

# **SANTA MONICA BAY NATIONAL ESTUARY PROGRAM**

## **Fiscal Year 2019 Work Plan**

(October 1, 2018 – September 30, 2019)

*30 April 2018*

*Final Report Approved by SMBNEP Management Conference*

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## Common Work Plan Acronyms

BEP = Boater Education Program  
BRP = Santa Monica Bay Restoration Plan (also known as CCMP)  
CDFW = California Department of Fish and Wildlife  
CMP = Santa Monica Bay Comprehensive Bay Monitoring Program  
CRI = Loyola Marymount University's Coastal Research Institute  
CVA = Clean Vessel Act  
DBW = California State Parks Division of Boating and Waterways  
EC = Santa Monica Bay Restoration Commission Executive Committee  
EWMP = Enhanced Watershed Management Plans  
FY19 = Federal Fiscal Year 2019  
GB = Santa Monica Bay Restoration Commission Governing Board  
GPRA = Government Performance and Results Act  
LARC = Los Angeles Regional Collaborative for Climate Action  
LARWQCB = Los Angeles Regional Water Quality Control Board  
MPA = Marine Protected Area  
MRCA = Mountains Recreation and Conservation Authority  
NPDES = National Pollutant Discharge Elimination System  
Prop. = Proposition Grant  
RCDSMM = Resource Conservation District of the Santa Monica Mountains  
SCC = California State Coastal Conservancy  
SCCWRP = Southern California Coastal Water Research Project  
SMBNEP = Santa Monica Bay National Estuary Program  
SMBRA = Santa Monica Bay Restoration Authority  
SMBRC = Santa Monica Bay Restoration Commission  
SotB Report = 2015 State of the Bay Report  
SWRCB = State Water Resources Control Board  
TAC = Santa Monica Bay Restoration Commission Technical Advisory Committee  
TBF = The Bay Foundation (also known as the Santa Monica Bay Restoration Foundation)  
TMDL = Total Maximum Daily Load  
UCLA = University of California, Los Angeles  
USC = University of Southern California  
USEPA = United States Environmental Protection Agency  
WAC = Santa Monica Bay Restoration Commission Watershed Advisory Council  
WMP = Watershed Management Plans

# I. INTRODUCTION

## **Santa Monica Bay National Estuary Program Entities**

Section 320 of the federal Clean Water Act establishes the National Estuary Program (NEP), which is administered by the United States Environmental Protection Agency (USEPA). To implement the NEP, USEPA identifies national estuaries, develops a Comprehensive Conservation and Management Plan to restore the estuaries, and provides grants to pay for activities necessary to implement the plan. USEPA identified the Santa Monica Bay as a national estuary and approved the Santa Monica Bay Restoration Plan (BRP), with the concurrence of the State that identifies actions and priorities to restore the Santa Monica Bay. The Santa Monica Bay National Estuary Program (SMBNEP) is implemented by three entities during the FY19 Work Plan period: the Santa Monica Bay Restoration Commission (SMBRC), the Santa Monica Bay Restoration Authority (SMBRA), and the Santa Monica Bay Restoration Foundation also known as The Bay Foundation (TBF). Loyola Marymount University's Coastal Research Institute (CRI) works collaboratively with TBF to support BRP and Comprehensive Monitoring Program efforts. Each entity is briefly described below, and more information can be found on the roles, membership, and relationship between entities on the following webpage: [http://www.smbrc.ca.gov/about\\_us/orientation/](http://www.smbrc.ca.gov/about_us/orientation/).

SMBRC is a non-regulatory, locally-based state entity established by an act of the California Legislature in 2002 [Pub. Res. Code §30988(d)]. SMBRC is charged with coordinating activities of federal, state, local, and other entities to restore and enhance the Santa Monica Bay, including identifying and leveraging funding to put solutions into action, building public-private partnerships, promoting cutting-edge research and technology, facilitating stakeholder-driven consensus processes, and raising public awareness ([www.smbrc.ca.gov](http://www.smbrc.ca.gov)). SMBRC brings together local, state, and federal agencies, environmental groups, businesses, scientists, and members of the public on its 36-member Governing Board. SMBRC is also supported by a Technical Advisory Committee (TAC), and a broad stakeholder body, the Watershed Advisory Council (WAC). SMBRC is supported administratively by the State Water Resources Control Board (SWRCB), including staff and office space.

SMBRA was created in 2004 by a joint exercise of powers agreement between SMBRC and the Los Angeles County Flood Control District and operates as a local public agency within the Santa Monica Bay watershed and the jurisdictional boundaries of SMBRC and the District. The purpose of SMBRA is to broaden funding opportunities for projects within the Santa Monica Bay Watershed, and it provides an efficient method by which state agencies can fund important programs of the SMBNEP.

TBF is an independent, non-profit 501(c)(3) organization founded in 1990. The mission of TBF is to contribute to the restoration and enhancement of the Santa Monica Bay and other coastal waters ([www.santamonica.org](http://www.santamonica.org)). TBF receives an annual grant from USEPA pursuant to section 320 of the Clean Water Act (33 U.S.C. §1330) to implement the BRP. TBF also receives important grants and donations from other entities to support TBF and its implementation of the BRP.

The Coastal Research Institute (CRI) brings together expertise from Loyola Marymount University's Frank R. Seaver College of Science and Engineering and TBF to restore and enhance Santa Monica Bay and local coastal waters. CRI contributes to better understanding of global urban coastal resource management through the execution of projects that stem from TBF's work as part of SMBNEP and its efforts to implement the BRP. CRI will engage educators, academics, graduate students, undergraduate students, agencies, industry and more in research related to coastal resource management.

### **Bay Restoration Plan and FY19 Work Plan**

The original BRP of 1995 was updated in 2008 and again in 2013. SMBNEP is currently beginning a major BRP revision. The revision is scheduled to be completed by 2019. EPA's funding guidance describes a revision as an alteration of the BRP that involves significant changes such as new or significantly altered goals, or to incorporate new information and data, such as from climate change. Updates and revisions are made to the BRP through a public and iterative process with active participation from members of the Governing Board as well as members of the WAC and TAC. The 2013 BRP identified approaches and strategies intended to make substantial progress toward Bay restoration over the next ten to twenty years. It reflected the consensus of SMBNEP partners with regard to the best strategies and priorities to ensure continued progress and achieve eventual restoration of the Bay and its watershed. The current revision to the BRP is ongoing and will include new information and data obtained since the last update, including applying the results of the climate change vulnerability assessment project completed in September 2016.

The purpose of this federal Fiscal Year 19 (FY19) Work Plan is to identify program objectives, tasks, and timelines of the work to be performed during the federal fiscal year (FY19): October 1, 2018 – September 30, 2019, specifically to accomplish the goals and objectives of the 2013 BRP and various technical, managerial, and administrative activities necessary to continue to advance the mission of SMBNEP. Fourteen Goals are identified in the 2013 BRP, in three major "Priority Issue" categories: *Water Quality*, *Natural Resources*, and *Benefits and Values to Humans*. The 14 Goals are described below. The Goals that will be addressed in this Work Plan are identified with an asterisk. The Goals are achieved through actions by many different entities, including public agencies and non-profit organizations that take the lead on specific projects.

#### **Priority Issue – Water Quality**

- Goal #1: Improve water quality through enhancement of current regulatory framework and collaborative, integrated watershed-wide planning and implementation \*
- Goal #2: Improve water quality through pollution prevention and source control \*
- Goal #3: Address potential impacts of contaminants of emerging concern

#### **Priority Issue – Natural Resources**

- Goal #4: Create and support policies and programs to protect natural resources \*
- Goal #5: Acquire land for preservation of habitat and ecological services
- Goal #6: Manage invasive species \*
- Goal #7: Restore wetlands, streams and riparian zones \*
- Goal #8: Restore coastal bluffs, dunes, and sandy beaches \*
- Goal #9: Restore intertidal and subtidal habitats \*
- Goal #10: Protect and restore open ocean and deep water habitats

#### **Priority Issue – Benefits and Values to Humans**

- Goal #11: Protect public health \*
- Goal #12: Maintain/increase natural flood protection through ecologically functioning floodplains and wetlands \*
- Goal #13: Increase public access to beaches and open space \*
- Goal #14: Conserve water and increase local water supply \*

**Connection to USEPA Goals**

The Clean Water Act section 320 grant is administered by USEPA and provided to TBF for carrying out certain annual Work Plan activities. Non-federal grant matching funds are required at a minimum rate of 1:1. In lieu of direct funding, the State Water Resources Control Board (SWRCB) contributes by providing state staff, office space, and other administrative services to SMBRC. In addition to the SWRCB contribution, the federal grant match requirement is met using funds from the State bond grants [e.g., Proposition 50 and 84 grants administered by the SWRCB and Proposition 12 grants administered by the State Coastal Conservancy (SCC)], and other State and local grants and funds received and managed by TBF and SMBRA. Projects and activities conducted by other entities identified in this Work Plan are funded by various sources secured by those entities.

The FY19 Work Plan and the BRP serve USEPA's Goal 1: Core Mission – deliver real results to provide Americans with clean air, land, and water. EPA's *FY 2014-2018 Strategic Plan* charts a course for the agency and is organized around five key goals, including: addressing climate change and improving air quality; protecting America's waters; cleaning up our communities and advancing sustainable development; ensuring the safety of chemicals and preventing pollution; and enforcing environmental laws.

This Work Plan includes activities that will contribute to the FY14-18 EPA Strategic Plan goals as well as the Office of Water (OW) *National Water Program Guidance* (FY16 and FY17). Specifically, the SMBNEP contributes to the element of the guidance that states: "EPA will continue to build the capacity within the National Estuary Program to adapt to changes from climate change on the coasts, and will provide additional assistance to individual NEPs to support their work to develop adaptation plans for their study areas or technical assistance to support implementation of those plans."

## II. WORK PLAN OVERVIEW

### Work Plan Structure

Section II of the Work Plan provides an overview of the activities to be undertaken in FY19. Section III provides details on the individual tasks and how each task advances the goals of the BRP. Sections IV and V depict the Work Plan budget and travel documentation, respectively.

The scope of this Work Plan is broad and structured into three overarching Program Areas (all contained within Section III) (Figure 1). Significant efforts will be devoted to carry out water quality improvement and habitat restoration programs and projects, aimed at achieving the objectives and milestones in the Water Quality and Natural Resources sections of the BRP. The Program Area identified as Water Resources and Quality Improvement relates specifically to the BRP Priority Issue: Water Quality; the Program Area identified as Natural Resource Protection and Habitat Restoration relates specifically to the BRP Priority Issue: Natural Resources (Figure 1). There will also be focus and efforts in FY19 to implement programs that interconnect and integrate issues across traditional boundaries such as climate change and comprehensive monitoring. These interdisciplinary issues that cover a broad range of topics are categorized into the Work Plan Program Area: Multidisciplinary and Integrative Programs. Figure 1 illustrates the connection between SMBNEP's FY19 Work Plan and BRP 2013 Priority Issues.

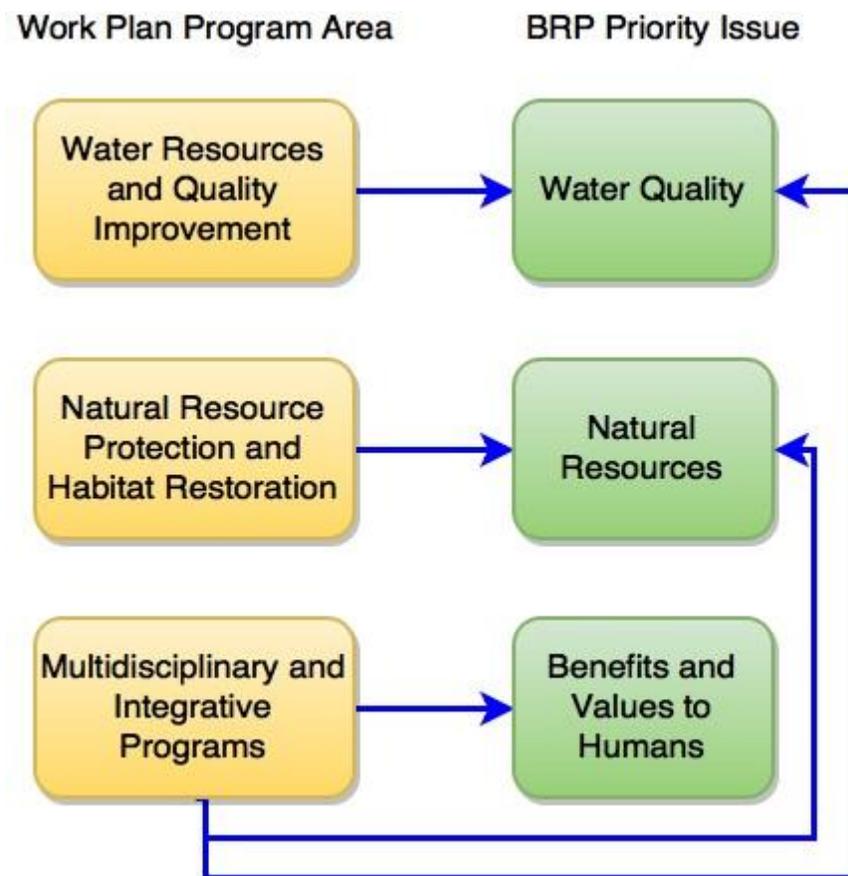


Figure 1. Connection between SMBNEP's FY19 Work Plan Program Area and 2013 BRP Priority Issues.

Each of the three Work Plan Program Areas are further categorized into broad Goals and can be identified as 1.1, 1.2, etc. The table below illustrates each of the three Work Plan Program Areas and the nine Goals identified as priorities for FY19.

Work Plan Program Area	Work Plan Goal
1. Water Resources and Quality Improvement	1.1 Support regional water quality improvement planning and policies
	1.2 Improve water quality through pollution control and prevention
2. Natural Resources and Habitat Protection	2.1 Support natural resource protection policies and programs
	2.2 Restore wetlands and streams
	2.3 Restore coastal bluffs, dunes, and sandy beaches
	2.4 Restore intertidal and subtidal habitats
3. Multidisciplinary and Integrative Programs	3.1 Promote climate change vulnerability assessment and adaptation
	3.2 Conduct public outreach
	3.3 Support planning, monitoring, and organizational management

The Work Plan Goals are further divided into Objectives (at the level of 1.1a, 1.1b, etc.). Each Objective has its own subsection within Section III containing a series of tasks identified within a table that will take strides towards reaching the Objective. New tasks for FY19 are explicitly called out in the subheader for that task and in the summary table for that section. All other tasks should be assumed to be ongoing from FY18. Each task also has partners identified in the summary table for that section. Figure 2, on the next page, illustrates the Work Plan structural outline.

### **Work Plan Changes from FY18**

The differences between the FY18 Work Plan and the FY19 Work Plan are summarized in Appendix A, through a table that briefly describes tasks that were either completed in FY18, combined with other tasks for FY19, or removed. Tasks were combined for many reasons, including, but not limited to, reporting efficiency, increasing the readability and succinctness of the Work Plan, increasing consistency of task scopes throughout the Work Plan, increasing consistency with EPA funding guidance, and to provide a better understanding of projects with similar goals. Tasks were removed primarily due to lack of funding identified for FY19. Removal from the Work Plan does not indicate that the task will not be re-initiated in future years. Work Plan tasks will continue to be driven by SMBNEP's BRP.

### **Environmental Results (Outputs and Outcomes)**

Appendix B includes a table with FY19 Work Plan outputs (e.g. deliverables) and outcomes (e.g. environmental results) broken down by Work Plan Program Area. To the extent possible, quantifiable

long-term outcomes on a 5-20 year timeframe were used to drive the development of short-term outcomes, tasks, and outputs. Examples of long-term outcomes may include things like a target number of habitat acres restored, or a water quality numerical target objective. Additional programmatic accomplishments from previous fiscal years can be found in the narratives by task throughout this Work Plan, and summarized in [SMBNEP's 2017 Annual Report](#) and [previous semi-annual reports](#).

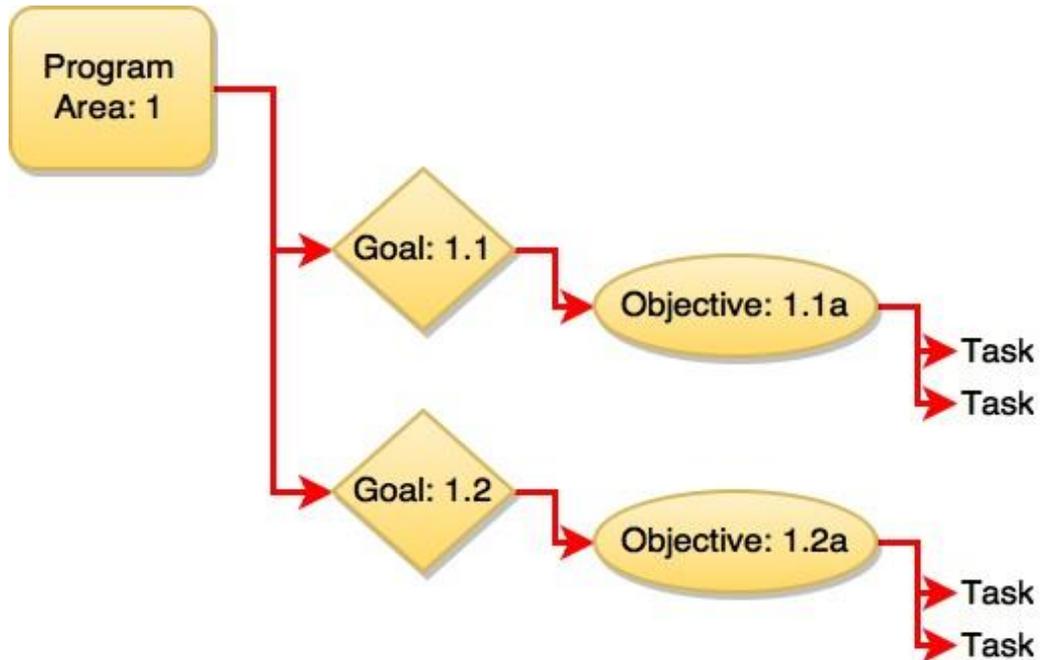


Figure 2. Work Plan structural outline graphic.

### **Partnerships and Roles**

In addition to projects led and carried out directly by entities of SMBNEP, staff will work with partner organizations and other stakeholders toward collaborative programs, and facilitate and promote activities by partner organizations and stakeholders to achieve the objectives and milestones of the BRP. The role of each SMBNEP entity (SMBRC, TBF, or SMBRA) may differ for each specific Work Plan task and their roles are clearly identified in the Work Plan as one or more of the following:

- **Lead:** SMBNEP entity is the lead sponsor and oversees completion of the project activity, and/or the entity carries out the projects directly. These tasks are priorities for the current fiscal year.
- **Participate:** SMBNEP entity contributes staff and/or other resources and actively engages in project activities.
- **Facilitate:** SMBNEP entity provides assistance in coordination, consensus and partnership-building, information exchange, fund raising, etc.
- **Promote:** SMBNEP helps to accomplish the project by actively campaigning for, and/or helping to disseminate information, etc. for the associated activities.
- **Support:** SMBNEP advocates for the project or activity by adopting policy statements, offering endorsements, providing supporting letters, testimony, etc.

### III. TASK DESCRIPTIONS

This section outlines each of the FY19 Work Plan goals and objectives and provides project narratives and background with task level details summarized in a table for each goal. Each task table articulates which SMBNEP entity(ies) are involved, their role, major project partners, and key actions and deliverables. Tasks in which an SMBNEP entity is identified as the lead or tasks which are identified as SMBNEP priorities for FY19 will also have a supplemental narrative containing details about the task and the project(s) it may contain.

