work includes long-term monitoring, targeted field studies, data synthesis, and applied research designed to better understand how water quality, hydrology, habitat condition, and biological communities respond to chronic and episodic stressors. At the same time, we use the Tijuana Estuary as a focal system for understanding broader patterns and management challenges across Southern California coastal wetlands. This broader perspective is supported by research and monitoring in other local estuaries, including

South San Diego Bay (managed by the U.S. Fish and Wildlife Service), Mission Bay, and Los Peñasquitos Lagoon (managed by California State Parks). The team also collaborates on projects throughout the region and beyond, helping connect site-based monitoring with regional management questions, restoration planning, and coastal wetland science. These activities are described in greater detail below.

Volunteers continue to play an important role in the Research Program by increasing field capacity and supporting long-term monitoring efforts. They participate in field sampling for the State of California's Marine Biotoxin Monitoring Program and assist with other field efforts, including minnow trapping, vegetation monitoring, and soil assessments. Their contributions help sustain regular monitoring activities while also strengthening community engagement with the science and stewardship of the Reserve.

## **2. The Reserve offers attractive opportunities for researchers**

Research The Reserve served as a living laboratory for external researchers whose work supported management needs at various scales, from local to international. Within the region, TRNERR continued to provide an especially valuable research platform because of its diverse habitats, transboundary watershed setting, long-term monitoring record, and strong scientific and management partnerships.

During the reporting period, we facilitated and/or collaborated on a range of externally funded research projects at the Reserve. Several of these efforts focused on the ecological and public health dimensions of transboundary pollution, including studies that characterized pollutant loads and exposure pathways, documented impacts to habitats and biological communities, and improved understanding of potential human health risks for people who live, work, or recreate in and around the Tijuana River Valley. This included work by local researchers to better characterize transboundary pollutant inputs and associated ecological and public health impacts, as well as development of a pathogen forecast model for contaminated transboundary flows. Much of this work is led by researchers at San Diego State University and Scripps Institution of Oceanography (UCSD).

Other external research projects address broader ecological and management questions in the Tijuana Estuary and other local systems. A graduate student from the University of San Diego characterized mosquito use of estuarine ecosystems, work relevant to both wetland ecology and vector-related public health concerns. A PhD student at San Diego State University studied crab use of salt marsh habitats, and a graduate student at Cal State Long Beach examined the relationship between suspended sediment and marsh development. Collectively, these projects strengthened the Reserve's role as a focal point for applied research on water quality, public health, habitat condition, sediment dynamics, marine debris, and the complex socioecological setting of the border region.

### **3. Restoration offers opportunities for coupled science / management**

The Tijuana Estuary Tidal Restoration Program (TETRP) continued to provide an important opportunity to integrate restoration implementation with applied research and adaptive management. TETRP began more than 30 years ago as a multi-phased effort to restore tidal wetland habitat while also addressing fundamental gaps in restoration science. During the reporting period, progress continued on the current phase of TETRP. The EIR/EIS for this phase had been approved, and the Tijuana Estuary Foundation received funding from the California State Coastal Conservancy for final design, permitting, and pre-restoration monitoring. NEPA review for the monitoring was completed under the FY2017 award and resulted in a determination of no effect. The Coastal Conservancy also allocated a significant portion of the implementation funding, and we continued working with them and other partners to secure the additional resources needed to move the project forward (including a competitive NOAA NERRS BIL award).

We also worked with our restoration contractors and partners to refine restoration and revegetation plans and to ensure that the project design incorporated opportunities for learning. This included consideration of experimental or adaptive management elements, such as the potential value of creating starter channels to facilitate tidal creek development. In this way, TETRP advanced not only as a major habitat restoration project, but also as a coupled science-management effort designed to improve restoration practice in the Tijuana Estuary and inform future wetland restoration projects across the region.

Pre-restoration monitoring continued to build the scientific foundation needed to evaluate restoration outcomes and inform management decisions. The Research Program assessed nekton communities using traps, and also monitored vegetation using SWMP Biomonitoring protocols. We also deployed camera traps to assess terrestrial organisms. Together, these efforts helped establish baseline conditions and created a framework for tracking ecological responses once restoration is implemented.

In addition to TETRP, we began work with the California Marine Sanctuaries Foundation to assess water quality (with EXO sondes) associated with two marsh restoration sites (former salt ponds) and one reference site in the San Diego Bay National Wildlife Refuge.

### **4. Communication of key research findings and perspectives**

During this reporting period, we presented to a variety of audiences in a variety of venues. Examples of this work include:

- Reported out to the CA Coastal Commission on long-term trends in dissolved oxygen (from SWMP) and nekton as indicators of pollution and management intervention (or lack thereof).
- Jeff worked with the Southern California Wetlands Recovery Project to develop the framework for a regional monitoring program, recently adopted by the agencies that comprise the Director's Group.

- Provided tours to groups from local schools and non-profits.
- Provided tours to local, state, and federal government officials (e.g., representatives of Senator Adam Schiff).

