

Santa Monica Bay National Estuary Program

Bipartisan Infrastructure Law
Long Term Plan

June 1, 2023



SANTA MONICA BAY
NATIONAL ESTUARY PROGRAM

Table of Contents

Santa Monica Bay National Estuary Program	i
Table of Contents	ii
Acronyms	iii
I. Introduction.....	1
Santa Monica Bay National Estuary Program Entities	1
SMBNEP CCMP Goals.....	1
Bipartisan Infrastructure Law Funding.....	2
II. SMBNEP BIL Work Plan Overview	3
Purpose	3
SMBNEP BIL Funding Priorities.....	3
SMBNEP BIL Work Plan Structure	4
III. SMBNEP BIL Work Plan Activities	5
1. Palos Verdes Kelp Restoration Project	6
2. Palos Verdes Abalone Restoration Project.....	9
3. Santa Monica Breakwater Rocky Intertidal Preserve	12
4. Venice - Marina Del Rey - Playa del Rey Foredune Beach Restoration Project	15
5. Adamson House Living Shoreline Project	18
6. Beach Management Certification Project.....	22
7. Black Surfers Collective: Diversity in the Line Up.....	24
8. Coastal Access and Beach Visitor User Data Study	26
IV. Estimated Budgets and SMBNEP Staffing.....	28
A. Estimated Project Budgets and Timelines.....	289
B. SMBNEP Staffing	38
Appendix A. SMBNEP BIL Work Plan Activities Summary Table.....	433
Appendix B. CCMP Action Descriptions	484

Acronyms

BEACON	Beach Erosion Authority for Clean Oceans and Nourishment
BIL	Bipartisan Infrastructure Law
CCMP	Comprehensive Conservation and Management Plan
CMP	Comprehensive Monitoring Program
CSUCI	California University Channel Islands
FY	Fiscal year
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
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

I. Introduction

Santa Monica Bay National Estuary Program Entities

Section 320 of the federal Clean Water Act establishes the [National Estuary Program](#) (NEP), which is administered by the United States Environmental Protection Agency (USEPA). The [Santa Monica Bay National Estuary Program](#) (SMBNEP) promotes collaborative watershed-based partnerships to develop and implement the [Comprehensive Conservation and Management Plan](#) (CCMP) that addresses a range of environmental problems facing Santa Monica Bay, while recognizing and balancing the needs of the local community. The SMBNEP is comprised of two distinct entities: [Santa Monica Bay Restoration Commission](#) (SMBRC) serving as the Management Conference and [The Bay Foundation](#) (TBF) serving as the Host Entity.

SMBNEP CCMP Goals

SMBNEP recently completed a major CCMP revision in 2021, including a revised Action Plan in October 2018, a Finance Plan in December 2019, an amended Memorandum of Understanding of SMBRC in June 2020, an Introduction Chapter in February 2021, and a Comprehensive Monitoring Program (CMP) in April 2021 (all key components of the CCMP). In September 2021, USEPA reviewed and concurred that the revised SMBNEP CCMP meets USEPA requirements and is officially considered final.

The SMBNEP Management Conference and stakeholders, including members of the public, identified the four priorities of SMBNEP as improving water quality, conserving and rehabilitating natural resources, protecting the Bay's benefits and values to people, and understanding and adapting to climate change impacts. Within these four priority areas, the following seven overarching goals were identified in the CCMP Action Plan:

- 1) Protect, enhance, and improve ecosystems of Santa Monica Bay and its watersheds
- 2) Improve water availability
- 3) Improve water quality
- 4) Enhance socio-economic benefits to the public
- 5) Enhance public engagement and education
- 6) Mitigate impacts and increase resiliency to climate change
- 7) Improve monitoring and ability to assess effectiveness of management actions

The CMP provides a framework for monitoring data to inform managers, practitioners, and the public on conditions and trends to support actions identified in the CCMP Action Plan. The CMP also describes strategies to track and detect changes or improvements, assess effectiveness of CCMP implementation, and address key data gaps across seven major habitats in Santa Monica Bay and its watersheds.

Bipartisan Infrastructure Law Funding

On November 15, 2021, President Biden signed the Bipartisan Infrastructure Law (BIL). The law includes \$50 billion to USEPA for water infrastructure, including \$132 million in funding for the 28 NEPs to further CCMP implementation. The USEPA will evenly distribute funding among the NEPs, providing SMBNEP \$909,800 annually for federal fiscal years 2022-2026 (FY22-26). On July 26, 2022, USEPA issued the [National Estuary Program Bipartisan Infrastructure Law Funding Implementation Memorandum for Fiscal Years 2022-2026](#) (“Memorandum”). The Memorandum covers NEP BIL funding priorities, eligible uses, expectations for an Annual BIL Work Plan and a Long-Term Plan, award considerations, and reporting and tracking requirements.

The priorities for BIL funding include a core emphasis on acceleration of environmental and community restoration goals within the CCMP. Specifically, NEP BIL-funded projects should seek to:

- Accelerate and more extensively implement CCMPs;
- Ensure that benefits reach underserved communities with a target of at least 40% of project benefits flowing to underserved communities, as covered by the [Justice40](#) Initiative;
- Build the adaptive capacity of ecosystems and communities through projects that advance climate resilience; and
- Leverage additional resources through collaboration, partnerships, and other funds as appropriate.

The BIL funds received must implement the Management Conference and USEPA-approved CCMP. Each NEP is also required to develop an Annual BIL Work Plan and a Long-Term Plan. A Management Conference-approved Annual BIL Work Plan must be submitted by June 1 each year with the exception of FY22. The FY22 BIL Work Plan should be submitted within 90 days of the issuance of the Memorandum. Each NEP must also develop a separate BIL Long-Term Plan describing the key activities to be pursued through all funding years (FY22-26), including an Equity Strategy detailing how the NEP will contribute to the goal of at least 40% of BIL funding benefits flowing to underserved communities. The BIL Long-Term Plan is due June 1, 2023.

II. SMBNEP BIL Work Plan Overview

Purpose

The purpose of this FY22-26 BIL Long Term Plan is to:

- Identify projects and objectives to further CCMP implementation and NEP BIL priorities for BIL funding beginning in FY22 and continuing through FY26; and
- Outline partners, outputs or deliverables, long-term outcomes, budget, and timeline of work to be implemented with FY22-26 BIL funds.

Annual BIL Work Plans for FY22-26 will be developed with updated and refined project details consistent with USEPA's submission deadlines.

SMBNEP BIL Funding Priorities

Environmental justice and addressing climate change are key USEPA priorities reflected in the first two goals of the [FY22-26 USEPA Strategic Plan](#). The USEPA is embedding these goals in its programs, policies, and activities, including implementation of the NEP BIL funds. Specifically, the NEP BIL funds are covered under the Justice40 Initiative with a target of ensuring that at least 40% of benefits from the BIL flow to underserved communities. Each NEP must also develop an Equity Strategy providing their plan to meet the NEP Justice40 target (see [Bipartisan Infrastructure Law Funding section](#) above).

The BIL funding opportunity is to be used to further implementation of the SMBNEP CCMP while meeting the priorities of addressing climate resilience and equity. These two priorities are integral components of the SMBNEP CCMP. Climate resilience is embedded in many of the 44 actions in the CCMP Action Plan and is identified as an overarching goal to mitigate impacts and increase resiliency to climate change. Equity is also embedded in many CCMP actions, but Action #28, Support Disadvantaged Communities, seeks to develop communication strategies and identify barriers facing underserved communities to achieve healthy habitats. This includes barrier removal and engagement in restoration, greening, and pollution reduction projects, and support of regional strategies that increase resilience of underserved communities.

