SANTA MONICA BAY
NATIONAL ESTUARY PROGRAM

SANTA MONICA BAY NATIONAL ESTUARY PROGRAM

Annual Report
October 1, 2023 – September 30, 2024

Report Date: October 30, 2024

Prepared for the United States Environmental Protection Agency

Acronyms

Caltrans	California Department of Transportation
CCC	California Coastal Commission
CCMP	Comprehensive Conservation and Management Plan
CDBW	California Department of Boating and Waterways
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CMP	Santa Monica Bay Comprehensive Monitoring Program
CRI	Loyola Marymount University's Coastal Research Institute
CSU	California State University
CVA	Clean Vessel Act
DFA	Division of Financial Assistance of the State Water Resources Control Board
EIR	Environmental Impact Report
EMPA	Estuarine Marine Protected Area
EWMP	Enhanced Watershed Management Plans
FCEC	Fish Contamination Education Collaborative
FMP	Fishery Management Plan
FY	Fiscal Year
GHG	Greenhouse Gases
HAB(s)	Harmful Algal Blooms
HtB	Heal the Bay
JWPCP	Joint Water Pollution Control Plant (Carson)
LACDBH	Los Angeles County Department of Beaches and Harbors
LACFCD	Los Angeles County Flood Control District
LACSD	Los Angeles County Sanitation Districts
LADWP	Los Angeles Department of Water and Power
LARWQCB	Los Angeles Regional Water Quality Control Board
LASAN	City of Los Angeles Sanitation
LAWA	City of Los Angeles – Los Angeles World Airports
LCP	Local Coastal Plan
MDRA	Marina Del Rey Anglers
MPA	Marine Protected Area
MRCA	Mountains Recreation and Conservation Authority
MWD	Metropolitan Water District of Southern California
NEP	National Estuary Program
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NPS	National Parks Service
NSMBW	North Santa Monica Bay Watershed
OAH	Ocean Acidification Hypoxia
OWDS	On-site Wastewater Disposal Systems
Prop	Proposition Grant
PVPLC	Palos Verdes Peninsula Land Conservancy
QAPP	Quality Assurance Project Plan

ROE	Right of Entry (permit)
RCDSMM	Resource Conservation District of the Santa Monica Mountains
SCWP	Safe Clean Water Program
SCC	California State Coastal Conservancy
SCCOOS	Southern California Ocean Observing Systems
SCCWRP	Southern California Coastal Water Research Project
SCMI	Southern California Marine Institute
SFEP	San Francisco Estuary Partnership
SMBNEP	Santa Monica Bay National Estuary Program
SMBRC	Santa Monica Bay Restoration Commission
SMMC	Santa Monica Mountains Conservancy
State Parks	California Department of Parks and Recreation
SWRCB	State Water Resources Control Board
TAC	Santa Monica Bay Restoration Commission Technical Advisory Committee
TBF	The Bay Foundation
TMDL	Total Maximum Daily Load
UCLA	University of California, Los Angeles
USC	University of Southern California
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VRG	Vantuna Research Group, Occidental College
WASC	Safe Clean Water Program's Watershed Area Steering Committee
WCB	Wildlife Conservation Board
WMP	Watershed Management Plans

Overview

This annual report provides an update on the Santa Monica Bay National Estuary Program's (SMBNEP) Fiscal Year 2024 (FY24) Work Plan tasks for the time period October 1, 2023 through September 30, 2024. The FY24 Work Plan is focused on a subset of actions and next steps identified in the 2018 CCMP Action Plan. Seven goals are identified in the CCMP Action Plan and are listed below. All seven goals are addressed by the actions and next steps identified in the FY24 Work Plan and this annual report. The goals are achieved through actions by many different entities, including public agencies, municipalities, and non-profit organizations that take the lead on specific projects.

Seven CCMP Action Plan goals:

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

Structure of Annual Report

This section of the annual report is organized by the individual actions included in the FY24 Work Plan. For each action the Long-term Environmental Results from the CCMP Action Plan are identified and brief updates on implementation of the next steps are included in a table. A narrative section follows the table for the steps that require more description. In some cases, the table identified that a next step did not have project activities during this time-period; this was due to a combination of factors including but not limited to funding, partner prioritizations, or permitting delays.

Additional information on activities can be found on the SMBNEP website, the CCMP Action Plan, the FY24 Work Plan, and as part of individual products produced for each project.

CCMP Action #1

Acquire open space for preservation of habitat and ecological services

Long-term Environmental Results / Outcomes: Publicly acquire new open space as it becomes available throughout the watershed to promote connectivity, preserve habitat, and sustain ecological services.

Action #1 Next Steps / Project Name	Objectives	Status	Update
Support partners in identification and prioritization of key acquisition or conservation easement properties.	To acquire and/or protect high priority properties that are at risk of development, or provide high diversity, include wildlife corridors, and/or provide local socio-economic benefits.	Ongoing	From December 2023 to February 2024, MRCA acquired 151 acres off Latigo Canyon Road in Malibu adjacent to Solstice Canyon Park, 27.7 acres in Mill Creek Ranch within Old Topanga Canyon, and 8.67 acres in Encinal Canyon in Malibu for the Coastal Slope Trail. The public open space increases contiguous open space in the area, encourages wildlife corridors and watershed protection, and protects streams and habitats such as California Sycamore Woodland (a State Wildlife Action Plan conservation target for the Southern California Coast), coastal sage scrub, and riparian buffer areas. In April 2024, MRCA acquired 10.87 acres in the Carbon Canyon watershed of the Santa Monica Mountains which provides core habitat for many California endemic species and mountain lion. In May 2024, MRCA also acquired approximately 2.4 acres in Laurel Canyon, a critical habitat hub to connect habitat blocks on both sides of the highly trafficked Laurel Canyon Boulevard. The acquisition protects sensitive habitat, a perennial spring that is

Action #1 Next Steps / Project Name	Objectives	Status	Update
			a permanent water source for local wildlife, and a functional habitat link from Laurel Canyon Boulevard to Griffith Park for the threatened mountain lion population.

CCMP Action #2

Restore kelp forests in the Bay to improve the extent and condition of the habitat

Long-term Environmental Results / Outcomes: Restore 150 acres of kelp forest to improve habitat functions, local fisheries, and coastal resilience.

Action #2 Next Steps / Project Name	Objectives	Status	Update
Implement the rocky reef/kelp forest restoration project.	To restore 3 acres of rocky reef kelp forest by reducing urchin density within barrens to the target of 2 urchins per square meter to allow the reestablishment of giant kelp; to inform statewide restoration and management of kelp forest/rocky reefs.	Ongoing	Partnered with commercial urchin harvesters to cull urchin densities within 9.05 acres of urchin barrens off Point Fermin, White Point, and Underwater Arch Cove, Palos Verdes. 5.1 acres of the 9.05 were supported by BIL funds, the rest from other sources. TBF supports the statewide planning effort for Kelp Forest Restoration and Management through its service on the CDFW Kelp Restoration and Management Plan Community Working Group. Two Group meetings were held on March 13, 2024 and August 12, 2024. Input on kelp harvest, environmental monitoring of kelp, kelp restoration techniques and methods and related issues are ongoing.
Biological response monitoring of restoration areas.	To track the response of the kelp forest community after restoration activities occur.	Ongoing	Conducted all pre-and-post-restoration monitoring for 9.05 acres cleared during this project period; annual biological response surveys will be conducted in fall 2024.

Action #2 Next Steps / Project Name	Objectives	Status	Update
Develop recommendations for the deposition of materials from Rindge Dam or other suitable sources to augment sediment supply.	To support scientific analyses, inform priorities, and assist with site evaluations and communications for material deposition.	Ongoing	Planning process is ongoing for the Malibu Creek Ecosystem Restoration Project including the potential use of the material behind Rindge Dam for nearshore reef restoration and sediment augmentation (see Action #9).
Conduct carbon sequestration assessment of kelp restoration project.	To assess carbon sequestration potential of kelp forest restoration.	Ongoing	No activities occurred during this reporting period.

Action #2 Narrative:
Teams of restoration divers (via SCUBA) have been clearing the ocean floor of excess purple sea urchins (*Strongylocentrotus purpuratus*), thereby reducing herbivory and allowing for the natural recruitment and development of giant kelp (*Macrocystis pyrifera*). During the reporting period of October 1, 2023 through September 30, 2024, 9.05 acres were pre-monitored, and cleared of excess urchins off Point Fermin, White Point Beach, and Underwater Arch Cove. Restoration efforts will continue to be conducted to further work at Point Fermin, White Point, and Underwater Arch Cove. The specific area being cleared off Point Fermin was initially cleared in 2015-2017 when dive teams noticed recently settled purple sea urchins, roughly 2-5 mm in diameter across the reef. Restoration efforts were resumed in January 2022 and no observations of a new recruitment class have been made. A total of 71.6 acres of reef have been cleared along Palos Verdes since the beginning of the project in July 2013. In that time, TBF and partners documented the development of a variety of macroalgae communities occurring on the reefs, higher densities and biomass of kelp bass (*Paralabrax clathratus)* and other fish species within restoration sites, increased density of CA spiny lobster (*Panulirus interruptus)*, higher algal and invertebrate diversity at all restoration sites, and increased *purple sea urchin* and red sea urchin *(Mesocentrotus fransicanus)* gonadosomatic indices. These increases are comparable to reference site values. Focusing on kelp restoration areas where *purple sea urchin* suppression had occurred, canopy percent cover and kelp acreage increased in the completed restoration sites.

CCMP Action #3

Recover abalone populations in the Santa Monica Bay and region to support rare species and socioeconomic benefits to people

Long-term Environmental Results / Outcomes: Establish 2-3 minimally viable green and red abalone populations (i.e., at least 2,000 abalone per hectare) in the Bay; establish 1-2 viable white abalone populations (i.e., at 2,000 abalone per hectare) in the Bay.

Action #3 Next Steps / Project Name	Objectives	Status	Update
Establish abalone outplanting sites and conduct juvenile and larval outplanting.	To reintroduce abalone, test effectiveness of outplanting methods, and assess habitat site suitability.	Ongoing	Maintained temperature and dissolved oxygen logger deployments at Palos Verdes outplanting sites; a total of 2,317 white abalone were outplanted to PODs and BARTs in fall 2023, spring 2024, and fall 2024. See the SMBNEP FY23-24 Bipartisan Infrastructure Law annual report for additional updates.
Monitor abalone restoration and reference sites.	To conduct SCUBA-based surveys within outplant sites to assess the survivability of outplanted abalone and suitability of the site for future outplanting efforts.	Ongoing	Outplant monitoring occurred at scheduled intervals of one week, two weeks, and one month post abalone release, followed by quarterly site monitoring thereafter. Two white abalone outplant sites have been established off Palos Verdes. During this reporting period from October 1, 2023 – September 30, 2024 a total of 294 live white abalone and 0 red abalone outplants were observed at both Palos Verdes sites; and a total of 432 white abalone shells and 30 red abalone shells were collected. The red abalone shells were from abalone outplanted in prior years.

Action #3 Next Steps / Project Name	Objectives	Status	Update
Maintain aquaculture facility for abalone.	To facilitate captive spawning and rearing of red and white abalone in support of future restoration activities for outplanting in the wild; to serve as central staging facility for southern California outplant efforts.	Ongoing	TBF staff continued to operate and maintain two abalone laboratory spaces at SCMI, housing red and endangered white abalone. During this reporting period, in February 2024 TBF staff transferred ~2,600 juvenile white abalone and 675 juvenile red abalone from The Cultured Abalone Farm to SCMI. Animals >25mm were selected for outplanting in fall 2023 and spring 2024; and all remaining white abalone at SCMI were outplanted in fall 2024. The next transfer of white abalone to SCMI is scheduled for November 2024.

Action #3 Narrative:

TBF operates and maintains two mariculture facilities located at SCMI. These spaces serve as a wet lab for abalone rearing, juvenile abalone grow-out, experimentation, and they serve as a staging facility for outplant operations. . The facility is a registered aquaculture facility and has been certified as “sabellid free” by CDFW, which permits abalone operations.

Site monitoring follows this schedule after the abalone release date (when the PODs are opened, and the BARTs are stocked), allowing abalone to egress onto the reef: one week, two weeks, one month, and quarterly thereafter. Site monitoring is not performed if weather or ocean conditions do not permit a safe or productive day of diving. For assessment, the site is broken into ten 4 x 30-meter surveys and a team of divers will survey that area in approximately 40 minutes. Divers use flashlights to investigate crevices and carefully look under small rocks for abalone. When a diver encounters an abalone, its location, length (if able to measure), tag ID (if able to read), and any other notes are recorded.

TBF has established two outplant sites off Palos Verdes, PVR01 and Chile Verde. Since the spring 2021 white abalone outplant date, TBF and partners have recorded the number of shells collected and live observations of outplanted red and white abalone.

During this reporting period from October 1, 2023 – September 30, 2024, TBF and partner organizations have recorded 294 live observations of outplanted white abalone (290 at PVR01, 4 at Chile Verde) and collected 432 white shells (242 at PVR01, 190 at Chile Verde) and 30 red shells (10 at PVR01, 20 at Chile Verde). Quarterly monitoring will continue to identify live abalone and shells to assess survivorship.

