SANTA MONICA BAY NATIONAL ESTUARY PROGRAM

Infrastructure Investment and Jobs Act (IIJA) FY25 Semi-Annual Report

October 1, 2024 – March 31, 2025

Report Date: May 15, 2025

Prepared for the United States Environmental Protection Agency

Acronyms

BEACON	Beach Erosion Authority for Clean Oceans and Nourishment
BSC	Black Surfers Collective
CCMP	Comprehensive Conservation and Management Plan
CMP	Comprehensive Monitoring Program
CSUCI	California University Channel Islands
FY	Fiscal year
IIJA	Infrastructure Investment and Jobs Act
Memorandum	National Estuary Program Bipartisan Infrastructure Law Funding Implementation Memorandum for Fiscal Years 2022-2026
MRCA	Mountains Restoration and Conservation Authority
NEP	National Estuary Program
NRHP	National Register of Historic Places
RCDSMM	Resource Conservation District of Santa Monica Mountains
SCMI	Southern California Marine Institute
SMBNEP	Santa Monica Bay National Estuary Program
SMBRC	Santa Monica Bay Restoration Commission
State Parks	California Department of Parks and Recreation
TBF	The Bay Foundation
USEPA	United States Environmental Protection Agency

Overview

This semi-annual report summarizes progress on the Infrastructure Investment and Jobs Act (IIJA) Work Plan tasks for Fiscal Years 2024 and 2025, covering the reporting period from October 1, 2024, to March 31, 2025.

Purpose

The FY25 IIJA Work Plan Aims to:

- Identify projects and objectives to further CCMP implementation and NEP IIJA priorities for IIJA funding continuing through FY25 (October 1, 2024 to March 31, 2025); and
- Outline partners, outputs or deliverables, long-term outcomes, budget, and timeline of work to be implemented with IIJA funds over 5 year.

Clean Water Act Section 320 and Protect and Restore America's Estuaries Act

The National Estuary Program was originally enacted in 1987 when the CWA was amended to establish the program. As stated in the act, the purpose of the program is to:

1. Assess trends in water quality, natural resources, and uses of the estuary;
2. Collect, characterize, and assess data on toxics, nutrients, and natural resources within the estuarine zone to identify the causes of environmental problems;
3. Develop the relationship between the inplace loads and point and nonpoint loadings of pollutants to the estuarine zone and the potential uses of the zone, water quality, and natural resources;
4. Develop a comprehensive conservation and management plan that:
    a. Recommends priority corrective actions and compliance schedules addressing point and nonpoint sources of pollution to restore and maintain the chemical, physical, and biological integrity of the estuary, including restoration and maintenance of water quality, a balanced indigenous population of shellfish, fish and wildlife, and recreational activities in the estuary, and assure that the designated uses of the estuary are protected;
    b. Addresses the effects of recurring extreme weather events on the estuary, including the identification and assessment of vulnerabilities in the estuary and the development and implementation of adaptation strategies; and
    c. Increases public education and awareness of the ecological health and water quality conditions of the estuary.

On January 13, 2021, the PRAE Act was signed into law to recognize the economic and environmental importance of wetlands and coastlines. The PRAE Act amended CWA Section 320 to require that CCMPs "address the recurring extreme weather events on the estuary, including the identification and assessment of vulnerabilities in the estuary

and the development and implementation of adaption strategies," and "increase public education and awareness of the ecological health and water quality conditions of the estuary."

By investing in science-based management actions and community-driven solutions, the SMBNEP continues to uphold the intent of the Clean Water Act and the PRAE Act, ensuring that Santa Monica Bay remains a thriving natural resource for future generations.

Structure of Semi-Annual Report

This section of the semi-annual report is organized by project included in the FY25 IIJA Work Plan. For each project the outcomes and deliverables are identified and brief updates on implementation of the next steps are included in a table. A narrative section follows the table for next steps that require more description. In some cases, the table identifies there were no project activities during this time-period; this could be due to factors including but not limited to funding, partner prioritizations, or permitting delays.

The 5 Year Long Term Plan was updated and approved by the Governing Board February 11, 2025. Details of these changes can be found in the SMBRC staff memo. The Community Dune Restoration Project was approved by the EPA Project Officer via email on March, 30, 2025. The additional projects and budget changes outlined in the staff report will be included in the work plan the Year 4 and 5 grant application to EPA in May 2025.