The primary CCMP actions supported by the activities in this Work Plan are identified for each project in [section III](#) (SMBNEP BIL Work Plan Activities) and [Appendix A](#) (SMBNEP BIL Work Plan Activities summary table) and summarized in [Appendix B](#) (CCMP Action Descriptions). However, many other CCMP actions will be directly and indirectly furthered by the cross-cutting nature of the projects. The BIL Long Term Plan activities have been thoughtfully designed to factor in a broad array of equity and climate resilience benefits, while also addressing the SMBNEP CCMP top four priorities and seven overarching goals. Future SMBNEP BIL reporting will include metrics addressing implementation of equity and climate resilience goals, including the Justice40 targets.

SMBNEP BIL Work Plan Structure

The SMBNEP BIL Work Plan describes the projects expected to exhaust the FY22-26 BIL funding. [Section III](#) (SMBNEP BIL Work Plan Activities) provides project descriptions for eight projects selected to further CCMP implementation and address NEP BIL funding priorities. Project descriptions include a project summary; background; whether the project is new or ongoing; objectives; outcomes; project leads; partners; outputs and deliverables; connections to CCMP, CMP, and NEP BIL priorities; timelines; and funding amounts.

[Section IV](#) (Estimated Budget and SMBNEP Entities Staffing) provides a five-year budget, timeline, and staffing breakdown per USEPA requirements. [Appendix A](#) (SMBNEP BIL Work Plan Activities Summary Table) provides a snapshot of major project components. [Appendix B](#) (CCMP Action Descriptions) includes the primary SMBNEP CCMP actions supported by the BIL Work Plan activities.

III. SMBNEP BIL Work Plan Activities

This section describes eight projects for BIL funding beginning in FY22 and continuing through FY26. Projects are listed in the order of CCMP actions that they implement (see [Appendix A](#) for the SMBNEP BIL Work Plan Activities summary table; see [Appendix B](#) for CCMP Action descriptions).

Projects indicated as “new” are those that are not currently underway, but which further the goals and actions of the CCMP Action Plan. “Ongoing” projects are those that are continuations of current activities explicitly identified in the CCMP Action Plan. Outcomes can be thought of as long-term environmental changes or other benefits, including benefits to underserved communities, resulting from such efforts. Outputs and deliverables refer to work products associated with an activity or effort that are produced over a specific period of time.

Each project identifies the CCMP actions and NEP BIL priorities it implements as well as the CMP indicators the project informs, where applicable. Potential project partners, anticipated timelines, and funding amounts are identified and will be further refined in future BIL Work Plans.

The total funds identified in this Work Plan for BIL expenditure are in excess of the \$4,549,000 available to the SMBNEP. The estimated costs associated with the projects are \$4,970,312. The \$421,312 overage will need to be developed from other funds or yet to be determined changes in expenses that may widen or narrow this gap for a given or across projects. Annual BIL Work Plan budgets will specify costs for these projects and ensure the proper expenditure of the BIL funds to a cumulative value of no more than \$4,549,000.

1. Palos Verdes Kelp Restoration Project

Giant kelp forests grow from rocky reefs, providing a three-dimensional structure that supports over 700 species of algae, invertebrates, fishes, mammals, and birds. Numerous stressors have reduced the extent and quality 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 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 10,000 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 10,000 years, humans have relied on this often-forgotten forest for sustenance and inspiration. This project allows us to maintain this legacy.

Phase: Continuation of an ongoing project

Objectives:

- Restore stands of giant kelp, other macroalgae, and plants to rocky reefs off the Palos Verdes Peninsula by reducing sea urchin densities. Focal areas are White Point, Point Fermin, and Underwater Arch Cove.
- Indirectly benefit fishing and subsistence fishing in these locales through the increase in biomass of marine fishes and invertebrates.
- Mitigate climate change related stressors on local scales by elevating pH, reducing current velocities, reducing wave energy, and providing drift kelp and wrack to other coastal areas.
- Inform global coastal management efforts.

Anticipated Long-term Outcomes:

- Increases in biomass of algae, invertebrates, and fishes.
- Increase in individual condition of sea urchins.
- Increase in giant kelp canopy, and grazing opportunity.
- Expansion of carbon sequestration pathway via giant kelp growth.
- Increase in condition and extent of functioning giant kelp forest habitat.
- Increase in fishing and recreational opportunities.

Website: [TBF Palos Verdes Kelp Forest Restoration](#)

Article: [National Geographic – California Critical Kelp Forest are Disappearing in a Warming World. Can They Be Saved?](#)

Video: [Veteran Special Forces Divers Restore Kelp with TBF and NFL](#)

Project Component	Project Details
Lead	TBF
Potential Partners	Southern California Marine Institute, Montrose Settlements Trustees, Occidental College Vantuna Research Group, California Sea Urchin Harvesters, California Department of Fish and Wildlife, California Ocean Protection Council, Central Region Kelp Survey Consortium, SeaTrees, Smog City Brewery
Anticipated Outputs / Deliverables	<ul style="list-style-type: none"> • Identification and mapping of restoration site. • Pre-monitoring of restoration site. • Restoration of site. • Post-monitoring of restoration site, e.g., kelp forest community surveys of restored site, and urchin gonad index, (conducted annually). • Production and distribution of annual report detailing efforts and results to date. These efforts applied to eight acres of rocky reef at Point Fermin that historically supported kelp forest. Related efforts at White Point and Underwater Arch Cove, approximately five acres.
Connection to CCMP Action Plan	Action #2 – Restore Kelp Forests
Connection to CMP	Rocky Reef Indicators: Kelp Canopy Coverage / Urchin Barren Extent, Fish Production, Water Temperature Change
Connection to NEP BIL Priorities	Restored kelp forests off Palos Verdes provide increased fishing opportunity and recreational benefits associated with fishing (sport, commercial, and subsistence), wildlife viewing, snorkeling, SCUBA diving, and tidepooling. Wrack accumulation in the rocky intertidal and sandy shores provides a valuable food source for intertidal organisms and migrating birds. The accumulation of wrack is a foundational component of beach foredune development. Once established these dunes can retain sediment, recover naturally from storm events, thereby reducing coastal erosion associated with wave runup while providing habitat.
Estimated Timeline	2022-2025
BIL Request	\$500,000
Estimated Total Project Cost	\$1,050,000

“I can only compare these great aquatic forests... with the terrestrial ones in the intertropical regions. Yet if in any country a forest was destroyed, I do not believe nearly so many species of animals would perish as would here from the destruction of the kelp.” Charles Darwin, Voyage of the Beagle. Tierra del Fuego 1834

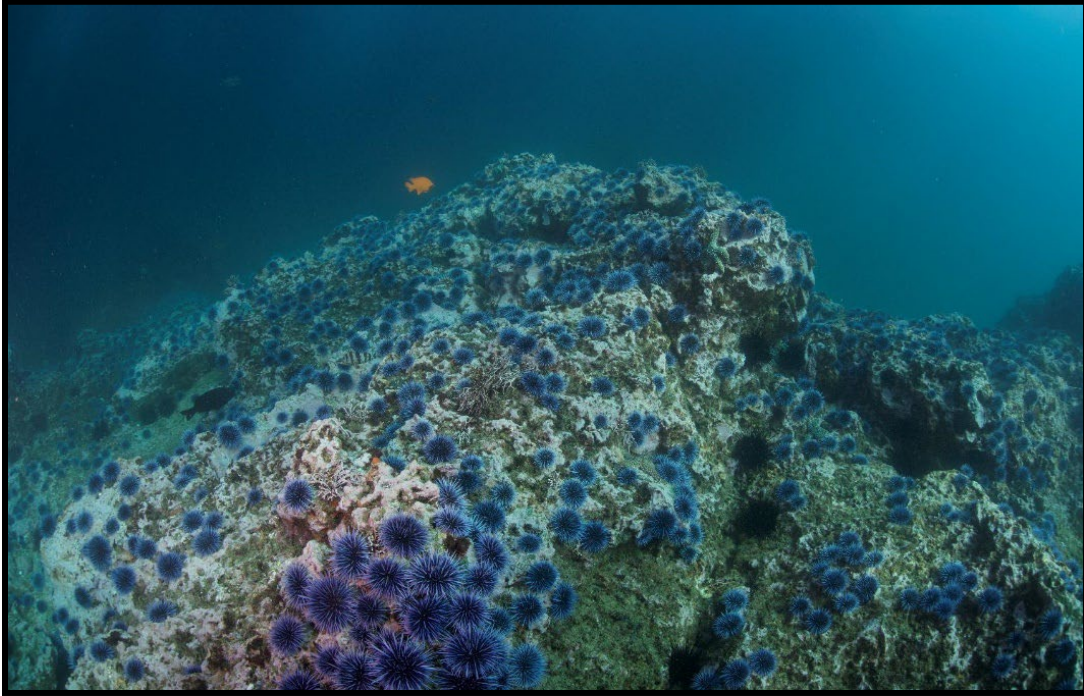


Figure 1. Rocky reef habitat as urchin barrens pre-restoration (top) and as kelp forests (bottom).