Paper published during this time period:

Janousek, C., T. Williams, J. Kirkland, K. Wasson, J. Schmitt, L. Brophy, and J.A. Crooks. 2026. Plant diversity and complexity often lag behind other measures of long-term vegetation development in restored US Pacific coast tidal marshes. *Marine Ecology Progress Series* 776. <https://doi.org/10.3354/meps15014>

## **5. Reporting and Database Entry**

Research projects were entered into the Research Database, and progress reports submitted to NOAA.

### **TASK: IMPLEMENTATION OF THE SYSTEM-WIDE MONITORING PROGRAM**

**Dr. Crooks, TRNERR Research Coordinator,  
Tijuana Estuary Foundation, *formerly Southwest Wetlands Interpretive Association***

#### **1. High quality meteorological and water quality data**

NOAA SWMP funding allowed TEF and TRNERR to leverage partnerships and maintain a robust monitoring program that addressed Reserve-specific priorities as well as broader regional management needs. This work was supported through partnerships and funding from California State Parks, the U.S. Fish and Wildlife Service, the State Coastal Conservancy, the Los Peñasquitos Lagoon Foundation, and the National Fish and Wildlife Foundation.

During the reporting period, we operated two SWMP stations in the Tijuana River Estuary. One of these sites, Boca Rio, was associated with an enhanced suite of partner-supported monitoring, including a web camera deployed through the High Performance Wireless Research and Education Network (HPWREN). We also operated two SWMP stations in South San Diego Bay. In addition to these formal SWMP stations, we deployed supplemental loggers at additional sites to expand spatial coverage and address specific management questions. This included three telemetered stations in Los Peñasquitos Lagoon, with data made available through [torreypines.trnerr.org](http://torreypines.trnerr.org). We also have three EXO sonde stations deployed associated with the marsh restoration in San Diego Bay (see Task 1).

Jeff continued to serve as Chair of the SWMP Oversight Committee, supporting system-wide efforts to ensure that the National Estuarine Research Reserve System produces high-quality, consistent, and useful monitoring data.

#### **2. Understanding of long-term vegetation dynamics**

We conducted semi-annual vegetation monitoring in the fall, with the aid of volunteers, using SWMP biomonitoring protocols. We conducted SWMP biomonitoring of marsh

and upland transition zone vegetation in the fall, which included sites associated with restoration as well as reference sites.

### **3. Integration of monitoring with education and outreach programming**

We continue to present monitoring information to visiting school groups, and have supported several interns and volunteers using our data for individual projects. The During this reporting period, researchers participated in education and outreach events, including Love Your Wetlands Day at the Kendall-Frost Marsh in Mission Bay, and the San Diego Science Expo.

#### **TASK: PROFESSIONAL DEVELOPMENT, TRAINING, PRESENTING**

**Dr. Crooks, TRNERR Research Coordinator,  
Tijuana Estuary Foundation, *formerly Southwest Wetlands Interpretive Association***

##### **1. NERRs Integration and Leadership Development**

Reserve staff attended their respective sector meetings in the fall. The Training and Engagement Coordinator also attended the annual Program Managers Meeting in Washington, D.C.

##### **2. Staff Development**

The RC attended the biannual International Conference on Marine Bioinvasions (see Task: INVASIVE SPECIES - APPLICATION OF RESEARCH TO MANAGEMENT).

##### **3. TRNERR Staff Program Support and Enhancement**

Travel associated with field work and meetings occurred during this reporting period.

#### **TASK: INVASIVE SPECIES - APPLICATION OF RESEARCH TO MANAGEMENT**

**Dr. Crooks, TRNERR Research Coordinator,  
Tijuana Estuary Foundation, *formerly Southwest Wetlands Interpretive Association***

##### **1. Improved understanding of local invaders**

TRNERR continued to improve understanding of local invasive species through long-term monitoring, targeted field studies, and collaboration with students and regional partners. Vegetation monitoring documented the distribution and abundance of invasive plants in local wetlands, providing information that supports restoration planning and management. The Research Program also tracked invasive species through nekton monitoring, which provided information on fish and mobile invertebrate communities and helped identify changes in species composition over time. Together, the vegetation and nekton monitoring efforts supported a broader understanding of how invasive species interact with hydrology, habitat condition, restoration actions, and other stressors in Southern California wetlands.

This work was further strengthened through academic partnerships. Jeff continued to serve as adjunct faculty in the Department of Environmental and Ocean Sciences at the University of San Diego, where he advised students working on invasive species and related coastal wetland ecology questions.

## **2. Improved regional, national, and international information sharing**

The Society for the Study of Marine Bioinvasions is the international society focuses on sharing of information on invasive species research and management from across the world. A primary vehicle for this information sharing is the International Conference on Marine Bioinvasions series. Jeff is the Co-President of the Society that supports this, and attended the conference in Portugal in the fall of 2025.

### **TASK: MARGARET A. DAVIDSON FELLOWSHIP SUPPORT**

**Dr. Crooks, TRNERR Research Coordinator,  
Tijuana Estuary Foundation, *formerly Southwest Wetlands Interpretive  
Association***

## **1. Successful implementation of Davidson Fellowship**

Our Davidson Fellow, S.Sylman, is conducting a social science project (including assessment of cultural ecosystem services). She is working closely with our Training & Engagement Coordinator.