IIJA Project #1

Palos Verdes Kelp Restoration Project

Connection to CCMP: Action #2 – Restore Kelp Forests
Connection to CMP: Rocky Reef Indicators: Kelp Canopy Coverage / Urchin Barren Extent, Fish Production, Water Temperature Change

Project Name	Outputs and Deliverables	Status	Semi-Annual Report Update
Palos Verdes Kelp Restoration Project	Identification and mapping of restoration site. Pre-monitoring of restoration site. Restoration efforts applied to 8 acres of rocky reef at Point Fermin. Related efforts at White Point and Underwater Arch Cove, approximately 5 acres. Post-monitoring of restoration site, e.g., kelp forest community surveys of restored site, and urchin gonad index, (conducted annually). Production and distribution of semi-annual report detailing efforts and results to date.	Reassigned	Activities under this funding source ended in November 2024. Commercial sea urchin divers completed restoration in 1.5 acres at Underwater Arch Cove. Restoration activities supported by IIJA funds were completed in a total of 6.6 acres at Underwater Arch Cove since the beginning of this grant award. TBF staff have prepared a Quality Assurance Project Plan for kelp restoration/rocky reef monitoring to be submitted for review in winter 2025. (Additional resources have been developed to advance kelp forest restoration and the remaining funds for this project have been reassigned to other projects. This revision to the IIJA work plan was approved by EPA March 20, 2025.)

Project #1 Background:

Giant kelp forests grow from rocky reefs, in temperate waters, providing a three-dimensional structure that in Southern California supports over 700 species of algae, invertebrates, fishes, mammals, and birds. Numerous stressors have reduced the extent and condition of the giant kelp forests in Santa Monica Bay, leading to loss of fishing, recreation, and ecological integrity. The cumulative impact of these stressors often results in the establishment of urchin barrens. Urchin barrens have greatly reduced productivity and diversity when compared to resilient kelp forests. Giant kelp forests strongly affect the ocean waters and the adjacent coast, locally mitigating climate change factors associated with ocean acidification, and coastal erosion from sea level rise and increased storminess.

The Palos Verdes Kelp Restoration Project is internationally recognized as one of the largest and most successful projects of its kind. A consortium of biologists, fishermen, and academic researchers have spent over 12,000 hours SCUBA diving to restore and study the resulting kelp forest off the Los Angeles coastline. Kelp forests deliver benefits to the entirety of our coast and coastal ocean. For more than 15,000 years, humans have relied on this often-forgotten forest for sustenance and inspiration. This project allows us to maintain this legacy.

Project Narrative:

Funding reassigned - No new work was conducted for this project under IIJA funding. Kelp restoration efforts are supported by state and private funds to continue the work.

IIJA Project #2

Palos Verdes Abalone Restoration Project

Connection to CCMP: Action #3 – Recover Abalone Population
Connection to CMP: Rocky Reef Indicators: Invertebrate Indicator Species, Landslides and Sedimentation, Turbidity / Light Penetration, Water Temperature Change, Invertebrate Recruitment

Project Name	Outputs and Deliverables	Status	Semi-Annual Report Update
Palos Verdes Abalone Restoration Project	Establish outplant site, conduct biological monitoring, deploy, maintain and download sensors for physical and chemical parameters i.e., temperature and dissolved oxygen. Aquaculture facility improvements and maintenance. Purchase, construct and deploy outplant modules and time series cameras. Purchase and cultivate red abalone for outplant. One to two outplants annually for two to four years. 6,500 to 10,000 abalone outplanted over the entirety of the project.	Reassigned	No project activities this reporting period. Activities under this funding source ended in September 2024. (Additional resources have been developed to advance abalone restoration and the remaining funds for this project have been reassigned to other projects. This revision to the IIJA work plan was approved by EPA March 20, 2025.)

Project #2 Background:

Seven species of abalone, black, white, pink, red, pinto/threaded, flat, and green persist in Southern California despite precipitous declines due to overharvest, disease, and other factors. Fisheries for these species were closed in Southern California in 1997. Two of these species are federally listed as endangered, requiring active management to support their recovery within their natural range. These abalone live on rocky reefs and in the rocky intertidal where they graze on algae while hiding from predators and sometimes the sun, in crevices.