The particular BRP objectives and milestones that are linked to each task are identified, along with the anticipated environmental results. Environmental results are divided into Outputs (i.e., an activity or effort and/or associated work products that are produced or provided over a specific period of time) and Outcomes (i.e., long term environmental changes or benefits resulting from such activities/ efforts) and refer to results that are expected to be achieved in FY19.

Many of the FY19 tasks are continued from previous efforts or projects. Tasks which are new for this fiscal year are identified with a double asterisk in the tables; all others should be assumed to be ongoing. Completed tasks are often closely connected to ongoing, similar projects, and/or are part of a larger project. Relevant recent completed tasks from the FY19 Work Plan are identified with a summary narrative for each individual project at the end of each section (after the task table for each objective).

## Program Area 1: Water Resources and Quality Improvement

Tasks and activities in this section of the Annual Work Plan are intended to advance the goals, objectives, and milestones that address water quality-related issues, as laid out in Priority Issue 1, Water Quality, of the BRP. Section A of the BRP lays out goals, objectives, and milestones for addressing major water quality issues existing in the Bay and the Bay watershed. One primary goal of this Section is to improve water quality through enhancement of current regulatory framework and collaborative, integrated watershed-wide planning and implementation (Goal #1). To achieve this goal, SMBNEP has worked, and will continue to work with, parties responsible for meeting allocations of total maximum daily loads (TMDLs) and dischargers responsible for complying with National Pollutant Discharge Elimination System (NPDES) permits. The following table summarizes the Goals and Objectives for Program Area 1 in the FY19 Work Plan.

Goal	Objective
1.1 Support regional water quality improvement planning and policies	1.1a Implement stormwater pollution control BMP funded through Prop. 84 bond and other grant programs
	1.1b Promote and participate in integrated watershed-wide water quality improvement planning and implementation
1.2 Improve water quality through pollution control and prevention	1.2a Implement green infrastructure and LID projects
	1.2b Implement the Boater Education Program
	1.2c Implement the Restaurant Engagement Program

### 1.1 Support regional water quality improvement planning and policies

Specific contributions of SMBNEP towards regional water quality improvement planning and policies include recommending awards and overseeing implementation of State Proposition (Prop.) 50 and 84 grant funding for stormwater pollution reduction projects, and facilitating other sources of State funding. SMBNEP has also facilitated, and will continue to facilitate the achievement of TMDL waste load and load allocation targets through integrated regional water resource management approach, which will not only improve the Bay's water quality, but also aid in recharging local groundwater supplies and conserving water.

#### **1.1a Implement stormwater pollution control BMP funded through Prop. 84 bond and other grant programs**

SMBRC Governing Board recommends funding of projects through this program to the State Water Resources Control Board (SWRCB) after a public process to ensure they meet the BRP objectives and address the BRP priorities, meet the requirements of the enabling legislation, and are consistent with USEPA's Strategic Plan. Adequate oversight of these projects is essential and entails close coordination with SWRCB staff and project proponents in preparing grant agreements, project execution, and project reporting.

**Prop. 84 Grants**

At the time of this report writing, the construction phases of two Proposition projects were completed in FY18: University Park Rain Gardens and Milton Street Park Project (Appendix D). Project monitoring and closeout should be completed by mid-2018. Both projects will increase native habitat, divert and treat stormwater, and improve water quality by addressing Ballona Creek TMDLs for trash, metals, bacteria, DDT and PCBs through trash capture, infiltration and treatment. For additional details on these ongoing projects, see Appendix E.

In FY19, SMBRC will continue to work with grantees to implement four additional Prop. 84 projects: Culver Boulevard Realignment and Stormwater Infiltration/Retention Regional Project, Westwood Neighborhood Greenway Project, Santa Monica Bay Catch Basin Insert Project, and Ladera Park Water Quality Enhancement Project.

***1.1b Promote and participate in integrated watershed-wide water quality improvement planning and implementation*****Water Quality Planning and Funding**

SMBRC and TBF will continue to promote state-wide, regional, and sub-regional efforts in water quality improvement planning and implementation efforts. These efforts include, but are not limited to the collaborative effort of local environmental, municipal, and business communities to increase funding for water resiliency. Efforts will be made to assist a timely completion of the LA County Water Resiliency Work Plan, a collaborative effort of local environmental, municipal, and business communities to increase funding including a new County-wide funding ballot measure, for water resiliency. SMBNEP will support the identification of available Prop. 1 funding for new projects, with a continued focus on projects identified in the Watershed Management Plans (WMPs) and Enhanced Watershed Management Plans (EWMPs) thereby assisting compliance with the Los Angeles County MS4 permit; and the related Storm Water Strategy, an effort led by the SWRCB to sustainably manage and utilize storm water in California to support water quality and water availability, by engaging and collaborating with SWRCB and LARWQCB staff, supporting projects where appropriate, and keeping the SMBRC Governing Board and membership informed of pertinent developments.

**Integrated Water Resource Management Plan**

SMBRC has been participating as a member of the Leadership Committee representing open space, and the two sub-regional groups in the Santa Monica Bay watershed of the Integrated Water Resource Management Plan (IRWMP) for the Los Angeles Metropolitan region. During FY19, SMBRC will continue to participate in the activities of the leadership group and sub-region steering committees to provide necessary technical and advisory support. In addition, SMBRC will continue to work with LARWQCB staff and others to identify and incorporate regulatory priorities into the selection of specific projects included in the IRWMP, especially projects that lead to water quality improvement by reducing stormwater pollutant loading, regulated by the MS4 permit, specific TMDL implementation plans, and related efforts.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
1.1a Implement stormwater pollution control BMP funded through Prop. 84 bond and other grant programs				
Oversee pollution control BMPs funded through Prop. 84 bond grants	SMBRC	Participate	SWRCB*, LARWQCB, MS4 permittees	Grant agreements drafted in early 2017; project implementations: April 2017 – 2020
1.1b Promote and participate in integrated watershed-wide water quality improvement planning and implementation				
Implement water quality planning and funding projects and programs	SMBRC, TBF	Promote	LA County, MS4 permittees, LADPW, LACSD, West Basin Water District, LARWQCB	Engage with County staff to identify collaborative projects and opportunities for proposition and other money for water quality improvement projects
Participate in IRWMP to provide technical support	SMBRC	Participate	Los Angeles County Dept. of Public Works (LADPW)*, municipalities in watershed, Los Angeles County Sanitation Districts (LACSD), West Basin Water District	Quarterly meetings

\* Project lead

*Linked BRP Objectives and Milestones: 1.1a-d*

## **1.2 Improve water quality through pollution control and prevention**

Another important goal in the Water Quality Section of the BRP is to improve water quality through pollution prevention and source control (Goal #2). This goal is aimed at implementing projects to reduce and prevent the generation of pollutants at their sources before entering the region's waterways. To achieve this goal, SMBNEP has spearheaded and carried out several successful pollution source control programs including the residential rain garden program, Boater Education Program, and the Clean Bay Restoration Certification program. In FY19, SMBNEP will continue to seek opportunities to fund and expand these programs.

### **1.2a Implement green infrastructure and LID projects**

Green infrastructure and low impact development (LID) practices are increasingly used as an effective tool to capture, treat, and infiltrate stormwater on-site. In addition to improving surface water quality,

these practices also provide multiple benefits including creation of native habitat, beautification of the urban landscape, and reduction of outdoor water use for irrigation, etc. SMBNEP has given priority to green infrastructure projects when recommending the allocation of the state bond funding (Prop. 50, 84, see Section 1.1a) and seeking grants to implement (TBF) LID projects directly.

### **Rain Garden Pollutant Tracking**

TBF and LMU's Coastal Research Institute are partnering on a study to evaluate how metals are concentrated in the soils and plants at the Ballona Creek Rain Garden (BCRG) to understand the fate of metals from the retained stormwater. Constructed biofilters (e.g. bioswales, rain gardens, bioretention gardens) have been shown to significantly reduce pollutant load by mimicking natural processes and filtering out pollutants; however, their fate within the biofilter itself is largely unknown. This work will fill a gap in the knowledge and understanding of metal pollutant removal in the BCRG and in Southern California bioswale vegetation to inform LID and BMP development.

### ***1.2b Implement the Boater Education Program***

California has one of the highest levels of recreational boating activity in the nation with approximately 2 million recreational boats. Boating related pollution such as sewage, oil, copper, household hazardous waste (i.e. cleaners, stains, varnishes, batteries, automotive fluids, certain paints, etc.), aquatic invasive species, and marine debris can directly impact water quality along the 1,100 miles of coast and of hundreds of inland navigable waterways. The Boater Education Program (BEP) helps to accomplish Goal #2 of the BRP, which is to improve water quality through the pollution prevention and source control.

### **Pumpout Monitoring**

The goal of pumpout station monitoring is to promote usability of pumpout stations, promote useful pollution prevention amenities for boaters, and decrease the amount of sewage discharged into waterways. In FY19, TBF staff will continue quarterly monitoring of 70 pumpout stations throughout Southern California's major harbors including: Santa Barbara, Ventura, Channel Islands, Marina del Rey, King Harbor, Los Angeles, Long Beach, Huntington Harbor, Newport, Oceanside, Dana Point, and San Diego. TBF staff will continue to work with program partners, SFEP and DBW, on developing monitoring protocols for the State of California. TBF staff will work DBW on the beta-trial of Pumpout Nav application and the application's administration site for on-site pumpout data collection. Pumpout Nav also serves as a mobile app for boaters to geo-locate pumpout stations, submit facility reviews and photos, and will include a portal to notify facility managers of operational difficulties with a given pumpout.

### **Boating Community Engagement**

TBF will educate the boating community about minimizing the environmental impact of boating, with the goal of decreasing pollutants that enter the waterways. Engagement will be accomplished through three main projects: mobile pumpout service outreach (i.e. Honey Pot Program), volunteer coordination (i.e. Dockwalker Partner Program), in-water hull management (i.e. Marina del Rey Boat Lift project). The Honey Pot Program encourages proper sewage disposal by providing free mobile pumpout service and clean boating education to boaters in Los Angeles County. The Dockwalker Partner Program exists to promote leadership and behavioral change through peer-to-peer outreach. This program coordinates volunteers and conducts trainings to distribute information about safe and clean boating practices. The two main goals of the in-water hull management outreach project are to promote the Marina del Rey Harbor Copper TMDL Boat Lift Program to boaters in Marina del Rey Harbor and to increase boater

knowledge about the copper TMDL, integrated pest management solutions, and raise the visibility of the Los Angeles County Department of Beaches and Harbor's actions to address the issue.

Specifically in FY19, tasks will include the following: producing annual Southern California Tide Calendar, quarterly Changing Tide newsletters, annual Dockwalker newsletter and other communications, Dockwalker training presentation, Boater Kit, boater questionnaire, Clean Boating Pledge; attending boating engagement events; tracking contacts and distribution of engagement materials; conducting four to five Dockwalker trainings; convening Dockwalker TAC meeting in winter 2018/19; awarding top Dockwalker Partners in 2018/19; and producing six outreach tools (i.e. fliers, fact sheet, newspaper articles, post card, brochure, and video) for the Marina del Rey Harbor Boat Lift Program.

**\*\*NEW: CVA Vessel Waste Disposal Plan**

TBF will partner with SFEP to provide recommendations for the update of the 5-year California Statewide Vessel Waste Disposal Plan. This effort includes updating the current stock of stationary pumpout facilities, dump stations, and floating restrooms for coastal and inland waterbodies throughout Southern California, as well as recommend strategies for resource development.

**1.2c *Implement the Restaurant Engagement Program***

**Clean Bay Restaurant Certification Program**

Clean Bay Certified helps cities meet Municipal Separate Sewer and Storm (MS4) permit requirements by providing a framework for implementation of their Public Involvement and Participation requirement under the permit. Annual stormwater inspections by the city, along with additional support (i.e. stormwater education, water conservation tools, source reduction assistance, etc.) from TBF helps limit pollutants conveyed by stormwater from restaurants. TBF will support inspections and promote certified restaurants on websites, social media, at public engagement events, and presentations. For more information, go to: [www.santamonicabay.org/learn/our-work/clean-bay-restaurants/](http://www.santamonicabay.org/learn/our-work/clean-bay-restaurants/).

**Community Composting and Organics Recycling Outreach**

The Table to Farm Composting for Clean Air program addresses methane generation from landfills, organics recycling, and healthy soils by connecting restaurants with compost hubs, urban farms, and community gardens.

TBF will partner with local community groups and schools (i.e. Social Justice Learning Institute (SJLI), Environmental Charter Schools) on a "Table to Farm" composting program in the City of Inglewood. TBF will work with these groups to install and manage community composting sites assisting restaurants with source reduction, organics recovery, and food rescue. In addition to addressing air quality issues, TBF will raise awareness about SJLI's CSA program and the benefits of buying from it at local L.A. restaurants. For more information, go to: [www.santamonicabay.org/explore/our-communities/clean-bay-restaurants/table-farm-composting/](http://www.santamonicabay.org/explore/our-communities/clean-bay-restaurants/table-farm-composting/)

**Single Use Disposable Products Reduction Initiative**

In FY19, through a partnership with Rethink Disposables (a program of Clean Water Action and Clean Water Fund), TBF will work to reduce single use disposable items from food service establishments. This program addresses litter prone food packaging found in stormwater and marine debris and focuses on stopping the pollution at its source. TBF will conduct waste audits at food service establishments,

provide technical assistance to restaurants on the use of durable products, and continue to seek additional funding.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
1.2a Implement green infrastructure and LID projects				
Implement the rain garden pollutant tracking study	TBF	Participate	LMU's CRI *	Final Master's thesis and associated presentation completed in June 2019
1.2b Implement the Boater Education Program				
Conduct pumpout monitoring	TBF	Lead	San Francisco Estuary Partnership, DBW	Quarterly monitoring of 79 (may vary) stationary sewage pumpout units and annual report
Implement boating community engagement program	TBF	Lead	DBW, CA Coastal Commission, San Francisco Estuary Partnership, US Coast Guard Auxiliary, US Power Squadrons, boating community, marinas and yacht clubs, volunteers, DBH, LARWQCB	Conduct outreach and produce materials (e.g. Changing Tide Calendars, newsletters, Boater Kits) to engage more than 6,500 boaters; distribute boater kits via the Dockwalker and Marina del Rey Boat Lift Programs; track event participation; award Dockwalker Partners
** NEW: Update the CVA Vessel Waste Disposal Plan	TBF	Lead	San Francisco Estuary Partnership, DBW, CCC, marinas, yacht clubs, harbor management, cities	Recommendations for the revised CVA Vessel Waste Disposal Plan
1.2c Implement the Restaurant Engagement Program				
Implement Clean Bay Certified program	TBF	Lead	Cities in the Bay Watershed, RWQCB	Seek grants and funding (ongoing); semi-monthly online promotion; award events in Feb 2019; conduct restaurant staff interviews; media

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
				outreach, support annual/monthly inspections of restaurants (approx. 350 annually)
Implement community composting and organics recycling outreach	TBF	Lead	Social Justice Learning Institute, Environmental Charter Schools, cities in the Bay Watershed, restaurants	3-4 restaurant composting programs; oversee 2 composting hubs (central composting location); engagement materials and signage
Single Use Disposable Products Reduction Initiative	TBF	Lead	Rethink Disposables, Clean Water Action / Clean Water Fund, food service establishments	Seek grants and funding (ongoing); produce 3 case studies on transitioned food service establishments and distribute engagement materials

\* Project lead

\*\* New project for FY19

Linked BRP Objectives and Milestones: 2.1d-f, 2.2, 2.4a-d, 2.5a, 14.1, 14.2

## Program Area 2: Natural Resource Protection and Habitat Restoration

Tasks and activities in this section of the Annual Work Plan are intended to advance the goals, objectives, and milestones that address natural resources-related issues, as laid out in Priority Issue 2, Natural Resources, of the BRP. The BRP addresses the natural resources-related issues first by supporting better information gathering and implementation of more effective protection policies, regulations, and management programs (Goal #4), and by laying out specific steps and projects needed for protection and restoration for each of the major habitats in the Bay (Goals #7–10). The following table summarizes the Goals and Objectives for Program Area 2 in the FY19 Work Plan.

Goal	Objective
2.1 Support natural resource protection policies and programs	2.1a Promote marine ecosystem protection
	2.1b Support stream protection and policies
2.2 Restore wetlands and streams	2.2a Facilitate restoration of priority wetlands
	2.2b Facilitate stream restoration and fish barrier removal
2.3 Restore coastal bluffs, dunes and sandy beaches	2.3a Restore coastal dune and bluff habitats
	2.3b Protect and restore sandy beach habitats
2.4 Restore rocky intertidal and subtidal habitats	2.4a Promote protection of rocky intertidal habitats
	2.4b Restore and enhance rocky reef habitat
	2.4c Reintroduce and restore abalone

### 2.1 Support natural resource protection policies and programs

The lack of enforceable regulations and and/or conservation policies have been identified as a major cause of loss and degradation for all types of habitats, either land or ocean based. Goal #4 of the BRP calls for new regulations and policies such as a stream protection ordinance, enhanced assessment and effective management of Marine Protected Areas (MPAs), and support for development of fishery management plans to prevent further loss of the remaining habitat areas and living resources within the watershed and Bay.

#### 2.1a Promote marine ecosystem protection

##### **Ocean Vessel Aerial Monitoring**

Objective long-term data on the type, extent, and location of boating and boat-based fishing directly supports the success of marine spatial planning and resource management of coastal oceans. Initiated in 2010, the ocean vessel aerial monitoring project (BRP Milestone 4.2d) documents the location, type, and activity of ocean vessels operating in state waters with the purpose of informing the south coast Marine Life Protection Act Initiative and interested parties with a fishery-independent data set on the expanse and type of fishing effort in Southern California. This project also contributes data directly to the Marine Protected Area (MPA) collaborative and is conducted in partnership with LightHawk, a 501

(c)(3) non-profit organization that engages over 200 volunteer pilots to benefit conservation projects. In FY19, TBF will continue quarterly ocean vessel aerial monitoring flights and produce an annual report summarizing the quarterly data. Outreach will continue through direct communications with partners and interested agencies, and will include opportunistic presentations.

### **Marine Protected Area Collaborative**

The network of MPAs in the Southern California Region established by the State of California in 2012 includes four MPAs in Santa Monica Bay. Two are located along the north coast (i.e. Point Dume State Marine Conservation Area and Point Dume State Marine Reserve), and two are located along the Palos Verdes Peninsula coastline (i.e. Point Vicente State Marine Conservation Area and Abalone Cove State Marine Conservation Area). For additional background details on MPAs, refer to the [California Department of Fish and Wildlife's \(CDFW\) website](#).

In FY19, TBF will continue to explore funding and partnership opportunities to promote sustainable fishery resource management and marine ecosystem protection. To ensure that these MPAs are truly effective in protecting the region's critical habitats and living resources, an adaptive management approach has been designed to provide adequate outreach, and to inform monitoring and enforcement. Specifically, TBF will continue to participate in the Los Angeles MPA Collaborative and with statewide partners to facilitate management and inform monitoring and enforcement challenges.

### **Sustainable Fisheries Outreach**

The outreach associated with the kelp restoration project, aerial monitoring project, efforts of the Los Angeles MPA Collaborative are key components for the promotion of sustainable fishery management in Santa Monica Bay and Southern California coastal waters. Communication of the results of these efforts will be made through various methods including web based material, press releases, publication of reports and presentations to resource managers and other organizations and individuals interested in fishery management issues.

In FY19, TBF will continue to support the Marina Del Rey (MDR) Anglers' Youth Fishing Program, assisting in the attraction and development of interns to support the fishing trips. This program provides an opportunity for hundreds of disadvantaged youth annually to go "catch and release" fishing with the anglers and receive presentations on marine stewardship and sustainable fishing practices. Specific actions will include promotion and awareness building for the program.

