

# SANTA MONICA BAY NATIONAL ESTUARY PROGRAM

## SMBNEP Program Accomplishments from Previous Fiscal Year (2020)

This section contains a synthesis of programmatic or environmental success stories from the past federal fiscal year (FY20), within the time period 1 October 2019 through 30 September 2020. This includes highlights from significant programs or projects and is categorically subdivided into '[wetlands, rivers, and streams](#)', '[beaches, dunes, and bluffs](#)', '[in the ocean](#)', '[integrated coastal projects](#)', '[climate change](#)', '[our communities](#)', and '[governance](#)'. For additional detail on project activities conducted by TBF, visit TBF's website: [www.santamonicabay.org](http://www.santamonicabay.org).

Beginning in December 2019, a novel coronavirus outbreak began in Wuhan, People's Republic of China (SARS-CoV-2), which caused a disease known as COVID-19. Over the subsequent months, the virus and its associated disease spread globally and turned into a worldwide pandemic. Beginning in March 2020, the State of California and Los Angeles County Department of Public Health issued a "stay-at-home" order with specific restrictions on all activities. Implementation of activities in the time of COVID-19 requires extensive preparation to prioritize human health, reduce safety risks, and follow regulatory restrictions. TBF developed detailed safety guidelines, protocols, and waivers for when local public health officials deem it safe to resume outdoor community events; however, the restrictions impacted several projects for SMBNEP.

### ***Wetlands, Rivers, and Streams***

[Community-Based Restoration at Ballona Wetlands](#) – TBF, in partnership with California Department of Fish and Wildlife (CDFW), Friends of Ballona Wetlands (FBW), and community volunteers are conducting a project to remove invasive vegetation while broadening public involvement and stewardship at the Ballona Wetlands Ecological Reserve (Reserve), in Area B, south of Culver Boulevard. During this period, TBF continued maintaining and expanding the community restoration site at the Reserve for a total project area of 1.55 acres. Community events were halted in March 2020 as required by LA County Public Health due to COVID-19, although TBF staff and their partners continued restoration efforts through frequent site maintenance days. TBF also continued revegetation planning and coordination for Year 5, (which began implementation in fall 2020 by planting over 1,200 native container stock plants and distributing native plant seeds). Lastly, TBF released the [Year 4 Report](#) for the community restoration project in July 2020.

Ballona Wetlands Restoration Project – The California Department of Fish and Wildlife (CDFW) completed the final environmental document for a project to restore the Ballona Wetlands Ecological Reserve, the largest coastal wetland complex in Los Angeles County, in December 2019. The project will enhance and establish native coastal wetlands and upland habitat on 566 of the reserve's 577 acres south of Marina del Rey and east of Playa Del Rey, restoring ecological function to currently degraded wetlands and providing a critical buffer against the effects of sea level rise. More information, an FAQ, and links to all the project documents can be found on CDFW's project website: <https://wildlife.ca.gov/Regions/5/Ballona-EIR>.

Malibu Creek Ecosystem Restoration Project – On 19 August 2020, the Corps released the proposed Report of the Chief of Engineers, the report of the District Commander, and a Final Environmental Impact Statement (FEIS), regarding ecosystem restoration for Malibu Creek, in Los Angeles and Ventura Counties. The FEIS was prepared in accordance with Section 102(2)(C) of the National Environmental Policy Act of 1969 (Public Law 91-190). The documents are publicly available on the [Army Corps website](#). The lead agencies for the Malibu Creek Ecosystem Restoration Project are the US Army Corps of Engineers (federal) and the California Department of Parks and Recreation (state). The primary purpose of the project is to restore aquatic habitat connectivity along Malibu Creek and its tributaries, establish a more natural sediment regime from the watershed to the shoreline, and restore aquatic habitat of sufficient quality along Malibu Creek and tributaries to sustain or enhance indigenous populations of aquatic species within the next several decades, allowing for migratory opportunities to about 15 miles- of aquatic habitat that have been unreachable for many decades in this watershed.

Stone Canyon Creek Restoration – TBF, UCLA, and the UCLA Lab School have worked together, alongside thousands of volunteers, to help restore a portion of one of the few remaining unburied creeks in the area. Serving as a 'living classroom' for both UCLA and the Lab School, this project is being scientifically monitored by UCLA and TBF for vegetation and wildlife, as well as periodic community maintenance. In FY20, UCLA's Environmental Sustainability Committee continued developing stewardship planning for this site for the next several years, continued monitoring, and started holding restoration events. Community events were halted in March 2020 as required by LA County Public Health due to COVID-19.