Abalone are ecosystem engineers that compete for food and space with sea urchins and other benthic life forms. When present in significant numbers the reefs they inhabit are more diverse, support less sediment and resultantly lead to improved water quality. Actively outplanting abalone to the rocky reefs off Palos Verdes will aid in long term resilience of our kelp forest-rocky reef systems. Long term goals include reestablishing the millennia old traditions of sustainable harvest of abalone for food, ceremony, and to reacquire lost cultural connections.

Partners involved in this project will continue to develop and test improved methodologies for raising and spawning abalone to increase their numbers in commercial abalone farms and within research facilities. Thousands of abalone will be produced, grown, transported, and conditioned for their outplanting to the ocean. Once placed onto the reefs off our shores, these abalone will be protected while they acclimate to their natural environment and eventually released. Scientific monitoring will continue to inform the success of these efforts, to adapt and maximize their effectiveness.

Project Narrative:

This project is a continuation of an ongoing project. In coordination with SCMI aquarists, the design of aquaculture facility improvements progressed through fall 2024. Consulting firms have been identified and will be contacted for build out quotes in early 2025. Construction windows for the two labs will be staggered and started in 2025-2026. TBF staff have begun drafting the Quality Assurance Project Plan to be submitted to USEPA in summer 2025.

Habitat suitability surveys have been conducted in fall 2024 by TBF, NOAA and other partner dive teams to identify new outplant sites off Palos Verdes. Site selection and set up will occur in spring 2025 and the first outplant to the site is planned for fall 2025. Moving forward, these efforts will be supported by additional funds developed by TBF. The remaining funds for this project have been reassigned to other projects.

IIJA Project #3

Santa Monica Breakwater Rocky Intertidal Preserve

Connection to CCMP: Action #5 – Assess and Implement Offshore Artificial Reefs; #38 – Monitor Rocky Intertidal Habitats
Connection to CMP: Rocky Intertidal Indicators: Area of Rocky Intertidal Habitats, Response to Human Disturbance, Biodiversity Survey, Invasive Species, Presence of Disease, Habitat Change Due to Sea Level Rise, Temperature change, Increased Storminess

Project Name	Outputs and Deliverables	Status	Semi-Annual Report Update

Santa Monica Breakwater Rocky Intertidal Preserve	Conduct outreach and develop partners. Conduct environmental monitoring to inform design, engineering, and environmental planning. Identify lead agency and support development of EIR and associated processes for permitting. Contract for materials and construction. Monitor establishment and trends of the resulting intertidal community. Conducted biological (CRANE), Uniform Point Contact (UPC), and Swath surveys. 2022/2023 Data sources were cross-checked, standardized and processed. Project site sea floor was scanned with a combined bathymetry and side scan sonar in September 2024.	Initiated	A series of environmental DNA samples were collected neighboring and distant from the Santa Monica Breakwater. TBF has continued conversations with the City of Santa Monica and the Santa Monica Pier Corporation regarding aspects of monitoring, model development, and potential outcomes of alteration of the breakwater. Two benthic sampling protocols were completed in November 2024 by VRG divers, Uniform Point Contact (UPC) and Swath. Acoustic Doppler Current Profilers were deployed in November 2024 and recovered in January 2025. A CDT sensor array, (Conductivity, Depth and Temperature) was also deployed from November 2024 through January 2025 Data collected from the instrumentation being used to inform wave and current models. Sept. dye release in planning and permitting with the Los Angeles Regional Water Quality Control Board initiated.?

Project Name	Outputs and Deliverables	Status	Semi-Annual Report Update
	Biological surveys at the Santa Monica Breakwater are planned for November 2024.		

Project #3 Background:

This project creates an adaptable intertidal system and neighboring subtidal habitat that will provide refuge from existing stressors, allow for the study of rocky intertidal dynamics, as well as testing and trials of materials, aspects, and design for intertidal / subtidal enhancement. Results of these efforts will help inform the creation of living breakwaters along other exposed sections of the Southern California coastline.

This program would provide protection for the Santa Monica Pier and coastal infrastructure from wave related damage. The pier is a prominent and highly valued coastal asset, used by communities throughout Los Angeles and the world, receiving millions of visitors annually. The pier supports tourism, education, sport, and subsistence fishing. This project would enhance the natural resources neighboring the pier adding to the recreational/educational landscape and contribute to increased fishing opportunity.