### **Monitoring the Acoustic Telemetry Network**

California State University, Long Beach (CSULB) leads an effort to monitor and maintain an existing network of acoustic telemetry receivers that track the movement of a number of marine species of interest (e.g. great white sharks, giant black sea bass, white croaker, and barred sand bass). These species and their movements in and around the Bay are of special interest to expand knowledge of their known ecology, biology, and as targeted species for fishing.

The expansion of this network into the North Bay provides valuable data that will assist the public and the efforts of the USEPA and project partners in work related to The Fish Contamination Education Collaborative (FCEC). Which is the public outreach and education component of the United States Environmental Protection Agency's (USEPA) program to protect the most vulnerable populations from the health effects of consuming contaminated fish related to the Palos Verdes Shelf Superfund Site. More information can be found at [www.pvsfish.org](http://www.pvsfish.org). Additionally, this information will allow for outreach to resource management and the public on ways to safely interact and protect these

ecologically significant species. In FY19, TBF will continue to assist with outreach regarding these findings and contribute to the ongoing and adaptive management of the Acoustic Telemetry Network in southern California coastal waters.

### **Remote Monitoring of Habitats to Fill CMP Data Gaps**

Remotely operated underwater vehicles (ROVs), once only available to agencies and universities due to their expense, now allow for broader opportunities to experience and understand the ocean by capturing high-resolution images and videos of the seafloor and other aquatic environments. These versatile underwater robots are both research and educational tools, allowing for enhanced exploration and the collection of a wide variety of scientific data. In 2017, TBF launched an exploration program to utilize its remotely operated underwater vehicle, R2Deep2, to support ongoing conservation and restoration projects, and explore lesser known marine habitats in Santa Monica Bay.

In FY19, TBF will continue deploying the ROV to support kelp and submerged aquatic vegetation monitoring, abalone site suitability surveys, and explore lesser known marine habitats. Specifically, the ROV will be used to do eight surveys of eelgrass habitat to understand extent and general condition of offshore eelgrass in the Bay. Surveys will be conducted periodically throughout the Work Plan time period. Deep reef habitats are poorly understood and a persistent data gap for the SMBNEP. Five surveys of deep reef habitats will also be conducted using R2Deep2. Efforts to engineer innovative sensors will continue via the Coastal Research Institute in coordination with LMU engineering faculty and students to enhance monitoring capabilities. In FY19, opportunities will also be explored to survey coastal habitats using remote aerial monitoring to fill data gaps about vegetative cover, land use, and elevation. TBF will also continue to seek additional funding to support the monitoring of habitats to fill data gaps identified in the CMP and SotB Reports.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
2.1a Promote marine ecosystem protection				
Implement ocean vessel aerial monitoring project	TBF	Lead	LightHawk, Vantuna Research Group	Quarterly surveys and annual report
Participate in MPA Collaborative	TBF	Participate	14 MPA Collaboratives statewide: <a href="http://www.mpacollaborative.org/">http://www.mpacollaborative.org/</a>	Semi-annual statewide meetings; quarterly LA meetings; ongoing communications and outreach

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
Promote sustainable fishery outreach	SMBRC, TBF	Promote	MDR Anglers	Opportunistic participation in meetings and communications; continue to promote MDR Anglers Youth Fishing Program
Monitor Acoustic Telemetry Network	TBF	Support	CSULB*, FCEC, County Lifeguards	Communications and outreach of results
Remotely Operated Vehicle (ROV) surveys	TBF	Lead	LMU, other universities	Launch ROV to conduct eelgrass (8 surveys) and deep reef (5 surveys) monitoring; capture, edit, and distribute video and imagery

\* Project lead

Linked BRP Objectives and Milestones: 4.1a, 4.2a-d, 4.3a-c

## 2.2 Restore wetlands and streams

Wetlands, streams, and riparian zones are lifelines of the Bay watershed ecosystem and their preservation and restoration is a high priority. Goal #7 of the BRP calls for restoration of wetlands, streams, and riparian zones and outlines specific objectives and milestones for restoration of the Ballona Wetlands Ecological Reserve (Reserve), Malibu Lagoon, Topanga Lagoon, and other coastal wetlands. Specific objectives and milestones are also established to restore streams through removal of fish barriers, restore or daylight culverted streams in urban areas, and construct greenways along urban streams. Invasive plants and animals have also become a major threat to the integrity of many wetland and stream habitats in the Bay watershed as addressed by Goal #6 of the BRP, and specific objectives and milestones were established to investigate, control, and eradicate invasive species that affect wetland and riparian habitats, such as New Zealand mudsnail, crayfish, iceplant, and others.

### 2.2a Facilitate restoration of priority wetlands

California's coastal wetlands support a wealth of precious wildlife habitat and play a crucial role in improving coastal water quality and reducing the harmful effects of floods and erosion on surrounding communities. Over 96% of the vegetated estuarine wetlands have been lost over the past 150 years in

the Los Angeles region. Thus, restoration to bring back higher level ecosystem functions and services of wetlands is of the utmost importance in our area.

The Ballona Wetlands Ecological Reserve (Reserve), located on the Los Angeles County coast, is an example of this wetland loss, having suffered from over a century of abuse and land degradation, including the channelization of Ballona Creek, dumping of millions of cubic yards of sediment on the site, and the continued encroachment of habitat-altering invasive species. The progress of the Ballona Wetlands Restoration Project for the Reserve has been a multi-year process, which entered the CEQA/NEPA process in 2012 with the release of the Notice of Intent/Preparation. The lead agencies are CDFW (state lead) and the Army Corps of Engineers (Corps) (federal lead). For more detailed information about the site, and links to the technical reports, refer to the project website: [www.ballonarestoration.org](http://www.ballonarestoration.org).

SMBRC and TBF will also continue to support restoration of other coastal lagoons in Santa Monica Bay (e.g. Trancas Lagoon, Zuma Lagoon) through partnership building, outreach, assistance with coordination, and information exchange. Opportunities for funding will also be explored.

#### **Ballona Reserve – Community Stewardship Project**

TBF is implementing an interim stewardship management project for invasive vegetation removal at the Reserve through community engagement. TBF began implementation of this project in FY16. With help from community and student volunteers who devoted over 500 hours to this effort, TBF removed over 15 tons of iceplant (more than 200 cubic yards) from the restoration area in FY17. In total, 0.75 acres were initially restored from September to December 2016, and ongoing removal of invasive vegetation to support the native plants continues. In FY18, post-restoration project monitoring and additional supplemental invasive vegetation removal events continued within the current project footprint. In FY19, TBF may expand this project, pending funding availability. TBF will also continue to promote and participate in other cleanup efforts and trash removal projects throughout the Reserve.

#### **Ballona Reserve – Support Restoration Planning**

In FY18, the lead agencies released the Draft Environmental Impact Statement and Report (DEIS/R) for the Reserve and entered a public comment period extending from September 2017 through 5 February 2018. In FY19, TBF will continue to support the lead agencies through outreach and communications and contributing technical input as requested by the Project Management Team in support of the production of the Final EIS/R.

#### **Malibu Lagoon Maintenance and Monitoring**

Since 2013, with support from the California State Department of Parks and Recreation (DPR), SMBRA and TBF have led the post-restoration biological, chemical, and physical monitoring activities and produced annual reports which can be found on TBF's website: [www.santamonibay.org](http://www.santamonibay.org). Based on data collected thus far, the project has been a success. Water quality data indicate an increase in water circulation both in open and closed berm lagoon conditions and removal of the pre-restoration "dead zones". The presence of juvenile fish in the post-restoration surveys indicates the lagoon provides beneficial fish nursery habitat. Birds continue to use the lagoon and special-status species make heavy use of the site. Vegetation cover has increased and is expected to continue developing over time as plants mature and spread. In FY19, SMBRA and TBF will complete the fifth monitoring year and produce the fifth monitoring report, continue assistance in invasive plant removal, and conduct public outreach. Additionally, TBF and DPR will explore opportunities to collect additional data through mid-2019.

### **Level 3 Regional Wetland Monitoring Program**

A regional wetland monitoring program is imperative to understanding the condition and relative health of coastal estuarine systems. Programs such as these inform wetland restoration projects from the scale of the Ballona Reserve, down to the small, 3-6 acre lagoons in the northern portion of the Santa Monica Bay. Understanding current conditions allows for the scientific development of robust restoration planning documents.

Based on the results of TBF's wetland monitoring programs, a regional, Level 3 (site-intensive) long-term monitoring program for wetland habitats was conducted at five major estuaries in Southern California through 2015. With grant funding awarded from the USEPA Wetland Program Development Grant (WPDG), SMBRA and TBF and their partners developed the framework for Level 3 monitoring, field tested numerous protocols, and produced a Monitoring Manual and Regional Wetland Monitoring Report. In FY16, SMBRA, TBF, and new partners applied for and received another USEPA WPDG to continue and expand the regional wetland monitoring program to evaluate data from additional wetlands between Point Conception and the Tijuana border, including updates to the Monitoring Manual. In FY19, this program, in partnership with SCCWRP, California State University Long Beach, and the Tijuana River National Estuarine Research Reserve, will be completed. Final products will be produced and posted on TBF's website.

### ***2.2b Facilitate stream restoration and fish barrier removal***

SMBNEP has been active in leading and facilitating stream restoration programs and projects through sponsorship of the Ballona Creek Watershed Historical Ecology Study, writing the Greenway Plan for Ballona Creek, coordinating maintenance events, documenting and controlling impacts of invasive species, and participating in fish barrier removals. Removal of barriers are imperative to the survival of important species such as the Southern California Steelhead Trout, a federally endangered species. It is estimated that due to damming and other human impacts that Southern California Steelhead Trout have lost 80 – 95% of their historic habitat range.

FY19 will also include opportunistic promotion of additional fish barrier removal projects and stream restoration (e.g. Topanga Creek) or daylighting projects, and may include funding searches, collaborative communications, and exploration of partnerships. Specifically, TBF and SMBRC will continue discussions with lead agencies such as State Parks and RCDSMM to find new projects.

### **Stone Canyon Creek Maintenance**

Stone Canyon Creek was formerly a dominant feature of the University of California, Los Angeles (UCLA) campus. But over the years, as the campus expanded, the Creek was routed underground and now only one small segment running behind the Anderson School of Management remains. TBF, UCLA, and the UCLA Lab School (ULS) have worked together, with thousands of volunteers over more than six years, to help restore the ecosystem. Serving as a 'living classroom' for both UCLA and ULS, huge progress has been made, but it requires ongoing maintenance to preserve the habitat for native vegetation and wildlife. In FY19, TBF will continue ongoing monthly volunteer maintenance and invasive species removal events at Stone Canyon Creek. Additionally, TBF will explore opportunities to increase stewardship in partnership with UCLA, including collaborating with restoration ecology courses and student driven research.

### **New Zealand Mudsnail Monitoring Surveys and Research**

New Zealand mudsnails (NZMS), *Potamopyrgus antipodarum*, are tiny (3-5 mm), highly invasive, aquatic snails. A single snail is capable of producing a colony of 40 million progeny in the course of a single year by reproducing parthenogenetically, by cloning. In FY19, SMBRC and TBF will continue to lead and support efforts to address the environmental damage caused by NZMS. SMBRC and TBF will continue to help facilitate presence and abundance surveys and help produce reports, place warning signs at popular access points throughout the Santa Monica Mountains, work with SWRCB and LA Regional Board to place newly colonized streams on the state 303(d) list as impaired for aquatic invasive species, and continue to support Heal the Bay's efforts to compare pre- and post-establishment water quality data to evaluate the impacts of NZMS. The next NZMS survey will be conducted in late summer/early fall of 2018. TBF also participates in the surveys and assists with the reporting and analyses.

### **California Red Legged Frog Reintroduction**

Recent field work by NPS found evidence that California red-legged frogs (CRLF) are breeding in the Santa Monica Mountains at one of the two original translocation/re-introduction sites. Five fresh egg masses and two pairs of adults were discovered. This is the first time in decades that CRLF have bred in the Santa Monica Mountains. At the time of this Work Plan draft, additional funding is being sought to expand the translocation and re-introduction program to include additional streams in the Santa Monica Mountains for FY18 and FY19.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
2.2a Facilitate restoration of priority wetlands				
Implement Ballona Reserve community stewardship and invasive species removal project	TBF	Lead	CDFW, FBW, LMU	Continue post-restoration monitoring; conduct opportunistic restoration events in summer/fall 2018; seek additional funding to continue subsequent phases of project
Ballona Reserve – Support Restoration Planning	TBF	Support	CDFW*, Corps*	Continue ongoing communication / outreach; provide technical input to facilitate FEIS/R production
Conduct Malibu Lagoon post-restoration maintenance and monitoring	SMBRA, TBF	Lead	State Parks, RCDSMM, Cooper Ecological	Maintenance and volunteer events once monthly; monitoring ongoing 2013-2018; annual monitoring report in May 2018

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
Implement Level 3 regional wetland monitoring program	SMBRA, TBF	Lead	SCCWRP, CSUCI, CWMW	Conduct literature review; data consolidation; periodic partner meetings
2.2b Facilitate stream restoration and fish barrier removal				
Conduct Stone Canyon Creek maintenance	TBF	Lead	UCLA	Monthly volunteer restoration events
Conduct mudsnail surveys and research in the Northern Bay watershed	SMBRC, TBF	Lead	Heal the Bay	Biennial surveys, pending funding; biennial reporting
Support reintroduction of red-legged frogs in the Santa Monica Mountains	SMBRC TBF	Support	NPS	Support reintroduction and monitoring efforts

\* *Project lead*

*Linked BRP Objectives and Milestones: 7.1a, 7.1b, 7.2a, 7.4a-e, 7.5a-c, 7.6a, 7.8a, 7.8b*

## 2.3 Restore coastal bluffs, dunes, and sandy beaches

Coastal dunes, bluffs, and sandy beaches are prominent features and dominant habitat types along the Bay coastline and support a variety of plant and animal species. Goal #8 of the BRP calls for restoration of coastal bluffs, dunes, and sandy beaches and outlines specific objectives and milestones for restoration of specific dune habitats including dune habitats at LAX, and comprehensive measures to protect, manage, and restore sandy beaches.

### 2.3a Restore coastal dune and bluff habitats

SMBNEP has a long history of supporting and engaging in the restoration of coastal dune and bluff habitats, including restoration of coastal dunes in the Ballona Reserve, beach bluffs along Redondo Beach, and three coastal bluff sites on the Palos Verdes Peninsula. In FY19, TBF will explore new funding, partnerships, and opportunities to expand and/or conduct new beach, dune, and bluff restoration projects throughout the Santa Monica Bay.

#### **Restore LAX Dunes**

The El Segundo/LAX Dunes (LAX Dunes) in the City of Los Angeles, at the Los Angeles World Airports (LAWA), is the largest remaining contiguous coastal dune system in Southern California. Covering a total area of over 300 acres, it is home to an estimated 900 species of plants, insects, and other wildlife. Set

aside as a natural wildlife preserve by LAWA, native plants and animals that once seemed destined for extinction, including the El Segundo blue butterfly and the California legless lizard, are thriving once again, thanks to large-scale habitat restoration efforts by LAWA and partners. However, invasive species continue to encroach on the native plants, reducing the diversity and health of the ecosystem.

In FY18, 605 volunteers removed 726 bags of invasive, non-native vegetation from the LAX Dunes that included species such as *Brassica nigra*, *Arundo donax*, *Carpobrotus spp.*, *Erodium botrys*, and *Euphorbia terracina*. In FY19, TBF will provide a variety of services to accomplish maintenance and restoration objectives in conformance with conditions set forth by the California Coastal Commission (CCC), as part of LAWA's 2013 permit to remove former roads, driveways, and other hardscape in the area. Tasks will include hosting monthly restoration events, biological and physical monitoring, and drafting a 5-year update and monitoring report. Additional efforts will be focused on restoration and maintenance of the northern 48-acre section of the dunes. TBF will also host Coastal Cleanup Day at the LAX Dunes for the fourth year in a row. Additionally, TBF will continue to explore opportunities and partnerships to participate in and promote restoration of more coastal dunes and bluffs along the Bay coast.

### **2.3b Protect and restore sandy beach habitats**

Sandy beaches are the most prominent feature along the Santa Monica Bay coastline. Although sandy beaches traditionally have been, and continue to be managed primarily as recreation areas, they are also important natural ecosystems that link marine and terrestrial environments and are considered one of the seven major natural habitats in the Bay. Animals and plants, including many endemic species, depend on sandy beaches for critical periods of their lives. The habitat provides foraging and nesting grounds for many shore birds, fish, and marine invertebrate species, and is essential to the population recovery of two endangered species, the California Least Tern and Western Snowy Plover. The protection of sandy beaches and an understanding of their condition has become increasingly important because of the roles of beaches in addressing the impacts of sea level rise.

#### **Beach Restoration Projects to Improve Coastal Resilience**

The Santa Monica Beach Restoration Pilot Project conducted in partnership with the City of Santa Monica is restoring three acres of sandy coastal habitats on the beaches of Santa Monica to bring back a healthy, diverse coastal plant and wildlife community. Scientific monitoring of the project will evaluate increased protection for coastal infrastructure and residences from sea level rise and erosion, while providing a vital refuge for invertebrates, birds, and rare coastal vegetation species. It will also serve as a model for the region, showing that heavy recreational use of Los Angeles beaches and meaningful habitat restorations are compatible. Specific project activities during FY19 will include: post-restoration monitoring, maintenance, and outreach; annual report; and ongoing opportunistic media engagement. Quarterly scientific monitoring will track wrack accumulation, plant growth, invertebrate densities, birds, physical conditions and topography, and sediment characteristics. For additional details, visit the project webpage: <http://www.santamonica.org/santa-monica-beach-restoration-pilot/>.

In FY18, TBF was awarded a Proposition 1 Grant through the State Coastal Conservancy to partner with the City of Malibu and Los Angeles County Department of Beaches and Harbors to plan and implement the Malibu Living Shoreline Project. This project will design and implement dune restoration and monitoring at Zuma and Point Dume (Westward) County Beaches. The project will increase the resiliency of the shoreline through restoring three acres of sandy beach and dune habitat, implementing "soft-scape" protection measures against sea level rise and coastal storms, and increasing engagement

of the community through enhanced beach experiences, outreach, and education. In FY19, TBF will continue stakeholder meetings, finalize design plans and permit requirements, initiate and complete baseline monitoring, and initial stages of implementation.

### **Beach Monitoring and Research**

This task aims to expand the development of standardized sandy beach monitoring protocols for the ecological assessment of beaches in California, utilizing community and student-based monitoring and research to collect baseline data of beaches in the Los Angeles region. These data will inform SMBNEP's State of the Bay Report, and Comprehensive Monitoring Program and further partnerships with LMU's Coastal Research Institute, Pepperdine University, UCSB, and CSUCI. Studies include topographic and elevation analyses, sand transport, microplastics, and additional ecological, social, and economic parameters. This monitoring and research task will increase our regional understanding of beach ecology, allow an evaluation of natural variability and beach management practices, and evaluate the benefits and effectiveness of sandy beach protection and restoration activities to address climate change stressors.

