

**Name of Project:** Ocean Connectors: Habitat Restoration and Education Program

**Project Applicant:** The Ocean Foundation **Tax I.D. #:** 71-0863908

**Applicant Contact Person:** Janaira Quigley, Ocean Connectors Executive Director

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**Geographic Areas:** National City (Paradise Creek, primary site, program expansion), San Diego (Otay River, secondary site, original program); both sites located in District 1

**Watersheds Affected:** Sweetwater River Watershed, Otay River Watershed

### **Problem Statement**

Ocean Connectors provides a unique opportunity to deliver outreach and education programs that significantly benefit the health and quality of some of San Diego's most polluted watersheds, and that support the mission and objectives of the San Diego Regional Water Quality Control Board, including Chapters Three and Four of the Practical Vision Plan. This SEP brings proactive new educational opportunities to Environmental Justice communities through hands-on involvement in the restoration of two acres of wetland, stream, and river corridor habitat around one of the Water Quality Control Board's priority waterbodies, San Diego Bay, in partnership with the government agency U.S. Fish & Wildlife Service (USFWS) and the environmental education nonprofit organization Paradise Creek Educational Park, Incorporated (PCEPI).

The Ocean Connectors Habitat Restoration and Education Program addresses some of the most pressing environmental challenges facing San Diego today. The project will directly improve a 303(d) segment of impaired river and stream corridor, Paradise Creek. Primary methods to protect, restore, and maintain local habitats and open spaces include water and soil testing, litter abatement, invasive plant removal, native plant revegetation, and site monitoring and maintenance, as well as community-based education and outreach programs for schoolchildren and the general public.

Ocean Connectors protects and restores natural habitats around environmentally-sensitive areas of San Diego Bay and conducts outreach and education programs in Environmental Justice neighborhoods by leveraging broad community support and partnerships. Participants learn how to reduce negative impacts to our coastal habitats and wildlife, such as drought, overdevelopment, water contamination, trash, climate change, and invasive species. Our bilingual (English and Spanish) curriculum educates National City elementary students about stewardship actions, such as pollution prevention, waste reduction, water conservation, and preparing for climate-related risks such as periodic flooding and drought.

## Work Plan

### *Site Attributes*

Ocean Connectors has identified two urban stream and wetland areas that form part of the San Diego Bay Watershed Management Area and are heavily impacted by litter, invasive species, and inadequate public access and awareness: Otay River and Paradise Creek. The work to be performed under this SEP fulfills the objectives of the San Diego Regional Water Quality Control Board Practical Vision Plan and directly supports the San Diego Bay Watershed Water Quality Improvement Plan (WQIP) by improving water quality in the target areas of National City and San Diego. The Ocean Connectors Habitat Restoration and Education Program project fully aligns with the WQIP goals to protect, preserve, enhance, and restore water quality through adaptive planning and management of priority waterbodies.

Ocean Connectors has successfully conducted youth-led habitat restoration programs around the Otay River in partnership with USFWS since 2011, and at Paradise Creek in partnership with PCEPI since 2017. Under this SEP we intend to expand these restoration efforts into subsequent phases. Our work at Paradise Creek in National City directly improves conditions of a section 303(d) segment of impaired river and stream corridor. Both sites are located in Environmental Justice communities (San Diego and National City), contain ecologically-sensitive habitats with vulnerabilities to sea level rise, urban runoff, and invasive species, and require targeted restoration efforts to continue creating suitable habitat for native species and community access, such as bird watching, walking, and interpretation.

The Ocean Connectors restoration sites were selected due to:

- Proximity to our partner elementary schools in National City,
- Location within Environmental Justice neighborhoods of San Diego County,
- Impaired water quality, habitat vulnerabilities, and environmental challenges,
- Need for increased community awareness, education, and access,
- A strong need for climate change resilience and adaptation, and
- Existing involvement of close organizational partners (USFWS, PCEPI).