In preparation for 2025 outplanting events, the next white abalone transfer from UC Davis Bodega Marine Lab to TBF at SCMI is tentatively scheduled to occur in November 2024. This transfer of captive-bred white abalone will support spring 2025 and fall 2025 abalone outplanting activities off Palos Verdes. TBF staff will continue the operations of aquaculture facilities and daily animal husbandry tasks for both red and white abalone. TBF staff plan to perform large renovations of the aquaculture facilities in 2025, to upgrade many components of the life support systems and tank layouts to best suit the expansion of the abalone program in future years. Planning and preparation will continue for future white abalone outplant events at the 2 established white abalone recovery sites in Palos Verdes, PVR01 and Chile Verde. Continued white abalone site scouting and habitat suitability surveys are planned for fall/winter 2024 and spring 2025, with the goal of developing a Catalina Island site and additional mainland (Palos Verdes) abalone outplanting sites by 2025.

CCMP Action #4

Assess and restore seagrass habitats in the Santa Monica Bay and nearshore environments to benefit marine ecosystems and improve coastal resilience

Long-term Environmental Results / Outcomes: Restore 2-5 acres of seagrasses to the Bay to improve habitat functions and coastal resilience.

Action #4 Next Steps / Project Name	Objectives	Status	Update
Survey the extent and condition of seagrasses in the Bay using R2Deep2, side-scan sonar, and SCUBA divers to inform the Comprehensive Monitoring Program.	To survey the extent and condition of seagrasses in the Bay using SCUBA divers and side-scan sonar, to inform the CMP and restoration activities.	Ongoing	TBF and project partners conducted numerous SCUBA-based surveys to monitor seagrass within the Bay at transplant and donor sites; quarterly surveys were conducted in November 2023, December 2023, January 2024, March 2024, April 2024, June 2024, and September 2024. TBF, Paua Marine Research Group, Vantuna Research Group, and Scripps Institution of Oceanography procured CA State Proposition 50 funding to utilize SCUBA-based surveys, side-scan sonar, and deployment of biophysical oceanographic sensors to further elucidate key data gaps outlined in the CMP surrounding SAV and soft-bottom habitat within the Bay.
Develop restoration methods for eelgrass (*Zostera pacifica*) in the Santa Monica Bay.	To improve understanding and probability of success for offshore eelgrass restoration using transplant methods.	Ongoing	Continued collaboration with Paua Marine Research Group and partner agencies to improve understanding of eelgrass restoration methods to apply to the pilot project. A CRI research effort was conducted in the summer of 2023 furthering our understanding of environmental stressors impacting the health of *Z. marina*. A QAPP was submitted and approved by the USEPA Region IX in spring 2023.

Action #4 Next Steps / Project Name	Objectives	Status	Update
Conduct pilot restoration project(s) of offshore eelgrass in the Bay.	To conduct a pilot restoration project of offshore eelgrass in the Bay within a one-acre footprint.	Ongoing	TBF staff and partners implemented a pilot project *Z. pacifica* transplant effort in July 2021; during this reporting period, TBF and project partners conducted quarterly monitoring at the transplant sites in November 2023, December 2023, January 2024, and March 2024. Monitoring of the transplant sites within SM Bay has been completed and donor sites will continue to be monitored on a quarterly basis.
Evaluate restoration potential of seagrasses in the Bay, harbor, wetlands, and nearshore environments.	To improve understanding and probability of success for seagrass restoration projects.	Ongoing	Ongoing monitoring of donor and transplant sites involved the deployment of PAR and MiniDot sensors in existing *Z. marina* and *Z. pacifica* beds in Santa Monica Bay, Catalina Island and La Jolla. Data on light, temperature, and dissolved oxygen collected at these sites will be used to inform site selection for future transplant efforts.

Action #4 Narrative:

Santa Monica Bay Subtidal Eelgrass Restoration: This innovative project, funded by State Coastal Conservancy (as part of the LA Living Shoreline Project), Honda Marine Science Foundation, and NEP Coastal Watershed Grants Program, incorporates the experimental establishment of subtidal eelgrass offshore of Dockweiler Beach, Redondo Canyon, and Malaga Cove within Santa Monica Bay. TBF staff participated on the regional Submerged Aquatic Vegetation Technical Advisory Committee, led by SCCWRP. This group provided external scientific input and recommendations to the subtidal components of the restoration project, while concurrently spreading awareness of the importance of open coast eelgrass transplants. Further, TBF staff convened preeminent SAV researchers in California to establish the “Santa Monica Bay Subtidal Eelgrass Restoration Project Technical Advisory Committee” (TAC), comprised of researchers from academic institutions, governmental agencies, and environmental consultants.

This group proved invaluable in refining the approach of the project and providing essential recommendations and insights into transplanting and monitoring processes. The members of the TAC expressed overwhelming support for the project and highlighted the importance of conducting this work.

Baseline monitoring surveys of extant *Z. pacifica* donor sites were conducted by project partners in October 2020 at donor sites off Catalina Island, including deploying a physical oceanographic sensor tracking wave characterization. In addition, side-scan sonar mapping and SCUBA-based surveys were undertaken to estimate the number of turions and expanse of the donor sites. Subsequently the project harvested Z. pacifica material from two donor beds on the backside of Catalina Island, “Palisades”, and “East End”, utilized for three transplants within Santa Monica Bay. Each transplant site received roughly 500 turions, shoot-like structures supporting the blades of the eelgrass. Two methods were applied: one used a single turion placed into holes excavated by divers, and the second bundled 8-10 turions together. Thus far, post-transplant monitoring was conducted at 24 hours, 1-week, 2-weeks, 1 month, and two quarterly surveys after transplant activities to inform survivability; quarterly monitoring will continue through 2024.

During this reporting period, TBF and project partners conducted numerous SCUBA-based surveys to monitor seagrass within the Bay, both transplant and donor sites. Quarterly monitoring events occurred in November 2023, December 2023, January 2024, March 2024, April 2024, June 2024, and September 2024. Bottom mounted sensors continue to be deployed at donor sites. Early data were processed with results presented in a report produced in May 2023 for Restore America’s Estuaries.

Relatedly, TBF, alongside Paua Marine Research Group, Vantuna Research Group, and Scripps Institution of Oceanography, procured CA State Proposition 50 funding to utilize SCUBA-based surveys, side-scan sonar, and the deployment of a suite of biophysical oceanographic sensors to record light, temperature, and dissolved oxygen. These data will further elucidate key data gaps outlined in the CCMP surrounding SAV and soft-bottom habitat within the Bay. Project partners have deploy sensors at nine sites to acquire a suite of environmental data metrics. A three-pronged data acquisition program will address the central scientific problem of determining key physical environmental drivers influencing the realized niche of Z. pacifica and enhance applied restoration efforts from local to regional scales with significant potential benefits for Southern California coastal shelf habitats.

CCMP Action #5

Assess and implement offshore artificial reefs to benefit marine ecosystems and provide socioeconomic benefits to people

Long-term Environmental Results / Outcomes: Implement artificial reef projects to achieve 69 new acres of rocky reef habitat of a similar condition as reference reef habitats.

Action #5 Next Steps / Project Name	Objectives	Status	Update
Implement rocky reef restoration project off Palos Verdes.	To restore 69 acres of rocky reef habitat lost to landslides activity using high relief rocky modules that will resist future burial from sediment deposition.	Completed	SCMI and VRG continued post-restoration monitoring the Palos Verdes Reef Restoration Project (funded by Prop 12). The Year-3 report was completed in April 2024.

Action #5 Next Steps / Project Name	Objectives	Status	Update
Annual monitoring with the use of side scan sonar and SCUBA based surveys.	To assess nearshore coastal marine habitats using side-scan sonar and SCUBA to inform data gaps in the CMP and future restoration projects; to understand the movements, positions, and permanence of great white sharks, giant sea bass, and other species of interest in SMB.	Ongoing	Communications between TBF, VRG, and SIO resulted in submission of a Prop 50 grant proposal to seek funding for Santa Monica Bay, Catalina Island, and La Jolla soft bottom habitat and extant eelgrass bed surveys; proposal was accepted and is expected to elucidate gaps in knowledge. Two tagged juvenile great white sharks were detected in Santa Monica Bay from April through May 2024. One these sharks was detected once off of the Malibu Pier, twice off Will Rogers Beach and off the Venice Pier, on the same day. The second shark was present for weeks off of Will Rogers Beach being detected 1,308 times. A observational note was made that a visual search of the area off Will Rogers Beach identified a small aggregation of untagged juvenile white sharks. Similar observations have been made in prior years. A summary of data generated by the network of acoustic telemetry sensors in Santa Monica Bay will be available later this year and included in the annual report for FY24.

Action #5 Next Steps / Project Name	Objectives	Status	Update
Preliminary work regarding the benefits of dynamic revetments and nearshore reefs.	To preliminarily advance work towards understanding dynamic revetments and nearshore reefs, including feasibility of using recycled concrete for construction.	Ongoing	The SMBNEP FY22-23 Bipartisan Infrastructure Law Work Plan approved by the SMBRC Governing Board and Executive Committee includes funding for the Santa Monica Breakwater Rocky Intertidal Preserve and Adamson House Projects. Updates for these efforts will be provided in the BIL annual report, due in November 2024.

Action #5 Narrative:

The Palos Verdes Reef Restoration Project aims to restore the nearshore ecological rocky-reef community, support an estimated six tons of reef fish and a proportional amount of invertebrates, and increase the abundance of commercial and recreational species, offsetting historical losses to ecosystem services. The project received $1,409,000 in Prop 12 funds for construction and post-construction monitoring for Year 1. Vantuna Research Group and Southern California Marine Institute completed construction of an artificial reef in September 2020 to restore rocky reef habitat near Bunker Point off the Palos Verdes Peninsula, which involved strategically placing 57,000 tons of quarry rock in a 42-acre area. During this reporting period, the project leads completed the Year 3 monitoring report. The report found that all performance standards were met including the following:

- No invasive species were recorded and both total fish biomass and density were significantly higher in Years 2 and 3;
- Overall, fish biomass density in the entire 61.9-acre restoration reef complex was found to be 329% higher than pre-construction density, representing an estimated addition of 7.86 metric tons of fish biomass;
- Giant kelp canopies remained through the last two winters when nearly all other kelp forests at the peninsula were decimated by long-period, high intensity swells; and
- A buried reef adjacent to the modules is becoming uncovered, effectively restoring an additional ~1 acre of benthic habitat.

In 2023, additional monitoring continued at this project site and nearly every other rocky reef in Los Angeles County through funding from the SMBRC Proposition 50 Grant Program (see Action 36).

Four acoustic receivers were purchased by TBF in 2016 to improve the coverage of the Southern California Acoustic Telemetry Network, led by Dr. Chris Lowe at CSU Long Beach. Three receivers were first deployed in May 2017 to sites in northern Santa Monica Bay. Currently, there are six stations maintained by the CSULB Shark Lab from Malibu Pier in the north to Redondo Beach in the south bay. Data generated by this expansion of the network will improve protection and understanding for juvenile great white sharks and other fishes tagged and recorded by this network of sensors.

CCMP Action #6

Restore coastal strand and foredune habitat to beaches and sandy shores to improve coastal resilience

Long-term Environmental Results / Outcomes: Restore 10 acres of coastal strand and dune habitat along Santa Monica Bay beaches to improve ecological function, increase coastal resilience, and provide habitat for rare species.

Action #6 Next Steps / Project Name	Objectives	Status	Update
Continue long-term monitoring of the Santa Monica Beach Restoration Pilot Project.	To inform adaptive management of the restoration area regarding coastal resilience, ecosystem benefits; to convert the site to a permanent feature of the coastline.	Ongoing	Adaptive management, maintenance and outreach in the form of public and private volunteer events, research and education with student groups, interns and faculty are ongoing. Changes to the Coastal Development Permit were completed. Perimeter fencing was removed and replaced with post and rope perimeter in January 2024. Phase 2 planning and implementation took place in March 2024. Internship projects, volunteer events and monitoring took place during spring and summer months. The annual report is in preparation.
Conduct outreach, planning (phase 1) and implementation (phase 2) of the Malibu Living Shoreline Project.	To restore three acres of beach and dune habitat to improve coastal resilience and ecosystem benefits and improve public engagement.	Completed	The monitoring report for 2022 and 2023 was submitted and approved in October 2023. Adaptive management and maintenance are ongoing. Volunteer events are ongoing to help with maintenance, though maintenance requirements at this site are minimal.

Action #6 Next Steps / Project Name	Objectives	Status	Update
Find funding for and implement another beach and bluff restoration project.	To restore 3.5 acres of bluff, beach, and eelgrass habitat as part of a living shoreline pilot project (Los Angeles Living Shoreline Project); restore dune habitats in Manhattan Beach.	Ongoing	Adaptive management and maintenance of the foredune section of this project is ongoing. This includes weeding, and general maintenance of the site infrastructure e.g., posts, rope, and signage.
Support efforts to standardize sandy beach monitoring. and a regional approach to restoration	To continue efforts to standardize sandy beach monitoring and data collection for southern California through stakeholder partnershipsand CMP implementation.	Ongoing	Review of archived data is ongoing. Review of approaches to sandy beach monitoring is ongoing. Beaches QAPP was submitted in September 2023 and approved in December 2023.