Additionally, in FY19, TBF will continue to partner with USGS to develop innovative data visualization products, presenting sea level rise data as experiential information through the use of virtual reality environments to more effectively communicate data to engage environmental managers, decision-makers, and the public.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
2.3a Restore coastal dune and bluff habitats				
Restore LAX Dunes	TBF	Lead	LAWA, FOLD, Conservation Corps, LMU, others TBD	Submit annual work plan, submit quarterly reports and one annual report; conduct scientific monitoring; submit 5-year update report; host monthly volunteer restoration events, including Coastal Cleanup Day in September
2.3b Protect and restore sandy beach habitats				
Implement Beach Restoration Projects to Improve Coastal Resilience	TBF	Lead	City of Santa Monica, UCSB, State Parks	Conduct quarterly scientific monitoring at Santa Monica site; annual report in August; begin Malibu baseline monitoring in Sept 2019

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
Conduct Beach Monitoring and Research	SMBRC, TBF	Facilitate	Pepperdine University, UC Santa Barbara, others	Grant applications submitted opportunistically throughout work period; ongoing communications; student reports

*\* Project lead*

*Linked BRP Objectives and Milestones: 8.1a-d, 8.2c-e*

## **2.4 Restore rocky intertidal and subtidal habitats**

Relatively sparse and restricted in distribution compared to sandy beach and soft bottom habitats, rocky intertidal and rocky subtidal habitats are highly diverse and productive, and home to hundreds of species. These habitats are also highly vulnerable to, and have been greatly impacted by human activities, as well as natural processes. Goal #9 of the BRP calls for restoration of rocky intertidal and subtidal habitats and outlines specific objectives and milestones for kelp restoration through sea urchin removal, education and other management measures to address impacts of visitors to rocky reef habitats, and reintroduction and restoration of abalone populations in the Bay.

### **2.4a Promote protection of rocky intertidal habitats**

SMBNEP has promoted rocky intertidal habitat protection through research on the impacts of marine organism trampling and collection, and outreach aimed at reducing these impacts. In FY16, TBF partnered with UCLA to conduct research, education, and outreach regarding rocky intertidal restoration/condition.

In FY19, TBF will continue to seek additional resources and collaborative opportunities to promote protection of intertidal habitats, with an increased consideration of physical and chemical factors associated with climate change stressors. These efforts will include areas on the Palos Verdes Peninsula and in Malibu. Protection will be approached via outreach, consultation, research, development of funding and exploration of student research opportunities.

### **2.4b Restore and enhance rocky reef habitat**

#### **Rocky Reef / Kelp Forest Restoration Project**

Over the past 100 years, the Palos Verdes Peninsula has lost approximately 75% of its giant kelp canopy. Sedimentation, development, urban runoff and storms slow or prevent kelp growth. At the same time, the loss of key urchin predators and competitors allowed urchins to overrun the reef and devour the remaining kelp. Subtidal observations based upon mapping efforts conducted in 2010 identified 61.5 hectares of nearshore rocky reef that were dominated by high densities of sea urchins, *Strongylocentrotus purpuratus* and *S. franciscanus*, in urchin barrens. The purpose of the kelp restoration project is to reduce the density of purple sea urchins (*S. purpuratus*) to approximately 2/m<sup>2</sup> within the boundaries of urchin barrens on the Palos Verdes Peninsula. This will allow for the recruitment and development of giant kelp, *Macrocystis pyrifera*, and other species of macroalgae. This project will reduce sea urchin grazing pressure to restore biogenic habitat to rocky reefs that historically supported kelp forests, which will in turn, increase the spatial and temporal stability, biomass, and production associated with rocky reefs on the Peninsula.

In FY19, TBF will continue to carry out this restoration project off the Palos Verdes shelf which is expected to result in restoration of 10 acres of kelp forest. Semi-annual reports to NFWF, and one annual report to CDFW will be developed to document the activities, including pre and post-restoration monitoring, and results of the project. There are many partners and participating or interested organizations in this project, including (in part): NOAA, Montrose Settlement Restoration Program

(MSRP) trustees, NMFS, Vantuna Research Group, Occidental College, Commercial Sea Urchin Harvesters, OPC, SCC, Southern California Marine Institute, and CA DFW.

#### **2.4c *Reintroduce and restore abalone***

Abalone are functional components of a healthy kelp forest ecosystem, competing for food and space with other grazers, such as sea urchins. Abalone were once abundant along the California coast, but populations have been impacted by habitat loss, Withering Syndrome (WS) disease, and commercial and recreational fishing. Five of the seven species of abalone native to California (red, pink, black, green, and white) once supported commercial and recreational fisheries but were closed by 1997. Both the subtidal ecosystem and the California economy will benefit from the presence of healthy abalone populations if restoration of these vital species is achieved.

##### **Abalone Research Laboratory**

Construction of the abalone laboratory at the Southern California Marine Institute (SCMI) was completed in 2016 which allows captive abalone spawning and broodstock conditioning experiments to improve methods for abalone reproduction. Wild green (*Haliotis fulgens*) and red abalone (*H. rufescens*) broodstock were collected and brought into the facility to be spawned. In FY19, the larvae and juvenile abalone produced by these organisms will be used to test and refine outplanting methods.

In recent years, rising sea temperatures have negatively affected the production of red abalone aquaculture in Southern California. There is concern among abalone growers that increasing frequency of El Niño events and long-term climate change may dramatically impact successful abalone aquaculture. In partnership with Cal Poly Pomona, TBF is developing aquaculture production methods for green abalone that may support the transition of the industry from red to the relatively warm water tolerant green abalone. The improved and adapted larval and juvenile production methods generated for green abalone will simultaneously support efforts in FY19 to outplant and restore wild green abalone to Santa Monica Bay. In FY19, the facility will continue to be maintained, support conditioning and rearing research, and serve as a staging center for outplanting efforts in southern California.

##### **Abalone Restoration**

TBF's work, in conjunction with government agencies, is aimed at bringing back all abalone stocks throughout southern California. In 2015, 846 juvenile green abalone were outplanted into coastal waters off of the Palos Verdes Peninsula. Quarterly monitoring will continue through FY19 to track progress and success of this outplanting event. Outplanting methods will continue to be tested using larval and juvenile green and red abalone. Additionally, deck spawning trials will continue in FY19. This field method allows for researchers to collect abalone from the wild, induce them to spawn on the deck of a research vessel, and return them to the wild the same day. If successful, deck spawning would allow abalone to be spawned without the need to keep them in captivity indefinitely. Lessons learned through these efforts will inform restoration of other abalone species to the wild, most notably the endangered white and black abalone.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
2.4a Promote protection of rocky intertidal habitats				
Promote protection of rocky intertidal habitats	TBF	Promote	CDFW, NOAA, others	Continue ongoing communications, identify research priorities, develop and submit opportunistic grant funding applications
2.4b Restore and enhance rocky reef habitat				
Implement the rocky reef/kelp forest restoration project	TBF	Lead	NOAA, MSRP trustees, NMFS, Vantuna Research Group, Commercial Sea Urchin Harvesters	Semi-monthly monitoring; annual report; restore additional 10 acres by Sept 2019
2.4c Reintroduce and restore abalone				
Maintain abalone research laboratory	TBF	Lead	SCMI, NOAA, NMFS, Cal Poly Pomona	Maintain and support abalone laboratory; captive spawning and rearing experiments; aquaculture industry research project
Restore abalone	TBF	Lead	NOAA, NMFS, Cal Poly Pomona, SCMI, NFWF Bodega Marine Lab, Southwest Fisheries Science Center	Deck spawning and outplanting experiments; quarterly monitoring of outplanting locations

\* Project lead

Linked BRP Objectives and Milestones: 9.1a, 9.2a-c, 9.3a, 9.4a, 9.4b

### Program Area 3: Multidisciplinary and Integrative Programs

Many programs and projects carried out by SMBNEP are considered either multidisciplinary and/or integrated in purpose or structure. Although all these activities can be linked to, and shown to contribute to implementation of specific goals, objectives, and milestones of the BRP, they are closely interrelated and conducted in unison to achieve informed, integrated, and effective messaging.

Goal	Objective
3.1 Promote climate change adaptation	3.1a Implement climate change planning and policy improvements
	3.1b Conduct research on local impacts of climate change
3.2 Conduct public outreach and increase collaborations	3.2a Create and manage communications
	3.2b Coordinate the volunteer program
	3.2c Participate in and provide technical support to stakeholder groups
3.3 Support planning, monitoring, and organizational management	3.3a Conduct BRP Revision
	3.3b Support comprehensive monitoring of Bay health
	3.3c Support organizational management and improve organizational capacity

#### 3.1 Promote climate change adaptation

SMBNEP's climate change program was initiated around the same time with the implementation of the Climate Change Implications for the Ballona Wetlands Restoration, which was a climate change modeling and adaptation project completed in 2012 with funding support from the USEPA Climate Ready Estuaries (CRE) Program. Since then, SMBNEP's efforts in addressing the impacts of climate change have been growing and have become broader and integrated with ongoing regional efforts in southern California.

##### ***3.1a Implement climate change planning and policy improvements***

###### **Conduct Climate Action Planning for BRP Revision**

In FY16, with support from SMBRC, TBF was awarded a USEPA grant to conduct a broad, risk-based, climate change vulnerability assessment of the actions and milestones in the BRP. The vulnerability assessment was completed in September 2016, and identified strengths and weaknesses of existing milestones and objectives to manage and adapt to the impacts of climate change. Specific tasks included developing a literature review of existing applicable models for six different climate change stressors: warmer temperatures, warmer waters, sea level rise, increased drought, increased storminess, ocean acidification. Next, a broad set of risks were identified for each BRP objective and milestone, a risk matrix framework based on the "USEPA's Being Prepared for Climate Change

Workbook” was developed by a panel of expert climate scientists. The last step applied the risk matrix to each BRP objective with results reviewed by expert scientists, and finally, produced data visualization graphs to easily display the complex data analyses.

Beginning in FY17 and continuing through FY19, SMBRC and TBF will review the subsequent steps recommended by the “USEPA’s Being Prepared for Climate Change Workbook”, which focuses on involving and coordinating with stakeholders to develop and inform a risk-based action plan including BRP revision recommendations based on the results of the vulnerability assessment. The results of this exercise will support the planned BRP revision process, scheduled for completion by 2019.

### **Participate in AdaptLA Project**

In 2013, SMBRC teamed up with the Los Angeles Regional Collaborative for Climate Action (LARC), USC Sea Grant, City of Santa Monica, and Heal the Bay, to support a successful grant application by the City of Santa Monica for the State Coastal Commission/Conservancy LCP climate change adaptation grant. Since 2014, the collaborative team has partnered with USGS and completed and released the initial CosMos 100-year coastal storm modeling results. The team conducted a series of webinars to disseminate the modeling results as well as other climate change adaptation information. The team has also conducted training workshops on climate change impacts and vulnerability and adaptation planning.

In FY19, SMBRC and TBF will continue to participate in this project and similar efforts, conduct outreach to coastal municipalities in Santa Monica Bay, and facilitate dissemination and exchange of information between agencies, experts, and stakeholders.

### ***3.1b Conduct research on local impacts of climate change***

#### **Kelp Forest Hydrodynamics Study**

In FY19, USC SeaGrant funding will support the continuation of the Kelp Forest Hydrodynamic Study in partnership with researchers from UC Davis and California State University Northridge. This project aims to quantify how restored kelp forests influence temperature, stratification, mixing, sediment transport, currents, ocean acidification and the attenuation of wave energy. Oceanographic equipment will be deployed in fall 2018 to collect physical measurements, and subsequently downloaded and calibrated quarterly; water samples are also collected to measure chemical properties quarterly. Subtidal SCUBA based surveys are conducted quarterly to categorize the biological condition of the reef, focused on type, density and size of macroalgae. All data collection will occur and sensors will be deployed for a minimum of one year.

#### **Ocean Acidification Monitoring**

With the support of a USEPA grant, a high precision instrument package for pH, dissolved oxygen, and pCO<sub>2</sub> has been installed and maintained by the Los Angeles County Sanitation District since November 2016. Data collected by the sensors provide valuable time-series information on acidification and hypoxia in Santa Monica Bay which will advance research on status and trends as well as response to acidification by biological communities in the Bay. Data collection and analysis will continue in FY19 in collaboration with the Los Angeles County Sanitation Districts, the City of Los Angeles Environmental Monitoring Division, the Southern California Coastal Water Research Project, and the Los Angeles Regional Water Quality Control Board.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
3.1a Conduct climate change vulnerability assessment and policy improvements				
Conduct climate action planning for BRP revision	SMBRC, TBF	Lead	Multiple stakeholders TBD	Engage TAC and incorporate suggestions into BRP revision planning; targeted completion date: early 2019
Participate in AdaptLA project	SMBRC, TBF	Participate	USC Sea Grant*, LARC, Heal the Bay, City of Santa Monica, other coastal jurisdictions	Participate in community meetings and webinars
3.1b Conduct research on local impacts of climate change				
Implement kelp forest hydrodynamics study	TBF	Participate	UC Davis, California State University Monterey Bay, UCLA IoES	Set up second study site off Palos Verdes (deploy long-term sensors in fall 2018); subsequent quarterly calibration and downloading; analyses and reporting ongoing
Monitor ocean acidification	SMBRC, TBF	Participate	LA County Sanitation Districts*, City of LA Bureau of Sanitation, SCCWRP, LARWQCB	Sensor is currently deployed – quarterly calibration and data download will occur in FY19

\* Project lead

Linked BRP Objectives and Milestones: All, especially 4.5a-c

### 3.2 Conduct public outreach and increase collaborations

SMBNEP's outreach efforts are very broad and are integral parts of every specific program and project under this work plan. Outreach components supporting specific programs and activities are incorporated and described in more detail in the corresponding relevant sections throughout this work plan. SMBNEP also carries out general outreach for the purpose of educating the public about the value and status of the Bay's natural resources, boosting public support for and participation in water quality improvement and habitat restoration activities, informing the public on the background of SMBNEP, and providing timely updates on the progress of SMBNEP's activities.

### **3.2a Create and manage communications**

#### **SMBNEP Outreach and Communications**

In FY19, SMBNEP will continue to grow awareness and make information accessible to the public and all stakeholders through multiple communications-based channels, including press releases, newsletters, outreach materials and publications, technical reports, and updated websites and social media. All media materials will be linked in TBF's media center online. SMBNEP will publish the electronic Baywire newsletter quarterly and an Annual Report summarizing key activities and programs of that calendar year. Social media will be posted regularly throughout the week, especially on Twitter (@SMBRF), Facebook (@The Bay Foundation), and Instagram (@thebayfoundation). TBF's YouTube page (@The Bay Foundation) will continue to be populated with educational and experiential material as created.

#### **Conferences**

In FY18, two SMBNEP staff attended the ANEP National Conference in Washington, DC (May 2017). At the National Conference, staff presented on the Kelp Forest Restoration Project with a focus on project partnerships. The Kelp Forest Restoration Project was also presented at SCAS in April 2017 and the Western Society of Naturalists (WSN) conference in November. The Abalone Restoration Project was presented during the speed talk session at WSN. The Santa Monica Beach Restoration Pilot Project was presented at many local and regional meetings, including the Beach Ecology Coalition Winter Meeting for southern California. TBF presented on the Pumpout Nav app and Statewide pumpout monitoring effort at the State Organization for Boating Access Conference in August.

In FY19, SMBNEP staff will attend conferences opportunistically as appropriate for each program. At minimum, two staff will attend the Association of National Estuary Programs (ANEP) National Conference and the ANEP Tech Transfer Conference to facilitate communication and information sharing with other NEPs and to present on new or ongoing projects.

### **3.2b Coordinate the volunteer program**

This volunteer program allows members of the public to become involved in stewardship at many of TBF's projects throughout the watershed. This program began in 2009 and includes over 29,000 hours of volunteer work completed by more than 350 students from over 50 universities throughout the world and over 5,000 general volunteer participants.

Specifically in FY19, TBF will continue to provide monthly opportunities for volunteers, interns, and student participants in TBF projects, and will continue coordination with partner organizations and universities. A minimum of three volunteer events will be completed monthly and ongoing recruitment of volunteers will continue. Examples of volunteer event locations include the LAX Dunes, Stone Canyon Creek, Malibu Lagoon, Ballona Reserve, Loyola Marymount University (LMU) LIONS Garden, and the Culver City Rain Garden. Public events are posted to TBF's events webpage and updated monthly, <http://www.santamonicabay.org/events/>.

### **3.2c Participate in and provide technical support to stakeholder groups**

Effective implementation of the BRP, especially new policies and program initiatives included in the 2013 BRP Update, relies on close coordination and collaboration among organizations, especially those

playing various roles in achieving objectives and milestones as identified in the BRP. Many inter-agency or inter-group task forces and committees already exist and are active in the Bay watershed, addressing issues pertinent to Bay water quality and habitat restoration. Engagement in the activities of these groups in the form of meeting participation and/or technical support are important mechanisms for increasing stakeholder involvement in BRP implementation. Many of them focus on projects directly related to the implementation of BRP objectives and milestones. Appendix F contains a table of the stakeholder groups in which SMBNEP staff will participate in FY19.

### **Stakeholder Group Participation**

In FY18, SMBRC and TBF will continue to participate in multiple stakeholder and technical advisory groups. Appendix F contains more details regarding the names of the groups and the frequency of their meetings.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
3.2a Create and manage communications				
Conduct SMBNEP outreach and communications	SMBRC, TBF	Lead	LMU, SWRCB	Release four press releases annually; release SMBNEP Annual Report; update TBF, SMBRC websites; update TBF social media; release quarterly Baywire
Attend conferences	TBF	Participate	ANEP	Two staff attend ANEP National Conference and ANEP Tech Transfer
3.2b Coordinate the internship and volunteer program				
Implement the internship and volunteer program	TBF	Lead	LMU	Monthly coordination meetings; ongoing student recruitment; coordinate minimum of three volunteer events monthly
3.2c Participate in and provide technical support to stakeholder groups				
Participate in stakeholder groups involved in BRP implementation	SMBRC, TBF	Participate	Multiple stakeholders	Ongoing throughout the work plan time period; see Appendix F for frequency

\* *Project lead*

*Linked BRP Objectives and Milestones: All, especially 1.1c, 2.6a, 2.6b, 2.7a, 4.6c*

### 3.3 Support planning, monitoring, and organizational management

An important component of any NEP is a detailed reporting and management strategy and an effective tracking of progress made on BRP implementation. The following sections summarize BRP implementation, funding, and tracking as well as the reporting, planning, and management activities of the entities that make up SMBNEP.

#### 3.3a Conduct BRP Revision

The 2013 BRP identified approaches and strategies intended to make substantial progress toward Bay restoration over the next ten to twenty years. It reflected input from SMBNEP partners with regard to the best strategies and priorities to ensure continued progress and achieve eventual restoration of the Bay and its watershed. SMBNEP has been successful in securing funding for implementing the BRP (e.g., \$63 million through Prop. 12, 50, and 84 bond funds since 2000). TBF and SMBRA have also successfully identified many new sources of grant funding in recent years. However, available resources are still far from meeting the financial needs of full BRP implementation. Sustaining stable sources of funding to ensure continued progress in BRP implementation is an ongoing challenge. Stable sources of funding and financial reserve are also needed to maintain the organizational capacity of SMBNEP. Grant awards received by TBF and SMBRA have supported implementation of many important programs and projects under the FY18 annual Work Plan, and that effort is expected to continue in FY19.

#### **Conduct BRP Revision**

The original BRP of 1995 was updated in 2008 and again in 2013. The SMBNEP is currently beginning a major BRP revision which is scheduled to be completed by 2019. EPA's funding guidance describes a revision as an alteration of the BRP that involves significant changes such as new or significantly altered goals, or to incorporate new information and data, such as from climate change. Updates and revisions are made to the BRP through a public and iterative process with active participation from members of the Governing Board as well as members of the WAC and TAC. The current revision to the BRP is ongoing and will include new information and data obtained since the last update, including the results of the climate change vulnerability assessment project completed in September 2016.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
3.3a Conduct BRP revision				
** NEW: Conduct BRP Revision	SMBRA, SMBRC, TBF	Lead	TAC, public stakeholders, many agencies and organizations	Complete BRP Revision process by 2019

\* Project lead

Linked BRP Objectives and Milestones: All, especially 1.5a

### **3.3b Monitor and report on the Bay's environmental condition**

#### **LMU's Coastal Research Institute**

The Coastal Research Institute (CRI) brings together expertise from Loyola Marymount University's Frank R. Seaver College of Science and Engineering and TBF to restore and enhance Santa Monica Bay and local coastal waters. CRI contributes to a better understanding of global urban coastal resource management through the execution of projects that stem from TBF's work. TBF and LMU, through CRI, will continue to develop and expand the ever popular internship program, increasing opportunities for students to engage in hands-on action and experiential learning. The program provides firsthand experience in the scientific underpinnings of wetland and beach restorations in the Bay watershed and encourages participation in stream assessment and restorations, rain gardens, dune restoration, kelp restoration, and many other activities. CRI also periodically publishes Urban Coast, a scientific journal which provides a forum for researchers, agencies, advocacy groups, and other science and policy leaders to engage in constructive discussion and information exchange on issues that are pertinent to our coastal environments. In FY19, student internships and faculty fellows will be engaged in supporting research and monitoring efforts for priority projects and to assist in meeting data gaps in the CMP.