In addition to the WQIP, this SEP also supports various other established monitoring and management plans for the San Diego Bay and the state of California, including:

- San Diego Multiple Species Conservation Program, 1992
- California Wildlife Action Plan, 2007

- Sea Level Rise Adaptation Strategy for San Diego Bay, 2012
- San Diego Bay Integrated Natural Resources Management Plan, 2013
- California Water Action Plan, 2014
- California Coastal Commission Sea Level Rise Policy Guidance, 2015

The restoration of both Ocean Connectors sites is fully consistent with the overall mission of the Regional Water Quality Control Board to protect and restore the biological integrity and health of the region's waters, particularly in disadvantaged communities and environmentally sensitive areas of San Diego Bay.

## Tasks

- **The Ocean Connectors Habitat Restoration and Education Program will restore two or more acres of degraded natural habitat near the southern end of San Diego Bay, including at least one half mile of section 303(d) shoreline at Paradise Creek.** The restoration will address the source of environmental problems through litter and invasive plant removal and native plant revegetation, which will lead to habitat improvements that benefit wildlife, enhance water quality, and increase community health and wellbeing.
- **Ocean Connectors will conduct multiyear environmental education programs focusing on migratory species, climate change, and habitat restoration.** Ocean Connectors reaches all 3,000 elementary students at public schools in grades three through six in National City, encompassing 100% of the local School District. Children and their families learn about the connection between their quality of life, community wellbeing, and watershed health. This baseline understanding cultivates a future generation of environmentally-aware coastal residents.
- **Ocean Connectors will provide an estimated 100 schoolteachers with bilingual environmental science curricula,** developed with educational experts and scientists, free of charge. Teachers will attend professional development workshops and trainings to obtain tools for reinforcing environmental themes throughout the year. Ocean Connectors works in partnership with National School District to meet learning standards such as Common Core, Next Generation Science Standards, and Ocean and Climate Literacy Principles.
- **Ocean Connectors will connect local students with park rangers, nonprofit leaders, activists, and scientists,** which will provide an important mentorship opportunity for this underserved audience of predominantly Latino students (at least 85%). Ocean Connectors cultivates a strong curiosity for the natural world that begins from a young age and continues into adulthood, inspiring individuals who are typically underrepresented in scientific fields to stay in school and pursue college. This program also reaches beyond the

target audience of schoolchildren to engage teachers, parents, and other community members.

- **Ocean Connectors will be a lead participant in the utilization of the current \$6 million interpretive park being developed by the City of National City adjacent to Paradise Creek and the future expansion of wetlands in the park.** Ocean Connectors and PCEPI are equipped to activate the park through educational and habitat restoration activities that improve community health and water quality by bringing youth into contact with neighborhood parks and increasing their access to the outdoors.

## Environmental Benefits

The Ocean Connectors Habitat Restoration and Education Program conducts hands-on restoration of upland, wetland, and river corridor habitat within the San Diego Bay National Wildlife Refuge and lower reaches of the Otay and Sweetwater River Watersheds, including Paradise Creek in National City. The direct benefits to water quality and ecosystem health include:

- Revegetation with native plants leads to **increased carbon uptake and decreased erosion and sediment deposition into Paradise Creek, Otay River, and San Diego Bay.** Planting native plants along the banks and tributaries of water sources traps and stabilizes sediment particles and prevents substrate from eroding into the water and degrading water quality. Native plants also perform carbon sequestration, enhancing the condition of freshwater for fish and other wildlife species.
- Hand removal of invasive plants, such as chrysanthemum, ice plant, and common mallow, creates **better quality nesting and foraging habitat for native wildlife and pollinator insects.** Invasive plants impede native plant growth and pollination, interfere with ecosystem hydrology, and degrade water and soil quality. Invasive plants will be removed in the target areas, as well as surrounding zones to minimize spreading, and wood chips will be applied to prevent re-infestation.
- Litter removal around freshwater sources **prevents trash from being ingested by wildlife using San Diego Bay and improves watershed quality by preventing harmful substances, heavy metals, and chemicals from leeching into urban streams and groundwater.** Litter can contaminate water quality and smother native plants, causing further damage to impaired waterways in South San Diego County.
- This project **improves ecosystem hydrology and increases climate change resilience for wetland plant and animal species.** Strategically placed salt-tolerant and drought-tolerant native plants create a natural buffer from sea level rise and periodic drought and flooding, thereby protecting local communities and infrastructure from climate-related risks and habitat

vulnerabilities. Native species will benefit from expanded wetland habitats, upland migration areas, and wetland-upland transitional zones.