Action #6 Narrative:

Following the success of the Santa Monica Pilot Project, TBF surpassed the goal of restoring 10 acres of additional coastal strand and dune habitat. Since 2020, TBF has implemented, monitored and managed an additional 18.7 acres in four cities along the coast of Santa Monica Bay, with funding and plans for an additional 52 acres underway.

Santa Monica Beach Restoration Pilot Project: TBF staff paid regular visits to this site during the reporting period, pulling weeds, collecting trash and inspecting the site infrastructure for damage or displacement. The site continues to develop desirable dune characteristics and the vegetation continues to mature. The primrose, beach bur and sand verbena continued blooming at this site and increased with the onset of seasonal rainfall at this well-functioning site. In late November 2023, another 891g of seed from four California native species were scattered in the foredune and slack area of the project. This resulted in an additional species, pink sand verbena germinating, establishing and flowering in 14 locations within the site,

The heavy rains and large waves of January and February 2024 caused driftwood to wash onto the site. This wood will contribute to heterogeneity and is likely to contribute to future dune development. The saltbush that occupies the embryo dune at the site was inundated with the extreme high tides, after which this species not only recovered, but seems to have been stimulated to grow and set a large amount of seed. The steel posts of the perimeter fence were severely rusted and buried to the point where they caused a trip hazard, or worse. The perimeter fence was removed in January 2024, and replaced with post and rope. This new perimeter has held up well.

The history of this project, a site tour, and the results of the monitoring occurred in November 2023 and April 2024, with 4 groups of 30 students from UCLA. Students also participated in an ongoing long-term seedling density study with a plan to return semi-annually. For youth education, TBF hosted 60 kindergartners from Center for Early Education in early May 2023 and 20 members of the local Girl Scout troupe in late November 2023. Four volunteer events were held in January, March, April and May 2024, with a total of 148 volunteers that amounted to 269 person-hours.

Santa Monica Dune Restoration Project (phase 2): This project was planned in partnership with the City of Santa Monica, California State Parks, Audubon Society, and public stakeholders. Funding for the project is from the Refugio Oil Spill Mitigation Fund. During the reporting period, TBF staff interacted with the City of Santa Monica, LA County Lifeguards, LA County Beaches & Harbors, CA State Parks and other stakeholders to inform site footprint, location, and the plant palette for the future restoration site. Further outreach and stakeholder engagement continued through the fall of 2023.

On March 13, 2024, the California Coastal Commission approved an amendment to the Pilot Project Coastal Development Permit, allowing for an additional 5-acres of beach habitat, in four polygons on Santa Monica Beach to be installed. With the help of City of Santa Monica staff, the infrastructure of phase 2 was installed on March 14-15, 2024. This included the delivery of multiple tractor-loads of driftwood to the site. The following week, nearly 12kg of seed from assorted California native species were scattered in the polygons and over 500 container stock plants were installed at the site. One of the four polygons expands upon the existing snowy plover enclosure that was established in 2016 by the Santa Monica chapter of the Audubon Society. The installation of both the infrastructure and the plants and seed were made possible by 4 small volunteer events in early and mid-March, amounting to 26 volunteers for a total of 216 hours of effort.

TBF hosted an additional 4 volunteer events from May through September to pick up trash and weed the site and surrounding areas, which amounted to a total of 58 volunteers and 138 volunteer-hours. Thus summer of 2024 was a busy one for this site, with 4 high school interns, 3 interns from Loyola Marymount University, an intern from the American University in Paris and a ninth intern hailing from the University of St Andrews in Scotland. These student-interns worked on monitoring and maintenance in this site.

After an intense storm season in Winter 2024, a dry summer and excessive heat waves in September, mortality is low. most container stock is established and multiple species have germinated, and throughout the project small dune features are forming. Most notable is that 10-30 western snowy plovers that immediately began visiting the site. Following their summer migration, a total of 59 western snowy plovers were reported in the phase 2 area in the September census and have been observed there on a regular basis since the project was installed.

It is notable that with funding from the State of California, we are planning to install an additional 43 acres of dunes in the City of Santa Monica, from border to border. We are collaborating with the City on the planning and public outreach. To date, we have gotten the approval of the City Council, held multiple stakeholder outreach events, and we have completed the California Environmental Quality Act review with positive results. Submission of the Coastal Development Permit application is the next step, and we anticipate beginning the installation of this project in January 2025.

Malibu Living Shoreline Project: This project, in partnership with the City of Malibu, Los Angeles County Department of Beaches and Harbors (LACDBH), and State Coastal Conservancy (SCC) was meant to restore approximately 3 acres of sandy beach and dune habitats at Zuma Beach and Westward Beach to improve coastal resilience and increase the health of the beach systems through a living shoreline approach. All permits, including ROE and CDP, were obtained in winter 2020. Implementation was conducted in winter 2020-21 and resulted in removal of approximately 25 tons of invasive iceplant and other non-native vegetation from the project area. Implementation also included planting over 500 native plants, seeding, and the installation of post and rope fencing to delineate the project boundary and pathways. Other elements included sand fence segments and biomimicry stakes to promote dune growth. TBF conducted supplemental seeding in November 2023, with a total of 670g of seed from assorted California native species. The first three rounds of semi-annual post-restoration monitoring were completed, and the Year 1 Annual Report was submitted in May 2022. A combined annual report was submitted for 2022 and 2023. Interpretive signage was installed in May 2022.

During this reporting period, the dunes at the Zuma Beach site remained in good condition, except for the section that was washed out by Hurricane Hilary in late August 2023. A few of the highly invasive species, such as Pampas grass, Arundo and Tamarisk have been spotted in or near the restoration site, which is a concern. The winter storms of January and February 2024 caused further coastal erosion at Zuma Creek and Westward Beach, particularly in the areas that were recontoured during the revetment project of 2023.

With regular visits to the sites and occasional volunteer events, adaptative management and site maintenance are ongoing. TBF has hosted three volunteer events in 2024 in February, April, and April'. With a total of 49 volunteers that amounted to 122.5 person-hours. Conversations with the County were initiated to manage the encroaching invasive species at or near the site.

Los Angeles Living Shoreline Project: This innovative project, in partnership with LACDBH, State Parks, SCC, and Honda Marine Science Foundation, aims to implement a multi-habitat approach to restore approximately 3.5 acres of beach and coastal bluff habitat. This project at Dockweiler Beach directly supports a disadvantaged community and adds to SMBNEP's efforts to improve coastal resilience in Los Angeles County. It also incorporates the experimental establishment of offshore eelgrass within a one-acre footprint (see Action #4 – eelgrass).

TBF implemented the beach portion of the project in January through March 2022. As part of implementation activities, TBF and LACC removed the old existing plover enclosure fence and replaced it with post and rope fencing. The outer project perimeter and interior pathways were also delineated with post and rope to guide beach visitors through the site. In addition, non-native sea rocket was hand pulled, and the project area was subsequently seeded with native dune species. Approximately 200 native plants were planted in the project area outside of the plover enclosure. Sand fencing segments were also installed in this area to help promote dune growth. The first round of post-restoration monitoring was performed in August 2022 and was repeated in August 2023. In early January 2024, an additional 2.3kg of seed with four dominant dune species were scattered in the area.

For the bluff portion of the project, additional coordination and permitting with the City of Los Angeles Bureau of Engineering was necessary. TBF submitted a Right of Way permit application in December 2021 and a local CDP application in January 2022. Following submission of the CRP application package, the City of Los Angeles waived the need for a local CDP. A Right of Way permit was obtained in July 2022. Implementation of the bluff was completed in October 2022. Over the course of several weeks crews installed silt fencing, pulled and removed ice plant, and installed erosion prevention measures, i.e., stakes and wattles. The final action taken in this sequence was the application of a seed mix utilizing hydroseeding as an additional measure of erosion control and to promote germination of the seeds.

This bluff site required maintenance during and after the heavy rains with repeated repair or replacement of sections of the silt fence. Repositioning and re-staking of sections of wattle were also undertaken. Ongoing communications with LACDBH operational staff helped manage the site during this challenging period as the rains and storm water flows from Vista Del Mar caused considerable erosion. The bluff eroded in 2 additional areas during this reporting period. TBF has yet to reenter this area following the erosion and construction of terracing in the both erosion locations. Onsite assessment and management of the bluff site will resume when permissible. It is notable that several species of California native wildflowers are now established in the restoration area, but no quantitative surveys have been done.

The beach dune aspect of this project was impacted by the high energy wave events in early January and February with erosion at the embryo dune. During the reporting period, TBF staff removed a great deal of debris left behind by the storms. With regular visits to the beach site, TBF staff maintains a presence at this site, and continues with ongoing maintenance and adaptive management. Inclement weather interfered with a planned volunteer event in early March 2024, but in early April and again in July volunteers joined TBF staff for a much-needed trash pickup event. A total of 144 person-hours were dedicated to picking up large and small debris from the restoration site and surrounding area. Volunteer events are planned at this site during the spring.

TBF submitted a letter of Interest to the Restore America's Estuaries Coastal Wetland Grant, and was invited to submit a full proposal. In May 2024, we learned that we were selected for funding. The grant will support the installation of a second phase of up to 5 acres of dunes at Dockweiler Beach. We are in the final stages of developing the Work Plan.

Manhattan Beach Dune Restoration: The goal of this project is to restore approximately 3 acres of dune habitat along the beach in the City of Manhattan Beach to provide infrastructure protection and increase coastal resilience, while improving habitat quality. The project is located on existing back dunes along the coast of Manhattan Beach, adjacent to Bruce's Beach, from approximately 36th Street to 23rd Street, within approximately 0.6 miles of coastline. The restoration project involves the removal of non-native vegetation, seeding / planting of native vegetation, strategic installation of sand fencing and other features to help establish vegetation, installation of post and rope, and installation of interpretive signage. TBF obtained a ROE permit to conduct scientific monitoring on-site in May 2021 and amended the permit in December 2021 to include implementation and post-restoration activities. The final CDP application package, including the Restoration and Monitoring Plan, was submitted in August 2021 and subsequently approved in January 2022. TBF drafted the application for the LACFCD permit in October 2021 and received and secured the Flood Construction Permit in January 2022.

Restoration commenced in January 2022 and is ongoing. With support from LACC, community volunteers, and project partners, TBF removed and disposed of nearly 28 tons of iceplant and planted 1,400 native dune plants. The post and rope pathways and project boundary were delineated, and sand fencing segments were installed to promote dune growth. Following the removal of non-natives from the two most vulnerable polygons, an additional 1.7kg of seed, including 10 species, were scattered in those targeted polygons. TBF coordinated with LACDBH to obtain Special Events Permits for community restoration events to support implementation.

During this reporting period, TBF conducted several days of site maintenance. Additional CA native seed stock was scattered in March. The non-native plants have taken advantage of the rainfall these last two winters, so weeding has been a top priority for this site. In fact, during the reporting period, TBF staff have dedicated 10 – 15 person-days to this site (February – April) when the non-natives began germinating. Because the work requires heightened expertise in plant and seedling identification, coupled with the need to avoid the vicinity of seacliff buckwheat (to avoid the pupae of the endangered El Segundo Blue Butterfly), no more than 5 volunteers were invited to work on this effort in the affected polygons at any one time. For the less vulnerable polygons, TBF hosted volunteer events in early January and late February 2024 to focus solely on weeding, amounting to 67 people and a total of 167.5 person-hours. Another seven events were held from May through August, amounting to a total of 272 volunteers and 594 person-hours. The native vegetation is doing well despite the presence of non-natives. More volunteer events are planned for this site in the coming months.

Several of the pathways that lead from the bike path to the shore were severely eroded after the winter rains, and TBF staff worked to rebuild the pathways for safe passage by the public. Manhattan Beach was also impacted by high wave energy in February with little discernable impact to the dune sites. Maintenance and volunteer activities for additional weeding, seeding, and planting will continue to improve the condition of these dunes.

Of notable importance is that in mid-June, hundreds of individuals of the endangered El Segundo blue butterfly emerged and took flight over this site. This tiny species is known to only fly for a few weeks before completing the butterfly phase of their life cycle. We estimate that there were 2-3 thousand butterflies during the season because hundreds were observed at the site for just over six weeks.

CCMP Action #7

Restore and maintain the entire LAX Dunes system to support native plants, wildlife, and rare species

Long-term Environmental Results / Outcomes: Restore 48 acres of LAX Dune system to improve native dune functions and provide habitat for rare species; Maintain larger 300-acre Preserve to benefit rare species and dune plants and wildlife.

Action #7 Next Steps / Project Name	Objectives	Status	Update
Conduct community restoration events in the northern 48 acre dune area.	To engage community through hands-on stewardship and habitat restoration through events held at the LAX Dunes.	Ongoing	No restoration events were hosted during this reporting period due to a lack of funding.
Support LAWA in long-term maintenance and adaptive management of the 48-acre northern dune area.	To continue and strengthen partnership with LAWA to restore and maintain the LAX Dunes.	Ongoing	The final Ecological Monitoring Report was submitted in January 2024. The contract between TBF and LAWA expired and was not renewed. TBF is committed to renewing a contract with LAWA when sufficient funds are available to do so.
Engage underserved students and volunteers and inland communities.	To recruit underserved students and volunteers, particularly from inland communities, to participate in hand-on stewardship and restoration at the LAX Dunes.	Ongoing	There were no actions during this reporting period.