2. Palos Verdes Abalone Restoration Project

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.

Phase: Continuation of an ongoing project

Objectives:

- Restore populations of red and white abalone to the Palos Verdes peninsula.
- Generate thousands of viable abalone for outplant.
- Maintain and provide excellent captive environments for the growth and development of the abalone.
- Establish and maintain needed infrastructure, on the sea floor, to transition the abalone to life in the wild.

Anticipated Long-term Outcomes:

- Improve ecosystem structure and function of kelp-rocky reef systems off the Palos Verdes Peninsula through the establishment of viable populations of abalone.
- Apply findings of the efforts to refine and create best practices for the rearing, spawning and growth of white abalone in order save them from extinction.
- Reestablish fisheries for abalone in Santa Monica Bay and elsewhere in the Southern California Bight.

Website: [TBF Abalone Restoration Program](#)

Articles: [Los Angeles Times – Can the long-lost abalone make a comeback in California?](#)

[OC Register – 11,000 baby abalone will be planted at a secret spot off the Southern California coast](#)

Video: [Los Angeles Times – Saving White Abalone is a Scientific Puzzle](#)

Project Component	Project Details
Lead	TBF
Potential Partners	National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Southern California Marine Institute, California Department of Fish and Wildlife, Paa Marine Research Group, Aquarium of the Pacific, Cabrillo Marine Aquarium, Bodega Marine Lab UC Davis, The Cultured Abalone Farm, Native American Tribal Organizations
Anticipated Outputs / Deliverables	<ul style="list-style-type: none"> • Establish outplant site, conduct biological monitoring, deploy, maintain and download sensors for physical and chemical parameters i.e., temperature and dissolved oxygen. • Purchase, construct and deploy outplant modules and time series cameras. • Purchase and cultivate red abalone for outplant. • Support abalone during one-month adaptation period. • One to two outplants annually for two to four years. 6,500 to 10,000 abalone outplanted over the entirety of the project.
Connection to CCMP Action Plan	Action #3 – Recover Abalone Populations
Connection to CMP	Rocky Reef Indicators: Invertebrate Indicator Species, Landslides and Sedimentation, Turbidity / Light Penetration, Water Temperature Change, Invertebrate Recruitment
Connection to NEP BIL Priorities	Several climate change related factors can impact kelp forest-rocky reef systems. Data collected from this effort will help inform changes in water temperature and pH. Abalone, as ecosystem engineers, when in sufficient abundance, aid in the ecosystem structure and function of the kelp forest-rocky reef system. This ecological lift leads to increased resiliency in the face of climate change related stressors.
Estimated Timeline	2022-2026

Project Component	Project Details
BIL Request	\$350,000
Estimated Total Project Cost	\$350,000

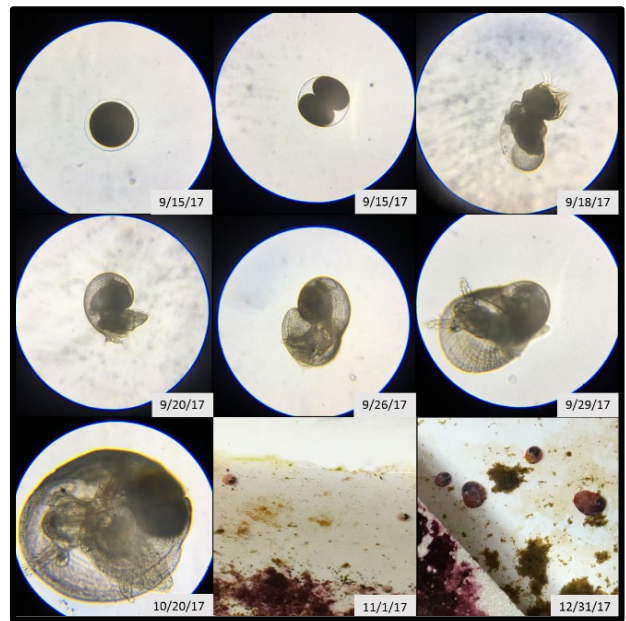


Figure 2. Abalone in rocky reef habitat (top left) and an outplanting enclosure (top right). A diver surveys abalone (bottom left). Microscopic development of abalone (bottom right).

3. Santa Monica Breakwater Rocky Intertidal Preserve

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 sea level rise and storm events. 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, and 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 for fishers.

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 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. Climate change related stressors include warmer waters and temperatures, sea level rise, increased storminess, and ocean acidification. 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.

Phase: New project

Objectives:

- Provide conservation for rocky intertidal organisms from current stressors related to trampling and picking (overexploitation).
- Provide current and ongoing protection to rocky intertidal organisms from climate change related stressors i.e., warmer temperatures, warmer water, increasing storminess, and sea level rise.
- Increase extent of rocky intertidal habitat in Santa Monica Bay.
- Increase the height and structure of the breakwater to better protect nearshore resources e.g., the pier, parking lots, lifeguard headquarters, muscle beach, volleyball courts, sandy beach, restaurants, amusement park, fishing decks, and public aquarium.
- Develop an adaptable intertidal landscape/platform for monitoring, experimentation, research, and education.

Anticipated Long-term Outcomes:

- Conservation of rocky intertidal organisms.
- Coastal protection from sea level rise, increased storminess and coastal flooding.
- Enhanced wildlife viewing, research, education, and fishing opportunity.

Video: [Santa Monica Pier Collapse News Coverage, 1983](#)

Project Component	Project Details
Lead(s)	TBF, City of Santa Monica,
Potential Partners	Vantuna Research Group, Southern California Marine Institute, State Coastal Conservancy, California Coastal Commission, California State Parks, MARINe, UCLA, LMU, Cal Poly Pomona, Ocean Protection Council, California Department of Fish and Wildlife
Anticipated Outputs / Deliverables	<ul style="list-style-type: none"> • 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.
Connection to CCMP Action Plan	Actions #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
Connection to NEP BIL Priorities	Underserved community members benefit from the increased sustainability of the pier structure, increased opportunity for wildlife viewing, and access for fishing. The breakwater would provide protection for the Santa Monica Pier and coastal infrastructure from sea level rise and storm events.
Estimated Timeline	2022-2027
BIL Request	\$1,400,000
Estimated Total Project Cost	\$5,600,000

