



**SANTA MONICA BAY
RESTORATION COMMISSION**
MANAGEMENT CONFERENCE OF THE NATIONAL ESTUARY PROGRAM

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February 10, 2021

Agenda Item: 4.a

To: Governing Board, Santa Monica Bay Restoration Commission
From: Guangyu Wang, Chief Administrative Director
Re: **Presentation on the Development of the Santa Monica Bay National Estuary Program (NEP) Fiscal Year 2022 Annual Work Plan (FY22 Work Plan)**

Action Requested of the Governing Board

None.

Background

Each year, the Commission collaborates with The Bay Foundation to develop the Santa Monica Bay NEP Annual Work Plan, which identifies the planned tasks and activities to further implementation of the Comprehensive Conservation and Management Plan (CCMP) for the federal fiscal year. Upon the Governing Board's approval of the Annual Work Plan, The Bay Foundation submits the Annual Work Plan to US EPA to apply for the annual federal Clean Water Act Section 320 NEP grant for implementation of certain Annual Work Plan activities. US EPA uses the Annual Work Plan to track grant expenditures and progress toward achieving the NEP's objectives and to compile information on the environmental outcomes of CCMP implementation.

The FY22 Work Plan outlines tasks, objectives, partners, and deliverables for work to be performed between October 1, 2021 and September 30, 2022 and must be submitted to US EPA before April 30, 2021 to meet deadlines for US EPA's review and approval. The FY22 Work Plan is consistent with NEP funding guidance and the actions, next steps, lead entities, and long-term environmental results of the [CCMP Action Plan](#) adopted in October 2018. The FY22 Work Plan also builds on the current [FY21 Work Plan](#). As such, many of the FY22 Work Plan's priorities and tasks remain similar due to the fact that they are continuations of multi-year tasks.



The Santa Monica Bay Restoration Commission's mission is to restore and enhance Santa Monica Bay through actions and partnerships that improve water quality, conserve and rehabilitate natural resources, mitigate the impacts of climate change and sea level rise, and protect Santa Monica Bay's benefits and values.

At the February 18, 2021 Governing Board meeting, Commission staff and The Bay Foundation staff will present on the development of and opportunities to provide input on the preliminary draft of the planned activities in the FY22 Work Plan (Attachment 1), which include:

- A written public comment period, opening February 18, 2021 and closing March 5, 2021, and
- A virtual public workshop of the Santa Monica Bay Stakeholders, facilitated in collaboration with The Bay Foundation staff and scheduled for February 24, 2021.

All Commission members and stakeholders, including the general public, are encouraged to submit written comments and/or participate in the workshop. The draft FY22 Work Plan will be finalized after reviewing and considering the input received and completion of the sections on background information, budget, projects completed in FY21, and the respective responsibilities of Commission staff and The Bay Foundation staff. Staff anticipate the Governing Board's consideration of approval of the final draft FY22 Work Plan at the April 15, 2021 Governing Board meeting.

Attachments

Attachment 1 Preliminary Draft of the Santa Monica Bay NEP FY22 Work Plan:
Table of Planned Activities

**SANTA MONICA BAY
NATIONAL ESTUARY PROGRAM**

Fiscal Year 2022 Work Plan

DRAFT ACTIVITIES

1 October 2021 – 30 September 2022

9 February 2021

Common Work Plan Acronyms

Army Corps	Army Corps of Engineers
ASBS	Areas of Special Biological Significance
BEP	Boater Education Program
BRP	Santa Monica Bay Restoration Plan
BWER	Ballona Wetlands Ecological Reserve
CalIPC	California Invasive Species Council
CalTrans	California Department of Transportation
CCC	California Coastal Commission
CCMP	Comprehensive Conservation and Management Plan (formerly BRP)
CCVA	Climate Change Vulnerability Assessment
CDBW	California Division of Boating and Waterways
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CDWR	California Department of Water Resources
CMP	Santa Monica Bay Comprehensive Monitoring Program
CNRA	California Natural Resources Agency
CoSMoS	Coastal Storm Modelling System
CRAM	California Rapid Assessment Method
CRI	Loyola Marymount University's Coastal Research Institute
CVA	Clean Vessel Act
CWMW	California Wetland Monitoring Workgroup
DDT	Dichlorodiphenyltrichloroethane
EWMP	Enhanced Watershed Management Plans
FMP	Fishery Management Plan
FOLD	Friends of the LAX Dunes
GB	Santa Monica Bay Restoration Commission Governing Board
GHG	Greenhouse Gases
GPRA	Government Performance and Results Act
HABs	Harmful Algal Blooms
HHW	Household Hazardous Waste
JWPCP	Joint Water Pollution Control Plant (Carson)
LACDBH	Los Angeles County Department of Beaches and Harbors
LACDPH	Los Angeles County Department of Public Health
LACDPW	Los Angeles County Department of Public Works
LACFCD	Los Angeles County Flood Control District
LACSD	Sanitation Districts of Los Angeles County
LADWP	Los Angeles Department of Water and Power
LARC	Los Angeles Regional Collaborative for Climate Action
LARWQCB	Los Angeles Regional Water Quality Control Board
LASAN	City of Los Angeles Sanitation
LCP	Local Coastal Plan
LVMWD	Las Virgenes Municipal Water District
MDRA	Marina Del Rey Anglers
MLML	Moss Landing Marine Lab

MPA	Marine Protected Area
MRCRA	Mountains Recreation and Conservation Authority
MWD	Metropolitan Water District of Southern California
NEP	National Estuary Program
NMFS	National Oceanic and Atmospheric Administration’s National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	National Parks Service
NRC	Natural Resource Council
NZMS	New Zealand Mudsnails
OA	Ocean Acidification
OPC	Ocean Protection Council
OREHP	Ocean Resource Enhancement Hatchery Program
OWDS	On-site Wastewater Disposal Systems
PCB	Polychlorinated biphenyls
POTW	Public Owned Treatment Works
PMRG	Paua Marine Research Group
Prop.	Proposition Grant
PVPLC	Palos Verdes Peninsula Land Conservancy
RCDSMM	Resource Conservation District of the Santa Monica Mountains
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
SLC	State Lands Commission
SLR	Sea Level Rise
SMB	Santa Monica Bay
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
SWFSC	Southwest Fisheries Science Center
TAC	Santa Monica Bay Restoration Commission Technical Advisory Committee
TBF	The Bay Foundation
TMDL	Total Maximum Daily Load
UCD	University of California, Davis
UCLA	University of California, Los Angeles
UCSB	University of California, Santa Barbara
USC	University of Southern California
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

WBMWD West Basin Municipal Water District
WMP Watershed Management Plan

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Action #	CCMP Action	CCMP Next Step(s) / Project Activity Name*	Lead Entity(ies)	Partner(s)	Objective(s)	Description / Milestone Summary**	Outputs / Deliverables	Long-Term Environmental Result(s) / Outcome(s)	CWA Core***
1	Acquire open space for preservation of habitat and ecological services	Continued participation on resources agency Technical Advisory Committees	SMBRC	Resources Agency	To acquire and/or protect high priority properties that are at risk of development, or provide high diversity, include wildlife corridors, and/or provide socio-economic benefits	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	Publicly acquire new open space as it becomes available throughout the watershed to promote connectivity, preserve habitat, and sustain ecological services	5, 6, 7
		Bond funded acquisitions	SMMC, SCC, CNRA, Wildlife Conservation Board	SMBRC, MRCA, NPS, State Parks, MRT, Trust for Public Land, CDFW	To acquire and protect 91 acres of undeveloped land in Carbon Canyon to prevent development in a fire-prone area and expand recreational opportunities	(Completed; Not part of FY22 Work Plan)	(Completed; Not part of FY22 Work Plan)		