Action #7 Next Steps / Project Name	Objectives	Status	Update
Initiate planning for areas within the adjacent dunes, including baseline monitoring.	To conduct baseline monitoring and develop recommendations for habitat management.	Ongoing	No activities occurred during this reporting period.

Action #7 Narrative:

The LAX Dunes are the largest remaining remnant contiguous coastal dune system in Southern California. The 302 acre dune site is owned and managed by Los Angeles World Airports (LAWA). The site provides habitat for over 900 species, including the beautiful and delicate federally endangered El Segundo blue butterfly. During this period, TBF did not engage in activities at the LAX Dunes due to a lack of funding. However, TBF aided in final revisions to the 2023 Ecological Monitoring Report for the California Coastal Commission.

CCMP Action #8

Restore coastal bluff habitats in the Bay watershed to support ecosystem services

Long-term Environmental Results / Outcomes: Restore 5 acres of bluff habitats in the SMB watersheds to support ecosystem services.

Action #8 Next Steps / Project Name	Objectives	Status	Update
Use Beach Bluff Restoration Master Plan to explore bluff restoration and continue recovery of El Segundo blue butterfly.	To provide habitat and ecological benefits in support of the recovery and eventual delisting of the endangered. El Segundo blue butterfly and to restore bluff habitats.	Ongoing	No activities occurred during this reporting period.
Identify partners and funding to support bluff restoration projects.	To establish project partners, project sites, and identify potential funding sources in support of bluff restoration.	Ongoing	No activities occurred during this reporting period.
Initiate restoration of one bluff restoration project.	To restore 13 acres of rare coastal bluff habitat to support threatened and endangered wildlife and plant species, reduce coastal erosion, improve water infiltration, and enhance public access.	Completed	In April 2023, PVPLC completed the Abalone Cove Habitat Restoration Project (funded by Prop 12, see additional narrative). See Action #6 for the Los Angeles Living Shoreline Project.

Action #8 Next Steps / Project Name	Objectives	Status	Update
Initiate Point Dume stair replacement and bluff restoration project to benefit people and wildlife.	To replace a deteriorated beach access staircase and restore bluff habitat at Point Dume State Beach.	Ongoing	Construction was completed and is open for public use. California native vegetation was restored post-construction. Monitoring and site maintenance is ongoing.

Action #8 Narrative:

PVPLC's Abalone Cove Habitat Restoration Project (managed by SCC) restored 13 acres of rare coastal bluff habitat to support threatened and endangered species, reduce coastal erosion, and improve water infiltration in the Abalone Cove Reserve. The project implements the Reserve's 2016 Habitat Restoration Plan and involved the public through volunteer restoration events. PVPLC removed invasive plants including acacia trees, iceplant, fennel and mustard. Goats were used to eat non-native annual grasses. The site was revegetated with native plants to provide critical habitat for the California gnatcatcher, cactus wren, El Segundo blue butterfly, and Palos Verdes blue butterfly and to facilitate the range expansion of rare plant species. The restoration project was completed in March 2023 with monitoring continuing for 20 years.

Additional coordination between TBF and LACDBH continues regarding potential bluff restoration projects adjacent to county beaches, including several sites at Dockweiler Beach, and one being led by LACDBH. Several bluff restoration projects are being conducted in the SMBNEP study area by partners such as Palos Verdes Peninsula Land Conservancy, Los Angeles Conservation Corps, City of Redondo, and South Bay Parkland Conservancy. Projects are removing invasive species, planting natives, and providing habitat for the federally endangered El Segundo blue butterfly. Additional work continues through a stakeholder engagement group known as the El Segundo Blue Butterfly Coalition (ESB Coalition), bringing together partners from many different non-profit groups, agencies, and representatives from municipalities. The ESB Coalition is working on several projects, including updates to their new website, a mapping tool to track restoration efforts, and coordination of project updates and discussions from many partners.

CCMP Action #9

Implement Malibu Creek Ecosystem Restoration Project (Rindge Dam and other barrier removals) to support ecosystem restoration

Long-term Environmental Results / Outcomes: Complete implementation of the Malibu Creek Ecosystem Restoration Project including the removal of barriers to improve stream and riparian habitats and to benefit the steelhead trout.

Action #9 Next Steps / Project Name	Objectives	Status	Update
Support lead agencies in effortsto complete the design and engineering plansfor the Malibu Creek Ecosystem Restoration Project.	To develop design and engineering plans to remove Rindge Dam and additional barriers, to restore terrestrial and aquatic habitat connectivity and establish natural sediment transport regime.	Ongoing	State Parks presented on the project at the October 2023 SMBRC Governing Board meeting; continued the pre-construction, engineering, and design phase; and conducted public outreach and engagement (see additional narrative).

Action #9 Narrative:

The Malibu Creek Ecosystem Restoration Project aims to restore aquatic habitat connectivity along Malibu Creek and its tributaries, establish a more natural sediment regime from the watershed to the shoreline, and restore aquatic habitat of sufficient quality along Malibu Creek and tributaries to sustain or enhance indigenous populations of aquatic species within the next several decades, allowing for migratory opportunities to roughly 15 miles of aquatic habitat that have been unreachable for many decades in this watershed. The project involves the removal of Rindge Dam and approximately 780,000 cubic yards of sediment behind the dam and modification/removal of eight upstream barriers within the Malibu Creek watershed. In October 2023, State Parks staff presented on the project including site history, project objectives and benefits, current challenges, and proposed timeline. During the reporting period, State Parks also continued the pre-construction, engineering, and design phase. This phase includes baseline biological surveys, hydrology/hydraulic modeling and flood risk assessment, engineering plans, environmental permitting, public outreach, and other project studies to advance the project to a 90% level of design. In September 2024, geotechnical studies were initiated at Rindge Dam to better understand the century's worth of accumulated sediment trapped behind the dam. Samples have been taken at several locations behind the dam to analyze the grain size of the sediment and saturation levels. Characterizing

the grain sizes and other important material properties will aid in the design of where the material could be placed once removed, including on the beach, in the near-shore coast, or upland disposal. The target date for completion of this phase is March 2026. Public outreach and engagement also continued including site tours and community events such as the first annual Malibu Watershed Fair and a Coastal Cleanup Day event along Malibu Creek. In summer 2024, two community science photo monitoring stations were installed in Malibu Creek State Park and Malibu Lagoon. Public participation in taking and uploading photos at the lagoon is building a robust data set and adding information needed to monitor the creek.

CCMP Action #10

Remove additional barriers to support fish migration and ecosystem services

Long-term Environmental Results / Outcomes: Remove fish barriers to support endangered steelhead trout habitat expansion, increase resilience related to climate change, and provide ecosystem services.

Action #10 Next Steps / Project Name	Objectives	Status	Update
Identify, prioritize, and acquire funding for barrier removal projects.	To engage with partner entities to identify potential opportunities for fish barrier removal.	Completed	RCDSMM completed the Rescue, Reintroduction, and Genetic Conservation for Southern California Steelhead technical report, which evaluates risks, benefits, and constraints of rescue, reintroduction, and genetic conservation actions as conservation measures for Southern California steelhead trout (also see Action #15).

CCMP Action #12

Restore smaller coastal lagoons and other wetland types to increase wetland habitat area and condition throughout the watershed

Long-term Environmental Results / Outcomes: Restore and increase wetland and transition habitat acreages for small lagoons such as Topanga Lagoon and other wetland systems to improve ecological functions.

Action #12 Next Steps / Project Name	Objectives	Status	Update
Finalize restoration planning and permitting for Topanga Lagoon Restoration Project and initiate project.	To create a restored habitat that integrates fish passage barrier removal, wetland habitat restoration,visitor services, and recreational opportunities at Topanga Lagoon.	Ongoing	Topanga Lagoon Restoration Project (funded by Prop 12) released the Draft EIR for public review and comment from February 12, 2024 to April 12, 2024. The Final EIR was released in August 2024 and certified in September 2024 and the preferred alternative was selected. The project is now in the design and permitting phase. The project also received about $10 million to further designs and public outreach. A presentation on the project is anticipated at the December 2024 SMBRC Governing Board meeting. TBF supported baseline assessment through deployment and management of a water quality sensor in partnership with RCDSMM (see additional narrative). TBF staff attended a stakeholder meeting held by State Parks and the SMMC in March 2024 to provide input for finalizing the restoration plan.

Action #12 Next Steps / Project Name	Objectives	Status	Update
Complete land acquisition, feasibility analyses, and restoration design in coordination with bridge redevelopment for Trancas Lagoon.	To restore habitats adjacent to Trancas Lagoon after Caltrans bridge expansion is completed.	Ongoing	Caltrans continued work to replace the Trancas Creek Bridge.
Conduct comprehensive monitoring of small lagoons in northern Bay to inform CMP and seek funding to continue Malibu Lagoon monitoring.	To conduct comprehensive monitoring of the northern Bay lagoons, inform the Comprehensive Monitoring Program (wetlands chapter), and acquire funding to continue long-term monitoring and data collection at Malibu Lagoon.	Ongoing	Continued conversations with partners such as CSULB, SCCWRP, UCLA, and RCDSMM to gain information on bar-built estuaries; continued participation on the Estuarine MPA Technical Advisory Committee, which includes Malibu Lagoon as a study site; continued coordination with EMPA monitoring, including deployment, management, and maintenance of one water quality sonde in Malibu Lagoon. See Action #36 for SCCWRP's Prop 50 project to conduct monitoring of the small lagoons in northern Bay to fill CMP data gaps.

Action #12 Narrative:

The Topanga Lagoon Restoration Project is implemented by State Parks and partners including the RCDSMM, Caltrans, and LACDBH with funding from SCC, WCB, State Parks, and others. The project aims to restore Topanga Lagoon, improve habitat for the endangered steelhead trout and tidewater goby, increase resiliency to sea level rise and climate change, improve visitor experience, and enhance recreational opportunities. During this reporting period, the Draft EIR was released for public review and comment from February 12, 2024 to April 12, 2024 and two public meetings were held in February 2024.

The Final EIR was released in August 2024 and certified in September 2024, completing the environmental phase of the project. The approved alternative (Preferred Hybrid Alternative 3A-Balanced Resource Protection) was selected based on public, regulatory and landowner feedback to protect endangered species and ecosystems through lagoon restoration and protect and restore important cultural resources for public benefit. Increased sea level rise resilience and improved coastal access are also incorporated. The project is now in the design and permitting phase of restoration, which is anticipated to be completed in 2026. Construction is anticipated to begin in 2027. The project was also awarded $10,054,000 from the Wildlife Conservation Board to fund 90% road and bridge replacement designs, engineering reports and technical studies, and public outreach necessary to begin the restoration of the lagoon. Additional funding is needed to complete design of visitor services elements.

TBF continued coordination with SCCWRP and Moss Landing Marine Laboratory for the Estuarine Marine Protected Area, (EMPA) monitoring program, which includes Malibu Lagoon as a study site. TBF partnered with CSULB to coordinate, deploy, and manage one water quality sensor in the lagoon. CSULB and partners implemented the first round of EMPA monitoring in the lagoon in March and April 2021 and another in fall 2021, including fish traps, nutrients, and other metrics. SCCWRP led a Proposition 50 proposal in partnership with TBF and CSULB to fill CMP data gaps for the small northern Bay wetland lagoon systems, which was approved.

Additionally, a proposal led by SCC to the EPA Wetland Program Development Grant (including TBF and many other partners) to help take the next steps in standardizing regional wetland monitoring for Southern California was awarded. TBF has worked with partners in this effort to providesondes in and neighboring coastal lagoons. Data collection is ongoing. A more complete update will be available in FY25.

CCMP Action #13

Restore Ballona Wetlands Ecological Reserve to enhance wetland habitats and benefits to people

Long-term Environmental Results / Outcomes: Restore 577 acre Ballona Wetlands Ecological Reserve to improve wetland, transition, and upland habitats, functions, and services. Create public access trails and bike paths and encourage recreation and stewardship at the Ballona Wetlands Ecological Reserve.

Action #13 Next Steps / Project Name	Objectives	Status	Update
Support the lead agencies by contributing technical information to the Final Environmental Impact Statement and Report and permitting	To support the lead agencies in completing permitting and federal environmental review documents.	Ongoing	In response to a Los Angeles County Superior Court judge's ruling, CDFW decertified the EIR in September 2023, filed a Notice of Preparation for the revised draft EIR in October 2023. At the December 2023 SMBRC Governing Board meeting, CDFW staff provided an update on the project. At the June 2024 SMBRC Governing Board meeting, CDFW staff presented on the project including the current condition of the project site, project goals, alternatives presented in the EIR, the public input process since 2004, and the tentative timeline to revise the EIR including finding funds to complete the public review process and recertify the EIR. The draft revised EIR is anticipated to be available for public comment by spring 2025 and, depending on public input received, a recertified EIR by the end of 2025, and a reapproved project. Barring further litigation and dependent of available funding, CDFW hopes to implement initial project sequences in 2026.

Action #13 Next Steps / Project Name	Objectives	Status	Update
Continue community engagement and hand restoration within the Reserve with FBW	To restore 4 acres of degraded wetland and transition habitat at the Ballona Wetlands Ecological Reserve through community restoration.	Ongoing	TBF received a letter from CADFW dated March 3, 2024 stating their position that TBF could access and conduct monitoring in the ecological reserve without being in violation of the court order. TBF expects to conduct monitoring in the late spring early summer of 2025 to inform the extant condition of the community restoration site within the Ecological Reserve.
Support lead agencies to identify and obtain restoration funding.	To support lead agencies in finding funding to implement the Ballona Wetlands Restoration Project.	Ongoing	No activities occurred during this reporting period.