### ***Beaches, Dunes, and Bluffs***

LAX Dunes Restoration – The LAX Dunes is the largest remaining remnant contiguous coastal dune system in southern California. The 302-acre dune site is owned and managed by Los Angeles World Airports (LAWA). The site provides habitat for over 900 species, including the beautiful and delicate federally endangered El Segundo Blue Butterfly. During this period, TBF continued coordination and work with LAWA and partners on revegetation efforts, restoration planning, and scientific monitoring of the LAX Dunes. Lead botanist project partner, California Botanic Garden, conducted seed collection and vegetation surveys; project ornithologist, Cooper Ecological Monitoring performed several avian surveys, including a targeted burrowing owl survey; and

scientific consulting partner and restoration ecologists, Coastal Restoration Consultants, advised on planning for future restoration activities and drafting the Ecological Landscape Plan. In March 2020, TBF halted public community events as required by LA County Public Health due to COVID-19.

[Santa Monica Beach Restoration Pilot Project](#) – This pilot project is restoring approximately three acres of sandy coastal habitat on the beach in the City of Santa Monica. The project is reestablishing native vegetation on the beach, while aiming to create a sustainable coastal strand and foredune habitat complex resilient to sea level rise and coastal erosion. In FY20, native dune vegetation and sand hummocks continued to establish, in some places up to a meter in height. A [Year 4 Annual Report](#) was produced in September incorporating data from ongoing monitoring. Those data also contributed to outreach informing coastal climate change resiliency planning. TBF and partners had several earned media for this project during FY20, and completed a scientific publication highlighting the project in the national *Shore and Beach* journal: “Planning to adaptation: Informing regional nature-based adaptation to improve coastal resiliency in Santa Monica Bay.” Additionally, TBF supported City of Santa Monica in their efforts to include nature-based adaptation in their climate planning.

[Malibu Living Shoreline Project](#) – This project, in partnership with the City of Malibu, Los Angeles County Department of Beaches and Harbors (LACDBH), and State Coastal Conservancy (SCC) aims to restore over three acres of sandy beach and dune habitats at Zuma Beach and Point Dume Beach to improve coastal resiliency and increase the health of the beach systems through a living shoreline approach. During FY20, final permit applications and supporting documents were submitted to City of Malibu, baseline monitoring and project outreach were conducted, and planning for implementation was ongoing and will be conducted in winter 2020/21. Permitting documents were submitted to the City of Malibu on 10 June 2020, including the following documents: 1) MLSP CDP Application, 2) MLSP Implementation and Monitoring Plan, and 3) MLSP Site Characterization Report. Additionally, multiple virtual outreach events were conducted with members of the community and project partners and intensive baseline monitoring continued.

[Manhattan Beach Dune Restoration](#) – This project aims to restore approximately three acres of foredune habitat along beaches in City of Manhattan Beach to provide infrastructure protection and increase coastal resilience, while improving habitat quality through invasive plant removal and native plant establishment. The project is located on existing back dunes in Manhattan Beach from approximately 36th Street to 23rd Street, 0.6 miles of coastline. The project is supported in partnership with LACDBH and the City of Manhattan Beach. The restoration project will involve the removal of non-native vegetation, seeding/planting of native vegetation, strategic installation of sand fencing and other features to help establish vegetation, installation of symbolic fencing, and installation of educational features like interpretive signage.

Significant progress was made during this reporting period including restoration planning; external coordination with partners, experts, and public stakeholders; conducting a public open call (Request for Proposals), and subsequently hiring a

consultant to conduct restoration design services; coordinating and implementing site visits; comprehensive baseline monitoring across multiple field days; permitting meetings and coordination; hiring a consultant to assist acquiring innovative video public comment on the restoration project; and additional community engagement activities. Additionally, TBF released an innovative community engagement tool – an interactive outreach video soliciting project feedback and input, including a brief three-question survey. The video was live for over two months to receive public feedback on the project and was available in English and Spanish. TBF is also in consultation with a Native American representative who is engaged in the project as a cultural advisor.

Beach Characterization Studies – In partnership with [Loyola Marymount University's Coastal Research Institute \(CRI\)](#), this research program is conducting a beach characterization study and informing a Site Suitability Model (SSM) to determine potential areas for beach restoration, evaluating factors such as coastal infrastructure, sea level rise vulnerability, and physical and biological characteristics, while contributing information to the SMBNEP Comprehensive Monitoring Program. This project serves to assess the potential threats faced by these beaches as well to determine which sites have the highest probability of being successfully restored with a high adaptive capacity.