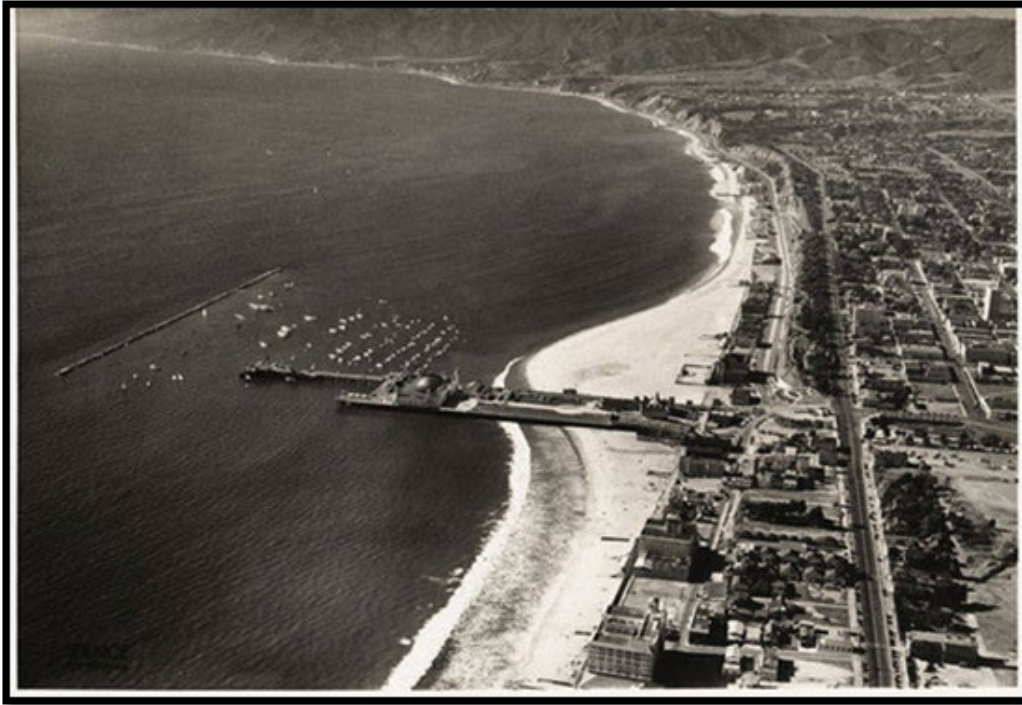


Figure 3. Breakwater protecting Santa Monica Pier (top; courtesy of Calisphere, October 24, 1936). The proposed project would enhance the poorly maintained breakwater to better protect Santa Monica Pier from storm damage, such as that from a 1983 storm (bottom; credit: [Santa Monica Pier Collapse News Coverage, 1983](#)).

4. Venice - Marina Del Rey - Playa del Rey Foredune Beach Restoration Project

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 the world and across Los Angeles. The sites proposed in this project are some of the more vulnerable to sea level rise and erosion based upon widely applied models for coastal flooding.

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.

Phase: New project

Objectives:

- Work with community members to determine potential sites.
- Conduct pre-restoration surveys.
- Install post and rope / sand fencing.
- Seed the area to grow an assemblage of native foredune plants.
- Monitor the site post restoration to quantify the changes and presence of species of interest.
- Inform adaptive management.
- Create and implement an educational program.

Anticipated Long-term Outcomes:

- Volumetric increase in sand captured and retained within and neighboring the project footprint.
- Vertical height increases and small foredune establishment.
- Attraction of wildlife to the project site for roosting, foraging, nesting.
- Elevated awareness for need and approach to coastal adaptation for sea level rise, increased storminess, and coastal erosion.

Website: ***Our Beautiful Planet-Saving Our Shores*** [USGS Scientists on why we need to act now to address sea level rise](#)

Project Component	Project Details
Lead	TBF
Potential Partners	Los Angeles County Department of Beaches and Harbors, Los Angeles County Lifeguards, The Venice Oceanarium, Los Angeles Audubon Society, LA Conservation Corps, local schools, Boys and Girls Club, Surfrider Foundation
Anticipated Outputs / Deliverables	<ul style="list-style-type: none"> • Establish partners. • Conduct outreach. • Define scope and scale of the project. • Contract for seed and plant propagation. • Conduct baseline site characterization. • Install and maintain site infrastructure to allow for germination and growth of the plants. • Conduct annual monitoring and maintenance of the site.
Connection to CCMP Action Plan	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
Connection to NEP BIL Priorities	Protection of coastal access to the Venice Fishing Pier, ADA access to the pier, surf breaks to the north and south of the pier, beach parking lots, and first responder access along the southern aspect of Venice beach. Provides climate resilience through adaptation to rising sea levels and stormier oceans at sites vulnerable to sea level rise and erosion.
Estimated Timeline	2023-2026
BIL Request	\$350,000
Estimated Total Project Cost	\$500,000

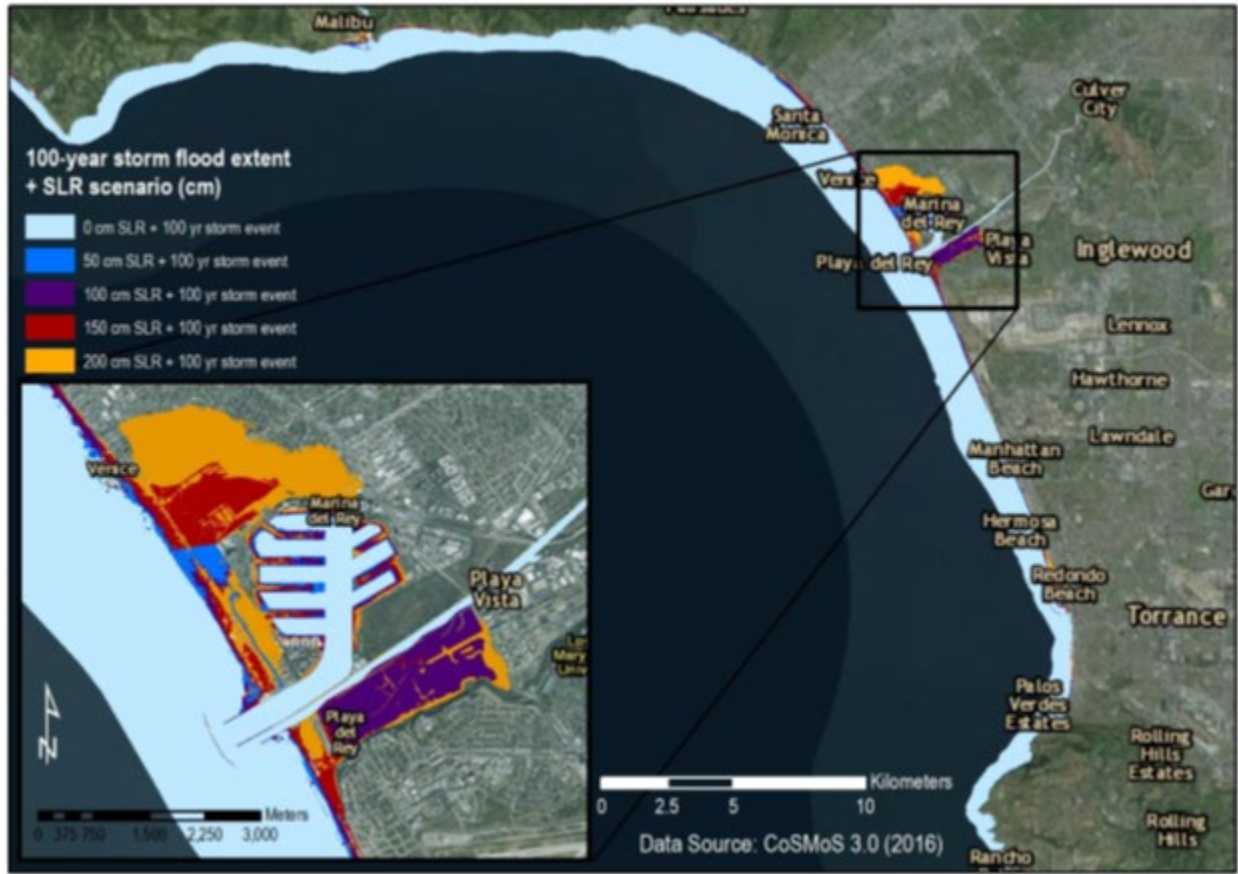


Figure 4. 100-year storm flood extent and sea level rise scenarios for Santa Monica Bay region from the [2016 Climate Change Vulnerability Assessment of the SMBNEP](#) (Data Source: CoSMoS 3.0 2016).

5. Adamson House Living Shoreline Project

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.