CCMP Action #14

Implement wildlife crossings and other innovative projects for benefits to wildlife and people

Long-term Environmental Results / Outcomes: Complete construction and implementation of two major freeway wildlife crossing projects to benefit wildlife, genetic diversity, and people.

Action #14 Next Steps / Project Name	Objectives	Status	Update
Support lead agencies to find funding for Phase 2 of the Liberty Canyon Wildlife Crossing project.	To implement Phase 2 of the Wallis Annenberg Wildlife Crossing, formerly the Liberty Canyon Wildlife Crossing Project, (Final/100% Design) in support of wildlife movement and safety and enhanced habitats.	Ongoing	Existing funding is anticipated to be sufficient. Additional funding needs will be confirmed after Stage 2 of the project (construction over Agoura Road) goes out to bid.
Support lead agencies in permitting and environmental review of Liberty Canyon Wildlife Crossing project.	To complete implementation of the Wallis Annenberg Wildlife Crossing in support of wildlife movement and safety and enhanced habitats	Ongoing	Construction of the crossing section over the 101 Freeway (Stage 1) continued and Caltrans completed the deck spanning the 101 Freeway and started constructing the vegetated sidewalls. Installation of soil over the deck is anticipated in early 2025. The design and engineering phase of the section over Agoura Road (Stage 2) also continued. Construction of Stage 2 is anticipated to begin in late 2024 or spring 2025. Completion of the entire wildlife crossing is estimated for late 2026.

CCMP Action #15

Implement projects that improve understanding and/or enhance endangered and threatened species populations (e.g., habitat improvements for Western Snowy Plover, genetic banking)

Long-term Environmental Results / Outcomes: Improved extent and condition of habitats for rare species throughout the Bay and its watershed.

Action #15 Next Steps / Project Name	Objectives	Status	Update
Support Southern California steelhead trout genetic banking study.	To conduct the Southern California steelhead trout genetic banking study to inform population recovery.	Ongoing	RCDSMM completed the genetic banking study and incorporating the findings in their Rescue, Reintroduction, and Genetic Conservation for Southern California Steelhead technical report (also see Action #10).
Support restoration and monitoring activities to benefit California red legged frog populations.	To improve riparian and stream habitats to support red legged frog populations.	Ongoing	NPS continued to implement the California Red-legged Frogs Project (funded by Prop 12) including egg mass surveys, translocations, and tadpole rearing (see additional narrative).

Action #15 Next Steps / Project Name	Objectives	Status	Update
Support projects within western snowy plover critical habitat.	To provide habitat and ecological benefits in support of the threatened western snowy plover and to restore critical habitat	Ongoing	Continued beach and dune restoration projects and communications with USFWS regarding projects and activities that may impact western snowy plovers and the El Segundo blue butterfly. Five acres or beach were delineated with a post and rope border, seeded, planted and drift wood was placed on site in mid-March 2024. For more detail see update in Action #6. Observations of western snowy plovers and the butterfly using the dune project areas is encouraging. Conversations with TBF staff, LA County Beaches and Harbors, and cities along the Santa Monica Bay to consider other areas along the coast for these types of protections are ongoing.

Action #15 Narrative:

SCC continued to manage implementation of the Reestablishment of California Red-Legged Frogs (CRLF) Project. The project builds on an earlier effort by National Park Service (NPS) to reintroduce the CRLF to the Santa Monica Mountains and consists of actions to establish self-sustaining populations of CRLF in Santa Monica Mountain streams and to address impacts from the Woolsey Fire. During this reporting period, the project was extended to February 2026 and is on track to complete at that time. NPS is currently rearing, releasing, and monitoring tadpoles.

See Action #3 in support of white abalone enhancement, Action #6 in support of western snowy plover and El Segundo blue butterfly habitat enhancement.

CCMP Action #16

Support the implementation of activities and projects such as those in Enhanced Watershed Management Plans (EWMPs) and activities identified in the TMDL implementation schedule to help achieve TMDL goals for 303d listed waterbodies in the Bay and its watershed

Long-term Environmental Results / Outcomes: Assist in achieving constituent percentage load reduction targets for waterbodies in the Santa Monica Bay according to TMDL compliance timeline.

Action #16 Next Steps / Project Name	Objectives	Status	Update
Continue to support implementation of projects identified in EWMPs and WMPs.	To allocate and oversee State Bond funding for implementation of projects identified in EWMPs and WMPs; support implementation of projects made available under the Safe Clean Water Program (SCWP).	Ongoing	Continued overseeing implementation of stormwater pollution reduction projects with multi-benefit solutions including two projects funded by Prop 12. Closed out four projects funded by Prop 84 (see also Action #17). See Action #43 for efforts related to SCWP support.
Continue implementation of LA IRWMP.	To facilitate and support coordination and allocation of IRWMP funding and implementation of projects identified in EWMPs and WMPs in the watershed.	Ongoing	No activities occurred during this reporting period.
Facilitate other sources of state funding.	To facilitate and support allocation of funding from other state bond measures such as Prop 1 and 65 for implementation of projects identified in EWMPs and WMPs in the watershed.	Ongoing	No activities occurred during this reporting period.

CCMP Action #17

Infiltrate, capture, and reuse stormwater and dry-weather runoff through green infrastructure, LID, and other multi-benefit projects and improve understanding of ecosystem services provided

Long-term Environmental Results / Outcomes: Assist in achieving constituent percentage load reduction targets for waterbodies in the Santa Monica Bay according to TMDL compliance timeline.

Action #17 Next Steps / Project Name	Objectives	Status	Update
Complete additional LID projects throughout the watershed.	To complete more LID projects throughout the watershed to improve flood protection, water quality, and provide additional benefits.	Ongoing	SMBRC staff executed the grant agreement for Culver City's Citywide Bioretention Basin Project funded by Prop 50. Construction of bioretention basins is expected to begin in 2025. SMBRC and SWRCB staff closed out four previously funded Prop 84 projects: • Westwood Neighborhood Greenway Project • Santa Monica Bay Catch Basin Insert Project • Culver Boulevard Urban Stormwater Project • Ladera Park Water Quality Enhancement Project SCC continued to oversee two Prop 12 projects: Monteith Park and View Park Green Alley Stormwater Improvements Project and Beach Cities Green Streets (see additional narrative).

Action #17 Narrative:
SMBRC and SWRCB staff closed out the following previously funded Prop 84 projects:

Westwood Neighborhood Greenway Project: SMBRC staff worked with LASAN to close out the Westwood Neighborhood Greenway Project, which will clean and conserve water while providing native habitat for wildlife and opportunities for public engagement. This project aims to improve water quality by diverting and capturing runoff from 2,400 acres of drainage area into two bioswales. The project received $2.2 million in Prop 84 funds. Construction was completed in September 2020. During this reporting period, SMBRC and SWRCB completed closing out the project in July 2024.

Santa Monica Bay Catch Basin Insert Project: The Santa Monica Bay Catch Basin Insert Project received $589,386 in Prop 84 funds. The project retrofitted and installed 1,112 connector pipe screen (CPS) units in all suitable catch basins across the Palos Verdes Peninsula (PVP) watershed draining to Santa Monica Bay, spanning approximately 14 sq. miles. This project aims to help mitigate trash and marine debris and assist cities in the PVP watershed in implementing the requirements for stormwater permits. Construction was completed in 2020 and the project was closed out in December 2023.

Culver Boulevard Realignment and Urban Stormwater Project: SMBRC staff continued to coordinate with SWRCB staff in overseeing implementation of this stormwater pollution reduction project. This project, carried out by the City of Culver City, consists of capturing and treating dry-weather runoff and storm runoff from a drainage area of 800 acres for local irrigation and using a below-ground infiltration basin to recharge groundwater. Construction was completed in May 2022. During this reporting period, the final invoice was paid and SWRCB staff sent the deliverables completion letter. The grantee is required to complete quarterly reporting on Operations and Maintenance. The first report was submitted in this reporting period and the next one is due by November 2024.

Ladera Park Water Quality Enhancement Project: SMBRC staff continued to coordinate with SWRCB staff in overseeing implementation of the Ladera Park Water Quality Enhancement Project by the Los Angeles County Department of Public Works.This project aims to treat, store, and infiltrate runoff from a 110 acre tributary area through a combination of pre-treatment, retention, and infiltration facilities. Construction of the stormwater elements was completed in July 2021. During this reporting period, SWRCB staff closed out the project.

SCC continued oversee implementation of the following previously funded Prop 12 projects:

Monteith Park and View Park Green Alley Stormwater Capture: The project consists of constructing an infiltration system and recreational and aesthetic improvements at Monteith Park and at View Park alley. Stormwater will be diverted into the infiltration system and be allowed to percolate into the ground. The project will prevent potentially polluted runoff from being discharged downstream thus improving the water quality in the Ballona Creek Watershed. Construction began in August 2023. The project was completed in March 2024.

Beach Cities Green Streets Project: This project consists of designing and constructing Green Street infrastructure across the cities of Torrance, Redondo Beach, Hermosa Beach, and Manhattan Beach to help meet water quality objectives set for the Santa Monica Bay beaches. The Beach Cities will retrofit existing impervious areas within the public parkways and right-of-ways using green infrastructure technologies such as porous pavement, catch basin trash screens, bio-filtration / bio-retention systems and dry wells. Beach Cities is still waiting for approval to start construction.

Paramount Ranch Storm Flow and Sediment Reduction: The proposed project was canceled due to Woolsey Fire impacts and the Prop 12 funds were reallocated to the Topanga Lagoon Restoration Project and the Palos Verdes Restoration Reef Project.

CCMP Action #18

Support installation and monitoring of additional sewage and bilge pumpout facilities in Southern California harbors

Long-term Environmental Results / Outcomes: Meet 86-100% annual average usability percentage (based on analysis of equipment performance) for all publicly funded sewage pumpout stations throughout Southern California.

Action #18 Next Steps / Project Name	Objectives	Status	Update
Continue quarterly monitoring of public sewage pumpout stations.	To assess the condition of public sewage pumpout and dump stations.	Ongoing	Per statewide directive, as of January 2024 monitoring is now occurring biannually and continues to include dump stations. In October 2023, a monitoring event was conducted across 73 public sewage pumpouts and seven dump stations spanning 14 Southern California harbors. In November 2023, TBF finalized one corresponding monitoring report. In December 2023, TBF and SFEP finalized the Clean Vessel Act (CVA) Pumpout and Dump Station Performance Report 2023 and published it on December 26, 2023. By December 31, 2023, a second phase of the sewage volume study's methodological implementation was completed, and a contractor assessed the study's data. In August 2024, TBF and partner Morro Bay National Estuary Program (MBNEP) conducted another monitoring event at 71 public sewage pumpouts and seven dump stations across 14 Southern California harbors. In September 2024, TBF finalized its corresponding monitoring summary report.

Action #18 Next Steps / Project Name	Objectives	Status	Update
			Throughout this annual time period, TBF continued to manage the Pumpout Nav app's user-submitted problem reports and follow up with the appropriate sewage disposal facility's stakeholder to flag the alert and unit's non-operation.
Support installation of sewage pumpouts in Marina del Rey or King Harbor.	To provide the boating community with additional pollution prevention resources.	Ongoing	No activities occurred during this reporting period.
Support installation of bilge pumpouts in Marina del Rey or King Harbor.	To support installation of bilge pumpouts.	Ongoing	No activities occurred during this reporting period.
Support efforts of neighboring harbors in installation of bilge and sewage pumpouts in Southern California.	To provide the boating community with additional pollution prevention resources.	Ongoing	TBF continued to champion DBW CVA Installation & Operations/Maintenance grants across Southern California. As of September 2024, Long Beach is in the process of seeking to install two additional sewage pumpout units and a facility in Morro Bay is in progress to install one additional sewage pumpout unit.

Action #18 Narrative:

TBF's Boater Education Program works to enhance stewardship and reduce ocean pollution generated by recreational boating activities. A key pollutant of focus is boat sewage. Discharging sewage overboard causes severe environmental and human health problems, especially in a state with more than four million recreational boaters. To reduce the negative impacts of discharging sewage overboard, all boaters are encouraged to use sewage management facilities including pumpout stations, mobile pumpout services, marine composting toilets, dump stations, and floating restrooms. To decrease potential sewage discharged into waterways, TBF's Boater Education Program monitors public boat sewage disposal facilities to ensure Southern California's pumpout and dump station network is operational, well-maintained, and accessible to recreational boaters. During monitoring events, the free app Pumpout Nav is utilized for surveying. The app helps to provide technical assistance to facility managers and supports maintenance needs and equipment replacements such as nozzles and banjo valves. Monitoring is supported by the federal Clean Vessel Act Education and Outreach grant administered through the California State Parks Division of Boating and Waterways. During this reporting period, monitoring of pumpout units (fall 2023 and summer 2024) found an average 91%% operability (based on analysis of equipment's functionality), and 100% of the pumpout units tested with biodegradable dye tablets were leak-free. Additionally, during this annual period, monitoring of dump stations (fall 2023 and summer 2024) resulted in 72% operability (based on analysis of the equipment's functionality).