- Targeted education and outreach activities **create more environmental stewards in Environmental Justice communities around San Diego Bay, leading to future generations that protect and conserve environmental resources**. Multiyear outreach and education programs are the key to long-term preservation of urban waterways and waterbodies.

In summary, Ocean Connectors addresses Regional Water Quality Control Board priority conditions for the watersheds of San Diego Bay, including surface water quality, aesthetics, and swimmable waters, through removing trash and invasive plants along essential habitat areas of South San Diego Bay, improving soil quality, and revegetating the target sites with native plant species. Our planning efforts, assessments, and studies play a leading role in contributing to water quality improvements, enhancing natural hydrologic processes, and providing benefits to community health and wellbeing.

## Reporting

Ocean Connectors is responsible for implementing and managing all aspects of the SEP, in partnership with PCEPI and in accordance with sponsors, landowners, and participating agencies. Progress reports will be available upon commencement of the project, describing the ongoing status of the work. A thorough final report will be prepared, including before and after photos of the restoration sites, data assessments, a summary of progress towards stated objectives, and copies of any curricula developed during the project. Partner names and logos will be acknowledged on the Ocean Connectors website under [Partners](#) as well as through posted signage at the sites.

## Scalability

Ocean Connectors is in high-demand in South San Diego Bay Environmental Justice communities, and our programs are scalable based on the amount of funding available. Our highest priority is engaging more underserved schoolchildren in habitat restoration, water quality improvements, and environmental education around Paradise Creek. If SEP funding is awarded, Ocean Connectors will submit a detailed line item budget to be included with our agreement, reflecting current operating costs and program expenses.

- **With a grant of \$50,000**, Ocean Connectors will be able to expand our current habitat restoration programs for approximately 1,000 National City elementary students consisting of classroom and field activities, encompassing two acres at Otay River (sixth grade) and Paradise Creek (third grade), including areas surrounding the community garden, amphitheater, and adjacent school, in addition to site assessments, data collection, and progress reports.

- **With a grant of \$100,000**, Ocean Connectors will be able to conduct the above mentioned activities in addition to site planning, teacher trainings, and volunteer recruitment, design and installation of interpretive signs, design and publish new educational curricula, hire a new part-time educator position dedicated to the Ocean Connectors Habitat Restoration and Education Program at Paradise Creek, and expand the habitat restoration to include buffer zones and surrounding bike paths, trails, and gabion rock walls at Paradise Creek.
- **With a grant of \$250,000**, Ocean Connectors will be able to conduct the above mentioned activities in addition to producing new educational materials, videos, and website content, offering public volunteer events, replicating the Ocean Connectors Habitat Restoration and Education Program in additional National City public schools, and expanding the habitat restoration to include the southern end of Paradise Creek and additional buffer zones.
- **With a grant of \$500,000**, Ocean Connectors will be able to conduct the above mentioned activities, host a public ribbon-cutting ceremony at Paradise Creek along with a press release, and commence final stages of the habitat restoration, including planning for the creation of new wetland habitat and a pond at the southern end of Paradise Creek, and planning and permitting for an open-air interpretive science center at the end of Hoover Ave. (a former welding business), in coordination with the City of National City.

## Phases

Project outcomes are dependent on the amount of funding received each year. A general timeline is summarized below.

### Phase I: Years One through Three (approximately \$75,000)

- Continuation of current Ocean Connectors programs (including classroom and field activities) and engagement of an expanded audience of elementary students in National City, hire a new part-time educator position dedicated to the Ocean Connectors Habitat Restoration and Education Program at Paradise Creek, develop new educational curricula, volunteer recruitment, site assessments and maintenance, data collection, teacher trainings, and expansion of habitat restoration at Paradise Creek to include buffer zones and areas surrounding the community garden, amphitheater, and adjacent school.

### Phase II: Years Four through Seven

- Continuation of expanded Ocean Connectors programs and replication in additional National City schools, additional site assessments and maintenance, data collection, teacher trainings, volunteer recruitment and public events, design and installation of interpretive signs, develop and publish new educational curricula and materials, videos, and website content, and expansion of habitat

restoration to include the southern end of Paradise Creek, additional buffer zones, and surrounding bike paths, trails, and gabion rock walls.