During this reporting period, data from 11 beaches were compiled and analyzed, and preliminary meetings with SSM partners, LACDBH and State Parks, occurred in summer 2020. Summary results from both projects were presented at the American Shore and Beach Preservation Association National Conference in October (one oral presentation and four poster presentations), and in other virtual venues such as Los Angeles Regional Climate Collaborative meetings. Work continued on evaluating and combining GIS layers for the site suitability analysis and discussions with coastal municipalities will serve to inform its future use. The model will eventually be analyzed against the ongoing *in situ* data collection along beaches of the SM Bay as part of this research program.

### ***In the Ocean***

Kelp Forest Restoration – This project was developed to reverse the loss of kelp forests off the Palos Verdes Peninsula. The restoration is achieved by systematically reducing the density of sea urchins on the ocean floor to a target of two per square meter. TBF scientists partner with commercial fisherman to cull urchin densities as they are transformed from urchin barrens to kelp forests. This approach allows for the regrowth of kelp and increases diversity and biomass. From October 2019 through September 2020, 3.5 acres of kelp forest were restored, bringing the total for this project, started in 2013, to approximately 55.5 acres. Kelp forest response is validated through community analysis monitoring before, during, and after restoration activities. Additionally, the [Year 7 Annual Report](#) was completed.

Abalone Restoration – This project implements a multifaceted approach to research and method development to restore populations of abalone to Santa Monica Bay and adjacent coastal waters. TBF manages two abalone laboratories located at the Southern California Marine Institute (SCMI) to advance research on captive and wild

abalone care, spawning, and larval cultivation techniques. The primary focus of this work has been to support the recovery of the endangered white abalone. In June 2020, over 5,000 juvenile white abalone were transferred from the Bodega Marine Lab to SCMI, facilitated by two volunteer pilots coordinated through LightHawk. Abalone were held and cared for in TBF's facility. Nearly 2,000 white abalone have been outplanted to the Palos Verdes peninsula since 2019. These were the first animals of their species to ever be outplanted into the wild. TBF staff and partners conducted quarterly surveys, monitoring live abalone and collecting shells to inform the success of outplanting efforts.

### ***Integrated Coastal Projects***

[Los Angeles Living Shoreline Project \(LA-LSP\)](#) – This innovative project, including a diversity of partners and supporters, aims to implement a multi-habitat approach to restore approximately 3.5 acres of beach and coastal bluff habitat while increasing coastal resilience in a disadvantaged community. This project also includes an experimental project to establish offshore eelgrass within a one-acre footprint. LA-LSP is being funded by SCC and Honda Marine Science Foundation. In FY20, partnerships and planning continued, and baseline beach and bluff surveys were initiated in partnership with CRI. Integral Consulting was hired to complete restoration conceptual design, perspective renderings of the project, and interpretive signs. Outreach and planning were both ongoing, culminating in an agency planning meeting in July 2020 that included over 30 state and federal agency representatives as well as local government. Eelgrass beds offshore of Malibu and Catalina Island were identified as potential donor beds. These beds were surveyed to assist in permitting and performance evaluation of future restoration projects. In addition, eelgrass blades were collected by TBF and Paua Marine Research Group for a population level genetics study led by CRI faculty, Dr. Demian Willette. Lastly, a pressure sensor was deployed to help establish criteria for site selection for eelgrass in Santa Monica Bay.

[Microplastics Research](#) – Plastic is the most prevalent type of marine debris found in our oceans, and microplastics are considered an emerging constituent of concern due to their ubiquitous presence in the environment, danger to marine life when ingested, and potential to bioaccumulate chemicals up the food web. In FY20, CRI continued refining a protocol to extract microplastics from sediments, including infrared spectroscopy mapping, and continued a pilot study along Bay beaches. A new protocol was also initiated to extract microplastics from nearshore marine invertebrates such as amphipods, sand crabs, and mussels. A partnership with University of California Santa Barbara to inform regional data gaps in the fate and transport conceptual model for microplastics in the nearshore environment was initiated. Sample processing was delayed beginning in March 2020 due to COVID-19 restrictions and LMU campus access restrictions.

[Monitoring Harmful Algal Blooms](#) – CRI and its Visiting Assistant Professor / Researcher, Dr. Amber Bratcher-Covino, continued Harmful Algal Bloom (HAB) studies to fill data gaps in the Santa Monica Bay region. Dr. Bratcher-Covino continued planning for future fieldwork including beach water quality sample collection to process for phytoplankton as well as ocean samples. Her students conducted a literature review

and a synthesis of existing phytoplankton data for the region over the summer. Additional work on modeling OAH and HABs continues by SCCWRP, with efforts to expand the model. Sampling sites and a schedule for sampling cruises were established for Santa Monica Bay for late 2020-2021.