CCMP Action #20

Support elimination of non-point pollution from onsite wastewater treatment systems

Long-term Environmental Results / Outcomes: Achieve level of performance and water quality protection set by state policy for all OWDS in the Santa Monica Bay watershed.

Action #20 Next Steps / Project Name	Objectives	Status	Update
Complete sewer connections of residential properties to the centralized wastewater treatment facility in the Malibu Civic Center area.	To improve water quality and reduce nutrient pollution through connecting residential properties to the Civic Center Water Treatment Facility in Malibu.	Ongoing	Construction of the treatment plant and the collection and distribution systems to nearby parcels (Phase 1) was completed in October 2018. Phase 2 and 3 consist of expanding property connections. A significant Native American resource was discovered in the Malibu Civic Center Area in 2022 and 2023, requiring redrawing of the Phase 2 and Phase 3 boundaries to avoid disruption to the resource; redesign of the Phase 2 wastewater collection, transmission, and treatment system; and changing the schedule for completing the Phase 2 tasks. The boundaries of Phase 2 and Phase 3 were revised. Phase 2's completion date was extended to 1 February 2029, and Phase 3 to 31 December 2032.

Action #20 Next Steps / Project Name	Objectives	Status	Update
Continue the coordinated OWTS identification, permitting, and inspection system between the LARWQCB and the cities and counties in the watershed.	To continue to support efforts by the LARWQCB and cities and counties to achieve full implementation of the statewide policy for siting design, operation, and maintenance of OWTSs.	Ongoing	LARWQCB staff continued inspections at municipal and industrial facilities and issuing waste discharge permits as needed.

CCMP Action #21

Support policies that promote reuse, recycling, and advanced wastewater treatment to reduce reliance on imported water sources

Long-term Environmental Results / Outcomes: Help reduce dependence of the Los Angeles region on imported water and lower the percentage of imported water use by water agencies; work towards meeting the State's goals for recycled water in the Recycled Water Policy.

Action #21 Next Steps / Project Name	Objectives	Status	Update
Support recycled wastewater efforts by JWPCP of LACSD.	To support expansion of wastewater effluent recycling by JWPCP of LACSD.	Ongoing	The demonstration facility of MWD and LACSD's Pure Water Southern California project was renamed as the Grace F. Napolitano Pure Water Southern California Innovation Center in November 2023. In May 2024, the project was awarded $99.2 million from US Bureau of Reclamation to advance design work and improvements to existing infrastructure needed for the project. The draft EIR to implement the regional recycled water program and construct and operate a new Advanced Water Purification facility is anticipated to be released in 2025 and consideration of certification of the final EIR in 2025-2026. Construction could begin as soon as 2026 and the first water delivered in 2032. The LA County Board of Supervisors adopted the LA County Water Plan in December 2023 and Supervisor Horvath convened a water resilience summit in April 2024. The plan articulates a shared, inclusive, regional path forward to sustainably and equitably achieve safe, clean, and reliable water

Action #21 Next Steps / Project Name	Objectives	Status	Update
			resources for LA County. The plan focuses on four focal areas where new or additional regional collaboration can add value: regional water supply reliability, groundwater management and quality, at-risk resilience and drinking water equity, and watershed sediment management. LA County is forming task forces to guide implementation of the plan.
Hyperion Treatment Plant to implement pilot project for recycled water.	To support timely completion of Hyperion's pilot project.	Ongoing	In spring 2024, LASAN received $5 million from US Bureau of Reclamation to support Hyperion's recycled water planning efforts. LASAN's Hyperion 2035 and LADWP's Operation NEXT merged under the new name Pure Water Los Angeles. The Hyperion Program Implementation Plan for Pure Water Los Angeles demonstrates the feasibility of transforming Hyperion to an advanced water purification facility for 100% water recycling. The final draft of the plan was completed with final review anticipated to be completed by the end of 2024. Construction of the Hyperion Advanced Water Purification Facility was completed in 2023 and permitting issues were resolved. Startup and commissioning is anticipated in the late fall 2024, and delivery of recycled water for LAX and Hyperion is anticipated in early 2025. The construction of the Hyperion MBR Pilot Facility was completed in summer 2024. Startup and commissioning is anticipated by spring 2025

Action #21 Next Steps / Project Name	Objectives	Status	Update
			pending the construction of associated odor control equipment.
Support recycled wastewater efforts by Tapia Water Reclamation Facility and others through the expansion of distribution system and regional partnerships.	To support expansion of recycled wastewater distribution and reuse.	Ongoing	The Pure Water Project (funded by Prop12) continued to apply for additional funding. In March 2024, the design-build firm was selected, bringing the project into the full design phase with commissioning of the full-scale facility slated for 2027. The project was awarded up to $44 million by the Metropolitan Water District of Southern California's Local Resource Plan to operate the future facility over 25 years.

CCMP Action #22

Support policies and implement projects that divert landfill waste and encourage composting to improve water quality and lower greenhouse gas emissions

Long-term Environmental Results / Outcomes: Establish 10 local community-based compost hubs and divert food waste from 20 food service establishments; distribute compost among community support agriculture, gardens, and restoration projects.

Action #22 Next Steps / Project Name	Objectives	Status	Update
Support continuation of Table to Farm compost hubs.	To reduce food waste being sent to landfills, compost food waste, and apply compost to urban gardens to grow food.	Ongoing	Continued Table to Farm community garden maintenance by promoting Environmental Charter Schools (ECS) Inglewood's monthly garden day volunteer events. During this time-period, TBF and ECS continued the Table to Farm Revitalization project by co-producing three educational community workshops and co-implementing three Table to Farm community compost systems, recycling over 932 pounds of food scraps. TBF attended three ECS outreach events to connect on the initiative and give out food scrap collection buckets and distributed over 20 native plants. Furthermore, TBF procured and co-planted eight fruit trees in ECS Inglewood's parkway and 15 at ECS Gardena (middle school) parkway.

Action #22 Next Steps / Project Name	Objectives	Status	Update
Support expansion, outreach and implementation for residential and commercial organics collection and recycling.	To support greenhouse gas reduction by way of residential and commercial organics recycling implementation by city and state regulatory agencies.	Ongoing	LASAN continued to implement OrganicsLA, a curbside organics recycling program for residents of the City of Los Angeles. The program is in response to the statewide mandate to reduce the disposal of organic waste to and associated greenhouse gas emissions from landfills by 75% by 2025.

Action #22 Narrative:

Table to Farm, initiated in 2016, is a partnership between Environmental Charter Schools (ECS), TBF, and the community-at-large working collaboratively to reduce greenhouse gas emissions by recycling organic food waste and growing local produce. Between 2016 and 2019, three compost hubs were established at ECS Inglewood, Gardena, and Lawndale. In 2020, a community garden was established outside of ECS Inglewood's gates. The garden continues to thrive and has monthly volunteer events to support the upkeep of planting, harvesting, and maintenance. During this reporting period, together with ECS, we continued to activate community composting participation across their three campuses and connected with community members through in-depth workshops related to composting, gardening, green careers, and more. In addition to delivering on revitalizing three compost systems, TBF procured fruit trees for planting alongside two ECS middle school campuses in Inglewood and Gardena.

CCMP Action #23

Facilitate development and adoption of natural stream and riparian protection policies, including restoration

Long-term Environmental Results / Outcomes: Assist a minimum of one municipality in the watershed in the adoption of a stream protection policy.

Action #23 Next Steps / Project Name	Objectives	Status	Update
* Complete and adopt LA City stream protection policy	To prevent further stream hardening and protect, preserve, and restore riparian habitats, stream biodiversity, and wildlife corridors associated with streams and further implementation of the LA Countywide Sustainability Plan.	Not started	No activities occurred during this reporting period.

CCMP Action #24

Support the inclusion of coastal resilience through natural means and softscape measures into local coastal plan updates

Long-term Environmental Results / Outcomes: Inclusion of climate change adaptation measures in at least half of the 12 local coastal jurisdictions general plans (or equivalent) amendments.

Action #24 Next Steps / Project Name	Objectives	Status	Update
Attend stakeholder meetings for local cities LCP development / updates / implementation.	To continue involvement in stakeholder meetings for local cities LCP development and implementation.	Ongoing	No activities occurred during this reporting period.
Opportunistically assist cities in the development of sea level rise vulnerability studies.	To identify and partner with cities to develop sea level rise vulnerability studies to strategically recommend coastal resilience strategies.	Ongoing	No activities occurred during this reporting period.
Use data collected from beach restoration “soft-scape” projects to inform and assist LCP development.	To provide science-based data to inform LCP development and support beach restoration.	Ongoing	No activities occurred during this reporting period.

CCMP Action #25

Support best management practices, increased public access, and improved public facilities for beaches and other public trail systems to support both enhanced natural resources values and benefits to people

Long-term Environmental Results / Outcomes: Improve access to the coast and enhance coastal experiences through linking and expanding the California Coastal Trail; develop and build partnerships that support the implementation of natural infrastructure throughout the Bay watersheds.

Action #25 Next Steps / Project Name	Objectives	Status	Update
Support implementation of identified actions within plans such as the LACDBH Sea Level Rise Vulnerability Assessment.	To implement adaptation projects that will improve coastal resilience.	Ongoing	TBF and partners have implemented numerous sand dune restoration projects along several beaches described in the LACDBH Sea Level Rise Vulnerability Assessment. TBF staff are informing and testing a standardized approach to monitoring across these sites that may benefit the strategic development of new and augmentation of existing projects. These sand dunes projects are identified as 'soft solutions' in the *Assessment*. The development of sand dunes can enhance natural resource values and benefit people. In December 2023, LACDBH completed the Los Angeles County Coastal Resilience Study, which builds upon its 2016 Sea Level Rise Vulnerability Assessment and focuses on several prototype sites to demonstrate how the latest techniques can be implemented to protect and enhance coastal public access as sea levels rise and erosion occurs. LACDBH held stakeholder meetings in February

Action #25 Next Steps / Project Name	Objectives	Status	Update
			and September 2024 to share recent planning activities, project priorities to expand climate resilience across LA County's coastline, and the proposed living shoreline projects. LACDBH is anticipated to present on the study at the December 2024 SMBRC Governing Board meeting.
Continue to advise BMPs for beaches that promote habitat condition improvements and support for unique species.	To build upon and continue partnerships with groups and agencies to benefit beach habitat conditions.	Ongoing	No activities occurred during this reporting period.

CCMP Action #27

Produce educational resources and materials and conduct outreach to improve best management practices for Southern California boaters (e.g., fuel, sewage, and hazardous waste management)

Long-term Environmental Results / Outcomes: Increase understanding and adoption of sustainable boating habits to reduce boating related pollutants entering waterways (e.g., boat sewage, used oil, antifreeze, bilge water, batteries, copper, trash, and aquatic invasive species).

Action #27 Next Steps / Project Name	Objectives	Status	Update
Produce educational materials.	To produce educational materials to increase awareness of boating best management practices to boaters.	Ongoing	TBF in partnership with CDBW and CCC's California Boating Clean and Green Program (BCGP), produced and distributed the winter 2023, spring 2023, and summer 2024 *Changing Tide* newsletters. Between October and December 2023, TBF produced the printed and digital 2024 Southern California Tide Calendars (in Spanish and English) and continued to promote the Dockwalker social media toolkit, also in Spanish and English. In January 2024, the 2024 Clean Boater Questionnaire was generated and distributed for virtual engagement. Between January and August 2024, TBF coordinated the assembly and distribution of more than 2,800 California Boater Kits. In addition, TBF co-produced three videos with CDBW and CCC's BCGP regarding informational items found in the California Boater Kit. TBF printed instructional bilingual (English/Spanish) sewage dump station stickers for distribution to facilities lacking clear instructions. Lastly, TBF applied for the CDBW 2025 CVA Education and Outreach Grant.

Action #27 Next Steps / Project Name	Objectives	Status	Update
Conduct outreach.	To conduct outreach to increase awareness of boating best management practices to boaters.	Ongoing	TBF co-presented on program initiatives to stakeholders with SFEP at the November 2023 California Clean Boating Network meeting, co-produced the 2023 Boater Kit Feedback Report regarding boaters' assessment of the pollution prevention toolkit (with State Parks and CCC), and co-produced the 2023 California Boater Kit Recipient Questionnaire Report to assess boaters' environmental knowledge (with State Parks and CCC BCGP). In December 2023, TBF utilized social media to target and amplify outreach, reaching 331,221 individuals. In December 2023, TBF was awarded the 2024 CVA Education and Outreach Grant. Between January and August 2024, in partnership with CDBW and CCC's California BCGP, TBF distributed over 2,800 of the 2024 California Boater Kits to Southern California Dockwalkers for peer-to-peer direct outreach Between March and June 2024, TBF promoted and co-hosted six Dockwalker Trainings with Stake Parks and CCC's BCGP that garnered 107 total attendees. In August 2024, State Parks and CCC's BCGP and TBF co-hosted a Dockwalker Lunch and Learn virtual event to connect with partner Dockwalkers and share stories around recent community engagement, over 20 individuals attended.