Rocky Intertidal: The rocky intertidal is a dynamic habitat dominated by marine organisms that is variably submerged, washed, splashed, sprayed, or left to dry depending on the exposure, elevation, tides, waves, and storms. The rocky intertidal is often recognized by tidepools, mussel colonies, and expanses of a diversity of life that attracts many visitors. “An incredibly high number of local-residents and tourists flock to these locations for the opportunity to see marine life in its natural state.” (Peter Raimondi et al., 2022, Assessment of Rocky Intertidal habitats for the California Marine Protected Area Monitoring Program.) In the same report, Dr. Raimondi reminds us of the impacts of this intense visitorship including overexploitation, pollution, and habitat alteration. Warmer temperatures, and ocean acidification also create stress at the organismal to community levels in this habitat. In addition, extensive mapping by the MARINe, (Multi Agency Rocky Intertidal Network) defines the extent of rocky intertidal habitat for the entire state of California to be roughly five square kilometers. In summary, the rocky intertidal is loved, vulnerable, and one of the rarest habitats in the state.

Project Narrative:

The primary goals of the Santa Monica Living Breakwater Analysis are to catalog breakwater species, develop a hydrodynamic model of the breakwater nearfield, and partner with stakeholders to develop potential multi-benefit living breakwater designs. Extensive observations and modeling have been completed. Additional observations, modeling, and analysis are planned for this summer and fall. The project is on time. Detailed information regarding individual deliverables is below.

Specific deliverables are:
D1. eDNA collection breakwater and pier species
D2. eDNA analysis of breakwater and pier species
D3. Topobathy surveys of the breakwater, nearshore, and beach
D4. Wave and circulation observations
D5. State of the art review literature for living breakwater elements in energetic coastlines
D6. Breakwater circulation modeling
D7. Evaluation of decarbonization efforts (i.e., CaCO3 spoils for potential breakwater elements)

Breakwater and pier species cataloging are in process. eDNA was collected in April and May of 2025 (D1). The samples are being prepared for sequencing. Sequencing results are anticipated in late summer 2025 (D2). The sampling strategy and control locations were adjusted in the May 2025 eDNA collection to separate pier vs. breakwater impacts. Ideally, a diver survey will be conducted to compliment eDNA collections and support permitting for a potential fall dye release.

Nearshore and breakwater near-field topographic and bathymetric surveys have been conducted (D3). Shallow nearshore bathymetry was surveyed December 4, 2024. Multiple lower foreshore LiDAR surveys have been performed during winter and spring low tides. These data were combined with the Vantuna lab's side scan data and NOAA offshore bathymetry data to develop a seamless digital elevation model required to perform hydrodynamic modeling. Hydrodynamic observations (D4) were conducted from November 20, 2025 to January 21, 2025. Two Acoustic Doppler Current Profiles were deployed to measure waves and currents. We are planning a second observation period in late summer 2025. A nested model for the breakwater near-field has been developed (D6). The spectral wave model (SWAN) and the nearshore Boussinesq approximation(wave by wave) have been validated using the hydrodynamic observations. The breakwater near-field tidal circulation model is currently being validated.

A literature review summarizing the state of the art for living breakwaters in high energy wave environments (D5) has been completed and is currently being edited. We anticipate this review will be submitted to a journal this fall.

We are currently working with SCMI to host tank tests to evaluate $CaCO_3$ spoils for potential breakwater elements. We anticipate these tests will be completed this fall.

IIJA Project #4

Venice - Marina del Rey - Playa del Rey Foredune Beach Restoration Project

Connection to CCMP: Action #6 – Restore Healthy Beaches
Connection to CMP: Sandy Shores Indicators: Habitat Protection, Beach Management Practices, Shoreline Erosion / Topography Change, Coastal Flooding, Hazard / Disturbance Response