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		Support partners in identification and prioritization of key acquisition or conservation easement properties	SMBRC	SMMC, MRCA, NPS, State Parks, RCDSMM, MRT, CDFW	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	Communicate with partners to gather information on existing list or list under development that identify high priority parcels for acquisition / protection and assist / support in identifying funding sources	Update in NEPORT		
2	Restore kelp forests in the Bay to improve the extent and condition of the habitat	Implement the rocky reef/kelp forest restoration project	TBF	NOAA, MSRP trustees, NMFS, Vantuna Research Group, Commercial Sea Urchin Harvesters, CDFW, SeaTrees,	To restore 3 acres of rocky reef kelp forest by reducing urchin density within barrens to the target 2 urchins per square meter to allow the reestablishment of giant kelp; To inform statewide restoration and management of	Partner with fisherman to cull urchin densities within the urchin barrens in targeted locations; utilize robotic / AI technology to assist culling and monitoring efforts; develop partnerships and coordinate	Annual Report (Kelp Project)	Restore 150 acres of kelp forest to improve habitat functions, local fisheries, and coastal resilience	6

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				Marauder Robotics	kelp forest/rocky reefs	stakeholders through SeaTrees crowdfunding platform to implement kelp restoration; participate in monthly KELPRR calls; participate on bull kelp working group			
		Biological response monitoring of restoration areas	TBF	VRG, CDFW	To track the response of the kelp forest community after restoration activities occur	Conduct pre-restoration monitoring of urchin barrens and post-restoration monitoring of resulting kelp forests; complete annual community structure surveys of reference and restored sites	Annual Report (Kelp Project)		

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		Develop recommendations for the deposition of materials from Rindge Dam or other suitable sources to augment sediment supply	State Parks	TBF, VRG, others, CDFW	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		
		Conduct carbon sequestration assessment of kelp restoration project	TBF	CRI, other universities, SeaTrees	To assess carbon sequestration potential of kelp forest restoration	Conduct a literature review, develop research priorities, identify potential partners	Update in semi-annual report		

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3	Recover abalone populations in the Santa Monica Bay and region to support rare species and socioeconomic benefits to people	Establish abalone outplanting sites and conduct juvenile and larval outplanting	TBF	NOAA, NMFS, Cal Poly Pomona, SCMI, NFWF Bodega Marine Lab, SWFSC, PMRG, CDFW,	To reintroduce abalone, test effectiveness of outplanting methods, and assess habitat site suitability	Conduct habitat suitability surveys for outplant sites; implement one red abalone outplant event and one white abalone outplant event in established restoration areas	Update in semi-annual report	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	6
		Monitor abalone restoration and reference sites	TBF	NOAA, NMFS, Cal Poly Pomona, SCMI, NFWF Bodega Marine Lab, SWFSC, PMRG, CDFW	To conduct SCUBA-based surveys within outplant sites to assess the survivability of outplanted abalone and suitability of the site for future outplanting efforts	Conduct surveys to collect shells and live abalone re-encounter rates, growth data, and genetic samples of outplanted abalone; conduct wild abalone population and habitat suitability surveys along southern California mainland coast	Semi-Annual Project Reports (Abalone)		

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						and Channel Islands (i.e., Catalina and San Clemente Islands surveys)			
		Captive spawn abalone	TBF	SCMI, NOAA, NMFS, Cal Poly Pomona, CDFW, Bodega Marine Lab Aquarium of the Pacific, Cabrillo Marine Aquarium, The Cultured Abalone Farm, MLML, LightHawk	To research captive spawning and larval culturing techniques, and raise abalone in aquaculture facility for outplanting	Condition broodstock abalone and conduct two captive spawning events	Semi-Annual Project Reports (Abalone)		

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		Maintain aquaculture facility for abalone	TBF	SCMI, NOAA, NMFS, Cal Poly Pomona	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	Maintain and operate laboratory to house endangered white abalone and increase program wide capacity for culturing and rearing white abalone larvae and juveniles; conduct daily water quality testing and husbandry tasks	Update in semi-annual report		
4	Assess and restore seagrass habitats in the Santa Monica Bay and nearshore environments to benefit marine ecosystems	Survey the extent and condition of seagrasses in the Bay using R2Deep2, side-scan sonar, and SCUBA divers to inform the Comprehensive	TBF	SCC, CRI, VRG, PMRG, others	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	Complete annual surveys in the Malibu and Catalina Island eelgrass beds to inform the extent (area) and condition of the beds (patches) and inform condition using	Update in semi-annual report	Restore 2-5 acres of seagrasses to the Bay to improve habitat functions and coastal resilience	6

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	and improve coastal resilience	e Monitoring Program				recommended protocols			
		Develop restoration methods for eelgrass (<i>Zostera pacifica</i>) in the Santa Monica Bay	TBF	SCC, CRI, NOAA, CDFW, PMRG, others	To improve understanding and probability of success for offshore eelgrass restoration using transplant methods	Transplant eelgrass to three sites in SMB using methods identified in the Implementation and Monitoring Plan	Semi-Annual Project Reports (eelgrass)		
		Conduct pilot restoration project(s) of offshore eelgrass in the Bay	TBF	SCC, CRI, NOAA, CDFW, PMRG, others	To conduct a pilot restoration project of offshore eelgrass in the Bay within a one-acre footprint	Use information gathered as part of other next steps in this action to implement and monitor eelgrass transplant to three sites within SMB	Semi-Annual Project Reports (eelgrass)		
		Evaluate restoration potential of seagrasses in the Bay, harbor, wetlands, and	TBF	NOAA, CRI, UCLA	To improve understanding and probability of success for seagrass restoration projects	Support CRI in a genetic population research study of eelgrass (<i>Z. pacifica</i> targeted) in the	Update in semi-annual report		

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		nearshore environments				region and within transplant sites using microsatellite genotyping; conduct wave attenuation studies to determine effect of eelgrass restoration; develop site suitability criteria			
		Contribute to better understanding of <i>Ruppia maritima</i> habitat requirements and functions	TBF	CRI, UCLA, NOAA	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		
5	Assess and implement offshore artificial reefs to benefit marine ecosystems	Implement rocky reef restoration project off Palos Verdes	VRG	SCMI, Vantuna Research Group, PV MSRP, NOAA,	To restore 69 acres of rocky reef habitat lost to landslides activity using high relief rocky modules that will resist	Monitor the biological community response of the artificial rocky reef restoration project off	Update in semi-annual report	Implement artificial reef projects to achieve 69 new acres of rocky reef habitat of a similar condition	6

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	and provide socioeconomic benefits to people	Annual monitoring with the use of side scan sonar and SCUBA based surveys	VRG	PV MSRP, NOAA, TBF, CRI, CSULB	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	Bunker Point funded by Prop. 12 Support Vantuna in development of baseline monitoring plan to inform restoration activities; bi-monthly data download and maintenance of acoustic telemetry receivers by CSULB	Update in semi-annual report	as reference reef habitats	

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		Preliminary work regarding the benefits of dynamic revetments and nearshore reefs	VRG	TBF, CRI, others	To preliminarily advance work towards understanding dynamic revetments and nearshore reefs, including feasibility of using recycled concrete for construction	Assemble related research and initiate assessment of this approach to coastal engineering	Update in semi-annual report		
6	Restore coastal strand and foredune habitat to beaches and sandy shores to improve coastal resilience	Continue long-term monitoring of the Santa Monica Beach Restoration Pilot Project	TBF	CRI, City of Santa Monica, State Parks, Audubon	To continue long-term monitoring to inform coastal resilience, ecosystem benefits, and adaptive management of the restoration area	Conduct physical and biological surveys at the frequency described in the Implementation and Monitoring Plan and produce an annual report	Update in semi-annual report	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	6
		Conduct Phase 1 (outreach and planning) and Phase 2 (implementation) of the	TBF	City of Malibu, LACDBH, SCC, CRI	To restore three acres of beach and dune habitat to improve coastal resilience and eco-system benefits and	Continue partnership development and outreach; conduct post-restoration monitoring and	Annual Report (MLSP)		