#### **CMP Revision and State of the Bay Reporting**

The Santa Monica Bay Comprehensive Bay Monitoring Program (CMP) collects data and information needed to track, assess, and report on the environmental results of BRP implementation and overall status and trends of the condition of the Bay's ecosystems. The results are presented in the State of the Bay Report, developed every five years. The State of the Bay (SotB) Report is a science-based comprehensive assessment of the Bay's environmental condition. The goal of the report is to measure progress in restoring the Bay's natural habitats and resources, educate the public about the Bay's valuable natural habitats and resources, and identify and help scientists and managers to address remaining and emerging challenges. More specifically, this report provides information that can be used both to gauge the progress in implementing the BRP and to guide updates of the BRP to meet new and existing challenges.

A major revision of the CMP is projected for completion in FY19 to address new and emerging issues such as climate change and data needs identified in the development of the last SotB Report (2015). In FY19, TBF and SMBRC will also begin to facilitate the implementation of the newly updated CMP, including utilizing and developing new funding and monitoring partnerships, and working with the LARWQCB and permittees to incorporate the newly updated relevant CMP components into the NPDES permits, and monitor implementation progress of the incorporated CMP components. Additional data and information will be gained from connection to the Southern California Bight 2018 Regional Monitoring Program, which is conducted every five years. TBF and SMBRC will compile data collected from the CMP for the next SotB report.

TBF has carried out and will continue to carry out and/or be involved in a significant amount of monitoring activities for several important habitats in the Bay including, but not limited to; wetlands, uplands, rocky-subtidal/kelp, rocky-intertidal, sandy beaches, and coastal dunes. In FY19, TBF monitoring efforts will continue to support refinement of indicators for rocky reefs and sandy beaches. These monitoring efforts contribute directly to implementation of the CMP and to the habitat condition assessments in the next SotB Report.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
3.3b Monitor and report on the Bay's environmental condition				
LMU's Coastal Research Institute	TBF	Co-Lead	LMU's Frank R. Seaver College of Science and Engineering	Summer interns and faculty fellows to support monitoring for CMP data gaps, and research for priority projects such as beaches, dunes, intertidal habitats, and ocean acidification; research published in Urban Coast and through an annual symposium
Update CMP and plan for next SotB Report	SMBRC, TBF	Lead	SCCWRP, State Water Quality Monitoring Council, SCCOOS, SCMI	Ongoing; TAC meetings and periodic engagement from other scientists and scientific stakeholders; final CMP reviewed and completed by Jan 2019

\* Project lead

Linked BRP Objectives and Milestones: All, especially 4.7a-e, 8.2c, 9.4a-b, 10.1a, 10.2a, 11.2b

### **3.3c Support organizational management and improve organizational capacity**

SMBRC, SMBRA, and TBF staff will conduct general management and reporting activities following the procedures and protocols that have been established for ensuring SMBNEP's fiscal stewardship and program functions. For information about budgeting, refer to the section of the work plan titled "FY19 Budget" that begins on page 40. For information about SMBNEP staffing, see Appendix G.

#### **BRP Tracking**

Progress in BRP implementation is tracked and reported semi-annually through the work plan activity progress report. Progress is further summarized and highlighted annually through development and publication of SMBNEP annual report. The SotB Report developed every five years also presents progress made on BRP objectives and milestones (see Objective 3.3b). In FY19, staff will continue to track BRP implementation progress through the existing semi-annual and annual reporting mechanisms. Staff will also continue to work with the TAC to refine the indicator matrix and improve data collection mechanisms in preparation for the next SotB in 2020. Lastly, the QAPP will be updated on an as needed basis (last update: August 2016).

The annual Government Performance and Results Act (GPRA) reporting requires each NEP program to report on the acres or linear miles of habitat protected and restored, environmental indicators in use, and leveraged resources. SMBRC and TBF staff will compile the information and prepare and submit the GPRA report by September 1, 2019 for the reporting period October 1, 2018 – September 30, 2019. Geographic reference information and photographs for habitat restoration actions will also be provided.

In FY19, progress on meeting BRP goals will also be evaluated through the Program Evaluation conducted every five years by the EPA as well as a partner NEP. The primary purpose of the Program Evaluation process is to help the EPA determine whether the 28 programs included in the National Estuary Program are making adequate progress implementing their Comprehensive Conservation and Management Plans (CCMP) and therefore merit continued funding under §320 of the Clean Water Act (CWA). SMBNEP's CCMP is the Bay Restoration Plan. The Program Evaluation process will help highlight important environmental results of the last five years and highlight strengths and challenges in program management and implementation. The evaluation consists of responses to EPA core elements, a work plan narrative summary, a budget summary and review, and an on-site visit.

#### **\*\* NEW: Prop. 50 Grants**

In FY19, SMBRC will work with SWRCB and stakeholders to develop projects that protect water quality and enhance/restore habitat. SMBRC has approximately \$3.19 million remaining for project recommendations.

#### **\*\* NEW: Prop. 12 Grants**

To date, SMBRC has recommended more than \$10 million in Prop. 12 projects to be funded by the State Coastal Conservancy (SCC, lead agency). In FY19, SMBRC and TBF will work with SCC and Santa Monica Bay watershed stakeholders to provide recommendations for projects that restore habitat and protect water quality with the remaining \$6.8 million available from Prop. 12 by 2020.

#### **Board and Committee Support**

SWRCB and TBF staff will provide logistical and other staff support for meetings of the Governing Board/Bay Watershed Council, the Executive Committee, the Technical Advisory Committee, and the

Watershed Advisory Council. SWRCB and TBF staff will provide support for the meetings of SMBRA Board of Directors. TBF staff will provide support for the meetings of TBF Board of Directors. Specific tasks include preparation of meeting notices, agendas, staff reports, minutes, and resolutions.

<b>Board and Committees</b>	<b>Meeting Frequency</b>
SMBRC Governing Board	Bi-monthly
SMBRC Executive Committee	Bi-monthly
SMBRC Technical Advisory Committee	Quarterly
SMBRC Watershed Advisory Council	Annually
SMBRA Governing Board	Quarterly or as needed
The Bay Foundation Board of Directors	Quarterly or as needed

SWRCB, SMBRA, and TBF staff will conduct general management and reporting activities following the procedures and protocols that have been established for ensuring SMBNEP's fiscal stewardship and program functions. Specific tasks include:

- SMBRC with assistance from TBF develops the SMBNEP's annual work plan
- TBF develops its annual budget, in accordance with a systematic work plan and budget development process and calendar.
- TBF, with assistance from SMBRC, prepares and submits semi-annual progress report to USEPA.
- TBF prepares, oversees, and tracks the progress of USEPA grants and contracts associated with the annual work plan.
- TBF processes grant submittals requesting funding from SMBNEP funding sources.
- TBF retains professional bookkeeping services for its employees' payroll, invoicing, tax filing, and other fiscal operations: e.g. Prepare audits, insurance reviews, updates, etc.
- TBF conducts personnel management, including recruitment, performance assessments, training, and professional development of TBF employees.
- TBF provides supports for its own general office functions, including maintaining mailing lists, photocopying, mailing, fielding public inquiries, and ordering supplies.
- TBF provides support for SMBRC, WAC, and TAC meetings, including securing locations for meetings, managing public notices.
- SMBRC responds to public information requests.

SMBNEP is committed to implementing "green" measures to the fullest extent possible during all grant activities. TBF has already incorporated applicable "green" requirements into its organizational operating, contracting, and procurement policies and procedures. These policies and procedures will be reviewed in accordance with USEPA grant "greening" requirements and updated as necessary.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
3.3c Support organizational management and improve organizational capacity				
BRP tracking	SMBRC, TBF	Lead	Many	Semi-annual reports (April and October); annual report; updated QAPP; GRPA Report on Sept 1, 2019
** NEW: Prop. 50 Grants	SMBRC	Lead	SWRCB, SMB watershed stakeholders	Encumber \$3.19 million remaining by June 30, 2020
** NEW: Prop. 12 Grants	SMBRC, TBF	Participate	Coastal Conservancy*, SMB watershed stakeholders	Support SCC to encumber remaining \$6.8 million by June 30, 2020
Board and Committee Support	SMBRC, TBF	Lead	n/a	See narrative for frequency of meetings

\* Project lead

\*\* New task for FY19

Linked BRP Objectives and Milestones: All

## IV. ESTIMATED FY19 BUDGET

Funding Authorization Summary Table (Estimated):

<b>FY 19 Funding Authorization (October 1, 2018 – September 30, 2019)</b>	
EPA 320 FY19 Base Funding	600,000
SWRCB – Match	175,000
The Bay Foundation – Match	375,000
Loyola Marymount University – Match	50,000
Authorized Funding Total	1,200,000

Summary Table of Estimated 320 Funds by Work Plan Task:

<b>Work Plan Task</b>	<b>Estimated 320 Funds *</b>
Proposition 84 Grants	1,000
Water Quality Planning	2,200
Integrated Regional Water Management Plan	1,000
Culver City Rain Garden Research	5,000
Pumpout Monitoring	1,000
Boating Community Engagement	1,200
Clean Vessel Act Waste	5,000
Clean Bay Program	20,000
Compost Project	5,000
ReThink Disposables	5,000
Overflight Monitoring	10,000
Marine Protected Area Collaborative	6,000
Sustainable Fishery Outreach	3,000
Acoustic Telemetry Monitoring	3,000
Comprehensive Monitoring Program Implementation	107,300
Community Wetland Restoration	9,000
Ballona Restoration Support	1,000
Malibu Lagoon Monitoring	2,000
Wetland Level 3 Monitoring Program	2,000
Stone Canyon Creek	4,000
Mudsnail Surveys	4,000
CA Red Legged Frog	1,000
LAX Dunes Restoration	9,000
Beach Restoration Projects / Coastal Resilience	45,000
Beach Monitoring and Research	20,000
Rocky Intertidal Research and Restoration	15,000
Kelp Forest Restoration	10,000
Abalone Research Lab	10,000
Restore Abalone	35,000
Climate Action Planning for Bay Restoration Plan	15,000
AdaptLA	1,000

Work Plan Task	Estimated 320 Funds *
Kelp Forest Hydrodynamics	12,000
Ocean Acidification	7,300
SMBNEP Outreach	45,000
Conferences	12,000
Volunteer Internship Program	5,000
Stakeholder Groups	5,000
Bay Restoration Plan Revision	36,000
Coastal Research Institute	42,000
Comprehensive Monitoring Program Revision	15,000
Bay Restoration Plan Tracking	25,000
Proposition 50 Grants	1,000
Proposition 12 Grants	6,000
Board and Committee Support	30,000
<b>TOTAL</b>	<b>600,000</b>

\* Note that the 320 budget funds are estimated by task.

Detailed Estimated Operating Budget for FY19 and Estimated Matching Funds:

Estimated Operating Budget	Federal Share	Match
<b>SMBNEP Staff:</b>	<b>Amounts</b>	<b>Amounts</b>
Watershed Programs Manager	17,312	25,397
Senior Watershed Advisor	8,089	11,905
Marine Programs Coordinator	13,723	-
Marine Programs Coordinator	13,454	-
Director of Marine Operations / Executive Assistant	26,265	-
Communications Director	29,141	1,984
Executive Director	115,648	3,968
Water Quality Manager	5,465	23,810
Science Director	45,865	22,222
Director of Outreach Programs	9,849	39,683
Director of Watershed Programs	16,496	29,365
Community Engagement Coordinator	10,919	15,873
Administrative Director	28,858	-
Chief Administrative Director	-	83,333
Scientist	-	55,556
Fringe Benefits and Taxes @ 26%	88,682	81,405
<b>Total Personnel:</b>	<b>429,768</b>	<b>394,500</b>
<b>Travel:</b>		
NEP Tech Transfer Conference (location TBD)	3,000	-
ANEP/EPA Meeting - Washington DC	3,000	-
Staff & Stakeholder Travel Expenses: State and Local Travel (airfares, mileage, parking, etc)	4,800	4,000
<b>Total Travel:</b>	<b>10,800</b>	<b>4,000</b>

Estimated Operating Budget	Federal Share	Match
<b>Equipment:</b>		
Restore Abalone - Equipment	10,000	-
SM Pier Station - Equipment, Maint. & Repair	10,000	-
<b>Total Equipment:</b>	<b>20,000</b>	-
<b>Supplies:</b>		
Small Equipment: Upgrades/replacements	1,800	-
Project Materials & Supplies	3,600	20,000
Office Supplies	3,600	-
<b>Total Supplies:</b>	<b>9,000</b>	<b>20,000</b>
<b>Other:</b>		
Communications:	5,932	-
Printing & Design - Annual Report, State of Bay, Urban Coast, & Other Publications	2,500	20,000
Conferences Scientific & Technical Meetings Expenses, including registrations, board, & others (SCAS, Wetland Symposium, and others)	4,714	-
SMBRC/EC/WAC/TAC - Sheriff Deputy	-	-
SMBRC/EC/WAC/TAC/Others - Meeting Expenses	600	-
Software & Annual Upgrades (ESRI, GIS, Sigmaplot, Arcmap, Adobe, STAT, and Others)	2,400	-
Sensor Recalibrations (2)	5,000	-
CRI Institute Projects - INTERNS	35,000	-
Loyola Marymount University - Office/Lab/Rooms/Admin Support	-	50,000
<b>Total Other:</b>	<b>56,146</b>	<b>70,000</b>
<b>Contracts/Studies:</b>		
SubContracts	10,000	86,000
<b>Total Contracts / Studies:</b>	<b>10,000</b>	<b>86,000</b>
<b>Indirect @ 12%:</b>		
<b>Total Indirect @ 12%:</b>	<b>64,286</b>	-
<b>Volunteer Labor</b>		
Volunteer Labor - Match	-	25,500
<b>TOTAL BUDGET</b>	<b>600,000</b>	<b>600,000</b>

### Travel Documentation

With respect to participation in federal NEP activities, SMBNEP staff will continue to attend two annual meetings each year and may also be involved in planning the meeting activities and/or lead technical workshops during the meetings. In addition, staff will attend regional NEP meetings, workshops and special NEP-related conferences and training and workshops when feasible. Staff may identify opportunities to make presentations at conferences and workshops to provide educational and technical assistance and share “lessons learned” with other NEPs and watershed-based organizations throughout the nation.

The FY18 travel summary table below provides a summary of events and travel from the last fiscal year. The FY19 table below provides an estimate of similar information for this fiscal year Work Plan.

FY18 Travel Summary Table:

FY18 Travel Summary				
Date	Event / Trip Purpose	Location	Staff Traveling	Cost
Oct 2017	West Coast NEP Conference / Information sharing and technology transfer among NEPs and partners	San Francisco, CA	Tom Ford,	551.95
Feb 2018	RAE Conference / disseminate scientific information about key projects to partners and conference attendees	Bay Area, CA	Tom Ford, Heather Burdick	1,862.27
Feb 2018	ANEP/EPA National Conference. Conference for NEPs, EPA, and partners.	Washington, D.C.	Tom Ford, Heather Burdick	3,032.08
<b>TOTAL</b>	----	----	----	<b>5,446.30</b>

FY19 Estimated Travel Summary Table:

FY19 Anticipated Travel				
Date	Event / Trip Purpose	Location	Staff Traveling	Estimated Cost
Fall 2018	NEP Tech Transfer Conference / Information sharing and technology transfer among NEPs and partners	TBD	Tom Ford, TBD	3,000
February 2019	ANEP/EPA National Conference / Conference for NEPs, EPA, and partners.	Washington, D.C.	Tom Ford, TBD	3,000
All Year, multiple dates	Staff & Stakeholder Meetings and conferences travel / Information sharing and technology transfer among NEPs and partners	Various CA Locations	All staff	4,800
<b>TOTAL</b>	----	----	----	<b>10,800</b>

## **LIST OF APPENDICES**

Appendix A: Completed, Removed, or Combined Objectives or Tasks from FY18 Work Plan.

Appendix B: FY19 Work Plan Output and Outcome (Environmental Results) Table by Work Plan Program Area.

Appendix C: Total Maximum Daily Load Reference Table for Santa Monica Bay Waterbodies.

Appendix D: Prop. 84: Details of Completed Projects from FY17 and FY18.

Appendix E: Prop. 84: Details of Ongoing Projects for FY19.

Appendix F: Groups for which SMBNEP Staff Provide Technical Support.

Appendix G: Santa Monica Bay National Estuary Program Staffing.