Project Name	Outputs and Deliverables	Status	Semi-Annual Report Update
Venice - Marina del Rey - Playa del Rey Foredune Beach Restoration Project	Contracted with partner in October 2023. Conduct outreach. TBF staff defined scope and scale of the project and conducted baseline site characterization to provide direction on siting. Outreach materials developed, public engagement strategy initiated, and survey conducted. Hosted first public stakeholders meeting in March 2024. Took feedback from the first stakeholders meeting and redefined scope, scale and site of the project. Revised proposal named Venice Dune Project was approved by Venice Neighborhood Council (July 2024) and introduced in a subsequent public stakeholder meeting (Sept 2024).	Suspended	No project activities this reporting period. Activities under this funding source ended in September 2024. TBF anticipates needing more time and resources to develop a beach dune project site on the beach in the vicinity of Venice - Marina Del Rey - Playa Del Rey. Ongoing work with state and local agencies, and the community, will hopefully allow for a project or projects to be developed in the near future. Resultantly, TBF requested the remaining funds be dedicated to support beach dune community-based restoration, on existing dune restoration sites, i.e., Manhattan Beach, Dockweiler Beach, Point Dume, and Zuma Beach over the next two years. The remaining funds for this project have been reassigned to the Community-Based Beach Dune Restoration Project. This revision to the IIJA work plan was approved by EPA March 20, 2025.

Project #4 Background:

Several beach dune projects have been created in the past years along the Los Angeles coastline. These projects serve to create small dunes using native vegetation, increasing the ability of the project site to retain sand, captured by the leaves, branches and roots of the plants. These living shorelines benefit wildlife and enhance the visitor experience while forming a beach ecosystem that is resistant to erosion and sea level rise.

This adaptation to rising sea levels and stormier oceans will protect key infrastructure for beach visitors from across Los Angeles and the world. The sites proposed in this project are some of the more vulnerable to coastal flooding and erosion, along Santa Monica Bay, based upon widely applied models.

Foredune Beach Restoration: Plants specially adapted to the intense wind, salt spray and sunshine naturally inhabit the shoreline, often just above high tide. These project(s) would involve seeding the beach with these native plants and keeping trucks, other vehicles and limiting human presence while these plants germinate and mature. The methods are very direct with the installation of post and rope and / or sand fencing to delineate the boundary followed by seeding. Project sites can be established within a few weeks. Throughout the creation process research, monitoring, and education can occur to elucidate the many changes to the beach from the growth and expansion of the plants.

Project Narrative:

Following considerable outreach and planning this project was suspended in December 2024. There is enthusiasm for a dune site to be established in Venice-Marina del Rey-Playa Vista. TBF remains committed to developing a suitable project.

IIJA Project #5

Adamson House Living Shoreline Project

Connection to CCMP: Action #6 – Restore Healthy Beaches; Action #12 – Restore Small Coastal Lagoons
Connection to CMP: Sandy Shores Indicators: Anthropogenic Infrastructure / Beach Hardening, Habitat Protection, Beach Management Practices, Shoreline Erosion / Topography Change, Coastal Flooding, and Hazard / Disturbance Response

Project Name	Outputs and Deliverables	Status	Semi-Annual Report Update
Adamson House Living Shoreline Project	Establish partnerships. Conduct outreach. Inform environmental design, engineering, and monitoring. Support environmental planning and permitting. Source and purchase materials for site modification, e.g., cobbles, trees, plants. Support contracting and construction. Held project kick-off and monthly project calls. Coordinated and performed a conceptual alternative design analysis and generated updated design figures.	Initiated	MOU was executed December 2023 between State Parks, Integral Consulting and The Bay Foundation. While in communication with the partner team and coordinating with State Parks, the project team developed draft project description for permitting, drafted 30% engineering design plans, coordinated with State Parks on two site condition documentation events, and reviewed documentation and provided site updates to client team.

Project #5 Background:

The Adamson House at Malibu State Beach is listed on the National Register of Historic Places (NRHP) and designated as a California State Historical Landmark No. 966, and the property is situated upon the separately listed NRHP ethnographic Chumash village of "*Humaliwo"*. Due to changing watershed, lagoon, and beach dynamics, both of these historical and culturally significant properties have been facing increasing erosion since 2018. This has resulted in the loss of portions of the estate, exposure of archaeological midden deposits and underlying infrastructure, and has degraded ecosystem services in the greater area. The risk of further damage is now imminent.