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		Malibu Living Shoreline Project			improve public engagement	site maintenance; continue coordinating with partners and exploring opportunities for project site expansion			
		Find funding for and implement another beach and bluff restoration project	TBF	LACDBH, City of LA, SCC, City of Manhattan Beach, CRI, City of Malibu, CDFW, USFWS, Audubon, USC SeaGrant	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 through iceplant removal and revegetation with native plants	Continue partnership development and stakeholder coordination for LA Living Shoreline Project and Manhattan Beach Dune Restoration Project; contract Los Angeles Conservation Corps for implementation; conduct post-restoration monitoring and site maintenance	Update in semi-annual report; completed permits; annual reports		

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		Support efforts to standardize sandy beach monitoring and a regional approach to restoration	TBF	Beach Ecology Coalition, CRI, SCC, Cal SeaGrant, USC SeaGrant, UCSB, others	To continue efforts to standardize sandy beach monitoring and data collection for southern California through stakeholder partnerships and CMP implementation	Participate in the Beach Ecology Coalition group, continue stakeholder and scientific communications, continue Healthy Beaches project in partnership with CRI, continue monitoring and data collection efforts	Update in semi-annual report		
7	Restore and maintain the entire LAX Dunes system to support native plants, wildlife, and rare species	Conduct community restoration events in the northern 48-acre dune area	TBF	LAWA, FOLD, SCC, CCC, CRI	To engage community through hands-on stewardship and habitat restoration through events held at the LAX Dunes	Recruit, train, and educate community volunteers to conduct non-native vegetation removal at LAX Dunes events	Annual Report (LAX Dunes)	Restore 48 acres of LAX Dune system to improve native dune functions and provide habitat for rare species;	N / A

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		Support LAWA in long-term maintenance and adaptive management of the 48-acre northern dune area	TBF	LAWA, LACC, California Botanic Garden, Psomas, CRC, IOEI, CDFW, Cooper Ecological Monitoring	To continue and strengthen partnership with LAWA to restore and maintain the LAX Dunes	Conduct restoration through non-native vegetation management, native plant programs, restoration training, and monitoring	Annual Report (LAX Dunes)	Maintain larger 300-acre Preserve to benefit rare species and dune plants and wildlife	
		Engage underserved students and volunteers and inland communities	TBF	LAWA, SCC, LACC, CRI	To recruit underserved students and volunteers, particularly from inland communities, to participate in hand-on stewardship and restoration at the LAX Dunes	Enhance volunteer program to increase recruitment of underserved students and volunteers from inland communities through amplified outreach, capacity building, and	Annual Report (LAX Dunes)		

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		Initiate planning for areas within the adjacent dunes, including baseline monitoring	TBF	LAWA, LACC, California Botanic Garden, Psomas, CRC, IOEI, CRI, CDFW, USFWS, WCS, Cooper Ecological Monitoring	To conduct baseline monitoring and develop recommendations for habitat management	partner development Continue monitoring of adjacent 52-acre dune area to develop baseline data and restoration recommendations	Annual Report (LAX Dunes)		
8	Restore coastal bluff habitats in the Bay watershed to support ecosystem services	Use Beach Bluff Restoration Master Plan to explore bluff restoration and continue recovery of El Segundo Blue Butterfly	TBF	USFWS, CDFW, LAWA, City of LA, Friends of Ballona, PVPLC, 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	Continue partnership and stakeholder coordination, data consolidation, and development of adaptive management	Update in semi-annual report	Restore 5 acres of bluff habitats in the SMB watersheds to support ecosystem services	N / A

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				Coalition, others	restore bluff habitats	recommendations and actions			
		Identify partners and funding to support bluff restoration projects	TBF	PVPLC, State Parks, CDFW, City of LA, USFWS, LACDBH, many others	To establish project partners, project sites, and identify potential funding sources in support of bluff restoration	Continue to identify and coordinate with project partners, agencies, and stakeholders to prioritize project locations; identify and apply for potential funding sources for bluff restoration (see also Action 6)	Update in semi-annual report		
		Initiate restoration of one bluff restoration project	PVPLC	SCC, TBF, City of LA, LACDBH, USFWS	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	Continue implementation of the Abalone Cove Habitat Restoration Project funded by Prop. 12 and led by PVPLC	Update in semi-annual report		

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					enhance public access				
		Initiate Pt. Dume stair replacement and bluff restoration project to benefit people and wildlife	State Parks	TBD	To replace a deteriorated beach access staircase and restore bluff habitat at Point Dume State Beach	Initiate the project led by State Parks	Update in semi-annual report		
9	Implement Malibu Creek Ecosystem Restoration Project (Rindge Dam and other barrier removals) to support ecosystem restoration	Support lead agencies in efforts to complete the design and engineering plans for the Malibu Creek Ecosystem Restoration Project	State Parks, Army Corps	TBF, RCDSMM, CDFW, others	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	Pending Notice of Determination by Army Corps, communicate with lead agencies (State Parks, Army Corps) to identify additional technical support and funding needs	Update in semi-annual report	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	5, 6, 7
		Support lead agencies in identifying and	State Parks,	TBF, RCDSMM,	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		

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		obtaining funding for the project	Army Corps	CDFW, others					
10	Remove additional barriers to support fish migration and ecosystem services	Identify, prioritize, and acquire funding for barrier removal projects	RCDSMM, State Parks, NPS	CDFW, many	To engage with partner entities to identify potential opportunities for fish barrier removal	Opportunistically attend meetings and engage in conversations to advance project prioritization and funding	Update in semi-annual report	Remove fish barriers to support endangered steelhead trout habitat expansion, increase resilience related to climate change, and provide ecosystem services	2, 5, 6
		Implement priority barrier removal projects	RCDSMM, State Parks, NPS	CDFW, many	To implement priority barrier removal projects in the Santa Monica Bay watershed	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		
11	Restore urban streams, including daylighting culverted streams, removing cement channels, and restoring	Identify additional urban streams for restoration and prioritize	State Parks, NPS	Municipalities, USC Sea Grant, others	To engage with partner entities to identify potential opportunities for urban stream restoration	Opportunistically attend meetings and engage in conversations to advance project prioritization and funding	Update in semi-annual report	Restore at least two priority stream areas as defined by guiding documents such as the Ballona Creek Greenway Plan	2, 4, 5, 6
		Implement urban stream	Municipalities	many	To implement urban stream	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		

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	riparian habitats	restoration projects			restoration projects				
12	Restore smaller coastal lagoons and other wetland types to increase wetland habitat area and condition throughout the watershed	Finalize restoration planning and permitting for Topanga Lagoon restoration project and initiate project	State Parks	SCC, RCDSMM, CalTrans, LACBH, CDFW	To create a restored habitat that integrates fish passage barrier removal, wetland habitat restoration, visitor services, and recreational opportunities at Topanga Lagoon	Continue working on restoration design alternatives, incorporating stakeholder and TAC input, and work towards CEQA permitting and documentation funded by Prop. 12	Update in semi-annual report	Restore and increase wetland and transition habitat acreages for small lagoons such as Topanga Lagoon and other wetland systems to improve ecological functions	2, 5, 6
		Complete land acquisition, feasibility analyses, and restoration design in coordination with bridge redevelopment for Trancas Lagoon	RCDSMM	CalTrans, Army Corps, CDFW	To restore habitats adjacent to Trancas Lagoon after CalTrans bridge expansion is completed	Participate when possible in a scientific advisory capacity on habitat restoration elements	Update in semi-annual report		