#### Phase III: Years Eight through Ten

- Continuation of expanded Ocean Connectors programs, additional site assessments and maintenance, data collection, teacher trainings, volunteer recruitment and public events including a ribbon-cutting ceremony, and commence final stages of habitat restoration, including planning for new wetland habitat and a pond at the southern end of Paradise Creek and planning and permitting for an open-air interpretive science center at the end of Hoover Ave in National City, in coordination with the City of National City.

### Permitting Requirements

#### *Otay River*

The proposed project is categorically exempt from the provisions of CEQA pursuant to 14 California Code of Regulations Section 15304(d), which exempts minor alteration in land, water, and vegetation within an officially designated wildlife management area. The restoration activities undertaken at the Otay River site take place on the San Diego Bay National Wildlife Refuge. The Refuge is covered by a Comprehensive Conservation Plan (CCP), which guides wildlife and habitat conservation and restoration and educational activities within the Refuge. The FWS determined in 2007, through National Environmental Policy Act compliance documents, that activities covered by the CCP will not adversely affect coastal resources. The Coastal Commission in its federal consistency determination concurred with the FWS determination.

The educational project component is categorically exempt under Section 15322, which applies to educational or training programs that involve no physical alteration in the area affected, in that this project provides a marine education and conservation program without any physical changes in the school structures for this program.

#### *Paradise Creek*

The restoration activities to be undertaken on the shoreline of Paradise Creek fall under voluntary park cleanup activities on City of National City property. Ocean Connectors staff, PCEPI, and restoration contractors will thoroughly consult with City of National City staff, the U.S. Army Corps of Engineers, and other agencies, as needed, to carry out all permitting required for this SEP, if it is determined to be needed under the Clean Water Act (33 U.S.C. 1344).

### Monitoring and Success Criteria

USFWS and PCEPI provide ongoing management and supervision of the Ocean Connectors habitat restoration sites, and they are key partners and supporters of the overall project. All long-term maintenance on Refuge land, including watering, future planting, modifications, and weed and litter abatement, is coordinated and supervised by park rangers of the USFWS Refuges Complex. Monitoring, enforcement, and maintenance of the Paradise Creek location is supervised by PCEPI and the City of National City. In addition, outside volunteers and students from other outreach programs and colleges are involved in the maintenance, preparation, and restoration of both sites, which helps provide year-round habitat improvements. USFWS and PCEPI are active partners in designing and leading the development of the Ocean Connectors educational resources and materials, and planning restoration events. Although long-term monitoring, preservation, and maintenance extend beyond the scope of this SEP, this project makes a significant contribution to habitat management in the target areas.

The criteria that will be used to measure success include:

- Perform 100% litter abatement and invasive plant removal.
- Perform native plant revegetation along river corridor, upland, and wetland habitats.
- Engage underserved schoolchildren and their families, volunteers, and teachers in learning about climate change resilience, conservation of migratory species, and habitat restoration and protection.
- Increase community knowledge of these topics and improve environmental behaviors and actions, as measured by pre and post evaluation surveys.
- Development of local community members in Environmental Justice areas into environmental stewards and activists, as measured by volunteerism and participation at public events, leading to social justice and equity for underserved communities.

## **Resiliency to Climate Change**

The selected sites are vulnerable to climate-related risks such as drought, flooding, and species habitat loss. Previous years of drought in California have led to die-off of native plants, erosion, and reduced biodiversity. The design of this project will reduce climate change vulnerabilities through installing drought-tolerant native plants in upland transition areas, which will serve multiple purposes for habitat conservation and provide nesting and foraging space for endangered, threatened, and migratory wildlife and pollinator insects. In the river corridor and wetland areas, participants will install native plants with a high-tolerance for salt, as flooding and inundation are expected to increase. Ocean Connectors is committed to working closely with its partners USFWS, PCEPI, and the City of National City to implement adaptive management techniques that ensure the continued success of the restoration process alongside changing climatic conditions and impacts.