This proposed project would implement and construct a living shoreline along Malibu Lagoon State Beach and the Adamson House, using drift logs, cobble and sand that is native to the Santa Monica mountains and found on site (see attached draft design to address the fluvial and coastal erosion). The goal of this project is to address both fluvial and coastal erosion, protect cultural resources, enhance coastal recreation, and buy time for the next crucial phase of adaptation planning (removing Rindge Dam to restore natural sediment transport). This proposed project aligns well with several State and Federal Strategic Plans and would advance the objectives to fund and promote feasible nature-based solutions through innovative and transferable pilot projects and demonstrate the efficacy of proactive adaptation measures across the state.

Since 2019, State Parks, working with Integral Consulting, has been developing designs, technical reports, and meeting with regulatory agencies to complete the necessary environmental review to receive permits through the full regulatory process. Permit applications have been filed with the City of Malibu as the lead permitting agency in March of 2022, and this project already has support and buy-in from key community constituents and stakeholders. This project to date has been funded by State Parks through support of the Adamson House Foundation and is currently under contract through the State Coastal Conservancy to begin moving through the permitting process. However additional funding for permitting, environmental review and construction is necessary. Pending funding and upon the completion of technical studies and ongoing outreach, this project is expected to be "shovel ready" in early 2024 if funding is secured. Adding value to the State, this proposed project will also leverage partner collaborations with SMBNEP and Cal State University Channel Islands (CSUCI) to develop a monitoring program to track the performance of this living shoreline construction, providing a valuable blueprint for adaptation project implementation throughout the Country.

Project Narrative:

In early 2025 a revised project description was produced to satisfy California Environmental Quality Act requirements, an essential aspect of the project planning. On March 4th a cultural resources discussion occurred with State Parks involving communication efforts involving tribal representatives and public outreach. On March 13th, the project description was presented to regulatory agencies and stakeholders that included California State Parks, California Fish and Wildlife Department, California Coastal Commission, and the City of Malibu.

IIJA Project #6

Beach Management Certification Project

Connection to CCMP: Action #6 – Restore Healthy Beaches; Action #25 – Support BMPs, Public Access, and Improved Trail Systems
Connection to CMP: Sandy Shores Indicators: Anthropogenic Infrastructure / Beach Hardening, Habitat Protection, Beach Management Practices, Shoreline Erosion / Topography Change, Coastal Flooding, and Hazard / Disturbance Response

Project Name	Outputs and Deliverables	Status	Semi-Annual Report Update
Beach Management Certification Project	Establish partners. Identify and organize advisory team. Establish memorandum of understanding. Establish office systems. Define and create curricula, 10 modules were recommended. Addressed back-log of website design and maintenance issues for the Coalition. Assembled creative team for certification content development.	Initiated	Contract negotiated and executed April 2024. Initiated software survey and procurement analysis, certification content collection, e.g., photography, web development, and outreach to potential or existing governmental partners for feedback and direction. Assembled creative team for developing Sharable Content Object Reference Model (SCORM)Compliant certification content development; developed instructional template for individual modules, developed sample module and introductory video.

Project #6 Background:

The direct and indirect impacts of beach management practices can result in deleterious effects to coastal ecosystems. Heavy equipment is often used to manage beaches in southern California, and beyond, to enhance the visitor experience and protect coastal infrastructure. These practices include but are not limited to beach grooming, the placement and service of waste receptacles, formation and maintenance of seasonal berms, construction and maintenance of coastal access features, lighting, sweeping, parking lots, and infrastructure utilized by first responders.

This project will provide web-based materials, training modules, and testimonials to inform current and prospective beach managers and practitioners to identify, understand and operate in an ecologically contextual approach to coastal management. This effort will be directly supported by the decades of partnership building, research, and resultant best practices recommended of the Beach Ecology Coalition. These recommendations are the result of extensive information exchange and research. Many coastal managers utilize and further refine these preferred approaches to maintain highly acceptable experiences for the public visitors to southern California beaches. This effort would seek to further institutionalize the best practices of beach managers to ensure public safety, ecological integrity, and create a coastal landscape that reduces the impacts of coastal flooding and erosion.

Project Narrative:

TBF and the Beach Ecology Coalition have been refining the outputs of this project to focus on the key elements of the Certification. Research has been conducted to inform the proper location, hosting, analytics, and length for this web-based tool. The ultimate design of the project is in development incorporating these key factors.