Dynamic Cobble Berm: Cobble berms are natural features of many beaches and during high wave events these cobble berms dissipate wave energy and drain wave wash through the relatively large gaps between the cobbles. These complimentary effects reduce the frequency of wave overtopping, and erosion of beach sand seaward of the berm. Design and construction of a cobble berm at the Adamson House will help diffuse seawater across a slope, reducing wave energy that is currently unimpeded. The complimentary processes of diffusion and low energy return will better protect and promote existing features and future use of the site.

Phase: New project

Objectives:

- Design and install a dynamic cobble berm and associated tree sections to provide resiliency to Surfrider beach and the back beach area abutting the Adamson House property.
- Monitor and inform the installation over several years to understand the changes resulting from the creation of the berm and its features.
- Conduct outreach to the public, interested groups and stakeholders to establish a regional appreciation for cobble berms as an adaptation to sea level rise, coastal erosion, and coastal flooding.

Anticipated Long-term Outcomes:

- Address fluvial and coastal erosion, protect cultural resources, and enhance coastal restoration.

Appendix C: [Similar Projects Completed by Integral Consulting, Inc.](#)

Project Component	Project Details
Lead(s)	State Parks, TBF, Integral Consulting Inc.
Potential Partners	City of Malibu, Native American Tribal Organizations, Surfrider Foundation, RCDSMM, Sea of Clouds, Save the Waves, Adamson House Foundation, Malibu Surfing Association, Los Angeles County Department of Beaches and Harbors, California Coastal Commission, State Coastal Conservancy
Anticipated Outputs / Deliverables	<ul style="list-style-type: none"> • 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.
Connection to CCMP Action Plan	Actions #6 – Restore Healthy Beaches; #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 Component	Project Details
Connection to NEP BIL Priorities	This project will protect valuable artifacts associated with the midden deposits of the Chumash Village of Humaliwo and enhance beach access for millions of people annually from many communities in the Los Angeles region as well as visitors from around the world. This protection from coastal erosion will provide increased climate resilience for the future.
Estimated Timeline	2022-2025
BIL Request	\$750,000
Estimated Total Project Cost	\$1,200,000

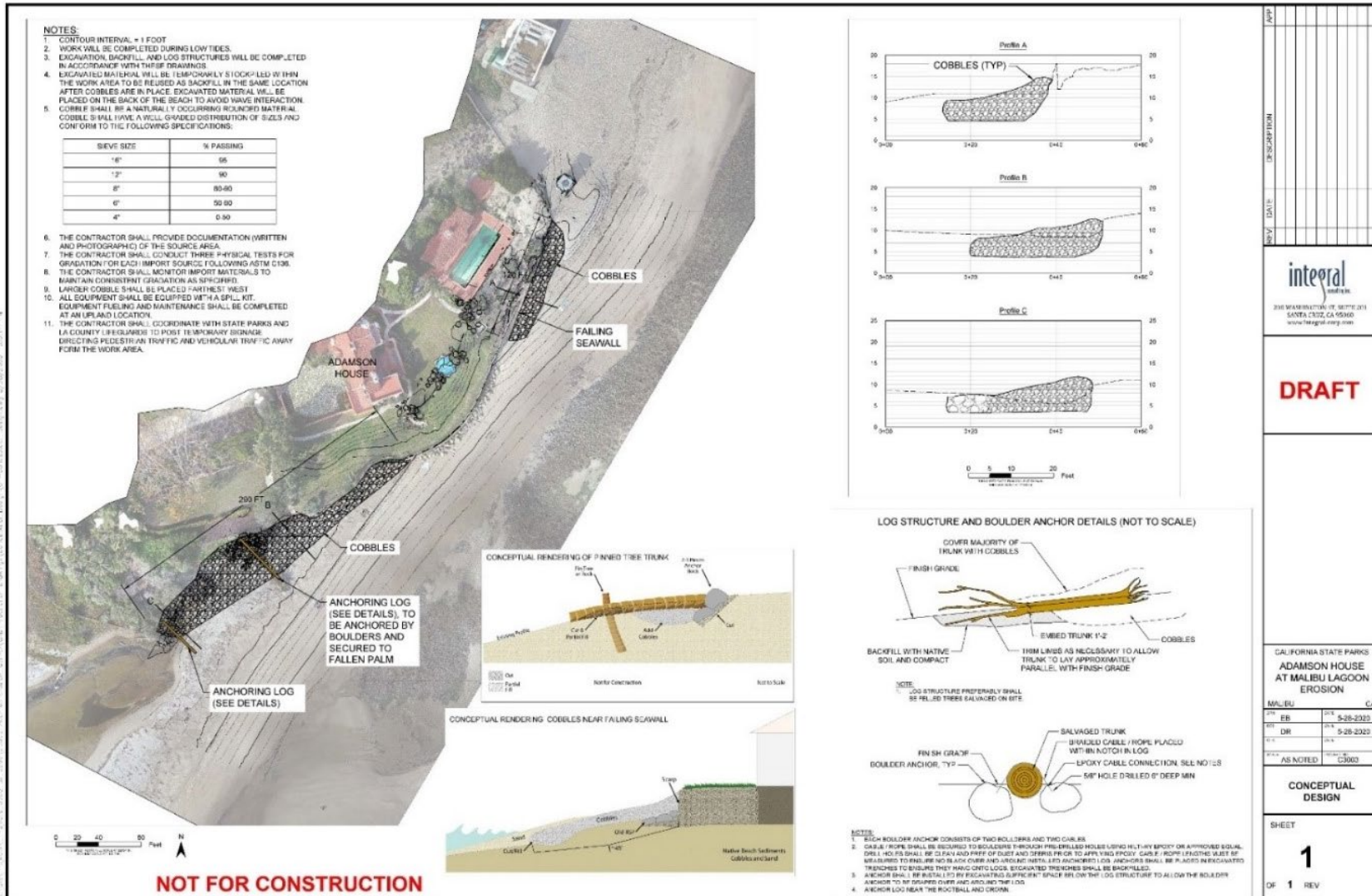


Figure 5. Draft conceptual design of a cobble berm at the Adamson House

6. Beach Management Certification Project

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 resilient to climate change.

Phase: New project

Objectives:

- Capture and catalyze the work of the Beach Ecology Coalition to generate an online interactive certification program to promote ecologically and climatologically appropriate approaches to beach and coastal management.

Anticipated Long-term Outcomes:

- Maintain high quality experiences for coastal visitors.
- Increase the adaptive capacity of beaches and other prominent coastal features to withstand climate change stressors associated with sea level rise and increased storminess.
- Reduce the likelihood of pervasive and damaging coastal erosion while increasing ecological services through the institutionalization of best practices to enhance living shoreline infrastructure.

Website: beachecologycoalition.org

Project Component	Project Details
Lead(s)	Beach Ecology Coalition, TBF
Potential Partners	State Parks, Los Angeles County Department of Beaches and Harbors, American Shore and Beach Preservation Association, Pepperdine University, Loyola Marymount University, Local municipalities
Anticipated Outputs / Deliverables	<ul style="list-style-type: none"> • Establish partners. • Identify and organize advisory team. • Establish memorandum of understanding. • Define and create curricula. • Support website design. • Host website.
Connection to CCMP Action Plan	Actions #6 – Restore Healthy Beaches; #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
Connection to NEP BIL Priorities	Refine best beach management approaches to increase the adaptive capacity of beaches in the Los Angeles region to respond to climate change.
Estimated Timeline	2023-2026
BIL Request	\$188,612
Estimated Total Project Cost	\$325,000

7. Black Surfers Collective: Diversity in the Line Up

“Look, anytime you try to talk about diversity in surfing, it all boils down to access.”

“Sure, there could be more welcoming attitudes at the beach itself, but also just getting to the beach is expensive. Surf equipment is expensive. Lunch at the beach is expensive. But once we get minority and inner-city kids to the beach and get them in the water they have fun. They’re hooked.” Jeff Williams, co-president Black Surfers Collective (BSC; [Stirring the Melting Pot, Surfer Magazine](#) June 2, 2018).