The sites are also prone to sea level rise and erosion due to climate change. Data in the Sea Level Rise Adaptation Strategy for San Diego Bay indicate that even with a sea level rise of 55 inches, the majority of both sites will remain above water. The installation of salt-tolerant native plants will aid the sites in adapting to sea level rise and periodic flooding and will provide migration zones for wetland species. The project's educational curriculum and restoration component will focus on climate change resiliency to ensure that the work goes beyond short-term outcomes to promote awareness, preparation and adaptation for climate change impacts affecting the entire San Diego Bay watershed.

### **Applicant Ability to Receive and Distribute Funds**

The Ocean Foundation, the fiscal sponsor of Ocean Connectors, is an international public foundation styled as a community foundation, and is a tax-exempt IRC 501(c)(3) charity corporation. The Ocean Foundation is an active California "domestic nonprofit" corporation in good standing, recognized by the California Attorney General and Secretary of State (pursuant to original Articles of Incorporation filed December 17, 2001). The Ocean Foundation has a 4-star rating on Charity Navigator and a Platinum-level seal on GuideStar, indicating transparency and sound practices related to philanthropy, voluntarism, and grantmaking.

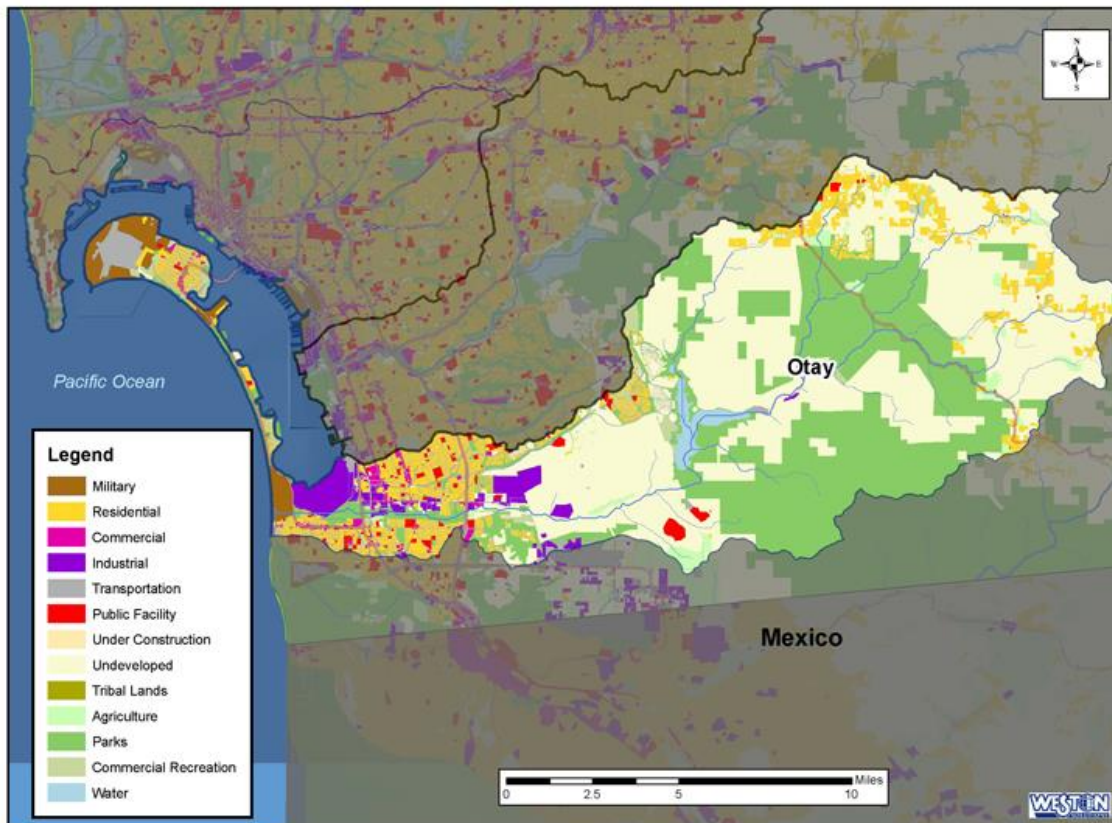
As of August 2009, The Ocean Foundation became the fiscal sponsor organization of Ocean Connectors, the project leader of this proposal. As with all fiscal sponsorships, Ocean Connectors may solicit gifts, contributions, and grants on behalf of The Ocean Foundation, which are for the activities of the Ocean Connectors project. The Ocean Foundation gives consent to Ocean Connectors to apply for funding from the Water Quality Control Board, and to enter into an agreement (with The Ocean Foundation as the signatory) if funding is awarded under this SEP.