The Beach Ecology Coalition convened on the subject of certification and determined that the course would cover 10 subject areas in 10 separate modules intended for beach management staff, both public and private sector staff. The 10 subjects outlined are as follows:

1. Overview of beaches and ecosystems
2. Human uses of beaches
3. Maintenance of beaches
4. Care for species of special concern on beaches
5. Beach geological processes
6. Safety concerns for humans and the environment
7. Watershed and nearshore habitat influences

8. Roles of different regulatory agencies
9. Sustainability
10. Public involvement

Certification course development activities included software analysis and procurement, inter-agency content collection, web development, and governmental outreach and coordination. Assembled creative team for developing certification content development; develop instructional template and develop sample modules and introductory video.

Six of the ten scripts for the subject area modules/webpages are complete having incorporated consultation and formal input to the project from USC Sea Grant, and LA County Beaches and Harbors. On camera interviews were conducted with staff from the City of Santa Barbara and selected environmental scientists. Video was captured from several locales along the coastline of southern California for content. Photographs were taken of recent burn sites to illustrate the impact to beaches from urban/wildfires and to aid in recovery efforts. A trailer for the course website is nearing completion and a local artist was commissioned to produce the artwork for the certificate of completion.

IIJA Project #7

Black Surfers Collective: Restore and Maintain Recreational Opportunities of the Santa Monica Bay Shoreline

Connection to CCMP: Action #25 – Support BMPs, Public Access, and Improved Trail Systems; Action #28 – Support Disadvantaged Communities
Connection to CMP: Not applicable

Project Name	Outputs and Deliverables	Status	Semi-Annual Report Update
Black Surfers Collective: Restore and Maintain Recreational Opportunities of the Santa Monica Bay Shoreline	Black Surfers Collective, (BSC) and TBF develop, provide, and update educational and water safety programming. Develop and produce beach events. Conduct event coordination/planning, outreach, permitting and logistics.	Initiated	TBF staff and Black Surfers Collective conducted planning and permitting efforts to prepare for 4-5 events in the summer, early fall of 2025, roughly June through October. This work involved partnering, outreach, logistics, and purchasing of necessary supplies to execute the events.

Project #7 Background:

This program produced by The Bay Foundation and the Black Surfers Collective restores and maintains recreational opportunities of the Santa Monica Bay shoreline. These efforts are centered on environmental education and events focused on water quality and water safety. Event activities include: information on watershed pollutant loading to the Bay, impacts of those pollutants on recreational uses of the Bay, and wildlife. Water safety involves instruction on wave and alongshore current dynamics, methods and lessons to safely swim

and surf in the wave wash. In conjunction the program focuses on the benefits and protection of recreational opportunities provided by coastal access to the shoreline of Santa Monica Bay.

Project Narrative:

Meetings and related activities were held to coordinate, collaborate, plan, permit, supply, and organize the logistical needs of Black Surfers Collective and The Bay Foundation and programming for summer and early fall 2025. 4-5 events are planned to take place on the beaches of Santa Monica Bay e.g., Santa Monica State Beach and Dockweiler. These events are scheduled for select weekend days June through October. Participants in the events will learn of the environmental impacts of watershed-based pollution impacting the recreational uses and wildlife of the Bay. They will also receive instruction and practice water safety related to entering, swimming, and surfing in the wave wash at Santa Monica Bay beaches. An expected 500 participants will be engaged through these events.

IIJA Project #8

Coastal Access and Beach Visitor User Data Study

Connection to CCMP: Action #25 – Support BMPs, Public Access, and Improved Trail Systems; Action #28 – Support Disadvantaged Communities
Connection to CMP: Not applicable

Project Name	Outputs and Deliverables	Status	Semi-Annual Report Update

Coastal Access and Beach Visitor User Data Study	Establish partnerships, and contract with partner management team. Purchase cell phone data encompassing the coast of Los Angeles County. Conduct analysis of the data. Create an online data user interface to allow for public utilization of the dataset. Conduct social surveys to further inform drivers of beach and coastal user patterns and preferences. Data Planning, Assessments, Determinations & Recommendations: needs, specifications, acquisition process, quality control and methods. BEACON completed a summer beach count/beach user survey project for 8 selected beaches in August 2024 BEACON negotiated and prepared a final agreement	Initiated	Continued Coordination meetings with subcontractors

Project Name	Outputs and Deliverables	Status	Semi-Annual Report Update
	with data acquisition vendor Airsage for $180,000.00. Entered into agreement with CSUCI for Summer Beach Count 2024 with Beacon and received board approval in May 2024 for $40,000.00.		