The programs and services provided by the BSC directly remove barriers that limit beach visitorship for underserved community members. Through their network of partners BSC supports swim lessons, water safety, and cultural and environmental awareness. BSC acknowledges, by leveraging swim lessons for families to swim together and by providing transportation in the neighborhoods where our target demographic resides, we create an atmosphere of safe, fun, water exploration. With this newly founded appreciation for water-based recreation we are grooming future generations of stewards willing to protect what they have come to love and feel welcome in coastal settings.

In 1976 the California State Legislature recognized, in the precedent setting Coastal Act, that: “The California coastal zone is a distinct and valuable natural resource of vital and enduring interest to all the people and exists as a delicately balanced ecosystem.” The Act further states in two of five basic goals to: “Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.” And “Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.”

Phase: New project

Objectives:

- Remove barriers to coastal access for underserved community members by providing, swim, and surf lessons, and transportation.
- Develop and implement environmental and cultural awareness for surfing BIPOC community.
- Advance fulfillment of goals of the California Coastal Act.

Anticipated Long-term Outcomes:

- Increase acceptance of surfing with BIPOC communities.
- Get kids “hooked” on going to the beach.

Websites: [BSC](#), [The Surf Bus Foundation](#)

Project Component	Project Details
Lead(s)	BSC, Surf Bus Foundation
Potential Partners	Color the Water, Heal the Bay, E-tech Surfboards
Anticipated Outputs / Deliverables	<ul style="list-style-type: none"> Contract with BSC to provide and support swimming and surfing lessons, transportation, educational materials, and website development. Support summer camp programs for underserved youth from Los Angeles.
Connection to CCMP Action Plan	Actions #25 – Support BMPs, Public Access, and Improved Trail Systems; #28 – Support Disadvantaged Communities
Connection to CMP	NA
Connection to NEP BIL Priorities	Create and enhance visitorship experiences for underserved community members and provide educational opportunities to explore coastal resilience.
Estimated Timeline	2022-2026
BIL Request	\$1,000,000
Estimated Total Project Cost	\$1,000,000



Figure 6. Left image: Jeff Williams (left) and Greg Rachal (right), co-presidents of Black Surfers Collective (BSC), in 2013 testifying on AB 976 regarding the California Coastal Act of 1976. Right image: Logo for BSC.

8. Coastal Access and Beach Visitor User Data Study

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), CSUCI, 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. 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 ([story map here](#)).

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.

Phase: New project

Objectives:

- Acquire multi-year cell phone location data sets, capturing the coastline of Los Angeles County.
- Analyze data illustrating barriers and constraints to full coastal access.
- Design and refine information dissemination pathway(s) i.e., public interface dashboard, to facilitate community planning and support investment.

Anticipated Long-term Outcomes:

- Provide a better understanding of beach and coastal use.
- Inform policy, planning, and decision-making, focused on equitable access, to the coast for underserved and underrepresented communities within the larger Los Angeles Basin and greater Los Angeles region.
- Contribute to data collection, research, analysis, and monitoring efforts.
- Analyze socio-economic information and data focused on coastal public beach access and use by underserved and underrepresented communities.
- Provide and host public interface dashboard for use by public, coastal managers, and related interests.
- Be used to inform requirements related to other investments responsive to the Biden administration [Justice40 Initiative](#).

Project Component	Project Details
Lead	TBF
Potential Partners	BEACON, CSUCI, MRCA, University of California Sea Grant, State Parks, Los Angeles County Department of Beaches and Harbors, City of Los Angeles, Palos Verdes Estates, Rancho Palos Verdes, City of Torrance, City of Redondo Beach, City of Hermosa Beach, City of Manhattan Beach, City of El Segundo, City of Santa Monica, City of Malibu
Anticipated Outputs / Deliverables	<ul style="list-style-type: none"> • 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.
Connection to CCMP Action Plan	Actions #25 –Support BMPs, Public Access, and Improved Trail Systems; #28 – Support Disadvantaged Communities
Connection to CMP	NA
Connection to NEP BIL Priorities	Quantify the use of coastal access and beach locations and other features by members of underserved communities, identify barriers and constraints to fuller use, to assist strategies to increase coastal benefits and access for underserved communities.
Estimated Timeline	2022-2024
BIL Request	\$393,750
Estimated Total Project Cost	\$400,000

IV. Estimated Budget and SMBNEP Entities Staffing

A. Estimated FY22-23 Budget and Scope

This section contains the estimated BIL Work Plan budget and scope for the SMBNEP FY22-23 BIL funds. The budget and scope are associated with a suite of work across eight projects from October 1, 2021 through September 30, 2024. Each of the following eight projects were included in the BIL Work Plan approved by the Management Conference of the SMBNEP in August 2022. Each project addresses at least one of the 44 SMBNEP CCMP Actions.

Submittals for future Annual BIL Work Plans will be generated on an annual basis due before June 1st of a given year. Several of these projects are expected to be ongoing efforts with other costs and deliverables that will be developed during the coming months for consideration and approval by the SMBNEP Management Conference. An Annual BIL Work Plan for FY24 and the BIL Long-Term Plan for the SMBNEP are to be approved no later than June 1, 2023. In addition, an Equity Strategy is to be developed as a central element of the BIL Long-Term Plan.

The needs and requirements of the BIL funding made available to SMBNEP require staffing to support the generation of the program-specific Equity Strategy. The Equity Strategy ensures that each NEP considers how BIL funds are used through the lens of equitable and fair access to project benefits and is required to include the following elements per [US EPA's Memorandum](#):

- Strategy detailing how the NEP will contribute to the goal of at least 40% of BIL funding benefits and investments flow to underserved communities.
- Definition of underserved communities, using the definition in US EPA's Memorandum or an alternative definition developed in collaboration with and approved by US EPA (for details see the [US EPA's Memorandum](#), Defining Disadvantaged Communities, p. 6).
- Baseline (pre-BIL) percentage of NEP funds flowing to projects that benefit underserved communities.
- Analysis of underserved communities that may benefit from NEP projects to identify where additional investments can be made while the implementing CCMP.
- Numeric target for activities supporting underserved communities that contribute to achieving at least 40% of BIL funding benefits to such communities.
- Outline of the path to achieve the goal, which may include projects, locations of activity, milestones, training and outreach needs, capacity building, and interim goals.
- Methods to track benefits to underserved communities, such as expanding adaptive capacity of underserved communities to be resilient to climate change; improving wildlife habitat, addressing water quality challenges or reducing nonpoint source pollution affecting underserved communities; increasing underserved communities' access to recreation; and expanding education and deepened engagement or representation of underserved communities.

PALOS VERDES KELP RESTORATION PROJECT

Estimated Budget

BIL Funding Request	Estimated Costs
Salaries	\$202,059
Supplies	\$6,600
Equipment	\$0.00
Travel	\$31,124
Contractors	\$195,000
Indirect Costs	\$65,217
Estimated Total	\$500,000

Estimated Timeline

Palos Verdes Kelp Restoration Project		2023				2024				2025				2026				2027			
TASK	DESCRIPTION	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Task 1	Project Management	■	■	■	■	■	■	■	■	■	■	■	■								
Task 2	Pre-restoration monitoring		■	■	■		■	■	■												
Task 3	Urchin suppression		■	■	■		■	■	■												
Task 4	Compliance Monitoring			■	■			■	■												
Task 5	Annual Biological Response Monitoring			■				■				■									
Task 6	Reporting (permit requirement)				■				■				■								

PALOS VERDES ABALONE RESTORATION PROJECT

Estimated Budget

BIL Funding Request	Estimated Costs
Salaries	\$185,291
Supplies	\$33,150
Equipment	\$25,000
Travel	\$30,907
Contractors	\$30,000
Indirect Costs	\$45,652
Estimated Total	\$350,000