Action #27 Next Steps / Project Name	Objectives	Status	Update
			In August 2024, TBF presented its 2023 community-based social marketing pilot project findings at the States Organization for Boating Access Education and Training Symposium in Wilmington, North Carolina.
Manage Pumpout Nav app.	Increase proper disposal of boater sewage.	Ongoing	Continued to manage the Pumpout Nav app via ensuring pumpout and dump station status are accurate and responding to problems reported by Southern California boaters. In November 2023, TBF, SFEP, and Stake Parks and CCC finalized analysis of co-initiated focus group research with consultant Action Research to determine Pumpout Nav's effectiveness for boaters, gauging user-experience and evaluating the utility of the educational resources provided in the app. In February 2024 TBF initiated a contract with developer Ecom to oversee the app's California maintenance. Between March and September 2024 TBF met monthly with Ecom to collaborate and oversee the app's needs and development.
Research public engagement metrics and specific engagement tools on reduction of pollutants to waterways.	To optimize public engagement resources to increase impact of pollutant reduction strategies to waterways.	Ongoing	Reviewed, analyzed, and finalized a report in October 2023 with consultant Action Research for 2023's community-based social marketing pilot on influencing stationary sewage pumpout use in Marina del Rey.

Action #27 Next Steps / Project Name	Objectives	Status	Update
Find funding and implement fuel spill prevention tools and outreach.	To reduce fuel and oil pollution from the boating community.	Ongoing	From January to August 2024, TBF distributed over 2,800 (2024) Boater Kits, each with a fuel bib and two oil absorbent sheets as well as harbor maps with oil recycling information, and more targeted oil pollutant information for Southern California boaters in partnership with BCGP. TBF also co-hosted six Dockwalker trainings between March and June 2024 conducted in partnership with State Parks and CCC, which additionally includes information on oil recycling and oil pollution best management practices.
Support and develop marine debris reduction and cleanup efforts.	To reduce fishing line marine debris from the angling community.	Ongoing	TBF continued to promote its instruction collateral for do-it-yourself fishing line recycling instructions within the Dockwalker Social Media Toolkit. TBF produced the 2024 Southern California Tide Calendars (in English and Spanish) which include harbor maps featuring fishing line recycling station locations. In all 3,000 of these information tide calendar booklets were distributed to raise awareness around environmental resources such as fishing line recycling stations and clean boating.

Action #27 Narrative:

With four million boaters, California has one of the highest levels of recreational boating in the United States. This large volume of recreational activity in our waterways can come at a cost. Boat-based pollutants such as sewage, used oil, household hazardous waste, marine debris, aquatic invasive species, and emerging contaminants impair our waterways.

TBF's Boater Education Program was initiated in 1996 with a Clean Vessel Act Education and Outreach grant. The California State Parks Division of Boating and Waterways Clean Vessel Act Program and the Federal Clean Vessel Act Grant Program through the Sport Fish Restoration Program continues to support this initiative. TBF's Boater Education Program provides recreational boaters with pollution prevention tools and resources. This initiative is dedicated to reducing boat-based ocean pollution and fostering stewardship by utilizing collaboration, direct outreach, and technical assistance. Hundreds of thousands of boaters have been engaged using an adaptable strategy based on 1) the support for the provision of sewage disposal facilities like pumpout and dump stations; 2) community-based social marketing and 3) the creation of tools such as the Pumpout Nav app, *Southern California Boater's Guide*, *When Nature Calls* sewage guide, California Boater Kits, surveys, questionnaires, educational videos, and more with key partners. A collaborative partnership approach is utilized, amplifying clean boating messages via initiatives like the Dockwalker Program, California Clean Boating Network, and strong relationships with the boating public, marinas, yacht clubs, and more. During this annual reporting period, TBF finalized 2023 deliverables from focus group research to community-based social marketing reporting, and initiated implementation of its many 2024 projects from California Boater Kit engagement and distribution, to co-hosting Dockwalker trainings, and beyond.

CCMP Action #28

Support efforts of disadvantaged communities to achieve healthy habitats, implement green infrastructure, and reduce pollution

Long-term Environmental Results / Outcomes: Help disadvantaged communities to achieve healthy habitats through restoration and pollution reduction projects.

Action #28 Next Steps / Project Name	Objectives	Status	Update
Support IRWMP and similar programs to preferentially invest in disadvantaged communities.	To support green infrastructure projects for IRWMP and Safe Clean Water Program funding in disadvantaged communities.	Ongoing	No activities occurred during this reporting period.

CCMP Action #29

Reduce health risks of swimming in contaminated waters and consuming contaminated seafoods through more comprehensive source control and, advanced monitoring and public notification

Long-term Environmental Results / Outcomes: Achieve no elevated health risks associated with swimming and seafood consumption through source control, monitoring, and public notification.

Action #29 Next Steps / Project Name	Objectives	Status	Update
Continue implementation and improvement of beach water quality monitoring and reporting system.	To support SWRCB's collection and coordination of bacterial sampling results for beach water quality monitoring required under AB 411; to support Heal the Bay's efforts to standardize beach water quality monitoring and effectively disseminate the information to the public.	Ongoing	SWRCB continued maintaining the Safe to Swim Interactive Map, which displays bacterial sampling data for coastal and inland monitoring locations, and responding to user inquiries. Heal the Bay released the 34th annual Beach and River Report Cards in July 2024. The Beach Report Card issued A-to-F grades to more than 700 beaches along the Pacific Coast based on levels of bacterial pollution in 2023-2024. The report found that 81% of LA County beaches earned A and B grades during summer dry weather, but lower than the historical average. Sixty-six percent of beaches achieved A and B grades during wet weather, significantly better than the usual average of 39%. Winter dry grades significantly declined, with only 37% of beaches receiving A and B grades, greatly impacted by this winter's severe rainstorms. Persistent low-grade beaches included Marina del Rey Mother's Beach and Santa Monica Pier.

Action #29 Next Steps / Project Name	Objectives	Status	Update
			The River Report Card ranks freshwater summer recreation areas in LA County based on levels of fecal indicator bacteria. Twenty-two (or 64%) of 35 sites received A+, A or B grades for summer 2023.
Maintain and enhance the existing seafood contamination education and enforcement program.	To support and facilitate the continuation and enhancement of the existing seafood contamination education and enforcement program.	Ongoing	FCEC met in November 2023 to receive updates on outreach and enforcement activities and discuss the FCEC website updates and outreach material redesign. In June 2024, FCEC published a newsletter highlighting educational and outreach efforts to limit the health risk to the public from consumption of contaminated fish. The newsletter reported that over 3,100 anglers were interviewed, 64% of which were aware of the contamination. In September 2024, the final Third Five-Year Review for Palos Verdes Shelf Superfund Site was released to review information and determine if the interim remedy is and will continue to be protective of human health and the environment. The report found that the interim remedy is protective in the short-term. However, long-term protective actions are needed: Sediment cleanup levels need to be reevaluated based on revised fish-sediment relationships, the Feasibility Study needs to be completed, and a Record of Decision needs to be finalized and any additional remedial components of the selected remedy, employed. The next FCEC meeting is scheduled for December 2024.

Action #29 Next Steps / Project Name	Objectives	Status	Update
			In January 2024, USEPA held a meeting of the Palos Verdes Shelf Technical Information Exchange Group (PVSTIEG) to discuss the Second Monitored Natural Recovery Study data from sediment, water, and fish tissue sampling; trend analysis; and challenges. In September 2024, the Final Second Monitored Natural Recovery Study Report was released. The next PVSTIEG meeting is scheduled for December 2024. The draft Feasibility Study is anticipated to be released in summer 2025. USC Sea Grant and California Sea Grant continued to oversee implementation of four projects funded by SWRCB that aim to improve understanding of the human health and ecological risk due to deep ocean DDT+ deposits (i.e., ocean disposal sites, other coastal sources, and DDT processes) in the Southern California Bight. The second community meeting on the DDT contamination is scheduled for October 25, 2024.

CCMP Action #30

Conduct community engagement, education, and inform policies related to water conservation and reuse to reduce water demand and reliance on imported sources

Long-term Environmental Results / Outcomes: Help reduce dependence of the Los Angeles region on imported water and lower the percentage of imported water use by water agencies.

Action #30 Next Steps / Project Name	Objectives	Status	Update
Link water conservation with outreach events and social media.	To opportunistically incorporate water conservation topics during outreach events and on social media.	Ongoing	No activities occurred during this reporting period.
Educate, engage communities, and provide resources that promote the importance of native plants.	To promote the use of drought tolerant native plants.	Ongoing	20 native plants were distributed to attendees at ECS Inglewood's Harvest Festival in November 2023.
Support efforts by water agencies to promote water conservation and reuse including dissemination of materials.	To promote current information on water conservation and reuse efforts developed by water agencies.	Ongoing	No activities occurred during this reporting period.

CCMP Action #31

Achieve water quality benefits by businesses through community engagement and implementation of best management practices

Long-term Environmental Results / Outcomes: Achieve Clean Bay Certified adoption by 100% of Bay watershed cities; develop and distribute BMP materials to food service establishments and marine fuel docks.

Action #31 Next Steps / Project Name	Objectives	Status	Update
Distribute restaurant engagement tools.	To reduce pollution from restaurants.	Ongoing	See Action #32 for efforts related to restaurant source reduction.

CCMP Action #32

Reduce marine debris by supporting bans on single-use items, conducting outreach, and participating in trash reduction programs

Long-term Environmental Results / Outcomes: Implement ban on single-use disposable plastics in Los Angeles County and 100% of cities throughout watershed; engage 30 food service establishments as ReThink Disposable participants.

Action #32 Next Steps / Project Name	Objectives	Status	Update
Find funding for and continue ReThink Disposable LA.	To contribute to source reduction of single-use disposable items from food service establishments.	Ongoing	Supported LASAN's Reusable Foodware Microgrant Program (RFMP) with Clean Water Action and APTIM by conducting source reduction needs assessments to reduce single-use disposable food and beverageware for on-site dining at food service establishments within City of LA, prioritizing Boyle Heights, Wilmington, Pacoima, and South LA. Following the technical assistance and delivered reusable foodware, food service participants were trained on reusable implementation and corresponding best management practices. LASAN's RFMP pilot concluded in July 2024, in total 120 food service establishments participated and converted to reuse.
Support municipality bans of polystyrene, non-recyclable plastics, and single use items.	To contribute to source reduction of polystyrene,non-recyclable plastics, and single use items	Ongoing	Continued to participate in the Reusable LA coalition and continued to promote Reusable LA's "Hold the Plastic Please" outreach campaign; contributed support comment to LASAN Draft Program Environmental Impact Report (April 2024) for its Comprehensive Plastic Reduction Program; contributed signatory in September 2024 to support

Action #32 Next Steps / Project Name	Objectives	Status	Update
			its Final Program Environmental Impact Report; partnered with the 5 Gyres Institute and its Plastic-Free Parks campaign to mobilize volunteers around the country to document plastic pollution in U.S. National Parks, view 5 Gyres' Plastic-Free Reports 2023 report for details; At the June 2024 SMBRC Governing Board meeting, LA County Public Works presented on the Ballona Creek Trash Interceptor pilot project, a fully automated, solar-powered trash collection device designed to capture floating plastic, trash and litter before they reach the ocean. In March 2024, the Interceptor offloaded nearly 8 tons of trash and debris. Since its launch in October 2022, the Interceptor has prevented more than 117 tons of trash and debris from reaching Santa Monica Bay and local beaches. The pilot project ended April 2024. At the August 2024 SMBRC Governing Board meeting, LASAN presented on the Draft Program EIR pursuant to CEQA for the Comprehensive Plastics Reduction Program. The Program would involve adopting measures to reduce or eliminate the production and use of single-use plastic products ("upstream" measures) and encourage reuse of other items to the extent feasible, thereby reducing or eliminating the input of single-use plastics into the City's waste stream and the

Action #32 Next Steps / Project Name	Objectives	Status	Update
			environment and reducing the aesthetic, environmental, and human health impacts of single-use plastics. The SMBRC Executive Committee reviewed a draft resolution at their September meeting in support of the City of LA's efforts to address plastic pollution, scheduled to be considered for approval at the October Governing Board meeting. In September 2024, LASAN released the Final Draft PEIR. On 1 October 2024, the LA City Council certified the PEIR and directed policy development for the following upstream measures: requiring reusable foodware for dine-in services citywide, requiring recyclable/compostable takeout foodware products citywide, and ban of single-use printer cartridges. LASAN was also instructed to report back on the development of a pilot program for reusable/ returnable takeout foodware. Heal the Bay served as the LA County coordinator for Coastal Cleanup Day in September 2024, resulting in 6,983 volunteers across 62 sites in the county and removing 19,209.47 pounds of trash from the coastline and waterways.

CCMP Action #33

Monitor microplastics (including microfibers) and other marine debris in the Bay and coastal environments to inform management actions

Long-term Environmental Results / Outcomes: Use microplastics data analyses and identified trends to inform source reduction management strategies in the Bay.

Action #33 Next Steps / Project Name	Objectives	Status	Update
Complete the development of a microplastics in sediment extraction and analysis method.	To complete the development of a microplastics in sediment extraction and analysis method.	Ongoing	Methods to conduct this work have been developed by other parties. At this time, no further investment by the SMBNEP is deemed necessary.
Publish a manuscript on the results of the Bay studies.	To assist in characterizing microplastics in the Bay and nearshore environment and disseminate results.	Ongoing	No activities occurred during this reporting period.
Conduct additional studies to inform the transport, accumulation, and fate of microplastics in our marine and nearshore environments.	To continue to collect data to inform the regional fate and transport model of microplastics in the nearshore marine environment.	Ongoing	No activities occurred during this reporting period.