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		Conduct comprehensive monitoring of small lagoons in northern Bay to inform CMP and seek funding to continue Malibu Lagoon monitoring	TBF	Moss Landing Marine Labs, SCCWRP, CRI, State Parks, RCDSMM	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	Seek funding to continue surveys and conduct new surveys to inform CMP and wetland condition trends for our region; consolidate existing data for northern lagoon systems; collect new data to fill identified gaps	Update in semi-annual report		
		Assess restoration options and priorities for other wetland types (e.g., freshwater systems)	City of Redondo Beach, municipalities	SCC, CNRA, CDFW, LA County, others	To complete acquisition and planning to restore wetlands associated with the AES Power Plant redevelopment in Redondo Beach	Support restoration planning of the wetland habitat on former AES property in Redondo Beach by informing the SMBRC Governing Board and membership	Update in semi-annual report		

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13	Restore Ballona Wetlands Ecological Reserve to enhance wetland habitats and benefits to people	Support the lead agencies by contributing technical information to the Final Environmental Impact Statement and Report and permitting	CDFW	CDFW, Army Corps, TBF, LACFCD, SCC	To support the lead agencies in completing permitting and a federal environmental review document	Continue to provide technical support and communication with the lead agencies to restore Ballona Wetlands	Update in semi-annual report	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	2, 5, 6, 7
		Continue community engagement and hand-restoration within the Reserve with FBW	TBF	CDFW, Friends of Ballona Wetlands, Edith Reed and Associate, CRI, SCC	To restore four acres of degraded wetland and transition habitat at the Ballona Wetlands Ecological Reserve through community restoration	Continue to conduct community restoration events and biological monitoring in accordance with permits (TBF and FBW); produce an annual report; continue restoration activities in accordance with stewardship	Annual Report (Community Restoration Project)		

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						project funded by Prop. 12 (includes two acres of wetland and adjacent transitional habitat)			
		Support lead agencies to identify and obtain restoration funding	CDFW	CDFW, Army Corps, TBF, LACFCD	To support lead agencies in finding funding to implement the Ballona Wetlands Restoration Project	Provide support to lead agencies to acquire funding to implement the project	Update in semi-annual report		
14	Implement wildlife crossings and other innovative projects for benefits to wildlife and people	Support lead agencies to find funding for Phase 2 of the Liberty Canyon Wildlife Crossing project	CalTrans, MRCA	RCDSMM, Assm. Bloom, SCC, SMMC, NWF, CDFW	To implement Phase 2 of the Liberty Canyon Wildlife Crossing Project (Final/ 100% Design) in support of wildlife movement and safety and enhanced habitats	Attend meetings and conduct other communications and outreach activities to support implementation of Phase 2	Update in semi-annual report	Complete construction and implementation of two major freeway wildlife crossing projects to benefit wildlife, genetic diversity, and	N / A

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		Support lead agencies in permitting and environmental review of Liberty Canyon Wildlife Crossing project	CalTrans, MRCA	RCDSMM, Assm. Bloom, SCC, SMMC, NWF, CDFW	To complete implementation of the Liberty Canyon Wildlife Crossing Project in support of wildlife movement and safety and enhanced habitats	Attend meetings and conduct other communications to support the implementation of the Liberty Canyon Wildlife Crossing project	Update in semi-annual report	people	
		Identify additional locations for wildlife crossings	CalTrans, NPS	CDFW, many	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		
15	Implement projects that improve understanding and/or enhance endangered and threatened species populations (e.g., habitat improvements)	Support Southern California Steelhead Trout genetic banking study	RCDSMM	NPS, State Parks, USFWS, CDFW, others	To conduct the Southern California Steelhead Trout genetic banking study to inform population recovery	Support efforts by the lead entity to find funding and implement this study	Update in semi-annual report	Improved extent and condition of habitats for rare species throughout the Bay and its watershed	2, 5, 6
	Support restoration and monitoring	NPS	SCC, State Parks, RCDSMM,	To improve riparian and stream habitats to support	Continue working with grantees to implement the	Update in semi-annual report			

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	for Western Snowy Plover, genetic banking)	activities to benefit California red legged frog populations		TBF, CDFW	populations of California red legged frog	California red legged frog (<i>Rana draytonii</i>) reestablishment project funded by Prop. 12			
		Support projects within western snowy plover critical habitat	TBF	LACDBH, City of Santa Monica, City of LA, City of Malibu, USFWS, CDFW, City of Hermosa, Audubon, others	To provide habitat and ecological benefits in support of the threatened Western Snowy Plover and to restore critical habitat	Continue beach and dune restoration projects and continue to inform management actions in support of ecological benefits to the plovers	Update in semi-annual report		
16	Support the implementation of activities and projects such as those in Enhanced Watershed Management Plans	Continue to support implementation of projects identified in EWMPs and WMPs	SMBRC	SWRCB, municipalities, LACFCD, CDFW	To allocate and oversee State Bond funding for implementation of projects identified in EWMPs and WMPs; support implementation of projects made	Continue to oversee implementation of capital projects for storm water pollution reduction through multi-	Update in semi-annual report; project final reports	Assist in achieving constituent percentage load reduction targets for waterbodies in the Santa Monica Bay	1, 2, 4, 5, 6, 7

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	(EWMPs) and activities identified in the TMDL implementation schedule to help achieve TMDL goals for 303d listed waterbodies in the Bay and its watershed				available under the Safe Clean Water Program	benefit solutions (also see Action 17); inform and support the Stormwater Strategy efforts led by the SWRCB		according to TMDL compliance timeline	
		Continue implementation of LA IRWMP	LACFCD	SMBRC, others	To facilitate and support coordination and allocation of IRWMP funding and implementation of projects identified in EWMPs and WMPs in the watershed	Continue to participate in activities of the Greater Los Angeles IRWRP Leadership Committee	Update in semi-annual report		
		Facilitate other sources of State funding	SCC, State Waterboards	municipalities, LACFCD	To facilitate and support allocation of funding from other State bond measures such as Prop. 1 and 65 for implementation of projects identified	Outreach and support project applications by municipalities where appropriate, and keep the SMBRC Governing Board	Update in semi-annual report		

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					in EWMPs and WMPs in the watershed	and membership informed of progress			
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	Complete rain garden metal fate study with CRI	TBF	CRI	To assess the fate of sequestered or retained heavy metals in the Culver City Rain Garden	Complete the Master’s thesis and a publication for the rain garden metal fate study in partnership with CRI	Completed Thesis; completed manuscript	Assist in achieving constituent percentage load reduction targets for waterbodies in the Santa Monica Bay according to TMDL compliance timeline	2, 4, 5, 6, 7
		Complete additional LID projects throughout the watershed	Municipalities	City of LA, City of Torrance, LA County, other watershed cities, LA County, NPS	To complete more LID projects throughout the watershed to improve flood protection and water quality, and provide additional benefits	Continue to work with grantees to implement two of the previously funded Prop. 84 projects: Culver Boulevard Realignment and Stormwater Filtration / Retention Project and Westwood Neighborhood Greenway Project; work with grantees to	Update in semi-annual report		

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						continue to implement two Prop. 12 projects: Monteith Park and View Park Green Alley Stormwater Capture Project and Beach Cities Multi-Benefit Green Streets Project			
		Promote adoption of local ordinances to require projects in public right-of-way to mitigate stormwater	Municipalities	LACDPW, Tree-People, many	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		
		Seek funding and partnerships to conduct a cost-benefit	TBF	CRI, other universities	To continue to inform regional assessments of LID projects and	Seek funding and/or partnerships to	Update in semi-annual report		