Estimated Timeline

Palos Verdes Abalone Restoration Project		2023				2024				2025				2026				2027			
TASK	DESCRIPTION	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Task 1	Project Management	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█				
Task 2	Aquaculture facility maintenance and improvements	█	█	█	█																
Task 3	Abalone transport, holding, and health assessment					█				█											
Task 4	Abalone selection and tagging						█				█										
Task 5	Site assessment and selection					█	█														
Task 6	Outplant site set up										█				█						
Task 7	Module stocking										█				█						
Task 8	Monitoring (1 week, 2 week, 1 month, quarterly)						█	█	█	█	█	█	█	█	█	█	█				
Task 9	Biological Monitoring (CRANE) quarterly						█	█	█	█	█	█	█	█	█	█	█				
Task 10	Reporting										█							█			

SANTA MONICA BREAKWATER ROCKY INTERTIDAL PRESERVE

Estimated Budget

BIL Funding Request	Estimated Costs
Salaries	\$334,785
Supplies	\$2,500
Equipment	\$0
Travel	\$1,906
Contractors	\$850,000
Other	\$28,200
Indirect Costs	\$182,609
Estimated Total	\$1,400,000

Estimated Timeline

Santa Monica Breakwater Rocky Intertidal Preserve		2023				2024				2025				2026				2027			
TASK	DESCRIPTION	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Task 1	Project Management	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Task 2	Technical Studies																				
	Side Scan Sonar		■	■							■	■									
	Biological Assessment		■	■			■	■			■	■			■	■					
	Aerial Survey	■	■																		
Task 3	TAC Meetings		■		■		■		■		■		■								
Task 4	Permitting					■	■	■	■	■	■	■	■	■	■						
Task 5	Engineering Design									■	■	■	■								
Task 6	Public Outreach and Engagement	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Task 7	Regulatory Consultations	■	■	■	■	■	■	■	■	■	■	■	■	■	■						

**VENICE - MARINA DEL REY – PLAYA DEL REY
FOREDUNE BEACH RESTORATION PROJECT**

Estimated Budget

BIL Funding Request	Estimated Costs
Salaries	\$139,853
Supplies	\$54,643
Equipment	\$0
Travel	\$1,700
Contractors	\$92,032
Other: Services	\$16,120
Indirect Costs	\$45,652
Estimated Total	\$350,000

Estimated Timeline

Venice-Marina Del Rey-Playa del Rey Foredune Beach Restoration Project		2023				2024				2025				2026				2027			
TASK	DESCRIPTION	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Task 1	Project Management	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				
Task 2	Planning and Permitting			■	■	■	■	■													
Task 3	Scientific monitoring				■			■				■				■					
Task 6	Public Outreach and Engagement	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				
Task 4	Implementation								■												
Task 5	Adaptive Management and Maintenance									■	■	■	■	■	■	■	■				

ADAMSON HOUSE LIVING SHORELINE PROJECT

Estimated Budget

BIL Funding Request	Estimated Costs
Salaries	\$26,250
Supplies	\$0.00
Equipment	\$0.00
Travel	\$0.00
Contractors	\$652,500
Indirect Costs	\$71,250
Estimated Total	\$750,000

Estimated Timeline

Adamson House Living Shoreline Project		2023				2024				2025				2026				2027			
TASK	DESCRIPTION	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Task 1	Project Management	■	■	■	■	■	■	■	■	■	■	■	■								
Task 2	Technical Studies																				
	Tidal Boundary Survey	■	■																		
	FEMA Floodplain Delineation	■	■																		
	Wave Uprush Study	■	■																		
Task 3	Alternatives Analysis	■	■																		
Task 4	CEQA/ NEPA	■	■	■	■	■	■	■	■												
Task 5	Biological Resources Assessment	■	■																		
Task 6	Permitting			■	■	■	■	■	■	■	■										
Task 7	Engineering Construction Documents			■	■	■	■	■	■	■	■										
Task 8	Engineering Design							■	■	■	■										
Task 9	Public Outreach and Engagement					■	■	■	■	■	■	■	■								
Task 10	Regulatory Consultations			■	■	■	■	■	■	■	■										

BEACH MANAGEMENT CERTIFICATION PROGRAM

Estimated Budget

BIL Funding Request	Estimated Costs
Salaries	\$19,259
Supplies	\$0
Equipment	\$0
Travel	\$558
Contractors	\$88,800
Subaward	59,952
Indirect Costs	\$20,043
Estimated Total	\$188,612

Estimated Timeline

Beach Management Certification Program		2023				2024				2025				2026				2027				
TASK	DESCRIPTION	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Task 1	Project Management	█	█	█	█	█	█	█	█	█	█	█	█									
Task 2	Practioner Surveys	█	█																			
Task 3	Script Development	█	█			█	█															
Task 4	Website Upgrades		█	█																		
Task 5	Interviews and Videography		█	█			█	█														
Task 6	Trial evaluations			█	█			█	█													
Task 7	Website Edits, Peer Review, Formatting			█	█			█	█													
Task 8	Coding and online hosting								█	█												

BLACK SURFERS COLLECTIVE: DIVERSITY IN THE LINE UP

Estimated Budget

BIL Funding Request	Estimated Costs
Salaries	\$103,900
Supplies	\$0
Equipment	\$0
Travel	\$1,365
Contractors	\$425,000
Subaward	\$386,650
Indirect Costs	83,085
Estimated Total	\$1,000,000

Estimated Timeline

Black Surfers Collective: Diversity in the Lineup		2023				2024				2025				2026				2027				
TASK	DESCRIPTION	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Task 1	Project Management	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Task 2	Partner Development	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Task 3	Implementation	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Summer surf camps	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Weekend surf session lessons	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Task 4	Communication and Outreach	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

COASTAL ACCESS AND BEACH VISITOR USER DATA STUDY

Estimated Budget

BIL Funding Request	Estimated Costs
Salaries	\$30,000.00
Supplies	\$175,000.00
Equipment	\$0.00
Travel	\$0.00
Contractors	\$155,000.00
Indirect Costs	\$33,750.00
Estimated Total	\$393,750

Estimated Timeline

Coastal Access and Beach Visitor User Data Study		2023				2024				2025				2026				2027				
TASK	DESCRIPTION	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Task 1	Project Management	█	█	█	█	█	█	█	█													
Task 2	Data Acquisition	█	█	█																		
Task 3	Data Processing		█	█	█																	
Task 4	Data Analysis			█	█	█	█	█														
Task 5	Data Management	█	█	█	█	█	█	█	█													
Task 6	Data Products					█	█	█														

EQUITY STRATEGY

Estimated Budget

BIL Funding Request	Estimated Costs
Salaries	\$33,000.00
Supplies	\$0.00
Equipment	\$0.00
Travel	\$0.00
Contractors	\$0.00
Indirect Costs	\$4,950.00
Estimated Total	\$37,950

Estimated Timeline

Equity Strategy		2023				2024				2025				2026				2027			
TASK	DESCRIPTION	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Task 1	Project Management	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Task 2	Develop Strategy	█	█																		
Task 3	Submit Strategy		█																		
Task 4	Strategy Implementation			█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█

B. SMBNEP Entities Staffing

SMBNEP works as a collaborative partnership staffed by The Bay Foundation (TBF) and Santa Monica Bay Restoration Commission (SMBRC) to implement the 2018 CCMP Action Plan via BIL Work Plan implementation. The following section describes the entity affiliations and key responsibilities of each staff member. Staff responsibilities subject to change based on periodic evaluations, organizational needs, professional development, and other considerations.