CCMP Action #34

Improve understanding of emerging contaminants through monitoring and research to inform source control and reduce loading (e.g., fire retardants), especially in the context of climate change

Long-term Environmental Results / Outcomes: Reduce impacts of emerging contaminants on key habitats in the Bay and its watersheds.

Action #34 Next Steps / Project Name	Objectives	Status	Update
Improve analytical methodology and standardize monitoring of more emerging contaminants.	To improve availability, sensitivity, and repeatability of analytical methods for emerging contaminants to improve data quality for monitoring emerging contaminants in aquatic ecosystems.	Ongoing	No activities occurred during this reporting period.

CCMP Action #35

Monitor and inform management actions for Harmful Algal Blooms (HABs)

Long-term Environmental Results / Outcomes: Reduce prevalence of HABs in the Bay and its waterbodies as measured by the Comprehensive Monitoring Program.

Action #35 Next Steps / Project Name	Objectives	Status	Update
Continue to support research and monitoring efforts for HABs, especially in context of climate change and CMP implementation.	To support research and monitoring efforts that fill data gaps in our region for HAB occurrences, frequencies, causes, and impacts, especially in the context of climate change.	Ongoing	HAB related research was furthered through CRI as an former intern conducted a capstone project analyzing samples collected from the nearshore in Santa Monica Bay. This work is based upon a QAPP finalized in March 2023. A final product based upon the analysis was completed in May2024.
Conduct monthly maintenance of SCCOOS shore station at Santa Monica Pier and seek support for additional sensors.	To collect data on oceanographic conditions in the nearshore environment and potentially inform long-term changes related to environmental factors, including climate change.	Ongoing	No activities reported by partners during this period.

Action #35 Narrative:

A LMU student conducted her capstone project in May 2024 utilizing the methods developed in the HAB QAPP, authored by Dr. Bratcher-Covino. The data were used to inform the effects of nutrients, pH, and temperature on the distribution of five species of HAB forming algae (four dinoflagellates, and one diatom). The samples were taken from Mother's Beach, Marina Del Rey, near the mouth of Ballona Creek, and from the shore at Playa Del Rey.

CCMP Action #36

Monitor chemical, physical, and biological characteristics in the Bay to inform climate change impacts such as ocean acidification

Long-term Environmental Results / Outcomes: Development and implementation of adaptation strategy addressing impacts of ocean acidification in the Bay.

Action #36 Next Steps / Project Name	Objectives	Status	Update
Support inclusion of climate change impacts into CMP, especially through new models and data.	To implement monitoring associated with new climate change indicators in the CMP; to seek funding and implement the CMP; to complete and release the State of the Bay Report.	Ongoing	The State of the Bay webpages went live in December 2023. The TAC, SMBRC, and TBF staff are planning to discuss templates for the State of the Bay Report chapters, the first of which is due November 2025, at the December 2024 TAC meeting. SMBRC and TBF staff also continue to draft habitat highlights which will provide updates to the public on relevant work that's underway across the seven habitats while the more comprehensive habitat chapters are being developed.
Convene technical advisors to prioritize actions based on information from CMP.	To prioritize monitoring and data collection needs based on the revised CMP for major habitats in the Bay and implement the prioritized monitoring protocols.	Ongoing	SMBRC staff continued to coordinate with DFA and awardees to execute grant agreements and oversee five approved projects that fill data gaps identified in the CMP (see additional narrative).

Action #36 Narrative:

SMBRC Proposition 50 Grant Program: Five of the six approved projects fill many data gaps identified in the CMP and cover a range of habitats in the Santa Monica Bay and its watersheds including chaparral, riparian, wetlands, rocky reefs, rocky intertidal, and soft bottom (see Action #17 for Culver City's Citywide Bioretention Basin Project funded by Prop 50). SMBRC staff continue to coordinate with DFA and awardees to oversee the following projects during this reporting period:

- Assessment of the Nearshore Rocky Reef Resources of Santa Monica Bay (Occidental College): The grantee completed the Year 1 Annual Summary in November 2023. The grant agreement was amended in May 2023 to extend the project completion date to May 2026 and allow for reimbursement of data collected prior to approval of the QAPP, which were previously ineligible. The grantee finalized a shapefile outlining all reefs at Palos Verdes, attended trainings, and initiated Year 2 of surveys in May 2024. As of August 2024, the dive team collectively collected data at 18 of 68 sites in Year 2 surveys.

- Support of Comprehensive Monitoring Program Wetlands Evaluation through Monitoring and Assessment of Santa Monica Bay Estuaries (SCCWRP): A time extension was approved in July 2023 to extend the project to December 2025, allowing more time to conduct field work due to grant execution delays. The grantee completed Year 1 data collection at all five sites and continued to maintain loggers throughout summer 2024. The next and last sampling campaign is scheduled for fall 2024. In June 2024, the grantee collaborated with RCSMM to conduct targeted fish sampling for tidewater goby and smaller fish species, increase fishing efforts, share knowledge between organizations, and establish ongoing and future collaboration. The grantee also continued improve the Estuary Marine Protected Area Monitoring Program data portal to prepare for associated project data upload and visualization. The data query tool was also updated in order to increase data accessibility and a more user-friendly interface. SMBRC staff participated in a site visit of all five sites in August 2024. A second and final site visit is scheduled for October 2024 to observe monitoring protocols.

- Establishing a baseline census and ecological monitoring program for *Zostera pacifica* habitats in coastal Southern California (TBF): Grant execution, QAPP approval, and monitoring all took place during this reporting period. The grantee conducted quarterly habitat monitoring and deployed sensor arrays at project locations. Initial datasets have been downloaded from the sensors to be analyzed at a later time. The quarterly monitoring will be ongoing until early 2026.

- Looking Back to See Ahead: Using long-term monitoring data to predict species persistence across the NSMBW (Pepperdine University): In December 2023, the grant agreement was executed. The QAPP was approved in August 2024. The grantee obtained permits and approvals and initiated data collection at freshwater and chaparral sites. The grantee also compiled existing data sets, performed quality control, and commenced a partial analysis of amphibian long-term survey data evaluating the impacts of fire on body condition and reproductive output. Year 2 surveys are anticipated to start in May or June 2025.

- Monitoring rocky intertidal habitats in the Santa Monica Bay to support habitat assessments (CSU Fullerton Auxiliary Services Corporation): Grant agreement development continued. Grant execution is anticipated by December 2024.

CCMP Action #37

Increase understanding of deep-water habitats such as submarine canyons, deep reefs, and outfall pipes

Long-term Environmental Results / Outcomes: Enhance functions and conditions of deep marine environments (e.g., deep reefs) in the Bay.

Action #37 Next Steps / Project Name	Objectives	Status	Update
Conduct ROV surveys to collect physical, chemical, and visual data.	To use the ROV to conduct underwater surveys to supplement monitoring.	Ongoing	No updates for this action. An update will be provided in the FY25 semi-annual report.
Identify and apply emerging technology and techniques to better characterize Bay habitats, including recommendations.	To utilize cutting-edge advancements in remote sensing, and remote platforms to better characterize the condition of the Bay's habitats.	Ongoing	TBF is working with NOAA and Marauder Robotics to advance design of remote sensing and remote platforms to collect data in nearshore coastal environments.

CCMP Action #39

Monitor and inform effective management of Marine Protected Areas (MPAs), Fishery Management Plans, and local fisheries for recreational and commercially important species

Long-term Environmental Results / Outcomes: Inform agency enforcement plans and long-term adaptive management of MPAs, assist with fishery related public health advisories.

Action #39 Next Steps / Project Name	Objectives	Status	Update
Conduct MPA Watch to monitor and inform use of MPAs in the Bay.	To implement a community-science based program to monitor activities in MPAs and encourage appropriate enforcement and regulation activities.	Ongoing	HtB conducted trainings for MPA Watch volunteers and shore-based surveys. See Action #27 for additional MPA outreach efforts included in California Boater Kits and Dockwalker Trainings.

CCMP Action #40

Research and inform best management and pollution reduction practices to address non- point source pollution and facilitate reduction

Long-term Environmental Results / Outcomes: Assist in achieving constituent percentage load reduction targets for waterbodies in the Santa Monica Bay according to TMDL compliance timeline.

Action #40 Next Steps / Project Name	Objectives	Status	Update
Identify partners and identify funding sources for long-term monitoring efforts for LID and water conservation efforts.	To establish project partners and identify potential funding sources in support of long-term monitoring for LID and water conservation efforts.	Ongoing	See Action #36 for efforts related to CMP implementation.
Implement monitoring programs for long-term monitoring and to inform effectiveness of LID/BMP implementation projects.	To fill data gaps and inform LID/BMP effectiveness in reducing non-point source pollution, especially nutrient pollution.	Ongoing	No activities occurred during this reporting period.

CCMP Action #41

Facilitate research, monitoring, and assessments that inform more accurate waste load allocations and development of new water, sediment, and biological objectives

Long-term Environmental Results / Outcomes: Assist in achieving constituent percentage load reduction targets for waterbodies in the Bay according to TMDL compliance timeline

Action #41 Next Steps / Project Name	Objectives	Status	Update
* Conduct or support data collection for water quality objective development	To review and, as appropriate, modify and adopt water quality standards as new data and information become available or as specific needs arise; To achieve the goals of the Governor's August 2022 Water Supply Strategy and the mandate of Water Code section 113561.2	Ongoing	LARWQCB approved the 2023-2025 Triennial Review Selection of Basin Planning Projects in February 2024, which lists the highest priority issues regarding water quality standards to be addressed during the 2023-2025 review period. In December 2023, SWRCB adopted regulations establishing uniform water recycling criteria for direct potable reuse through raw water augmentation.

CCMP Action #42

Inform strategies to reduce greenhouse gas emissions and increase carbon sequestration in support of existing state actions and policies

Long-term Environmental Results / Outcomes: Implement and support carbon sequestration/cycle monitoring, research, and quantification as part of projects to inform or prioritize efforts.

Action #42 Next Steps / Project Name	Objectives	Status	Update
Conduct research to establish rate of carbon sequestration associated with key habitats in the Santa Monica Bay and its watershed.	To conduct research to identify processes and metrics to further understand rates of carbon sequestration within key habitats in Santa Monica Bay and its watershed.	Ongoing	No activities occurred during this reporting period.

CCMP Action #43

Implement the County-wide Safe Clean Water Program to support stormwater pollution control projects

Long-term Environmental Results / Outcomes: Assist in achieving constituent percentage load reduction targets for waterbodies in the Santa Monica Bay according to TMDL compliance timeline.

Action #43 Next Steps / Project Name	Objectives	Status	Update
Participate in advisory board and support implementation of projects from the new funding mechanism.	To improve stormwater management in urban areas, protect water quality within our communities, provide new sources of water for current and future generations, and reduce stormwater pollution through attainment of water quality objectives, increased stormwater retention, increased service to disadvantaged communities, and coordination of efforts across the county.	Ongoing	In December 2023, Heal the Bay, LA Waterkeeper, and the NRDC released Vision 2045, a report outlining strategies for a climate-resilient future for the region's water resources by accelerating and solidifying LA County's initiatives to ensure the prompt and effective achievement of the SCWP's objectives. The SCWP Biennial Report was completed in March 2024 and outlines SCWP progress, assesses the extent to which SCWP goals are being achieved, and provides findings and recommendations to the Board of Supervisors for adaptive management of the program. The LA County Board of Supervisors also approved 6 new infrastructure projects within the SMBNEP study area for SCWP funding (about $25 million in project costs). The LA County Flood Control District partnered with the Water Foundation to administer the Public Education and Community Engagement Grants Program, which will support education and community engagement efforts related to stormwater and urban runoff capture. Applications

Action #43 Next Steps / Project Name	Objectives	Status	Update
			opened in September 2024 and close May 2025. Proposals will be evaluated and awarded on a rolling basis. At the August SMBRC Governing Board meeting, LA Waterkeeper presented approaches to advance and improve the SCWP and members discussed a draft resolution regarding support for these improvements. The SMBRC Executive Committee finalized the draft resolution at its September meeting, with consideration of approval scheduled for the October SMBRC Governing Board meeting. LA County Public Works is also scheduled to present on their watershed planning efforts at the October SMBRC Governing Board meeting, including sharing insights from workshops held with the North, Central, and South Watershed Area Steering Committees.

CCMP Action #44

Support the development and implementation of a comprehensive regional sediment management plan for restoring natural hydrological functions of river systems and mitigating impacts from climate change

Long-term Environmental Results / Outcomes: Complete and implement a comprehensive regional sediment management plan to restore natural functions where possible and mitigate impacts of climate change.

Action #44 Next Steps / Project Name	Objectives	Status	Annual Report Update
Build capacity and conduct pilot projects to inform future actions and advance program development/design	To utilize pilot level projects to test assumptions and develop preferred methods for sediment transport and/or placement.	Ongoing	Preliminary discussions were had with State Parks, CALTROUT, LACBH, and LA County Supervisor District 3. These discussions focused on the beneficial reuse of material held behind dams and other structures for coastal and beach nourishment.