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		analysis of LID projects			water quality benefits	conduct the analysis			
18	Support installation and monitoring of additional sewage and bilge pumpout facilities in Southern California harbors	Continue quarterly monitoring of public sewage pumpout stations	TBF	CDBW, marina operators	To assess the condition of public sewage pumpout and dump stations	Conduct triannual monitoring (per CVA grant directive) of public sewage pumpout and dump stations in Southern California harbors	Annual Report	Meet 86-100% annual average usability percentage (based on analysis of equipment performance) for all publicly funded sewage pumpout stations throughout Southern California	4
		Support installation of sewage pumpouts in Marina del Rey or King Harbor	TBF	CDBW, marina operators	To provide the boating community with additional pollution prevention resources	Conduct outreach regarding need for additional sewage pumpouts and dump stations	Update in semi-annual report		
		Support installation of bilge pumpouts in Marina del Rey or King Harbor	TBF	marina operators	To support installation of bilge pumpouts	Conduct outreach and distribute information regarding need for additional pollution	Update in semi-annual report		

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		Support efforts of neighboring harbors in installation of bilge and sewage pumpouts in southern California	TBF	CDBW, marina operators	To provide the boating community with additional pollution prevention resources	prevention resources Conduct outreach regarding need for additional pollution prevention resources	Update in semi-annual report		
19	Support minimization of biological impacts of water intake and discharge from coastal power generation and desalination facilities, including public engagement and education	Educate and increase public support of the state-wide desalination requirements	SWRCB	TBD	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	Achieve no impacts from seawater intake of desalination facilities, including brine disposal, and ultimately no seawater intake	6, 7
		Support development of alternative and advanced mitigation measures to minimize seawater	SWRCB	TBD	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		

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		intake by desalination							
20	Support elimination of non-point pollution from onsite wastewater treatment systems	Complete sewer connections of residential properties to the centralized wastewater treatment facility in the Malibu Civic Center area	City of Malibu	LARWQCB	To improve water quality and reduce nutrient pollution through connecting residential properties to the centralized wastewater treatment facility	Monitor and inform SMBRC Governing Board, other stakeholders, and the general public on the progress made by the City and LARWQCB's efforts in completing the sewer connection	Update in semi-annual report	Achieve level of performance and water quality protection set by state policy for all OWDS in the Santa Monica Bay watershed	4, 5, 6, 7
		Continue the coordinated OWTS identification, permitting, and inspection system between the LARWQCB and the cities and counties	LARWQCB	Watershed municipalities	To continue to support efforts by the LARWQCB and cities and counties to achieve full implementation of the statewide policy for siting design, operation,	Monitor and inform the SMBRC Governing Board membership, other stakeholders, and the general public on the progress made by the LARWQCB and	Update in semi-annual report		

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		in the watershed			and maintenance of OWTs	cities and counties in implementation of the state-wide policy for siting design, operation, and maintenance of OWTs			
21	Support policies that promote reuse, recycling, and advanced wastewater treatment to reduce reliance on imported water sources	Support recycled wastewater efforts by JWPCP of LACSD	LACSD, MWD	LACFCD, SMBRC	To support expansion of wastewater effluent recycling by JWPCP of LACSD	Monitor and inform the SMBRC Governing Board membership, other stakeholders, and the general public on the progress made by JWPCP of LACSD in expansion of wastewater recycling; Continue testing at the Advanced Purification Center	Update in semi-annual report	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	4, 6, 7

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						demonstration facility and initiate environmental studies required under CEQA			
		Hyperion Treatment Plant to implement pilot project for recycled water	LASAN	LACFCD, SMBRC	To support timely completion of Hyperion's Recycled Water Program	Monitor and inform the SMBRC Governing Board membership, other stakeholders, and the public on the implementation progress of Hyperion's Recycled Water Program	Update in semi-annual report		

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		Support recycled wastewater efforts by Tapia Water Reclamation Facility and others through expansion of distribution system and regional partnerships	LVMWD, SCCWRP, UCLA, City of Santa Monica	LACFCD, US Bureau of Reclamation, LV-Triunfo JPA, SMBRC, many	To support expansion of recycled wastewater distribution and reuse	Continue construction of the Santa Monica Advanced Water Treatment Facility	Update in semi-annual report		
22	Support policies and implement projects that divert landfill waste and encourage composting to improve water quality and lower greenhouse gas emissions	Support continuation of Table to Farm compost hubs	Schools	TBF, Environmental Charter Schools, Social Justice Learning Institute, Restaurants, LA Compost, LA Food Waste Prevention	To reduce food waste being sent to landfills, compost food waste, and apply compost to urban gardens to grow food	Support existing compost hubs and Table to Farm/Environmental Charter School community garden, especially those restricted by COVID-19, and help support partners in strengthening and developing	Update in semi-annual report	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	4, 6

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		* Support expansion, outreach and implementation for residential and commercial organics collection and recycling	Municipalities	TBF, CalRecycle, LA Food Waste Prevention & Rescue Working Group, LACDPW	To support greenhouse gas reduction by way of residential and commercial organics recycling implementation by city and state regulatory agencies	Los Angeles' community compost projects Continue to participate in LA Food Policy Council Food Waste Prevention Working Group; Support efforts of partners and municipalities on the implementation of organics recycling to meet California's Short-Lived Climate Pollutants Law targets	Update in semi-annual report	projects	
23	Facilitate development and adoption of natural stream and riparian	Complete and adopt LA City stream protection policy	City of LA	Heal the Bay, Surfrider, TBF	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	Assist a minimum of one municipality in the watershed in the	1, 2, 5

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	protection policies, including restoration	Inform other regional ordinances	Municipalities	CDFW, many	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	adoption of a stream protection policy	
24	Support the inclusion of coastal resilience through natural means and softscape measures into local coastal plan updates	Attend stakeholder meetings for local cities LCP development / updates / implementation	Municipalities	LACDBH, TBF, CRI, Heal the Bay	To continue involvement in stakeholder meetings for local cities LCP development and implementation	Attend and participate in stakeholder meetings, workshops, and conversations related to LCPs and promote the inclusion of natural living shoreline measures as a coastal resilience strategy	Update in semi-annual report	Inclusion of climate change adaptation measures in at least half of the 12 local coastal jurisdictions general plans (or equivalent) amendments	7
Opportunistically assist cities in the development of sea level rise vulnerability studies		Municipalities	USGS, TBF, CDFW	To identify and partner with cities to develop sea level rise vulnerability studies to strategically recommend	Partner with cities in the development of sea level rise vulnerability studies and recommend natural living shoreline	Update in semi-annual report			

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		Use data collected from beach restoration “soft-scape” projects to inform and assist LCP development	TBF	LACDBH, CRI, municipalities	To provide science-based data to inform LCP development and support beach restoration	Use data from regional beach restoration projects as case studies to inform adaptation solutions and future natural living shoreline projects; implement the CRI site-suitability study	Update in semi-annual report		
25	Support best management practices, increased public access, and improved public facilities for beaches and other public trail	Support implementation of identified actions within plans such as the LACDBH Sea Level Rise Vulnerability Assessment	LACDBH, Municipalities	SCC, City of Los Angeles, City of Manhattan Beach, State Parks, TBF, others	To implement adaptation projects that will improve coastal resilience	Develop and begin implementation of coastal adaptation projects that address sea level rise and planning efforts	Update in semi-annual report	Improve access to the coast and enhance coastal experiences through linking and expanding the California Coastal Trail; develop and build	N / A