## Appendix A. Completed, Removed, or Combined Objectives or Tasks from FY18 Work Plan.

Objective	Task	Short Description	Completed / Removed / Combined
1.1a Implement stormwater pollution control BMP funded through Prop. 84 bond and other grant programs	Support funding (e.g. Prop. 1) for WMP and EWMP projects	SMBRC and TBF will facilitate availability of Prop. 1 funding for new projects, with a continued focus on projects identified in the Watershed Management Plans (WMPs) and Enhanced Watershed Management Plans (EWMPs) to assist compliance with the Los Angeles County MS4 permit. This task will continue, but will be combined with similar efforts under 1.1b	<i>Combined</i> into a broader task under 1.1b: Water Quality Planning and Funding
1.1b. Promote and participate in integrated watershed-wide water quality improvement planning and implementation	Increase Funding for Water Resiliency	SMBRC and TBF will continue to support the collaborative effort of local environmental, municipal, and business communities to increase funding for water resiliency. SMBRC and TBF will continue to promote timely completion of the LA County Water Resiliency Work Plan and associated efforts	<i>Combined</i> into a broader task under 1.1b: Water Quality Planning and Funding
1.1b. Promote and participate in integrated watershed-wide water quality improvement planning and implementation	Storm Water Strategy, STORMS	In 2016, the SWRCB launched the Storm Water Strategy with the vision that “[s]torm water is sustainably managed and utilized in California to support water quality and water availability for human uses as well as the environment”; it’s mission is to “lead the evolution of storm water management in California by advancing the perspective that storm water is a valuable resource, supporting policies for collaborative watershed-level storm water management and pollution prevention, removing obstacles to funding, developing resources, and integrating regulatory and non-regulatory interests. Starting FY18, SMBRC participated in STORMS by engaging and collaborating with SWRCB and LARWQCB staff, supporting projects where appropriate, and providing updates to partners. This task will continue, but will be combined into a broader task under 1.1b.	<i>Combined</i> into a broader task under 1.1b: Water Quality Planning and Funding
1.1b. Promote and participate in integrated watershed-wide water quality improvement	Sub-Region Steering Committee	SMBRC sits on the IRWMP Steering Committees for the North Bay and South Bay sub-regional watershed groups. SMBRC will continue its role on the Steering Committees to develop and recommend projects for the sub-regions for funding made available for implementation of the IRWMP. This project has been combined with the broader IRWMP task in 1.1b.	<i>Combined</i> with IRWMP

Objective	Task	Short Description	Completed / Removed / Combined
planning and implementation			
1.2a Implement green infrastructure and LID projects	Stormwater monitoring	TBF helped monitor 8 storm events across two wet seasons (2015/16 and 2016/17) in partnership with Loyola Marymount University to assess pollutant removal and water retention of the Ballona Creek Rain Garden LID project. Pollutants measured included <i>E. coli</i> , enterococci, TSS, copper, zinc, lead, total PAHs, and hydrocarbons. The rain garden was highly effective at retaining water, with an average of 91% of all wet weather runoff retained and up to 100% of smaller (<1 in) storm events. Similarly, the garden retained between 83-95% on average of the pollutants measured. This project concluded with multiple scientific presentations and a Master's thesis by Jamie Burkhard at LMU, who completed her work in Spring 2018.	<i>Completed</i> in FY18
1.2b Implement the Boater Education Program	Honey Pot Live, Dockwalker Volunteer Program, and Copper TMDL Outreach	With the goal of decreasing boating related pollutants in Southern California harbors, TBF is implementing a community engagement program about sustainable boating habits and local environmental resources to combat pollutants of concern (i.e. vessel sewage, used oil, aquatic invasive species, dissolved copper, marine debris, and household hazardous waste). The Boater Education Program includes many components, several of which were combined into one task for FY19 entitled "Boating Community Engagement": Honey Pot Live, Dockwalker Volunteer Program, and Copper TMDL Outreach. Several of the programs were also re-named to more accurately reflect the current grant.	<i>Combined</i> into "Boating Community Engagement" task
1.2b Implement the Boater Education Program	Pilot Dye Tablet Program	This program was created in response to Watershed Advisory Committee input from LA County of Public Works. In collaboration with the LA County Public Works Department and LA County Department of Beaches and Harbors, TBF ran a voluntary pilot dye tablet for boaters to self-evaluate their boat's holding tank and sewage management system. Basin E docks were targeted due to historical occurrences of bacterial contamination in this area. The goal of this pilot program was to increase knowledge of the ecological impairments from bacteria at Mother's Beach and back basins on Marina del Rey Harbor. This program is currently being implemented and will be completed in FY18, but program results were not evaluated by the time of the drafting of this FY19 Work Plan.	<i>Completed</i> in FY18

Objective	Task	Short Description	Completed / Removed / Combined
2.1a Promote marine ecosystem protection	MDR Youth Fishing Program	In FY19, TBF will continue to support the Marina Del Rey Anglers Youth Fishing Program. This program provides an opportunity for hundreds of disadvantaged youth annually to go “catch and release” fishing with the anglers and receive presentations on marine stewardship and sustainable fishing practices. Specific actions will include promotion and awareness building for the program. Assistance for Marina Del Rey Anglers in attracting and training interns to staff the fishing trips.	<i>Combined into “Sustainable Fisheries Outreach”</i>
2.1b Support stream protection policies	Promote creation and adoption of stream protection ordinances and/or policies	TBF and SMBRC have previously helped promote the creation and adoption of stream protection policies through conversations, providing technical expertise, and encouraging our partners (e.g. Heal the Bay, Ballona Creek Renaissance, Women of Water) to develop these policies. Recently, the LA City Department of Public Works has spent several years working on a stream protection ordinance for areas within LA City. Based on Watershed Protection Division analysis, there are approximately 462 miles of riparian habitat that would receive some level of protection under the draft ordinance. The ordinance would protect the city’s remaining stream habitat by requiring development buffer zones of 100 feet for soft-bottomed habitat and 30 feet for concrete-lined channels.	<i>Removed due to lack of funding in FY19</i>
2.2a Facilitate restoration of priority wetlands	Ballona Reserve – Draft Environmental Impact Report/Statement	CDFW and US Army Corps of Engineers are the lead agencies for the Ballona Wetlands Restoration Project and they released the Draft Environmental Impact Statement/Report (DEIS/R) in September 2017. TBF assisted the lead agencies with technical review of the draft EIR/S; assistance with review of public comments; and further technical input as requested by the PMT. Additionally, TBF helped disseminate the notice of release of the DEIS/R and the notification for the extension of the public comment review period.	<i>Completed in FY18</i>
2.2a Facilitate restoration of priority wetlands	Ballona Reserve – Public Outreach	TBF has facilitated and promoted ongoing communications in partnership with the lead agencies to advance public involvement in the restoration process through a variety of methods. Specifically, TBF has conducted community outreach through online and print media, conducted tours, given presentations, distributed electronic newsletters, and updated TBF’s website.	<i>Combined into “Ballona Reserve – Support Restoration Planning”</i>
2.2b Facilitate stream restoration and fish barrier removal	Invasive Crayfish Control Efforts	Non-native Louisiana red swamp crayfish are harmful to the ecosystem of the Santa Monica Mountains. Native amphibians and fish are threatened by the presence of this species. SMBRC provided Mountains Restoration Trust with initial funding to develop	<i>Completed in FY18</i>

Objective	Task	Short Description	Completed / Removed / Combined
		efficient trapping methods, purchase traps, recruit volunteers, and conduct limited trapping on a short reach of Malibu Creek. This initial funding was instrumental in helping MRT leverage a \$900,000 grant from the Department of Fish and Wildlife to continue crayfish removal efforts in the Malibu Creek and Medea Creek Watersheds. From 2013 through August of 2017, more than 100,000 crayfish have been removed. Recent MRT field work suggests crayfish removal efforts in Las Virgenes Creek (Malibu Creek watershed) is facilitating California red-legged frog expansion downstream through the City of Calabasas.	
2.2b Facilitate stream restoration and fish barrier removal	Arroyo Sequit Fish Barrier Removal Project	In FY17, the SWRCB provided a grant to California Department of Parks and Recreation (State Parks), at the recommendation of the SMBRC, provided financial support, and TBF provided technical support for removal of a check dam and two Arizona crossings within Arroyo Sequit Creek. These structures were barriers to the federally endangered southern steelhead trout which enter and leave creeks and rivers to complete their lifecycle. Both Arizona crossings have been removed and replaced with free-span bridges, which concludes the removal of all three barriers. Removal of these barriers gives steelhead access to an additional four and a half miles of habitat. Invasive vegetation and replacement with natives will be ongoing. Steelhead trout have already been observed upstream of former barriers.	<i>Completed in FY18</i>
2.2b Facilitate stream restoration and fish barrier removal	Rindge Dam Removal Feasibility Study	The 100-foot tall dam on Malibu Creek is located in Malibu Creek State Park, about three miles from the coast of Malibu, California. State Parks is the agency leading the effort to conduct a feasibility study for its potential removal. It is the largest barrier to fish passage in Malibu Creek. In FY18, the draft feasibility study, including EIR/EIS and public comment, was completed. The document is currently undergoing agency review, with a Record of Decision due in November 2019.	<i>Completed in FY18</i>
2.2b Facilitate stream restoration and fish barrier removal	Topanga Creek Restoration; and Other Stream Restoration and Fish Barrier Removal Projects	SMBRC and TBF have supported efforts to restore Topanga Creek, including communications with the project lead agencies (DPR and RCDSMM) to replace the PCH bridge at Topanga Lagoon to allow more area for wetland restoration. Additionally, SMBRC and TBF have opportunistically promoted and supported additional fish barrier removal and stream restoration projects. These efforts will continue as part of other tasks identified in section 2.2b.	<i>Combined with other stream restoration and fish barrier removal tasks</i>

Objective	Task	Short Description	Completed / Removed / Combined
2.3a Restore coastal dune and bluff habitats	Monthly LAX Dunes Restoration Events; Dune Restoration Partnership; and Coastal Cleanup Day	Multiple dune restoration tasks were combined into one task for FY19: "Restore LAX Dunes". The previous tasks included separate sections for conducting monthly volunteer restoration events at the LAX Dunes funded by a Coastal Conservancy "Explore the Coast" (ETC) grant, conducting Coastal Cleanup Day (also funded by the ETC grant), and the larger partnership with Los Angeles World Airports (LAWA) to monitor and provide assistance maintaining the northern 48-acre portion of the dune system.	<i>Combined with "Restore LAX Dunes"</i>
2.3b Protect and restore sandy beach habitats	Santa Monica Beach Restoration Pilot Project	The Santa Monica Beach Restoration Pilot Project conducted in partnership with the City of Santa Monica is restoring three acres of sandy coastal habitats on the beaches of Santa Monica to bring back a healthy, diverse coastal plant and wildlife community. Through rigorous scientific monitoring, the project will evaluate increased protection for our coastal infrastructure and residences from sea level rise and erosion, while also providing a vital refuge for invertebrates, birds, and rare coastal vegetation species. This project remains in the work plan and has been combined with other beach restoration projects with coastal resilience as a goal in the same 2.3b objective.	<i>Combined with "Beach Restoration Projects to Improve Coastal Resilience"</i>
2.3b Protect and restore sandy beach habitats	Standardized Sandy Beach Monitoring; and "Healthy Beaches" Research Studies	These tasks aim to expand the development of standardized sandy beach monitoring protocols for the ecological assessment of beaches in California, and utilize community-based and student-based monitoring and research to collect baseline data for an assessment of beaches in the Los Angeles region to inform SMBNEP's State of the Bay Report and Comprehensive Monitoring Program. These tasks have been combined into one, "Beach Monitoring and Research".	<i>Combined into "Beach Monitoring and Research"</i>
2.3b Protect and restore sandy beach habitats	Beach and Dune Restoration Opportunities	In FY18, TBF successfully expanded the sandy shore restoration program through the acquisition of funding from the State Coastal Conservancy to implement the Malibu Living Shoreline Project (summary in "Beach Restoration Projects". This task is continuing in FY19 and combined with other sandy beach tasks.	<i>Combined with other sandy beach tasks</i>
2.4c Reintroduce and restore abalone	Abalone Aquaculture Resilience Research	In recent years, rising sea temperatures have negatively affected farm production of red abalone in California. There is concern among abalone growers that increasing frequency of El Niño events and long-term climate change, may dramatically impact successful abalone aquaculture. In partnership with Cal Poly Pomona, aquaculture	<i>Combined with "Abalone Research Laboratory"</i>

Objective	Task	Short Description	Completed / Removed / Combined
		production methods developed for red abalone in California and abalone species from other parts of the world will be applied and refined for use in the culture of green abalone.	
2.4c Reintroduce and restore abalone	Green Abalone Restoration	In 2015, 846 juvenile green abalone were outplanted into coastal waters off of the Palos Verdes Peninsula. Quarterly monitoring will continue through FY19 to track progress and success of this outplanting event. Outplanting methods will continue to be tested using larval and juvenile green abalone. Additionally, deck spawning trials will continue in FY19. This field method allows for researchers to collect abalone from the wild, induce them to spawn on the deck of a research vessel, and return them to the wild the same day. If successful, deck spawning would allow abalone to be spawned without the need to keep them in captivity indefinitely.	<i>Combined with "Abalone Restoration"</i>
2.4c Reintroduce and restore abalone	White Abalone Restoration	In FY17, TBF expanded the abalone work from green abalone into additional species. The focus of this work will be directed toward restoration of the endangered white abalone ( <i>Haliotis sorenseni</i> ). In FY18, to begin working on white abalone restoration, TBF will conduct spawning, rearing and outplanting experiments with red abalone, which prefer similar habitat characteristics as white abalone.	<i>Combined with "Abalone Restoration"</i>
3.1a Implement climate change planning and policy improvements	Promote "Softscape" Measures for Climate Change Adaptation	SMBRC and TBF will continue to promote comprehensive sediment management and other "soft" and "living" measures to address the impact of sea level rise in the beach and adjacent ecosystems of the Bay. The Santa Monica Beach Restoration Pilot Project is one example of this soft-scape protection, which restored several acres of sandy coastal habitats on the beaches of Santa Monica to establish a native fore-dune plant community. Projects such as these will showcase and provide valuation information to evaluate the effectiveness of restored natural ecological functions of sandy beaches in protection of coastal infrastructure from sea level rise and erosion, while providing a vital refuge for wildlife. This program is included in other tasks such as in 2.3b.	<i>Combined with other tasks, especially 2.3b</i>
3.1b Conduct research on local impacts of climate change	Impacts of Kelp Forests of Ocean Acidification in Santa Monica Bay	In FY17, a UCLA IoES Senior Practicum group accepted an opportunity to expand and build upon the work of the hydrodynamic study. The hypothesis of this work is that ocean acidification may be suppressed within giant kelp forests as a result of high primary production of the system. The students in this project were supported by TBF staff and researchers from UC Davis and UCLA as they collected water quality samples	<i>Completed in FY18</i>

Objective	Task	Short Description	Completed / Removed / Combined
		to inform their hypothesis. A final report summarizing their methods, literature review, data and analyses was produced in June 2017.	
3.2c Participate in and provide technical support to stakeholder groups	Palos Verdes Shelf Institutional Controls Program and FCEC	SMBRC has been supporting and participating in USEPA's PV Shelf Superfund Site Institutional Control Program, especially the activities of the Fish Contamination Education Collaborative (FCEC). SMBRC and TBF participated in the development of the risk communication message and development and distribution of educational materials. SMBRC will continue to participate in USEPA's contaminated sediment cleanup efforts for the Palos Verdes Shelf. SMBRC and TBF will continue to monitor and participate in other restoration activities overseen by the Montrose Settlement Restoration Program. However, the level of involvement and activity is similar to the support provided to other stakeholder groups; therefore, it is deleted as a stand-alone task and incorporated into Appendix F.	<i>Combined into 'support of other stakeholder groups' (Appendix F)</i>
3.2d Oversee the Public Involvement and Education (PIE) mini-grants program	Raise funding from local sponsors and initiate a new round of PIE program	The PIE program provided seed money for innovative and engaging outreach project implementation in the Santa Monica Bay watershed and, through the program, SMBNEP raises awareness of local environmental issues and inspires the stewardship needed to protect the health of our waters and our communities. However, no funds are available for implementation of this program in FY19.	<i>Removed due to lack of funding in FY19</i>
3.3a Seek and increase funding for BRP Implementation	Increase BRP Implementation Funding	SMBNEP has been successful in securing funding for implementing the BRP, including new sources of grant funding. However, available resources are still far from meeting the financial needs of full BRP implementation. Sustaining stable sources of funding to ensure continued progress in BRP implementation is an ongoing challenge. Grant awards received by TBF and SMBRA have supported implementation of many important programs and projects and TBF and SMBRA will continue to investigate and develop new partnership opportunities and new sources of funding, but this task is already integrated throughout the FY19 Work Plan and does not need a repetitive item on its own.	<i>Combined into other tasks throughout FY19 Work Plan</i>
3.3b Monitor and report on the Bay's environmental condition	State of the Bay Reporting	The State of the Bay (SotB) Report is a science-based comprehensive assessment of the Bay's environmental condition. The goal of the report is to measure progress in restoring the Bay's natural habitats and resources, educate the public about the Bay's valuable natural habitats and resources, and identify and help scientists and managers	<i>Combined with CMP Update task</i>

Objective	Task	Short Description	Completed / Removed / Combined
		to address remaining and emerging challenges. More specifically, this report provides information that can be used both to gauge the progress in implementing the BRP and CMP. Thus, it has been combined with the CMP Update task as the two are inextricably linked.	
3.3b Monitor and report on the Bay's environmental condition	Pilot Deep Reef Surveys and Eelgrass Monitoring	One of the data gaps identified by the CMP is a dearth of data regarding the condition of deep-reef (> 90 feet) habitat, including banks (Short Bank), canyons (Dume, Redondo, and Santa Monica), and rocky outcrops along the edge of Palos Verdes Shelf. Similarly, the expanse and health of eel grass and surf grasses in Santa Monica Bay are poorly understood. Eel grass and surf grass comprise a biogenic structure that provides nursery habitat for numerous species, improves water quality, retains sediment, and are viewed as increasingly important carbon sinks. Thus, a better understanding of the condition, persistence, and presumed expansion of sea grasses in Santa Monica Bay is an important data gap to address, as is the understanding of the extent and condition of deep reef habitats. Both tasks are still included in FY19 Work Plan under the Remote Monitoring task in objective 2.1a.	<i>Combined with Remote Monitoring task in objective 2.1a</i>
3.3c Support organizational management	Government Performance and Results Act Reporting	The annual Government Performance and Results Act (GPRA) reporting requires each NEP program to report on the acres or linear miles of habitat protected and restored, environmental indicators in use, and leveraged resources. This task was combined with "BRP Tracking" and remains in Objective 3.3c.	<i>Combined with "BRP Tracking" task in 3.3c</i>

## Appendix B. FY19 Work Plan Output and Outcome (Environmental Results) Table by Work Plan Program Area.

## Program Area 1: Water Resources and Quality Improvement

Goal	Outputs (Activities, efforts, and/or work product during project period)	Outcomes (Environmental Results)	
		Short Term (1-5 years)	Long Term (5-20+ years)
1.1 Support regional water quality improvement planning and policies	<p>Work with watershed stakeholders to develop, implement, and oversee projects that meet BRP objectives and priorities, and achieve TMDL waste load and load allocation targets</p> <p>Engage with County staff to identify collaborative opportunities, and attend IRWMP meetings to provide technical support to IRWMP</p> <p>Implement bond funded (Prop. 84) projects through executing grant agreements, overseeing projects, site inspections, and approving progress reports and invoices for the following projects: Westwood Greenway Project, Rancho Palos Verdes Catch Basin Inserts, Ladera Park Regional Stormwater Project, and Culver Boulevard Stormwater Infiltration / Retention Regional Project</p>	<p>Complete construction of Westwood Greenway, Ladera Park Regional Stormwater, and Culver Boulevard Stormwater Infiltration / Retention Regional Projects (Prop. 84) to reduce pollutant loading to Ballona Creek and its tributaries</p> <p>Complete construction of Rancho Palos Verdes Catch Basin Inserts (Prop. 84) to reduce trash loading to Santa Monica Bay</p> <p>Increase understanding of green infrastructure contributions to pollutant reduction</p>	<p>Assist in constituent percentage load reduction targets for waterbodies in the Santa Monica Bay according to TMDL compliance timeline (See Appendix C – TMDL Table)</p> <p>Reduce pollutant loading into Ballona Creek by 790 lbs metals, 338 lbs sediments, <math>7.39 \times 10^9</math> CFU bacteria, and 15 lbs nutrients through implementing the Westwood Greenway Project</p> <p>Reduce pollutant loading to Santa Monica Bay by 50 cubic yards of trash annually through implementing the Rancho PV Catch Basin Inserts</p> <p>Reduce pollutant loading into Ballona Creek per 85<sup>th</sup> percentile 24-hr storm by 1.78 lbs metals, 41.5 lbs nutrients, 399 lbs sediment, and 8,846 MPN / 100 ml bacteria through implementing the Ladera Park Regional Stormwater Project</p> <p>Reduce pollutant loading into Ballona Creek and Sepulveda Channel per 85<sup>th</sup> percentile 24-hr storm by 37.97 lbs metals, 215.9 lbs nutrients, 20.7 lbs TSS, <math>1.45 \times 10^{11}</math> MPN fecal coliform bacteria, and 800 cubic feet of trash through implementing the Culver Boulevard Stormwater Infiltration / Retention Regional Project</p>