Ocean Connectors has demonstrated a commitment to improving water quality, over a decade of leadership in the target Environmental Justice communities, and a strong track record of successful project completion with USFWS, the California Coastal Commission, the California State Coastal Conservancy, the Port of San Diego, USEPA, and various other awarding agencies. In 2018, Ocean Connectors received settlement funding from the Port of San Diego in response to our original SEP, and successfully worked with PCEPI to complete all deliverables in accordance with that agreement. Ocean Connectors is fiscally sound and has the institutional stability and capacity to fulfill all stated project objectives, and to accomplish the work and deliverables described in this SEP.

## Site Maps

Ocean Connectors works with elementary schools throughout National City, and conducts habitat restoration at two sites within the San Diego Bay Watershed Management Area: Otay River (original site) and Paradise Creek (expanded program).

### *Otay River*

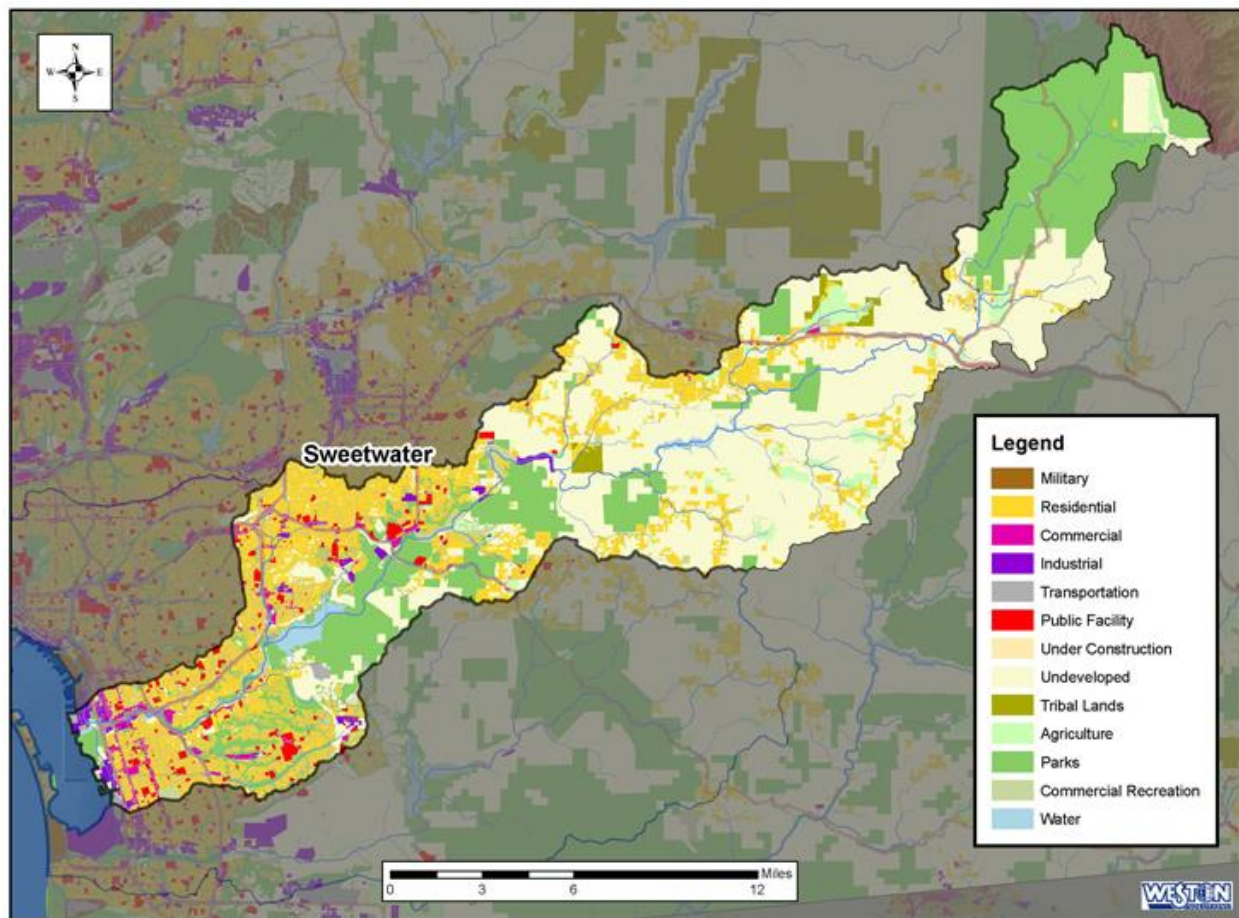


## Otay River Restoration Site





## Paradise Creek



**Paradise Creek Educational Park 2016 — Wetlands Restoration Education (RestorEd) sites**  
 1- Salt Marsh shoreline at north end  
 2- Salt pan  
 3- Uplands native plants at south end of boardwalk  
 4- Islands uplands plants  
 5- Invasive plant removal at shoreline at midpoint  
 6- Invasive removal and plantings at south end

## **Online Resources**

[Website](#)

[Facebook](#)

[Twitter](#)

[Instagram](#)

[The Ocean Foundation](#)

## **Organizational Achievements**

### *Ocean Connectors*

2007: Ocean Connectors was founded in San Diego with a focus on sea turtle conservation.

2009: Added new grade levels and expanded to focus on whale conservation in addition to sea turtles.

2010: Received an Ocean Science Leadership award for Informal Teaching Excellence from the University of Southern California QuikScience Program, emphasizing program success and leadership on a binational scale.

2011: Added programs focused on bird conservation and initiated habitat restoration work at the San Dieguito Lagoon and Otay River in partnership with USFWS. This same year Ocean Connectors received the American Meteorological Society award for Non-Formal Education, one of only three awards presented nationwide.

2013: Formed a partnership with the School District of National City and began providing free educational programs at public elementary schools located exclusively in National City.