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	systems to support both enhanced natural resources values and benefits to people					within climate action plans		partnerships that support the implementation of natural infrastructure throughout the Bay watersheds	
Support creation of increased public transit to and from beaches to enable access		City of Santa Monica, Municipalities	CCC, SCC, CDFW, others	To strengthen partnerships and support municipalities to increase public access to the coast	Research inland to coast public transit projects and identify impactful strategies to support partners	(Not part of FY22 Work Plan)			
Continue to advise BMPs for beaches that promote habitat condition improvements and support for unique species		LACDBH	LACDBH, Pepperdine, Beach Ecology Coalition, beach managers, Audubon, TBF, CRI, USFWS, CDFW, USC SeaGrant, Cal SeaGrant, Heal the Bay	To build upon and continue partnerships with groups and agencies to benefit beach habitat conditions	Continue partnerships and active participation with groups and agencies such as LACDBH, Audubon Society, Pepperdine, Beach Ecology Coalition, State Parks, and USFWS to implement and provide recommendations for best management	Update in semi-annual report			

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						practices along beaches			
26	Participate in research, education, outreach, and policy on invasive species removal and control	Conduct New Zealand Mudsnail surveys	SMBRC	TBF	To track the spread of NZMS in the Santa Monica Mountains and develop management recommendations for control	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	Reduce impact of invasive species in critical habitats throughout the Bay and its watershed as measured by the Comprehensive Monitoring Program	5, 6, 7
		Attend and participate in Invasive Species Council of California (ISCC) and regional meetings focused on management of invasive species	SMBRC	CDFW	Increase public and agency awareness of invasive species issues	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		

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		Conduct additional studies and outreach efforts to control impacts of, manage, or reduce the sale of invasive species	SMBRC	TBF, CRI, CDFW, CallIPC, USFWS, Heal the Bay, others	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		
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)	Produce educational materials	TBF	CCC, CDBW, SFEP	To produce educational materials to increase awareness of boating best management practices to boaters	Produce and distribute Changing Tide newsletters, Southern California Tide Calendar, Boater Kits, clean boating social media toolkits, and interactive Clean Boater Questionnaire; Continue to promote and distribute	Newsletters, Tide Calendar, Boater Kits, social toolkit	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	4

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	management)					informational videos (Y-Valves, Marine Composting Toilets, and Marine Protected Areas), MPA interactive educational quiz, and Southern California Boater's Guide; Promote awareness of MPAs amongst boaters and foster a norm of compliance with corresponding laws (relates to Action 39)		invasive species)	
		Conduct outreach	TBF	CCC, CDBW	To conduct outreach to increase awareness of boating best management	Conduct direct outreach to boating community via virtual events, presentations, and trainings;	Update in semi-annual report		

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					practices to boaters	Conduct Community Based Social Marketing barriers/benefits research to inform behavior change outreach strategies			
		Manage Pumpout Nav app	SFEP	CDBW, TBF	Increase proper disposal of boater sewage	Contribute to and support app development and maintenance	Update in semi-annual report		
		Research public engagement metrics and specific engagement tools on reduction of pollutants to waterways	TBF	CCC, CDBW, CRI	To optimize public engagement resources to increase impact of pollutant reduction strategies to waterways	Compile a literature review	Update in semi-annual report		
		Find funding and implement fuel	TBF	Fuel docks, marina	To reduce fuel and oil pollution	Distribute 1,000 of each respective oil	Update in semi-annual report		

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		spill prevention tools and outreach		operators, CCC, CDBW	from the boating community	spill prevention tool to boaters: fuel bibs, oil absorbent pillows, and oil absorbent sheets in partnership with the California Boating Clean and Green Dockwalker program			
		Support and develop marine debris reduction and cleanup efforts	TBF	CCC, CDFW, marina operators	To reduce fishing line marine debris from the angling community	Promote fishing line recycling facilities and do-it-yourself monofilament recycling instructions with developed collateral	Update in semi-annual report		
28	Support efforts of disadvantaged communities to achieve healthy	Support WMPs and EWMPs to prioritize projects that	SMBRC, LACDPW	Municipalities, agencies, Our Water LA Coalition,	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	Help disadvantaged communities to achieve healthy habitats through restoration and	4, 6, 7

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	habitats, implement green infrastructure, and reduce pollution	produce multi-benefits		Heal the Bay, others				pollution reduction projects	
Utilize the Ballona Creek Greenway Plan to identify parcels in disadvantaged communities for implementation		Baldwin Hills Conserv.	City of Culver City, City of LA	To identify opportunities for the creation of parks, parklets, and green corridors	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)			
Support IRWMP and similar programs to preferentially invest in disadvantaged communities		SMBRC, LACDPW	LA County, other watershed cities	Support green infrastructure projects for IRWMP and Safe Clean Water Program funding in disadvantaged communities	Support and facilitate efforts to identify and develop green infrastructure projects for IRWMP and Safe Clean Water Program funding in disadvantaged communities through	Update in semi-annual report			

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		Support research efforts to quantify multi-benefits of green spaces to communities	SMBRC, LACDPW	LA County, other watershed cities, CRI	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		
29	Reduce health risks of swimming in contaminated waters and consuming contaminated seafoods through more comprehensive source control and, advanced monitoring and public notification	Continue implementation and improvement of beach water quality monitoring and reporting system	SWRCB	LARWQB, LACDPH, CRI, Heal the Bay	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	Continue SWRCB's participation in the California Water Quality Monitoring Council (CWQMC), assistance in updating and maintaining the CWQMC's Safe to Swim map and other interactive maps, and opportunistically explore ways to	Update in semi-annual report	Achieve no elevated health risks associated with swimming and seafood consumption through source control, monitoring, and public notification	4, 6

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					information to the public	coordinate with other beach water quality reporting systems; Continue to update and maintain Heal the Bay's NowCast system, River Report Card, and interactive website			
		Update fish contamination advisory and associated public education materials based on new data	OEHHA	State DPH, LAC-DPH	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		
		Maintain and enhance the existing seafood contamination	EPA Superfund	FCEC partners, Heal the	Support and facilitate the continuation and enhancement of the existing	Continue to participate in the Fish Contamination	Update in semi-annual report		

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		education and enforcement program		Bay, US EPA	seafood contamination education and enforcement program	Education Collaborative			
		Develop NowCast for freshwater systems to inform recreation (e.g., swimming holes)	Heal the Bay	LACDPH	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		
30	Conduct community engagement, education, and inform policies related to water conservation and reuse to reduce water demand and reliance on imported sources	Link water conservation with outreach events and social media	TBF, others	LADWP, MWD, municipalities, TreePeople, LAUSD, Heal the Bay, others	Opportunistically incorporate water conservation topics during outreach events and on social media	Engage and educate the community and volunteers about local water conservation issues and solutions during restoration events, targeted outreach, and TBF social media postings	Update in semi-annual report	Help reduce dependence of the Los Angeles region on imported water and lower the percentage of imported water use by water agencies	6

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		Educate, engage communities, and provide resources that promote the importance of native plants	TBF, others	LADWP, MWD, municipalities, TreePeople, LAUSD, CRI, many	Promote the use of drought tolerant native plants	Educate community and volunteers on the importance of using drought tolerant native plants in habitat restoration and residential landscaping	Update in semi-annual report		
		Support efforts by water agencies to promote water conservation and reuse including dissemination of materials	LADWP, City of Santa Monica	LADWP, MWD, municipalities, TreePeople, LAUSD, many	Promote current information on water conservation and reuse efforts developed by water agencies	Share current water conservation and reuse incentives and goals developed by water agencies to promote the use of these programs and to educate the public	Update in semi-annual report		
		Develop funding to support the expansion of best management	TBF, municipalities	businesses, TreePeople, LAUSD	To reduce pollution from businesses through implementation of	Apply for funding to support the expansion of best management practices to	Update in semi-annual report		