Goal	Outputs (Activities, efforts, and/or work product during project period)	Outcomes (Environmental Results)	
		Short Term (1-5 years)	Long Term (5-20+ years)
1.2 Improve water quality through pollution control and prevention	<p>Develop and distribute outreach materials in support of the Boater Education Program</p> <p>Encourage participants in the Honey Pot Program to reduce wastewater discharge via an online portal (includes three publications, an instructional video, and quiz)</p> <p>Coordinate certification of 350 Clean Bay establishments with city staff and manage online certification lists</p> <p>Certify three food service establishments as ReThink Disposable, depending on funding availability</p> <p>Partner with 4-6 restaurants on organics management for the Table-to-Farm program</p> <p>Complete Culver City Rain Garden pollutant fate studies and publish results</p>	<p>Increase adoption of sustainable boating habits and understanding of impact of boating on aquatic environment to decrease boating related pollutants entering the waterways (e.g. boat sewage, used oil, copper, trash, aquatic invasive species, and household hazardous waste like antifreeze and batteries) as measured by analysis of 2016-2018 Boater Survey data and collected Clean Boating Pledges (3,500 annually)</p> <p>Increase in organics (e.g. food waste) management by 1 ton per year by restaurants participating in the Table to Farm program</p> <p>Eliminate 1.65 million pieces of single use food packaging items from waste stream by restaurants certified by the ReThink Disposable program</p> <p>Assist in meeting Marina del Rey Copper TMDL by separating 64,048 ft<sup>2</sup> wetted boat hull surface area from contact with the harbor water (~200 boat lifts), meeting 2.5% of the MdR Toxics TMDL loading reduction (141 kg/yr dissolved copper loading reduction)</p>	<p>Meet 86-100% annual average <u>usability percentage</u> (based on analysis of equipment performance) for all publicly funded sewage pumpout stations throughout Southern CA</p> <p>As specified in the Marina del Rey Harbor Bacteria TMDL, assist in meeting Geometric Mean Limits (GMLs) and no days of exceedance of bacteria objectives (e.g. GML for fecal coliform shall not exceed 200 MPN / 100 ml and GML for enterococcus shall not exceed 35 MPN / 100 ml) at any monitoring location during the summer dry-weather season (April 1 to October 31) and a maximum of three days of exceedance of bacteria objectives during the winter dry-weather season (November 1 to March 31)</p> <p>Assist in demonstrating that 100% of the total watershed drainage area is effectively meeting the waste load allocation for sediment (2.06 kg/yr) as required by the Marina del Rey Copper TMDL by 2022</p> <p>Achieve Clean Bay Certified adoption by 100% of Santa Monica Bay Watershed cities</p> <p>Achieve measurable decrease in occurrence of litter prone food packaging in areas surrounding ReThink Disposable food service establishments (i.e. less than 70% of sample litter collected)</p>

Goal	Outputs (Activities, efforts, and/or work product during project period)	Outcomes (Environmental Results)	
		Short Term (1-5 years)	Long Term (5-20+ years)
			<p>Implement ban on polystyrene food packaging in Los Angeles County and 100% of cities throughout watershed</p> <p>Assist participating Table to Farm establishments in achieving AB1826 (Organics Recycling Law) compliance</p> <p>Increase understanding of composting as tool to reduce pollutant loads in stormwater and urban runoff</p>

## Program Area 2: Natural Resource Protection and Habitat Restoration

Goal	Outputs (Activities, efforts, and/or work product during project period)	Outcomes (Environmental Results)	
		Short Term (1-5 years)	Long Term (5-20+ years)
2.1 Support natural resource protection policies and programs	<p>Conduct quarterly aerial surveys and produce an annual report on boating activities in the Southern California Bight</p> <p>Develop finalized ROV operation and monitoring protocols and conduct nine nearshore surveys</p> <p>Map existing extent of eelgrass beds in the Bay to inform restoration methods and locations</p>	<p>Enhance understanding of boating activities and practices (geographically) in Southern California and inform Marine Protection Area (MPA) uses</p> <p>Enhance understanding of nearshore and marine environments (e.g. eelgrass, deep reefs) and fill data gaps for State of the Bay Report and Comprehensive Monitoring Program</p>	<p>Inform agency enforcement plans and long-term adaptive management of MPAs, assist with fishery related public health advisories</p> <p>Enhance functions and conditions of nearshore and marine environments (e.g. eelgrass, deep reefs) in the Bay</p> <p>Restore 2-5 acres of eelgrass to the Bay</p>
2.2 Restore wetlands and streams	<p>Provide technical assistance to lead agencies (CDFW and Army Corps) for the development of the Final EIS/R for the Ballona Wetlands Restoration Project</p> <p>Conduct ongoing invasive plant removal efforts and biological monitoring at the Ballona Wetlands Ecological Reserve in a 3-acre area</p> <p>Conduct ongoing invasive plant removal efforts and long-term biological, physical, and chemical monitoring at Malibu Lagoon</p> <p>Complete the Wetland Program Development Grant to consolidate regional Level 3 wetland monitoring data</p>	<p>Enhance 3 acres of wetland and transition habitat through invasive species removal and native vegetation planting</p> <p>Assist lead agencies in finding funding to restore the Ballona Wetlands Ecological Reserve</p> <p>Encourage recreation and stewardship at the Ballona Wetlands Ecological Reserve</p> <p>Maintain the 12-acre restoration project at Malibu Lagoon as an ecological functioning, native wetland and adjacent habitat system</p> <p>Enhance statewide understanding of coastal wetland systems and assist with the standardization of wetland monitoring</p>	<p>Restore 577-acre Ballona Wetlands Ecological Reserve to improve wetland, transition, and upland habitats, functions, and services</p> <p>Create public access trails and bike paths and encourage recreation and stewardship at the Ballona Wetlands Ecological Reserve</p> <p>Maintain and expand the 12-acre restoration project at Malibu Lagoon as an ecological functioning, native wetland and adjacent habitat system</p> <p>Maintain an ecologically functioning, native stream reach (&gt; 200 m) at UCLA's Stone Canyon Creek</p>

Goal	Outputs (Activities, efforts, and/or work product during project period)	Outcomes (Environmental Results)	
		Short Term (1-5 years)	Long Term (5-20+ years)
	<p>Conduct ongoing invasive plant removal efforts and monitoring at Stone Canyon Creek and develop a long-term stewardship plan for the site</p> <p>Conduct biennial New Zealand mudsnail (NZMS) survey in the Santa Monica Mountains</p>	<p>Maintain an ecologically functioning, native stream reach (approximately 200 m) at UCLA's Stone Canyon Creek</p> <p>Enhance understanding of spread of invasive species and impacts to native species</p>	<p>Determine if NZMS impacts are severe enough to warrant the use of biological control methods through an evaluation of long-term data trends</p>
2.3 Restore coastal bluffs, dunes, and sandy beaches	<p>Assist LAWA in meeting the Coastal Development Permit (CDP) for LAX Dunes 6-acre parcel area through biological monitoring and non-native, invasive plant removal as per the CDP requirements</p> <p>Assist LAWA in maintaining the whole 48-acre northern dune area at LAX Dunes through non-native, invasive plant removal and monitoring efforts</p> <p>Continue long-term monitoring and maintenance of Santa Monica Beach Restoration Pilot Project to inform restoration to improve coastal resilience in accordance with the Monitoring and Implementation Plan</p> <p>Develop restoration and monitoring plans, conduct community engagement, and obtain necessary permits to begin implementation of the Malibu Living Shorelines Project</p>	<p>Restore and maintain 6 acres of LAX Dune Preserve to improve native dune functions and provide habitat for rare species</p> <p>Increase coastal access and stewardship opportunities at dune and beach habitats for underserved communities and youth through monthly events</p> <p>Restore 3 acres of ecologically functioning coastal strand and dune habitat along Santa Monica Bay beaches to increase coastal resilience and as habitat for rare species</p> <p>Increase regional understanding of beaches as adaptive management strategies for climate change stressors through long-term monitoring and targeted research</p>	<p>Restore 48 acres of LAX Dune Preserve system to improve native dune functions and provide habitat for rare species</p> <p>Restore 10 acres of ecologically functioning coastal strand and dune habitat along Santa Monica Bay beaches to increase coastal resilience and as habitat for rare species</p>

Goal	Outputs (Activities, efforts, and/or work product during project period)	Outcomes (Environmental Results)	
		Short Term (1-5 years)	Long Term (5-20+ years)
2.4 Restore rocky intertidal and subtidal habitats	<p>Conduct urchin culling and pre- and post-restoration compliance monitoring for 3-5 kelp restoration sites</p> <p>Conduct quarterly monitoring of green and red abalone outplanting locations</p> <p>Maintain and support Abalone Research Laboratory</p> <p>Spawn and rear red and green abalone larvae and juveniles to conduct restoration efforts</p> <p>Acquire endangered species permit to begin rearing and outplanting of endangered white abalone in southern California</p>	<p>Restore 20 acres of kelp forest to improve habitat functions, local fisheries, and coastal resilience</p> <p>Inform Abalone Recovery and Management Plan (ARMP) through monitoring</p>	<p>Restore 150 acres of kelp forest to improve habitat functions, local fisheries, and coastal resilience</p> <p>Establish 2-3 minimally viable green and red abalone populations (at least 2,000 abalone per hectare) in the Bay</p> <p>Establish 1-2 viable white abalone populations (at 2,000 abalone per hectare) in the Bay</p>

### Program Area 3: Multidisciplinary and Integrative Programs

Goal	Outputs (Activities, efforts, and/or work product during project period)	Outcomes (Environmental Results)	
		Short Term (1-5 years)	Long Term (5-20+ years)
3.1 Promote climate change adaptation	<p>Incorporate climate change adaptation needs and strategies into the newly revised BRP</p> <p>Collect more accurate and fine-scale data on ocean acidification to improve regional OA models</p> <p>Include one additional kelp forest hydrodynamic study site in the project to evaluate wave attenuation, including instrument deployment/calibration, quarterly kelp surveys, and data downloads</p>	<p>Increased understanding in the extent of climate change impacts and community support for climate change adaptation planning</p> <p>Increased understanding on the aerial extent of the Bay and Southern California Bight vulnerable to ocean acidification and hypoxia</p> <p>Better prediction and visualization of historical, current, and future habitat compression for ecologically and economically important fish and invertebrate species due to ocean acidification or hypoxia (e.g. oysters, urchins, mussels)</p> <p>Increased understanding of kelp forest influence on wave attenuation and ocean chemistry as potential local buffers from climate change impacts such as OA and increased storminess</p>	<p>Inclusion of climate change adaptation measures in at least half of the 12 local coastal jurisdictions general plans (or equivalent) amendments</p> <p>Development and implementation of adaptation strategy addressing impacts of ocean acidification in the Bay</p>
3.2 Conduct public outreach and increase collaborations	<p>Produce and update documents to inform the public and media about SMBNEP activities</p> <p>Support EPA and stakeholder partners on implementation of BRP objectives addressing seafood contamination on PV Shelf through review and input on EPA's remediation planning and institutional control efforts as a member of the PV Shelf Technical</p>	<p>Increased understanding and stewardship of Bay and watershed habitats through outreach</p> <p>Increase capacity of partnerships with university faculty to collect data and implement the Comprehensive Monitoring Program</p> <p>New EPA assessment and remediation plan for sediment contamination on PV Shelf</p>	<p>Increased understanding and stewardship of Bay and watershed habitats</p> <p>Decrease in sediment and seafood contamination on PV Shelf as demonstrated by site-specific monitoring data</p>

Goal	Outputs (Activities, efforts, and/or work product during project period)	Outcomes (Environmental Results)	
		Short Term (1-5 years)	Long Term (5-20+ years)
	Information Exchange Group and the Fish Contamination Education Collaborative		
3.3 Support planning, monitoring, and organizational management	<p>Formalize student internship program through LMU's Coastal Research Center and conduct research projects</p> <p>Draft, finalize, and release annual report, semi-annual reports, GRPA report (annually), Baywire (quarterly), press releases as needed, and updated websites and online resources as needed</p> <p>Engage in partnerships that leverage BRP objectives in terms of impact and resource augmentation</p> <p>Support legislation for public funding of BRP project related priorities</p> <p>Revise Comprehensive Monitoring Program (CMP) by 2019</p> <p>Incorporate new CMP monitoring requirements into NPDES permits</p> <p>Identify new monitoring funding and partnerships and track leveraged resources</p>	<p>Broader awareness of SMBNEP activities and resources (technical, financial, planning expertise, etc.), leading to greater awareness of Bay issues within the region, increased visibility of programs and projects, increased potential for scientific understanding and partnership development, and increased financial support as leveraged resources by 25% within 5 years</p> <p>Increased ongoing and project specific funding sources to meet BRP objectives by 25% of SMBNEP budget and 25% of leveraged resources within 5 years</p> <p>Increased scope and effectiveness of BRP objectives tracked through CMP implementation and State of the Bay Report trends by habitat</p> <p>Increased long-term funding and in-kind services commitment for monitoring program implementation by 25% within 5 years (measured as percent of remaining funding gap against initial cost estimate of full implementation)</p> <p>Publish the State of the Bay Report in 2020, including summary of new monitoring gaps that have been filled since the 2015 Report</p>	<p>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</p> <p>Broader awareness of SMBNEP activities and resources (technical, financial, planning expertise, etc.), leading to greater awareness of Bay issues within the region, increased visibility of programs and projects, increased potential for scientific understanding and partnership development, and increased financial support as leveraged resources by 50% within 20 years</p> <p>Increased stable ongoing, project specific, and permanent funding sources that meet BRP objectives in an increased resource and funding capacity of 50% within 20 years (measured as percent of remaining funding gap against initial cost estimate of full implementation)</p> <p>Increased scope and effectiveness of BRP objectives tracked through CMP implementation and State of the Bay Report trends by habitat</p>

Goal	Outputs (Activities, efforts, and/or work product during project period)	Outcomes (Environmental Results)	
		Short Term (1-5 years)	Long Term (5-20+ years)
	<p>Stable, continuous implementation of the Comprehensive Monitoring Program, including regular collection and release of monitoring results and publication of State of the Bay Report (next in 2020)</p> <p>Support SMBNEP partner entities meetings (e.g. SMBRC Governing Board, Technical Advisory Committee, and Watershed Advisory Council)</p>	<p>Increased member and stakeholder involvement to BRP objectives and projects as measured by expertise contributions through in-kind time and leveraged resources</p>	<p>Increased understanding of the Bay's habitat conditions and the causes of improvement/decline as demonstrated by comprehensive monitoring data and tracked through State of the Bay Report trends by habitat (e.g. fewer "unknowns")</p> <p>Increased member and stakeholder involvement to BRP objectives and projects as measured by expertise contributions through in-kind time and leveraged resources</p>

## Appendix C. Total Maximum Daily Load Reference Table for Santa Monica Bay Waterbodies.

TMDL	Waterbodies	Constituents	Compliance Goal *	Weather Condition	Compliance Date 100%	Link To TMDL
Ballona Creek Trash	All Water- bodies	Trash	100 % Reduction	All	9/30/2015	<a href="#">Ballona Creek Trash TMDL</a>
Ballona Creek Toxics	Estuary	Sediment: Copper, Lead, Zinc, Silver, DDT, Chlordane, Sediment: PCBs	% of MS4 Area Meets WQBELs or Reduction in Loading	All	1/11/2021	<a href="#">Ballona Creek Toxics TMDL</a>
Ballona Creek Metals	Reach 1, 2, Sepulveda Channel	Copper, Lead, Zinc	% of MS4 Area Meets WQBELs or Reduction in Loading	Dry Wet	1/11/2016 1/2021	<a href="#">Ballona Creek Metals TMDL</a>
Ballona Creek Bacteria	Estuary Centinela Creek, Del Rey Lagoon, Reach 2, Sepulveda Channel, Benedict Canyon	Total Coliform, Fecal Coliform, Enterococcus, <i>E. coli</i>	Meet RWLs/WLAs	Dry Wet	4/27/2013 7/15/2021	<a href="#">Ballona Creek Bacteria TMDL</a>
Ballona Creek Wetlands Sediment and Invasive Exotic Vegetation	Wetlands	Sediment and Invasive Species	Meet WLAs	All	----	<a href="#">Ballona Creek Wetlands Sediment and Invasive Exotic Vegetation TMDL</a>
Santa Monica Bay Nearshore and Offshore Debris	Santa Monica Bay	Trash	100 % Reduction	All	3/20/2020	<a href="#">Santa Monica Bay Nearshore and Offshore Debris TMDL</a>
Santa Monica Bay DDTs and PCBs	Santa Monica Bay	PCBs and DDT	Meet WLAs	All	----	<a href="#">Santa Monica Bay DDTs and PCBs TMDL</a>
Malibu Creek Trash	All Waterbodies	Trash	100 % Reduction	All	7/7/2017	<a href="#">Malibu Creek Trash TMDL</a>

TMDL	Waterbodies	Constituents	Compliance Goal *	Weather Condition	Compliance Date 100%	Link To TMDL
Malibu Creek Sediment and Nutrients to address Benthic Community Impairments	Malibu Creek, Cold Creek, Stokes Creek, Las Virgenes Creek	Sedimentation, Total Nitrogen, Total Phosphorus	Meet WLAs	All	----	<a href="#">Malibu Creek Sediment and Nutrients to address Benthic Community Impairments TMDL</a>
Malibu Creek Watershed Nutrients	All Waterbodies	Nitrate as Nitrogen plus Nitrite as Nitrogen, Total Phosphorus	Meet WLAs	All except Total Phosphorus not applicable in winter	----	<a href="#">Malibu Creek Watershed Nutrients TMDL</a>
Malibu Creek Watershed Bacteria	All Waterbodies	Total Coliform, Fecal Coliform, Enterococcus	Meet WLAs	Dry Wet	1/24/2012 7/15/2021	<a href="#">Malibu Creek Watershed Bacteria TMDL</a>
Marina del Rey Toxics	Marina del Rey Harbor	Copper, Lead, Zinc, Chlordane, Total PCBs	Meet WLAs	All	4/22/2016	<a href="#">Marina del Rey Toxics TMDL</a>
Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria	Marina del Rey Harbor Mothers' Beach and Back Basins	Total Coliform, Fecal Coliform, Enterococcus	Meet WLAs	Dry Wet	3/18/2007 3/18/2014	<a href="#">Marina del Rey Harbor Mother's Beach and Back Basins TMDL</a>

\* For additional details on Compliance Goals, including specific target numbers, click on the TMDL link in the last column.