Project #8 Background:

Local, regional, state, and federal managers must better understand public beach use by underserved and underrepresented communities and the barriers and constraints that prevent full access to develop equitable coastal beach access programs, projects, sites, and facilities. TBF, working with several local and regional partners, including Los Angeles County Department of Beaches and Harbors, the Mountains Restoration and Conservation Authority (MRCA), California State University Channel Islands (CSUCI), Sea Grant, USEPA, and the Beach Erosion Authority for Clean Oceans and Nourishment (BEACON), and other cooperating agency partners, have initiated efforts to collect contemporary data on beach use which can fill an important data and research gap, focusing on cell phone location data.

The data can help planners and stakeholders alike to better understand public use of the beach by visitors. It is expected that the massive scale of the metropolitan area that comprises the SMBNEP study area will be brought into focus with detailed user data made possible by the mobility technology use pattern study. This supplemental data is a key element of the program and project goals for the immediate and foreseeable future as it will identify which fraction of the millions of residents and travelers use the coastal resources in the SMBNEP study area and eliminate speculation as to how to identify and/or assign resources to disadvantaged communities census tract data (CalEnviroScreen). TBF, and its partners, are requesting funding to acquire, analyze, validate, and report on cell phone location data for all beach access locations within Los Angeles County, this effort captures data on all users, with a specific focus of the work to identify areas and sites that are frequented by residents of underserved communities.

The methodology and approach to this work is being adapted from efforts by the Narragansett Bay National Estuary Program, and USEPA Office of Research and Development. TBF and its partners are currently completing an initial pilot

scale analysis of data applied to 50 selected points of interest along the coastline of Santa Barbara County, Ventura County, and a selected portion of Santa Monica Bay. Importantly, we have partnered with USEPA staff who proved this concept for the Narragansett Bay Estuary Program.

This project will enable us to understand where visitors call home and begin to decipher, through survey, the barriers and constraints that prevent fuller public access to the coast. The COVID experience in Los Angeles and surrounding counties within greater Southern California has already shown the importance of the beach as a center of community life. Projected climate change impacts for inland areas of Los Angeles County describe increases in heat which will increase the need for refuge along the coast. This study will provide clarity of the region's needs and capacity to support fuller access to the coast in an equitable manner.

Project Narrative:

In this reporting period, BEACON prepared and submitted quarterly reports and invoices. Coordination meetings occurred between TBF, BEACON and Subcontractors i.e., University of Washington, California State University Channel Islands. Processing, management and analysis of data was ongoing.

Project partners completed initial processing and analysis of summer beach counts. These counts are applied to cell phone data captured for the same date, time and location as the beach count(s). The results of these analyses are used to calibrate what a cell phone data point represents, e.g., there may be only one phone on the beach, representing one data point for a family of six visiting for the day. This example helps define the value of one phone data point. Using these calibrations is necessary to inform future resource management, i.e., to understand the level of services or infrastructure needed to create a safe and enjoyable experience for beach visitors. Ostensibly, one phone does not represent one person. Emphasis on calibration of cell phone data to beach counts continued to best interpret how many people are represented by a cell phone data point.

IIJA Project #9

SMBNEP Equity Strategy

Project Name	Objectives	Status	Semi-Annual Report Update
SMBNEP Equity Strategy	Produce equity strategy document.	Complete	A IIJA Project Manager was selected in March 2023 and started in April 2023. The equity strategy was developed based upon USEPA guidance and with direct support from USEPA staff. The final draft of the Equity Strategy was submitted on June 1, 2023. (The iterative editing process proceeded throughout the summer. Final approval was achieved on September 28, 2023. See Equity Strategy)

Project #9 Background

The purpose of the equity strategy is to ensure that each NEP is reviewing potential projects that use IIJA funds through the lens of equitable and fair access to the benefits from environmental programs for all communities. The equity strategy should outline how IIJA funds will be used to sustain and increase investments in communities lacking in relative socio-economic status, and environmental health, including tribes.

Project Narrative:

This project has been completed as of September 28, 2023.