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		practices to incorporate other business sectors			best management practices	incorporate other business sectors			
31	Achieve water quality benefits by businesses through community engagement and implementation of best management practices	* Research contaminants, environmental laws, sustainability, pollution prevention standards, and BMPs for commercial businesses such as nurseries, landscapers, restaurants, and horse stables	TBF	CRI, universities, SCCWRP, others	To assess contaminants and pollution prevention impact from commercial businesses	Conduct a literature review to develop research priorities and identify potential partners	Update in semi-annual report	Achieve Clean Bay Certified adoption by 100% of Bay watershed cities; develop and distribute BMP materials to food service establishments and marine fuel docks	4, 6
		Distribute restaurant engagement tools	TBF	Municipalities	To reduce pollution from restaurants	Support Clean Bay Certified restaurant program; Advance pollution prevention best	Update in semi-annual report		

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						management practices such as ReThink Disposable project (see Action 32)			
		Develop funding to support the expansion of best management practices to incorporate other business sectors	TBF	Municipalities, businesses	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		
32	Reduce marine debris by supporting bans on single-use items, conducting outreach, and participating in trash reduction	Find funding for and continue ReThink Disposable LA	TBF	Clean Water Action/ Clean Water Fund, food service establishments	To contribute to source reduction of single-use disposable items from food service establishments	Complete Year 2 ReThink Disposable LA implementation at 3-5 food service establishments (connects to Action 31); Acquire funding	Update in semi-annual report	Implement ban on single use disposable plastics in Los Angeles County and 100% of cities throughout watershed; engage 30 food	4

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	programs	Support municipality bans of polystyrene, non-recyclable plastics, and single use items	Reusable LA, City of Santa Monica, LA County Chief Sustainability Office, LACDPW, other municipalities	TBF, Surfrider Foundation, Heal the Bay, 5 Gyres, Algalita, OPC, NOAA, USEPA, other stakeholders	To contribute to source reduction of polystyrene, non-recyclable plastics, and single use items	Participate in Reusable LA Coalition and support mobilization of local and state legislation targeting single-use disposable food and beverage ware source reduction	Update in semi-annual report	service establishments as ReThink Disposable participants	
33	Monitor microplastics (including microfibers) and other marine debris in the Bay and coastal	Complete the development of a microplastics in sediment extraction and analysis method	CRI, SCCWRP	TBF, OPC	To complete the development of a microplastics in sediment extraction and analysis method	Complete and publicly release the protocol as a report or manuscript in a scientific journal	Final Method Report or manuscript	Use microplastics data analyses and identified trends to inform source reduction management	4

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	environments to inform management actions	Publish a manuscript on the results of the Bay studies	CRI	TBF	To assist in characterizing microplastics in the Bay and nearshore environment and disseminate results	Continue data collection, analyses, and evaluation to inform a future manuscript	Update in semi-annual report	strategies in the Bay	
		Conduct additional studies to inform the transport, accumulation, and fate of microplastics in our marine and nearshore environments	CRI, SCCWRP	TBF	To continue to collect data to inform the regional fate and transport model of microplastics in the nearshore marine environment	Continue pilot study for data collection, analyses, and evaluation regarding microplastics fate and transport	Update in semi-annual report		
34	Improve understanding of emerging contaminants through monitoring and research to	Conduct more studies to assess the effects of emerging contaminants on riparian	SCCWRP	TBF, CRI, universities, LARWQCB, Physicians for Social	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	Reduce impacts of emerging contaminants on key habitats in the Bay and its watersheds	4

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	inform source control and reduce loading (e.g., fire retardants), especially in the context of climate change	and marine ecosystems and human health		Responsibility, Water Foundation, RCDSMM, State Parks					
		Improve analytical methodology and standardize monitoring of more emerging contaminants	SCCWRP	Physicians for Social Responsibility, Water Foundation	To improve availability, sensitivity, and repeatability of analytical methods for emerging contaminants to improve data quality for monitoring emerging contaminants in aquatic ecosystems	Support expanding list of contaminants monitored and monitoring reports and description of lab methods to analyze emerging contaminants	Update in semi-annual report		
		Enhance and expand existing educational programs and enforcement	Municipalities, many	SCCWRP, LARWQB, Physicians for Social Responsibility	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		

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		efforts to reduce the use and dispersal of emerging contaminants		lity, Water Foundatio n					
35	Monitor and inform management actions for Harmful Algal Blooms (HABs)	Continue to support research and monitoring efforts for HABs, especially in context of climate change and CMP implementation	SCCWRP, UCLA, UCSC, SCCOOS	CRI, JPL/NASA	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	Explore emerging technologies like remote sensing and DNA technology to better understand and fill data gaps related to HABs, conduct plankton sampling study	Update in semi-annual report	Reduce prevalence of HABs in the Bay and its waterbodies as measured by the Comprehensive Monitoring Program	4, 5, 6, 7
		Conduct monthly maintenance of SCCOOS shore station at Santa Monica Pier and seek support for	SCCOOS	TBD	To collect data on oceanographic conditions in the nearshore environment and potentially inform long-term changes related to environmental	Support monthly maintenance of the Santa Monica Pier Shore Station	Real time data available on SCCOOS website		

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		additional sensors			factors, including climate change				
		Improve public outreach and education on HABs	NGOs, coastal municipalities, others	CDFW, many	To improve public understanding of harmful algal blooms, causes, and impacts	Present results of fire / HAB study and CRI study to interested groups	Update in semi-annual report		
36	Monitor chemical, physical, and biological characteristics in the Bay to inform climate change impacts such as ocean acidification	Implement the Kelp Forest Hydrodynamic Study	UC Davis	TBF, CSU Northridge, UCLA IoES	To assess sediment transport, alteration of advective currents, and wave attenuation within kelp forests	Establish one new study site, conduct kelp density surveys, and assist with instrument maintenance and data download	Update in semi-annual report	Development and implementation of adaptation strategy addressing impacts of ocean acidification in the Bay	6, 7
		Support OA sensor array maintenance, calibration, and data downloads in accordance with SOP	LACSD	SMBRC, LARWQC B, SCCWRP, TBF	To continue using high-frequency, high-resolution OA sensors to characterize OAH conditions in Santa Monica Bay	Redeploy the OA sensors in collaboration with LACSD wire-walker mooring special study to accurately collect real-time data at high-	Update in semi-annual report		

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						resolution, both temporally and vertically through the water column, and characterize OAH levels and variability in the upper 100m of the water column			
		Support inclusion of climate change impacts into CMP, especially through new models and data	TBF	TAC, CRI, CDFW, many others	To implement monitoring associated with new climate change indicators in the Comprehensive Monitoring Program; to seek funding and implement the CMP; to complete and release the State of the Bay Report	Continue work towards writing State of the Bay Report with TAC; implement the HAB study in partnership with CRI	Update in semi-annual report; State of the Bay Report		

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		Convene technical advisors to prioritize actions based on information from CMP	SMBRC, TAC, universities, others	TAC	To prioritize monitoring and data collection needs based on the revised CMP for major habitats in the Bay and implement the prioritized monitoring protocols	Once revised CMP is released, prioritize data gaps by major habitat with support of scientific advisors, acquire funding (e.g., Prop. 50 grant program), and implement monitoring protocols	Update in semi-annual report		
37	Increase understanding of deep water habitats such as submarine canyons, deep reefs, and outfall pipes	Conduct ROV surveys to collect physical, chemical, and visual data	TBF, CRI	TAC, VRG	To use the ROV to conduct underwater surveys to supplement monitoring	Develop ROV use protocols, explore sensor integration, and deploy the ROV to collect physical, chemical, and visual data	Final Protocol(s)	Enhance functions and conditions of deep marine environments (e.g., deep reefs) in the Bay	6