## Appendix D. Prop. 84: Details of Completed Projects from FY17 and FY18.

Lead Implementer	Name	Objective	Project Description	Project Cost	Accomplishments / Deliverables	320 Grant Funds	Long Term Outcomes
California Department of Parks and Recreation	Phase 2 Arroyo Sequit Fish Barrier Removal - Implementation	Restore 2-miles of access for endangered steelhead trout, restore native riparian vegetation.	Remove two crossings and one check dam. Replace crossings with free standing bridges capable of passing 100-year storm event. Remove invasive vegetation and replace with site appropriate native plants upstream and downstream of new bridges.	\$3,024,600	Removal of two at-grade crossings, removal of check dam, construction of two free standing bridges, revegetated riparian area.	0	Restoration of self-sustaining population of steelhead trout, stabilized stream banks, suppression of non-native species.
Los Angeles County Flood Control District	Oxford Retention Basin Water Quality and Multi-Use Enhancement Project	Improve water and habitat quality, flood protection, aesthetics, and passive recreational activities at Oxford Basin.	Construction of a circulation berm, replacement and reprogramming tide gates, installing bioswales and permeable path, replacing non-native vegetation and contaminated soil with appropriate soil and native vegetation, excavating sediment and constructing a parapet wall.	\$14,500,000	Submit draft MP/QAPP, submit final design plans, complete construction	0	Contribute to TMDL compliance in Marina del Rey back basins, improved habitat for native species in Oxford Basin, enhanced environmental education for residents and improved passive recreation opportunities.
Mountains Recreation and Conservation Authority	Milton Green Street Project	Improve water quality in Ballona Creek through capture, treatment, and infiltration of all dry-weather and a portion of wet-weather runoff along a 1,000' section of Milton Street.	Install a minimum of 14 vegetated stormwater curb extensions on Milton St. to capture, treat, and infiltrate runoff from Milton St. and an adjacent multi-use park. Project will also install trash screens on storm drains at east and west of project site.	\$655,000	Complete design plans and cost estimates, submit native plant pallet, install vegetated stormwater curbs.	0	Contribute to TMDL compliance in Ballona Creek

**Appendix E. Prop. 84: Details of Ongoing Projects for FY19. Asterisk indicates the lead grantee entity for each project.**

Name	Objectives	Description	Partners	Milestones	Budget	Long-term Outcomes
University Park Rain Gardens	Improve water quality in Ballona Creek by constructing a system to divert and infiltrate or bio-filtrate year-round dry-weather flows and wet-weather low flows from approximately two hundred and nine (209) acres in the University Park area of Los Angeles.	Identify, prioritize, and construct a minimum of 35 rain gardens to capture and treat a three-quarter inch (¾") twenty-four (24) hour storm (minimum) using native vegetation only.	City of Los Angeles*, USC, University Park Neighborhood	Completion of design plans, 2 public meetings, secure contractor, installation of 35 rain gardens	\$600,000	Residents educated about stormwater pollution and potential solutions, contribute to TMDL compliance in Ballona Creek
Culver Blvd Realignment and Stormwater Infiltration / Retention Project	Reduce pollutant loads to Ballona Creek and Santa Monica Bay. Conserve water and increase local water supply.	Capture the runoff from 800 acres of primarily residential and commercial land uses. The runoff will be treated and allowed to infiltrate, with some portion retained for use as irrigation of the median. Designed to capture the 85th percentile, 24-hour storm event; and 100% of dry weather flows	City of Culver City*, City of Los Angeles, Bureau of Sanitation	Complete conceptual and final designs. Execute MOU with City of Los Angeles. Complete Hydrologic and Hydrology studies. Release RFP for construction. Project construction. Performance monitoring.	\$16,550,000	Improved water quality in Ballona Creek and Santa Monica Bay. Water conservation and increased local water supply
Santa Monica Bay Catch Basin Insert Project	Reduce trash pollution to near-shore waters of Santa Monica Bay.	Install Connector Pipe Screen (CPS) units in catch basins that drain into the Santa Monica Bay from streets in the cities of Rancho Palos Verdes, Palos Verdes Estates, and Rolling Hills	Rancho Palos Verdes*, Palos Verdes Estates,	Complete MOU with partner agencies. Issue RFP for construction and installation, Project construction.	\$1,012,000	Compliance with Santa Monica Bay Trash TMDL of zero trash

Name	Objectives	Description	Partners	Milestones	Budget	Long-term Outcomes
		Estates in the Palos Verdes Peninsula sub-watershed	Rolling Hills Estates	Performance monitoring.		
Ladera Park Water Quality Enhancement Project	Stormwater and dry weather runoff pollutant reduction to Ballona Creek and Santa Monica Bay	Through the combination of pre-treatment, retention, and infiltration facilities, the Project will treat then store and infiltrate the 85th percentile 24-hour storm volume of 5.1 acre-feet of stormwater runoff and all dry weather runoff from 110 acre tributary.	County of Los Angeles Department of Public Works*	Complete project design. Complete CEQA. RFP for construction. Construct project. Performance monitoring.	\$9,600,000	Improved water quality in Ballona Creek and Santa Monica Bay; water conservation and increased local water supply
Westwood Neighborhood Greenway Project	Dry weather and some stormwater runoff pollutant reduction to Ballona Creek and Santa Monica Bay	The project will divert runoff from Overland stormdrain via a lift station and pass through screens, hydrodynamic separators and sand filters before flowing through bioswales for additional treatment including natural UV exposure and bioremediation. Flows will return to Overland drain after treatment.	City of Los Angeles Bureau of Sanitation*	Complete project pre-design and final design. RFP for construction. Construct project. Performance monitoring.	\$4,360,000	Improved water quality in Ballona Creek and Santa Monica Bay; water conservation

**Appendix F. Groups for which SMBNEP Staff Provide Technical Support.**

Group Name	Engaged SMBNEP entities	Partners	Frequency
GLAC IRWMP	SMBRC	Member entities and agencies	Bi-monthly
Wetland Recovery Project, Wetland Advisory Group	TBF	Wetland scientists and stakeholders throughout CA; WRP, SCC	Quarterly
State Clean Beach Task Force	SMBRC	SWRCB*	As needed
Beach Water Quality Work Group	SMBRC	SWRCB*, Health Depts. Stormwater management agencies throughout Southern California	Quarterly
Jurisdictional Group 5&6	SMBRC, TBF	South Bay Cities*	Bi-monthly
Beach Ecology Coalition	SMBRC, TBF	Pepperdine University*, local beach management agencies, environmental groups, scientists, etc.	Semi-annually
Green LA Urban Ecosystem Strategic Planning Committee	SMBRC	City of Los Angeles*	Quarterly
California Wetlands Monitoring Workgroup (CWMW)	TBF	CWQMC* and many participating agencies and organizations	Quarterly
CWMW, Level-3 Subcommittee	TBF	CWQMC* and many participating agencies and organizations	Quarterly
Palos Verdes Shelf Superfund Investigation Technical Information Exchange Group	SMBRC	USEPA* and many participating agencies and organizations	Semi-annually or as needed
Environmental Life Science Committee	TBF	American Academy of Environmental Scientists*	As needed
Friends of LAX Dunes, Board of Directors	TBF	Los Angeles World Airports*, City of Los Angeles*, other interested stakeholders	Monthly
Southern California Coastal Ocean Observing System (SCCOOS), Joint Strategic Advisory Council	TBF	Many participating agencies and organizations **	Annually

Group Name	Engaged SMBNEP entities	Partners	Frequency
Southern California Marine Institute, Board of Directors	TBF	Ocean Studies institute, California State Channel Islands, Dominguez Hills, Fullerton, Long Beach, Los Angeles, Northridge, Pomona, San Bernardino and San Marco), USC, UCLA, Los Angeles Community College District	Periodically
Loyola Marymount University's Environmental Stewardship and Sustainability Committee	TBF	LMU*	Periodically

\* Group lead

\*\* Full list of participating agencies and organizations for SCCOOS: US Coast Guard • California Department of Fish and Game • Pacific Coast Federation of Fishermen's Associations • National Weather Service • Center for Ocean Solutions • Southern California Stormwater Monitoring Coalition • Tijuana River National Estuarine Research Reserve • City of Los Angeles • NOAA Office of National Marine Sanctuaries • USC Sea Grant • California Sea Grant • California Coastal Commission • Naval Air Systems Command (NAVAIR) • San Francisco Bay Conservation and Development Commission • State Water Resources Control Board • Orange County Health Agency • Sam US Geological Survey • California Department of Public Health • Sonoma County Water Agency • California Ocean Science Trust • Marine Exchange of Southern California • Minerals Management Service • Orange County Sanitation District • US Army Corps of Engineers • California Coastal Conservancy • US Army Corps of Engineers • NOAA Coastal Services Center • City of Encinitas • NOAA Southwest Fisheries Science Center • U.S. Integrated Ocean Observing System

## **Appendix G. Santa Monica Bay National Estuary Program Staffing.**

SMBNEP works as a collaborative partnership staffed by The Bay Foundation (TBF), Santa Monica Bay Restoration Commission (SMBRC), and Santa Monica Bay Restoration Authority (SMBRA) to implement the BRP via annual Work Plan implementation. TBF conducts programs that support and supplement the BRP, and many of its programs are implemented entirely by TBF. SMBRC is staffed by its Chief Administrative Director and Environmental Scientist, provided by the State Water Resources Control Board (SWRCB), and supported by TBF employees as requested. SMBRA staffing is provided by SMBRC and the County of Los Angeles' Flood Control District. All SMBNEP staff, whether TBF employees, SWRCB employees, or SMBRA staff, contribute to the implementation of the Annual Work Plan and BRP by carrying out its described tasks. The following section describes the entity affiliation(s) and key responsibilities of each SMBNEP staff.

### **THE BAY FOUNDATION (as of 4/1/2018):**

#### **Executive Director, Tom Ford**

- Oversee the development and implementation of the annual work plan, budget, and expenditures;
- Oversee the general financial and program management of the organization, including management policies, guidelines, and procedures;
- Develop and implement programs, projects, partnerships, and collaborations that restore and enhance the ecological values of the Santa Monica Bay and its watersheds in support of the BRP;
- Interact with State, Federal, and other funding authorities to ensure regulations and funding requirements are met;
- Provide policy and technical guidance to staff in their work assignments, including delegate/supervise staff;
- Carry out responsibilities regarding staff recruitment and development, evaluate staff performance;
- Develop and oversee marine habitat monitoring, research, and restoration projects;
- Engage in scientific forums and advisory committee(s) to further the development and implementation of policies, research, and restoration goals tied to BRP implementation;
- Develop and inform the operational and strategic goals of the Coastal Research Institute;
- Raise funds, through grant writing and other means, for programs and operations of TBF;
- Participate in outreach, fundraising events, and other program areas for TBF and BRP implementation.

#### **Director of Marine Operations and Executive Assistant, Heather Burdick**

- Author and manage grants and conduct activities and projects to support marine programs towards the implementation of the BRP;
- Contribute to research, monitoring, and ecological restoration for marine program activities;
- Conduct SCUBA based subtidal field work and other field work as needed;
- Supervise staff, interns, students, and volunteers;
- Implement and inform the programs and projects of the Coastal Research Institute at LMU;
- Develop partnerships and collaborations to facilitate BRP implementation;
- Apply for grants and funding to support the activities of marine programs to support implementation of the BRP;
- Serve as Executive Assistant to the ED including scheduling and logistics.

**Administrative Director, Marcelo Villagomez**

- Oversee TBF's finances and resources, including the efficient management of resources, increasing cash reserves and stability and diversification of income;
- Oversee administration, human resources, accounting, budgeting, invoicing, purchasing, grant management, and audits;
- Maintain and update administrative policies, guidelines, payroll, incentives, operating procedures and manuals, administrative and human resources (HR), and minimize risk and exposure;
- Participate in the development and implementation of TBF's short- and long-term financial planning;
- Support and enable administrative functions associated with the Coastal Research Institute at LMU;
- Promote opportunities for program impact and organizational cohesion.

**Science Director, Karina Johnston**

- Manage grants, conduct activities, and direct programs and projects that support implementation of the BRP and/or Comprehensive Monitoring Program (CMP);
- Apply for grants / funding to support programs and projects that implement the BRP / CMP;
- Direct and fully implement science, research, monitoring, assessment, restoration, and enhancement programs and projects, including fieldwork and data management;
- Lead advancement and implementation of the programs and projects of the Coastal Research Institute at LMU;
- Supervise, recruit, and manage part- or full-time staff, interns, students, and/or volunteers;
- Lead authorship of technical and scientific documents, memoranda, and publications;
- Develop and implement partnerships, collaborations, and outreach strategies to facilitate BRP / CMP implementation;
- Engage in or lead scientific forums and advisory committee(s) to further the development and implementation of policies, research, and restoration goals tied to BRP / CMP implementation;

**Director of External Affairs, Scott Valor**

- Develop and manage communication to local, state, and federal government entities;
- Advise the Executive Director on local, state, and federal legislative and/or regulatory issues.

**Communications Director, Julie Du Brow**

- Develop and update a strategic plan for outreach for TBF, including media relations;
- Implement communication-related functions including; devise communication strategies, produce publications, organize outreach events and conferences, organize donor events, facilitate speaking engagements and presentations, and build and maintain relationships with stakeholders, partners, and the general public;
- Prepare/oversee press releases and media stories, and contact media;
- Facilitate maintenance of and develop content for TBF's website and electronic social media such as Facebook, Twitter, Instagram, and YouTube;
- Track progress and success of communication efforts.

**Senior Watershed Advisor, Mark Abramson**

- Supervise and manage consultants, prepare bid packages, select restoration contractors in accordance with TBF policies and procedures, and supervise restoration activities;

- Design and oversee project monitoring and maintenance of water quality improvement, habitat restoration, and other projects;
- Assist with securing funding for and promoting future projects in the Santa Monica Bay watershed to support implementation of the BRP.

#### **Director of Outreach Programs, Grace Lee**

- Oversee development and implementation of the Boater and Clean Bay Restaurant Certification Programs;
- Supervise staff and volunteers;
- Coordinate development, design, and distribution of educational materials;
- Develop partnerships and facilitate various stakeholder meetings, trainings, and workshops;
- Seek new grant opportunities to support outreach and education activities, fulfill existing grant requirements, and oversee budgets;
- Participate in organizational development, reporting, and other activities at the request of the ED.

#### **Director of Watershed Programs, Melodie Grubbs**

- Manage grants, conduct activities, and direct programs and projects that support the restoration, enhancement, preservation, monitoring, or assessment of coastal habitats that further BRP goals;
- Apply for grants / funding to support the watershed program and implementation of BRP goals;
- Manage grants, subcontracts, and budgeting for watershed program projects;
- Direct research and monitoring activities, including fieldwork, data management and quality control/assurance, and geospatial databases;
- Supervise, recruit, and manage part- or full-time staff, interns, students, and/or volunteers;
- Lead authorship of technical documents, memoranda, and publications;
- Develop and implement partnerships, collaborations, and outreach strategies to facilitate BRP implementation;
- Engage in or lead scientific forums and advisory committee(s) to further the development and implementation of policies, research, and restoration goals tied to BRP implementation;
- Implement and inform the programs and projects of the Coastal Research Institute at LMU.

#### **Watershed Programs Manager, Rodney Abbott**

- Manage grants and conduct activities that support the restoration, enhancement, preservation, monitoring, or assessment of habitats and that further BRP goals;
- Apply for grants / funding to support the watershed program and implementation of BRP goals;
- Manage grants, subcontracts, and budgeting for multiple projects;
- Manage research and monitoring activities, including fieldwork, data collection, and quality control/assurance;
- Supervise, recruit, and manage part- or full-time staff, interns, students and/or volunteers;
- Support the Watershed Programs Director in authorship of technical documents, memoranda, and publications;
- Participate in organizational development, reporting, partnership/collaboration development, and other activities;
- Implement and inform the programs and projects of the Coastal Research Institute at LMU.

**Water Quality Programs Manager, Victoria Gambale**

- Contribute to program development and planning;
- Coordinate organization, planning, and development of various stakeholder meetings, trainings, workshops, field work, and outreach emphasis on boating events;
- Research, develop, distribute, and present education and outreach materials;
- Apply for grants and funding to support the activities of the Boater Education Program, water quality projects, and other outreach programs to support implementation of the BRP, train and coordinate volunteers;
- Assist Administrative Director with administrative tasks.

**Marine Programs Coordinator, Armand Barilotti**

- Coordinate and conduct research, monitoring, and ecological restoration for marine programs in support of BRP implementation;
- Coordinate, inform and conduct SCUBA based subtidal field work, including dive records, plans, and permit reports;
- Oversee and contribute to data entry, QAQC, data analyses, and data management;
- Oversee the safe and responsible operation of research vessel(s) and support topside operations;
- Prepare submissions for conferences and symposia and support grant applications;
- Provide support to other TBF projects, as well as general office assistance;
- Implement and inform the programs and projects of the Coastal Research Institute at LMU.

**Marine Programs Coordinator, Parker House**

- Conduct research, monitoring, and ecological restoration for marine programs in support of BRP implementation;
- Conduct SCUBA based subtidal field work, including dive records, plans, and permit reports;
- Contribute to and conduct data entry, QAQC, data analyses, and data management;
- Safely and responsibly operate research vessel and support topside operations;
- Prepare submissions for conferences and symposia and support grant applications;
- Provide support to other TBF projects, as well as general office assistance;
- Implement and inform the programs and projects of the Coastal Research Institute at LMU.

**Community Engagement Coordinator, Georgia Tunioli**

- Coordinate Clean Bay Certified Restaurant Program
- Coordinate quarterly vessel sewage pumpout monitoring activities for Southern California harbors;
- Implement mobile pumpout programs;
- Assist the Director of Outreach Programs with program implementation and public engagement;
- Support administrative functions related to outreach and water quality programs.

**Aquarist, Ben Grimes**

- Assemble and maintain aquatic life support systems (salt water recirculating system);
- Develop and implement best husbandry practices to provide ideal growing conditions for abalone, such as water quality analyses, cleaning, and feeding;
- Develop laboratory/aquaculture manuals for abalone;
- Coordinate and direct research related to abalone recovery and management;

- Data entry, QAQC, analyses, and data management;
- Coordinate staff, students, and volunteers;
- Conduct SCUBA based subtidal field work.

### **SMBRC STAFF (as of 4/1/2018):**

#### **Chief Administrative Director, Guangyu Wang (State Employee)**

- Execute the meetings of the Governing Board (GB), the Executive Committee (EC), the Technical Advisory Committee (TAC), and the Watershed Advisory Council (WAC). Manage membership of the GB, TAC, and WAC.
- Manage the retention of documents and other records consistent with SWRCB standards and SMBRC policy. Oversee FPPC requirements of the SMBRC.
- Oversee and respond to California Public Records Act requests
- Interact with State, Federal, Local and other funding authorities to ensure compliance with regulatory and funding requirements.
- Perform necessary administrative functions associated with internal standards and policies of the SMBRC, e.g. staffing resources, financial, and operational reporting.
- Oversee grant management assistance to the SWRCB for bond-funded projects.
- Provide policy and technical guidance to SMBRC.
- In collaboration with the SMBNEP, develop and adopt the annual work plan of the SMBNEP.
- In coordination with TBF and other SMBNEP partners; oversee, monitor, and report to the Governing Board the progress in carrying out annual work plan tasks.
- In collaboration with TBF and other SMBNEP partners; develop and implement program activities related to tracking, assessing, and reporting Bay Restoration Plan implementation progress and on the Bay's environmental conditions.
- Represent the SMBRC and coordinate with SWRCB staff and SWRCB legal counsel in amending governing documents, including but not limited to the existing Memorandum of Agreement and Memorandum of Understanding.
- Represent SMBRC on agencies' technical or policy advisory panels and committees and provide expert policy and regulation advice.
- Interact with EPA and SMBNEP program staff to ensure NEP program guidance and requirements are met.

#### **Environmental Scientist, Jack Topel (State Employee)**

- Conduct grant oversight and management for state bond-funded projects;
- Coordinate and manage State Water Quality Control Board grants and contracted personnel / entities on state bond-funded projects;
- Coordinate with partner agencies in developing and implementing restoration program and monitoring efforts in support of the BRP;
- Represent SMBRC on various committees and watershed stakeholder groups;
- Compile data and perform environmental assessment and analysis;
- Provide information to state and federal officials as well as the general public on various SMBRC projects;
- Provide support to meetings of the GB and TAC.

**SMBRA STAFF (as of 4/1/2018):****Chief Administrative Director (SMBRC), Guangyu Wang (State employee)**

- Serve as Executive Officer of the Santa Monica Bay Restoration Authority (SMBRA). Supervise administrative staff and functions of the SMBRA including budget preparation, reports, audits, meeting logistics, grants, contracts, applications and project tracking.
- Perform necessary administrative functions associated with internal standards and policies of the SMBRA, e.g. staffing resources, financial, and operational reporting.
- Coordinate SMBRA meetings, including agenda creation and posting, coordinating staff reports, outreach to SMBRA members, quorum call, response to questions, preparation/coordination of minutes, website posting of staff reports, other materials, updates to amended documents, draft/coordinate resolutions.

**Environmental Scientist (SMBRC), Jack Topel (State employee)**

- Perform necessary administrative functions associated with internal standards and policies of the SMBRA, e.g. staffing resources, financial, and operational reporting.
- Coordinate SMBRA meetings, including agenda creation and posting, coordinating staff reports, outreach to SMBRA members, quorum call, response to questions, preparation/coordination of minutes, website posting of staff reports, other materials, updates to amended documents, draft/coordinate resolutions.

**Senior Civil Engineer (County of Los Angeles, Watershed Management Division), Cung Nguyen**

- Assist SMBRA with administrative support and compliance.

**County of Los Angeles, as assigned**

- Review SMBRA invoicing for compliance and approve for payment.

**County of Los Angeles, as assigned**

- Assist SMBRA with projects and compliance.