2015: Hired additional staff, underwent organizational rebranding and developed strategic plan.

2016: Added programs for middle schools focused on shark conservation and expanded to reach 100% of National City elementary schools. The IEA Research and Education Foundation awarded Ocean Connectors an award for Excellence in Community Leadership and Outreach, the first award of its kind. Ocean Connectors also received the SDX Brand Diego Non-Profit Brand of the Year Award for building a strong brand through professionalism in advertising, marketing, communications, and contributions to the community at large.

2017: Successfully piloted the Habitat Restoration and Education Program at Paradise Creek through funding received from the Southern California Wetlands Recovery Project.

2018: Selected by the Port of San Diego to receive the Michelle White Environmental Award for the Community category for providing innovative, hands-on environmental curriculum through field trips, in-class lectures, and land and water-based tours within the San Diego Bay watershed. In 2018 Ocean Connectors also hired additional staff and received SEP funding from the Port of San Diego to support our work at Paradise Creek.

## **PCEPI**

1995: The City of National City provided funding for the design work to expand the wetlands and build a park at Paradise Creek.

1998: Completed design work for initial phases of Paradise Creek Educational Park with Landscape Architect firm Schmidt Design Group.

2001: Coordinated approval process with the City of National City, California State Coastal Conservancy, Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Game, and San Diego County Department of Health.

2007: Assisted with the management of construction of Paradise Creek Educational Park, including toxic soil removal, wetlands design, and park amenities design.

2008 to Present: Designed and provided environmental education programs in National City and maintained the habitats of Paradise Creek.

2016: Partnered with Ocean Connectors to carry out plans for the restoration of Paradise Creek as an expansion of the existing Ocean Connectors programs, and assisted in the design and de-paving of Hoover Ave. as well as the expansion of native plant areas and stormwater control measures.

2018: Led steering committee and public outreach for soil remediation project carried out by the City of National City and monitored by the California Department of Toxic Substances Control.