### ***Climate Change***

[Climate Change Action Planning](#) and [CCMP Action Plan](#) – Climate change, including climate stressors for the region such as sea level rise and drought, continue to be important drivers for planning and adaptive management actions. In 2018, SMBNEP released the [2018 CCMP Action Plan](#), including actions related to climate change such as filling in important data gaps for our region, or prioritizing projects to increase resilience of our coastal areas, (such as kelp, beach, and dune restorations). The seven goals and 44 actions it contains represent priorities for our region, established through many workshops and consensus building activities.

[Ocean Acidification](#) – An array of instruments that measure pH, dissolved oxygen, and pCO<sub>2</sub> have been deployed off the Palos Verdes Peninsula since the second half of 2016 by the Sanitation District of Los Angeles County. Data collected by this project will improve our understanding of ocean acidification and hypoxia in the Santa Monica Bay. Since 2018, data were collected at a second location at a depth of 60 meters and showed less variability as compared to the first deployment year in 15 meters. These data allowed good characterization of the frequency, magnitude, and duration of OAH events in the nearshore surface and offshore bottom layers. In FY20, a manuscript was drafted in partnership with USEPA and several other sister National Estuary Programs.

[Kelp Forest Hydrodynamics](#) – This cooperative project is designed to inform how kelp forests influence current patterns, wave velocity, and sediment transport off the coast of the Palos Verdes Peninsula. Additional funding was awarded to California State University Northridge and University of California Davis from University of Southern California Sea Grant to continue this study on two more kelp forest sites. In 2019, two sites were established off Palos Verdes and instruments were deployed. Results from this study were presented to many stakeholder groups on the north coast of California and contributed to two manuscripts in 2020. A third manuscript is in preparation focused on exploring drivers and potentials of alongshore current velocity reduction by giant kelp. Additional ocean chemistry data collection associated with this project was halted due to COVID-19 and will resume when possible.

### ***Our Communities***

[Proposition 84 Grant Program](#) – SMBRC was originally allocated \$18 million in state funding for projects including coastal watershed contamination prevention and coastal and marine habitat restoration. Four projects recommended by the Governing Board for Proposition 84 funding were implemented during this period. In 2020, two of the projects completed construction. The Santa Monica Bay Catch Basin Insert Project by the City of Rancho Palos Verdes installed 1,112 Connector Pipe Screen (CPS) units in catch basins suitable for retrofits in an approximately 14 sq. mile area across three cities in

the Palos Verdes Peninsula Watershed draining to Santa Monica Bay. The [Westwood Neighborhood Greenway Project](#) by the City of Los Angeles constructed two parallel bioswales to capture and treat dry- and wet-weather flows from a storm drain and a five-acre impervious area to improve water quality in the receiving waters (Sepulveda Channel, Ballona Estuary and Santa Monica Bay) while providing native habitat for wildlife and opportunities for public engagement.

Two of the projects continued construction during 2020. The Ladera Park Water Quality Enhancement Project by the Los Angeles County Public Works, which aims to treat, store, and infiltrate runoff from a 110-acre tributary area through a combination of pre-treatment, retention, and infiltration, completed drywell installation and commenced aboveground construction during this period. The [Culver Boulevard Stormwater Filtration/Retention Project](#) by the City of Culver City aims to reduce pollutant loading to Ballona Creek by capturing, treating, filtering, or reusing stormwater and dry-weather flows from a 700-acre drainage area. During this period, the project continued Phase II of construction with anticipated completion of the final phase of construction in October 2021.

[Proposition 12 Grant Program](#) – SMBRC staff continued to coordinate with SCC in overseeing implementation of 10 projects recommended by the Governing Board for Proposition 12 funding projects. In summary, two projects were completed, two projects continued implementation, two continued planning efforts, three continued grant finalization processes, and one project was cancelled due to wildfire impacts.

The Palos Verdes Reef Restoration Project completed construction and initiated monitoring of an artificial reef in September 2020 to restore rocky reef habitat near Bunker Point off the Palos Verdes Peninsula, which involved strategically placing 57,000 tons of quarry rock in a 42-acre area.

The Pure Water Project by the Las-Virgenes-Triunfo Water District also completed construction and held a virtual grand opening of a 100 gallon-per-minute, indirect potable water reuse demonstration facility for reservoir augmentation, which aims to produce up to six million gallons of local, drought resistant water supply per day while improving in-stream habitat.