Title	Key Responsibilities
Chief Executive Officer	Facilitates the implementation of the CCMP and is responsible for the production of workplans and other documents to implement the CCMP. Oversees NEP budget and staffing supporting and implementing NEP activities. Serves as the director of SMBNEP and as the liaison to the USEPA for the SMBNEP. Leads and contributes to the design and implementation of projects, programs, partnerships, research, and communications to implement the actions and goals of the SMBNEP CCMP / CMP. Informs and develops strategies, policies, and priorities to support SMBNEP and the furtherance of SMBNEP's CCMP, the National NEP program, US EPA Region 9, and EPA Headquarters. Leads the diversification and enhancement of funding streams for TBF. Leads the strategic development of programs, partnerships, and projects; oversees and directs staffing; executes contracts, policies, and management practices; oversees audits and compliance; develops, informs, and implements programs of CRI.
Director of Programs	Supports program development and assists in operational management of TBF programs. Develops projects and programs that advance research, monitoring, and ecological restoration in support of CCMP / CMP implementation. Directs and supports the authorship of technical documents, grant applications, and publications. Supports audits and compliance.
Program and Administrative Assistant	Assists TBF programmatically and administratively. Maintains files and databases. Plans and coordinates administrative processes. Supports meetings and communications. Conducts field work and outreach

Title	Key Responsibilities
Environmental Engagement Program Director	Directs planning and implementation of Environmental Engagement Program. Supervises staff, interns, students and / or volunteers. Oversees production of educational and engagement materials. Manages field work, technical report writing, and outreach. Facilitates stakeholder meetings, trainings, and workshops. Manages organization's social media strategy and stakeholder engagement and communications. Supports research / CRI. Contributes to partnership development. Contributes to EPA reporting. Develops new funding opportunities.
Environmental Engagement Program Coordinator	Coordinates Environmental Engagement Program projects. Supports program development, grant writing, and facilitation of and presentations at stakeholder events/trainings. Develops, designs, and distributes engagement materials and reports. Supports research / CRI. Contributes to partnership development. Contributes to EPA reporting. Supports development of funding opportunities.
Environmental Engagement Program Coordinator	Coordinates Environmental Engagement Program projects. Supports program development, grant writing, and facilitation of and presentations at stakeholder events/trainings. Develops, designs, and distributes engagement materials and reports. Supports research / CRI. Contributes to partnership development. Contributes to EPA reporting. Supports development of funding opportunities.
Ocean Resilience Program Manager	Manages Ocean Resilience Program research, monitoring, and planning. Oversees aquaculture facility operations. Supervises SCUBA and boat based field work. Recruits and supervises staff, interns, students and / or volunteers. Supports the Director of Programs in authorship of technical documents, grant applications, and publications. Supports research / CRI. Contributes to partnership development. Contributes to EPA reporting. Develops new funding opportunities.

Title	Key Responsibilities
Ocean Resilience Project Manager	Manages Ocean Resilience Program research and monitoring efforts, supports aquaculture facility operations, supervises SCUBA and boat based fieldwork; supports recruiting and supervising interns, students and / or volunteers. Supports the program in authorship of technical documents, grant applications, and publications. Supports research / CRI. Contributes to partnership development. Contributes to EPA reporting. Develops new funding opportunities.
Ocean Resilience Program Coordinator	Coordinates Ocean Resilience Program research and monitoring efforts, supports aquaculture facility operations, supervises SCUBA and boat based fieldwork; supports recruiting and supervising interns, students and / or volunteers. Supports the program in authorship of technical documents, grant applications, and publications. Supports research / CRI. Contributes to partnership development. Contributes to EPA reporting. Supports development of funding opportunities.
Ocean Resilience Program Coordinator	Coordinates Ocean Resilience Program research and monitoring efforts, supports aquaculture facility operations, supervises SCUBA and boat based fieldwork; supports recruiting and supervising interns, students and / or volunteers. Supports the program in authorship of technical documents, grant applications, and publications. Supports research / CRI. Contributes to partnership development. Contributes to EPA reporting. Supports development of funding opportunities.
Ocean Resilience Field Technician	Conducts SCUBA and boat based field work. Supports managers with data entry, quality control/assurance, permit notifications, and reporting. Recruits and coordinates scientific diver volunteers. Maintains and enhances aquatic life support systems and performs daily husbandry tasks. Supports research / CRI. Contributes to partnership development. Contributes to EPA reporting.

Title	Key Responsibilities
Ocean Resilience Field Technician	Conducts SCUBA and boat based field work. Supports managers with data entry, quality control/assurance, permit notifications, and reporting. Recruits and coordinates scientific diver volunteers. Maintains and enhances aquatic life support systems and performs daily husbandry tasks. Supports research / CRI. Contributes to partnership development. Contributes to EPA reporting.
Ocean Resilience Aquarist Technician	Maintains and enhances aquatic life support systems and performs daily husbandry tasks. Monitors water quality and collects data related to animal health. Coordinates with partners to inform, establish, and implement best practices for mariculture operations. Contributes to EPA reporting.
Coastal Adaptation Program Manager	Manages mid and long-term planning of Coastal Adaptation Program. Oversees projects including research, monitoring, and ecological restoration for watershed program activities. Manages field work, lab work, report and technical document writing, outreach, and related tasks. Supervises staff, interns, students and / or volunteers. Supports research / CRI. Contributes to partnership development. Contributes to EPA reporting. Develops new funding opportunities.
Coastal Adaptation Program Manager	Manages mid and long-term planning of Coastal Adaptation Program. Oversees research, monitoring, restoration operations. Manages field work, lab work, report and technical document writing, outreach, and related tasks. Supervises staff, interns, students and / or volunteers. Supports research / CRI. Contributes to partnership development. Contributes to EPA reporting. Develops new funding opportunities.

Title	Key Responsibilities
Coastal Adaptation Program Coordinator	Coordinates Coastal Adaptation Program research, monitoring and restoration activities. Supports managers with data collection, quality control/assurance, and data analyses. Recruits and coordinates interns, students and / or volunteers. Supports the Watershed Program Manager in authorship of technical documents, grant applications, community engagement, and publications. Supports research / CRI. Contributes to partnership development. Contributes to EPA reporting. Supports development of funding opportunities. Contributes to EPA reporting.
Coastal Adaptation Program Field Technician	Conducts Coastal Adaptation Program research, monitoring and restoration activities. Supports managers with data collection, quality control/assurance, and data analyses. Supports research / CRI. Contributes to partnership development. Contributes to EPA reporting.

Appendix A. SMBNEP BIL Work Plan Activities Summary Table

Project Title	CCMP Action	Timeline	Requested BIL Funds
1. Palos Verdes Kelp Restoration Project	Action #2 – Restore Kelp Forests	2022-2025	\$500,000
2. Palos Verdes Abalone Restoration Project	Action #3 – Recover Abalone Populations	2022-2026	\$350,000
3. Santa Monica Breakwater Rocky Intertidal Preserve	Action #5 – Assess and Implement Offshore Artificial Reefs Action #38 – Monitor Rocky Intertidal Habitats	2022-2027	\$1,400,000
4. Venice - Marina Del Rey - Playa del Rey Foredune Beach Restoration Project	Action #6 – Restore Healthy Beaches	2023-2026	\$350,000
5. Adamson House Living Shoreline Project	Action #6 – Restore Healthy Beaches Action #12 – Restore Small Coastal Lagoons	2022-2025	\$750,000
6. Beach Management Certification Program	Action #6 – Restore Healthy Beaches Action #25 – Support BMPs, Public Access, and Improved Trail Systems	2023-2026	\$188,612
7. Black Surfers Collective: Diversity in the Lineup	Action #25 – Support BMPs, Public Access, and Improved Trail Systems Action #28 – Support Disadvantaged Communities	2022-2026	\$1,000,000
8. Coastal Access and Beach Visitor User Data Study	Action #25 – Support BMPs, Public Access, and Improved Trail Systems Action #28 – Support Disadvantaged Communities	2022-2024	\$393,750

Appendix B. CCMP Action Descriptions

This section includes the descriptions from the CCMP Action Plan for the following actions supported by the FY22-23 activities in this Work Plan:

- Action #2 – Restore Kelp Forests
- Action #3 – Recover Abalone Populations
- Action #5 – Assess and Implement Offshore Artificial Reefs
- Action #6 – Restore Healthy Beaches
- Action #12 – Restore Small Coastal Lagoons
- Action #25 – Support BMPs, Public Access, and Improved Trail Systems
- Action #28 – Support Disadvantaged Communities
- Action #38 – Monitor Rocky Intertidal Habitat