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		Identify and apply emerging technology and techniques to better characterize Bay habitats, including recommendations	TBF, many	TAC, USC Sea Grant, SCMI, CRI, Blue Robotics, City of LA EMD, LACSD, CRI, SCCWRP, Marauder Robotics, CDFW, UCLA, others	To utilize cutting edge advancements in remote sensing, and remote platforms to better characterize the condition of the Bay's habitats	Contribute to the development and deployment of next gen data collection platforms to assess health of the Bay's habitats	Update in semi-annual report		
38	Monitor and improve understanding of rocky intertidal habitats to inform restoration actions	Support study recommendations and outreach efforts for improved protection	UCLA	CRI, MARINe	To improve understanding of rocky intertidal habitats to fill CMP data gaps and inform restoration activities	Continue to support Point Fermin rocky intertidal study; explore marine invertebrate physiological response to climate stressors	Update in semi-annual report	Implementation of the Comprehensive Monitoring Program to achieve a better understanding of the extent and condition of habitats in the Santa Monica Bay and its watershed	6
		Develop mitigation measures for rocky intertidal	UCLA	CRI, MARINe,	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		

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		habitats, including restoration and enhancement of physical structure		CDFW, USFWS					
39	Monitor and inform effective management of Marine Protected Areas, Fishery Management Plans, and local fisheries for recreational and commercially important species	Support MDRA in their implementation of the youth and veteran fishing program	MDRA	TBF	To provide disadvantaged youth and veterans the opportunity to experience nature, boating, and fishing and encourage sustainable lifestyles	Support MDRA by soliciting volunteers for boat trips as needed	Update in semi-annual report	Inform agency enforcement plans and long-term adaptive management of MPAs, assist with fishery related public health advisories	6
Support MDRA in the completion of a halibut FMP		CDFW	OREHP, HSWRI, MDRA	To provide technical and outreach support to MDRA in participating and tracking the development of a halibut FMP by CDFW and promotion of	Support MDRA in their efforts by reviewing project documents, providing technical support, attending meetings, and	Update in semi-annual report			

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					sustainable fisheries	tracking progress			
		Continue opportunistic aerial surveys to track boating and vessel activity	Lighthawk	TBF	To continue to track ocean vessels and fishing trends within the South Coast MPA Network	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		
		Conduct MPA Watch to monitor and inform use of MPAs in the Bay	LA Water-keeper, Heal the Bay	LA MPA Collaborative	To implement a community-science based program to monitor activities in MPAs and encourage appropriate enforcement and regulation activities	Train MPA Watch volunteers, conduct shore-based surveys, share data with local enforcement agencies, and conduct outreach to the public and interested stakeholders; See Action 27	Update in semi-annual report		

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						for additional MPA outreach efforts			
40	Research and inform best management and pollution reduction practices to address non-point source pollution and facilitate reduction	Identify partners and identify funding sources for long-term monitoring efforts for LID and water conservation efforts	City of Santa Monica, many	LA County, municipalities, LACDPW, Our Water LA Coalition	To establish project partners and identify potential funding sources in support of long-term monitoring for LID and water conservation efforts	Continue to work with project partners, agencies, and stakeholders to develop MOUs or other agreements with partners	Update in semi-annual report	Assist in achieving constituent percentage load reduction targets for waterbodies in the Santa Monica Bay according to TMDL compliance timeline	4
	Implement monitoring programs for long-term monitoring and to inform effectiveness of LID/BMP implementation projects	many	TAC, CRI, municipalities, LACDPW, Our Water LA Coalition	To fill data gaps and inform LID/BMP effectiveness in reducing non-point source pollution, especially nutrient pollution	Continue to encourage the implementation of enhanced and standardized monitoring programs developed by the TAC for all infrastructure projects funded under the Safe	Update in semi-annual report			

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						Clean Water Program			
41	Facilitate research, monitoring, and assessments that inform more accurate waste load allocations and development of new water, sediment, and biological objectives	Conduct or support monitoring and technical studies to characterize pollutant loading, impacts and effectiveness of pollutant control measures	SWRCB, LARWQC, SCCWRP, UCLA	Watershed cities, others	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	Assist in achieving constituent percentage load reduction targets for waterbodies in the Bay according to TMDL compliance timeline	4
		Conduct or support data collection for water quality objective development	SWRCB, LARWQCB	SCCWRP	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		

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42	Inform strategies to reduce greenhouse gas emissions and increase carbon sequestration in support of existing state actions and policies	Research landfill diversion's reduction on greenhouse gas emissions and carbon sequestration due to compost application	TBF, many	CRI, many	To conduct research on landfill diversion to obtain quantifiable GHG reduction metrics	Collaborate with partners and CRI to conduct research and produce a literature review	Update in semi-annual reports	Implement and support carbon sequestration/cycle monitoring, research, and quantification as part of projects to inform or prioritize efforts	N / A
		Conduct research to establish rate of carbon sequestration associated with key habitats in the Santa Monica Bay and its watershed	SCCWRP, UCI, UCLA, TBF	SCC, local cities, CRI, others	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	Collaborate with partners and leverage beach and eelgrass restoration projects to conduct research that contributes towards understanding carbon sequestration processes and rates	Update in semi-annual reports		

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		Identify projects or programs that will prioritize carbon sequestration and resilience	many	Municipalities, CDFW, many	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		
		Explore innovative concepts like sinking whale carcasses as potential opportunities for carbon sinks	LAC Lifeguards	many	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)		
43	Implement the County-wide Safe Clean Water Program to support stormwater pollution control projects (if approved by voters in 2018)	Participate in advisory board and support implementation of projects from the new funding mechanism	SMBRC	LA County, municipalities	To improve stormwater management in urban areas and reduce stormwater pollution through attainment of water quality objectives, increased stormwater	Support the efforts of municipalities and organizations to utilize funds made available under the Safe Clean Water Program for stormwater improvement	Update in semi-annual report	Assist in achieving constituent percentage load reduction targets for waterbodies in the Santa Monica Bay according to TMDL compliance	4, 6, 7

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					retention, increased service to disadvantaged communities, and coordination of efforts across the County	and LID projects that provide nature-based and multi-benefit solutions throughout the watershed		timeline	
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	Convene meetings to initiate program development and identify opportunities	TBF, others	LACDPW, Army Corps, CCC, municipalities	To facilitate communications and inform opportunities to advance sediment management in Los Angeles County	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)	Complete and implement a comprehensive regional sediment management plan to restore natural functions where possible and mitigate impacts of climate change	6, 7
Develop plans and/or update existing plans to promote sediment transport and deposition along the coast based on hydro-dynamic		TBF, others	USGS, CRI, USC Sea Grant, State Parks, CCC, SCC, CDFW	To protect public and private infrastructure and ecosystem services by increasing the Los Angeles County coastline's resilience to sea	(Not part of FY22 Work Plan)	(Not part of FY22 Work Plan)			

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		modeling and analyses			level rise and coastal flooding				
		Build capacity and conduct pilot projects to inform future actions and advance program development/design	TBF, others	USGS, CRI, USC Sea Grant, State Parks, CCC, SCC, CDFW	To utilize pilot level projects to test assumptions and develop preferred methods for sediment transport and/or placement	Initiate planning for pilot projects	Update in semi-annual report		

* New projects for FY22 Work Plan are indicated with an asterisk (*) in the CCMP Next Step column.

** Next steps or project activities that are part of the 2018 CCMP Action Plan, but are not identified as part of this current Work Plan are included in the table with grey cells and with the text “(Not part of FY22 Work Plan)”.

*** **CWA Core** – Clean Water Act Core Elements are as follows per the USEPA: (1) establishing water quality standards, (2) identifying polluted waters and developing plans to restore them (total maximum daily loads), (3) permitting discharges of pollutants from point sources (National Pollutant Discharge Elimination System permits), (4) addressing diffuse, nonpoint sources of pollution, (5) protecting wetlands, (6) protecting coastal waters through the National Estuary Program, and (7) protecting Large Aquatic Ecosystems.