Abalone Cove Habitat Restoration Project continued implementation, including site preparation, removal of invasive plant species, irrigation installation, and planting native plants. The Community-Based Restoration at Ballona Wetlands Project also continued implementation (see additional details in the [Wetlands, Rivers, and Streams section](#)).

The following three projects continued planning: Topanga Lagoon Restoration Planning Project collected input from over 100 public stakeholders, while a technical advisory committee supported the development and evaluation of three conceptual design alternatives. The Beach Cities Multi-Benefit Green Streets Project issued a Notice to Proceed for implementation of green infrastructure technologies and hired a consultant to begin the design process.

The Carbon Canyon Acquisition Project and the California Red-legged Frog (*Rana draytonii*) Reestablishment Project finalized their respective grant agreements. The Monteith Park and View Park Green Alley Stormwater Capture Project continued work to finalize the grant agreement. The proposed Paramount Ranch Stormflow and Sediment Reduction Project was canceled due to Woolsey Fire impacts. The Proposition 12 funds dedicated to this project were reallocated, from the Paramount Ranch Project to the Topanga Lagoon Restoration Planning Project and the Palos Verdes Reef Restoration Project.

Internship and Research Assistant Program – Through this program, TBF and CRI coordinate volunteers, students, and postgraduates in efforts to support implementation of the Comprehensive Monitoring Program and include research, habitat restoration, and scientific data collection efforts across many projects. While this program was significantly affected by COVID-19 restrictions in Los Angeles County, including the ban of community volunteer events, TBF and CRI continued to make progress remotely. Specifically, nine students completed research projects under four different faculty in summer 2020 across multiple research programs. Research was focused on beach characterization studies, modeling coastal climate stressors and adaptation strategies, native plant microbe interaction research, intertidal microplastics research, and habitat restoration and scientific monitoring. Each research direction aims to answer multiple research questions. Students created multiple presentations, posters, and other products as part of the research efforts.

Boater Education Program – This is a multi-faceted program designed to engage the Southern California boating community to reduce and eliminate boating-related ocean pollution and encourage environmental stewardship. In 2020, the program continued to distribute “[The Changing Tide](#)” statewide newsletters, annual Southern California Tide Calendars, and [Pumpout Nav](#) app, the popular [Southern California Boater’s Guide](#). . The program also produced and distributed 2,979 Boater Kits and virtually trained 91 Dockwalker volunteers. Through the [Honey Pot Day](#) program, mobile sewage pumpouts are offered; during this reporting period, 84 boaters participated and 1,696 gallons of sewage were properly disposed of. In May 2020, the Boater Education Program received a grant from the Ocean Protection Council and Coastal Quest to create Marine Protected Area (MPA) educational materials for the recreational boating community, these materials include one educational video, Southern California Tide Calendars with a MPA map and resource pages (available in English and Spanish), an updated California Boater Kit reference card that incorporates MPA information, an educational interactive quiz, and the integration of MPA education into The Changing Tide newsletter.

Table-to-Farm Composting – The Table to Farm Composting for Clean Air project, initiated in 2016, is a collaborative network of schools, students, food service establishments, local non-profit organizations, and the community at large working to create local solutions to reduce air pollution and greenhouse gas emissions, while increasing local food production in underserved communities. This project connects food service establishments with local compost hubs for diversion of pre-consumer food waste from the landfill. Nutrient rich compost is then used in gardens that grow fresh

local produce for the community. Compost hubs are located at Environmental Charter Schools' three campuses to teach students about food equity, air pollution, carbon sequestration, food waste, composting, and gardening. In 2020, a community garden comprised of three raised garden beds and two in-ground beds was established outside of Environmental Charter Middle School Inglewood's (ECMS-I) gates. This garden is available to all community members. During this reporting period, 436 ECMS-I students and community members learned about the garden and 72 individuals gave input on garden design and implementation.

### ***Governance***

On June 18, 2020, the SMBRC Governing Board unanimously approved major amendments to the [MOU of SMBRC](#), which delineates the authority, governance, and membership of the Commission. The amended MOU was informed by extensive input from members of the SMBRC and public. The new MOU made significant improvements to the governance structure of the SMBRC by clarifying the authority and relationships among components of the SMBRC, clarifying the SMBRC's role in the SMBNEP, enhancing mechanisms for broader and more effective stakeholder participation, streamlining processes, and improving operational efficacy of the SMBRC.